Document Title	SWS_DiagnosticEventManager: Complete Change Documentation 4.3.0 - 4.3.1
Document Owner	AUTOSAR
Document Responsibility	AUTOSAR
Document Identification No	695

Document Status	Final
Part of AUTOSAR Standard	Classic Platform
Part of Standard Release	4.3.1

Table of Contents

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1 SWS_DiagnosticEventManager

1.1 Specification Item ECUC_Dem_00602

Trace References:

Content:

Name	DemConsiderPtoStatusDemObdDTC.DemConsiderPtoStatus		
Parent Container	DemObdDTC		
Description	This parameter is TRUE, when the event is affected by the Dem PTO handling.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

  —-

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Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.2 Specification Item ECUC_Dem_00605

Trace References:

Content:

Name	DemMaxNumberFreezeFrameRecordsDemDTCAttributes.DemMaxNumberFreezeFrame Records		
Parent Container	DemDTCAttributes		
Description	This parameter defines the number of according freeze frame records, which can maximal be stored for this event. Therefore all these freeze frame records have the same freeze frame class. This parameter is only required for calculated record numeration (refer to DemTypeOfFreeze FrameRecordNumeration).		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemTypeOfFreezeFrameRecordNumeration = DEM_FF_RECNUM_CALCULATED		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
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Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.3 Specification Item ECUC_Dem_00614

Trace References:

Content:

Name	DemDataElementDataSizeDemInternalDataElementClass.DemDataElementDataSize		
Parent Container	DemInternalDataElementClass		
Description	Defines the size of the data element in bytes.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	1 .. 255		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemInternalDataElement		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

  —-

  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEven-

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tRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
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see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

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Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.4   Specification Item ECUC_Dem_00623

Trace References:

Content:

Name	DemAgingCycleCounterThresholdDemDTCAttributes.DemAgingCycleCounterThreshold		
Parent Container	DemDTCAttributes		
Description	Number of aging cycles needed to unlearn/delete the event.		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	1 .. 255		
Default value	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemAgingAllowed		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

   Problem description:

   AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

   Agreed solution:

   Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

   When all SWS specifications are cleaned up the dependency field can be removed from the database

   FIM

   —-

   Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
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see file under svn.:
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Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.5   Specification Item ECUC_Dem_00624

Trace References:

Content:

Name	DemAgingCycleRefDemDTCAttributes.DemAgingCycleRef		
Parent Container	DemDTCAttributes		
Description	Reference to the cycle which is triggering the aging of the event.		
Multiplicity	0..1		
Type	Reference to [DemOperationCycle]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemAgingAllowed, DemOperationCycleRef		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]

Document ID 695: ChangeDocumentation

FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.6   Specification Item ECUC_Dem_00627

Trace References:

Content:

Name	DemCallbackDTCStatusChangedFncDemCallbackDTCStatusChanged.DemCallbackDTCStatusChangedFnc
Parent Container	DemCallbackDTCStatusChanged

Description	Function name of prototype "DTCStatusChanged".		
	Note: If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus".		
Multiplicity	0..1		
Type	EcucFunctionNameDef		
Default value	–		
maxLength	–		
minLength	–		
regularExpression	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemTriggerDcmReport		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

  ——-

  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEven-

tRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

• RfC #77729: Remove DemTriggerDcmReports [ECUC_Dem_00754]

Problem description:

Remove DemTriggerDcmReports [ECUC_Dem_00754] as the callback containers are optional and thus the semantics of DemTriggerDcmReports == FALSE is covered but not configuring the container.

Furthermore, the parameter is specified in DemGeneral. With the introduction of multiple instances of Clients (multiple memory sets, parallel UDS/OBD,...) we get multiple instances of DCM. TZhis can no longer be handled with one global switch. The multiple instances might require a callback or not. Furthermore the function names would need to be different (which is also not coverd with one single switch). –Last change on issue 77729 comment 1–

Agreed solution:

set parameter DemTriggerDcmReports [ECUC_Dem_00754] to optional and obsolete

Remove the note "If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus"" in the following descriptions :
-ECUC_Dem_00627
-ECUC_Dem_00824
-ECUC_Dem_00826
In the note under SWS_Dem_00830, remove the first sentence: "The configuration parameter DemTriggerDcmReports enables this function." and keep the rest of the note.
–Last change on issue 77729 comment 7–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.7 Specification Item ECUC_Dem_00638

Trace References:

Content:

Name	DemDebounceCounterJumpDownValueDemDebounceCounterBasedClass.DemDebounceCounterJumpDownValue
Parent Container	DemDebounceCounterBasedClass
Description	Jump-Down value of the internal debounce counter which is taken as initialization value for the counter when the respective step-down occurs.
Multiplicity	1
Type	EcucIntegerParamDef
Range	-32768 .. 32767
Default value	0
Post-Build Variant Value	false

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemDebounceCounterJumpDown		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.8   Specification Item ECUC_Dem_00639

Trace References:

Content:

Name	DemDebounceCounterJumpUpValueDemDebounceCounterBasedClass.DemDebounceCounterJumpUpValue		
Parent Container	DemDebounceCounterBasedClass		
Description	Jump-Up value of the internal debounce counter which is taken as initialization value for the counter when the respective step-up occurs.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	-32768 .. 32767		
Default value	0		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	

Scope / Dependency	scope: ECU dependency: DemDebounceCounterJumpUp

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

Document ID 695: ChangeDocumentation

see file under svn.:

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DCM

—-

See file under svn :

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Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.9 Specification Item ECUC_Dem_00704

Trace References:

Content:

Name	DemPTOSupportDemGeneral.DemPTOSupport		
Parent Container	DemGeneral		
Description	This configuration switch defines, whether PTO support (and therefore PID $1E support) is enabled or not.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
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A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.10   Specification Item ECUC_Dem_00705

Trace References:

Content:

Name	DemPidIdentifierDemPidClass.DemPidIdentifier		
Parent Container	DemPidClass		
Description	identifier of the PID		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	–		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	–	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.11   Specification Item ECUC_Dem_00733

Trace References:

Content:

Name	DemPidDataElementClassRefDemPidDataElement.DemPidDataElementClassRef		
Parent Container	DemPidDataElement		
Description	This reference contains the link to a data element class.		
Multiplicity	1		
Type	Reference to [DemDataElementClass]		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.12   Specification Item ECUC_Dem_00735

Trace References:

Content:

Name	DemDiagnosticEventRefDemRatio.DemDiagnosticEventRef		
Parent Container	DemRatio		
Description	This reference contains the link to a diagnostic event.		
Multiplicity	1		
Type	Reference to [DemEventParameter]		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

Document ID 695: ChangeDocumentation

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.13 Specification Item ECUC_Dem_00736

Trace References:

Content:

Name	DemFunctionIdRefDemRatio.DemFunctionIdRef		
Parent Container	DemRatio		
Description	This reference contains the link to a function identifier within the FiM which is used as a primary FID.		
Multiplicity	1		
Type	Symbolic name reference to [FiMFID]		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.14   Specification Item ECUC_Dem_00737

Trace References:

Content:

Name	DemIUMPRGroupDemRatio.DemIUMPRGroup
Parent Container	DemRatio
Description	This parameter specifies the assigned IUMPR group of the ratio Id.
Multiplicity	1
Type	EcucEnumerationParamDef

Range	DEM_IUMPR_AFRI1Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_AFRI1	Air Fuel Ratio Imbalance Monitor Bank 1
	DEM_IUMPR_AFRI2Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_AFRI2	Air Fuel Ratio Imbalance Monitor Bank 2
	DEM_IUMPR_BOOSTPRSDem Ratio.Dem IUMPRGroup.DEM_IUMPR_BOOSTPRS	–
	DEM_IUMPR_CAT1Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_CAT1	–
	DEM_IUMPR_CAT2Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_CAT2	–
	DEM_IUMPR_EGRDem Ratio.Dem IUMPRGroup.DEM_IUMPR_EGR	–
	DEM_IUMPR_EGSENSORDem Ratio.Dem IUMPRGroup.DEM_IUMPR_EGSENSOR	–
	DEM_IUMPR_EVAPDem Ratio.Dem IUMPRGroup.DEM_IUMPR_EVAP	–
	DEM_IUMPR_FLSYSDem Ratio.Dem IUMPRGroup.DEM_IUMPR_FLSYS	–
	DEM_IUMPR_NMHCCATDem Ratio.Dem IUMPRGroup.DEM_IUMPR_NMHCCAT	–
	DEM_IUMPR_NOXADSORBDem Ratio.Dem IUMPRGroup.DEM_IUMPR_NOXADSORB	–
	DEM_IUMPR_NOXCATDem Ratio.Dem IUMPRGroup.DEM_IUMPR_NOXCAT	–
	DEM_IUMPR_OXS1Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_OXS1	–
	DEM_IUMPR_OXS2Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_OXS2	–
	DEM_IUMPR_PF1Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_PF1	Particulate Filter Monitor Bank 1
	DEM_IUMPR_PF2Dem Ratio.Dem IUMPRGroup.DEM_IUMPR_PF2	Particulate Filter Monitor Bank 2
	DEM_IUMPR_PMFILTERDem Ratio.Dem IUMPRGroup.DEM_IUMPR_PMFILTER	–
	DEM_IUMPR_PRIVATEDem Ratio.Dem IUMPRGroup.DEM_IUMPR_PRIVATE	–
	DEM_IUMPR_SAIRDem Ratio.Dem IUMPRGroup.DEM_IUMPR_SAIR	–
	DEM_IUMPR_SECOXS1Dem Ratio.Dem	–

Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

Document ID 695: ChangeDocumentation

DEM
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see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
––-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
––-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.15 Specification Item ECUC_Dem_00754

Trace References:

Content:

Name	DemTriggerDcmReportsDemGeneral.DemTriggerDcmReports
Parent Container	DemGeneral
Description	Activate/Deactivate the notification to the Diagnostic Communication Manager for ROE processing.
	true: Dcm ROE notification activated
	false: Dcm ROE notification deactivated
	Tags: atp.Status=obsolete
Multiplicity	1 0..1
Type	EcucBooleanParamDef
Default value	–
Post-Build Variant Value	false

Document ID 695: ChangeDocumentation

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77729: Remove DemTriggerDcmReports [ECUC_Dem_00754]

  Problem description:

  Remove DemTriggerDcmReports [ECUC_Dem_00754] as the callback containers are optional and thus the semantics of DemTriggerDcmReports == FALSE is covered but not configuring the container.

  Furthermore, the parameter is specified in DemGeneral. With the introduction of multiple instances of Clients (multiple memory sets, parallel UDS/OBD,...) we get multiple instances of DCM. TZhis can no longer be handled with one global switch. The multiple instances might require a callback or not. Furthermore the function names would need to be different (which is also not coverd with one single switch).
  –Last change on issue 77729 comment 1–

  Agreed solution:

  set parameter DemTriggerDcmReports [ECUC_Dem_00754] to optional and obsolete

  Remove the note "If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus"" in the following descriptions :
  -ECUC_Dem_00627
  -ECUC_Dem_00824
  -ECUC_Dem_00826
  In the note under SWS_Dem_00830, remove the first sentence: "The configuration parameter DemTriggerDcmReports enables this function." and keep the rest of the note.
  –Last change on issue 77729 comment 7–

  BW-C-Level:

Application	Specification	Bus
1	3	1

1.16   Specification Item ECUC_Dem_00755

Trace References:

Content:

Name	DemEventOBDReadinessGroupDemObdDTC.DemEventOBDReadinessGroup
Parent Container	DemObdDTC
Description	This parameter specifies the Event OBD Readiness group for PID $01 and PID $41 computation. This parameter is only applicable for emission-related ECUs.
Multiplicity	0..1
Type	EcucEnumerationParamDef

Range	DEM_OBD_RDY_ACDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_AC	A/C system component - spark
	DEM_OBD_RDY_BOOSTPRDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_BOOSTPR	Boost Pressure System - compr.
	DEM_OBD_RDY_CATDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_CAT	Catalyst - spark
	DEM_OBD_RDY_CMPRCMPTDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_CMPRCMPT	Comprehensive component - spark, compr.
	DEM_OBD_RDY_EGRDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_EGR	EGR system - spark, compr.
	DEM_OBD_RDY_EGSENSDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_EGSENS	Exhaust Gas Sensor - compr.
	DEM_OBD_RDY_EVAPDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_EVAP	Evaporative system - spark
	DEM_OBD_RDY_FLSYSDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_FLSYS	Fuel system - spark, compr.
	DEM_OBD_RDY_FLSYS_NONCONTDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_FLSYS_NONCONT	Non continuous Fuel system - spark, compr
	DEM_OBD_RDY_HCCATDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_HCCAT	Non-Methan HC Catalyst - compr.
	DEM_OBD_RDY_HTCATDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_HTCAT	Heated catalyst - spark
	DEM_OBD_RDY_MISFDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_MISF	Misfire - spark, compr.
	DEM_OBD_RDY_NONEDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_NONE	None - spark, compr.
	DEM_OBD_RDY_NOXCATDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_NOXCAT	NOx Catalyst - compr.
	DEM_OBD_RDY_O2SENSDem ObdDTC.DemEvent OBDReadiness Group.DEM_OBD_RDY_O2SENS	Oxygen sensor - spark
	DEM_OBD_RDY_O2SENSHTDem ObdDTC.DemEvent	Oxygen sensor heater - spark

Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	**Specification**	**Bus**
1	1	1

1.17 Specification Item ECUC_Dem_00757

Trace References:

Content:

Name	DemOBDInputEngineSpeedDemGeneralOBD.DemOBDInputEngineSpeed
Parent Container	DemGeneralOBD
Description	Input variable for the engine speed, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

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Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

Document ID 695: ChangeDocumentation

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.18 Specification Item ECUC_Dem_00758

Trace References:

Content:

Name	DemOBDInputVehicleSpeedDemGeneralOBD.DemOBDInputVehicleSpeed
Parent Container	DemGeneralOBD
Description	Input variable for the vehicle speed, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.19 Specification Item ECUC_Dem_00759

Trace References:

Content:

Name	DemOBDInputDistanceInformationDemGeneralOBD.DemOBDInputDistanceInformation
Parent Container	DemGeneralOBD
Description	Input variable for the distance information, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.20   Specification Item ECUC_Dem_00760

Trace References:

Content:

Name	DemOBDInputProgrammingEventDemGeneralOBD.DemOBDInputProgrammingEvent
Parent Container	DemGeneralOBD
Description	Input variable for the programming event, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.21   Specification Item ECUC_Dem_00761

Trace References:

Content:

Name	DemOBDInputAmbientTemperatureDemGeneralOBD.DemOBDInputAmbientTemperature
Parent Container	DemGeneralOBD
Description	Input variable for the ambient temperature, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

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Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.22   Specification Item ECUC_Dem_00762

Trace References:

Content:

Name	DemOBDInputAmbientPressureDemGeneralOBD.DemOBDInputAmbientPressure
Parent Container	DemGeneralOBD
Description	Input variable for the ambient pressure, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.23   Specification Item ECUC_Dem_00763

Trace References:

Content:

Name	DemOBDInputAcceleratorPedalInformationDemGeneralOBD.DemOBDInputAcceleratorPedalInformation
Parent Container	DemGeneralOBD
Description	Input variable for the accelerator padal information, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1
Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

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Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.24   Specification Item ECUC_Dem_00764

Trace References:

Content:

Name	DemOperationCycleStatusStorageDemGeneral.DemOperationCycleStatusStorage
Parent Container	DemGeneral
Description	Defines if the operation cycle state is available over the power cycle (stored non-volatile) or not. true: the operation cycle state is stored non-volatile false: the operation cycle state is only stored volatile
Multiplicity	1
Type	EcucBooleanParamDef
Default value	–
Post-Build Variant Value	false

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.25 Specification Item ECUC_Dem_00767

Trace References:

Content:

Name	DemOccurrenceCounterProcessingDemGeneral.DemOccurrenceCounterProcessing
Parent Container	DemGeneral
Description	This configuration switch defines the consideration of the fault confirmation process for the occurrence counter. For OBD and mixed systems (OBD/non OBD, refer to DemOBDSupport) configuration switch shall always set to DEM_PROCESS_OCCCTR_TF.
Multiplicity	1
Type	EcucEnumerationParamDef

Range	DEM_PROCESS_OCCCTR_CDTC General.DemOccurrence CounterProcess- ing.DEM_PROCESS_OCCCTR_CDTC	The occurrence counter is triggered by the TestFailed bit if the fault confirmation was successful (ConfirmedDTC bit is set)	
	DEM_PROCESS_OCCCTR_TF General.DemOccurrence CounterProcess- ing.DEM_PROCESS_OCCCTR_TF	The occurrence counter is only triggered by the TestFailed bit (and the fault confirmation is not considered) This parameter is mandatory in case of J1939.	
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport, DemGeneralJ1939		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.26   Specification Item ECUC_Dem_00772

Trace References:

Content:

Name	DemOBDInputEngineTemperatureDemGeneralOBD.DemOBDInputEngineTemperature
Parent Container	DemGeneralOBD
Description	Input variable for the engine temperature, which is assigned to a specific data element used as interface for the Dem-internal PID calculations.
Multiplicity	0..1

Type	Choice reference to [DemExternalCSDataElementClass , DemExternalSRDataElementClass]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Document ID 695: ChangeDocumentation

Create chapter 7.4 Configuration Constraints

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.

–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.27   Specification Item ECUC_Dem_00776

Trace References:

Content:

Name	DemFreezeFrameRecNumClassRefDemDTCAttributes.DemFreezeFrameRecNumClassRef
Parent Container	DemDTCAttributes
Description	This parameter defines the list of dedicated freeze frame record numbers associated with the diagnostic event. These record numbers are assigned to the freeze frame records (instead of calculated record numbers).
	This parameter is only required for configured record numeration (refer to DemTypeOfFreezeFrameRecordNumeration).

Multiplicity	0..1		
Type	Reference to [DemFreezeFrameRecNumClass]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemTypeOfFreezeFrameRecordNumeration = DEM_FF_RECNUM_CONFIGURED		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.28   Specification Item ECUC_Dem_00782

Trace References:

Content:

Name	DemSecondaryFunctionIdRefDemRatio.DemSecondaryFunctionIdRef
Parent Container	DemRatio
Description	This reference contains the link to a function identifier within the FiM which is used as a secondary FID.
	The "primary" and all "secondary" FID inhibitions are combined by "OR".

Multiplicity	0..*		
Type	Symbolic name reference to [FiMFID]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.29   Specification Item ECUC_Dem_00787

Trace References:

Content:

Name	DemRatioIdDemRatio.DemRatioId
Parent Container	DemRatio
Description	Defines a unique ratio Id. This parameter should not be changeable by user, because the Id should be generated by Dem itself to prevent gaps and multiple use of an Id. The ratio Ids should be sequentially ordered beginning with 0 and no gaps in between.
Multiplicity	1

Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at

least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.30   Specification Item ECUC_Dem_00791

Trace References:

Content:

Name	DemDebounceCounterStorageDemDebounceCounterBasedClass.DemDebounceCounterStorage
Parent Container	DemDebounceCounterBasedClass
Description	Switch to store the debounce counter value non-volatile or not.
	true: debounce counter value shall be stored non-volatile false: debounce counter value is volatile
Multiplicity	1
Type	EcucBooleanParamDef
Default value	false
Post-Build Variant Value	false

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemOperationCycleStatusStorage = True		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.31   Specification Item ECUC_Dem_00794

Trace References:

Content:

Name	DemOBDCentralizedPID21HandlingDemGeneralOBD.DemOBDCentralizedPID21Handling		
Parent Container	DemGeneralOBD		
Description	Switch to enable the centralized handling of PID $21. true: centralized handling of PID $21 enabled false: centralized handling of PID $21 disabled		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	

Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.32 Specification Item ECUC_Dem_00795

Trace References:

Content:

Name	DemOBDCompliancyDemGeneralOBD.DemOBDCompliancy		
Parent Container	DemGeneralOBD		
Description	Configuration value to define the appropriate value to PID$1C "OBD requirements to which vehicle or engine is certified." according to the respective standards, e.g. OBD, OBDII, JOBD etc. Notice as well J1979 or the "DiagnosticReadiness 1" DM05 message of J1939-73		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	–		
Post-Build Variant Value	true		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	

Document ID 695: ChangeDocumentation

Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: (DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU) or (DemJ1939Readiness1Support == true)		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

Document ID 695: ChangeDocumentation

DEM

—-

see file under svn.:

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A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.33   Specification Item ECUC_Dem_00796

Trace References:

Content:

Name	DemOBDEventDisplacementDemGeneralOBD.DemOBDEventDisplacement		
Parent Container	DemGeneralOBD		
Description	Activate/Deactivate a different displacement behavior for OBD events. OBD events with special Conditions (e.g. Pending, MIL_On...) shall not be displaced.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	

Scope / Dependency	scope: local dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

Document ID 695: ChangeDocumentation

see file under svn.:

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DCM

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See file under svn :

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Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.34 Specification Item ECUC_Dem_00800

Trace References:

Content:

Name	DemFreezeFrameRecordClassRefDemFreezeFrameRecNumClass.DemFreezeFrameRecordClassRef		
Parent Container	DemFreezeFrameRecNumClass		
Description	This parameter references record number(s) for a freeze frame record. Attributes: requiresIndex=true		
Multiplicity	1..254		
Type	Reference to [DemFreezeFrameRecordClass]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	

Scope / Dependency	scope: ECU dependency: DemTypeOfFreezeFrameRecordNumeration = DEM_FF_RECNUM_CONFIGURED

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

Document ID 695: ChangeDocumentation

see file under svn.:

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A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.35   Specification Item ECUC_Dem_00803

Trace References:

Content:

Name	DemFreezeFrameRecordTriggerDemFreezeFrameRecordClass.DemFreezeFrameRecordTrigger
Parent Container	DemFreezeFrameRecordClass
Description	Defines the trigger to store the FreezeFrameRecord.
Multiplicity	1
Type	EcucEnumerationParamDef

Range	DEM_TRIGGER_ON_CONFIRMED DemFreezeFrameRecord Class.DemFreezeFrame RecordTrigger.DEM_TRIGGER_ON_CONFIRMED	Event Memory entries are triggered if the UDS status bit 3 (confirmedDTC) changes from 0 to 1.	
	DEM_TRIGGER_ON_FDC_THRESHOLD DemFreezeFrameRecord Class.DemFreezeFrame RecordTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD	Event Memory entries are triggered when the FDC threshold is reached.	
	DEM_TRIGGER_ON_PENDING DemFreezeFrameRecord Class.DemFreezeFrame RecordTrigger.DEM_TRIGGER_ON_PENDING	Event Memory entries are triggered if the UDS status bit 2 (pendingDTC) changes from 0 to 1.	
	DEM_TRIGGER_ON_TEST_FAILED DemFreezeFrameRecord Class.DemFreezeFrame RecordTrigger.DEM_TRIGGER_ON_TEST_FAILED	Event Memory entries are triggered if the UDS status bit 0 (test Failed) changes from 0 to 1.	
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemTypeOfFreezeFrameRecordNumeration == DEM_FF_RECNUM_CONFIGURED		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

Document ID 695: ChangeDocumentation

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.36   Specification Item ECUC_Dem_00807

Trace References:

Content:

Name	DemDtrIdDemDtr.DemDtrId		
Parent Container	DemDtr		
Description	The index identifier value assigned to this DTR. The value is generated during the Dem configuration process.		
Multiplicity	1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

   Problem description:

   AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

   Agreed solution:

   Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

   When all SWS specifications are cleaned up the dependency field can be removed from the database

   FIM

   —-

   Remove dependency and in the following configuration parameters and remove the

following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.37   Specification Item ECUC_Dem_00808

Trace References:

Content:

Name	DemDtrEventRefDemDtr.DemDtrEventRef		
Parent Container	DemDtr		
Description	Reference to the DemEventParameter this DTR is related to. If the related event is not configured, the Dem cannot ensure consistency between the DTR and the event.		
Multiplicity	0..1		
Type	Reference to [DemEventParameter]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.38   Specification Item ECUC_Dem_00809

Trace References:

Content:

Name	
Name	DemDtrMidDemDtr.DemDtrMid

Parent Container	DemDtr		
Description	The OBDMID of the DTR.		
	The values 0x00, 0x20, 0x40, 0x60, 0x80, 0xA0, 0xC0, 0xE0 are reserved.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	−		
Post-Build Variant Multiplicity	true		
Post-Build Variant Value	true		
Multiplicity Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.39   Specification Item ECUC_Dem_00810

Trace References:

Content:

Name	DemDtrTidDemDtr.DemDtrTid		
Parent Container	DemDtr		
Description	The OBDTID of the DTR.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	–		
Post-Build Variant Multiplicity	true		
Post-Build Variant Value	true		
Multiplicity Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	–	
	Post-build time	X	VARIANT-POST-BUILD
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	–	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.40   Specification Item ECUC_Dem_00811

Trace References:

Content:

Name	DemDtrUasidDemDtr.DemDtrUasid		
Parent Container	DemDtr		
Description	The UaSId the DTR data shall be scaled to, and reported together with the rescaled DTR data.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 255		
Default value	−		
Post-Build Variant Multiplicity	true		
Post-Build Variant Value	true		
Multiplicity Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.41   Specification Item ECUC_Dem_00812

Trace References:

Content:

Name	DemDtrUpdateKindDemDtr.DemDtrUpdateKind		
Parent Container	DemDtr		
Description	Update conditions applied by the Dem to reports of DTR values. Only supported if a related Event is configured . If no related Event is configured, the Dem behaves as if DemDtrUpdate Kind is configured to "DEM_DTR_UPDATE_ALWAYS".		
Multiplicity	0..1 1		
Type	EcucEnumerationParamDef		
Range	DEM_DTR_UPDATE_ALWAYSDem Dtr.DemDtrUpdate Kind.DEM_DTR_UPDATE_ALWAYS	Any DTR result reported by the monitor is used by the Dem.	
	DEM_DTR_UPDATE_STEADYDem Dtr.DemDtrUpdate Kind.DEM_DTR_UPDATE_STEADY	The Dem accepts reported DTRs only when the configured debouncing mechanism is stable at the FAIL or PASS limit.	
Default value	DemDtr.DemDtrUpdateKind.DEM_DTR_UPDATE_ALWAYS		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU, DemDtrEventRef		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #77941: [Dem] DTR handling

Problem description:

Document ID 695: ChangeDocumentation

— AUTOSAR CONFIDENTIAL —

1) [SWS_Dem_00754] The Dem shall use the DemDtrUpdateKind for the evaluation and processing of reported DTR-values, i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state
-> the second part starting with "i.e. DTRs are ..." in the above requirement is misleading and should be removed.

2) DemDtrUpdateKind in description already mentions the default value. This should be made explicit.

3) DemDtrUasid is defined as post-build modifiable. However, if the UASID is changed, then it would generally be necessary to also change the coefficients of conversion. But those parameters are not postbuild.

4) The following requirement is unclear concerning consideration of storage-conditoin and enablecondition:
[SWS_Dem_00757] Based on DemDtrUpdateKind and the status of the associated event (taking enable/storage conditions into account), the Dem shall either process or ignore the reported DTR values.

5) SWS_Dem_00765 mentions that the API Dem_SetDTR() is reentrant
-> it should only be reentrant for different dtrids

Agreed solution:

1) in [SWS_Dem_00754] remove the following text:
"i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state"

2) in DemDtrUpdateKind [ECUC_Dem_00812]:
change description to "Update conditions applied by the Dem to reports of DTR values. Only supported if a related Event is configured".
Add default value "DEM_DTR_UPDATE_ALWAYS"
Set multiplicity to 1.

4) change [SWS_Dem_00757] to:
If DemDtrEventRef references a DemEventParameter, the Dem shall process the reported DTR values only if all the enable/storage conditions of the referenced event are fulfilled, independent of DemDtrUpdateKind. If any of the enable/storage conditions of the referenced event are not fulfilled, then the Dem shall ignore the reported DTR values.

5) in SWS_Dem_00765 (Dem_SetDTR) change Reentrancy to: "Reentrant for different DTRIds. Non reentrant for the same DTRId.
–Last change on issue 77941 comment 4–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	4	1

1.42 Specification Item ECUC_Dem_00814

Trace References:

Content:

Name	DemDtrCompuNumerator1 DemDtr.DemDtrCompuNumerator1		
Parent Container	DemDtr		
Description	Part of the conversion between the binary representation and the physical meaning analogous to the SW-C Template conversion CompuRationalCoeffs with 2 numerator coefficients and 1 denominator coefficient in the direction compuInternalToPhys. This is the second numerator value, which is multiplied with $x^{\hat{1}}$, i.e., the factor.		
Multiplicity	1		
Type	EcucFloatParamDef		
Range	[-INF .. INF]		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

    Problem description:

    AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

    Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.43   Specification Item ECUC_Dem_00815

Trace References:

Content:

Name	DemDtrCompuDenominator0DemDtr.DemDtrCompuDenominator0		
Parent Container	DemDtr		
Description	Part of the conversion between the binary representation and the physical meaning analogous to the SW-C Template conversion CompuRationalCoeffs with 2 numerator coefficients and 1 denominator coefficient in the direction compuInternalToPhys. This is the only one supported denominator value, a constant divisor. The value 0 is not allowed.		
Multiplicity	1		
Type	EcucFloatParamDef		
Range	[-INF .. INF]		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

    Problem description:

    AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

    Agreed solution:

    Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

Document ID 695: ChangeDocumentation

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.44 Specification Item ECUC_Dem_00824

Trace References:

Content:

Name	DemCallbackDTCStatusChangedFncDemCallbackJ1939DTCStatusChanged.DemCallbackDTCStatusChangedFnc		
Parent Container	DemCallbackJ1939DTCStatusChanged		
Description	Function name of prototype "DTCStatusChanged". Note: If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus".		
Multiplicity	0..1		
Type	EcucFunctionNameDef		
Default value	–		
maxLength	–		
minLength	–		
regularExpression	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemTriggerDcmReport		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

● RfC #77729: Remove DemTriggerDcmReports [ECUC_Dem_00754]

Problem description:

Remove DemTriggerDcmReports [ECUC_Dem_00754] as the callback containers are optional and thus the semantics of DemTriggerDcmReports == FALSE is covered but not configuring the container.

Furthermore, the parameter is specified in DemGeneral. With the introduction of multiple instances of Clients (multiple memory sets, parallel UDS/OBD,...) we get multiple instances of DCM. TZhis can no longer be handled with one global switch. The multiple instances might require a callback or not. Furthermore the function names would need to be different (which is also not coverd with one single switch).
–Last change on issue 77729 comment 1–

Agreed solution:

set parameter DemTriggerDcmReports [ECUC_Dem_00754] to optional and obsolete

Remove the note "If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus"" in the following descriptions :
-ECUC_Dem_00627
-ECUC_Dem_00824
-ECUC_Dem_00826
In the note under SWS_Dem_00830, remove the first sentence: "The configuration parameter DemTriggerDcmReports enables this function." and keep the rest of the note.
–Last change on issue 77729 comment 7–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.45 Specification Item ECUC_Dem_00826

Trace References:

Content:

Document ID 695: ChangeDocumentation

Name	DemCallbackDTCStatusChangedFncDemCallbackOBDDTCStatusChanged.DemCallbackDTCStatusChangedFnc
Parent Container	DemCallbackOBDDTCStatusChanged
Description	Function name of prototype "DTCStatusChanged".
	Note: If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus".
Multiplicity	0..1
Type	EcucFunctionNameDef
Default value	–
maxLength	–
minLength	–
regularExpression	–
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemTriggerDcmReport		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

   Problem description:

   AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

   Agreed solution:

   Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

   When all SWS specifications are cleaned up the dependency field can be removed from the database

   FIM

Document ID 695: ChangeDocumentation

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #77729: Remove DemTriggerDcmReports [ECUC_Dem_00754]

Problem description:

Document ID 695: ChangeDocumentation

Remove DemTriggerDcmReports [ECUC_Dem_00754] as the callback containers are optional and thus the semantics of DemTriggerDcmReports == FALSE is covered but not configuring the container.

Furthermore, the parameter is specified in DemGeneral. With the introduction of multiple instances of Clients (multiple memory sets, parallel UDS/OBD,...) we get multiple instances of DCM. TZhis can no longer be handled with one global switch. The multiple instances might require a callback or not. Furthermore the function names would need to be different (which is also not coverd with one single switch). –Last change on issue 77729 comment 1–

Agreed solution:

set parameter DemTriggerDcmReports [ECUC_Dem_00754] to optional and obsolete

Remove the note "If the parameter DemTriggerDcmReports is enabled, this parameter shall not be "Dcm_DemTriggerOnDTCStatus"" in the following descriptions :
-ECUC_Dem_00627
-ECUC_Dem_00824
-ECUC_Dem_00826
In the note under SWS_Dem_00830, remove the first sentence: "The configuration parameter DemTriggerDcmReports enables this function." and keep the rest of the note.
–Last change on issue 77729 comment 7–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.46 Specification Item ECUC_Dem_00838

Trace References:

Content:

Name	DemIUMPRDenGroupDemRatio.DemIUMPRDenGroup
Parent Container	DemRatio
Description	This parameter specifies the assigned denominator type which is applied in addition to the DEM_IUMPR_GENERAL_INDIVIDUAL_DENOMINATOR conditions.
Multiplicity	1

Type	EcucEnumerationParamDef		
Range	DEM_IUMPR_DEN_500MILLDemRatio.DemIUMPRDenGroup.DEM_IUMPR_DEN_500MILL	Additional condition based on definition of 500miles conditions as defined for OBD2.	
	DEM_IUMPR_DEN_COLDSTARTDemRatio.DemIUMPRDenGroup.DEM_IUMPR_DEN_COLDSTART	Additional condition based on definition of "cold start" as defined for EU5+	
	DEM_IUMPR_DEN_EVAPDemRatio.DemIUMPRDenGroup.DEM_IUMPR_DEN_EVAP	Additional condition based on definition of "EVAP" conditions as defined for OBD2.	
	DEM_IUMPR_DEN_NONEDemRatio.DemIUMPRDenGroup.DEM_IUMPR_DEN_NONE	No further condition. Denominator increments based on GENERAL_INDIVIDUAL_DENOMINATOR only.	
	DEM_IUMPR_DEN_PHYS_APIDemRatio.DemIUMPRDenGroup.DEM_IUMPR_DEN_PHYS_API	Additional physical condition (component activity) computed wihtin the SW-C and reported via Dem_RepIUMPRDenLock / Dem_RepIUMPRDenRelease.	
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

⚫ RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the

following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.47   Specification Item ECUC_Dem_00839

Trace References:

Content:

Name	DemOBDGroupingAssociativeEventsRefDemEventParameter.DemOBDGroupingAssociative EventsRef		
Parent Container	DemEventParameter		
Description	This parameter defines a reference which points to a representative event of one group of associate events. The "reverence event" must refer to it self. Note: One event is only allowed to be reverenced to only one group of associate events.		
Multiplicity	0..1		
Type	Reference to [DemEventParameter]		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEven-

tRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.48   Specification Item ECUC_Dem_00840

Trace References:

Content:

Name	DemDataElementDataTypeDemExternalSRDataElementClass.DemDataElementDataType		
Parent Container	DemExternalSRDataElementClass		
Description	Provide the implementation data type of data belonging to a external data.		
Multiplicity	1		
Type	EcucEnumerationParamDef		
Range	BOOLEANDemExternal SRDataElementClass.Dem DataElementData Type.BOOLEAN	type of the data is boolean.	
	SINT16DemExternalSRData ElementClass.DemData ElementDataType.SINT16	type of the data is sint16.	
	SINT32DemExternalSRData ElementClass.DemData ElementDataType.SINT32	type of the data is sint32.	
	SINT8DemExternalSRData ElementClass.DemData ElementDataType.SINT8	type of the data is sint8.	
	UINT16DemExternalSRData ElementClass.DemData ElementDataType.UINT16	type of the data is uint16.	
	UINT32DemExternalSRData ElementClass.DemData ElementDataType.UINT32	type of the data is uint32.	
	UINT8DemExternalSRData ElementClass.DemData ElementDataType.UINT8	type of the data is uint8.	
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemDataSize		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same names-

pace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-

rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.49 Specification Item ECUC_Dem_00841

Trace References:

Content:

Name	DemDataElementEndiannessDemExternalSRDataElementClass.DemDataElementEndianness		
Parent Container	DemExternalSRDataElementClass		
Description	Defines the endianness of the data belonging to an external data.		
	If no DemDataElementEndianness is defined the value of DemDataElementDefaultEndianness is applicable.		
Multiplicity	0..1		
Type	EcucEnumerationParamDef		
Range	BIG_ENDIANDemExternalSRDataElementClass.DemDataElementEndianness.BIG_ENDIAN	Most significant byte shall come at the lowest address.	
	LITTLE_ENDIANDemExternalSRDataElementClass.DemDataElementEndianness.LITTLE_ENDIAN	Most significant byte shall come highest address	
	OPAQUEDemExternalSRDataElementClass.DemDataElementEndianness.OPAQUE	opaque data endianness	
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemDataElementDefaultEndianness		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-

Document ID 695: ChangeDocumentation

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.50   Specification Item ECUC_Dem_00843

Trace References:

Content:

Choice container Name	DemDiagnosisScaling
Description	This container contains the configuration (parameters) of an alternative Diagnosis Representation. Out if this the scaling between Diagnosis and ECU internal representation and vice versa can be calculated.

Included parameters:

No Included Parameters

Included containers:

Container Choices		
Container Name	Multiplicity	Scope / Dependency
DemAlternativeDataInterface	0..1	This container contains the configuration (parameters) of an alternative Diagnosis Representation by the means of a VariableDataPrototoype in a Data Interface. Additionally a reference to PortInterfaceMapping can be defined which provide already the mapping rules between the VariableDataPrototoype in a DataInterface used by the software component (DemSRDataElementClass) and the intended Diagnosis Representation defined by DemExternalSRDataElementClass.

Container Choices		
Container Name	Multiplicity	Scope / Dependency
DemAlternativeDataType	0..1	This container contains the configuration (parameters) of an alternative Diagnosis Representation by the means of an ApplicationDataType. Additionally the definition of a text table mapping can be a defined for ApplicationDataTypes that refers to a CompuMethod of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.
DemAlternativeDiagnosticDataElement	0..1	This container contains the configuration (parameters) of an alternative Diagnosis Representation by the means of Diagnostic Extract.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76100: Misleading category on data type for AlternativeDataType

    Problem description:

    The description of the category in ECUC_Dem_00847 and ECUC_Dem_00847 is somewhat misleading. TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE shall be set on the CompuMethod referenced by the data type and not on the data type itself.

    Agreed solution:

    In ECUC_Dem_00847, change:
    Additionally the definition of a text table mapping can be a defined for Application-DataTypes of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.

    to:

    Additionally the definition of a text table mapping can be a defined for Application-DataTypes that refers to a CompuMethod of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.

    Also the same text appears in the description of DemAlternativeDataType in ECUC_Dem_00843 and would need the same change.
    –Last change on issue 76100 comment 2–

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.51 Specification Item ECUC_Dem_00847

Trace References:

Content:

Container Name	DemAlternativeDataType
Description	This container contains the configuration (parameters) of an alternative Diagnosis Representation by the means of an ApplicationDataType. Additionally the definition of a text table mapping can be a defined for ApplicationDataTypes that refers to a CompuMethod of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DemApplicationDataType	ECUC_Dem_00848

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DemTextTableMapping	0..*	The purpose of the DemDspTextTable Mapping is to associate a texttable value defined in the context of the Dem to a texttable value defined in the context of a CompuMethod referenced by a Data Type that shall be taken to create a data Element in a SenderReceiverInterface. By this means it is possible to create a primitive version of a TexttableMapping (which can only be applied if a data Element already exists). In other words, the DemDspTextTableMapping provides a similar mechanism to the Texttable Mapping in a situation where the TexttableMapping cannot be applied since the SenderReceiverInterface for the PortPrototype on the Dem Service Component does not yet exist.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76100: Misleading category on data type for AlternativeDataType

  Problem description:

The description of the category in ECUC_Dem_00847 and ECUC_Dem_00847 is somewhat misleading. TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE shall be set on the CompuMethod referenced by the data type and not on the data type itself.

Agreed solution:

In ECUC_Dem_00847, change:
Additionally the definition of a text table mapping can be a defined for Application-DataTypes of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.

to:

Additionally the definition of a text table mapping can be a defined for ApplicationDataTypes that refers to a CompuMethod of category TEXTTABLE and SCALE_LINEAR_AND_TEXTTABLE.

Also the same text appears in the description of DemAlternativeDataType in ECUC_Dem_00843 and would need the same change.
–Last change on issue 76100 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.52   Specification Item ECUC_Dem_00879

Trace References:

Content:

Name	DemOBDCentralizedPID31HandlingDemGeneralOBD.DemOBDCentralizedPID31Handling
Parent Container	DemGeneralOBD
Description	Switch to enable the centralized handling of PID $31. true: centralized handling of PID $31 enabled false: centralized handling of PID $31 disabled
Multiplicity	1
Type	EcucBooleanParamDef
Default value	–
Post-Build Variant Value	false

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.53   Specification Item ECUC_Dem_00885

Trace References:

Content:

Name	DemDtcValueDemObdDTC.DemDtcValue		
Parent Container	DemObdDTC		
Description	Unique Diagnostic Trouble Code value for OBD		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	1 .. 65535		
Default value	–		
Post-Build Variant Multiplicity	true		
Post-Build Variant Value	true		
Multiplicity Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	–	
	Post-build time	X	VARIANT-POST-BUILD

Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	−	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.54   Specification Item ECUC_Dem_00890

Trace References:

Content:

Name	DemMemoryDestinationRef
Description	The event destination assigns events to none, memory destination assigns DTCs to one or two origins. If no event destination is assigned to a specific event, the event is handled internally and is not visible externally to the Dcm. If memory destinations. If more than one event memory destination is assigned to a specific event, the event DTC, the DTC can be present in the corresponding origins. event memories. In this case one of the references has to be DemMirror Memory (SWS_Dem_CONSTR_6104).
Multiplicity	0.1..2
Type	Choice reference to [DemMirrorMemory , DemPrimaryMemory , DemUserDefinedMemory]
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75876: Change multiplicity of DemMemoryDestinationRef [ECUC_Dem_00890] to 1..2

Problem description:

Outcome of telco Wigbert/Alexander: The DemMemoryDestinationRef [ECUC_Dem_00890] has a multiplicity of 0..2. What is the 0 for? It seems to be a bug

Agreed solution:

Set multiplicity of DemMemoryDestinationRef [ECUC_Dem_00890] to 1..2

Description : The memory destination assigns DTCs to one or two memory destinations. If more than one memory destination is assigned to a specific DTC, the DTC can be present in the corresponding event memories. In this case one of the references has to be DemMirrorMemory (SWS_Dem_CONSTR_6104).
–Last change on issue 75876 comment 3–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.55 Specification Item ECUC_Dem_00894

Trace References:

Content:

Name	DemReportBehaviorDemEventParameter.DemReportBehavior
Parent Container	DemEventParameter

Description	Indicates the reporting behavior of the BSW Module (DemEventKind == DEM_EVENT_KIND_BSW) in order to determine the size of the reporting queue.		
	If the parameter is not defined it means REPORT_BEFORE_INIT.		
Multiplicity	0..1		
Type	EcucEnumerationParamDef		
Range	REPORT_AFTER_INITDem EventParameter.DemReport Behav- ior.REPORT_AFTER_INIT	Indicates that the Event will not be reported before Dem_Init().	
	REPORT_BEFORE_INITDem EventParameter.DemReport Behav- ior.REPORT_BEFORE_INIT	Indicates that the Event may be reported before Dem_Init().	
Default value	DemEventParameter.DemReportBehavior.REPORT_BEFORE_INIT		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemEventKind == DEM_EVENT_KIND_BSW		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.56   Specification Item ECUC_Dem_00897

Trace References:

Content:

Name	DemAgingCycleCounterThresholdForTFSLCDemDTCAttributes.DemAgingCycleCounter ThresholdForTFSLC		
Parent Container	DemDTCAttributes		
Description	Number of aging cycles needed to reset the testFailedSinceLastClear Bit.		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	1 .. 255		
Default value	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: DemStatusBitHandlingTestFailedSinceLastClear == DEM_STATUS_BIT_AGING_AND_DISPLACEMENT		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.57   Specification Item ECUC_Dem_00898

Trace References:

Content:

Name	DemOperationCycleId		
Description	This parameter's value is used, together with the aggregating container, to define a symbolic name of the operation cycle.		
Multiplicity	0..1 1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 255		
Default value	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #76214: [Dem] demoperationcycleid is optional

Problem description:

why is the parameter demoperationcycleid optional?
it should be mandatory analogous to demeventid

Agreed solution:

change multiplicity of DemOperationCycleId [ECUC_Dem_00898] from 0..1 to 1
–Last change on issue 76214 comment 4–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.58   Specification Item ECUC_Dem_00899

Trace References:

Content:

Name	DemMaxNumberEventEntryEventBufferDemGeneral.DemMaxNumberEventEntryEventBuffer		
Parent Container	DemGeneral		
Description	Specifies the size of the buffer for storing environmental data (freezeframes and extended data) until they are processed and stored to the event memory.		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	1 .. 250		
Default value	–		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU dependency: Required for DemEnvironmentDataCapture == DEM_CAPTURE_SYNCHRONOUS_TO_REPORTING		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

   Problem description:

   AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

   Agreed solution:

   Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

   When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.59 Specification Item ECUC_Dem_00900

Trace References:

Content:

Name	DemOBDEngineTypeDemGeneralOBD.DemOBDEngineType		
Parent Container	DemGeneralOBD		
Description	Switch to provide either Gasoline or Diesel parameters.		
Multiplicity	0..1		
Type	EcucEnumerationParamDef		
Range	DEM_IGNITION_COMPRESSIONDem GeneralOBD.Dem OBDEngine Type.DEM_IGNITION_COMPRESSION	Diesel engine type	
	DEM_IGNITION_SPARKDem GeneralOBD.Dem OBDEngine Type.DEM_IGNITION_SPARK	Gasoline engine type	
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemOBDSupport == DEM_OBD_MASTER_ECU || DEM_OBD_PRIMARY_ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

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Application	Specification	Bus
1	1	1

1.60 Specification Item ECUC_Dem_00914

Trace References:

Content:

Name	DemCounterBasedFdcThresholdStorageValueDemDebounceCounterBasedClass.DemCounterBasedFdcThresholdStorageValue		
Parent Container	DemDebounceCounterBasedClass		
Description	Threshold to allocate an event memory entry and to capture the Freeze Frame.		
Multiplicity	0..1		
Type	EcucIntegerParamDef		
Range	1 .. 32767		
Default value	−		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local dependency: DemFreezeFrameRecordTrigger, DemExtendedDataRecordTrigger, DemEventMemoryEntryStorageTrigger = DEM_STORAGE_ON_FDC_THRESHOLD		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.61   Specification Item ECUC_Dem_00915

Trace References:

Content:

Name	DemTimeBasedFdcThresholdStorageValueDemDebounceTimeBaseClass.DemTimeBasedFdcThresholdStorageValue
Parent Container	DemDebounceTimeBaseClass
Description	Threshold to allocate an event memory entry and to capture the Freeze Frame.
Multiplicity	0..1
Type	EcucFloatParamDef
Range	[0.001 .. 3600]	
Default value	–
Post-Build Variant Multiplicity	false
Post-Build Variant Value	false

Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	

Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	

Scope / Dependency	scope: local dependency: DemFreezeFrameRecordTrigger, DemExtendedDataRecordTrigger, DemEventMemoryEntryStorageTrigger = DEM_STORAGE_ON_FDC_THRESHOLD

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.62   Specification Item ECUC_Dem_00938

Trace References:

Content:

Name	DemGeneralCallbackMonitorStatusChangedFncDemGeneral.DemGeneralCallbackMonitorStatusChangedFnc		
Parent Container	DemGeneral		
Description	Function name of prototype "<Module>_DemTriggerOnMonitorStatus". Function for the General Monitor Status Changed notification.		
Multiplicity	0..1		
Type	EcucFunctionNameDef		
Default value	−		
maxLength	−		
minLength	−		
regularExpression	−		
Post-Build Variant Multiplicity	false		
Post-Build Variant Value	false		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU dependency: DemGeneralInterfaceSupport		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

    Problem description:

    AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.63   Specification Item SWS_Dem_00013

Trace References:

SRS_Diag_04000

Content:

The Dem module shall support DTC formats for DemDTC according to:

- ISO-14229-1ISO_2d_14229_2d_1_2d_2013

- SAE J2012 OBD DTC (aka 2-byte DTC) SAE_2d_J2012DA

- SAE J1939-73SAE_2d_J1939_2d_73

- ISO 11992-4ISO_2d_11992_2d_4

- SAE J2012 WWH-OBD DTC (aka 3-byte DTC) SAE_2d_J2012DA

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were

replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.64   Specification Item SWS_Dem_00019

Trace References:

SRS_Diag_04133, SRS_Diag_04068, SRS_Diag_04076 04178

Content:

The Dem module shall support at least an aging counter for each event memory entry.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.65 Specification Item SWS_Dem_00024

Trace References:

SRS_Diag_04073

Content:

In case DemGeneral.DemEventCombinationSupport is set to DemGeneral.DemEvent CombinationSupport.DEM_EVCOMB_ONRETRIEVAL or DemGeneral.DemEventCombi- nationSupport.DEM_EVCOMB_ONSTORAGE, the combination of multiple events to a DTC is defined by referencing from each event to the same DTC.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76601: [Dem] corrupt requirement SWS_Dem_00024

    Problem description:

    drop requirement SWS_Dem_00024 as it is not a meaningful sentence

    Agreed solution:

    Revert SWS_Dem_00024 back to :
    In case DemEventCombinationSupport is set to DEM_EVCOMB_ONRETRIEVAL or DEM_EVCOMB_ONSTORAGE, the combination of multiple events to a DTC is defined by referencing from each event to the same DTC.
    –Last change on issue 76601 comment 3–

    BW-C-Level:

Application	Specification	Bus
1	4	1

1.66 Specification Item SWS_Dem_00057

Trace References:

SRS_Diag_04057

Content:

The function Dem_SetDTCFilter shall set the filter criteria for the client with the same client ID for subsequent calls of::

- Dem_GetNumberOfFilteredDTC

- Dem_GetNextFilteredDTC

- Dem_GetNextFilteredDTCAndFDC

- Dem_GetNextFilteredDTCAndSeverity

- Dem_DisableDTCRecordUpdate

- Dem_EnableDTCRecordUpdate.

The filter criteria attributes shall be used until the next call of Dem_SetDTCFilter or Dem initialization.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77300: [Dem] Dem_DisableDTCRecordUpdate/Dem_EnableDTCRecordUpdate conflicting reqs

  Problem description:

  the requirements [SWS_Dem_01253] and [SWS_Dem_00057] are conflicting:

  both mention to set the filter criteria for
  Dem_DisableDTCRecordUpdate and Dem_EnableDTCRecordUpdate
  but setting by different apis:
  Dem_SelectDTC <–> Dem_SetDTCFilter

  Agreed solution:

  Remove the Dem_DisableDTCRecordUpdate and Dem_EnableDTCRecordUpdate API from the function Dem_SetDTCFilter in SWS_Dem_00057.
  –Last change on issue 77300 comment 1–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.67   Specification Item SWS_Dem_00061

Trace References:

SRS_Diag_04000

Content:

The function Dem_GetNumberOfFilteredDTC shall get the number of DTCs matching the filter criteria defined by the function call of Dem_SetDTCFilterSWS_Dem_00057.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.68 Specification Item SWS_Dem_00074

Trace References:

SRS_Diag_04074, SRS_Diag_04079 04204

Content:

The function Dem_GetSizeOfFreezeFrameSelection shall return the size of the requested freeze frame record(s) by Dem_SelectFreezeFrameData for the specified ClientId, which represents the number of user data bytes, including any freeze frame headerinformation (according to the format defined in SWS_Dem_00071).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.69 Specification Item SWS_Dem_00075

Trace References:

SRS_Diag_04074

Content:

The APIDem_GetNextExtendedDataRecord shall copy the complete data of the requested extended data record by Dem_SelectExtendedDataRecord API for the specified ClientId to the destination buffer (DestBuffer). The function shall transmit these data as a complete record with the format shown in figure [REF fig_3a_buffer_formats_GetExtendedDataRecordByDTCLayout]. The extended data record number is placed as the first byte in the copied data.

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76541: Dem_GetNextExtendedDataRecord shall provide the extended data record number as well

Problem description:

In RfC # 71838 is was forgotten, that Dem_GetNextExtendedDataRecord needs to provide the EDR number along with the data. If more than one EDR is requested by Dem_SelectExtendedDataRecord is it unclear which EDR number is returned by Dem_GetNextExtendedDataRecord.

Agreed solution:

DEM:
1) Change SWS_Dem_00075 to:
The API Dem_GetNextExtendedDataRecord shall copy the extended record number and complete data of the requested extended data record by Dem_SelectExtendedDataRecord API for the specified ClientId to the destination buffer (DestBuffer). The function shall transmit these data as a complete record with the format shown in figure 7.52. The extended data record number is placed as the first byte in the copied data. (SRS_Diag_04074)

2) Change the Description of "Figure 7.52: Buffer format used by Dem_DcmGetExtendedDataRecordByDTC" to "Figure 7.52: Buffer format used by Dem_GetNextExtendedDataRecord"

3) Update the image 7.52 so that the first byte is the "EDR" number

=== BSW UML start ===
4) Change the DestBuffer out-param of Dem_GetNextExtendedDataRecord SWS_Dem_00239 to (it was a copy& pase from freezeframes):
"This parameter contains a byte pointer that points to the buffer, to which the extended data data record shall be written to. The format is: ExtendedDataRecordNumber, data[0], data[1], ..., data[n]"

5) Change description of parameter SizeOfExtendedDataRecord in SWS_Dem_00240 to "Size of the requested extended data record(s) including record number. The format for a single ExtendedDataRecord is: RecordNumber,data[1], ...,data[N]"
=== BSW UML end ===

6) Change parameter description of ExtendedDataNumber in SWS_Dem_91017 to:
"Identification/Number of requested extended data record(s). Additionally the values 0xFE and 0xFF are explicitly allowed to request."

Document ID 695: ChangeDocumentation

DCM:

Update SWS_Dcm_00386:

[SWS_Dcm_00386] [Upon reception of UDS Service 0x019 with subfunction 0x06 or 0x10 or 0x19 the Dcm shall retrieve from the Dem the stored extended data records for the requested DTC and origin.]
–Last change on issue 76541 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.70   Specification Item SWS_Dem_00080

Trace References:

SRS_Diag_04000, SRS_Diag_04115

Content:

If the function Dem_EnableDTCSetting is called, the Dem shall enable the storage of all events and UDS status byte.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	**Specification**	**Bus**
1	1	1

1.71   Specification Item SWS_Dem_00124

Trace References:

SRS_BSW_00406

Content:

If development error detection is enabled and any instance calls any Dem API , excluding DemGeneral.DemDevErrorDetect is set to TRUE and any Dem API excluding :

- Dem_SetEventStatus ,

- Dem_ResetEventStatus

- Dem_SetEventAvailable

- Dem_ResetEventDebounceStatus and

- Dem_GetVersionInfo , before the Dem was

is called before Dem has been fully initialized, the Dem module shall set the error code DEM_E_UNINIT.

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76754: [Dem] Inconsistency between [SWS_Dem_00124] and [SWS_Dem_01112]

  Problem description:

  [SWS_Dem_00124] and [SWS_Dem_01112] have list of excluded APIs. But they are inconsistent. I think they can be merged into one.

  [SWS_Dem_00124] d If development error detection is enabled and
  any instance calls any Dem API, excluding Dem_SetEventStatus,
  Dem_ResetEventDebounceStatus and Dem_GetVersionInfo, before the
  Dem was fully initialized, the Dem module shall set the error code DEM_E_UNINIT.
  c
  (SRS_BSW_00406)

  [SWS_Dem_01112] d If development error detection is enabled and any instance
  calls any Dem API, excluding Dem_SetEventStatus, Dem_ResetEventStatus,
  Dem_SetEventAvailable and Dem_GetVersionInfo, before the Dem was
  fully initialized, the Dem module shall set the error code DEM_E_UNINIT. c
  (SRS_BSW_00406)
  –Last change on issue 76754 comment 4–

  Agreed solution:

  Remove [SWS_Dem_01112]
  Modify [SWS_Dem_00124]If DemDevErrorDetect is set to TRUE and any Dem API
  excluding :
  - Dem_SetEventStatus,
  - Dem_ResetEventStatus,
  - Dem_SetEventAvailable,
  - Dem_ResetEventDebounceStatus
  - Dem_GetVersionInfo,
  is called before Dem has been fully initialized, the Dem module shall set the error
  code DEM_E_UNINIT. (SRS_BSW_00406)
  –Last change on issue 76754 comment 3–

  BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.72 Specification Item SWS_Dem_00161

Trace References:

SRS_Diag_04070 04195

Content:

The Dem module shall handle the reoccurrence of unlearned events like new events, since they were previously deleted from the event memory by aging.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to
    https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.73 Specification Item SWS_Dem_00185

Trace References:

Content:

Service name:	Dem_ResetEventStatusDem_ResetEventStatus	
Syntax:	Std_ReturnType Dem_ResetEventStatus(Dem_EventIdType EventId)	
Service ID[hex]:	0x05	
Sync/Async:	Synchronous Asynchronous	
Reentrancy:	Reentrant for different EventIds. Non reentrant for the same EventId.	
Parameters (in):	EventIdDem_ResetEventStatus.EventId	Identification of an event by assigned EventId.

Document ID 695: ChangeDocumentation

Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: reset of Request to reset the event status was successful accepted. E_NOT_OK: reset of Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.
Description:	Resets the event failed status. This API can only be used through the RTE and therefore no declaration is exported via Dem.h.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

   Agreed solution:

   Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

   BW-C-Level:

Application	Specification	Bus
1	1	1

1.74 Specification Item SWS_Dem_00187

Trace References:

SRS_Diag_04067

Content:

The function Dem_ResetEventStatus shall set the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:
E_OK: Request to set the WIR status was successful.
E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to
The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in

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time. c(SRS_Diag_04067)

Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]

SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit

SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.

–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.75   Specification Item SWS_Dem_00208

Trace References:

SRS_Diag_04072 04205

Content:

Service name:	Dem_SetDTCFilterDem_SetDTCFilter
Syntax:	Std_ReturnType Dem_SetDTCFilter(uint8 ClientId, uint8 DTCStatusMask, Dem_DTCFormatType DTCFormat, Dem_DTCOriginType DTCOrigin, boolean FilterWithSeverity, Dem_DTCSeverityType DTCSeverityMask, boolean FilterForFaultDetectionCounter)
Service ID[hex]:	0x13
Sync/Async:	Synchronous
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.

Parameters (in):	ClientIdDem_SetDTCFilter.ClientId	Unique client id, assigned to the instance of the calling module.
	DTCStatusMaskDem_Set DTCFilter.DTCStatusMask	Status-byte mask for DTC status-byte filtering Values: 0x00: Autosar-specific value to deactivate the status-byte filtering (different meaning than in ISO 14229-1) to report all supported DTCs (used for service 0x19 subfunctions 0x0A/0x15) 0x01..0xFF: Status-byte mask according to ISO 14229-1 DTCStatusMask (handed over by Dcm from service request directly) to filter for DTCs with at least one status bit set matching this status-byte mask
	DTCFormatDem_Set DTCFilter.DTCFormat	Defines the output-format of the requested DTC values for the sub-sequent API calls. If passed value does not fit to Configuration, the DET error DEM_E_WRONG_CONFIGURATION shall be reported, e.g. if DTCFormat "DEM_DTC_FORMAT_OBD" is passed, but OBD is not supported per configuration.
	DTCOriginDem_Set DTCFilter.DTCOrigin	If the Dem supports more than one event memory this parameter is used to select the source memory the DTCs shall be read from. If passed value does not fit to Configuration, the DET error DEM_E_WRONG_CONFIGURATION shall be reported, e.g. if DTCOrigin "DEM_DTC_ORIGIN_MIRROR_MEMORY" is passed, but no mirror memory is configured.
	FilterWithSeverityDem_Set DTCFilter.FilterWithSeverity	This flag defines whether severity information (ref. to parameter below) shall be used for filtering. This is to allow for coexistence of DTCs with and without severity information.
	DTCSeverityMaskDem_Set DTCFilter.DTCSeverityMask	This parameter contains Contains the DTCSeverityMask according to ISO14229-1(see for example Service 0x19, subfunction 0x08). If the value is invalid the function returns DEM_WRONG_FILTER. .
	FilterForFaultDetectionCounterDem_Set DTCFilter.FilterForFaultDetection Counter	This flag defines whether the fault detection counter information shall be used for filtering. This is to allow for coexistence of DTCs with and without fault detection counter information. If fault detection counter information is filter criteria, only those DTCs with a fault detection counter value between 1 and 0x7E shall be reported. Remark: If the event does not use the debouncing inside Dem, then the Dem must request this information via GetFaultDetection Counter.
Parameters (inout):	None	

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Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: Filter set correctly E_NOT_OK: Indicates an invalid DTCSeverityMask a wrong DTCOrigin or DTCFormat
Description:	Sets the DTC Filter. The server shall perform a bit-wise logical AND-ing operation between the parameter DTCStatusMask and the current UDS status in the server. In addition to the DTCStatusAvailabilityMask, the server shall return all DTCs for which the result of the AND-ing operation is non-zero [i.e. (statusOfDTC & DTCStatus Mask) != 0]. The server shall process only the DTC Status bits that it is supporting. OBD Events Suppression shall be ignored for this computation. If no DTCs within the server match the masking criteria specified in the client's request, no DTC or status information shall be provided following the DTCStatusAvailabilityMask byte in the positive response message (((statusOfDTC & DTCStatusMask) != 0) && ((severity & DTCSeverityMask) != 0)) == TRUE	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.76   Specification Item SWS_Dem_00212

Trace References:

SRS_Diag_04066, SRS_Diag_04067

Content:

Service name:	Dem_GetStatusOfDTCDem_GetStatusOfDTC
Syntax:	Std_ReturnType Dem_GetStatusOfDTC(uint8 ClientId, uint8* DTCStatus)
Service ID[hex]:	0x15

Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetStatusOfDTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCStatusDem_GetStatusOf DTC.DTCStatus	This parameter receives the status information of the requested DTC. It follows the format as defined in ISO14229-1 If the return value of the function call is other than DEM_FILTERED_OK this parameter does not contain valid data.
Return value:	Std_ReturnType	E_OK: The status of the DTC is correctly provided in the DTCStatus parameter. E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_PENDING: Retrieving the DTC status is currently in progress. The caller shall call this function again at a later moment. DEM_NO_SUCH_ELEMENT - Selected DTC does not have an assigned DTC status. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Gets the status of a DTC. For large configurations and DTC-calibration, the interface behavior can be asynchronous (splitting the DTC-search into segments). The DTCs of OBD Events Suppression shall be reported as Dem_WRONG_DTC.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #76727: Refine Dem Interface

Problem description:

With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185

* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)

Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record success-fully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to
:
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-

Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.77 Specification Item SWS_Dem_00214

Trace References:

Content:

Service name:	Dem_GetNumberOfFilteredDTCDem_GetNumberOfFilteredDTC	
Syntax:	Std_ReturnType Dem_GetNumberOfFilteredDTC(uint8 ClientId, uint16* NumberOfFilteredDTC)	
Service ID[hex]:	0x17	
Sync/Async:	Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_GetNumberOfFiltered DTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	NumberOfFilteredDTCDem_GetNumber OfFilteredDTC.NumberOfFilteredDTC	The number of DTCs matching the defined status mask.
Return value:	Std_ReturnType	E_OK: Getting number of filtered DTCs was successful E_NOT_OK: No DTC filter set DEM_PENDING: The requested operation is currently in progress. The caller shall call this function again at a later moment.
Description:	Gets the number of a filtered DTC.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)

- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif

as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.78 Specification Item SWS_Dem_00215

Trace References:

Content:

Service name:	Dem_GetNextFilteredDTCDem_GetNextFilteredDTC	
Syntax:	Std_ReturnType Dem_GetNextFilteredDTC(uint8 ClientId, uint32* DTC, uint8* DTCStatus)	
Service ID[hex]:	0x18	
Sync/Async:	Synchronous or Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_GetNextFilteredDTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCDem_GetNextFilteredDTC.DTC	Receives the DTC value in respective format of the filter returned by this function. If the return value of the function is other than DEM_FILTERED_OK this parameter does not contain valid data.
	DTCStatusDem_GetNextFilteredDTC.DTCStatus	This parameter receives the status information of the requested DTC. It follows the format as defined in ISO14229-1 If the return value of the function call is other than DEM_FILTERED_OK this parameter does not contain valid data.

Return value:	Std_ReturnType	E_OK: Returned next filtered element E_NOT_OK: No DTC filter set DEM_NO_SUCH_ELEMENT: No further element matching the filter criteria found DEM_PENDING: The requested operation is currently in progress. The caller shall call this function again at a later moment. Note that according to SWS_Dem_00653 this return value is not always allowed.
Description:		Gets the next filtered DTC matching the filter criteria. For UDS services, the interface has an asynchronous behavior, because a large number of DTCs has to be processed.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

   Problem description:

   The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

   Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
   Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
   Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

   SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

   Agreed solution:

   Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

   ===BSW UML change start===
   Add further return value "E_NOT_OK" with description "No DTC selected" to:
   - Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
   - Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
   - Dem_GetStatusOfDTC (SWS_Dem_00212)
   - Dem_GetSeverityOfDTC (SWS_Dem_00232)
   - Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
   - Dem_ClearDTC (SWS_Dem_00665)
   - Dem_GetDTCSelectionResult (SWS_Dem_91023)

   Add further return value "E_NOT_OK" with description "No DTC filter set" to
   :

- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	4	1

1.79   Specification Item SWS_Dem_00218

Trace References:

SRS_Diag_04072

Content:

Service name:	Dem_GetDTCByOccurrenceTimeDem_GetDTCByOccurrenceTime	
Syntax:	Std_ReturnType Dem_GetDTCByOccurrenceTime(uint8 ClientId, Dem_DTCRequestType DTCRequest, uint32* DTC)	
Service ID[hex]:	0x19	
Sync/Async:	Synchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_GetDTCByOccurrence Time.ClientId	Unique client id, assigned to the instance of the calling module.
	DTCRequestDem_GetDTCBy OccurrenceTime.DTCRequest	This parameter defines the request type of the DTC.
Parameters (inout):	None	
Parameters (out):	DTCDem_GetDTCByOccurrence Time.DTC	Receives the DTC value in UDS format returned by the function. If the return value of the function is other than DEM_OCCURR_OK this parameter does not contain valid data.
Return value:	Std_ReturnType	E_OK: get of DTC was successful E_NOT_OK: the call was not successful DEM_NO_SUCH_ELEMENT: Request is not supported by configuration and therefore invalid The requested element is not stored
Description:	Gets the DTC by occurrence time. There is no explicit parameter for the DTC-origin as the origin always is DEM_DTC_ORIGIN_PRIMARY_MEMORY.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76861:   Wrong   return   values   of   Dem_GetDTCByOccurrenceTime [SWS_Dem_00218]

  Problem description:

Dem_GetDTCByOccurrenceTime [SWS_Dem_00218] provides the return value:
DEM_NO_SUCH_ELEMENT: Request is not supported by configuration and therefore invalid

which is wrong. It is a valid situation that no DTC is stored in the fault memory and this has nothing to do with configuration.
–Last change on issue 76861 comment 2–

Agreed solution:

1) Change return value description for DEM_NO_SUCH_ELEMENT of SWS_Dem_00218 to:
DEM_NO_SUCH_ELEMENT: The requested element is not stored

2) Change [SWS_Dem_00221] to:
The function Dem_GetDTCByOccurrenceTime shall return DEM_NO_SUCH_ELEMENT, if no DTC is matching the requested occurrence time in the parameter DTCRequest. (SRS_Diag_04070)

3) Change [SWS_Dcm_00766] to:
If the Dcm received DEM_NO_SUCH_ELEMENT by calling Dem_GetDTCByOccurrenceTime it shall response with a positive response and empty DTCAndStatusRecord. (SRS_Diag_04010)

4) remove req. [SWS_Dem_00958] as the type Dem_ReturnGetDTCByOccurrenceTimeType is not used anywhere
–Last change on issue 76861 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.80 Specification Item SWS_Dem_00219

Trace References:

SRS_Diag_04070 04195

Content:

The function Dem_GetDTCByOccurrenceTime shall provide the capability to get one DTC stored in the primary event memory of the addressed AREcucContainerDemEventMemorySet according to the API parameter Dem_GetDTCByOccurrenceTime.DTCRequest.

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76465: Cleanup of TeX Documents

  Problem description:

  Most of the TeX documents need a cleanup according to autosar.sty. The ArSh rake task "CheckDocumentSource" tex provides evaluation methods of tex documents. Therefore we did a check on all AUTOSAR standards (FO, CP, AP). The results for each documents are attached.

  Agreed solution:

  Preconfiguration:
  ———————————

  Please run rake UpdateTooling and rake UpdateCommonfiles to update/install all required folders/tools.
  If the ArSh is not already configured see https://www.autosar.org/wiki/doku.php?id=tools:toolingins

  Steps to do:
  ———————————

  Please open the AUTOSAR Shell on your document folder and run
  rake CheckDocumentSource
  to be sure to get the latest results (The results of attached files are taken on 11.11.2017).
  Please fix the given errors in your TeX files and rerun CheckDocumentSource to be sure that there are no errors.

  Steps to fix TeX Errors:
  ———————————

  Look at the results of the rake task CheckDocumentSource. Each [Error] points to the Latex file to be fixed like e.g. [ERROR] (latex_instantiator.rb): [02_Functional-Requirements.tex:15:1] no valid date .
  In the given example the file 02_FunctionalRequirements.tex has to be fixed in line 15.

  We have a detailed description how to handle CheckDocumentSource errors
  https://www.autosar.org/wiki/doku.php?id=tools:checklatexsource

  The provided autosar tex commands are listed here:
  https://www.autosar.org/wiki/doku.php?id=tools:texcommandsforautosar

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.81 Specification Item SWS_Dem_00221

Trace References:

SRS_Diag_04070 04195

Content:

The function API Dem_GetDTCByOccurrenceTime shall return E_NOT_OKDEM_NO_SUCH_ELEMENT, if no DTC is matching the requested occurrence time in the parameter Dem_GetDTCByOccurrenceTime.DTCRequest.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76861: Wrong return values of Dem_GetDTCByOccurrenceTime [SWS_Dem_00218]

Problem description:

Dem_GetDTCByOccurrenceTime [SWS_Dem_00218] provides the return value: DEM_NO_SUCH_ELEMENT: Request is not supported by configuration and therefore invalid

which is wrong. It is a valid situation that no DTC is stored in the fault memory and this has nothing to do with configuration.
–Last change on issue 76861 comment 2–

Agreed solution:

1) Change return value description for DEM_NO_SUCH_ELEMENT of SWS_Dem_00218 to:
DEM_NO_SUCH_ELEMENT: The requested element is not stored

2) Change [SWS_Dem_00221] to:
The function Dem_GetDTCByOccurrenceTime shall return DEM_NO_SUCH_ELEMENT, if no DTC is matching the requested occurrence time in the parameter DTCRequest. (SRS_Diag_04070)

3) Change [SWS_Dcm_00766] to:
If the Dcm received DEM_NO_SUCH_ELEMENT by calling Dem_GetDTCByOccurrenceTime it shall response with a positive response and empty DTCAndStatusRecord. (SRS_Diag_04010)

4) remove req. [SWS_Dem_00958] as the type Dem_ReturnGetDTCByOccurrenceTimeType is not used anywhere
–Last change on issue 76861 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.82   Specification Item SWS_Dem_00227

Trace References:

Document ID 695: ChangeDocumentation

Content:

Service name:	Dem_GetNextFilteredDTCAndFDCDem_GetNextFilteredDTCAndFDC	
Syntax:	Std_ReturnType Dem_GetNextFilteredDTCAndFDC(uint8 ClientId, uint32* DTC, sint8* DTCFaultDetectionCounter)	
Service ID[hex]:	0x3b	
Sync/Async:	Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_GetNextFilteredDTCAndFDC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCDem_GetNextFilteredDTCAndFDC.DTC	Receives the DTC value in respective format of the filter returned by this function. If the return value of the function is other than DEM_FILTERED_OK this parameter does not contain valid data.
	DTCFaultDetectionCounterDem_GetNextFilteredDTCAndFDC.DTCFaultDetectionCounter	This parameter receives the Fault Detection Counter information of the requested DTC. If the return value of the function call is other than DEM_FILTERED_OK this parameter does not contain valid data. -128dec...127dec PASSED...FAILED according to ISO 14229-1
Return value:	Std_ReturnType	E_OK: Returned next filtered element E_NOT_OK: No DTC filter set DEM_NO_SUCH_ELEMENT: No further element matching the filter criteria found DEM_PENDING: The requested operation is asynchronously processed is currently in progress. The caller shall call this function again at a later moment.
Description:	Gets the next filtered DTC and its associated Fault Detection Counter (FDC) matching the filter criteria. The interface has an asynchronous behavior, because a large number of DTCs has to be processed and the FDC might be received asynchronously from a SW-C, too.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

  Problem description:

  The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

  Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all

Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

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Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.83 Specification Item SWS_Dem_00231

Trace References:

SRS_Diag_04075 04201

Content:

The APIDem_GetTranslationType shall return the translation format of the DemEvent MemorySet configured in DemEventMemorySet.DemTypeOfDTCSupported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

Document ID 695: ChangeDocumentation

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.84 Specification Item SWS_Dem_00232

Trace References:

SRS_Diag_04071

Content:

Service name:	Dem_GetSeverityOfDTCDem_GetSeverityOfDTC

Syntax:	Std_ReturnType Dem_GetSeverityOfDTC(uint8 ClientId, Dem_DTCSeverityType* DTCSeverity)	
Service ID[hex]:	0x0e	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetSeverityOfDTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCSeverityDem_GetSeverityOf DTC.DTCSeverity	This parameter contains the DTCSeverity according to ISO 14229-1.
Return value:	Std_ReturnType	E_OK: The DTC severity is correctly provided in the DTCSeverity parameter. E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_PENDING: Retrieving the DTC is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Gets the severity of the requested DTC. For large configurations and DTC-calibration, the interface behavior can be asynchronous (splitting the DTC-search into segments).	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839

asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)

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C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
4	4	1

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

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Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"

If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.85   Specification Item SWS_Dem_00233

Trace References:

SRS_Diag_04095

Document ID 695: ChangeDocumentation

Content:

Service name:	Dem_DisableDTCRecordUpdateDem_DisableDTCRecordUpdate	
Syntax:	Std_ReturnType Dem_DisableDTCRecordUpdate(uint8 ClientId)	
Service ID[hex]:	0x1a	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_DisableDTCRecord Update.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: Event memory update successfully disabled E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a group of DTC was selected DEM_E_WRONG_CONDITION: Required conditions for the respective API call are not fulfilled. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_PENDING: Disabling the DTC record update is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Disables the event memory update of a specific DTC (only one at one time).	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

    Problem description:

    With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

    1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
    Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

    2) Make

* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)

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Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

● RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-

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Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #77865: [Dem] ReDesign Dem/Dcm interface of AR4.3: description of the interface Dem_DisableDTCRecordUpdate()

Problem description:

Description of Dem_DisableDTCRecordUpdate() (SWS_Dem_00233) says that the event memory update for one specific DTC only is disabled (only one at one time).

Also in Autosar Dem there is another requirement which says when it is to be called:

[SWS_Dem_00270] d The function Dem_DisableDTCRecordUpdate shall protect the event related data of the selected DTC within the selected DTCOrigin from updating or deleting, to allow a consistent read for the following subsequent APIcalls:
- Dem_SelectFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection and
Dem_GetNextFreezeFrameData
- Dem_SelectExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection and
Dem_GetNextExtendedDataRecord.
c()

But Dem_SelectFreezeFrameData() and Dem_SelectExtendedDataRecord() can select a single DTC or a group of DTC for filtering. Hence Dem_DisableDTCRecordUpdate() might have to block event memory update for a group of DTCs. This deviates from the description.

Agreed solution:

Change description of return type for DEM_WRONG_DTC in SWS_Dem_00233 to: "Selected DTC value in selected format does not exist or a group of DTC was selected"
–Last change on issue 77865 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.86   Specification Item SWS_Dem_00234

Trace References:

SRS_Diag_04074

Content:

Service name:	Dem_EnableDTCRecordUpdateDem_EnableDTCRecordUpdate
Syntax:	Std_ReturnType Dem_EnableDTCRecordUpdate(uint8 ClientId)

Service ID[hex]:	0x1b	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_EnableDTCRecord Update.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OKis returned: DTC record successfully updated. E_NOT_OK: No DTC selected. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Enables the event memory update of the DTC disabled by Dem_DisableDTCRecord Update() before.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839
  asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

  3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
  a) Dem_Select(DTC1)
  Dem_Select(DTC2)
  Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

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Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:

SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:

[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)

replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)

Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"

SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"

SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"

SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected

–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

• RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

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Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.87   Specification Item SWS_Dem_00236

Trace References:

SRS_Diag_04066

Content:

Service name:	Dem_GetNextFreezeFrameDataDem_GetNextFreezeFrameData
Syntax:	Std_ReturnType Dem_GetNextFreezeFrameData(uint8 ClientId, uint8* DestBuffer, uint16* BufSize)
Service ID[hex]:	0x1d
Sync/Async:	Asynchronous
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.

Parameters (in):	ClientIdDem_GetNextFreezeFrame Data.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	BufSizeDem_GetNextFreezeFrame Data.BufSize	When the function is called this parameter contains the maximum number of data bytes that can be written to the buffer. The function returns the actual number of written data bytes in this parameter.
Parameters (out):	DestBufferDem_GetNextFreezeFrame Data.DestBuffer	This parameter contains a byte pointer that points to the buffer, to which the freeze frame data record shall be written to. The format is: {RecordNumber, Num OfDIDs, DID[1], data[1], ..., DID[N], data[N]}
Return value:	Std_ReturnType	E_OK: Size and buffer successfully returned. DEM_BUFFER_TOO_SMALL: provided buffer size too small DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later. DEM_WRONG_DTC: DTC value not existing E_NOT_OK : selection function is not called. DEM_WRONG_DTCORIGIN: Wrong DTC origin DEM_NO_SUCH_ELEMENT: Record number is not supported by configuration and therefore invalid Found no (further) element matching the filter criteria
Description:	Gets freeze frame data by the DTC selected by Dem_SelectFreezeFrameData. The function stores the data in the provided DestBuffer.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #79153: [Dem][Dcm] inconsistency of getNextFreezeFrameData and Dem_GetNextExtendedDataRecord functions

Problem description:

As already mentioned in RfC # 79148 the DEM/DCM specs are inconsistent for describing the behavior of Dem_GetNextFreezeFrameData and Dem_GetNextExtendedDataRecord.
Small corrections should be done in 4.3.1 as it is not working as described.

This request is supposed to do the minimal changes required to at least fix the inconsistencies between DCM and DEM.

Agreed solution:

in Dem:

- in SWS_Dem_00236: change description of DEM_NO_SUCH_ELEMENT:

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"Found no (further) element matching the filter criteria"

- in SWS_Dem_00239: change description of DEM_NO_SUCH_ELEMENT:
"Found no (further) element matching the filter criteria"

in Dcm:

- remove requirement Dcm_01223
[SWS_Dcm_01223] If Dem_GetNextFreezeFrameData() returns
DEM_NO_SUCH_ELEMENT and if multiple Extended Data Record is requested, the
Dcm shall proceed with the next record. c()

- remove requirement Dcm_01222
[SWS_Dcm_01222] If Dem_GetNextFreezeFrameData() returns
DEM_NO_SUCH_ELEMENT and if a single Extended Data Record is requested,
the Dcm shall send a NRC 0x31 (RequestOutOfRange). c()

- introduce new requirement before SWS_Dcm_01224
[SWS_Dcm_xxx01] When responding to UDS Service 0x19 with subfunction 0x04,
or 0x18, the Dcm module shall collect the freeze frame data by first
calling Dem_SelectFreezeFrameData()
and then call Dem_GetNextFreezeFrameData() repeatedly until
DEM_NO_SUCH_ELEMENT is returned.c()

- change SWS_Dcm_01224 from
[SWS_Dcm_01224] If at least one of the requested extended data is supported,
the Dcm shall send a positive response. Otherwise the Dcm shall send a NRC 0x31
(RequestOutOfRange). c()
to
[SWS_Dcm_01224] If at least one of the requested freeze frame data is supported,
the Dcm shall send a positive response. Otherwise the Dcm shall send a NRC 0x31
(RequestOutOfRange). c()
–Last change on issue 79153 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	4

1.88   Specification Item SWS_Dem_00239

Trace References:

SRS_Diag_04066

Content:

Service name:	Dem_GetNextExtendedDataRecordDem_GetNextExtendedDataRecord	
Syntax:	Std_ReturnType Dem_GetNextExtendedDataRecord(uint8 ClientId, uint8* DestBuffer, uint16* BufSize)	
Service ID[hex]:	0x20	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetNextExtendedData Record.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	BufSizeDem_GetNextExtendedData Record.BufSize	When the function is called this parameter contains the maximum number of data bytes that can be written to the buffer. The function returns the actual number of written data bytes in this parameter.
Parameters (out):	DestBufferDem_GetNextExtendedData Record.DestBuffer	This parameter contains a byte pointer that points to the buffer, to which the freeze frame extended data record shall be written to. The format is: {Extended DataRecordNumber, NumOfDIDs, DIDdata[10], data[1], ..., DIDN, data[Nn]}
Return value:	Std_ReturnType	E_OK: Size and buffer successfully returned. E_NOT_OK : selection function is not called. DEM_BUFFER_TOO_SMALL: provided buffer size too small. DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later. DEM_WRONG_DTC: DTC value not existing DEM_WRONG_DTCORIGIN: Wrong DTC origin DEM_NO_SUCH_ELEMENT: Record number is not supported by configuration and therefore invalid Found no (further) element matching the filter criteria
Description:	Gets extended data record for the DTC selected by Dem_SelectExtendedData Record. The function stores the data in the provided DestBuffer.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76541: Dem_GetNextExtendedDataRecord shall provide the extended data record number as well

Problem description:

In RfC # 71838 is was forgotten, that Dem_GetNextExtendedDataRecord needs to provide the EDR number along with the data. If more than one EDR is requested by Dem_SelectExtendedDataRecord is it unclear which EDR number is returned by Dem_GetNextExtendedDataRecord.

Agreed solution:

DEM:
1) Change SWS_Dem_00075 to:
The API Dem_GetNextExtendedDataRecord shall copy the extended record number and complete data of the requested extended data record by Dem_SelectExtendedDataRecord API for the specified ClientId to the destination buffer (DestBuffer). The function shall transmit these data as a complete record with the format shown in figure 7.52. The extended data record number is placed as the first byte in the copied data. (SRS_Diag_04074)

2) Change the Description of "Figure 7.52: Buffer format used by Dem_DcmGetExtendedDataRecordByDTC" to "Figure 7.52: Buffer format used by Dem_GetNextExtendedDataRecord"

3) Update the image 7.52 so that the first byte is the "EDR" number

=== BSW UML start ===
4) Change the DestBuffer out-param of Dem_GetNextExtendedDataRecord SWS_Dem_00239 to (it was a copy& pase from freezeframes):
"This parameter contains a byte pointer that points to the buffer, to which the extended data data record shall be written to. The format is: ExtendedDataRecord-Number, data[0], data[1], ..., data[n]"

5) Change description of parameter SizeOfExtendedDataRecord in SWS_Dem_00240 to "Size of the requested extended data record(s) including record number. The format for a single ExtendedDataRecord is: RecordNumber,data[1], ...,data[N]"
=== BSW UML end ===

6) Change parameter description of ExtendedDataNumber in SWS_Dem_91017 to: "Identification/Number of requested extended data record(s). Additionally the values 0xFE and 0xFF are explicitly allowed to request."

DCM:

Document ID 695: ChangeDocumentation

Update SWS_Dcm_00386:

[SWS_Dcm_00386] [Upon reception of UDS Service 0x019 with subfunction 0x06 or 0x10 or 0x19 the Dcm shall retrieve from the Dem the stored extended data records for the requested DTC and origin.]
–Last change on issue 76541 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

• RfC #79153: [Dem][Dcm] inconsistency of getNextFreezeFrameData and Dem_GetNextExtendedDataRecord functions

Problem description:

As already mentioned in RfC # 79148 the DEM/DCM specs are inconsistent for describing the behavior of Dem_GetNextFreezeFrameData and Dem_GetNextExtendedDataRecord.
Small corrections should be done in 4.3.1 as it is not working as described.

This request is supposed to do the minimal changes required to at least fix the inconsistencies between DCM and DEM.

Agreed solution:

in Dem:

- in SWS_Dem_00236: change description of DEM_NO_SUCH_ELEMENT:
"Found no (further) element matching the filter criteria"

- in SWS_Dem_00239: change description of DEM_NO_SUCH_ELEMENT:
"Found no (further) element matching the filter criteria"

in Dcm:

- remove requirement Dcm_01223
[SWS_Dcm_01223] If Dem_GetNextFreezeFrameData() returns
DEM_NO_SUCH_ELEMENT and if multiple Extended Data Record is requested, the
Dcm shall proceed with the next record. c()

- remove requirement Dcm_01222
[SWS_Dcm_01222] If Dem_GetNextFreezeFrameData() returns

DEM_NO_SUCH_ELEMENT and if a single Extended Data Record is requested, the Dcm shall send a NRC 0x31 (RequestOutOfRange). c()

- introduce new requirement before SWS_Dcm_01224
[SWS_Dcm_xxx01] When responding to UDS Service 0x19 with subfunction 0x04, or 0x18, the Dcm module shall collect the freeze frame data by first
calling Dem_SelectFreezeFrameData()
and then call Dem_GetNextFreezeFrameData() repeatedly until
DEM_NO_SUCH_ELEMENT is returned.c()

- change SWS_Dcm_01224 from
[SWS_Dcm_01224] If at least one of the requested extended data is supported, the Dcm shall send a positive response. Otherwise the Dcm shall send a NRC 0x31 (RequestOutOfRange). c()
to
[SWS_Dcm_01224] If at least one of the requested freeze frame data is supported, the Dcm shall send a positive response. Otherwise the Dcm shall send a NRC 0x31 (RequestOutOfRange). c()
–Last change on issue 79153 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	4

1.89 Specification Item SWS_Dem_00240

Trace References:

SRS_Diag_04066

Content:

Service name:	Dem_GetSizeOfExtendedDataRecordSelectionDem_GetSizeOfExtendedData RecordSelection	
Syntax:	Std_ReturnType Dem_GetSizeOfExtendedDataRecordSelection(uint8 ClientId, uint16* SizeOfExtendedDataRecord)	
Service ID[hex]:	0x21	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetSizeOfExtendedData RecordSelection.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	

Document ID 695: ChangeDocumentation

Parameters (out):	SizeOfExtendedDataRecordDem_Get SizeOfExtendedDataRecord Selection.SizeOfExtendedDataRecord	Size of the requested extended data record(s) including record numbersize . The format for a single ExtendedData Record is: {RecordNumber, data[1], ..., data[N]}
Return value:	Std_ReturnType	E_OK: Size returned successfully E_NOT_OK : selection function is not called. DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later. DEM_WRONG_DTC: DTC value not existing DEM_WRONG_DTCORIGIN: Wrong DTC origin DEM_NO_SUCH_ELEMENT: Record number is not supported by configuration and therefore invalid
Description:		Gets the size of Extended Data Record by DTC selected by the call of Dem_Select ExtendedDataRecord.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76541: Dem_GetNextExtendedDataRecord shall provide the extended data record number as well

Problem description:

In RfC # 71838 is was forgotten, that Dem_GetNextExtendedDataRecord needs to provide the EDR number along with the data. If more than one EDR is requested by Dem_SelectExtendedDataRecord is it unclear which EDR number is returned by Dem_GetNextExtendedDataRecord.

Agreed solution:

DEM:
1) Change SWS_Dem_00075 to:
The API Dem_GetNextExtendedDataRecord shall copy the extended record number and complete data of the requested extended data record by Dem_SelectExtendedDataRecord API for the specified ClientId to the destination buffer (DestBuffer). The function shall transmit these data as a complete record with the format shown in figure 7.52. The extended data record number is placed as the first byte in the copied data. (SRS_Diag_04074)

2) Change the Description of "Figure 7.52: Buffer format used by Dem_DcmGetExtendedDataRecordByDTC" to "Figure 7.52: Buffer format used by Dem_GetNextExtendedDataRecord"

3) Update the image 7.52 so that the first byte is the "EDR" number

=== BSW UML start ===

4) Change the DestBuffer out-param of Dem_GetNextExtendedDataRecord SWS_Dem_00239 to (it was a copy& pase from freezeframes):

"This parameter contains a byte pointer that points to the buffer, to which the extended data data record shall be written to. The format is: ExtendedDataRecord-Number, data[0], data[1], ..., data[n]"

5) Change description of parameter SizeOfExtendedDataRecord in SWS_Dem_00240 to "Size of the requested extended data record(s) including record number. The format for a single ExtendedDataRecord is: RecordNumber,data[1], ...,data[N]"

=== BSW UML end ===

6) Change parameter description of ExtendedDataNumber in SWS_Dem_91017 to: "Identification/Number of requested extended data record(s). Additionally the values 0xFE and 0xFF are explicitly allowed to request."

DCM:

Update SWS_Dcm_00386:

[SWS_Dcm_00386] [Upon reception of UDS Service 0x019 with subfunction 0x06 or 0x10 or 0x19 the Dcm shall retrieve from the Dem the stored extended data records for the requested DTC and origin.]

–Last change on issue 76541 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.90   Specification Item SWS_Dem_00242

Trace References:

SRS_Diag_04158 04150

Content:

Service name:	Dem_DisableDTCSettingDem_DisableDTCSetting
Syntax:	Std_ReturnType Dem_DisableDTCSetting(uint8 ClientId)

Service ID[hex]:	0x24	
Sync/Async:	Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_DisableDTCSetting.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: Returned next filtered element DEM_PENDING: The requested operation is currently in progress. The caller shall call this function again at a later moment.
Description:	Disables the DTC setting for a DTC groupall DTCs assigned to the DemEventMemorySet of the addressed client.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77857: Fix description of Dem_EnableDTCSetting and Dem_DisableDTCSetting

    Problem description:

    The Dem_EnableDTCSetting and Dem_DisableDTCSetting have been changed in 4.3.0, but the descriptions where not updated to the new behavior. The current description is partly wrong.

    Agreed solution:

    Change description of Dem_DisableDTCSetting[SWS_Dem_00242] to:
    Disables the DTC setting for all DTCs assigned to the DemEventMemorySet of the addressed client.

    Change description of Dem_EnableDTCSetting[SWS_Dem_00243] to:
    (Re)-Enables the DTC setting for all DTCs assigned to the DemEventMemorySet of the addressed client.

    BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.91 Specification Item SWS_Dem_00243

Trace References:

SRS_Diag_04095, SRS_Diag_04158, SRS_Diag_04150

Content:

Service name:	Dem_EnableDTCSettingDem_EnableDTCSetting	
Syntax:	Std_ReturnType Dem_EnableDTCSetting(uint8 ClientId)	
Service ID[hex]:	0x25	
Sync/Async:	Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_EnableDTCSetting.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: The operation was successful; DEM_PENDING: The started operation is currently in progress. The caller shall call this function again at a later moment.
Description:	Enables (Re)-Enables the DTC setting for a DTC group. This API is intended for the Dcm. It can only be used through the RTE (due to work-around described below SWS_Dem_00035), and therefore no declaration is exported via Dem_Dcm.hall DTCs assigned to the DemEventMemorySet of the addressed client.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77857: Fix description of Dem_EnableDTCSetting and Dem_DisableDTCSetting

Problem description:

The Dem_EnableDTCSetting and Dem_DisableDTCSetting have been changed in 4.3.0, but the descriptions where not updated to the new behavior. The current description is partly wrong.

Agreed solution:

Change description of Dem_DisableDTCSetting[SWS_Dem_00242] to:
Disables the DTC setting for all DTCs assigned to the DemEventMemorySet of the addressed client.

Change description of Dem_EnableDTCSetting[SWS_Dem_00243] to:
(Re)-Enables the DTC setting for all DTCs assigned to the DemEventMemorySet of the addressed client.

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.92   Specification Item SWS_Dem_00269

Trace References:

SRS_Diag_04075 04201

Content:

The function Dem_GetDTCOfEvent shall get the DTC which is mapped to EventId by the Dem configuration.

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.93 Specification Item SWS_Dem_00281

Trace References:

Document ID 695: ChangeDocumentation

SRS_Diag_04010

Content:

Service name:	Dem_GetNextFilteredDTCAndSeverityDem_GetNextFilteredDTCAndSeverity	
Syntax:	Std_ReturnType Dem_GetNextFilteredDTCAndSeverity(uint8 ClientId, uint32* DTC, uint8* DTCStatus, Dem_DTCSeverityType* DTCSeverity, uint8* DTCFunctionalUnit)	
Service ID[hex]:	0x3d	
Sync/Async:	Asynchronous	
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.	
Parameters (in):	ClientIdDem_GetNextFilteredDTCAndSeverity.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCDem_GetNextFilteredDTCAndSeverity.DTC	Receives the DTC value in respective format of the filter returned by this function. If the return value of the function is other than DEM_FILTERED_OK this parameter does not contain valid data.
	DTCStatusDem_GetNextFilteredDTCAndSeverity.DTCStatus	This parameter receives the status information of the requested DTC. It follows the format as defined in ISO14229-1 If the return value of the function call is other than DEM_FILTERED_OK this parameter does not contain valid data.
	DTCSeverityDem_GetNextFilteredDTCAndSeverity.DTCSeverity	Receives the severity value returned by the function. If the return value of the function is other than DEM_FILTERED_OK this parameter does not contain valid data.
	DTCFunctionalUnitDem_GetNextFilteredDTCAndSeverity.DTCFunctionalUnit	Receives the functional unit value returned by the function. If the return value of the function is other than DEM_FILTERED_OK this parameter does not contain valid data.
Return value:	Std_ReturnType	E_OK: Returned next filtered element E_NOT_OK: No DTC filter set DEM_NO_SUCH_ELEMENT: No further element matching the filter criteria found DEM_PENDING: The requested operation is currently in progress. The caller shall call this function again at a later moment.
Description:	Gets the next filtered DTC and its associated Severity matching the filter criteria. The interface has an asynchronous behavior, because a large number of DTCs has to be processed.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected

Document ID 695: ChangeDocumentation

DTC"

If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.94 Specification Item SWS_Dem_00291

Trace References:

SRS_Diag_04082

Content:

The Dem module shall support only the legislative freeze frame (record number 0). This will be a single list of PIDs assigned to this freeze frame (refer to DemPidClass).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.95 Specification Item SWS_Dem_00293

Trace References:

SRS_Diag_04082

Content:

For the following PIDs the data layout shall be compliant to SAE J1979-DA SAE_2d_J1979DA.

- PID $01 - monitor status since DTCs cleared (4 byte)

- PID $02 PID $02 is only required for service $02 and therefore no interface (like Dem_DcmReadDataOfPID02) is necessary. Instead the API Dem_DcmGetDTCOf OBDFreezeFrame is used (refer toSWS_Dem_00623) - DTC that caused required freeze frame storage (2 byte)

- PID $1C - OBD requirements to which vehicle or engine is certified (1 byte)

- PID $21 - distance traveled while MIL is activated (2 byte)

- PID $30 - number of warm-ups (WUC) since DTCs cleared (1 byte)

- PID $31 - distance traveled since DTCs cleared (2 byte)

- PID $41 - monitor status this driving cycle (4 byte)

- PID $4D - engine run time while MIL is activated (2 byte)

- PID $4E - engine run time since DTCs cleared (2 byte)

- PID $91 - ECU OBD System Information (5 byte)

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.

There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.96 Specification Item SWS_Dem_00294

Trace References:

SRS_Diag_04082

Content:

In order to allow a monitor to report that the event cannot be computed in the driving cycle (aborted e.g. due to physical reasons), the Dem shall provide the API Dem_SetEventDisabled.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.97 Specification Item SWS_Dem_00296

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the API Dem_ReplUMPRFaultDetect for the asymmetric monitor to report that a malfunction could have been found.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.98   Specification Item SWS_Dem_00297

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide the API Dem_RepIUMPRDenLock to IUMPR-relevant SW-C, to control the denominator specific to the respective RatioId.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.99 Specification Item SWS_Dem_00298

Trace References:

SRS_Diag_04082

Content:

In order to support the data requests in service $09 as described above, the Dem shall provide the API Dem_DcmGetInfoTypeValue08 or Dem_DcmGetInfoTypeValue0B to the Dcm.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069:   [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]

[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.100   Specification Item SWS_Dem_00300

Trace References:

SRS_Diag_04082

Content:

The Dem shall be able to handle Permanent DTCs according to regulations (refer to CaliforniaCodeRegulations_2d_Section1968_2e_2) within the specific event memory type "permanent" (refer to chapter [REF sub_3a_EventDestination]).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize

Document ID 695: ChangeDocumentation

the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example:
SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.101 Specification Item SWS_Dem_00301

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide the ability to access the non-volatile stored Permanent DTC by filtering for permanent DTCs to the Dcm (refer to Dem_SetDTCFilter and Dem_GetNext FilteredDTC).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Document ID 695: ChangeDocumentation

Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents - ~ 30 entries with ~ 60 referenced requirements into Dem.

The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.102 Specification Item SWS_Dem_00304

Trace References:

SRS_Diag_04082

Content:

A Dem delivery shall provide function call interfaces to the Dcm and the respective Service Needs to declare to the Dcm that these PIDs are supported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.103   Specification Item SWS_Dem_00308

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide the API Dem_ReplUMPRDenRelease to IUMPR-relevant SW-C, to control the denominator specific to the respective RatioId.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.104 Specification Item SWS_Dem_00331

Trace References:

SRS_Diag_04030 04179

Document ID 695: ChangeDocumentation

Content:

The Dem module shall provide the capability to reset the failed status of an event without reporting a passed result (refer to Dem_ResetEventStatus).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.105   Specification Item SWS_Dem_00338

Trace References:

SRS_Diag_04076 04178

Content:

The operation cycle management of the Dem module shall use the reported state (Dem_OperationCycleStateType.DEM_CYCLE_STATE_START / Dem_OperationCycle StateType.DEM_CYCLE_STATE_END) of the API Dem_SetOperationCycleState to set the Dem specific operation cycle state (started / ended).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

Document ID 695: ChangeDocumentation

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.106   Specification Item SWS_Dem_00346

Trace References:

SRS_Diag_04082

Content:

The Dem module shall use PID $0D (refer to chapter [REF subsub_3a_Requireddatabythe
Demmodule]) to calculate PID $21 and PID $31.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
    existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
    missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no
    added value. So, an example shall show what is to do to clean up the DEM and
    DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
    There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were
    replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
    released with R431 with the current status the document has got none high quality.
    This RfC is a formal change only to clean up the document for R431 and harmonize

Document ID 695: ChangeDocumentation

the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.107 Specification Item SWS_Dem_00347

Trace References:

SRS_Diag_04082

Content:

If PID $1E (auxiliary input status) is supported the PTO (Power Take Off) related event status handling shall implemented inside the Dem module (refer to CaliforniaCodeReg Sec1971_2d_1).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Document ID 695: ChangeDocumentation

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were
replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize
the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example:
SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.108   Specification Item SWS_Dem_00348

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the disabling of events (refer to Dem_SetEventDisabled).
OBD Events Suppression (refer to chapter [REF sub_3a_Availability_20_of_20_events])
shall be ignored for this computation.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
  existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
  missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.109   Specification Item SWS_Dem_00349

Trace References:

SRS_Diag_04082

Content:

The Dem module shall support the configuration parameter DemObdDTC.DemEventOB-DReadinessGroup for OBD systems, to assign individual events to one specific readiness group.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
   There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

   Proposal:
   1) search for "No description"
   2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
   3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069:   [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
   –Last change on issue 78539 comment 6–

   BW-C-Level:

Application	Specification	Bus
1	1	1

1.110   Specification Item SWS_Dem_00351

Trace References:

SRS_Diag_04082, SRS_Diag_04141

Content:

The Dem module shall compute and provide the number of confirmed faults (PID $01, Byte A).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.111 Specification Item SWS_Dem_00354

Trace References:

SRS_Diag_04082

Content:

The Dem module shall compute for PID $01 the readiness status (if all events of a DemObdDTC.DemEventOBDReadinessGroup are reported as OK tested since last clear, or the event has caused MIL on). Suppressed Events (refer to chapter [REF sub_3a_Availability_20_of_20_events]) shall be ignored for this computation.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0

–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.112   Specification Item SWS_Dem_00355

Trace References:

SRS_Diag_04082

Content:

The Dem module shall compute for PID $41 the readiness group complete for current driving cycle (if all events of a group are tested in the current driving cycle). OBD Events Suppression (refer to chapter [REF sub_3a_Availability_20_of_20_events]) shall be ignored for this computation.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.

Document ID 695: ChangeDocumentation

There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.113   Specification Item SWS_Dem_00356

Trace References:

SRS_Diag_04082

Content:

The Dem module shall compute the readiness group disabled (if the disabled status is reported by the monitor for any event of a group). OBD Events Suppression (refer to chapter [REF sub_3a_Availability_20_of_20_events]) shall be ignored for this computation.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

Document ID 695: ChangeDocumentation

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.114 Specification Item SWS_Dem_00357

Trace References:

SRS_Diag_04082

Content:

If the DemGeneralOBD.DemOBDEngineType is set to DemGeneralOBD.DemOBDEngine Type.DEM_IGNITION_SPARK the Dem module shall provide the API Dem_DcmGetInfo TypeValue08 for InfoType $08 IUMPR data.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.115 Specification Item SWS_Dem_00358

Trace References:

SRS_Diag_04082

Content:

If the DemGeneralOBD.DemOBDEngineType is set to DemGeneralOBD.DemOBDEngine Type.DEM_IGNITION_COMPRESSION the Dem module shall provide the API Dem_Dcm GetInfoTypeValue0B for Info Type $0B IUMPR data.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.116   Specification Item SWS_Dem_00360

Trace References:

SRS_Diag_04082

Content:

For OBD relevant systems the Dem module shall provide the API Dem_RepIUMPRFault Detect.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example:

Document ID 695: ChangeDocumentation

SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0

–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.117 Specification Item SWS_Dem_00361

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the configuration parameter DemRatio.DemRatioKind, to indicate per RatioId if the numerator is calculated based on the TESTED-status or the API call.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were

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replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.118 Specification Item SWS_Dem_00362

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the APIs for locking (refer to Dem_RepIUMPRDenLock) and unlocking (refer to Dem_RepIUMPRDenRelease) of the denominator under special conditions if the DemRatio.DemIUMPRDenGroup is configured as DemRatio.Dem IUMPRDenGroup.DEM_IUMPR_DEN_PHYS_API.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.119   Specification Item SWS_Dem_00370

Trace References:

SRS_Diag_04057

Content:

If development error detection is enabled and a Dem function detects a development error, excluding DEM_E_NODATAAVAILABLE, then the Dem function shall return immediately with E_NOT_OK (in case of Std_ReturnType) or an appropriate negative return value, after the development error was reported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #59085: Rollout of 'Runtime errors'

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Problem description:

Inconsistencies in SWS with semantics of Default errors
–Last change on issue 59085 comment 26–

Agreed solution:

solution in Column "G" of the new attachment
https://www.autosar.org/bugzilla/attachment.cgi?id=4604

Notes:
- It is not enough just to migrate the error from one classification table to another.
Please also check the related requirements (and background information) which is
referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification
"belongs".

*** BSW UML Model ***
SWS_CanNm:
———-
Chapter 8.6.1 Optional Interfaces:
Add within SWS_CanNm_00325 the API function Det_ReportRunTimeError

SWS_LinIf:
———-
SWS_LinIf_00359: add Det_ReportRuntimeError

SWS_UdpNm:
———-
Replace UDPNM_E_NO_INIT with UDPNM_E_UNINIT in description of API
UdpNm_MainFunction_<Instance Id> (SWS_UdpNm_00234)

*** ECUC XML ***
Not affected. No configuration of runtime error reporting required (see SWS BSW
General).
–Last change on issue 59085 comment 88–

BW-C-Level:

Application	Specification	Bus
1	4	1

Document ID 695: ChangeDocumentation

1.120 Specification Item SWS_Dem_00377

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the interface Dem_SetPtoStatus allowing a SW-C implementing the PTO functionality to notify the Dem module if PTO is active or inactive (refer to section 8).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]

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[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.121   Specification Item SWS_Dem_00378

Trace References:

SRS_Diag_04082

Content:

The Dem module shall support the configuration parameter DemObdDTC.DemConsider
PtoStatus indicating that a certain event is affected by the Dem PTO handling.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
  existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
  missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no
  added value. So, an example shall show what is to do to clean up the DEM and
  DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were
  replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
  released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize
  the document with the SRS-Diag (FO R130).

Document ID 695: ChangeDocumentation

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.122   Specification Item SWS_Dem_00410

Trace References:

SRS_Diag_ 04070 04195

Content:

The Dem module shall report DTCs in the chronological order of the event storage (refer to API Dem_GetNextFilteredDTC), if:

- the DTCStatus parameter has the"pending DTC" or "confirmed DTC" bit or both bits set

- all other bits of the Dem_GetNextFilteredDTC.DTCStatus parameter are set to false

- DemGeneral.DemResetConfirmedBitOnOverflow is set to true

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.123   Specification Item SWS_Dem_00411

Trace References:

SRS_Diag_04102 04195

Content:

If the Dem module is requested to report in chronological order, the most recent event memory entry shall be reported at first.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

   Proposal:

1) search for "No description"
2) replaces the current requirement number with the old one: example:
SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.124 Specification Item SWS_Dem_00412

Trace References:

SRS_Diag_0407004195, SRS_Diag_04102 04195

Content:

If a new event get stored in the event memory, the Dem shall update the chronological order by setting the new event as most recent event memory entry.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.125 Specification Item SWS_Dem_00436

Trace References:

SRS_Diag_04068

Content:

Document ID 695: ChangeDocumentation

If the Dem module implements application-specific debounce algorithms, the event states Dem_EventStatusType.DEM_EVENT_STATUS_PREFAILED and Dem_EventStatusType.DEM_EVENT_STATUS_PREPASSED shall be used within Dem_SetEventStatus) indicating the maturation process.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77508: [Dem] Further specific debounce algorithms

    Problem description:

    chapter "7.6.3.3 Further specific debounce algorithms" is very unspecific.

    requirement [SWS_Dem_00436] is actually not specifying a really meaningful requirement.

    It is in general possible to do any vendor specific extensions or deviations when doing a DEM implementation.

    Agreed solution:

    remove chapter "7.6.3.3 Further specific debounce algorithms" and requirement [SWS_Dem_00436]
    –Last change on issue 77508 comment 3–

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.126   Specification Item SWS_Dem_00463

Trace References:

SRS_Diag_04085

Content:

If the SW-C or BSW module cannot not provide the requested data (DemRead returns other than E_OK), the Dem shall fill the missing data with the padding value 0xFF, reports the development report the runtime error DEM_E_NODATAAVAILABLE to the Det and continues continue its normal operation.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #59085: Rollout of 'Runtime errors'

Problem description:

Inconsistencies in SWS with semantics of Default errors
–Last change on issue 59085 comment 26–

Agreed solution:

solution in Column "G" of the new attachment
https://www.autosar.org/bugzilla/attachment.cgi?id=4604

Notes:
- It is not enough just to migrate the error from one classification table to another.
Please also check the related requirements (and background information) which is
referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification
"belongs".

*** BSW UML Model ***
SWS_CanNm:
————-
Chapter 8.6.1 Optional Interfaces:
Add within SWS_CanNm_00325 the API function Det_ReportRunTimeError

SWS_LinIf:
————-
SWS_LinIf_00359: add Det_ReportRuntimeError

SWS_UdpNm:
————-
Replace UDPNM_E_NO_INIT with UDPNM_E_UNINIT in description of API
UdpNm_MainFunction_<Instance Id> (SWS_UdpNm_00234)

*** ECUC XML ***
Not affected. No configuration of runtime error reporting required (see SWS BSW
General).
–Last change on issue 59085 comment 88–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.127 Specification Item SWS_Dem_00469

Trace References:

SRS_Diag_0410404189, SRS_Diag_04134 04190

Content:

The Dem module shall provide the ability to map Dem-internal data values (e.g. aging counter, occurrence counter) to specific data element (refer to DemInternalDataElement in DemDataElementClass)contained in an extended data records.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were
replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize
the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example:
SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.128   Specification Item SWS_Dem_00470

Trace References:

SRS_Diag_ 04134 04190

Content:

If the Dem module implements customer-specific Dem-internal data elements, the config-
uration parameter DemInternalDataElementClass.DemInternalDataElement shall be ex-
tended with the respective enumeration values.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.129 Specification Item SWS_Dem_00471

Trace References:

SRS_Diag_04127, SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement
is set to DemInternalDataElementClass.DemInternalDataElement.DEM_OCCCTR, then
the Dem-internal value of the occurrence counter (refer to chapter [REF sub-
sub_3a_Event_20_occurrence]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.130 Specification Item SWS_Dem_00472

Trace References:

SRS_Diag_04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternal
DataElement is set to DemInternalDataElementClass.DemInternalDataEle-
ment.DEM_AGINGCTR_UPCNT or to DemInternalDataElementClass.DemInternal
DataElement.DEM_AGINGCTR_DOWNCNT, then the Dem-internal value of the aging
counter (refer to chapter [REF subsub_3a_OperationCycleCounters]) shall be mapped to
the respective data element (based on SWS_Dem_00643 or SWS_Dem_00673).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.131   Specification Item SWS_Dem_00473

Trace References:

SRS_Diag_04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement is
set to DemInternalDataElementClass.DemInternalDataElement.DEM_OVFLIND, then the
Dem-internal value of the overflow indication (refer to chapter [REF subsub_3a_Event
MemoryOverflowIndication]) shall be mapped to the respective data element as boolean
(0 = False, 1 = True).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

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● RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.132   Specification Item SWS_Dem_00477

Trace References:

SRS_Diag_04102 04195

Content:

The function Dem_GetEventExtendedDataRecordEx shall report the data of the extended data record of the requested diagnostic event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.133   Specification Item SWS_Dem_00481

Trace References:

SRS_Diag_ 04076 04178

Content:

If an operation cycle has started, all status reports from SW-Cs and BSW modules via Dem_SetEventStatus for those events, being assigned to this cycle, shall be accepted by the Dem from this point in time on.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

Document ID 695: ChangeDocumentation

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.134 Specification Item SWS_Dem_00482

Trace References:

SRS_Diag_04076 04178

Content:

If an operation cycle has ended, all status reports from Dem_SetEventStatus for events assigned to this cycle shall be ignored and the UDS status byte shall remain unchanged.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.135 Specification Item SWS_Dem_00483

Trace References:

SRS_Diag_04076 04178

Content:

If the API Dem_SetOperationCycleState is called with Dem_OperationCycleState Type.DEM_CYCLE_STATE_START and the respective operation cycle was already started, the operation cycle shall be restarted (started again).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.136 Specification Item SWS_Dem_00484

Trace References:

SRS_Diag_04076 04178

Content:

If the API Dem_SetOperationCycleState is called with Dem_OperationCycleState Type.DEM_CYCLE_STATE_END and the respective operation cycle was already ended, the API shall perform no further action.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

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Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.137   Specification Item SWS_Dem_00513

Trace References:

SRS_Diag_04010

Content:

If the callback-function Dem_GetFaultDetectionCounter returns other than E_OK or is not
configured (refer to configuration container DemCallbackGetFDC) for a DTC filtered by
the function Dem_GetNextFilteredDTCAndFDC, this DTC shall not match the filter criteria
(i.e. assume FDC is 0). FDC value shall be returned as 0.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76131: [Dem] DemCallbackGetFDC is optional

  Problem description:

  The container DemCallbackGetFDC is made optional with RFC # 44038

  There it is also stated that those events will be ignored for API
  Dem_GetNextFilteredDtcAndFdc.

  In Dem Spec today we have:
  [SWS_Dem_00513] d If the callback-function GetFaultDetectionCounter returns
  other than E_OK or is not configured (refer to configuration container DemCallback-
  GetFDC) for a DTC filtered by the function Dem_DcmGetNextFilteredDTCAndFDC,
  this DTC shall not match the filter criteria (i.e. assume FDC is 0).

  => actually the existence of the container DemCallbackGetFDC becomes a
  indirect filter criteria for dtcfilter but depending on the query function:

  assume DTC A is configured with no DemCallbackGetFDC. and is reporting

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failed:

Scenario 1:
setDTCFilter (all failed events, filterForFDC=FALSE)
getNextFilteredDTC -> will return DTC A

Scenario 1:
setDTCFilter (all failed events, filterForFDC=FALSE)
getNextFilteredDTCAndFDC -> will NOT return DTC A

Looks somehow inconsistent!
–Last change on issue 76131 comment 2–

Agreed solution:

change SWS_Dem_00513 to :
[SWS_Dem_00513] d If the callback-function GetFaultDetectionCounter returns
other than E_OK or is not configured (refer to configuration container DemCallback-
GetFDC) for a DTC filtered by the function Dem_DcmGetNextFilteredDTCAndFDC,
this FDC value shall be returned as 0.
–Last change on issue 76131 comment 7–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.138   Specification Item SWS_Dem_00515

Trace References:

SRS_Diag_04092 04191, SRS_Diag_04122 04194

Content:

The Dem module shall call the callback DemClearEventAllowed for each event it is con-
figured for, before clearing this event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
   and Dem need to be adapted.

Document ID 695: ChangeDocumentation

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example:
  SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.139   Specification Item SWS_Dem_00516

Trace References:

SRS_Diag_0409204191, SRS_Diag_04122 04194

Content:

If the return value of the callback DemClearEventAllowed is equal to E_NOT_OK, the return value shall not be changed and event-deletion is allowed.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and

DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.140   Specification Item SWS_Dem_00528

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide the configuration parameter DemEventParameter.Dem EventConfirmationThreshold per event defining the maximum number of tested and failed cycles, before the event becomes "confirmed", i.e. enters the confirmed state.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

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Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.141 Specification Item SWS_Dem_00570

Trace References:

SRS_Diag_04065, SRS_Diag_04122 04194

Content:

Document ID 695: ChangeDocumentation

If the Dem module is requested to clear diagnostic information and the configuration parameter DemGeneral.DemClearDTCBehavior is set to DemGeneral.DemClearDTCBehavior.DEM_CLRRESP_VOLATILE, the Dem module shall return E_OK after the volatile memory is cleared.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.142   Specification Item SWS_Dem_00571

Trace References:

SRS_Diag_04065, SRS_Diag_ 04122 04194

Content:

If the Dem module is requested to clear diagnostic information and the configuration parameter DemGeneral.DemClearDTCBehavior is set to DemGeneral.DemClearDTCBehavior.DEM_CLRRESP_NONVOLATILE_TRIGGER, the Dem module shall return E_OK after the volatile memory is cleared and clearing of the non-volatile memory is triggered.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example:

SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.143   Specification Item SWS_Dem_00572

Trace References:

SRS_Diag_04065, SRS_Diag_ 04122 04194

Content:

If the Dem module is requested to clear diagnostic information and the configuration parameter DemGeneral.DemClearDTCBehavior is set to DemGeneral.DemClearDTCBehavior.DEM_CLRRESP_NONVOLATILE_FINISH, the Dem module shall return E_OK after the volatile memory and the non-volatile memory is cleared.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents - ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be

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released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.144   Specification Item SWS_Dem_00573

Trace References:

SRS_Diag_04065, SRS_Diag_04122 04194

Content:

If DemGeneral.DemTriggerMonitorInitBeforeClearOk is set to TRUE, the Dem_ClearDTC shall not return E_OK until the events intialization is triggered (callback function InitMonitor ForEvent is called). If DemGeneral.DemTriggerMonitorInitBeforeClearOk is set to FALSE, Dem_ReturnClearDTCType.DEM_CLEAR_OK is not considering Event initialization (Init MonitorForEvent).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73864: [Dem] further clarification of CLEAR_FAILED (Dem_01202)

  Problem description:

  req for returning CLEAR_FAILED needs to be more detailed.

  Especially scenarios with event combination will result in strange return values, in case clearEventAllowed is considered.

  E.g. consider 2 event are mapped to the same dtc and combination on re-

trieval is configured. one event returns clearAllowed=FALSE and the other return clearAllowed=TRUE. The visible result of the clear is, it is not cleared.

Agreed solution:

Change requirement :
[SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED in case:
- the requested supported DTC(s) is not cleared
- all ClearEventAllowed callbacks return FALSE (in case of event combination ClearEventAllowed returns FALSE for one event of the DTC).
by :

[SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED:
- in case of clearing a single DTC at least one ClearEventAllowed callback assigned to the event of the DTC returns FALSE.
- in case of clearing a group or all DTCs, the individual DTCs shall be cleared like described in clearing single DTC. The resulting return value of clear group or clear all shall be DEM_CLEAR_FAILED if all individual DTCs returned DEM_CLEAR_FAILED.

Change the [SWS_Dem_00667] by :
[SWS_Dem_00667] If the DTC is not configured to use event combination, the out-parameter Allowed of the callback ClearEventAllowed returns false (and the return value is equal to E_OK) after the execution of this callback function, the Dem shall not clear the respective event memory entry and Dem-internal data values.(SRS_Diag_04092, SRS_Diag_04122)

Add new requirement below [SWS_Dem_00667] :
[SWS_Dem_00XXX] If the DTC is configured to use event combination, if only one ClearEventAllowed callback has the out-parameter Allowed set to FALSE and returns E_OK after the execution of this callback function, the Dem shall not clear the event status, respective event memory entry and Dem-internal data values. (SRS_Diag_04092, SRS_Diag_04122, SRS_Diag_04073)
–Last change on issue 73864 comment 4–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.145 Specification Item SWS_Dem_00577

Trace References:

SRS_Diag_ 04076 04178

Content:

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The Dem module shall provide the configuration parameter DemGeneral.DemOperation
CycleStatusStorage to define if the operation cycle state shall be available over the power
cycle (stored non-volatile) or not.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.146   Specification Item SWS_Dem_00586

Trace References:

SRS_Diag_04126

Content:

The function Dem_SetDTCSuppression is available if the configuration parameter DemGeneral.DemSuppressionSupport is set to DemGeneral.DemSuppressionSupport.DEM_NO_SUPPRESSION.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76814: Provide getter for dtc suppression

  Problem description:

  The Dem only provides means to set the DTC suppression state, a symetric API to
  read back the suppression state of an DTC is missing.

  Agreed solution:

Add a new C-API:

Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean *SuppressionStatus)
Asynchronous
Reentrant
Param (in): ClientId - Unique client id, assigned to the instance of the calling module
Param (out): SuppressionStatus - Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
Return value: Std_ReturnType - E_OK: Operation was successful
E_NOT_OK: Dem_SelectDTC was not called.
DEM_WRONG_DTC: No valid DTC or DTC group selected.
DEM_WRONG_DTCORIGIN: Wrong DTC origin selected
DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

Description: "Returns the suppression status of a specific DTC.
API Availability: This API will be available only if (ecuc(Dem/DemGeneral.DemSuppressionSupport) == DEM_DTC_SUPPRESSION)"

Add a new operation to C/S interface "DTCSuppression" SWS_Dem_00608:
Name: GetDTCSuppression
Take parameters and description from C-API above, link both to SRS_Diag_04154

Add new requirement to chapter 7.4.76 Suppress DTC output

SWS_Dem_xxxx1: If Dem_GetDTCSuppression is called, the Dem shall return the status if the DTC is suppressed in the output parameter SuppressionStatus. A value of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed. (SRS_Diag_04154)

Add text below this requirement:
Also there are various reasons, why a DTC is not processed and thus is not visible for diagnostics, the suppression state itself is only changed by Dem_SetDTCSuppression. Dem_GetDTCSuppression only evaluates this suppression state.

Remove SWS_Dem_00586

Change SWS_Dem_01253 to :
If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group

of DTC in the requested DTCOrigin and DTCFormat as target for the following API calls:
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_ClearDTC
Dem_DisableDTCRecordUpdate
Dem_EnableDTCRecordUpdate
Dem_GetDTCSelectionResult
Dem_GetDTCSuppression.
(SRS_Diag_04010)
–Last change on issue 76814 comment 24–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.147   Specification Item SWS_Dem_00590

Trace References:

SRS_Diag_04082

Content:

Events that have been confirmed and activate the MIL (refer to OBD-relevant DTCs, chapter [REF sub_3a_DTC_20_kind]), shall be stored robustly against ClearDTC or powerfail (for details confer CaliforniaCodeRegulations_2d_Section1968_2e_2).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and

DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.148   Specification Item SWS_Dem_00592

Trace References:

SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement is set to DemInternalDataElementClass.DemInternalDataElement.DEM_SIGNIFICANCE, then the (static) Dem-internal value of the DTC significance (refer to chapter [REF sub-sub_3a_DTC_20_significance]) shall be mapped to the respective data element with 0 = OCCURRENCE and 1 = FAULT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Document ID 695: ChangeDocumentation

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.149   Specification Item SWS_Dem_00594

Trace References:

SRS_Diag_04156

Content:

Service name:	Dem_GetFunctionalUnitOfDTCDem_GetFunctionalUnitOfDTC	
Syntax:	Std_ReturnType Dem_GetFunctionalUnitOfDTC(uint8 ClientId, uint8* DTCFunctionalUnit)	
Service ID[hex]:	0x34	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetFunctionalUnitOf DTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	DTCFunctionalUnitDem_GetFunctional UnitOfDTC.DTCFunctionalUnit	Functional unit value of this DTC
Return value:	Std_ReturnType	E_OK: The DTC functional unit is correctly provided in the DTCSeverity parameter. E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_PENDING: Retrieving the DTC functional unit is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.

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Description:	Gets the functional unit of the requested DTC.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839
  asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

  3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
  a) Dem_Select(DTC1)
  Dem_Select(DTC2)
  Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

  b) Dem_Select(DTC1)
  Dem_ClearDTC()
  Dem_GetStatusOfDTC() -> is this call valid? what is returned?

  Agreed solution:

  3)
  a) Add DEM_BUSY as further return value to:
  Dem_SelectDTC (SWS_Dem_91016)

  Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType

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[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50
Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in
[SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234:   correct description of E_OK to "DTC record successfully
updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record success-
fully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully
selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

● RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did
not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return
DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and
return E_NOT_OK in all those situations.

===BSW UML change start===

Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType

SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif
as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and
DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and
Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.150   Specification Item SWS_Dem_00596

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide access on PID data elements of the most important freeze
frame being selected for the output of service $02 (OBD freeze frame of the event which
caused MIL on) to the Dcm module (refer to Dem_DcmReadDataOfOBDFreezeFrame).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
  existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
  missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no
  added value. So, an example shall show what is to do to clean up the DEM and
  DCM.

Document ID 695: ChangeDocumentation

Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.151   Specification Item SWS_Dem_00597

Trace References:

SRS_Diag_04082

Content:

The index values (refer to API parameter DataElementIndexOfPID) of Dem_DcmRead DataOfOBDFreezeFrame shall be assigned zero-based and consecutive. Their order shall be derived from the position of the data elements (refer to DcmDspPidDataPos, of the referencing DcmDspPidData containers) in the Dcm's PID layout.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.152 Specification Item SWS_Dem_00598

Trace References:

SRS_Diag_04061

Content:

Name	DiagnosticMonitorDiagnosticMonitor

Name	DiagnosticMonitorDiagnosticMonitor	
Comment	Provide the capability to modify the event information. One port of this interface type is provided per application-related diagnostic event by the Dem Service Component. It has EventId as a port-defined argument.	
IsService	true	
Variation	–	
Possible Errors	0	E_OK
	1	E_NOT_OK

Operations:

ClearPrestoredFreezeFrameDiagnosticMonitor.ClearPrestoredFreezeFrame		
Comments	–	
Variation	{ecuc(Dem/DemGeneral/DemMaxNumberPrestoredFF)} > 0	
Possible Errors	E_OK	Operation successful Request to reset the event status was successful accepted.
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

PrestoreFreezeFrameDiagnosticMonitor.PrestoreFreezeFrame		
Comments	–	
Variation	{ecuc(Dem/DemGeneral/DemMaxNumberPrestoredFF)} > 0	
Possible Errors	E_OK	Operation successful Request to reset the event status was successful accepted.
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

ResetEventDebounceStatusDiagnosticMonitor.ResetEventDebounceStatus			
Comments	–		
Variation	({ecuc(Dem/DemGeneral/DemDebounceCounterBasedSupport)} == true) || ({ecuc(Dem/DemGeneral/DemDebounceTimeBasedSupport)} == true)		
Parameters	DebounceResetStatus DiagnosticMonitor.Reset EventDebounce Status.DebounceReset Status	Comment	–
		Type	Dem_DebounceResetStatus Type
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful Request to reset the event status was successful accepted.	
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.	

ResetEventStatusDiagnosticMonitor.ResetEventStatus		

ResetEventStatusDiagnosticMonitor.ResetEventStatus		
Comments	–	
Variation	–	
Possible Errors	E_OK	Operation successful
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

SetEventDisabledDiagnosticMonitor.SetEventDisabled		
Comments	–	
Variation	{ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT	
Possible Errors	E_OK	Operation successful Request to reset the event status was successful accepted.
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

SetEventStatusDiagnosticMonitor.SetEventStatus			
Comments	–		
Variation	–		
Parameters	EventStatusDiagnostic Monitor.SetEvent Status.EventStatus	Comment	–
		Type	Dem_EventStatusType
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful Request to reset the event status was successful accepted.	
	E_NOT_OK	Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

Document ID 695: ChangeDocumentation

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:
E_OK: Request to set the WIR status was successful.
E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to
The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time. c(SRS_Diag_04067)
Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]
SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Document ID 695: ChangeDocumentation

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit

SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.

–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.153 Specification Item SWS_Dem_00600

Trace References:

SRS_Diag_04030 04181

Content:

Name	GeneralDiagnosticInfoGeneralDiagnosticInfo	
Comment	–	
IsService	true	
Variation	–	
Possible Errors	0	E_OK
	1	E_NOT_OK
	10	DEM_E_NO_DTC_AVAILABLE
	14	DEM_E_NO_FDC_AVAILABLE
	21	DEM_BUFFER_TOO_SMALL
	48	DEM_NO_SUCH_ELEMENT

Operations:

GetDTCOfEventGeneralDiagnosticInfo.GetDTCOfEvent	
Comments	–
Variation	–

Document ID 695: ChangeDocumentation

GetDTCOfEventGeneralDiagnosticInfo.GetDTCOfEvent			
Parameters	EventIdGeneralDiagnostic Info.GetDTCOfEvent.EventId	Comment	–
		Type	Dem_EventIdType
		Variation	–
		Direction	IN
	DTCFormatGeneral DiagnosticInfo.GetDTCOf Event.DTCFormat	Comment	–
		Type	Dem_DTCFormatType
		Variation	–
		Direction	IN
	DTCOfEventGeneral DiagnosticInfo.GetDTCOf Event.DTCOfEvent	Comment	–
		Type	uint32
		Variation	–
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		
	DEM_E_NO_DTC_AVAILABLE	there is no DTC configured in the requested format	

GetDebouncingOfEventGeneralDiagnosticInfo.GetDebouncingOfEvent			
Comments	–		
Variation	((({ecuc(Dem/DemConfigSet/DemEventParameter/DemDebounceAlgorithmClass)} instanceof {ecuc(Dem/DemConfigSet/DemEventParameter/DemDebounceAlgorithmClass/DemDebounce CounterBased)}) ||({ecuc(Dem/DemConfigSet/DemEventParameter/DemDebounceAlgorithm Class)} instanceof {ecuc(Dem/DemConfigSet/DemEventParameter/DemDebounceAlgorithm Class/DemDebounceTimeBase)}}))		
Parameters	EventIdGeneralDiagnostic Info.GetDebouncingOf Event.EventId	Comment	–
		Type	Dem_EventIdType
		Variation	–
		Direction	IN
	DebouncingStateGeneral DiagnosticInfo.Get DebouncingOf Event.DebouncingState	Comment	Bit 0 Temporarily Defective (corresponds to 0 < FDC < 127) Bit 1 finally Defective (corresponds to FDC = 127) Bit 2 temporarily healed (corresponds to -128 < FDC < 0) Bit 3 Test complete (corresponds to FDC = -128 or FDC = 127) Bit 4 DTR Update (= Test complete && Debouncing complete && enable conditions / storage conditions fulfilled)
		Type	Dem_DebouncingStateType
		Variation	–
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		

GetEventExtendedDataRecordExGeneralDiagnosticInfo.GetEventExtendedDataRecordEx			
Comments	–		
Variation	–		
Parameters	EventIdGeneralDiagnostic Info.GetEventExtendedData RecordEx.EventId	Comment	–
		Type	Dem_EventIdType
		Variation	–
		Direction	IN
	RecordNumberGeneral DiagnosticInfo.GetEvent ExtendedDataRecord Ex.RecordNumber	Comment	–
		Type	uint8
		Variation	–
		Direction	IN
	DestBufferGeneralDiagnostic Info.GetEventExtendedData RecordEx.DestBuffer	Comment	–
		Type	Dem_MaxDataValueType
		Variation	–
		Direction	OUT
	BufsizeGeneralDiagnostic Info.GetEventExtendedData RecordEx.Bufsize	Comment	–
		Type	uint16
		Variation	–
		Direction	INOUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		
	DEM_BUFFER_TOO_SMALL	The provided buffer size is too small	
	DEM_NO_SUCH_ELEMENT	The requested event data is not currently stored (but the request was valid) OR The requested record number is not supported by the event OR The requested DID is not supported by the freeze frame (GetEventFreezeFrameDataEx)	

GetEventFreezeFrameDataExGeneralDiagnosticInfo.GetEventFreezeFrameDataEx	
Comments	–
Variation	–

GetEventFreezeFrameDataExGeneralDiagnosticInfo.GetEventFreezeFrameDataEx			
Parameters	EventIdGeneralDiagnostic Info.GetEventFreezeFrame DataEx.EventId	Comment	−
		Type	Dem_EventIdType
		Variation	−
		Direction	IN
	RecordNumberGeneral DiagnosticInfo.GetEvent FreezeFrameDataEx.Record Number	Comment	−
		Type	uint8
		Variation	−
		Direction	IN
	DataIdGeneralDiagnostic Info.GetEventFreezeFrame DataEx.DataId	Comment	−
		Type	uint16
		Variation	−
		Direction	IN
	DestBufferGeneralDiagnostic Info.GetEventFreezeFrame DataEx.DestBuffer	Comment	−
		Type	Dem_MaxDataValueType
		Variation	−
		Direction	OUT
	BufSizeGeneralDiagnostic Info.GetEventFreezeFrame DataEx.BufSize	Comment	−
		Type	uint16
		Variation	−
		Direction	INOUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		
	DEM_BUFFER_TOO_SMALL	The provided buffer size is too small	
	DEM_NO_SUCH_ELEMENT	The requested event data is not currently stored (but the request was valid) OR The requested record number is not supported by the event OR The requested DID is not supported by the freeze frame (GetEventFreezeFrameDataEx)	

GetEventStatus (obsolete)GeneralDiagnosticInfo.GetEventStatus			
Comments	Gets the current UDS status byte assigned to the DTC for the event Tags: atp.Status=obsolete atp.StatusUseInstead=GetEventUdsStatus		
Variation	−		
Parameters	EventIdGeneralDiagnostic Info.GetEventStatus.EventId	Comment	−
		Type	Dem_EventIdType
		Variation	−
		Direction	IN
	UDSStatusByteGeneral DiagnosticInfo.GetEvent Status.UDSStatusByte	Comment	−
		Type	Dem_UdsStatusByteType
		Variation	−
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		

Document ID 695: ChangeDocumentation

GetEventUdsStatusGeneralDiagnosticInfo.GetEventUdsStatus			
Comments	Gets the current UDS status byte assigned to the DTC for the event		
Variation	−		
Parameters	EventIdGeneralDiagnostic Info.GetEventUds Status.EventId	Comment	−
		Type	Dem_EventIdType
		Variation	−
		Direction	IN
	UDSStatusByteGeneral DiagnosticInfo.GetEventUds Status.UDSStatusByte	Comment	−
		Type	Dem_UdsStatusByteType
		Variation	−
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		

GetFaultDetectionCounterGeneralDiagnosticInfo.GetFaultDetectionCounter			
Comments	−		
Variation	−		
Parameters	EventIdGeneralDiagnostic Info.GetFaultDetection Counter.EventId	Comment	−
		Type	Dem_EventIdType
		Variation	−
		Direction	IN
	FaultDetectionCounter GeneralDiagnosticInfo.Get FaultDetectionCounter.Fault DetectionCounter	Comment	−
		Type	sint8
		Variation	−
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		
	DEM_E_NO_FDC_AVAILABLE	there is no fault detection counter available for the requested event	

GetMonitorStatusGeneralDiagnosticInfo.GetMonitorStatus	
Comments	−
Variation	−

GetMonitorStatusGeneralDiagnosticInfo.GetMonitorStatus			
Parameters	EventIDGeneralDiagnostic Info.GetMonitorStatus.Event ID	Comment	Identification of an event by assigned EventId.
		Type	Dem_EventIdType
		Variation	–
		Direction	IN
	MonitorStatusGeneral DiagnosticInfo.GetMonitor Status.MonitorStatus	Comment	Monitor status byte of the requested event. If the return value of the function call is E_NOT_OK, this parameter does not contain valid data.
		Type	Dem_MonitorStatusType
		Variation	–
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.154   Specification Item SWS_Dem_00608

Trace References:

SRS_Diag_04030 04181

Content:

Name	DTCSuppressionDTCSuppression

Name	DTCSuppressionDTCSuppression
Comment	Provides the capability to control the suppression of DTCs. One port of this interface type is provided globally by the Dem Service Component.
IsService	true
Variation	({ecuc(Dem/DemGeneral/DemSuppressionSupport)} == DEM_DTC_SUPPRESSION)

Possible Errors	0	E_OK
	1	E_NOT_OK
	4	DEM_PENDING
	8	DEM_WRONG_DTC
	9	DEM_WRONG_DTCORIGIN

Operations:

SetGetDTCSuppressionDTCSuppression.SetGetDTCSuppression			
Comments	–		
Variation	–		
Parameters	DTCDTCSuppression.SetClientIDDTCSuppression.GetDTCSuppression.DTC Client ID	Comment	– Unique client id, assigned to the instance of the calling module.
		Type	uint32 uint8
		Variation	–
		Direction	IN
	DTCFormatDTCSuppression.SetSuppressionStatusDTCSuppression.GetDTCSuppression.DTCFormatSuppressionStatus	Comment	– Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
		Type	Dem_DTCFormatboolean
		Variation	–
		Direction	OUT
Possible Errors	E_OK	Operation successful	
	E_NOT_OK	No DTC selected.	
	DEM_PENDING	The requested value is calculated asynchronously and currently not available. The caller can retry later.	
	DEM_WRONG_DTC	Selected DTC value in selected format does not exist.	
	DEM_WRONG_DTCORIGIN	Selected DTCOrigin does not exist.	

SetDTCSuppressionDTCSuppression.SetDTCSuppression	
Comments	–

SetDTCSuppressionDTCSuppression.SetDTCSuppression			
Variation	–		
Parameters	ClientIDDTCSuppression.SetDTCSuppression.ClientID	Comment	Unique client id, assigned to the instance of the calling module.
		Type	uint8
		Variation	–
		Direction	IN
	SuppressionStatus DTCSuppression.SetDTC-Suppression.Suppression Status	Comment	–
		Type	boolean
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful	
	E_NOT_OK	No DTC selected.	
	DEM_WRONG_DTC	Selected DTC value in selected format does not exist.	
	DEM_WRONG_DTCORIGIN	Selected DTCOrigin does not exist.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76511: Uniqueness of DTCs

  Problem description:

  1) DTC values are unique in a given DTCOrigin and DemEventMemorySet, but there is no requirement yet expressing this. Only the first sentence of chapter 7.4 mentions something like this (informative and incomplete).

  2) Dem_SetDTCSuppression uses a DTC value as index to identify the DTC to suppress. As DTCs are not unique among the different fault memories the API shall get extended by DTCOrigin and DemEventMemorySet.

  Agreed solution:

  1a) Add a new constraint after SWS_Dem_01247:
  SWS_Dem_CONSTR_xxxx1: The DemDtcValue [ECUC_Dem_00887] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

  1b) Add a new constraint after SWS_Dem_01247:
  SWS_Dem_CONSTR_xxxx2: The DemDtcValue [ECUC_Dem_00885] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

  2) Change API Dem_SetDTCSuppression [SWS_Dem_01047] to: Std_ReturnType

Dem_SetDTCSuppression(uint8 ClientId, boolean SuppressionStatus)
Use ClientID description from existing APIs.
Do the same for the C/S DTCSuppression [SWS_Dem_00608] in operation Set-DTCSuppression.
Add Dem_SetDTCSuppression as further bullet point in: SWS_Dem_01253
–Last change on issue 76511 comment 13–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76814: Provide getter for dtc suppression

Problem description:

The Dem only provides means to set the DTC suppression state, a symetric API to read back the suppression state of an DTC is missing.

Agreed solution:

Add a new C-API:

Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean *SuppressionStatus)
Asynchronous
Reentrant
Param (in): ClientId - Unique client id, assigned to the instance of the calling module
Param (out): SuppressionStatus - Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
Return value: Std_ReturnType - E_OK: Operation was successful
E_NOT_OK: Dem_SelectDTC was not called.
DEM_WRONG_DTC: No valid DTC or DTC group selected.
DEM_WRONG_DTCORIGIN: Wrong DTC origin selected
DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

Description: "Returns the suppression status of a specific DTC.
API Availability: This API will be available only if (ecuc(Dem/DemGeneral.DemSuppressionSupport) == DEM_DTC_SUPPRESSION)"

Add a new operation to C/S interface "DTCSuppression" SWS_Dem_00608:
Name: GetDTCSuppression
Take parameters and description from C-API above, link both to SRS_Diag_04154

Add new requirement to chapter 7.4.76 Suppress DTC output

SWS_Dem_xxxx1: If Dem_GetDTCSuppression is called, the Dem shall return the status if the DTC is suppressed in the output parameter SuppressionStatus. A value of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed. (SRS_Diag_04154)

Add text below this requirement:
Also there are various reasons, why a DTC is not processed and thus is not visible for diagnostics, the suppression state itself is only changed by Dem_SetDTCSuppression. Dem_GetDTCSuppression only evaluates this suppression state.

Remove SWS_Dem_00586

Change SWS_Dem_01253 to :
If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group of DTC in the requested DTCOrigin and DTCFormat as target for the following API calls:
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_ClearDTC
Dem_DisableDTCRecordUpdate
Dem_EnableDTCRecordUpdate
Dem_GetDTCSelectionResult
Dem_GetDTCSuppression.
(SRS_Diag_04010)
–Last change on issue 76814 comment 24–

BW-C-Level:

Application	Specification	Bus
1	1	1

● RfC #77864: [Dem] ReDesign Dem/Dcm interface of AR4.3: issue with SWS_Dem_01261

Problem description:

Dem requirement according to AR for the interface Dem_SelectDTC():

[SWS_Dem_01261] API Behaviour on undefined DTC or format d If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a se-

lected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API. c
(SRS_BSW_00369)

Concern: The text of this requirement can be interpreted in such a way that any call to the API with a group as an argument leads to DEM_WRONG_DTC as the return value.
Guess this requirement needs to be rewritten as:

[SWS_Dem_01261] API Behaviour on undefined DTC or format ⌐ If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a selected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or a Single DTC but no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API.

Agreed solution:

Change [SWS_Dem_01261] to:
API Behaviour on undefined DTC or format ⌐ If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called while the selection with Dem_SelectDTC is invalid, then the Dem shall return DEM_WRONG_DTC on this API.
A selection is invalid in case the provided DTC-HexCode (parameter DTC) does not specify a valid DTC or GroupOfDTCs in the corresponding DTCFormat. The selection also is invalid, if Dem_SelectDTC was not called before.

Add return value DEM_WRONG_DTC and DEM_WRONG_DTCORIGIN to Dem_SetDTCSuppression [SWS_Dem_01047] and operation SetDTCSuppression from DTCSuppression [SWS_Dem_00608]. Use the same description as in SWS_Dem_00212.
–Last change on issue 77864 comment 4–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.155 Specification Item SWS_Dem_00609

Trace References:

Content:

Name	DcmIf (obsolete)DcmIf	
Comment	Provides the operations only related to the Dcm. One port of this interface type is provided globally by the Dem Service Component. Tags: atp.Status=obsolete	
IsService	true	
Variation	–	
Possible Errors	0	E_OK
	3	DEM_FAILED
	4	DEM_PENDING
	5	DEM_CLEAR_BUSY
	6	DEM_CLEAR_MEMORY_ERROR
	8	DEM_WRONG_DTC
	9	DEM_WRONG_DTCORIGIN
	11	DEM_CONTROL_DTC_WRONG_DTCGROUP
	12	DEM_CONTROL_DTC_SETTING_N_OK

Operations:

DcmClearDTCDcmIf.DcmClearDTC	
Comments	–
Variation	–

DcmClearDTCDcmIf.DcmClearDTC			
Parameters	DTCDcmIf.DcmClear DTC.DTC	Comment	–
		Type	uint32
		Variation	–
		Direction	IN
	DTCFormatDcmIf.DcmClear DTC.DTCFormat	Comment	–
		Type	Dem_DTCFormatType
		Variation	–
		Direction	IN
	DTCOriginDcmIf.DcmClear DTC.DTCOrigin	Comment	–
		Type	Dem_DTCOriginType
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful	
	DEM_FAILED		
	DEM_PENDING	Clearing the DTCs is currently in progress. The caller shall call this function again at a later moment.	
	DEM_CLEAR_BUSY	Another client is currently clearing DTCs. The requested operation will not be started and the caller shall try again at a later moment.	
	DEM_CLEAR_MEMORY_ERROR	An error occurred during erasing a memory location (e.g. if DemClearDTCBehavior is set to DEM_CLRRESP_NON-VOLATILE_FINISH and erasing of non-volatile-block failed).	
	DEM_WRONG_DTC	Selected DTC value in selected format does not exist or clearing is restricted by configuration to group of all DTCs only.	
	DEM_WRONG_DTCORIGIN	Selected DTCOrigin does not exist.	

DcmEnableDTCSettingDcmIf.DcmEnableDTCSetting			
Comments	–		
Variation	–		
Parameters	DTCGroupDcmIf.DcmEnable DTCSetting.DTCGroup	Comment	–
		Type	uint32
		Variation	–
		Direction	IN
	DTCKindDcmIf.DcmEnable DTCSetting.DTCKind	Comment	–
		Type	Dem_DTCKindType
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful	
	DEM_CONTROL_DTC_WRONG_DTCGROUP		
	DEM_CONTROL_DTC_SETTING_N_OK		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76903: Return value literals in SWS_DM_00666 differ from C-API return value literals

  Problem description:

  SWS_Dem_00666 defines return values:

  3 DEM_FAILED
  5 DEM_BUSY
  6 DEM_MEMORY_ERROR
  7 DEM_CLEAR_FAILED

  but in SWS_Dem_00656 (Dem_ClearDTC) the following values are defined:

  DEM_CLEAR_FAILED
  DEM_CLEAR_BUSY
  DEM_CLEAR_MEMORY_ERROR

  In RfC# 76748 E_NOT_OK was added as return value for calls without select. This shall also be added.
  –Last change on issue 76903 comment 2–

  Agreed solution:

  In SWS_Dem_00666:
  remove DEM_FAILED (as duplicate of DEM_CLEAR_FAILED)

  change return value literals from:
  DEM_BUSY to DEM_CLEAR_BUSY
  DEM_MEMORY_ERROR to DEM_CLEAR_MEMORY_ERROR

  Add return value:
  E_NOT_OK: "No DTC selected"
  –Last change on issue 76903 comment 2–

  BW-C-Level:

Application	Specification	Bus
4	4	1

1.156   Specification Item SWS_Dem_00623

Trace References:

SRS_Diag_04082

Content:

The function Dem_DcmGetDTCOfOBDFreezeFrame shall return the DTC associated with the most important freeze frame being selected for the output of service $02 (PID $02).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"
    2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
    3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
    –Last change on issue 78539 comment 6–

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.157 Specification Item SWS_Dem_00630

Trace References:

SRS_Diag_04074

Content:

If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid Dem_SelectFreezeFrameData.DTC and a valid Dem_SelectFreezeFrameData.Record Number which is not stored, Dem_GetNextFreezeFrameData the Dem shall return E_OK and Dem_GetNextFreezeFrameData.BufSize 0 (empty buffer).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

Problem description:

In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

shall also depa
Dendent on Dem_SelectDTC.
–Last change on issue 76765 comment 7–

Agreed solution:

To SWS_Dem_01253 add the following two APIs:
- Dem_SelectFreezeFrameData [SWS_Dem_91015]
- Dem_SelectExtendedDataRecord [SWS_Dem_91017]

From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
- uint32 DTC
- Dem_DTCOriginType DTCOrigin

Add the following return values to Dem_SelectFreezeFrameData:
E_OK: The freeze frame is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.

DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

Add the following return values to Dem_SelectExtendedDataRecord :
E_OK: The extended data record is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:
[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:
Dem_GetNextExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection
c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:
Dem_GetNextFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection
c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0 (empty buffer). (SRS_Diag_04074)
–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.158 Specification Item SWS_Dem_00633

Trace References:

SRS_Diag_04099 04202

Document ID 695: ChangeDocumentation

Content:

The function Dem_DltGetMostRecentFreezeFrameRecordData shall return the data of the most recent freeze frame record of the requested diagnostic event (refer to DemDTCAttributes.DemFreezeFrameClassRef). Note: This does not include the OBD-II or J1939 freeze frame.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.159   Specification Item SWS_Dem_00634

Trace References:

SRS_Diag_04099 04202

Content:

If DemGeneral.DemTriggerDltReports is enabled, the Dem module shall provide access on all extended data records (refer to Dem_DltGetAllExtendedDataRecords) to the Dlt module.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

   Proposal:
   1) search for "No description"

Document ID 695: ChangeDocumentation

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.160   Specification Item SWS_Dem_00635

Trace References:

SRS_Diag_04099 04202

Content:

The function Dem_DltGetAllExtendedDataRecords shall report the data of all extended data records of the requested diagnostic event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were

replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.161 Specification Item SWS_Dem_00636

Trace References:

SRS_Diag_04099

Content:

Service name:	Dem_DltGetMostRecentFreezeFrameRecordDataDem_DltGetMostRecentFreeze FrameRecordData	
Syntax:	Std_ReturnType Dem_DltGetMostRecentFreezeFrameRecordData(Dem_EventIdType EventId, uint8* DestBuffer, uint16* BufSize)	
Service ID[hex]:	0x41	
Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	EventIdDem_DltGetMostRecentFreeze FrameRecordData.EventId	Identification of an event by assigned EventId.
Parameters (inout):	BufSizeDem_DltGetMostRecentFreeze FrameRecordData.BufSize	When the function is called this parameter contains the maximum number of data bytes that can be written to the buffer. The function returns the actual number of written data bytes in this parameter.

Parameters (out):	DestBufferDem_DltGetMostRecent FreezeFrameRecordData.DestBuffer	This parameter contains a byte pointer that points to the buffer, to which the freeze frame record shall be written to. The format is raw hexadecimal values and contains no header-information.
Return value:	Std_ReturnType	E_OK: Operation was successful. DEM_E_NODATAAVAILABLENO_SUCH_ELEMENT: The requested event data is not currently stored (but the request was valid). DEM_PENDING: The requested data is currently transported from NvM and needs to be requested again.
Description:		Gets the data of an most recent freeze frame record by event. The OBD-II freeze frame is not returned by this function.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76939: [DEM] [Dlt] Avoid using of DET codes as API return types

    Problem description:

    The DET error code DEM_E_NODATAAVAILABLE shall not be used as return value of C-APIs. Use DEM_NO_SUCH_ELEMENT instead.

    Agreed solution:

    Change return value DEM_E_NODATAAVAILABLE to DEM_NO_SUCH_ELEMENT in the following APIs:

    Dem_DltGetMostRecentFreezeFrameRecordData [SWS_Dem_00636]
    Dem_DltGetAllExtendedDataRecords [SWS_Dem_00637]

    Add requirement to chapter "7.11.7 Interaction with Diagnostic Log & Trace (Dlt)":
    SWS_Dem_xxxx1: If Dem_DltGetMostRecentFreezeFrameRecordData is called and for the provided EventId no UDS snapshot record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

    SWS_Dem_xxxx2: If Dem_DltGetAllExtendedDataRecords is called and for the provided EventId no extended data record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

    === SWS DLT ===

Document ID 695: ChangeDocumentation

Add the following requirement below SWS_Dlt_00478:

+[SWS_Dlt_00xx1]

Only if Dem_DltGetAllExtendedDataRecords returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

Add the following requirement below SWS_Dlt_00479:

+[SWS_Dlt_00xx2]

Only if Dem_DltGetMostRecentFreezeFrameRecordData() returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

–Last change on issue 76939 comment 7–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.162   Specification Item SWS_Dem_00637

Trace References:

SRS_Diag_04099

Content:

Service name:	Dem_DltGetAllExtendedDataRecordsDem_DltGetAllExtendedDataRecords	
Syntax:	Std_ReturnType Dem_DltGetAllExtendedDataRecords(Dem_EventIdType EventId, uint8* DestBuffer, uint16* BufSize)	
Service ID[hex]:	0x40	
Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	EventIdDem_DltGetAllExtendedData Records.EventId	Identification of an event by assigned EventId.
Parameters (inout):	BufSizeDem_DltGetAllExtendedData Records.BufSize	When the function is called this parameter contains the maximum number of data bytes that can be written to the buffer. The function returns the actual number of written data bytes in this parameter.

Parameters (out):	DestBufferDem_DltGetAllExtendedData Records.DestBuffer	This parameter contains a byte pointer that points to the buffer, to which the extended data shall be written to. The format is raw hexadecimal values and contains no header-information.
Return value:	Std_ReturnType	E_OK: Operation was successful. DEM_E_NODATAAVAILABLENO_SUCH_ELEMENT: The requested event data is not currently stored (but the request was valid). DEM_PENDING: The requested data is currently transported from NvM and needs to be requested again.
Description:		Gets the data of all extended data records of an event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76939: [DEM] [Dlt] Avoid using of DET codes as API return types

    Problem description:

    The DET error code DEM_E_NODATAAVAILABLE shall not be used as return value of C-APIs. Use DEM_NO_SUCH_ELEMENT instead.

    Agreed solution:

    Change return value DEM_E_NODATAAVAILABLE to DEM_NO_SUCH_ELEMENT in the following APIs:

    Dem_DltGetMostRecentFreezeFrameRecordData [SWS_Dem_00636]
    Dem_DltGetAllExtendedDataRecords [SWS_Dem_00637]

    Add requirement to chapter "7.11.7 Interaction with Diagnostic Log & Trace (Dlt)":
    SWS_Dem_xxxx1: If Dem_DltGetMostRecentFreezeFrameRecordData is called and for the provided EventId no UDS snapshot record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

    SWS_Dem_xxxx2: If Dem_DltGetAllExtendedDataRecords is called and for the provided EventId no extended data record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

    === SWS DLT ===

Add the following requirement below SWS_Dlt_00478:

+[SWS_Dlt_00xx1]

Only if Dem_DltGetAllExtendedDataRecords returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

Add the following requirement below SWS_Dlt_00479:

+[SWS_Dlt_00xx2]

Only if Dem_DltGetMostRecentFreezeFrameRecordData() returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

–Last change on issue 76939 comment 7–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.163   Specification Item SWS_Dem_00643

Trace References:

SRS_Diag_04068, SRS_Diag_04134 04190

Content:

If the data element DemInternalDataElementClass.DemInternalDataElement.DEM_AGINGCTR_UPCNT is configured, the aging counter mapping shall be based on a count-up mechanism from 0 to DemDTCAttributes.DemAgingCycleCounter Threshold (refer to ISO-14229-1ISO_2d_14229_2d_1_2d_2013, Annex D).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to
    https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.164   Specification Item SWS_Dem_00645

Trace References:

SRS_Diag_04010, SRS_Diag_04000, SRS_Diag_04001, SRS_Diag_04112

Content:

The Dem module shall support different DTC numbers for UDS, OBD, and J1939 DTCs based on separate configuration parameters (refer to parameters DemDTC and DemObd DTC in DemConfigSet).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.165 Specification Item SWS_Dem_00650

Trace References:

SRS_Diag_ 04079 04204

Content:

Each call of Dem_SetFreezeFrameRecordFilter shall lead to a reset of the sequence.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.166   Specification Item SWS_Dem_00661

Trace References:

SRS_Diag_04065, SRS_Diag_ 04122 04194

Content:

The first client requesting call to clear diagnostic information shall lock the clearing process
for all other clients.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
   existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
   missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no
   added value. So, an example shall show what is to do to clean up the DEM and
   DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
   There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were
   replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
   released with R431 with the current status the document has got none high quality.
   This RfC is a formal change only to clean up the document for R431 and harmonize
   the document with the SRS-Diag (FO R130).

   Proposal:
   1) search for "No description"
   2) replaces the current requirement number with the old one: example:
   SRS_Diag_04069 -> SRS_Diag_04204
   3) clean up the traceability of the detected requirement under 1) for example:
   SRS_Diag_04069:   [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]

Document ID 695: ChangeDocumentation

[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.167   Specification Item SWS_Dem_00662

Trace References:

SRS_Diag_04065, SRS_Diag_04122

Content:

If the clearing process is locked and another client calls the Dem_ClearDTC API, the Dem shall return DEM_CLEAR_BUSY

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76535: [Dem] duplicated req 662 / 664

  Problem description:

  [SWS_Dem_00662] d If the clearing process is locked and another client calls the Dem_ClearDTC API, the Dem shall return DEM_CLEAR_BUSY c(SRS_Diag_04065, SRS_Diag_04122)

  [SWS_Dem_00664] d If the clearing process is locked, the Dem shall return DEM_CLEAR_BUSY for any subsequent call of Dem_ClearDTC from a different client.

  => both are staing the same requirement: one can be removed.

  Do we have a req for defining behavior in case a client is calling clear (or any other asynchronous service) and then calling selectDTC before the asynchronous service is completed?

  Agreed solution:

  1) Remove SWS_Dem_00662
  –Last change on issue 76535 comment 3–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.168   Specification Item SWS_Dem_00664

Trace References:

SRS_Diag_04065, SRS_Diag_ 04122 04194

Content:

If the clearing process is locked, the Dem shall return DEM_CLEAR_BUSY for any subsequent call of Dem_ClearDTC from a different client.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.169   Specification Item SWS_Dem_00665

Trace References:

SRS_Diag_04122

Content:

Service name:	Dem_ClearDTCDem_ClearDTC	
Syntax:	Std_ReturnType Dem_ClearDTC(uint8 ClientId)	
Service ID[hex]:	0x23	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_ClearDTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	

Return value:	Std_ReturnType	E_OK: DTC successfully cleared E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist or clearing is restricted by configuration to group of all DTCs only. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_CLEAR_FAILED: DTC clearing failed DEM_CLEAR_BUSY: Another client is currently clearing DTCs. The requested operation will not be started and the caller shall try again at a later moment. DEM_CLEAR_MEMORY_ERROR: An error occurred during erasing a memory location (e.g. if DemClearDTCBehavior is set to DEM_CLRRESP_NON-VOLATILE_FINISH and erasing of non-volatile-block failed). DEM_PENDING: Clearing the DTCs is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Clears single DTCs, as well as groups of DTCs.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

    Problem description:

    With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

    1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
    Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

    2) Make
    * Dem_ResetEventStatus SWS_Dem_00185
    * Dem_SetEventAvailable SWS_Dem_01080
    * Dem_SetWIRStatus SWS_Dem_00839
    asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

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3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)

Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected

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DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is
called without a prior call of Dem_SelectDTC for this client, the Dem shall report
the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this
API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to
SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client,
the Dem shall report the DET error DEM_E_WRONG_CONDITION and return
E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif
as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and
DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and
Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.170 Specification Item SWS_Dem_00666

Trace References:

SRS_Diag_04122

Content:

Name	ClearDTCClearDTC

Name	ClearDTCClearDTC	
Comment	Provides the operations only related to complex device drivers. One port of this interface type is provided globally by the Dem Service Component. It has ClientId as a port-defined argument.	
IsService	true	
Variation	–	
Possible Errors	0	E_OK
	3 1	DEM_FAILED E_NOT_OK
	4	DEM_PENDING
	5	DEM_CLEAR_BUSY
	6	DEM_CLEAR_MEMORY_ERROR
	7	DEM_CLEAR_FAILED
	8	DEM_WRONG_DTC
	9	DEM_WRONG_DTCORIGIN
	22	DEM_BUSY

Operations:

ClearDTCClearDTC.ClearDTC		
Comments	–	
Variation	–	
Possible Errors	E_OK	Operation successful
	DEM_FAILED E_NOT_OK	No DTC selected
	DEM_PENDING	Clearing the DTCs is currently in progress. The caller shall call this function again at a later moment.
	DEM_CLEAR_BUSY	Another client is currently clearing DTCs. The requested operation will not be started and the caller shall try again at a later moment.
	DEM_CLEAR_MEMORY_ERROR	An error occurred during erasing a memory location (e.g. if DemClearDTCBehavior is set to DEM_CLRRESP_NON-VOLATILE_FINISH and erasing of non-volatile-block failed).
	DEM_CLEAR_FAILED	DTC clearing failed
	DEM_WRONG_DTC	Selected DTC value in selected format does not exist or clearing is restricted by configuration to group of all DTCs only.
	DEM_WRONG_DTCORIGIN	Selected DTCOrigin does not exist.
	DEM_BUSY	A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.

SelectDTCClearDTC.SelectDTC	
Comments	–
Variation	–

SelectDTCClearDTC.SelectDTC			
Parameters	DTCClearDTC.Select DTC.DTC	Comment	–
		Type	uint32
		Variation	–
		Direction	IN
	DTCFormatClearDTC.Select DTC.DTCFormat	Comment	–
		Type	Dem_DTCFormatType
		Variation	–
		Direction	IN
	DTCOriginClearDTC.Select DTC.DTCOrigin	Comment	–
		Type	Dem_DTCOriginType
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successful	
	E_NOT_OK	No DTC selected	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #76727: Refine Dem Interface

   Problem description:

   With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

   1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
   Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

   2) Make
   * Dem_ResetEventStatus SWS_Dem_00185
   * Dem_SetEventAvailable SWS_Dem_01080
   * Dem_SetWIRStatus SWS_Dem_00839
   asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

   3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
   a) Dem_Select(DTC1)
   Dem_Select(DTC2)

Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

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Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234:   correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

● RfC #76903: Return value literals in SWS_DM_00666 differ from C-API return value literals

Problem description:

Document ID 695: ChangeDocumentation

SWS_Dem_00666 defines return values:

3 DEM_FAILED
5 DEM_BUSY
6 DEM_MEMORY_ERROR
7 DEM_CLEAR_FAILED

but in SWS_Dem_00656 (Dem_ClearDTC) the following values are defined:

DEM_CLEAR_FAILED
DEM_CLEAR_BUSY
DEM_CLEAR_MEMORY_ERROR

In RfC# 76748 E_NOT_OK was added as return value for calls without select. This shall also be added.
–Last change on issue 76903 comment 2–

Agreed solution:

In SWS_Dem_00666:
remove DEM_FAILED (as duplicate of DEM_CLEAR_FAILED)

change return value literals from:
DEM_BUSY to DEM_CLEAR_BUSY
DEM_MEMORY_ERROR to DEM_CLEAR_MEMORY_ERROR

Add return value:
E_NOT_OK: "No DTC selected"
–Last change on issue 76903 comment 2–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #77580: Clarify DEM_FAILED return value

  Problem description:

  It seems that DEM_FAILED on SWS_DEM_00666 is not used and actually DEM_CLEAR_FAILED is meant.

  Agreed solution:

  Remove DEM_FAILED from SWS_DEM_00666.
  –Last change on issue 77580 comment 4–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
4	4	1

1.171   Specification Item SWS_Dem_00667

Trace References:

SRS_Diag_0409204191, SRS_Diag_04122 04194

Content:

If the DTC is not configured to use event combination, the out-parameter DemClearEvent Allowed.Allowed of the callback DemClearEventAllowed returns "false" and the return value is equal to E_OK, the Dem shall not clear the respective event memory entry and Dem-interal data valuesDem-internalDataValue.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73864: [Dem] further clarification of CLEAR_FAILED (Dem_01202)

   Problem description:

   req for returning CLEAR_FAILED needs to be more detailed.

   Especially scenarios with event combination will result in strange return values, in case clearEventAllowed is considered.

   E.g. consider 2 event are mapped to the same dtc and combination on retrieval is configured. one event returns clearAllowed=FALSE and the other return clearAllowed=TRUE. The visible result of the clear is, it is not cleared.

   Agreed solution:

   Change requirement :
   [SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED in case:
   - the requested supported DTC(s) is not cleared
   - all ClearEventAllowed callbacks return FALSE (in case of event combination ClearEventAllowed returns FALSE for one event of the DTC).
   by :

   [SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED:

- in case of clearing a single DTC at least one ClearEventAllowed callback assigned to the event of the DTC returns FALSE.
- in case of clearing a group or all DTCs, the individual DTCs shall be cleared like described in clearing single DTC. The resulting return value of clear group or clear all shall be DEM_CLEAR_FAILED if all individual DTCs returned DEM_CLEAR_FAILED.

Change the [SWS_Dem_00667] by :

[SWS_Dem_00667] If the DTC is not configured to use event combination, the out-parameter Allowed of the callback ClearEventAllowed returns false (and the return value is equal to E_OK) after the execution of this callback function, the Dem shall not clear the respective event memory entry and Dem-internal data values.(SRS_Diag_04092, SRS_Diag_04122)

Add new requirement below [SWS_Dem_00667] :

[SWS_Dem_00XXX] If the DTC is configured to use event combination, if only one ClearEventAllowed callback has the out-parameter Allowed set to FALSE and returns E_OK after the execution of this callback function, the Dem shall not clear the event status, respective event memory entry and Dem-internal data values. (SRS_Diag_04092, SRS_Diag_04122, SRS_Diag_04073)
–Last change on issue 73864 comment 4–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Document ID 695: ChangeDocumentation

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.172   Specification Item SWS_Dem_00668

Trace References:

SRS_Diag_0409204191, SRS_Diag_04122 04194

Content:

If the out-parameter 'Allowed' of the callback DemClearEventAllowed returns "false" and the configuration parameter DemCallbackClearEventAllowed.DemClearEventAllowedBehavior is set to DemCallbackClearEventAllowed.DemClearEventAllowedBehavior.DEM_NO_STATUS_BYTE_CHANGE, the related UDS status byte shall not be modified.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be

released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.173   Specification Item SWS_Dem_00669

Trace References:

SRS_Diag_04092 04191, SRS_Diag_04122 04194

Content:

If the out-parameter DemClearEventAllowed.Allowed of the callback DemClearEvent Allowed returns "false" and the configuration parameter DemCallbackClearEventAl-lowed.DemClearEventAllowedBehavior is set to DemCallbackClearEventAllowed.Dem ClearEventAllowedBehavior.DEM_ONLY_THIS_CYCLE_AND_READINESS, the related UDS status bits 1 (TestFailedThisOperationCycle), 4 (TestNotCompletedSinceLastClear), 5 (TestFailedSinceLastClear), and 6 (TestNotCompletedThisOperationCycle) shall be re-set.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.174   Specification Item SWS_Dem_00670

Trace References:

SRS_Diag_04117

Content:

If the configuration parameter DemGeneral.DemClearDTCLimitation is set to Dem General.DemClearDTCLimitation.DEM_ONLY_CLEAR_ALL_DTCS, the APIs Dem_Clear DTC are called with a selected DTC group different to DEM_DTC_GROUP_ALL_DTCS the Dem shall return Dem_ReturnClearDTCType.DEM_CLEAR_WRONG_DTC.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839
  asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

  3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
  a) Dem_Select(DTC1)
  Dem_Select(DTC2)
  Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

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b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

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Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:

SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.175   Specification Item SWS_Dem_00673

Trace References:

SRS_Diag_0407604178, SRS_Diag_04134 04190

Document ID 695: ChangeDocumentation

Content:

If the data element DemInternalDataElementClass.DemInternalDataElement.DEM_AGINGCTR_DOWNCNT is configured, the aging counter mapping shall be based on a count-down mechanism from DemDTCAttributes.DemAgingCycleCounter Threshold to 0 (refer to ISO-14229-1ISO_2d_14229_2d_1_2d_2013, Annex D).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.176   Specification Item SWS_Dem_00693

Trace References:

SRS_Diag_ 04076 04178

Content:

If an event is reported and an event memory entry with the same priority exists and the existing event is tested in this operation cycle (TestNotCompletedThisOperationCycle bit == 0), the Dem shall discard the reported event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Document ID 695: ChangeDocumentation

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.177 Specification Item SWS_Dem_00695

Trace References:

SRS_Diag_04102 04195

Content:

If the configuration parameter DemGeneralOBD.DemOBDEventDisplacement is set to TRUE all emission related events with the following conditions shall not be considered during the displacement mechanism and shall not displaced from error memory:
Eventold is emission related
AND
(Eventold triggers MIL indicator
OR (Eventold holds legislative Freeze Frame AND has equal or higher priority)
OR Pending-DTC==1)

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Document ID 695: ChangeDocumentation

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.178   Specification Item SWS_Dem_00696

Trace References:

SRS_Diag_ 04102 04195

Content:

If the configuration parameter DemGeneralOBD.DemOBDEventDisplacement is set to FALSE the Dem module shall process the displacement without the OBD-behavior (refer to figure [REF fig_3a_dem_model_draw_Combined_displacement_criteria_processing]).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Document ID 695: ChangeDocumentation

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.179 Specification Item SWS_Dem_00698

Trace References:

SRS_Diag_04133, SRS_Diag_04076 04178

Content:

The process of aging (counting of aging counter) starts when healing is completed (WarningIndicatorRequested bit == 0 , refer to [REF fig_3a_dem_model_draw_event_deletion_processing]).

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to
    https://svn.autosar.org/repos/work/09_WorkPackages/WP-
    A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.180 Specification Item SWS_Dem_00703

Trace References:

SRS_Diag_04082

Content:

The Dem of the Master ECU shall calculate information for PID $31 / $4D / $4E vehicle wide.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were
replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be
released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize
the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example:
SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.181   Specification Item SWS_Dem_00704

Trace References:

SRS_Diag_04082

Content:

Only the Master ECU is allowed to report information for PID $31 / $4D / $4E to the scan
tool.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
  existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
  missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.182   Specification Item SWS_Dem_00709

Trace References:

SRS_Diag_04082

Content:

Ratios which refer to a Suppressed Event shall not be computed.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

Document ID 695: ChangeDocumentation

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.183   Specification Item SWS_Dem_00710

Trace References:

SRS_Diag_04082

Content:

The numerator shall be calculated in the ECU (Master and Primary).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example:
  SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.184   Specification Item SWS_Dem_00711

Trace References:

SRS_Diag_04082

Content:

The Dem of the Master ECU shall calulate the IUMPR-Cycle Flag.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"
    2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
    3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069:   [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
    –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.185   Specification Item SWS_Dem_00712

Trace References:

SRS_Diag_04082

Content:

In master and optionally primary OBD ECUs, the Dem shall increment ECU global internal general denominator depending on the denominatorDem_IumprDenomCondIdType.DEM_IUMPR_GENERAL_OBDCOND, if available. Depending on the system definition the global general denominator (and therefore the Dem_Iumpr DenomCondIdType.DEM_IUMPR_GENERAL_OBDCOND) may not be needed in some or even all primary ECUs. In such cases the Dem_IumprDenomCondId Type.DEM_IUMPR_GENERAL_OBDCOND is never set, and the general denominator is stuck at 0 (and reporting of the InfoType $08 / $0B is disabled in the Dcm).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were

replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.186 Specification Item SWS_Dem_00714

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide an API Dem_SetIUMPRDenCondition to get informed about the IUMPR-Cycle Flag status by a software component.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and

DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example:
SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.187   Specification Item SWS_Dem_00715

Trace References:

SRS_Diag_04082

Content:

The Dem module shall provide configuration parameter DemRatio.DemIUMPRDenGroup to offer several conditions to be applied to the denominator per RatioId.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

Document ID 695: ChangeDocumentation

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.188   Specification Item SWS_Dem_00717

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide the API Dem_SetIUMPRDenCondition to set the status of a particular condition (mainly in depending ECUs).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.189 Specification Item SWS_Dem_00718

Trace References:

SRS_Diag_04082

Content:

In Master, Primary and Dependent / Secondary ECUs executing service $04 shall clear all emission-related diagnostic information in primary and user defined (event) memory (if configured) as defined in SAE J1979 SAE_2d_J1979.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]

[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.190 Specification Item SWS_Dem_00719

Trace References:

SRS_Diag_04082

Content:

Executing service $04 shall include non emission-related diagnostic information (e.g. Debouncing counter, Event/DTC related status information as TestFailedSinceLastClear) of primary and all user defined event memories (if configured) in Master, Primary and Dependent / Secondary ECUs.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.

Document ID 695: ChangeDocumentation

This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.191 Specification Item SWS_Dem_00735

Trace References:

SRS_Diag_04082

Content:

Service name:	Dem_SetDataOfPID21Dem_SetDataOfPID21	
Syntax:	Std_ReturnType Dem_SetDataOfPID21(const uint8* PID21value)	
Service ID[hex]:	0xa6	
Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	PID21valueDem_SetDataOf PID21.PID21value	Buffer containing the contents of PID $21. The buffer is provided by the Dcm with the appropriate size, i.e. during configuration, the Dcm identifies the required size from the largest PID in order to configure a PIDBuffer.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OK is returned, as E_NOT_OK will never appear.
Description:	Service to set the value of PID $21 in the Dem by a software component. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)	

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77924: Inconsistency between Dem and Rte interfaces

  Problem description:

  SWS_Rte_07086 : All input parameters that are passed by reference or passed as an array expression shall be declared as pointer to const with the means of the P2CONST macro.

  For the APIS, Dem_SetDataOfPID<NM> (where NM = 21, 31, 4D, and 4E) the pointer parameters are of type IN, which is not according to the requirement [SWS_Rte_07086]. This is causing inconsistency between Dem and Rte interfaces.

  Agreed solution:

  [SWS_Dem_00735]
  Syntax: Std_ReturnType Dem_SetDataOfPID21(uint8 const *PID21value)

  [SWS_Dem_00736]
  Syntax: Std_ReturnType Dem_SetDataOfPID31(uint8 const *PID31value)

  [SWS_Dem_00737]
  Syntax: Std_ReturnType Dem_SetDataOfPID4D(uint8 const *PID4Dvalue)

  [SWS_Dem_00738]
  Syntax: Std_ReturnType Dem_SetDataOfPID4E(uint8 const *PID4Evalue)
  –Last change on issue 77924 comment 1–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.192   Specification Item SWS_Dem_00736

Trace References:

Content:

Service name:	Dem_SetDataOfPID31Dem_SetDataOfPID31
Syntax:	Std_ReturnType Dem_SetDataOfPID31(const uint8* PID31value)
Service ID[hex]:	0xa7

Document ID 695: ChangeDocumentation

Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	PID31valueDem_SetDataOf PID31.PID31value	Buffer containing the contents of PID $31. The buffer is provided by the Dcm with the appropriate size, i.e. during configuration, the Dcm identifies the required size from the largest PID in order to configure a PIDBuffer.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OK is returned, as E_NOT_OK will never appear.
Description:	Service to set the value of PID $31 in the Dem by a software component. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77924: Inconsistency between Dem and Rte interfaces

  Problem description:

  SWS_Rte_07086 : All input parameters that are passed by reference or passed as an array expression shall be declared as pointer to const with the means of the P2CONST macro.

  For the APIS, Dem_SetDataOfPID<NM> (where NM = 21, 31, 4D, and 4E) the pointer parameters are of type IN, which is not according to the requirement [SWS_Rte_07086]. This is causing inconsistency between Dem and Rte interfaces.

  Agreed solution:

  [SWS_Dem_00735]
  Syntax: Std_ReturnType Dem_SetDataOfPID21(uint8 const *PID21value)

  [SWS_Dem_00736]
  Syntax: Std_ReturnType Dem_SetDataOfPID31(uint8 const *PID31value)

  [SWS_Dem_00737]
  Syntax: Std_ReturnType Dem_SetDataOfPID4D(uint8 const *PID4Dvalue)

  [SWS_Dem_00738]
  Syntax: Std_ReturnType Dem_SetDataOfPID4E(uint8 const *PID4Evalue)
  –Last change on issue 77924 comment 1–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.193   Specification Item SWS_Dem_00737

Trace References:

Content:

Service name:	Dem_SetDataOfPID4DDem_SetDataOfPID4D	
Syntax:	Std_ReturnType Dem_SetDataOfPID4D(const uint8* PID4Dvalue)	
Service ID[hex]:	0xa8	
Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	PID4DvalueDem_SetDataOf PID4D.PID4Dvalue	Buffer containing the contents of PID $4D. The buffer is provided by the Dcm with the appropriate size, i.e. during configuration, the Dcm identifies the required size from the largest PID in order to configure a PIDBuffer.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OK is returned, as E_NOT_OK will never appear.
Description:	Service to set the value of PID $4D in the Dem by a software component. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #77924: Inconsistency between Dem and Rte interfaces

Problem description:

SWS_Rte_07086 : All input parameters that are passed by reference or passed as an array expression shall be declared as pointer to const with the means of the P2CONST macro.

For the APIS, Dem_SetDataOfPID<NM> (where NM = 21, 31, 4D, and 4E) the pointer parameters are of type IN, which is not according to the requirement [SWS_Rte_07086]. This is causing inconsistency between Dem and Rte interfaces.

Agreed solution:

Document ID 695: ChangeDocumentation

[SWS_Dem_00735]
Syntax: Std_ReturnType Dem_SetDataOfPID21(uint8 const *PID21value)

[SWS_Dem_00736]
Syntax: Std_ReturnType Dem_SetDataOfPID31(uint8 const *PID31value)

[SWS_Dem_00737]
Syntax: Std_ReturnType Dem_SetDataOfPID4D(uint8 const *PID4Dvalue)

[SWS_Dem_00738]
Syntax: Std_ReturnType Dem_SetDataOfPID4E(uint8 const *PID4Evalue)
–Last change on issue 77924 comment 1–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.194   Specification Item SWS_Dem_00738

Trace References:

SRS_Diag_04082

Content:

Service name:	Dem_SetDataOfPID4EDem_SetDataOfPID4E	
Syntax:	Std_ReturnType Dem_SetDataOfPID4E(const uint8* PID4Evalue)	
Service ID[hex]:	0xa9	
Sync/Async:	Asynchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	PID4EvalueDem_SetDataOf PID4E.PID4Evalue	Buffer containing the contents of PID $4E. The buffer is provided by the Dcm with the appropriate size, i.e. during configuration, the Dcm identifies the required size from the largest PID in order to configure a PIDBuffer.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OK is returned, as E_NOT_OK will never appear.
Description:	Service to set the value of PID $4E in the Dem by a software component. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)	

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #77924: Inconsistency between Dem and Rte interfaces

Problem description:

SWS_Rte_07086 : All input parameters that are passed by reference or passed as an array expression shall be declared as pointer to const with the means of the P2CONST macro.

For the APIS, Dem_SetDataOfPID<NM> (where NM = 21, 31, 4D, and 4E) the pointer parameters are of type IN, which is not according to the requirement [SWS_Rte_07086]. This is causing inconsistency between Dem and Rte interfaces.

Agreed solution:

[SWS_Dem_00735]
Syntax: Std_ReturnType Dem_SetDataOfPID21(uint8 const *PID21value)

[SWS_Dem_00736]
Syntax: Std_ReturnType Dem_SetDataOfPID31(uint8 const *PID31value)

[SWS_Dem_00737]
Syntax: Std_ReturnType Dem_SetDataOfPID4D(uint8 const *PID4Dvalue)

[SWS_Dem_00738]
Syntax: Std_ReturnType Dem_SetDataOfPID4E(uint8 const *PID4Evalue)
–Last change on issue 77924 comment 1–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.195   Specification Item SWS_Dem_00748

Trace References:

SRS_Diag_04082, SRS_Diag_04141

Content:

The function Dem_DcmReadDataOfPID1C shall return the appropriate value "OBD requirements to which vehicle or engine is certified." according to the respective standards ISO_2d_15031_2d_5, e.g. OBD, OBDII, JOBD etc. The value PID1Cvalue to return is in configuration parameter DemGeneralOBD.DemOBDCompliancy defined.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example:
  SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.196 Specification Item SWS_Dem_00754

Trace References:

SRS_Diag_04082

Content:

The Dem shall use the DemDtr.DemDtrUpdateKind for the evaluation and processing of reported DTR-values, i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state. :

- DemDtr.DemDtrUpdateKind.DEM_DTR_UPDATE_ALWAYS: State of the Event event is not considered (default, and used if DemDtr.DemDtrEventRef is not configured).

- DemDtr.DemDtrUpdateKind.DEM_DTR_UPDATE_STEADY: Only when the Events events pre-debouncing within Dem is "stuck" at the FAIL or PASS limit, and the latest result matches the debouncing direction.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77941: [Dem] DTR handling

  Problem description:

  1) [SWS_Dem_00754] The Dem shall use the DemDtrUpdateKind for the evaluation and processing of reported DTR-values, i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state
  -> the second part starting with "i.e. DTRs are ..." in the above requirement is misleading and should be removed.

  2) DemDtrUpdateKind in description already mentions the default value. This should be made explicit.

  3) DemDtrUasid is defined as post-build modifiable. However, if the UASID is changed, then it would generally be necessary to also change the coefficients of conversion. But those parameters are not postbuild.

  4) The following requirement is unclear concerning consideration of storage-conditoin and enablecondition:
  [SWS_Dem_00757] Based on DemDtrUpdateKind and the status of the associated event (taking enable/storage conditions into account), the Dem shall either process or ignore the reported DTR values.

  5) SWS_Dem_00765 mentions that the API Dem_SetDTR() is reentrant
  -> it should only be reentrant for different dtrids

  Agreed solution:

Document ID 695: ChangeDocumentation

1) in [SWS_Dem_00754] remove the following text:
"i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state"

2) in DemDtrUpdateKind [ECUC_Dem_00812]:
change description to "Update conditions applied by the Dem to reports of DTR values. Only supported if a related Event is configured".
Add default value "DEM_DTR_UPDATE_ALWAYS"
Set multiplicity to 1.

4) change [SWS_Dem_00757] to:
If DemDtrEventRef references a DemEventParameter, the Dem shall process the reported DTR values only if all the enable/storage conditions of the referenced event are fulfilled, independent of DemDtrUpdateKind. If any of the enable/storage conditions of the referenced event are not fulfilled, then the Dem shall ignore the reported DTR values.

5) in SWS_Dem_00765 (Dem_SetDTR) change Reentrancy to: "Reentrant for different DTRIds. Non reentrant for the same DTRId.
–Last change on issue 77941 comment 4–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.

The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.197   Specification Item SWS_Dem_00755

Trace References:

SRS_Diag_04082

Content:

The Dem shall only support a linear mapping, i.e. only support values for the coefficients b, c, and f.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no

added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.198   Specification Item SWS_Dem_00756

Trace References:

SRS_Diag_04030 04179

Content:

The Dem shall provide an API Dem_SetDTR within an interface DTRCentralReport to provide a report mechanism to the SW-C for their test results. Arguments shall be the DemDtr.DemDtrId, the test value, the minimum and maximum limit, and a state indicating whether the monitor provides a valid minium minimum limit, maximum limit, or both, or whether the reported values shall be reset to zero.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.199   Specification Item SWS_Dem_00757

Trace References:

SRS_Diag_04082

Content:

Based on If DemDtr.DemDtrUpdateKind and the status of the associated event (taking EventRef references a DemEventParameter, the Dem shall process the reported DTR values only if all the enable/storage conditions of the referenced event are fulfilled, independent of DemDtr.DemDtrUpdateKind. If any of the enable/storage conditions into account), of the referenced event are not fulfilled, then the Dem shall either process or ignore the reported DTR values.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77941: [Dem] DTR handling

  Problem description:

  1) [SWS_Dem_00754] The Dem shall use the DemDtrUpdateKind for the evaluation and processing of reported DTR-values, i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state
  -> the second part starting with "i.e. DTRs are ..." in the above requirement is misleading and should be removed.

  2) DemDtrUpdateKind in description already mentions the default value. This should be made explicit.

Document ID 695: ChangeDocumentation

3) DemDtrUasid is defined as post-build modifiable. However, if the UASID is changed, then it would generally be necessary to also change the coefficients of conversion. But those parameters are not postbuild.

4) The following requirement is unclear concerning consideration of storage-conditoin and enablecondition:
[SWS_Dem_00757] Based on DemDtrUpdateKind and the status of the associated event (taking enable/storage conditions into account), the Dem shall either process or ignore the reported DTR values.

5) SWS_Dem_00765 mentions that the API Dem_SetDTR() is reentrant
-> it should only be reentrant for different dtrids

Agreed solution:

1) in [SWS_Dem_00754] remove the following text:
"i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state"

2) in DemDtrUpdateKind [ECUC_Dem_00812]:
change description to "Update conditions applied by the Dem to reports of DTR values. Only supported if a related Event is configured".
Add default value "DEM_DTR_UPDATE_ALWAYS"
Set multiplicity to 1.

4) change [SWS_Dem_00757] to:
If DemDtrEventRef references a DemEventParameter, the Dem shall process the reported DTR values only if all the enable/storage conditions of the referenced event are fulfilled, independent of DemDtrUpdateKind. If any of the enable/storage conditions of the referenced event are not fulfilled, then the Dem shall ignore the reported DTR values.

5) in SWS_Dem_00765 (Dem_SetDTR) change Reentrancy to: "Reentrant for different DTRIds. Non reentrant for the same DTRId.
–Last change on issue 77941 comment 4–

BW-C-Level:

Application	Specification	Bus
1	4	1

• RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.200 Specification Item SWS_Dem_00759

Trace References:

SRS_Diag_ 04030 04179

Content:

Document ID 695: ChangeDocumentation

The Dem shall ensure the validity of the test results vs. threshold(s). If the parameter Dem_SetDTR.TestResult passed in Dem_SetDTR is inside/outside the thresholds given by Dem_SetDTR.UpperLimit and Dem_SetDTR.LowerLimit, Dem_DcmGetDTR-Data.Testvalue of Dem_DcmGetDTRData shall also be inside/outside Dem_DcmGetDTR-Data.Upplimvalue and Dem_DcmGetDTRData.Lowlimvalue. If rounding effects lead to an unintended change of the meaning, the thresholds shall be shifted by one increment accordingly to restore the result.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.201 Specification Item SWS_Dem_00760

Trace References:

Content:

Upon request by the DcmIf Dem_DcmGetAvailableOBDMIDs is called with an "availablity Obdmid" value of 0x00, 0x20, the Dem shall compute 0x40, 0x60, 0x80, 0xA0, 0xC0 or 0xE0 and the Dem has configured DemDtr.DemDtrMid, the Dem shall compute and provide the "Supported-OBDMID" information , i.e. the "availability OBDMIDs". Since the in the OUT parameter Dem_DcmGetAvailableOBDMIDsreports only value per standardized OBDMID ($00, $20, $40...), the Dcm has to call this API iteratively until no further availability OBDMID is supportedObdmidvalue and return E_OK. The computed Obdmids parameter is according to ISO 15031-5ISO_2d_15031_2d_5 and sets a bit for each supported Obdmid in the request range (starting with Obdmid+1) and having the last bit of the Dem_Dcm

GetAvailableOBDMIDs.Obdmidvalue set, if any subsequent range has configured Obd-mids.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77870: [Dem / Dcm] ReDesign Dem/Dcm interface of AR4.3: issue with Dem_DcmGetAvailableOBDMIDs()

Problem description:

[SWS_Dem_00760] d Upon request by the Dcm, the Dem shall compute Supported-OBDMID information, i.e. the availability OBDMIDs. Since the Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. c()

Since Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. But there is no matching requirement in the Dcm spec.

Refer to Dcm requirement below

[SWS_Dcm_00957] d On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability
OBDMID (00, 20, ...)" contained within the request and concatenate the results within the response message. c()

Moreover Dcm expects to get supported OBDMIDs by calling Dem_DcmGetAvailableOBDMIDs, but in Dem spec it is only said to compute, not provide, OBD MID information.

SWS_Dem_00760 should be rephrased to:
Upon request by the Dcm, via Dem_DcmGetAvailableOBDMIDs() the Dem shall compute and provide Supported-OBDMID information, i.e. the availability OBDMIDs.

Additionally SWS_Dcm_00957 should be rephrased to call Dem_DcmGetAvailableOBDMIDs() iteratively until no further availability OBD-MID is supported

Agreed solution:

Document ID 695: ChangeDocumentation

In DEM:

Rephrase the SWS_Dem_00760 to:

[SWS_Dem_00760] If Dem_DcmGetAvailableOBDMIDs is called with an "availablity Obdmid" value of 0x00, 0x20, 0x40, 0x60, 0x80, 0xA0, 0xC0 or 0xE0 and the Dem has configured DemDtrMid [ECUC_Dem_00809], the Dem shall compute and provide the Supported-OBDMID information in the OUT parameter Obdmidvalue and return E_OK. The computed Obdmids parameter is according to ISO-15031-5 and sets a bit for each supported Obdmid in the request range (starting with Obdmid+1) and having the last bit of the Obdmidvalue set, if any subsequent range has configured Obdmids.

After SWS_Dem_00760 add new requirement :

SWS_Dem_00xxx : If Dem_DcmGetAvailableOBDMIDs is called with an invalid Obdmid value, the Dem shall report the Det development error

DEM_E_INVALID_OBDMID.(SRS_DIAG_04082)

Update the table SWS_Dem_00173 with

Type or error:Dem_DcmGetAvailableOBDMIDs called with invalid OBDMID Relevance: Development Related error: DEM_E_INVALID_OBDMID code Value: 0x50 [hex]

Remove in [SWS_Dem_00766] the return value E_NOT_OK: Report of DTR result failed.

In DCM:

Change [SWS_Dcm_00957] to

On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability OBDMID (00, 20, ...)" contained within the request and concatenate the results within the response message according to ISO-15031-5.

–Last change on issue 77870 comment 11–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.202 Specification Item SWS_Dem_00762

Trace References:

SRS_Diag_04082

Content:

Upon request by the Dcm, the Dem shall respond with the data available for a particular OBDMID / TID-index per requested OBDMID using the API Dem_DcmGetDTRData. This value can be used by the Dcm to iteratively request for the DTR data per OBDMID / TID-index starting from 0 to number-of-TIDs minus one.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.203   Specification Item SWS_Dem_00764

Trace References:

SRS_Diag_04082

Content:

If no Event is assigned per DTR, the Dem shall reset the DTR data upon a Service$04 clear command by the Dcm, i.e. a Dem_ClearDTC with:

Dem_DcmClearDTC.DTC = DEM_DTC_GROUP_ALL_DTCS

Dem_DcmClearDTC.DTCFormat = Dem_DTCFormatType.DEM_DTC_FORMAT_OBD

Dem_DcmClearDTC.DTCOrigin = Dem_DTCOriginType.DEM_DTC_ORIGIN_PRIMARY_MEMORY

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.

This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.204 Specification Item SWS_Dem_00765

Trace References:

SRS_Diag_04030 04181

Content:

Service name:	Dem_SetDTRDem_SetDTR	
Syntax:	Std_ReturnType Dem_SetDTR(uint16 DTRId, sint32 TestResult, sint32 LowerLimit, sint32 UpperLimit, Dem_DTRControlType Ctrlval)	
Service ID[hex]:	0xa2	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant for different DTRIds. Non reentrant for the same DTRId.	
Parameters (in):	DTRIdDem_SetDTR.DTRId	Identification of a DTR element by assigned DTRId.
	TestResultDem_SetDTR.TestResult	Test result of DTR
	LowerLimitDem_SetDTR.LowerLimit	Lower limit of DTR
	UpperLimitDem_SetDTR.UpperLimit	Upper limit of DTR
	CtrlvalDem_SetDTR.Ctrlval	Control value of the DTR to support its interpretation Dem-internally.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: Report of DTR result successful E_NOT_OK: Report of DTR result failed

Description:	Reports a DTR result with lower and upper limit. The internal eventstatus serves as master whether the DTR values are forwarded or ignored, also taking the DTRUpdateKind into account. The EventId that is related to the DTR is assigned per configuration (and derived from ServiceNeeds). Processing takes enable/storage conditions into account. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77941: [Dem] DTR handling

Problem description:

1) [SWS_Dem_00754] The Dem shall use the DemDtrUpdateKind for the evaluation and processing of reported DTR-values, i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state
-> the second part starting with "i.e. DTRs are ..." in the above requirement is misleading and should be removed.

2) DemDtrUpdateKind in description already mentions the default value. This should be made explicit.

3) DemDtrUasid is defined as post-build modifiable. However, if the UASID is changed, then it would generally be necessary to also change the coefficients of conversion. But those parameters are not postbuild.

4) The following requirement is unclear concerning consideration of storage-conditoin and enablecondition:
[SWS_Dem_00757] Based on DemDtrUpdateKind and the status of the associated event (taking enable/storage conditions into account), the Dem shall either process or ignore the reported DTR values.

5) SWS_Dem_00765 mentions that the API Dem_SetDTR() is reentrant
-> it should only be reentrant for different dtrids

Agreed solution:

1) in [SWS_Dem_00754] remove the following text:
"i.e. DTRs are only forwarded to the Dcm, if the related event (if it is configured) has a certain state"

2) in DemDtrUpdateKind [ECUC_Dem_00812]:
change description to "Update conditions applied by the Dem to reports of DTR values. Only supported if a related Event is configured".

Add default value "DEM_DTR_UPDATE_ALWAYS"
Set multiplicity to 1.

4) change [SWS_Dem_00757] to:
If DemDtrEventRef references a DemEventParameter, the Dem shall process the reported DTR values only if all the enable/storage conditions of the referenced event are fulfilled, independent of DemDtrUpdateKind. If any of the enable/storage conditions of the referenced event are not fulfilled, then the Dem shall ignore the reported DTR values.

5) in SWS_Dem_00765 (Dem_SetDTR) change Reentrancy to: "Reentrant for different DTRIds. Non reentrant for the same DTRId.
–Last change on issue 77941 comment 4–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to
    https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.205   Specification Item SWS_Dem_00766

Trace References:

SRS_Diag_04082

Content:

Service name:	Dem_DcmGetAvailableOBDMIDsDem_DcmGetAvailableOBDMIDs

Document ID 695: ChangeDocumentation

Syntax:	Std_ReturnType Dem_DcmGetAvailableOBDMIDs(uint8 Obdmid, uint32* Obdmidvalue)	
Service ID[hex]:	0xa3	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	ObdmidDem_DcmGetAvailable OBDMIDs.Obdmid	Availablity OBDMID ($00,$20, $40...)
Parameters (inout):	None	
Parameters (out):	ObdmidvalueDem_DcmGetAvailable OBDMIDs.Obdmidvalue	Bit coded information on the support of OBDMIDs.
Return value:	Std_ReturnType	E_OK: Report of DTR result successful E_NOT_OK: Report of DTR result failed
Description:	Reports the value of a requested "availability-OBDMID" to the DCM upon a Service $06 request. Derived from that the tester displays the supported tests a mechanic can select from. API is needed in OBD-relevant ECUs only. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemOBDSupport)} != DEM_OBD_NO_OBD_SUPPORT)	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77870: [Dem / Dcm] ReDesign Dem/Dcm interface of AR4.3: issue with Dem_DcmGetAvailableOBDMIDs()

  Problem description:

  [SWS_Dem_00760] d Upon request by the Dcm, the Dem shall compute Supported-OBDMID information, i.e. the availability OBDMIDs. Since the Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. c()

  Since Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. But there is no matching requirement in the Dcm spec.

  Refer to Dcm requirement below

  [SWS_Dcm_00957] d On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability
  OBDMID (00, 20, ...)" contained within the request and concatenate the results

within the response message. c()

Moreover Dcm expects to get supported OBDMIDs by calling Dem_DcmGetAvailableOBDMIDs, but in Dem spec it is only said to compute, not provide, OBD MID information.

SWS_Dem_00760 should be rephrased to:
Upon request by the Dcm, via Dem_DcmGetAvailableOBDMIDs() the Dem shall compute and provide Supported-OBDMID information, i.e. the availability OBDMIDs.

Additionally SWS_Dcm_00957 should be rephrased to call Dem_DcmGetAvailableOBDMIDs() iteratively until no further availability OBD-MID is supported

Agreed solution:

In DEM:
Rephrase the SWS_Dem_00760 to:
[SWS_Dem_00760] If Dem_DcmGetAvailableOBDMIDs is called with an "availablity Obdmid" value of 0x00, 0x20, 0x40, 0x60, 0x80, 0xA0, 0xC0 or 0xE0 and the Dem has configured DemDtrMid [ECUC_Dem_00809], the Dem shall compute and provide the Supported-OBDMID information in the OUT parameter Obdmidvalue and return E_OK. The computed Obdmids parameter is according to ISO-15031-5 and sets a bit for each supported Obdmid in the request range (starting with Obdmid+1) and having the last bit of the Obdmidvalue set, if any subsequent range has configured Obdmids.

After SWS_Dem_00760 add new requirement :
SWS_Dem_00xxx : If Dem_DcmGetAvailableOBDMIDs is called with an invalid Obdmid value, the Dem shall report the Det development error
DEM_E_INVALID_OBDMID.(SRS_DIAG_04082)

Update the table SWS_Dem_00173 with
Type or error:Dem_DcmGetAvailableOBDMIDs called with invalid OBDMID Relevance: Development Related error: DEM_E_INVALID_OBDMID code Value: 0x50 [hex]

Remove in [SWS_Dem_00766] the return value E_NOT_OK: Report of DTR result failed.

In DCM:
Change [SWS_Dcm_00957] to
On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs

by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability OBDMID (00, 20, ...)" contained within the request and concatenate the results within the response message according to ISO-15031-5.
–Last change on issue 77870 comment 11–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.206   Specification Item SWS_Dem_00773

Trace References:

SRS_Diag_04076 04178

Content:

In case the counter is available and started, it shall be incremented at the end of the referenced operation cycle (refer to DemEventParameter.DemOperationCycleRef).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.207   Specification Item SWS_Dem_00775

Trace References:

SRS_Diag_04074, SRS_Diag_04134 04190

Content:

If the counter 'Cycles since first failed' is mapped to an extended data record (DemInternal DataElementClass.DemInternalDataElement set to DemInternalDataElementClass.Dem InternalDataElement.DEM_CYCLES_SINCE_FIRST_FAILED), it shall be available per 'event related data' record.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

   Agreed solution:

   Adapt the references in Dcm and Dem according to
   https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

   BW-C-Level:

Application	Specification	Bus
1	1	1

1.208   Specification Item SWS_Dem_00779

Trace References:

SRS_Diag_04068, SRS_Diag_0410404189, SRS_Diag_04134 04190

Content:

If the counter 'Failed cycles' is mapped to an extended data record (DemInternalDataElementClass.DemInternalDataElement set to DemInternalDataElementClass.DemInternalDataElement.DEM_FAILED_CYCLES), it shall be available per 'event related data' record.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

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Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.209   Specification Item SWS_Dem_00787

Trace References:

SRS_Diag_04070 04195

Content:

If an 'stored event' gets re-qualified as failed (UDS status bit 0 changes from 0 to 1) and a respective event memory entry exists, the Dem module shall update the chronological order of the event storage by setting the particular event as most recent event memory entry.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.210   Specification Item SWS_Dem_00817

Trace References:

SRS_Diag_04127, SRS_Diag_04134 04190

Content:

Internal data elements (refer to DemInternalDataElementClass) shall not be stored, but the current value shall be used instead.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.211   Specification Item SWS_Dem_00818

Trace References:

SRS_Diag_04068, SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternal DataElement is set to DemInternalDataElementClass.DemInternalDataElement.DEM_MAX_FDC_SINCE_LAST_CLEAR, then the Dem-internal value of the maximum Fault Detection Counter sincle last clear (refer to chapter [REF subsub_3a_FaultDetectionCounterReporting]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77608: [Dem] Check clear parameters according ISO

Problem description:

taken from comment 13 of RFC # 76727

Statement from Carl-Eike:
"as I understood, the timing chart for clearing given in the ISO has some strong requirements on evaluation order. Wouldn't those be violated, if a clear fails due to a wrong DTC at a later step? It's well possible that it doesn't matter

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much or at all, but as it seems it was the reason to introduce GetSelectionResult for use in the clear processing.

I've noticed something else reading the SWS. Why are so many requirements starting with "The API Dem_Xyz shall"? The API is the set of everything needed by the application to use the Dem (say, # defines, typedefs, functions, ...). Dem_Xyz on the other hand is simply a function - part of the API, but surely not "the API". This is evident especially for those functions that only make any sense when used in combination. Could the "The API " part be removed from all the requirements?"

Conclusion:
currently the Dem_GetDTCSelectionResult function cannot consider the restriction of DemClearDTCLimitation [ECUC_Dem_00790]. Therefore getDTCSelectionResult does not correctly indicate, whether a later clear-request will succeed. This is required for proper ISO handling.

Agreed solution:

Add a new API Dem_GetDTCSelectionResultForClearDTC
Syntax: Std_ReturnType Dem_GetDTCSelectionResultForClearDTC(
uint8 ClientId
)
Service ID[hex]:
Sync/Async: Asynchronous
Reentrancy: Reentrant for different ClientIds, non reentrant for the same ClientId.
Parameters (in): ClientId Unique client id, assigned to the instance of the calling module.
Parameters (inout): None
Parameters (out): None
Return value: Std_ReturnType E_OK: The DTC select parameter check is successful and the requested DTC or group of DTC in the selected origin is selected for further operations.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a single DTC was selected and Dem only supports to Clear all DTCs
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist
DEM_PENDING: Checking the SelectDTC parameters is currently in progress. The caller shall call this function again later.

Add requirement bellow requirement SWS_Dem_1258
SWS_Dem_xxxxx :
The API Dem_GetDTCSelectionResultForClearDTC shall behave exactly as Dem_GetDTCSelectionResult with the only difference that, DEM_WRONG_DTC is returned in case of a single DTC was selected but the Dem is configured to delete

only all DTCs for that client.
–Last change on issue 77608 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.212   Specification Item SWS_Dem_00819

Trace References:

SRS_Diag_04127, SRS_Diag_04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement is set to DEM_MAX_FDC_DURING_CURRENT_CYCLE, then the Dem-internal value of the maximum Fault Detection Counter during current operation cycle (refer to chapter [REF subsub_3a_FaultDetectionCounterReporting]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.213   Specification Item SWS_Dem_00820

Trace References:

SRS_Diag_04127, SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternal
DataElement is set to DemInternalDataElementClass.DemInternalDataEle-
ment.DEM_CYCLES_SINCE_LAST_FAILED, then the Dem-internal value of the
operation cycle counter since last failed (refer to chapter [REF subsub_3a_CyclesSince
LastFailed]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.214   Specification Item SWS_Dem_00821

Trace References:

SRS_Diag_0410404189, SRS_Diag_04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternal
DataElement is set to DemInternalDataElementClass.DemInternalDataEle-
ment.DEM_CYCLES_SINCE_FIRST_FAILED, then the Dem-internal value of the
operation cycle counter since first failed (refer to chapter [REF subsub_3a_CylesSince
FirstFailed]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
  existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
  missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no
  added value. So, an example shall show what is to do to clean up the DEM and
  DCM.

Document ID 695: ChangeDocumentation

Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.215   Specification Item SWS_Dem_00822

Trace References:

SRS_Diag_04079, SRS_Diag_04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement is set to DemInternalDataElementClass.DemInternalDataElement.DEM_FAILED_CYCLES, then the Dem-internal value of the failed operation cycle counter (refer to chapter [REF subsub_3a_FailedCycles]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

Document ID 695: ChangeDocumentation

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.216   Specification Item SWS_Dem_00823

Trace References:

SRS_Diag_04096 04067

Content:

If configuration parameter DemGeneral.DemResetConfirmedBitOnOverflow is set to false and in case an event has UDS status bit 3 set and gets qualified as passed and is not stored in an event memory entry the Dem module shall try to allocate an event memory entry to get an aging counter.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.

Document ID 695: ChangeDocumentation

There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.217   Specification Item SWS_Dem_00826

Trace References:

SRS_Diag_ 04076 04178

Content:

If the configuration parameter DemGeneral.DemAgingRequiresTestedCycle is set to True, the Dem module shall process (count further) the aging cycle counter value, if the respective aging cycle ends/restarts and the UDS status bit 6 is set to zero.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

Document ID 695: ChangeDocumentation

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.218   Specification Item SWS_Dem_00830

Trace References:

Content:

If the UDS status changed by clearing the event memory Dcm_DemTriggerOnDTCStatus shall not be called.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #70300: [Dem] remove SWS_Dem_00830 and Dem_DcmControlDTCStatusChangedNotification

  Problem description:

  The specifications covering avoidance of DTCStatusChange notifications to DCM are unclear.

  Simone pointed me to the following rfc, which introduced the functionality:
  https://www.autosar.org/bugzilla/show_bug.cgi?id=51077

  Still i did not see any reason of the above mentioned functionality.

  Therefore i propose to remove it.

  Rational:
  - excluding the clear from status change notifications results in an incontinuous list of status changes reported to DCM.
  - excluding status changes from roe can be managed within DCM. there is no need to bother the dem.
  - the approach makes the behavior of dtcStatusChange inconsistent to dcmDtc-StatuChange

Document ID 695: ChangeDocumentation

Agreed solution:

Remove SWS_Dem_00830
–Last change on issue 70300 comment 26–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.219   Specification Item SWS_Dem_00838

Trace References:

SRS_Diag_04128

Content:

Name	EventStatusEventStatus	
Comment	Provides the capability modify the event status. One port of this interface type is provided per application-related diagnostic event by the Dem Service Component. It has EventId as a port-defined argument.	
IsService	true	
Variation	–	
Possible Errors	0	E_OK
	1	E_NOT_OK

Operations:

SetWIRStatusEventStatus.SetWIRStatus			
Comments	–		
Variation	–		
Parameters	WIRStatusEventStatus.SetWIRStatus.WIRStatus	Comment	–
		Type	boolean
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successfulRequest to set the WIR status was successful.	
	E_NOT_OK	Request to set the WIR status was not accepted (e.g. disabled controlDTCSetting) and should be repeated.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Document ID 695: ChangeDocumentation

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:
E_OK: Request to set the WIR status was successful.
E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to
The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in

time. c(SRS_Diag_04067)
Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]
SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit
SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.
–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.220   Specification Item SWS_Dem_00839

Trace References:

Content:

Service name:	Dem_SetWIRStatusDem_SetWIRStatus
Syntax:	Std_ReturnType Dem_SetWIRStatus(Dem_EventIdType EventId, boolean WIRStatus)
Service ID[hex]:	0x7a
Sync/Async:	Synchronous Asynchronous
Reentrancy:	Reentrant for different EventIds. Non reentrant for the same EventId.

Parameters (in):	EventIdDem_SetWIRStatus.EventId	Identification of an event by assigned EventId. The Event Number is configured in the DEM. Min.: 1 (0: Indication of no Event or Failure) Max.:Result of configuration of Event Numbers in DEM (Max is either 255 or 65535)
	WIRStatusDem_Set WIRStatus.WIRStatus	Requested status of event related WIR-bit (regarding to the current status of function inhibition) WIRStatus = TRUE -> WIR-bit shall be set to "1" WIRStatus = FALSE -> WIR-bit shall be set to "0"
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: The request is accepted Request to set the WIR status was successful. E_NOT_OK: not be Request to set the WIR status was not accepted (e.g. disabled controlDTCSetting) and should be repeated.
Description:	Sets the WIR status bit via failsafe SW-Cs. This API can only be used through the RTE and therefore no declaration is exported via Dem.h.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839

asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:
E_OK: Request to set the WIR status was successful.
E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to
The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time. c(SRS_Diag_04067)
Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]
SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit
SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.
–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

Document ID 695: ChangeDocumentation

● RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.221 Specification Item SWS_Dem_00850

Trace References:

SRS_Diag_04030, SRS_Rte_00182 04181

Content:

Name	DataServices_{Data}DataServices_{Data}
Comment	–
IsService	false
Variation	({ecuc(Dem/DemGeneral/DemDataElementClass)} instanceof {ecuc(Dem/DemGeneral/DemDataElementClass/DemExternalSRDataElementClass)}) Data = {ecuc(Dem/DemGeneral/DemDataElementClass.SHORT-NAME)}

Name	DataServices_{Data}DataServices_{Data}	
Data Elements	dataDataServices_{Data}.data	
	Type	boolean
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == BOOLEAN
	dataDataServices_{Data}.data	
	Type	sint8
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == SINT8
	dataDataServices_{Data}.data	
	Type	sint16
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == SINT16
	dataDataServices_{Data}.data	
	Type	sint32
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == SINT32
	dataDataServices_{Data}.data	
	Type	uint32
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == UINT32
	dataDataServices_{Data}.data	
	Type	uint8
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == UINT8
	dataDataServices_{Data}.data	
	Type	uint16
	Variation	{ecuc(Dem/DemGeneral/DemDataElementClass/DemExternal SRDataElementClass/DemDataElementDataType)} == UINT16

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.222   Specification Item SWS_Dem_00853

Trace References:

SRS_Diag_04076 04178

Content:

For all operation cycles with DemOperationCycle.DemOperationCycleAutostart set to true Dem_Init shall start the operation cycle (identical to Dem_SetOperationCycleState is called with parameter Dem_OperationCycleStateType.DEM_CYCLE_STATE_START) with the exception of executing all callbacks resulting from UDS status byte changes.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.223   Specification Item SWS_Dem_00854

Trace References:

SRS_Diag_04076 04178

Content:

Document ID 695: ChangeDocumentation

The operation cycle state shall be evaluated, when processing the events from the queue. If the operation cycle related to that event is started, the event shall be processed regularly (similar to Dem_SetEventStatus). Otherwise in case the operation cycle is not started the event shall be dropped and the debounce counter shall be reset to zero.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

   Agreed solution:

   Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

   BW-C-Level:

Application	Specification	Bus
1	1	1

1.224   Specification Item SWS_Dem_00874

Trace References:

SRS_Diag_04112

Content:

The function Dem_J1939DcmGetNumberOfFilteredDTC shall return the number of J1939 DTCs matching the defined filter criteria of Table 4 for the corresponding primary event memory of the requested ClientId by the function call of Dem_J1939DcmSetDTCFilter.

- In case the function has calculated the total number of matching DTCs, the return value shall be Dem_ReturnGetNumberOfFilteredDTCType.DEM_NUMBER_E_OK.

- In case the search needs to be interrupted due to internal implementations or limitations, the return value can be set to Dem_ReturnGetNumberOfFilteredDTC-Type.DEM_NUMBERDEM_PENDING. The out parameter needs not to be valid in this case. The next call of Dem_J1939DcmGetNumberOfFilteredDTC should continue after the interrupted element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

Document ID 695: ChangeDocumentation

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected

DTC"

If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):

SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.225 Specification Item SWS_Dem_00915

Trace References:

SRS_Diag_ 04154 04126

Content:

The Dem shall suppress a DTC if all related events of this DTC are not available (refer to chapter [REF sub_3a_Availability_20_of_20_events])

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.226   Specification Item SWS_Dem_00920

Trace References:

SRS_Diag_04074, SRS_Com_02041

Content:

The Dem shall extend the endianness conversion defined in OSEKISO_2d_COM 17356_2d_3 Chapter 2.4 to signed data types.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

  Problem description:

  The OSEK web site is not available.
  References need to be updated.

  OSEK was pushed to ISO 17356
  ISO 17356-2: introduction?
  ISO 17356-3: OS
  ISO 17356-4: COM
  ISO 17356-5: NM (not sure we need to have such reference)
  ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version
with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

======

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable
schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter
This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter
The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter
According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter
According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task

(that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

============
Dem
============
Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

============
Dcm
============
Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

============
EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:
ISO 17356-4
OSEK/VDX Communication (COM)
www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

============
SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files
Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked

for being already defined:
/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for
being already defined
/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove
6.2.1 OSEK
[STD_OSEK_OS] OSEK/VDX Operating System Specification
http://www.osek-vdx.org

Replace with ISO 17356-3 norm

============
SRS_COM

1)
Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an
own wording and glossary b) the references to (old) OSEK-terms most probably
create more confusion than guidance

2)
Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM
Move refernce to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)
Remove secton references to [DOC_OSEK_COM], just keep the textual references
no numbers

4)
Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)
[SRS_Com_02084]: Change following text in Description,
from
< The possibilities to define those conditions shall be the same as defined in
[DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section

2.2.2).
to
> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)
[SRS_Com_02058]: Change following text in Supporting Material,
from
< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).
to
> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

============
SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, http://www.osek-vdx.org/mirror/os223.pdf"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, http://www.osek-vdx.org/mirror/oil25.pdf"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, http://www.osek-vdx.org/mirror/ttos10.pdf"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, http://www.osek-vdx.org/mirror/ORTI-A-211.pdf"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

============
SWS_COM

1)
Set reference of [17] to ISO 17356-4: COM
Set reference of [18] to ISO 17356-6: OIL

2)
Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM
or [17] (if suitable)
and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

============
SWS_StandardTypes:
In Section 3.2: replace
[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by
[7] OSEK/VDX Operating System, ISO 17356-3: OS
============
CP_TR_AutosarModelConstraints
see PS for the SWCT.
============

===
SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"
Remove the description:
[5] [STD_OSEK_NM]
OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3
[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3
http://www.osek-vdx.org/
Change to :
OSEK/VDX NM Specification
www.iso.org
===>
7.2.1 ISO 17356-5
[5] ISO 17356-5: NM Specification
www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]
–Last change on issue 73564 comment 28–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.227 Specification Item SWS_Dem_00952

Trace References:

SRS_Diag_04067

Content:

Name:	Dem_ReturnGetStatusOfDTCTypeDem_ReturnGetStatusOfDTCType		
Type:	uint8		
Range:	DEM_STATUS_OKDem_Return GetStatusOf DTCType.DEM_STATUS_OK	0x00	Status of DTC is OK
	DEM_STATUS_WRONG_DTCDem_Return GetStatusOfDTC- Type.DEM_STATUS_WRONG_DTC	0x01	DTC value not existing (in this format)
	DEM_STATUS_WRONG_DTCORIGINDem_Return GetStatusOfDTC- Type.DEM_STATUS_WRONG_DTCORIGIN	0x02	Wrong DTC origin
	DEM_STATUS_FAILEDDem_Return GetStatusOfDTC- Type.DEM_STATUS_FAILED	0x03	DTC failed
	DEM_STATUS_PENDINGDem_Return GetStatusOfDTC- Type.DEM_STATUS_PENDING	0x04	The requested value is calculated asynchronously and currently not available. The caller can retry later.
Description:	Used to return the status of Dem_DcmGetStatusOfDTC.		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76947: Dem_ReturnGetStatusOfDTCType is no longer used

Problem description:

Dem_ReturnGetStatusOfDTCType [SWS_Dem_00952] is no longer used as it was replaced by Std_ReturnType within RfC# 71838.

SWS_Dem_01100 still shows the wrong return types.

Agreed solution:

Remove Dem_ReturnGetStatusOfDTCType [SWS_Dem_00952]

Change in SWS_Dem_01100 all return types to DEM_WRONG_DTC. For better

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readability rephrase the requirement to:

[SWS_Dem_01100] "Behavior of DTC query functions for suppressed DTCs" - In case any of the following APIs is called
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_SelectFreezeFrameData
Dem_SelectExtendedDataRecord
Dem_ClearDTC
on a single selected DTC which is suppressed, the Dem shall return DEM_WRONG_DTC.
(SRS_Diag_04154)

BW-C-Level:

Application	Specification	Bus
1	1	1

1.228   Specification Item SWS_Dem_00953

Trace References:

Content:

Name:	Dem_ReturnGetSeverityOfDTCType (obsolete)Dem_ReturnGetSeverityOfDTCType (obsolete)		
Type:	uint8		
Range:	DEM_GET_SEVERITYOFDTC_OKDem_Return GetSeverityOfDTC-Type.DEM_GET_SEVERITYOFDTC_OK	0x00	Severity successfully returned.
	DEM_GET_SEVERITYOFDTC_WRONG_DTCDem_Return GetSeverityOfDTC-Type.DEM_GET_SEVERITYOFDTC_WRONG_DTC	0x01	DTC value not existing (in UDS format)
	DEM_GET_SEVERITYOFDTC_NOSEVERITYDem_Return GetSeverityOfDTC-Type.DEM_GET_SEVERITYOFDTC_NOSEVERITY	0x02	Severity information is not available
	DEM_GET_SEVERITYOFDTC_PENDINGDem_Return GetSeverityOfDTC-Type.DEM_GET_SEVERITYOFDTC_PENDING	0x03	The requested value is calculated asynchronously and currently not available. The caller can retry later.
Description:	Used to return the status of Dem_DcmGetSeverityOfDTC. Tags: atp.Status=obsolete		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

    Problem description:

    With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

    1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
    Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

    2) Make
    * Dem_ResetEventStatus SWS_Dem_00185
    * Dem_SetEventAvailable SWS_Dem_01080
    * Dem_SetWIRStatus SWS_Dem_00839
    asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

    3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
    a) Dem_Select(DTC1)
    Dem_Select(DTC2)
    Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

    b) Dem_Select(DTC1)
    Dem_ClearDTC()
    Dem_GetStatusOfDTC() -> is this call valid? what is returned?

    Agreed solution:

    3)
    a) Add DEM_BUSY as further return value to:
    Dem_SelectDTC (SWS_Dem_91016)

    Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

    Add new requirement below SWS_Dem_01253:
    SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous

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operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)

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[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"

SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"

SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"

SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected

–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.229   Specification Item SWS_Dem_00954

Trace References:

SRS_Diag_04156

Content:

Name:	Dem_ReturnGetFunctionalUnitOfDTCType (obsolete)Dem_ReturnGetFunctionalUnitOf DTCType (obsolete)	
Type:	uint8	
Range:	DEM_GET_FUNCTIONALUNITOFDTC_OKDem_Return GetFunctionalUnitOfDTC-Type.DEM_GET_FUNCTIONALUNITOFDTC_OK	Functional unit successfully returned.
	DEM_GET_FUNCTIONALUNITOFDTC_WRONG_DTCDem_Return GetFunctionalUnitOfDTC-Type.DEM_GET_FUNCTIONALUNITOFDTC_WRONG_DTC	DTC value not existing (in UDS format)
Description:	Used to return the status of Dem_DcmGetFunctionalUnitOfDTC. Tags: atp.Status=obsolete	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

Problem description:

With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:

SWS_Dem_xxxx1_1:

The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:

SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

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5)

replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)

Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"

SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"

SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"

SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected

–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.230   Specification Item SWS_Dem_00956

Trace References:

Content:

Name:	Dem_ReturnGetNumberOfFilteredDTCType (obsolete)Dem_ReturnGetNumberOfFiltered DTCType (obsolete)		
Type:	uint8		
Range:	DEM_NUMBER_OKDem_Return GetNumberOfFilteredDTC-Type.DEM_NUMBER_OK	0x00	Getting number of filtered DTCs was successful.
	DEM_NUMBER_FAILEDDem_Return GetNumberOfFilteredDTC-Type.DEM_NUMBER_FAILED	0x01	Getting number of filtered DTCs failed.
	DEM_NUMBER_PENDINGDem_Return GetNumberOfFilteredDTC-Type.DEM_NUMBER_PENDING	0x02	The requested value is calculated asynchronously and currently not available. The caller can retry later.
Description:	Used to return the status of Dem_DcmGetNumberOfFilteredDTC. Tags: atp.Status=obsolete		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

Problem description:

With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

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Add new requirement below SWS_Dem_01253:

SWS_Dem_xxxx1_1:

The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:

SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

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5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"

SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"

SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"

SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected

–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.231 Specification Item SWS_Dem_00958

Trace References:

SRS_Diag_04072

Content:

Name:	Dem_ReturnGetDTCByOccurrenceTimeTypeDem_ReturnGetDTCByOccurrenceTimeType		
Type:	uint8		
Range:	DEM_OCCURR_OKDem_ReturnGetDTCByOccurrenceTimeType.DEM_OCCURR_OK	0x00	matching DTC available
	DEM_OCCURR_NOT_AVAILABLEDem_ReturnGetDTCByOccurrenceTimeType.DEM_OCCURR_NOT_AVAILABLE	0x04	no DTC is matching the requested occurrence time
Description:	Used to return the status of Dem_DcmGetDTCByOccurrenceTime.		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76861: Wrong return values of Dem_GetDTCByOccurrenceTime [SWS_Dem_00218]

Problem description:

Dem_GetDTCByOccurrenceTime [SWS_Dem_00218] provides the return value: DEM_NO_SUCH_ELEMENT: Request is not supported by configuration and therefore invalid

which is wrong. It is a valid situation that no DTC is stored in the fault memory and this has nothing to do with configuration.
–Last change on issue 76861 comment 2–

Agreed solution:

1) Change return value description for DEM_NO_SUCH_ELEMENT of SWS_Dem_00218 to:
DEM_NO_SUCH_ELEMENT: The requested element is not stored

2) Change [SWS_Dem_00221] to:
The function Dem_GetDTCByOccurrenceTime shall return DEM_NO_SUCH_ELEMENT, if no DTC is matching the requested occurrence time in the parameter DTCRequest. (SRS_Diag_04070)

3) Change [SWS_Dcm_00766] to:
If the Dcm received DEM_NO_SUCH_ELEMENT by calling Dem_GetDTCByOccurrenceTime it shall response with a positive response and empty DTCAndStatusRecord. (SRS_Diag_04010)

4) remove req. [SWS_Dem_00958] as the type Dem_ReturnGetDTCByOccurrenceTimeType is not used anywhere
–Last change on issue 76861 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.232   Specification Item SWS_Dem_00966

Trace References:

SRS_Diag_04082

Content:

The Dem shall provide an API Dem_GetIUMPRDenCondition to give a software component the possibility to get the General Denominator status information.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
    There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"
    2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
    3) clean up the traceability of the detected requirement under 1) for example:
    SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
    –Last change on issue 78539 comment 6–

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.233 Specification Item SWS_Dem_00968

Trace References:

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SRS_Diag_04076 04178

Content:

The healing / aging for each event shall to be performed individually.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.234   Specification Item SWS_Dem_00969

Trace References:

SRS_Diag_04074

Content:

The A pre-stored freeze frame shall be released after the data event it has been stored (event retention was successfull) or discarded(event retention failed)in the event memory or discarded.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76602: [Dem] req SWS_Dem_00969 is not very clear

  Problem description:

  rephrase 969:
  from:
  The pre-stored freeze frame shall be released after the data
  event has been stored (event retention was successfull) or discarded (event reten-

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tion
failed).

to:
The pre-stored freeze frame location shall be released after the data event has been stored in the event memory (event retention was successfull) or discarded (e.g. clear prestored freeze frame or storage to event memory was triggered but failed).

Agreed solution:

change SWS_Dem_00969 to:
A pre-stored freeze frame shall be released after it has been stored in the event memory or discarded .

Put a note below SWS_Dem_00969
Note : A pre-stored freeze frame is considered to be stored if event retention is successful. A pre-stored freeze frame is discarded if the event retention failed;
–Last change on issue 76602 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.235   Specification Item SWS_Dem_00976

Trace References:

SRS_Diag_04112

Content:

Service name:	Dem_J1939DcmClearDTCDem_J1939DcmClearDTC
Syntax:	Std_ReturnType Dem_J1939DcmClearDTC(Dem_J1939DcmSetClearFilterType DTCTypeFilter, Dem_DTCOriginType DTCOrigin, uint8 ClientId)
Service ID[hex]:	0x95
Sync/Async:	Asynchronous
Reentrancy:	Re-entrant for different ClientIDs, Non re-entrant for same ClientId.

Parameters (in):	DTCTypeFilterDem_J1939DcmClear DTC.DTCTypeFilter	Defines the type of DTCs to be cleared.
	DTCOriginDem_J1939DcmClear DTC.DTCOrigin	This parameter is used to select the source memory the DTCs shall be read/cleared from.
	ClientIdDem_J1939DcmClear DTC.ClientId	ClientId to address the J1939 event memory
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: DTC successfully cleared DEM_WRONG_DTC: Selected DTC value in selected format does not exist or clearing is restricted by configuration to group of all DTCs only. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_CLEAR_FAILED: DTC clearing failed DEM_CLEAR_BUSY: Another client is currently clearing DTCs. The requested operation will not be started and the caller shall try again at a later moment. DEM_CLEAR_MEMORY_ERROR: An error occurred during erasing a memory location (e.g. if DemClearDTCBehavior is set to DEM_CLRRESP_NON-VOLATILE_FINISH and erasing of non-volatile-block failed). DEM_PENDING: Clearing the DTCs is currently in progress. The caller shall call this function again at a later moment.
Description:	Clears active DTCs the status of all event(s) related to the specified DTC(s), as well as previously active DTCsall associated event memory entries for these event(s).	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #77466: [Dem] J1939DcmClearDTC

Problem description:

For J1939Dcm related interfaces, the parameter clientId was introduced in 4.3

1) the function name Dem_J1939DcmClearDTC does no longer make sense (i mean keeping DCM in, while the clientId is added as parameter).

2) all the J1939 related interface functions are extended by the clientId, but the extention was done in a totally inconsistent way:
In contrast to all the "normal" client-related API's the clientID parameter is added to the end of the functions parameter list (instead of the beginning):

Example:

Std_ReturnType Dem_J1939DcmGetNumberOfFilteredDTC(uint16* NumberOfFilteredDTC, uint8 ClientId)

Furthermore in at least one place, the clientId is added somewhere in the middle:

Example:

Std_ReturnType Dem_J1939DcmSetDTCFilter(
Dem_J1939DcmDTCStatusFilterType DTCStatusFilter,
Dem_DTCKindType DTCKind,
Dem_DTCOriginType DTCOrigin,
uint8 ClientId,
Dem_J1939DcmLampStatusType* LampStatus
)

3) in J1939DCM spec the following api is described: void J1939Dcm_DemTriggerOnDTCStatus(uint32 DTC, uint8 ClientId)
this does not match to DEM which passes along the dtc and statusold/statusnew.
–Last change on issue 77466 comment 4–

Agreed solution:

SWS_Dem_00976:
1) New description : clear the status of all event(s) related to the specified DTC(s), as well as all associated event memory entries for these event(s).
–Last change on issue 77466 comment 11–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.236 Specification Item SWS_Dem_00984

Trace References:

SRS_Diag_04134 04190

Content:

If the counter 'Cycles since last failed' is mapped to an extended data record (DemInternalDataElementClass.DemInternalDataElement set to DemInternalDataElementClass.Dem

InternalDataElement.DEM_CYCLES_SINCE_LAST_FAILED), it shall be available per 'event related data' record.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.237   Specification Item SWS_Dem_00985

Trace References:

SRS_Diag_04133, SRS_Diag_04068, SRS_Diag_04076 04178

Content:

The aging counter shall be calculated based on the referenced aging/operation cycle (refer to configuration parameter DemDTCAttributes.DemAgingCycleRef), if aging is enabled (refer to DemDTCAttributes.DemAgingAllowed) for this event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.238   Specification Item SWS_Dem_00992

Trace References:

SRS_Diag_04099 04202

Content:

The format of the data in the destination buffer (DestBuffer) of the function Dem_DltGet
MostRecentFreezeFrameRecordData is raw hexadecimal values and contains no header-
information like RecordNumber or DataId. The size of the buffer equals to the configura-
tion settings of all respective data elements.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of
   existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is
   missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no
   added value. So, an example shall show what is to do to clean up the DEM and
   DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
   There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were
   replaced or merged with the SRS_Diag harmonization.   If Dem and Dcm will be

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released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.239   Specification Item SWS_Dem_00993

Trace References:

SRS_Diag_ 04099 04202

Content:

The format of the data in the destination buffer (DestBuffer) of the function Dem_DltGetAll ExtendedDataRecords is raw hexadecimal values and contains no header information like RecordNumber. The size of the buffer equals to the configuration settings of all respective data elements.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no

added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.240   Specification Item SWS_Dem_00995

Trace References:

SRS_Diag_04074, SRS_Diag_04104 04189

Content:

If the interfaces Dem_GetEventFreezeFrameDataEx and Dem_GetEventExtendedData RecordEx are called in the context of GeneralCallbackEventDataChanged or Callback EventDataChanged, the data of the triggering event shall be retrievable (return value E_NOT_OK is not allowed).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.241   Specification Item SWS_Dem_00999

Trace References:

SRS_BSW_00005,   SRS_BSW_00161,   SRS_BSW_00162,   SRS_BSW_00164,
SRS_BSW_00168,   SRS_BSW_00170,   SRS_BSW_00327,   SRS_BSW_00331,

SRS_BSW_00341, SRS_BSW_00347, SRS_BSW_00348, SRS_BSW_00350, SRS_BSW_00353, SRS_BSW_00357, SRS_BSW_00359, SRS_BSW_00360, SRS_BSW_00361, SRS_BSW_00374, SRS_BSW_00375, SRS_BSW_00379, SRS_BSW_00433, SRS_Diag_04005, SRS_Diag_04006, SRS_Diag_04007, SRS_Diag_04015, SRS_Diag_04016, SRS_Diag_04019, SRS_Diag_04020, SRS_Diag_04021, SRS_Diag_04032, SRS_Diag_04033, SRS_Diag_04036, SRS_Diag_04059, SRS_Diag_04064, SRS_Diag_04086, SRS_Diag_04087, SRS_Diag_04089, SRS_Diag_04090, SRS_Diag_04091, SRS_Diag_04097, SRS_Diag_04098, SRS_Diag_04100, SRS_Diag_04101, SRS_Diag_04119, SRS_Diag_04120, SRS_Diag_04121, SRS_Diag_04135, SRS_Diag_04136, SRS_Diag_04138, SRS_Diag_04139, SRS_Diag_04143, SRS_Diag_04144, SRS_Diag_04145, SRS_Diag_04146

Content:

These requirements are not applicable to this specification.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.242   Specification Item SWS_Dem_01042

Trace References:

SRS_Diag_ 04130 04167

Content:

The Dem module shall release the locked clearing process as soon as the internal processing is finished and the Dem is able to process the next clear request.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.243 Specification Item SWS_Dem_01043

Trace References:

SRS_Diag_04134 04190

Content:

If DemDTCAttributes.DemAgingAllowed is set to 'false' the internal data element DemInternalDataElementClass.DemInternalDataElement.DEM_AGINGCTR_DOWNCNT shall be DemDTCAttributes.DemAgingCycleCounterThreshold if configured or '255'.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

    Problem description:

    After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

    Agreed solution:

    Adapt the references in Dcm and Dem according to
    https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

    BW-C-Level:

Application	Specification	Bus
1	1	1

1.244 Specification Item SWS_Dem_01044

Trace References:

SRS_Diag_04134 04190

Content:

If Dem DemDTCAttributes.DemAgingAllowed is set to 'false' the internal data element DemInternalDataElementClass.DemInternalDataElement.DEM_AGINGCTR_UPCNT shall be '0'.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.245 Specification Item SWS_Dem_01045

Trace References:

SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternalDataElement is set to DemInternalDataElementClass.DemInternalDataElement.DEM_CURRENT_FDC, then the fault detection counter (refer to chapter [REF sub_3a_DebouncingOfDiagnostic Events]) shall be mapped to the respective data element.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.246 Specification Item SWS_Dem_01047

Trace References:

Content:

Service name:	Dem_SetDTCSuppressionDem_SetDTCSuppression	
Syntax:	Std_ReturnType Dem_SetDTCSuppression(uint32 DTC, Dem_DTCFormatType DTCFormatuint8 ClientId, boolean SuppressionStatus)	
Service ID[hex]:	0x33	
Sync/Async:	Synchronous	
Reentrancy:	Non Reentrant	
Parameters (in):	DTCDem_SetDTCSuppression.DTC	Diagnostic Trouble Code
	DTCFormatClientIdDem_Set DTCSuppression.DTCFormat ClientId	Defines the input-format of the provided DTC valueUnique client id, assigned to the instance of the calling module.
SuppressionStatusDem_Set DTCSuppression.SuppressionStatus	This parameter specifies whether the respective DTC shall be disabled (TRUE) or enabled (FALSE).	
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK(Operation was successful), : The status of the DTC is correctly provided in the DTCStatus parameter. E_NOT_OK(operation failed or event entry for this DTC still exists) : No DTC selected. DEM_WRONG_DTC: Selected DTC value in selected format does not exist. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
Description:	Set the suppression status of a specific DTC. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemSuppressionSupport)} == DEM_DTC_SUPPRESSION)	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

• RfC #76511: Uniqueness of DTCs

Problem description:

1) DTC values are unique in a given DTCOrigin and DemEventMemorySet, but there is no requirement yet expressing this. Only the first sentence of chapter 7.4 mentions something like this (informative and incomplete).

2) Dem_SetDTCSuppression uses a DTC value as index to identify the DTC

to suppress. As DTCs are not unique among the different fault memories the API shall get extended by DTCOrigin and DemEventMemorySet.

Agreed solution:

1a) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx1: The DemDtcValue [ECUC_Dem_00887] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

1b) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx2: The DemDtcValue [ECUC_Dem_00885] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

2) Change API Dem_SetDTCSuppression [SWS_Dem_01047] to: Std_ReturnType Dem_SetDTCSuppression(uint8 ClientId, boolean SuppressionStatus)
Use ClientID description from existing APIs.
Do the same for the C/S DTCSuppression [SWS_Dem_00608] in operation Set-DTCSuppression.
Add Dem_SetDTCSuppression as further bullet point in: SWS_Dem_01253
–Last change on issue 76511 comment 13–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #77864: [Dem] ReDesign Dem/Dcm interface of AR4.3: issue with SWS_Dem_01261

Problem description:

Dem requirement according to AR for the interface Dem_SelectDTC():

[SWS_Dem_01261] API Behaviour on undefined DTC or format d If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a selected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API. c
(SRS_BSW_00369)

Concern: The text of this requirement can be interpreted in such a way that any call to the API with a group as an argument leads to DEM_WRONG_DTC as the return value.
Guess this requirement needs to be rewritten as:

[SWS_Dem_01261] API Behaviour on undefined DTC or format ⌊ If any of the

APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a selected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or a Single DTC but no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API.

Agreed solution:

Change [SWS_Dem_01261] to:
API Behaviour on undefined DTC or format | If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called while the selection with Dem_SelectDTC is invalid, then the Dem shall return DEM_WRONG_DTC on this API.
A selection is invalid in case the provided DTC-HexCode (parameter DTC) does not specify a valid DTC or GroupOfDTCs in the corresponding DTCFormat. The selection also is invalid, if Dem_SelectDTC was not called before.

Add return value DEM_WRONG_DTC and DEM_WRONG_DTCORIGIN to Dem_SetDTCSuppression [SWS_Dem_01047] and operation SetDTCSuppression from DTCSuppression [SWS_Dem_00608]. Use the same description as in SWS_Dem_00212.
–Last change on issue 77864 comment 4–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.247   Specification Item SWS_Dem_01078

Trace References:

SRS_Diag_04076 04178

Content:

If DemGeneral.DemOperationCycleStatusStorage is set to FALSE, a call of Dem_Shutdown shall end all operation cycles which are not stored in non-volatile memory.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.248   Specification Item SWS_Dem_01080

Trace References:

SRS_Diag_04126

Content:

Service name:	Dem_SetEventAvailableDem_SetEventAvailable	
Syntax:	Std_ReturnType Dem_SetEventAvailable(Dem_EventIdType EventId, boolean AvailableStatus)	
Service ID[hex]:	0x37	
Sync/Async:	Synchronous Asynchronous	
Reentrancy:	Reentrant for different EventIds. Non reentrant for the same EventId.	
Parameters (in):	EventIdDem_SetEventAvailable.EventId	Identification of an event by assigned EventId.
	AvailableStatusDem_SetEvent Available.AvailableStatus	This parameter specifies whether the respective Event shall be available (TRUE) or not (FALSE).
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: Operation Request to set the availability status was successful. E_NOT_OK: change of available Request to set the availability status not accepted.
Description:	Set the available status of a specific Event.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.249   Specification Item SWS_Dem_01084

Trace References:

SRS_Diag_ 04134 04190

Content:

If the configuration parameter DemInternalDataElementClass.DemInternal DataElement is set to DemInternalDataElementClass.DemInternalDataEle-ment.DEM_CURRENT_FDC, then the Dem-internal value of the current fault detection counter (refer to [REF Monitor_20_internal_20_debounce_20_algorithm] and [REF Debounce_20_algorithm_20_initialization_20_and_20_reset_20_conditions]) shall be mapped to the respective data element with the following value-translation:
[0..127]->[0x00..0x7F] and [-1..-128]->[0xFF..0x80].

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.250   Specification Item SWS_Dem_01095

Trace References:

SRS_Diag_04082

Content:

On invocation of Dem_SetDataOfPID21 the internal PID $21 value shall be updated.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
    There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
    This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"
    2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.251   Specification Item SWS_Dem_01096

Trace References:

SRS_Diag_04082

Content:

An OBDMaster ECU shall calculate the PID $21 value by its own (considering SWS_Dem_00346).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.

Document ID 695: ChangeDocumentation

This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.252 Specification Item SWS_Dem_01097

Trace References:

SRS_Diag_04082

Content:

On invocation of Dem_GetDataOfPID21 the internal calculated PID $21 value shall be returned.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.253 Specification Item SWS_Dem_01098

Trace References:

SRS_Diag_04082

Content:

On invocation of Dem_DcmReadDataOfPID21 the Dem shall return the current value of PID $21.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.254 Specification Item SWS_Dem_01099

Trace References:

SRS_Diag_04082

Content:

If Dem_DcmReadDataOfPID21 is called before Dem_SetDataOfPID21, the Dem shall return 0xFFFF as PID $21 value.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

Document ID 695: ChangeDocumentation

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.255 Specification Item SWS_Dem_01100

Trace References:

SRS_Diag_ 04154 04126

Content:

A suppressed DTC shall not be visible for the following DCM query-functions, in that case In case any of the following APIs shall return the given return code: is called

- Dem_GetStatusOfDTC return Dem_ReturnGetStatusOfDTC-Type.DEM_STATUS_WRONG_DTC

- Dem_GetSeverityOfDTC return Dem_ReturnGetSeverityOfDTC-Type.DEM_GET_SEVERITYOFDTC_WRONG_DTC

- Dem_GetFunctionalUnitOfDTC return Dem_ReturnGetFunctionalUnitOfDTC-Type.DEM_GET_FUNCTIONALUNITOFDTC_WRONG_DTC

- Dem_SelectFreezeFrameData return DEM_WRONG_DTC in subsequent API calls

- Dem_SelectExtendedDataRecord return DEM_WRONG_ClearDTC

- Dem_ClearDTC return Dem _ReturnClearDTCType.DEM_CLEAR_

on a single selected DTC which is suppressed, the Dem shall return DEM_WRONG_DTC

.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)

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- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to
:
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is
called on a selected DTC or group of DTC that does not exist in the selected DTC-
Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected
DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is
called without a prior call of Dem_SelectDTC for this client, the Dem shall report
the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this
API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to
SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client,
the Dem shall report the DET error DEM_E_WRONG_CONDITION and return
E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif

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as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #76947: Dem_ReturnGetStatusOfDTCType is no longer used

Problem description:

Dem_ReturnGetStatusOfDTCType [SWS_Dem_00952] is no longer used as it was replaced by Std_ReturnType within RfC# 71838.

SWS_Dem_01100 still shows the wrong return types.

Agreed solution:

Remove Dem_ReturnGetStatusOfDTCType [SWS_Dem_00952]

Change in SWS_Dem_01100 all return types to DEM_WRONG_DTC. For better readability rephrase the requirement to:

[SWS_Dem_01100] "Behavior of DTC query functions for suppressed DTCs" - In case any of the following APIs is called
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_SelectFreezeFrameData
Dem_SelectExtendedDataRecord
Dem_ClearDTC
on a single selected DTC which is suppressed, the Dem shall return DEM_WRONG_DTC.
(SRS_Diag_04154)

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.256   Specification Item SWS_Dem_01101

Trace References:

SRS_Diag_ 04154 04126

Content:

A suppressed DTC shall not be visible for the following Dcm query-functions; therefore the following functions shall treat the DTC as if filter is not matching:

- Dem_DcmGetDTCOfOBDFreezeFrame

- Dem_DcmReadDataOfOBDFreezeFrame

- Dem_DcmGetInfoTypeValue08

- Dem_DcmGetInfoTypeValue0B

- Dem_DcmReadDataOfPID01

- Dem_DcmGetDTRData

- Dem_GetDTCByOccurrenceTime

- Dem_GetNextFilteredDTC

- Dem_GetNextFilteredDTCAndFDC

- Dem_GetNextFilteredDTCAndSeverity

- Dem_GetNextFilteredRecord

- Dem_J1939DcmClearDTC

Document ID 695: ChangeDocumentation

- Dem_J1939DcmFirstDTCwithLampStatus

- Dem_J1939DcmGetNextDTCwithLampStatus

- Dem_J1939DcmGetNextFreezeFrame

- Dem_J1939DcmSetDTCFilter

- Dem_J1939DcmGetNumberOfFilteredDTC

- Dem_J1939DcmGetNextFilteredDTC

- Dem_J1939DcmSetRatioFilter

- Dem_J1939DcmGetNextFilteredRatio

- Dem_J1939DcmReadDiagnosticReadiness1

- Dem_J1939DcmReadDiagnosticReadiness2

- Dem_J1939DcmReadDiagnosticReadiness3

- Dem_SelectFreezeFrameData

- Dem_SetDTCFilter

- Dem_SelectExtendedDataRecord

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.257 Specification Item SWS_Dem_01102

Trace References:

SRS_Diag_04154 04126

Content:

DTC suppression shall not stop event processing of the corresponding DTC.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.258 Specification Item SWS_Dem_01112

Trace References:

SRS_BSW_00406

Content:

If development error detection is enabled and any instance calls any Dem API, excluding Dem_SetEventStatus, Dem_ResetEventStatus, Dem_SetEventAvailable and Dem_GetVersionInfo, before the Dem was fully initialized, the Dem module shall set the error code DEM_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76754: [Dem] Inconsistency between [SWS_Dem_00124] and [SWS_Dem_01112]

Problem description:

[SWS_Dem_00124] and [SWS_Dem_01112] have list of excluded APIs. But they are inconsistent. I think they can be merged into one.

[SWS_Dem_00124] d If development error detection is enabled and
any instance calls any Dem API, excluding Dem_SetEventStatus,
Dem_ResetEventDebounceStatus and Dem_GetVersionInfo, before the
Dem was fully initialized, the Dem module shall set the error code DEM_E_UNINIT.
c
(SRS_BSW_00406)

[SWS_Dem_01112] d If development error detection is enabled and any instance
calls any Dem API, excluding Dem_SetEventStatus, Dem_ResetEventStatus,
Dem_SetEventAvailable and Dem_GetVersionInfo, before the Dem was
fully initialized, the Dem module shall set the error code DEM_E_UNINIT. c
(SRS_BSW_00406)
–Last change on issue 76754 comment 4–

Agreed solution:

Remove [SWS_Dem_01112]
Modify [SWS_Dem_00124]If DemDevErrorDetect is set to TRUE and any Dem API
excluding :
- Dem_SetEventStatus,
- Dem_ResetEventStatus,
- Dem_SetEventAvailable,
- Dem_ResetEventDebounceStatus
- Dem_GetVersionInfo,
is called before Dem has been fully initialized, the Dem module shall set the error
code DEM_E_UNINIT. (SRS_BSW_00406)
–Last change on issue 76754 comment 3–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.259 Specification Item SWS_Dem_01137

Trace References:

SRS_Diag_04082, SRS_Diag_04141

Content:

For WWH-OBD PID$01 shall not provide the number of confirmed faults.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.260 Specification Item SWS_Dem_01138

Trace References:

SRS_Diag_04082, SRS_Diag_04141

Content:

The Dem module shall compute and provide the ECU MIL status (PID $01, Byte A).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
    There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
    This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"
    2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
    3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
    –Last change on issue 78539 comment 6–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.261   Specification Item SWS_Dem_01139

Trace References:

SRS_Diag_04082, SRS_Diag_04141

Content:

For WWH-OBD PID$01 shall not provide the ECU MIL status.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.262 Specification Item SWS_Dem_01188

Trace References:

SRS_Diag_04082

Content:

The Dem shall increment the ratio-individual IUMPR-numerator at maximum of one time per OBD driving cycle.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were

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replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.263   Specification Item SWS_Dem_01190

Trace References:

SRS_Diag_04072 04205

Content:

Service name:	Dem_GetEventExtendedDataRecordExDem_GetEventExtendedDataRecordEx	
Syntax:	Std_ReturnType Dem_GetEventExtendedDataRecordEx(Dem_EventIdType EventId, uint8 RecordNumber, uint8* DestBuffer, uint16* BufSize)	
Service ID[hex]:	0x6d	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	EventIdDem_GetEventExtendedData RecordEx.EventId	Identification of an event by assigned EventId.
	RecordNumberDem_GetEventExtended DataRecordEx.RecordNumber	Identification of requested Extended data record. Valid values are between 0x01 and 0xEF as defined in ISO14229-1.
Parameters (inout):	BufSizeDem_GetEventExtendedData RecordEx.BufSize	When the function is called this parameter contains the maximum number of data bytes that can be written to the buffer. The function returns the actual number of written data bytes in this parameter.

Parameters (out):	DestBufferDem_GetEventExtendedData RecordEx.DestBuffer	This parameter contains a byte pointer that points to the buffer, to which the extended data shall be written to. The format is raw hexadecimal values and contains no header-information.
Return value:	Std_ReturnType	E_OK: Operation was successful E_NOT_OK: Operation could not be performed DEM_NO_SUCH_ELEMENT: The requested event data is not currently stored (but the request was valid) OR the requested record number is not supported by the event. DEM_BUFFER_TOO_SMALL: The provided buffer size is too small.
Description:		Gets the data of an extended data record by event.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

   Agreed solution:

   Adapt the references in Dcm and Dem according to
   https://svn.autosar.org/repos/work/09_WorkPackages/WP-
   A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

   BW-C-Level:

Application	Specification	Bus
1	1	1

1.264 Specification Item SWS_Dem_01193

Trace References:

Content:

Name	EventAvailableEventAvailable
Comment	–
IsService	true
Variation	{ecuc(Dem/DemGeneral/DemAvailabilitySupport)} == DEM_EVENT_AVAILABILITY

Name	EventAvailableEventAvailable	
Possible Errors	0	E_OK
	1	E_NOT_OK

Operations:

SetEventAvailableEventAvailable.SetEventAvailable			
Comments	–		
Variation	–		
Parameters	AvailableStatusEvent Available.SetEvent Available.AvailableStatus	Comment	–
		Type	boolean
		Variation	–
		Direction	IN
Possible Errors	E_OK	Operation successfulRequest to set the availability status was successful.	
	E_NOT_OK	Request to set the availability status not accepted.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:

E_OK: Request to reset the event status was successful accepted.

E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:

E_OK: Request to set the availability status was successful.

E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:

E_OK: Request to set the WIR status was successful.

E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to

The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time. c(SRS_Diag_04067)

Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]

SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit

SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.

–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.265   Specification Item SWS_Dem_01202

Trace References:

SRS_Diag_04149 04150, SRS_Diag_04214

Content:

If the Dem module is requested to clear diagnostic information, the Dem shall return Dem_ReturnClearDTCType.DEM_CLEAR_FAILEDin case:

- the requested supported DTC(s) is not cleared

- all DemClearEventAllowed callbacks return FALSE (in case of event combination clearing a single DTC at least one DemClearEventAllowed returns FALSE for one event of the DTC)callback assigned to the event of the DTC returns FALSE.

- in case of clearing a DTC group or all DTCs, the individual DTCs shall be cleared like described in clearing single DTC. The resulting return value shall be DEM_CLEAR_FAILED if the clearing of all individual DTCs returned DEM_CLEAR_FAILED.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73864: [Dem] further clarification of CLEAR_FAILED (Dem_01202)

   Problem description:

   req for returning CLEAR_FAILED needs to be more detailed.

   Especially scenarios with event combination will result in strange return values, in case clearEventAllowed is considered.

   E.g. consider 2 event are mapped to the same dtc and combination on retrieval is configured. one event returns clearAllowed=FALSE and the other return clearAllowed=TRUE. The visible result of the clear is, it is not cleared.

   Agreed solution:

   Change requirement :
   [SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED in case:
   - the requested supported DTC(s) is not cleared
   - all ClearEventAllowed callbacks return FALSE (in case of event combination ClearEventAllowed returns FALSE for one event of the DTC).
   by :

   [SWS_Dem_01202] If the Dem is requested to clear diagnostic information,

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the Dem shall return DEM_CLEAR_FAILED:
- in case of clearing a single DTC at least one ClearEventAllowed callback assigned to the event of the DTC returns FALSE.
- in case of clearing a group or all DTCs, the individual DTCs shall be cleared like described in clearing single DTC. The resulting return value of clear group or clear all shall be DEM_CLEAR_FAILED if all individual DTCs returned DEM_CLEAR_FAILED.

Change the [SWS_Dem_00667] by :
[SWS_Dem_00667] If the DTC is not configured to use event combination, the out-parameter Allowed of the callback ClearEventAllowed returns false (and the return value is equal to E_OK) after the execution of this callback function, the Dem shall not clear the respective event memory entry and Dem-internal data values.(SRS_Diag_04092, SRS_Diag_04122)

Add new requirement below [SWS_Dem_00667] :
[SWS_Dem_00XXX] If the DTC is configured to use event combination, if only one ClearEventAllowed callback has the out-parameter Allowed set to FALSE and returns E_OK after the execution of this callback function, the Dem shall not clear the event status, respective event memory entry and Dem-internal data values. (SRS_Diag_04092, SRS_Diag_04122, SRS_Diag_04073)
–Last change on issue 73864 comment 4–

BW-C-Level:

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.266 Specification Item SWS_Dem_01203

Trace References:

SRS_Diag_04150, SRS_Diag_04214

Content:

If the Dem module is requested to clear diagnostic information and the selected Dem_SelectDTC.DTC is set to DTC group 'all DTCs' and the selected Dem_SelectDTC.DTCOrigin is set to Dem_DTCOriginType.DEM_DTC_ORIGIN_PRIMARY_MEMORY or DEM_DTC_ORIGIN_USERDEFINED_MEMORY_<NAME>, the Dem shall delete all events (UDS status , event related indicators, event memory entry) which are reset all event and DTC status bytes and clear event related data assigned to the primary event memory or which are not assigned to any DTCor event memoryrequested Dem_Select DTC.DTCOrigin.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76606: SWS_Dem_01203 contradicts with DemClearEventsWithout-DTCEventMemoryRef

  Problem description:

  SWS_Dem_01203 says that a clear operation for primary shall clear events without DTCs. But DemClearEventsWithoutDTCEventMemoryRef [ECUC_Dem_00941] specifies the memory where those events shall be cleared.

  Furthermore SWS_Dem_01203 and SWS_Dem_01204 are the same, having only a different origin. As the origin is parameter of the Clear command, we only need one requirement.

  Agreed solution:

  1) Remove SWS_Dem_01204
  2) Rewrite SWS_Dem_01203 to:

  If the Dem module is requested to clear diagnostic information and the selected DTC is set to DTC group all DTCs and the selected DTCOrigin is set to DEM_DTC_ORIGIN_PRIMARY_MEMORY or DEM_DTC_ORIGIN_USERDEFINED_MEMORY_<NAME>, the Dem shall reset the event and DTC status bytes and clear event related data assigned to the requested DTCOrigin.

  BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.267 Specification Item SWS_Dem_01204

Trace References:

SRS_Diag_04150

Content:

If the Dem module is requested to clear diagnostic information and the selected Dem_SelectDTC.DTC is set to DTC group 'all DTCs' and the selected Dem_Select DTC.DTCOrigin is set to DEM_DTC_ORIGIN_USERDEFINED_MEMORY_<NAME>, the Dem shall clear only events (UDS status, related indicators, event memory entry), which are assigned to the specified user defined memory.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76606: SWS_Dem_01203 contradicts with DemClearEventsWithout-DTCEventMemoryRef

Problem description:

SWS_Dem_01203 says that a clear operation for primary shall clear events without DTCs. But DemClearEventsWithoutDTCEventMemoryRef [ECUC_Dem_00941] specifies the memory where those events shall be cleared.

Furthermore SWS_Dem_01203 and SWS_Dem_01204 are the same, having

only a different origin. As the origin is parameter of the Clear command, we only need one requirement.

Agreed solution:

1) Remove SWS_Dem_01204
2) Rewrite SWS_Dem_01203 to:

If the Dem module is requested to clear diagnostic information and the selected DTC is set to DTC group all DTCs and the selected DTCOrigin is set to DEM_DTC_ORIGIN_PRIMARY_MEMORY or DEM_DTC_ORIGIN_USERDEFINED_MEMORY_<NAME>, the Dem shall reset the event and DTC status bytes and clear event related data assigned to the requested DTCOrigin.

BW-C-Level:

Application	Specification	Bus
1	1	1

1.268 Specification Item SWS_Dem_01205

Trace References:

SRS_Diag_04150 04213

Content:

If the Dem module is requested to clear diagnostic information and the selected Dem_SelectDTC.DTC is set to DTC group 'all DTCs' and the selected Dem_Select DTC.DTCOrigin is set to Dem_DTCOriginType.DEM_DTC_ORIGIN_MIRROR_MEMORY, the Dem shall clear only the event entries assigned to the mirror event memory. It does not affect UDS status.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

   Problem description:

   After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

   Agreed solution:

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Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.269   Specification Item SWS_Dem_01206

Trace References:

SRS_Diag_04150, SRS_Diag_04213

Content:

The Dem shall call the callback DemClearEventAllowed only if the selected Dem_Select
DTC.DTCOrigin for the clear operation is the primary or user defined event memory.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm
  and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-
  A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.270   Specification Item SWS_Dem_01216

Trace References:

SRS_Diag_04104 04189

Content:

To serialize the required signed- and unsigned integer AUTOSAR data types into the FreezeFrame/ExtendedRecord the target endianness configured in DemExternalSRData ElementClass.DemDataElementEndianness shall be considered. If DemExternalSRData ElementClass.DemDataElementEndianness is not present, the DemGeneral.DemDataElementDefaultEndianness shall be used instead.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

  Proposal:
  1) search for "No description"
  2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
  3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
  –Last change on issue 78539 comment 6–

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.271   Specification Item SWS_Dem_01217

Trace References:

SRS_Diag_04152 04214

Content:

In order to calculate the user defined memory ID from Dem_DTCOriginType, the Dem shall substract a value of 0x0100 from the obtained value if the value is in the range of [0x0100, 0x01FF].

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

    Problem description:

    Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

    Agreed solution:

    Traceability cleanup on Dem/Dcm

    To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

    Motivation:
    Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
    ~ 30 entries with ~ 60 referenced requirements into Dem.
    The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

    Proposal:
    1) search for "No description"

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2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069:   [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.272   Specification Item SWS_Dem_01221

Trace References:

SRS_Diag_04082, SRS_Diag_04129, SRS_Diag_04133

Content:

The Dem allows definition of dependent operation cycles using DemOperationCycle.Dem LeadingCycleRef parameter. Whenever the parameter is set, the operation cycle is considered as a dependent operation cycle. Whenever the parameter is not set, the operation cycle is considered as "normal" operation cycle.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -

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~ 30 entries with ~ 60 referenced requirements into Dem.

The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.

This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:

1) search for "No description"

2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204

3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0

–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.273 Specification Item SWS_Dem_01222

Trace References:

SRS_Diag_04082, SRS_Diag_04129

Content:

If the operation cycle passed to Dem_SetCycleQualified is not configured as dependent operation cycle, the Det error DEM_E_WRONG_CONFIGURATION shall be reported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.274   Specification Item SWS_Dem_01223

Trace References:

SRS_Diag_04082, SRS_Diag_04129, SRS_Diag_04133

Content:

If the operation cycle passed to Dem_SetOperationCycleState is configured as dependent operation cycle or not configured at all, the Det error DEM_E_WRONG_CONFIGURATION shall be reported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Document ID 695: ChangeDocumentation

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.275   Specification Item SWS_Dem_01224

Trace References:

SRS_Diag_04082, SRS_Diag_04129

Content:

When setting the state of an operation cycle using Dem_SetOperationCycleState to START (or RESTART), all operation cycles which are depending on the selected operation cycle shall also be started (restarted), but only if they are qualified.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

   Proposal:
   1) search for "No description"
   2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
   3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
   –Last change on issue 78539 comment 6–

   BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.276 Specification Item SWS_Dem_01225

Trace References:

SRS_Diag_04082, SRS_Diag_04129

Content:

When setting the state of an operation cycle using Dem_SetOperationCycleState to END, all operation cycle which are depending on the selected operation cycle shall also be ended, but only if they have been started. With ending a dependent operation cycle, its operation cycle qualification is reset.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

   Problem description:

   Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

   Agreed solution:

   Traceability cleanup on Dem/Dcm

   To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

   Motivation:
   Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
   There are too many "No description" shown in the documents -
   ~ 30 entries with ~ 60 referenced requirements into Dem.
   The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

   Proposal:
   1) search for "No description"
   2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
   3) clean up the traceability of the detected requirement under 1) for example:

SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572]
[SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.277 Specification Item SWS_Dem_01234

Trace References:

SRS_Diag_04082, SRS_Diag_04129

Content:

The API Dem_GetCycleQualified shall provide the qualification state of the requested operation cycle in the out parameter "isQualified".

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:
  Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
  There are too many "No description" shown in the documents -
  ~ 30 entries with ~ 60 referenced requirements into Dem.
  The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality.
  This RfC is a formal change only to clean up the document for R431 and harmonize

the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.278   Specification Item SWS_Dem_01235

Trace References:

SRS_Diag_04082, SRS_Diag_04129

Content:

If the operation cycle passed to Dem_GetCycleQualified is not configured at all, the Det error DEM_E_WRONG_CONFIGURATION shall be reported.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

  Agreed solution:

  Traceability cleanup on Dem/Dcm

  To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

  Motivation:

Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.279   Specification Item SWS_Dem_01236

Trace References:

SRS_Diag_04082

Content:

The Dem shall increment monitor internal denominators depending on the Dem_Iumpr DenomCondIdType.DEM_IUMPR_GENERAL_INDIVIDUAL_DENOMINATOR, and additional conditions if configured in DemRatio.DemIUMPRDenGroup.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

  Problem description:

  Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.280   Specification Item SWS_Dem_01240

Trace References:

SRS_Diag_ 04149 04185

Content:

If DemClearDTCNotification.DemClearDtcNotificationTime is configured to DemClear DTCNotification.DemClearDtcNotificationTime.START, the Dem shall inform the application about the start of a clear DTC operation. If the DemClearDTCNotification.DemClear

DtcNotificationFnc is configured, the Dem shall shall call this configured function otherwise the Dem shall call the R-Port ClearDtcNotification.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

  Agreed solution:

  Adapt the references in Dcm and Dem according to https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.281 Specification Item SWS_Dem_01241

Trace References:

SRS_Diag_04149 04185

Content:

If DemClearDTCNotification.DemClearDtcNotificationTime is configured to DemClear DTCNotification.DemClearDtcNotificationTime.FINISH, the Dem shall inform the application about the end of a clear DTC operation. The Dem shall consider the configuration parameter DemGeneral.DemClearDTCBehavior which defines the clearing process of diagnostic information including clearing completion. If the DemClearDTCNotification.Dem ClearDtcNotificationFnc is configured, the Dem shall call this configured function otherwise the Dem shall call the R-Port ClearDtcNotification.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #78385: [Dcm][Dem] SRS_Diag harmonization

  Problem description:

  After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

1.282   Specification Item SWS_Dem_01253

Trace References:

SRS_Diag_04010

Content:

If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group of DTC in the requested Dem_SelectDTC.DTCOrigin and Dem_SelectDTC.DTCFormat as target for the following API calls:

- Dem_GetStatusClearDTC

- Dem_DisableDTCRecordUpdate

- Dem_EnableDTCRecordUpdate

- Dem_GetDTCSelectionResult

- Dem_GetFunctionalUnitOfDTC

- Dem_GetSeverityOfDTC

- Dem_GetFunctionalUnitStatusOfDTC

- Dem_ClearDTC SelectFreezeFrameData

- Dem_DisableDTCRecordUpdate SelectExtendedDataRecord

- Dem_EnableDTCRecordUpdate SetDTCSuppression

- Dem_GetDTCSelectionResultDTCSuppression.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76511: Uniqueness of DTCs

  Problem description:

Document ID 695: ChangeDocumentation

1) DTC values are unique in a given DTCOrigin and DemEventMemorySet, but there is no requirement yet expressing this. Only the first sentence of chapter 7.4 mentions something like this (informative and incomplete).

2) Dem_SetDTCSuppression uses a DTC value as index to identify the DTC to suppress. As DTCs are not unique among the different fault memories the API shall get extended by DTCOrigin and DemEventMemorySet.

Agreed solution:

1a) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx1: The DemDtcValue [ECUC_Dem_00887] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

1b) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx2: The DemDtcValue [ECUC_Dem_00885] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

2) Change API Dem_SetDTCSuppression [SWS_Dem_01047] to: Std_ReturnType Dem_SetDTCSuppression(uint8 ClientId, boolean SuppressionStatus)
Use ClientID description from existing APIs.
Do the same for the C/S DTCSuppression [SWS_Dem_00608] in operation Set-DTCSuppression.
Add Dem_SetDTCSuppression as further bullet point in: SWS_Dem_01253
–Last change on issue 76511 comment 13–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

Problem description:

In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

shall also depa
Dendent on Dem_SelectDTC.
–Last change on issue 76765 comment 7–

Agreed solution:

To SWS_Dem_01253 add the following two APIs:
- Dem_SelectFreezeFrameData [SWS_Dem_91015]
- Dem_SelectExtendedDataRecord [SWS_Dem_91017]

From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
- uint32 DTC
- Dem_DTCOriginType DTCOrigin

Add the following return values to Dem_SelectFreezeFrameData:
E_OK: The freeze frame is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

Add the following return values to Dem_SelectExtendedDataRecord :
E_OK: The extended data record is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:
[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:
Dem_GetNextExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection
c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:
Dem_GetNextFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection
c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0

(empty buffer). (SRS_Diag_04074)
–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #76814: Provide getter for dtc suppression

Problem description:

The Dem only provides means to set the DTC suppression state, a symetric API to read back the suppression state of an DTC is missing.

Agreed solution:

Add a new C-API:

Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean *SuppressionStatus)
Asynchronous
Reentrant
Param (in): ClientId - Unique client id, assigned to the instance of the calling module
Param (out): SuppressionStatus - Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
Return value: Std_ReturnType - E_OK: Operation was successful
E_NOT_OK: Dem_SelectDTC was not called.
DEM_WRONG_DTC: No valid DTC or DTC group selected.
DEM_WRONG_DTCORIGIN: Wrong DTC origin selected
DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

Description: "Returns the suppression status of a specific DTC.
API Availability: This API will be available only if (ecuc(Dem/DemGeneral.DemSuppressionSupport) == DEM_DTC_SUPPRESSION)"

Add a new operation to C/S interface "DTCSuppression" SWS_Dem_00608:
Name: GetDTCSuppression
Take parameters and description from C-API above, link both to SRS_Diag_04154

Add new requirement to chapter 7.4.76 Suppress DTC output

SWS_Dem_xxxx1: If Dem_GetDTCSuppression is called, the Dem shall return the status if the DTC is suppressed in the output parameter SuppressionStatus. A value

of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed. (SRS_Diag_04154)

Add text below this requirement:
Also there are various reasons, why a DTC is not processed and thus is not visible for diagnostics, the suppression state itself is only changed by Dem_SetDTCSuppression. Dem_GetDTCSuppression only evaluates this suppression state.

Remove SWS_Dem_00586

Change SWS_Dem_01253 to :
If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group of DTC in the requested DTCOrigin and DTCFormat as target for the following API calls:
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_ClearDTC
Dem_DisableDTCRecordUpdate
Dem_EnableDTCRecordUpdate
Dem_GetDTCSelectionResult
Dem_GetDTCSuppression.
(SRS_Diag_04010)
–Last change on issue 76814 comment 24–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.283   Specification Item SWS_Dem_01261

Trace References:

SRS_BSW_00369

Content:

If any of the APIs requiring a Dem_SelectDTC (see according to SWS_Dem_01253) is called on a selected is called while the selection with Dem_SelectDTC .DTC that does not exist in the selected Dem _SelectDTC. DTCFormat or if the selected is invalid, then the Dem shall return DEM_WRONG_DTC. A selection is invalid in case the provided

Dem_SelectDTC.DTC is a group of DTC or no Demdoes not specify a valid DTC or Group OfDTCs in the corresponding DTCFormat. The selection also is invalid, if Dem_Select DTC. DTC was selected, the Demshall return DEM_WRONG_DTC on this APISelectDTC was not called before.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to:
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #77864: [Dem] ReDesign Dem/Dcm interface of AR4.3: issue with SWS_Dem_01261

Problem description:

Document ID 695: ChangeDocumentation

Dem requirement according to AR for the interface Dem_SelectDTC():

[SWS_Dem_01261] API Behaviour on undefined DTC or format d If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a selected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API. c
(SRS_BSW_00369)

Concern: The text of this requirement can be interpreted in such a way that any call to the API with a group as an argument leads to DEM_WRONG_DTC as the return value.
Guess this requirement needs to be rewritten as:

[SWS_Dem_01261] API Behaviour on undefined DTC or format ⌊ If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called on a selected DTC that does not exist in the selected DTCFormat or if the selected DTC is a group of DTC or a Single DTC but no DTC was selected, the Dem shall return DEM_WRONG_DTC on this API.

Agreed solution:

Change [SWS_Dem_01261] to:
API Behaviour on undefined DTC or format ⌊ If any of the APIs requiring a Dem_SelectDTC (see [SWS_Dem_01253]) is called while the selection with Dem_SelectDTC is invalid, then the Dem shall return DEM_WRONG_DTC on this API.
A selection is invalid in case the provided DTC-HexCode (parameter DTC) does not specify a valid DTC or GroupOfDTCs in the corresponding DTCFormat. The selection also is invalid, if Dem_SelectDTC was not called before.

Add return value DEM_WRONG_DTC and DEM_WRONG_DTCORIGIN to Dem_SetDTCSuppression [SWS_Dem_01047] and operation SetDTCSuppression from DTCSuppression [SWS_Dem_00608]. Use the same description as in SWS_Dem_00212.
–Last change on issue 77864 comment 4–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.284   Specification Item SWS_Dem_01268

Trace References:

SRS_Diag_04074

Content:

If the API Dem_SelectFreezeFrameData is called, the Dem shall use the selected DTC or group of DTC of the selected DTCOrigin and the Freeze Frame DTC selected by Dem_SelectDTC and the Dem_SelectFreezeFrameData.RecordNumber as a target for the following API calls:

- Dem_GetNextFreezeFrameData
- Dem_GetSizeOfFreezeFrameSelection

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

  Problem description:

  In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

  Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

  shall also depa
  Dendent on Dem_SelectDTC.
  –Last change on issue 76765 comment 7–

  Agreed solution:

  To SWS_Dem_01253 add the following two APIs:
  - Dem_SelectFreezeFrameData [SWS_Dem_91015]
  - Dem_SelectExtendedDataRecord [SWS_Dem_91017]

  From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
  - uint32 DTC
  - Dem_DTCOriginType DTCOrigin

  Add the following return values to Dem_SelectFreezeFrameData:
  E_OK: The freeze frame is correctly selected.
  DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
  DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.

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DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

Add the following return values to Dem_SelectExtendedDataRecord :
E_OK: The extended data record is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:
[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:
Dem_GetNextExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection
c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:
Dem_GetNextFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection
c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0 (empty buffer). (SRS_Diag_04074)
–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.285   Specification Item SWS_Dem_01272

Trace References:

SRS_Diag_04074

Document ID 695: ChangeDocumentation

Content:

If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the selected Dem_SelectExtendedDataRecord.DTC or group of DTC in the selected DTC selected by Dem_SelectExtendedDataRecord.DTCOrigin DTC and the Dem_SelectExtendedDataRecord.ExtendedDataNumber as a target for the following API calls:

- Dem_GetNextExtendedDataRecord

- Dem_GetSizeOfExtendedDataRecordSelection

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

  Problem description:

  In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

  Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

  shall also depa
  Dendent on Dem_SelectDTC.
  –Last change on issue 76765 comment 7–

  Agreed solution:

  To SWS_Dem_01253 add the following two APIs:
  - Dem_SelectFreezeFrameData [SWS_Dem_91015]
  - Dem_SelectExtendedDataRecord [SWS_Dem_91017]

  From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
  - uint32 DTC
  - Dem_DTCOriginType DTCOrigin

  Add the following return values to Dem_SelectFreezeFrameData:
  E_OK: The freeze frame is correctly selected.
  DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
  DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
  DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

  Add the following return values to Dem_SelectExtendedDataRecord :
  E_OK: The extended data record is correctly selected.

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DEM_WRONG_DTC: Selected DTC value in selected format does not exist.

DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.

DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:

[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:

Dem_GetNextExtendedDataRecord

Dem_GetSizeOfExtendedDataRecordSelection

c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:

Dem_GetNextFreezeFrameData

Dem_GetSizeOfFreezeFrameSelection

c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0 (empty buffer). (SRS_Diag_04074)

–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.286   Specification Item SWS_Dem_01280

Trace References:

SRS_Diag_04067

Content:

Upon call of Dem_SetEventStatus and after debouncing, the Dem shall process the monitor status in the same manner as the UDS status:

- Bit0 (TestFailed) according to SWS_Dem_00386 , SWS_Dem_00387, SWS_Dem_00388 and SWS_Dem_00525.

- Bit1 (TestNotCompleteThisOperationCycle) according to SWS_Dem_00394.

The monitor status byte processing shall be done synchronously within the context of the calling Dem_SetEventStatus function.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77827: MonitorStatus im NVRam

  Problem description:

  SWS_Dem_01280 describes the behavior of Dem_SetEventStatus and Bit0 processing.   Referenced are SWS_Dem_00387 SWS_Dem_00388 and SWS_Dem_00525 describing the NV storage of the bits.

  However, the monitor status is available before Dem_Init has been finished and thus the NV storage cannot be used. As it is not required to store the monitor status in NVram, those references shall be removed.

  Agreed solution:

  Change bullet point for bit 0 of SWS_Dem_01280 to:

  - Bit0 (TestFailed) according to SWS_Dem_00386

  BW-C-Level:

Application	Specification	Bus
1	1	1

1.287   Specification Item SWS_Dem_01295

Trace References:

SRS_Diag_04191, SRS_Diag_04194, SRS_Diag_04073

Content:

If the DTC is configured to use event combination, if only one DemClearEventAllowed callback has the out-parameter DemClearEventAllowed.Allowed set to FALSE and returns E_OK, the Dem shall not clear the event status, respective event memory entry and Dem-internalDataValue.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #73864: [Dem] further clarification of CLEAR_FAILED (Dem_01202)

Problem description:

req for returning CLEAR_FAILED needs to be more detailed.

Especially scenarios with event combination will result in strange return values, in case clearEventAllowed is considered.

E.g. consider 2 event are mapped to the same dtc and combination on retrieval is configured. one event returns clearAllowed=FALSE and the other return clearAllowed=TRUE. The visible result of the clear is, it is not cleared.

Agreed solution:

Change requirement :
[SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED in case:
- the requested supported DTC(s) is not cleared
- all ClearEventAllowed callbacks return FALSE (in case of event combination ClearEventAllowed returns FALSE for one event of the DTC).
by :

[SWS_Dem_01202] If the Dem is requested to clear diagnostic information, the Dem shall return DEM_CLEAR_FAILED:
- in case of clearing a single DTC at least one ClearEventAllowed callback assigned to the event of the DTC returns FALSE.
- in case of clearing a group or all DTCs, the individual DTCs shall be cleared like described in clearing single DTC. The resulting return value of clear group or clear all shall be DEM_CLEAR_FAILED if all individual DTCs returned DEM_CLEAR_FAILED.

Change the [SWS_Dem_00667] by :
[SWS_Dem_00667] If the DTC is not configured to use event combination, the out-parameter Allowed of the callback ClearEventAllowed returns false (and the return value is equal to E_OK) after the execution of this callback function, the Dem shall not clear the respective event memory entry and Dem-internal data values.(SRS_Diag_04092, SRS_Diag_04122)

Add new requirement below [SWS_Dem_00667] :
[SWS_Dem_00XXX] If the DTC is configured to use event combination, if only one ClearEventAllowed callback has the out-parameter Allowed set to FALSE and returns E_OK after the execution of this callback function, the Dem shall not clear

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the event status, respective event memory entry and Dem-internal data values. (SRS_Diag_04092, SRS_Diag_04122, SRS_Diag_04073)
–Last change on issue 73864 comment 4–

BW-C-Level:

Application	Specification	Bus
1	1	1

● RfC #78385: [Dcm][Dem] SRS_Diag harmonization

Problem description:

After the agreed changes of FO RfC 78083 are implemented, the references in Dcm and Dem need to be adapted.

Agreed solution:

Adapt the references in Dcm and Dem according to
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/049_SRS_Harmonisation/Proposed Changes.docx

BW-C-Level:

Application	Specification	Bus
1	1	1

● RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update.
There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be

released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.288   Specification Item SWS_Dem_01296

Trace References:

SRS_Diag_04010

Content:

The API Dem_GetDTCSelectionResultForClearDTC shall behave exactly as Dem_Get DTCSelectionResult with the only difference that, DEM_WRONG_DTC is returned in case of a single DTC was selected and DemGeneral.DemClearDTCLimitation is set to Dem General.DemClearDTCLimitation.DEM_ONLY_CLEAR_ALL_DTCS for that client.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77608: [Dem] Check clear parameters according ISO

  Problem description:

  taken from comment 13 of RFC # 76727

  Statement from Carl-Eike:
  "as I understood, the timing chart for clearing given in the ISO has some strong requirements on evaluation order. Wouldn't those be violated, if a clear fails due to a wrong DTC at a later step? It's well possible that it doesn't matter much or at all, but as it seems it was the reason to introduce GetSelectionResult for use in the clear processing.

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I've noticed something else reading the SWS. Why are so many requirements starting with "The API Dem_Xyz shall"? The API is the set of everything needed by the application to use the Dem (say, # defines, typedefs, functions, ...). Dem_Xyz on the other hand is simply a function - part of the API, but surely not "the API". This is evident especially for those functions that only make any sense when used in combination. Could the "The API " part be removed from all the requirements?"

Conclusion:
currently the Dem_GetDTCSelectionResult function cannot consider the restriction of DemClearDTCLimitation [ECUC_Dem_00790]. Therefore getDTCSelectionResult does not correctly indicate, whether a later clear-request will succeed. This is required for proper ISO handling.

Agreed solution:

Add a new API Dem_GetDTCSelectionResultForClearDTC
Syntax: Std_ReturnType Dem_GetDTCSelectionResultForClearDTC(
uint8 ClientId
)
Service ID[hex]:
Sync/Async: Asynchronous
Reentrancy: Reentrant for different ClientIds, non reentrant for the same ClientId.
Parameters (in): ClientId Unique client id, assigned to the instance of the calling module.
Parameters (inout): None
Parameters (out): None
Return value: Std_ReturnType E_OK: The DTC select parameter check is successful and the requested DTC or group of DTC in the selected origin is selected for further operations.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a single DTC was selected and Dem only supports to Clear all DTCs
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist
DEM_PENDING: Checking the SelectDTC parameters is currently in progress. The caller shall call this function again later.

Add requirement bellow requirement SWS_Dem_1258
SWS_Dem_xxxxx :
The API Dem_GetDTCSelectionResultForClearDTC shall behave exactly as Dem_GetDTCSelectionResult with the only difference that, DEM_WRONG_DTC is returned in case of a single DTC was selected but the Dem is configured to delete only all DTCs for that client.
–Last change on issue 77608 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.289   Specification Item SWS_Dem_01297

Trace References:

SRS_Diag_04202

Content:

If Dem_DltGetAllExtendedDataRecords is called and for the provided EventId no extended data record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76939: [DEM] [Dlt] Avoid using of DET codes as API return types

  Problem description:

  The DET error code DEM_E_NODATAAVAILABLE shall not be used as return value of C-APIs. Use DEM_NO_SUCH_ELEMENT instead.

  Agreed solution:

  Change return value DEM_E_NODATAAVAILABLE to DEM_NO_SUCH_ELEMENT in the following APIs:

  Dem_DltGetMostRecentFreezeFrameRecordData [SWS_Dem_00636]
  Dem_DltGetAllExtendedDataRecords [SWS_Dem_00637]

  Add requirement to chapter "7.11.7 Interaction with Diagnostic Log & Trace (Dlt)":
  SWS_Dem_xxxx1: If Dem_DltGetMostRecentFreezeFrameRecordData is called and for the provided EventId no UDS snapshot record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

  SWS_Dem_xxxx2: If Dem_DltGetAllExtendedDataRecords is called and for the provided EventId no extended data record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

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=== SWS DLT ===

Add the following requirement below SWS_Dlt_00478:
+[SWS_Dlt_00xx1]
Only if Dem_DltGetAllExtendedDataRecords returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

Add the following requirement below SWS_Dlt_00479:
+[SWS_Dlt_00xx2]
Only if Dem_DltGetMostRecentFreezeFrameRecordData() returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)
–Last change on issue 76939 comment 7–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be

released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0 –Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.290 Specification Item SWS_Dem_01298

Trace References:

SRS_Diag_04202

Content:

If Dem_DltGetMostRecentFreezeFrameRecordData is called and for the provided Event Id no UDS snapshot record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76939: [DEM] [Dlt] Avoid using of DET codes as API return types

  Problem description:

  The DET error code DEM_E_NODATAAVAILABLE shall not be used as return value of C-APIs. Use DEM_NO_SUCH_ELEMENT instead.

  Agreed solution:

  Change return value DEM_E_NODATAAVAILABLE to DEM_NO_SUCH_ELEMENT in the following APIs:

  Dem_DltGetMostRecentFreezeFrameRecordData [SWS_Dem_00636]
  Dem_DltGetAllExtendedDataRecords [SWS_Dem_00637]

Document ID 695: ChangeDocumentation

Add requirement to chapter "7.11.7 Interaction with Diagnostic Log & Trace (Dlt)":
SWS_Dem_xxxx1: If Dem_DltGetMostRecentFreezeFrameRecordData is called and for the provided EventId no UDS snapshot record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

SWS_Dem_xxxx2: If Dem_DltGetAllExtendedDataRecords is called and for the provided EventId no extended data record is stored, the Dem shall return DEM_NO_SUCH_ELEMENT. The value of the out parameters DestBuffer and BufSize are undefined in this case.

=== SWS DLT ===

Add the following requirement below SWS_Dlt_00478:
+[SWS_Dlt_00xx1]
Only if Dem_DltGetAllExtendedDataRecords returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)

Add the following requirement below SWS_Dlt_00479:
+[SWS_Dlt_00xx2]
Only if Dem_DltGetMostRecentFreezeFrameRecordData() returns with E_OK, the provided information shall be further processed by the DLT module. No retry nor error handling shall be done. (SRS_Dlt_00007)
–Last change on issue 76939 comment 7–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.291   Specification Item SWS_Dem_01299

Trace References:

SRS_BSW_00369

Content:

If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the Det DEM_E_WRONG_CONDITION.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected

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DTC"

If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.292   Specification Item SWS_Dem_01300

Trace References:

SRS_BSW_00369

Content:

If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the Det DEM_E_WRONG_CONDITION.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all
Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to :
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"

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If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:
SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.293   Specification Item SWS_Dem_01301

Trace References:

Content:

If Dem_DcmGetAvailableOBDMIDs is called with an invalid Obdmid value which is different to 0x00, 0x20, 0x40, 0x60, 0x80, 0xA0, 0xC0 or 0xE0, the Dem shall report the Det development error DEM_E_INVALID_OBDMID.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77870: [Dem / Dcm] ReDesign Dem/Dcm interface of AR4.3: issue with Dem_DcmGetAvailableOBDMIDs()

  Problem description:

  [SWS_Dem_00760] d Upon request by the Dcm, the Dem shall compute Supported-OBDMID information, i.e. the availability OBDMIDs. Since the Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. c()

  Since Dem_DcmGetAvailableOBDMIDs reports only value per standardized OBDMID (00, 20, 40...), the Dcm has to call this API iteratively until no further availability OBDMID is supported. But there is no matching requirement in the Dcm spec.

  Refer to Dcm requirement below

  [SWS_Dcm_00957] d On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability
  OBDMID (00, 20, ...)" contained within the request and concatenate the results within the response message. c()

  Moreover Dcm expects to get supported OBDMIDs by calling Dem_DcmGetAvailableOBDMIDs, but in Dem spec it is only said to compute, not provide, OBD MID information.

  SWS_Dem_00760 should be rephrased to:
  Upon request by the Dcm, via Dem_DcmGetAvailableOBDMIDs() the Dem shall

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compute and provide Supported-OBDMID information, i.e. the availability OBDMIDs.

Additionally SWS_Dcm_00957 should be rephrased to call Dem_DcmGetAvailableOBDMIDs() iteratively until no further availability OBD-MID is supported

Agreed solution:

In DEM:

Rephrase the SWS_Dem_00760 to:

[SWS_Dem_00760] If Dem_DcmGetAvailableOBDMIDs is called with an "availablity Obdmid" value of 0x00, 0x20, 0x40, 0x60, 0x80, 0xA0, 0xC0 or 0xE0 and the Dem has configured DemDtrMid [ECUC_Dem_00809], the Dem shall compute and provide the Supported-OBDMID information in the OUT parameter Obdmidvalue and return E_OK. The computed Obdmids parameter is according to ISO-15031-5 and sets a bit for each supported Obdmid in the request range (starting with Obdmid+1) and having the last bit of the Obdmidvalue set, if any subsequent range has configured Obdmids.

After SWS_Dem_00760 add new requirement :

SWS_Dem_00xxx : If Dem_DcmGetAvailableOBDMIDs is called with an invalid Obdmid value, the Dem shall report the Det development error

DEM_E_INVALID_OBDMID.(SRS_DIAG_04082)

Update the table SWS_Dem_00173 with

Type or error:Dem_DcmGetAvailableOBDMIDs called with invalid OBDMID Relevance: Development Related error: DEM_E_INVALID_OBDMID code Value: 0x50 [hex]

Remove in [SWS_Dem_00766] the return value E_NOT_OK: Report of DTR result failed.

In DCM:

Change [SWS_Dcm_00957] to

On reception of an OBD Service 06 request with only "availability OBDMID(s)" as parameter(s), the Dcm module shall obtain the supported OBDMIDs

by calling the DEM interface Dem_DcmGetAvailableOBDMIDs()for each "availability OBDMID (00, 20, ...)" contained within the request and concatenate the results within the response message according to ISO-15031-5.

–Last change on issue 77870 comment 11–

BW-C-Level:

Application	Specification	Bus
1	1	1

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- RfC #78539: Traceability cleanup due to new FO_SRS_Diag

Problem description:

Traceability cleanup due to new FO_SRS_Diag with new SRS and /or merged of existing SRS. The traceability table on Dcm/Dem needs to be reviewed. If SRS is missing we should propose new SRS for next FO release.

Agreed solution:

Traceability cleanup on Dem/Dcm

To provide a copy& paste ready solution the effort is too high and has got no added value. So, an example shall show what is to do to clean up the DEM and DCM.

Motivation:
Due to the clean up of SRS_Diag in FO R120 the traceability needs also an update. There are too many "No description" shown in the documents -
~ 30 entries with ~ 60 referenced requirements into Dem.
The reason for that is that the requirements have got new numbers since they were replaced or merged with the SRS_Diag harmonization. If Dem and Dcm will be released with R431 with the current status the document has got none high quality. This RfC is a formal change only to clean up the document for R431 and harmonize the document with the SRS-Diag (FO R130).

Proposal:
1) search for "No description"
2) replaces the current requirement number with the old one: example: SRS_Diag_04069 -> SRS_Diag_04204
3) clean up the traceability of the detected requirement under 1) for example: SRS_Diag_04069: [SWS_Dem_00570] [SWS_Dem_00571],[SWS_Dem_00572] [SWS_Dem_00573],[SWS_Dem_00661],[SWS_Dem_00664],[SWS_Dem_01057],[SWS_Dem_0
–Last change on issue 78539 comment 6–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.294   Specification Item SWS_Dem_01302

Trace References:

SRS_Diag_04126

Content:

The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRSta-

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tusof SWS_Dem_00838 to:

E_OK: Request to set the WIR status was successful.

E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to

The function Dem_ResetEventStatus shall trigger the setting of the event status bit 0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time. c(SRS_Diag_04067)

Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]

SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit

SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.

–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.295   Specification Item SWS_Dem_01303

Trace References:

SRS_Diag_04069

Content:

The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77928: [Dem] make interfaces asynchronous (Topic 2 from RfC 76727 - Refine Dem Interface)

Problem description:

copied from Wigberts RFC 76727:

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

==> copied into separate rfc as it is a independent different topic and can be discussed separately

Agreed solution:

2) Make
- Dem_ResetEventStatus SWS_Dem_00185
- Dem_SetEventAvailable SWS_Dem_01080
- Dem_SetWIRStatus SWS_Dem_00839
asynchronous.

Change description of return values of SWS_Dem_00185 and operation ResetEventStatus of SWS_Dem_00598 to:
E_OK: Request to reset the event status was successful accepted.
E_NOT_OK: Request to reset the event status failed or is not allowed, because the event is already tested in this operation cycle.

Change description of return values of SWS_Dem_01080 and operation SetEventAvailable of SWS_Dem_01193 to:
E_OK: Request to set the availability status was successful.
E_NOT_OK: Request to set the availability status not accepted.

Change description of return values of SWS_Dem_00839 and operation SetWIRStatusof SWS_Dem_00838 to:
E_OK: Request to set the WIR status was successful.
E_NOT_OK: Request to set the WIR status was not be accepted (e.g. disabled controlDTCSetting) and should be repeated.

Modify the [SWS_Dem_00187] to
The function Dem_ResetEventStatus shall trigger the setting of the event status bit

0 (TestFailed) to 0 and reset the Dem-internal debounce algorithm to initial values if configured. The Dem shall execute this action asynchronously at a later point in time. c(SRS_Diag_04067)

Note : A later point in time means that the exact moment is implementation specific. This could be the next main function. Also a possible call of the status change callback is triggered asynchronously.

Add new requirement before [SWS_Dem_0110]

SWS_Dem_0xxxx The Dem shall process a call of the Dem_SetEventAvailable asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.(SRS_Diag_04126)

Add new requirement to end of chapter 7.7.9.2 User controlled WarningIndicatorRequested-bit

SWS_Dem_0yyyy : The Dem shall process a call of the Dem_SetWIRStatus asynchronously. This means that the final result is available at a later point in time. This could be e.g. within the next main function.

–Last change on issue 77928 comment 5–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.296   Specification Item SWS_Dem_01304

Trace References:

SRS_Diag_04010

Content:

The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

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1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

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Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.297   Specification Item SWS_Dem_01305

Trace References:

SRS_Diag_04010

Content:

In case any of the Dem_SelectDTC related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185

* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)

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Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record success-fully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
4	4	1

1.298   Specification Item SWS_Dem_01306

Trace References:

SRS_Diag_04010

Content:

If Dem_SelectDTC is called by one client and the same client is calling Dem_Select
DTC again and the Dem is currently still processing the previous operation based on
Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

   Problem description:

   With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The
   following situations were left out in these RfCs and shall be added to the Dem:

   1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
   Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to
   SWS_Dem_01253. As the select API is meant to start the SelectDTC process but
   the result is only available for the other APIs the Dem_SelectDTC operation is more
   asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be
   changed, nothing more (no further return values).

   2) Make
   * Dem_ResetEventStatus SWS_Dem_00185
   * Dem_SetEventAvailable SWS_Dem_01080
   * Dem_SetWIRStatus SWS_Dem_00839
   asynchronous. Those APIs could trigger callbacks, they are not re-entrant among
   each other. Making them asynchronous would allow a deterministic behavior.

   3) Make the SelectDTC and depending API call sequence robust by protec-
   tion against various invalid call sequences, such as:
   a) Dem_Select(DTC1)
   Dem_Select(DTC2)

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Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

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Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.299   Specification Item SWS_Dem_01307

Trace References:

Document ID 695: ChangeDocumentation

SRS_Diag_04154

Content:

If Dem_GetDTCSuppression is called, the Dem shall return the DTC suppression status in the output parameter Dem_GetDTCSuppression.SuppressionStatus. A value of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with Dem_Set DTCSuppression.SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76814: Provide getter for dtc suppression

  Problem description:

  The Dem only provides means to set the DTC suppression state, a symetric API to read back the suppression state of an DTC is missing.

  Agreed solution:

  Add a new C-API:

  Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean *SuppressionStatus)
  Asynchronous
  Reentrant
  Param (in): ClientId - Unique client id, assigned to the instance of the calling module
  Param (out): SuppressionStatus - Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
  Return value: Std_ReturnType - E_OK: Operation was successful
  E_NOT_OK: Dem_SelectDTC was not called.
  DEM_WRONG_DTC: No valid DTC or DTC group selected.
  DEM_WRONG_DTCORIGIN: Wrong DTC origin selected
  DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

  Description: "Returns the suppression status of a specific DTC.
  API Availability: This API will be available only if (ecuc(Dem/DemGeneral.DemSuppressionSupport) == DEM_DTC_SUPPRESSION)"

  Add a new operation to C/S interface "DTCSuppression" SWS_Dem_00608:
  Name: GetDTCSuppression
  Take parameters and description from C-API above, link both to SRS_Diag_04154

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Add new requirement to chapter 7.4.76 Suppress DTC output

SWS_Dem_xxxx1: If Dem_GetDTCSuppression is called, the Dem shall return the status if the DTC is suppressed in the output parameter SuppressionStatus. A value of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed. (SRS_Diag_04154)

Add text below this requirement:
Also there are various reasons, why a DTC is not processed and thus is not visible for diagnostics, the suppression state itself is only changed by Dem_SetDTCSuppression. Dem_GetDTCSuppression only evaluates this suppression state.

Remove SWS_Dem_00586

Change SWS_Dem_01253 to :
If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group of DTC in the requested DTCOrigin and DTCFormat as target for the following API calls:
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_ClearDTC
Dem_DisableDTCRecordUpdate
Dem_EnableDTCRecordUpdate
Dem_GetDTCSelectionResult
Dem_GetDTCSuppression.
(SRS_Diag_04010)
–Last change on issue 76814 comment 24–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.300   Specification Item SWS_Dem_91015

Trace References:

Content:

Service name:	Dem_SelectFreezeFrameDataDem_SelectFreezeFrameData	
Syntax:	Std_ReturnType Dem_SelectFreezeFrameData(uint8 ClientId, uint32 DTC, Dem_DTCOriginType DTCOrigin, uint8 RecordNumber)	
Service ID[hex]:	0xb9	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_SelectFreezeFrame Data.ClientId	Unique client id, assigned to the instance of the calling module.
	DTC	Diagnostic Trouble Code in UDS format.
	DTCOrigin	If the Demsupports more than one event memory, this parameter is used to select the source memory the DTCs shall be read from.
RecordNumberDem_SelectFreeze FrameData.RecordNumber	This parameter is a unique Unique identifier for a freezeframe snapshot record as defined in ISO 15031-5 and ISO 14229-1. This record number is unique per DTC (relative addressing). The value 0xFF is not alloweda placeholder referencing all snapshot records of the addressed DTC. The value 0x00 indicates the DTC-specific OBD freeze frameWWH-OBD snapshot record.	
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OKis returned: Freeze frame data successfully selected. DEM_WRONG_DTC: Selected DTC value in selected format does not exist. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist. DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Sets the filter to be used by Dem_GetNextFreezeFrameData and Dem_GetSizeOf FreezeFrameSelection.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

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1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the

E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)

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Extend return type description as:

SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"

SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"

SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"

SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected

–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

Problem description:

In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

shall also depa
Dendent on Dem_SelectDTC.
–Last change on issue 76765 comment 7–

Agreed solution:

To SWS_Dem_01253 add the following two APIs:
- Dem_SelectFreezeFrameData [SWS_Dem_91015]
- Dem_SelectExtendedDataRecord [SWS_Dem_91017]

From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
- uint32 DTC
- Dem_DTCOriginType DTCOrigin

Add the following return values to Dem_SelectFreezeFrameData:
E_OK: The freeze frame is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

Add the following return values to Dem_SelectExtendedDataRecord :
E_OK: The extended data record is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:
[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:
Dem_GetNextExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection
c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:
Dem_GetNextFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection
c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0 (empty buffer). (SRS_Diag_04074)
–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #76785: Allow selection for all freezeframes on Dem_SelectFreezeFrameData

Problem description:

In Dem_SelectFreezeFrameData [SWS_Dem_91015] the parameter "RecordNumber" has the following description:

"This parameter is a unique identifier for a freezeframe record as defined in ISO 15031-5 and ISO 14229-1. This record number is unique per DTC (relative addressing). The value 0xFF is not allowed. The value 0x00 indicates the DTC-specific OBD freeze frame."

There is no reason to restrict the value "0xFF" to be used, it is much more essential for ISO 14229-1 diagnostics. It seems that this is a copy& paste bug as 4.2.x APIs indeed required that 0xFF was excluded.

Agreed solution:

Change the parameter description "RecordNumber" of Dem_SelectFreezeFrameData [SWS_Dem_91015] to:

"Unique identifier for a snapshot records as defined in ISO 14229-1. The value 0xFF is a placeholder referencing all snapshot records of the addressed DTC. The value 0x00 indicates the DTC-specific WWH-OBD snapshot record."
–Last change on issue 76785 comment 5–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.301   Specification Item SWS_Dem_91016

Trace References:

Content:

Service name:	Dem_SelectDTCDem_SelectDTC	
Syntax:	Std_ReturnType Dem_SelectDTC(uint8 ClientId, uint32 DTC, Dem_DTCFormatType DTCFormat, Dem_DTCOriginType DTCOrigin)	
Service ID[hex]:	0xb7	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_SelectDTC.ClientId	Unique client id, assigned to the instance of the calling module.
	DTCDem_SelectDTC.DTC	Defines the DTC in respective format that is selected. If the DTC fits to a DTC group number, the DTC group is selected.
	DTCFormatDem_Select DTC.DTCFormat	Defines the input-format of the provided DTC value.
	DTCOriginDem_SelectDTC.DTCOrigin	The event memory of the requested DTC or group of DTC.

Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OKis returned: DTC successfully selected. DEM_BUSY: Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress.
Description:	Selects a DTC or DTC group as target for further operations.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

Problem description:

With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already

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started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.302 Specification Item SWS_Dem_91017

Trace References:

Content:

Service name:	Dem_SelectExtendedDataRecordDem_SelectExtendedDataRecord
Syntax:	Std_ReturnType Dem_SelectExtendedDataRecord(uint8 ClientId, uint32 DTC, Dem_DTCOriginType DTCOrigin, uint8 ExtendedDataNumber)

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Service ID[hex]:	0xba	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_SelectExtendedData Record.ClientId	Unique client id, assigned to the instance of the calling module.
	DTCDem_SelectExtendedData Record.DTC	Diagnostic Trouble Code in UDS format.
DTCOriginDem_SelectExtendedData Record.DTCOrigin	If the Dem supports more than one event memory, this parameter is used to select the source memory the DTCs shall be read from.	
ExtendedDataNumberDem_Select ExtendedDataRecord.ExtendedData Number	Identification/Number of requested extended data record. Additionally the values 0xFE and 0xFF are explicitly allowed to request the overall size of all OBD records / all records.	
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	Always E_OKis returned: Extended data record successfully selected. DEM_WRONG_DTC: Selected DTC value in selected format does not exist. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist. DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Sets the filter to be used by Dem_GetNextExtendedDataRecord and Dem_GetSize OfExtendedDataRecordSelection.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

    Problem description:

    With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

    1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
    Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

2) Make
* Dem_ResetEventStatus SWS_Dem_00185
* Dem_SetEventAvailable SWS_Dem_01080
* Dem_SetWIRStatus SWS_Dem_00839
asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace DEM_CLEAR_WRONG_DTC by DEM_WRONG_DTC in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully

selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76765: Access to event related data APIs shall depend on Dem_SelectDTC

Problem description:

In 4.3.0 in RfC # 71838 the Dem/Dcm interaction was updated. It was forgotten that the APIs:

Dem_SelectFreezeFrameDatem_SelectExtendedDataRecord

shall also depa
Dendent on Dem_SelectDTC.
–Last change on issue 76765 comment 7–

Agreed solution:

To SWS_Dem_01253 add the following two APIs:
- Dem_SelectFreezeFrameData [SWS_Dem_91015]
- Dem_SelectExtendedDataRecord [SWS_Dem_91017]

From API Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord remove the following parameters:
- uint32 DTC
- Dem_DTCOriginType DTCOrigin

Add the following return values to Dem_SelectFreezeFrameData:
E_OK: The freeze frame is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the freeze frame is currently in progress. The caller shall call this function again at a later moment.

Add the following return values to Dem_SelectExtendedDataRecord :
E_OK: The extended data record is correctly selected.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist.
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist.
DEM_PENDING: Selecting the extended data record is currently in progress. The caller shall call this function again at a later moment.

Remove the dependencies to the two parameters and add reference to selected DTC instead in:

[SWS_Dem_01272] If the API Dem_SelectExtendedDataRecord is called, the Dem shall use the DTC selected by Dem_SelectDTC and the ExtendedDataNumber as a target for the following API calls:

Dem_GetNextExtendedDataRecord
Dem_GetSizeOfExtendedDataRecordSelection
c(SRS_Diag_04074)

[SWS_Dem_01268] If the API Dem_SelectFreezeFrameData is called, the Dem shall use the DTC selected by Dem_SelectDTC and the FreezeFrameRecordNumber as a target for the following API calls:

Dem_GetNextFreezeFrameData
Dem_GetSizeOfFreezeFrameSelection
c(SRS_Diag_04074)

[SWS_Dem_00630] If a single DTC is selected and the API Dem_SelectFreezeFrameData is called with a valid RecordNumber which is not stored, Dem_GetNextFreezeFrameData shall return E_OK and BufSize 0 (empty buffer). (SRS_Diag_04074)
–Last change on issue 76765 comment 11–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.303   Specification Item SWS_Dem_91020

Trace References:

Content:

Service name:	Dem_GetDTCSelectionResultForClearDTCDem_GetDTCSelectionResultForClearDTC
Syntax:	Std_ReturnType Dem_GetDTCSelectionResultForClearDTC(uint8 ClientId)
Service ID[hex]:	0xbb
Sync/Async:	Asynchronous
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.

Parameters (in):	ClientIdDem_GetDTCSelectionResult ForClearDTC.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: The DTC select parameter check is successful and the requested DTC or group of DTC in the selected origin is selected for further operations. DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a single DTC was selected and Dem only supports to Clear all DTCs. DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist. DEM_PENDING: Checking the Select DTC parameters is currently in progress. The caller shall call this function again later. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:	Provides information if the last call to Dem_SelectDTC has selected a valid DTC or group of DTCs, respecting the settings if the Dem shall clear only all DTCs.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839
  asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
a) Dem_Select(DTC1)
Dem_Select(DTC2)
Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)

Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #77608: [Dem] Check clear parameters according ISO

Problem description:

taken from comment 13 of RFC # 76727

Statement from Carl-Eike:
"as I understood, the timing chart for clearing given in the ISO has some strong
requirements on evaluation order. Wouldn't those be violated, if a clear fails
due to a wrong DTC at a later step? It's well possible that it doesn't matter
much or at all, but as it seems it was the reason to introduce
GetSelectionResult for use in the clear processing.

I've noticed something else reading the SWS. Why are so many requirements
starting with "The API Dem_Xyz shall"? The API is the set of everything needed
by the application to use the Dem (say, # defines, typedefs, functions, ...).
Dem_Xyz on the other hand is simply a function - part of the API, but surely
not "the API". This is evident especially for those functions that only make
any sense when used in combination. Could the "The API " part be removed from
all the requirements?"

Conclusion:
currently the Dem_GetDTCSelectionResult function cannot consider the restriction
of DemClearDTCLimitation [ECUC_Dem_00790]. Therefore getDTCSelectionRe-
sult does not correctly indicate, whether a later clear-request will succeed. This is
required for proper ISO handling.

Agreed solution:

Add a new API Dem_GetDTCSelectionResultForClearDTC
Syntax: Std_ReturnType Dem_GetDTCSelectionResultForClearDTC(
uint8 ClientId
)
Service ID[hex]:
Sync/Async: Asynchronous
Reentrancy: Reentrant for different ClientIds, non reentrant for the same ClientId.
Parameters (in): ClientId Unique client id, assigned to the instance of the call-
ing module.
Parameters (inout): None
Parameters (out): None
Return value: Std_ReturnType E_OK: The DTC select parameter check is success-
ful and the requested DTC or group of DTC in the selected origin is selected for
further operations.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a
single DTC was selected and Dem only supports to Clear all DTCs
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist

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DEM_PENDING: Checking the SelectDTC parameters is currently in progress. The caller shall call this function again later.

Add requirement bellow requirement SWS_Dem_1258
SWS_Dem_xxxxx :
The API Dem_GetDTCSelectionResultForClearDTC shall behave exactly as Dem_GetDTCSelectionResult with the only difference that, DEM_WRONG_DTC is returned in case of a single DTC was selected but the Dem is configured to delete only all DTCs for that client.
–Last change on issue 77608 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.304   Specification Item SWS_Dem_91023

Trace References:

Content:

Service name:	Dem_GetDTCSelectionResultDem_GetDTCSelectionResult	
Syntax:	Std_ReturnType Dem_GetDTCSelectionResult(uint8 ClientId)	
Service ID[hex]:	0xb8	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant for different ClientIds, non reentrant for the same ClientId.	
Parameters (in):	ClientIdDem_GetDTCSelection Result.ClientId	Unique client id, assigned to the instance of the calling module.
Parameters (inout):	None	
Parameters (out):	None	

Return value:	Std_ReturnType	E_OK: The DTC select parameter check is successful and the requested DTC or group of DTC in the selected origin is selected for further operations. E_NOT_OK: No DTC selected DEM_WRONG_DTC: Selected DTC value in selected format does not exist DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist DEM_PENDING: Checking the Select DTC parameters is currently in progress. The caller shall call this function again later. DEM_BUSY: A different Dem_SelectDTC dependent operation according to SWS_Dem_01253 of this client is currently in progress.
Description:		– Provides information if the last call to Dem_SelectDTC has selected a valid DTC or group of DTCs.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76727: Refine Dem Interface

  Problem description:

  With RfC # 71838 and # 51629 in ASR 4.3.0 the Dem API was reworked. The following situations were left out in these RfCs and shall be added to the Dem:

  1) Make Dem_SelectDTC (SWS_Dem_91016) asynchronous
  Rational: In 4.3.0 the SelectDTC API is the source for further APIs according to SWS_Dem_01253. As the select API is meant to start the SelectDTC process but the result is only available for the other APIs the Dem_SelectDTC operation is more asynchronous than synchronous. Note that only the "Sync/Async:" flag shall be changed, nothing more (no further return values).

  2) Make
  * Dem_ResetEventStatus SWS_Dem_00185
  * Dem_SetEventAvailable SWS_Dem_01080
  * Dem_SetWIRStatus SWS_Dem_00839
  asynchronous. Those APIs could trigger callbacks, they are not re-entrant among each other. Making them asynchronous would allow a deterministic behavior.

  3) Make the SelectDTC and depending API call sequence robust by protection against various invalid call sequences, such as:
  a) Dem_Select(DTC1)
  Dem_Select(DTC2)
  Dem_ClearDTC() -> which DTC to clear DTC1, or DTC2?

b) Dem_Select(DTC1)
Dem_ClearDTC()
Dem_GetStatusOfDTC() -> is this call valid? what is returned?

Agreed solution:

3)
a) Add DEM_BUSY as further return value to:
Dem_SelectDTC (SWS_Dem_91016)

Description of DEM_BUSY: "Another Dem_SelectDTC or Dem_SelectDTC dependent operation of this client is currently in progress."

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1: If Dem_SelectDTC is called by one client and the same client is calling Dem_SelectDTC again and the Dem is currently still processing the previous operation based on Dem_SelectDTC according to SWS_Dem_01253, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

Add new requirement below SWS_Dem_01253:
SWS_Dem_xxxx1_1:
The Dem shall consider an operation based on Dem_SelectDTC according to SWS_Dem_01253 to be finished independently if the client has requested the E_OK result from the Dem or not. (SRS_Diag_04010)

Note: A client calling Dem_SelectDTC while another operation of the same client is still running, would indicate that the client is no longer interested in the result of the running operation. The result can be dropped and new select can be processed after DEM is ready.

b) Add DEM_BUSY as further return value to:
Dem_GetStatusOfDTC (SWS_Dem_00212)
Dem_GetSeverityOfDTC (SWS_Dem_00232)
Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
Dem_ClearDTC (SWS_Dem_00665)
C/S Interface ClearDTC (SWS_Dem_00666) Operation ClearDTC
Dem_DisableDTCRecordUpdate(SWS_Dem_00233)
Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
Dem_GetDTCSelectionResult (SWS_Dem_91023)
Dem_GetDTCSelectionResultForClearDTC (new API RFC# 77608)
Dem_SelectExtendedDataRecord(SWS_Dem_91017)
Dem_SelectFreezeFrameData (SWS_Dem_91015)

Description of DEM_BUSY: "A different Dem_SelectDTC dependent operation

according to SWS_Dem_01253 of this client is currently in progress."

Add new requirement below SWS_Dem_xxxx1:
SWS_Dem_xxxx2: In case any of the Dem_SelectDtc related APIs according to SWS_Dem_01253 is called by one client and the same client has already started another Dem_SelectDTC related operation according to SWS_Dem_01253 and this different operation is not completed, the Dem shall return DEM_BUSY. (SRS_Diag_04010)

remove unused types:
[SWS_Dem_00952] Dem_ReturnGetStatusOfDTCType
[SWS_Dem_00953] Dem_ReturnGetSeverityOfDTCType
[SWS_Dem_00954] Dem_ReturnGetFunctionalUnitOfDTCType
[SWS_Dem_00956] Dem_ReturnGetNumberOfFilteredDTCType (adapt figure 7.50 Multiple clients requesting event memory information in parallel)
[SWS_Dem_00959] Dem_ReturnDisableDTCRecordUpdateType

5)
replace   DEM_CLEAR_WRONG_DTC   by   DEM_WRONG_DTC   in [SWS_Dem_01100] and [SWS_Dem_00670]

6)
Extend return type description as:
SWS_Dem_91016: correct description of E_OK to "DTC successfully selected"
SWS_Dem_00234: correct description of E_OK to "DTC record successfully updated"
SWS_Dem_91017: correct description of E_OK to "Extended data record successfully selected"
SWS_Dem_91015: correct description of E_OK to "Freeze frame data successfully selected
–Last change on issue 76727 comment 33–

BW-C-Level:

Application	Specification	Bus
4	4	1

- RfC #76748: Inconsistent behavior on APIs requiring a set/select

Problem description:

The following APIs do dependent on Select<XYZ>/SetFilter. If this Select/Set did not occur the Dem has an inconsistent behavior on them.

Dem_GetNumberOfFilteredDTC (SWS_Dem_00214): no handling at all

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Dem_GetNextExtendedDataRecord (SWS_Dem_00239): E_NOT_OK is returned
Dem_DisableDTCRecordUpdate (SWS_Dem_00233): no handling provided

SWS_Dem_01261 defines that all Dem_SelectDTC dependent APIs do return DEM_WRONG_DTC in this case.

Agreed solution:

Align the Dem behavior for all dependent APIs to have the same behavior and return E_NOT_OK in all those situations.

===BSW UML change start===
Add further return value "E_NOT_OK" with description "No DTC selected" to:
- Dem_DisableDTCRecordUpdate (SWS_Dem_00233)
- Dem_EnableDTCRecordUpdate (SWS_Dem_00234)
- Dem_GetStatusOfDTC (SWS_Dem_00212)
- Dem_GetSeverityOfDTC (SWS_Dem_00232)
- Dem_GetFunctionalUnitOfDTC (SWS_Dem_00594)
- Dem_ClearDTC (SWS_Dem_00665)
- Dem_GetDTCSelectionResult (SWS_Dem_91023)

Add further return value "E_NOT_OK" with description "No DTC filter set" to
:
- Dem_GetNumberOfFilteredDTC (SWS_Dem_00214)
- Dem_GetNextFilteredDTC (SWS_Dem_00215)
- Dem_GetNextFilteredDTCAndFDC (SWS_Dem_00227)
- Dem_GetNextFilteredDTCAndSeverity (SWS_Dem_00281)

===BSW UML change end===

Change SWS_Dem_01261 to: "API Behaviour on undefined DTC or format"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called on a selected DTC or group of DTC that does not exist in the selected DTC-Format, the Dem shall return DEM_WRONG_DTC on this API. (SRS_BSW_00369)

Add new requirement below SWS_Dem_01261 "API behavior without selected DTC"
If any of the APIs requiring a Dem_SelectDTC according to SWS_Dem_01253 is called without a prior call of Dem_SelectDTC for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API.(SRS_BSW_00369)

Add new requirement above SWS_Dem_01264:

SWS_Dem_xxxx1: If any of the APIs requiring a Dem_SetDTCFilter according to SWS_Dem_00057 is called without a prior call of Dem_SetDTCFilter for this client, the Dem shall report the DET error DEM_E_WRONG_CONDITION and return E_NOT_OK on this API. (SRS_BSW_00369)

Remove (see comment 7):
SWS_Dem_00956 Dem_ReturnGetNumberOfFilteredDTCType
SWS_Dem_00959 Dem_ReturnDisableDTCRecordUpdateType
SWS_Dem_00952 Dem_ReturnGetStatusOfDTCType
SWS_Dem_00953 Dem_ReturnGetSeverityOfDTCType
SWS_Dem_00954 Dem_ReturnGetFunctionalUnitOfDTCType

Adapt https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtif as Dem_ReturnGetNumberOfFilteredDTCType was removed.

- In SWS_Dem_00874 replace DEM_NUMBER_OK with E_OK and DEM_NUMBER_PENDING with DEM_PENDING
- In SWS_Dem_01100 remove Dem_SelectFreezeFrameData and Dem_SelectExtendedDataRecord
–Last change on issue 76748 comment 22–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #77608: [Dem] Check clear parameters according ISO

Problem description:

taken from comment 13 of RFC # 76727

Statement from Carl-Eike:
"as I understood, the timing chart for clearing given in the ISO has some strong
requirements on evaluation order. Wouldn't those be violated, if a clear fails
due to a wrong DTC at a later step? It's well possible that it doesn't matter
much or at all, but as it seems it was the reason to introduce
GetSelectionResult for use in the clear processing.

I've noticed something else reading the SWS. Why are so many requirements
starting with "The API Dem_Xyz shall"? The API is the set of everything needed
by the application to use the Dem (say, # defines, typedefs, functions, ...).
Dem_Xyz on the other hand is simply a function - part of the API, but surely
not "the API". This is evident especially for those functions that only make

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any sense when used in combination. Could the "The API " part be removed from all the requirements?"

Conclusion:
currently the Dem_GetDTCSelectionResult function cannot consider the restriction of DemClearDTCLimitation [ECUC_Dem_00790]. Therefore getDTCSelectionResult does not correctly indicate, whether a later clear-request will succeed. This is required for proper ISO handling.

Agreed solution:

Add a new API Dem_GetDTCSelectionResultForClearDTC
Syntax: Std_ReturnType Dem_GetDTCSelectionResultForClearDTC(
uint8 ClientId
)
Service ID[hex]:
Sync/Async: Asynchronous
Reentrancy: Reentrant for different ClientIds, non reentrant for the same ClientId.
Parameters (in): ClientId Unique client id, assigned to the instance of the calling module.
Parameters (inout): None
Parameters (out): None
Return value: Std_ReturnType E_OK: The DTC select parameter check is successful and the requested DTC or group of DTC in the selected origin is selected for further operations.
DEM_WRONG_DTC: Selected DTC value in selected format does not exist or a single DTC was selected and Dem only supports to Clear all DTCs
DEM_WRONG_DTCORIGIN: Selected DTCOrigin does not exist
DEM_PENDING: Checking the SelectDTC parameters is currently in progress. The caller shall call this function again later.

Add requirement bellow requirement SWS_Dem_1258
SWS_Dem_xxxxx :
The API Dem_GetDTCSelectionResultForClearDTC shall behave exactly as Dem_GetDTCSelectionResult with the only difference that, DEM_WRONG_DTC is returned in case of a single DTC was selected but the Dem is configured to delete only all DTCs for that client.
–Last change on issue 77608 comment 2–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.305 Specification Item SWS_Dem_91024

Trace References:

Content:

Name	CBClrEvt_{Name}Dem.CBClrEvt		
Kind	RequiredPort	Interface	CallbackClearEventAllowed
Description	–		
Variation	(({ecuc(Dem/DemConfigSet/DemEventParameter/DemCallbackClearEventAllowed)} != NULL) &&({ecuc(Dem/DemConfigSet/DemEventParameter/DemCallbackClearEventAllowed/DemCallbackClearEventAllowedFnc)} == NULL)) Name = {ecuc(Dem/DemConfigSet/DemEventParameter/DemCallbackClearEventAllowed.SHORT-NAME)}		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77456: [Dem] missing definition of the R-PORT name for the interface CallbackClearEventAllowed

  Problem description:

  In sec. 8.6.4 Ports, the port (R-PORT) definition for the interface CallbackClearEventAllowed (in sec. 8.6.3 Client-Server-Interfaces) is missing.

  Proposal:
  Add new section, new requirement and new table as described below (I think it can be applied to R4.3.1):
  ‒‒‒‒
  8.6.4.38 CBClrEvt
  [SWS_Dem_xxxx01]
  * Name: CBClrEvt_Name
  * Kind: RequiredPort
  * Interface: CallbackClearEventAllowed
  * Description:
  * Variation: ((ecuc(Dem/DemConfigSet/DemEventParameter/DemCallbackClearEventAllowed) != NULL) & & (ecuc(Dem/DemConfigSet/DemEventParameter/DemCallbackClearEventAllowed/De == NULL)) Name = ecuc(Dem/DemConfigSet/DemEventParameter.SHORT-NAME)
  Table 8.293: Port CBClrEvt_Name
  (SRS_Diag_04117)
  ‒‒‒‒

Note: the name of the port (R-PORT) is coming from CP R3.2.3 SWS Dem:
> RequirePort CallbackClearEventAllowed CBClrEvt_<EventName>;

Agreed solution:

Add the existing artifact:
https://svn.autosar.org/repos/work/26_Standards/10_CP_R4/01_Sources/ZGEN_SWSArtifacts/S
into the SWS_Dem.
–Last change on issue 77456 comment 3–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.306   Specification Item SWS_Dem_91025

Trace References:

SRS_Diag_04154

Content:

Service name:	Dem_GetDTCSuppressionDem_GetDTCSuppression	
Syntax:	Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean* SuppressionStatus)	
Service ID[hex]:	0xbc	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant	
Parameters (in):	ClientIdDem_Get DTCSuppression.ClientId	Unique client id, assigned to the instance of the calling module
Parameters (inout):	None	
Parameters (out):	SuppressionStatusDem_Get DTCSuppression.SuppressionStatus	Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
Return value:	Std_ReturnType	E_OK: Operation was successful. E_NOT_OK: Dem_SelectDTC was not called. DEM_WRONG_DTC: No valid DTC or DTC group selected. DEM_WRONG_DTCORIGIN: Wrong DTC origin selected. DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

Description:	Returns the suppression status of a specific DTC. API Availability: This API will be available only if ({ecuc(Dem/DemGeneral.DemSuppressionSupport)} == DEM_DTC_SUPPRESSION)

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76814: Provide getter for dtc suppression

Problem description:

The Dem only provides means to set the DTC suppression state, a symetric API to read back the suppression state of an DTC is missing.

Agreed solution:

Add a new C-API:

Std_ReturnType Dem_GetDTCSuppression(uint8 ClientId, boolean *SuppressionStatus)
Asynchronous
Reentrant
Param (in): ClientId - Unique client id, assigned to the instance of the calling module
Param (out): SuppressionStatus - Defines whether the respective DTC is suppressed (TRUE) or enabled (FALSE).
Return value: Std_ReturnType - E_OK: Operation was successful
E_NOT_OK: Dem_SelectDTC was not called.
DEM_WRONG_DTC: No valid DTC or DTC group selected.
DEM_WRONG_DTCORIGIN: Wrong DTC origin selected
DEM_PENDING: The requested value is calculated asynchronously and currently not available. The caller can retry later.

Description: "Returns the suppression status of a specific DTC.
API Availability: This API will be available only if (ecuc(Dem/DemGeneral.DemSuppressionSupport) == DEM_DTC_SUPPRESSION)"

Add a new operation to C/S interface "DTCSuppression" SWS_Dem_00608:
Name: GetDTCSuppression
Take parameters and description from C-API above, link both to SRS_Diag_04154

Add new requirement to chapter 7.4.76 Suppress DTC output

SWS_Dem_xxxx1: If Dem_GetDTCSuppression is called, the Dem shall return the status if the DTC is suppressed in the output parameter SuppressionStatus. A value

of TRUE means that the DTC was suppressed by a call of Dem_SetDTCSuppression with SuppressionStatus = TRUE, a value of FALSE means, that the DTC is currently not suppressed. (SRS_Diag_04154)

Add text below this requirement:
Also there are various reasons, why a DTC is not processed and thus is not visible for diagnostics, the suppression state itself is only changed by Dem_SetDTCSuppression. Dem_GetDTCSuppression only evaluates this suppression state.

Remove SWS_Dem_00586

Change SWS_Dem_01253 to :
If the API Dem_SelectDTC is called, the Dem shall use the selected DTC or group of DTC in the requested DTCOrigin and DTCFormat as target for the following API calls:
Dem_GetStatusOfDTC
Dem_GetSeverityOfDTC
Dem_GetFunctionalUnitOfDTC
Dem_ClearDTC
Dem_DisableDTCRecordUpdate
Dem_EnableDTCRecordUpdate
Dem_GetDTCSelectionResult
Dem_GetDTCSuppression.
(SRS_Diag_04010)
–Last change on issue 76814 comment 24–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.307   Specification Item SWS_Dem_CONSTR_06118

Trace References:

Content:

The DemDTC.DemDtcValue shall be unique within all DTCs referencing the same event memory.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76511: Uniqueness of DTCs

Problem description:

1) DTC values are unique in a given DTCOrigin and DemEventMemorySet, but there is no requirement yet expressing this. Only the first sentence of chapter 7.4 mentions something like this (informative and incomplete).

2) Dem_SetDTCSuppression uses a DTC value as index to identify the DTC to suppress. As DTCs are not unique among the different fault memories the API shall get extended by DTCOrigin and DemEventMemorySet.

Agreed solution:

1a) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx1: The DemDtcValue [ECUC_Dem_00887] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

1b) Add a new constraint after SWS_Dem_01247:
SWS_Dem_CONSTR_xxxx2: The DemDtcValue [ECUC_Dem_00885] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

2) Change API Dem_SetDTCSuppression [SWS_Dem_01047] to: Std_ReturnType Dem_SetDTCSuppression(uint8 ClientId, boolean SuppressionStatus)
Use ClientID description from existing APIs.
Do the same for the C/S DTCSuppression [SWS_Dem_00608] in operation Set-DTCSuppression.
Add Dem_SetDTCSuppression as further bullet point in: SWS_Dem_01253
–Last change on issue 76511 comment 13–

BW-C-Level:

Application	Specification	Bus
4	4	1

1.308   Specification Item SWS_Dem_CONSTR_06119

Trace References:

Content:

The DemObdDTC.DemDtcValue shall be unique within all DTCs referencing the same event memory.

Document ID 695: ChangeDocumentation

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76511: Uniqueness of DTCs

  Problem description:

  1) DTC values are unique in a given DTCOrigin and DemEventMemorySet, but there is no requirement yet expressing this. Only the first sentence of chapter 7.4 mentions something like this (informative and incomplete).

  2) Dem_SetDTCSuppression uses a DTC value as index to identify the DTC to suppress. As DTCs are not unique among the different fault memories the API shall get extended by DTCOrigin and DemEventMemorySet.

  Agreed solution:

  1a) Add a new constraint after SWS_Dem_01247:
  SWS_Dem_CONSTR_xxxx1: The DemDtcValue [ECUC_Dem_00887] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

  1b) Add a new constraint after SWS_Dem_01247:
  SWS_Dem_CONSTR_xxxx2: The DemDtcValue [ECUC_Dem_00885] shall be unique within all DTCs referencing the same event memory. (SRS_Diag_04126)

  2) Change API Dem_SetDTCSuppression [SWS_Dem_01047] to: Std_ReturnType Dem_SetDTCSuppression(uint8 ClientId, boolean SuppressionStatus)
  Use ClientID description from existing APIs.
  Do the same for the C/S DTCSuppression [SWS_Dem_00608] in operation Set-DTCSuppression.
  Add Dem_SetDTCSuppression as further bullet point in: SWS_Dem_01253
  –Last change on issue 76511 comment 13–

  BW-C-Level:

Application	Specification	Bus
4	4	1

1.309 Specification Item SWS_Dem_CONSTR_06120

Trace References:

Content:

The DemGeneral.DemGeneralCallbackMonitorStatusChangedFnc shall only be present if DemGeneral.DemGeneralInterfaceSupport is set to TRUE."

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.310   Specification Item SWS_Dem_CONSTR_06121

Trace References:

Content:

The DemGeneral.DemMaxNumberEventEntryEventBuffer shall only be present if DemGeneral.DemEnvironmentDataCapture is set to DemGeneral.DemEnvironmentDataCapture.DEM_CAPTURE_SYNCHRONOUS_TO_REPORTING.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Document ID 695: ChangeDocumentation

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.311   Specification Item SWS_Dem_CONSTR_06122

Trace References:

Content:

The DemGeneral.DemOccurrenceCounterProcessing shall only be present if Dem
General.DemEnvironmentDataCapture is set to DemGeneral.DemEnvironmentDataCap-
ture.DEM_CAPTURE_SYNCHRONOUS_TO_REPORTING.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
  ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
  formal way dependencies between different configuration parameters. On the other
  hand some constraints are created in single BSW modules with the same names-
  pace as the metamodel constraints. This should be cleaned up (see presentation in
  the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done
  step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be re-
  moved from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the
  following text from the description field "At least one FiMInhSumRef or FiMInhEven-
  tRef or
  FiMInhComponentRef needs to be configured." :

Document ID 695: ChangeDocumentation

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.312   Specification Item SWS_Dem_CONSTR_06123

Trace References:

Content:

The DemGeneral.DemOperationCycleStatusStorage shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.Dem

OBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.313   Specification Item SWS_Dem_CONSTR_06124

Trace References:

Content:

DemGeneral.DemPTOSupport shall only be present if DemGeneral.DemOBDSupport is
set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.Dem
OBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
formal way dependencies between different configuration parameters. On the other
hand some constraints are created in single BSW modules with the same names-
pace as the metamodel constraints. This should be cleaned up (see presentation in
the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.314 Specification Item SWS_Dem_CONSTR_06125

Trace References:

Content:

DemDTCAttributes.DemAgingCycleCounterThreshold shall only be present if DemDT-CAttributes.DemAgingAllowed is set to TRUE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

  —-

  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]

FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.315   Specification Item SWS_Dem_CONSTR_06126

Trace References:

Content:

DemDTCAttributes.DemAgingCycleCounterThresholdForTFSLC shall only be present if DemGeneral.DemStatusBitHandlingTestFailedSinceLast

Clear is set to DemGeneral.DemStatusBitHandlingTestFailedSinceLast Clear.DEM_STATUS_BIT_AGING_AND_DISPLACEMENT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.316   Specification Item SWS_Dem_CONSTR_06127

Trace References:

Content:

DemDTCAttributes.DemMaxNumberFreezeFrameRecords shall only be present if Dem
General.DemTypeOfFreezeFrameRecordNumeration is set to DemGeneral.DemTypeOf
FreezeFrameRecordNumeration.DEM_FF_RECNUM_CALCULATED.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
  ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
  formal way dependencies between different configuration parameters. On the other
  hand some constraints are created in single BSW modules with the same names-
  pace as the metamodel constraints. This should be cleaned up (see presentation in
  the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

——-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

——-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

——-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

——-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.317   Specification Item SWS_Dem_CONSTR_06128

Trace References:

Content:

DemDTCAttributes.DemAgingCycleRef shall only be present if DemDTCAttributes.DemAgingAllowed is set to TRUE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]

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FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.318 Specification Item SWS_Dem_CONSTR_06129

Trace References:

Content:

DemDTCAttributes.DemFreezeFrameRecNumClassRef shall only be present if DemGeneral.DemTypeOfFreezeFrameRecordNumeration is set to DemGeneral.DemTypeOfFreezeFrameRecordNumeration.DEM_FF_RECNUM_CONFIGURED.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

  Create chapter 7.4 Configuration Constraints
  Add new constraints :
  SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

  DEM
  —-
  see file under svn.:
  https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Document ID 695: ChangeDocumentation

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.319   Specification Item SWS_Dem_CONSTR_06130

Trace References:

Content:

DemEventParameter.DemReportBehavior shall only be present if Dem
EventParameter.DemEventKind is set to DemEventParameter.DemEvent
Kind.DEM_EVENT_KIND_SWC.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
formal way dependencies between different configuration parameters. On the other
hand some constraints are created in single BSW modules with the same names-
pace as the metamodel constraints. This should be cleaned up (see presentation in
the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done
step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-

See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.320 Specification Item SWS_Dem_CONSTR_06131

Trace References:

Content:

DemEventParameter.DemOBDGroupingAssociativeEventsRef shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints

Document ID 695: ChangeDocumentation

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.321 Specification Item SWS_Dem_CONSTR_06132

Trace References:

Content:

DemGeneralOBD.DemOBDCentralizedPID21Handling shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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Document ID 695: ChangeDocumentation

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.322   Specification Item SWS_Dem_CONSTR_06133

Trace References:

Content:

DemGeneralOBD.DemOBDCentralizedPID31Handling shall only be
present if DemGeneral.DemOBDSupport is set to DemGeneral.Dem
OBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSup-
port.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
formal way dependencies between different configuration parameters. On the other
hand some constraints are created in single BSW modules with the same names-
pace as the metamodel constraints. This should be cleaned up (see presentation in
the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done
step by step, not mandatory in one release)

Document ID 695: ChangeDocumentation

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.323   Specification Item SWS_Dem_CONSTR_06134

Trace References:

Content:

DemGeneralOBD.DemOBDCompliancy shall only be present if DemGeneral.DemOBD-Support is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

  Create chapter 7.4 Configuration Constraints
  Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.324   Specification Item SWS_Dem_CONSTR_06135

Trace References:

Content:

DemGeneralOBD.DemOBDEngineType shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Document ID 695: ChangeDocumentation

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-

Document ID 695: ChangeDocumentation

A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.325 Specification Item SWS_Dem_CONSTR_06136

Trace References:

Content:

DemGeneralOBD.DemOBDEventDisplacement shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or

FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.326 Specification Item SWS_Dem_CONSTR_06137

Trace References:

Content:

DemGeneralOBD.DemOBDInputAcceleratorPedalInformation shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.Dem OBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

  Create chapter 7.4 Configuration Constraints

Document ID 695: ChangeDocumentation

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.327   Specification Item SWS_Dem_CONSTR_06138

Trace References:

Content:

DemGeneralOBD.DemOBDInputAmbientPressure shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.328   Specification Item SWS_Dem_CONSTR_06139

Trace References:

Content:

DemGeneralOBD.DemOBDInputAmbientTemperature shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

Document ID 695: ChangeDocumentation

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.329 Specification Item SWS_Dem_CONSTR_06140

Trace References:

Content:

DemGeneralOBD.DemOBDInputDistanceInformation shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.Dem OBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

  Create chapter 7.4 Configuration Constraints

Document ID 695: ChangeDocumentation

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

——-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

——-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.330   Specification Item SWS_Dem_CONSTR_06141

Trace References:

Content:

DemGeneralOBD.DemOBDInputEngineSpeed shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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Document ID 695: ChangeDocumentation

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.331   Specification Item SWS_Dem_CONSTR_06142

Trace References:

Content:

DemGeneralOBD.DemOBDInputEngineTemperature shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

Document ID 695: ChangeDocumentation

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.332 Specification Item SWS_Dem_CONSTR_06143

Trace References:

Content:

DemGeneralOBD.DemOBDInputProgrammingEvent shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBD-Support.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints

Document ID 695: ChangeDocumentation

Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.333   Specification Item SWS_Dem_CONSTR_06144

Trace References:

Content:

DemGeneralOBD.DemOBDInputVehicleSpeed shall only be present if DemGeneral.Dem OBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or Dem General.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
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Document ID 695: ChangeDocumentation

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevEr-
rorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.334 Specification Item SWS_Dem_CONSTR_06145

Trace References:

Content:

DemObdDTC.DemConsiderPtoStatus shall only be present if DemGeneral.DemOBDSup-
port is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGen-
eral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replace-
  ment of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an in-
  formal way dependencies between different configuration parameters. On the other
  hand some constraints are created in single BSW modules with the same names-
  pace as the metamodel constraints. This should be cleaned up (see presentation in
  the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done
  step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be re-

moved from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.335   Specification Item SWS_Dem_CONSTR_06146

Trace References:

Content:

The OBD DTC DemObdDTC.DemDtcValue shall only be present if DemGeneral.Dem OBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or Dem General.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.336   Specification Item SWS_Dem_CONSTR_06147

Trace References:

Content:

DemObdDTC.DemEventOBDReadinessGroup shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-

A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.337 Specification Item SWS_Dem_CONSTR_06148

Trace References:

Content:

The container DemRatio shall only be available if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.338 Specification Item SWS_Dem_CONSTR_06149

Trace References:

Content:

The container DemDtr shall only be available if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBD-Support.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-
  Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
  FiMInhComponentRef needs to be configured." :

  FiMInhEventRef [ECUC_FiM_00100]
  FiMInhSumRef [ECUC_FiM_00102]
  FiMInhComponentRef [ECUC_FiM_00605]

  Create chapter 7.4 Configuration Constraints
  Add new constraints :

SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.339   Specification Item SWS_Dem_CONSTR_06150

Trace References:

Content:

The container DemPidClass and aggregated sub-container shall only be present if DemGeneral.DemOBDSupport is set to DemGeneral.DemOBDSupport.DEM_OBD_MASTER_ECU or DemGeneral.DemOBDSupport.DEM_OBD_PRIMARY_ECU.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-
A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.340 Specification Item SWS_Dem_CONSTR_06151

Trace References:

Content:

The configuration parameter DemDebounceCounterBasedClass.DemCounterBasedFdc ThresholdStorageValue shall only be present if DemFreezeFrameRecordClass.Dem FreezeFrameRecordTrigger is set to DemFreezeFrameRecordClass.DemFreezeFrame RecordTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD or DemExtendedDataRecord Class.DemExtendedDataRecordTrigger is set to DemExtendedDataRecordClass.Dem ExtendedDataRecordTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD or DemGeneral.DemEventMemoryEntryStorageTrigger is set to DemGeneral.DemEventMemory EntryStorageTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

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see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.341 Specification Item SWS_Dem_CONSTR_06152

Trace References:

Content:

DemDebounceCounterBasedClass.DemDebounceCounterJumpDownValue shall only be present if DemDebounceCounterBasedClass.DemDebounceCounterJumpDown is set to TRUE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

Document ID 695: ChangeDocumentation

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.342   Specification Item SWS_Dem_CONSTR_06153

Trace References:

Content:

DemDebounceCounterBasedClass.DemDebounceCounterJumpUpValue shall only be present if DemDebounceCounterBasedClass.DemDebounceCounterJumpUp is set to TRUE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

Problem description:

AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM
—-
Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-

see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.343   Specification Item SWS_Dem_CONSTR_06154

Trace References:

Content:

DemDebounceCounterBasedClass.DemDebounceCounterStorage shall only be present if DemGeneral.DemOperationCycleStatusStorage is set to TRUE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

Document ID 695: ChangeDocumentation

Agreed solution:

Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

When all SWS specifications are cleaned up the dependency field can be removed from the database

FIM

—-

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM

—-

see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

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See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

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RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

Document ID 695: ChangeDocumentation

BW-C-Level:

Application	Specification	Bus
1	1	1

1.344   Specification Item SWS_Dem_CONSTR_06155

Trace References:

Content:

DemDebounceTimeBaseClass.DemTimeBasedFdcThresholdStorageValue shall only be present if DemFreezeFrameRecordClass.DemFreezeFrameRecord Trigger is set to DemFreezeFrameRecordClass.DemFreezeFrameRecordTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD or DemExtendedDataRecordClass.Dem ExtendedDataRecordTrigger is set to DemExtendedDataRecordClass.DemExtended DataRecordTrigger.DEM_TRIGGER_ON_FDC_THRESHOLD or DemGeneral.DemEvent MemoryEntryStorageTrigger is set to DemGeneral.DemEventMemoryEntryStorage Trigger.DEM_TRIGGER_ON_FDC_THRESHOLD.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

  Problem description:

  AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

  Agreed solution:

  Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

  When all SWS specifications are cleaned up the dependency field can be removed from the database

  FIM
  —-

Document ID 695: ChangeDocumentation

Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
FiMInhComponentRef needs to be configured." :

FiMInhEventRef [ECUC_FiM_00100]
FiMInhSumRef [ECUC_FiM_00102]
FiMInhComponentRef [ECUC_FiM_00605]

Create chapter 7.4 Configuration Constraints
Add new constraints :
SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

DEM
—-
see file under svn.:
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM
—-
See file under svn :
https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte
—-
RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true.
–Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.345 Specification Item SWS_Dem_CONSTR_06156

Trace References:

Content:

DemFreezeFrameRecordClass.DemFreezeFrameRecordTrigger shall only be present if DemGeneral.DemTypeOfFreezeFrameRecordNumeration is set to DemGeneral.DemTypeOfFreezeFrameRecordNumeration.DEM_FF_RECNUM_CONFIGURED.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75045: [Cleanup] Cleanup Constraint Handling in SWS items: Rollout replacement of dependencies by constraints

    Problem description:

    AUTOSAR specified in the field "Dependency" in the chapter 10 description in an informal way dependencies between different configuration parameters. On the other hand some constraints are created in single BSW modules with the same namespace as the metamodel constraints. This should be cleaned up (see presentation in the attachment).

    Agreed solution:

    Rollout to replace in each SWS the dependencies by constraints (could be done step by step, not mandatory in one release)

    When all SWS specifications are cleaned up the dependency field can be removed from the database

    FIM
    —-
    Remove dependency and in the following configuration parameters and remove the following text from the description field "At least one FiMInhSumRef or FiMInhEventRef or
    FiMInhComponentRef needs to be configured." :

    FiMInhEventRef [ECUC_FiM_00100]
    FiMInhSumRef [ECUC_FiM_00102]
    FiMInhComponentRef [ECUC_FiM_00605]

    Create chapter 7.4 Configuration Constraints
    Add new constraints :
    SWS_FIM_CONSTR_XXX1 : For each configured FiMInhibitionConfiguration, at least one of FiMInhSumRef or FiMInhEventRef or FiMInhComponentRef shall be configured.

Document ID 695: ChangeDocumentation

DEM

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see file under svn.:

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

DCM

—-

See file under svn :

https://svn.autosar.org/repos/work/09_WorkPackages/WP-A4/70_InternalDocuments/048_Dependency_Removal/DCM_Dem_Dependency_Removal.xlsx

Rte

—-

RteDevErrorDetectUninit: SWS_RTE_CONSTR_XXX1: In case that RteDevErrorDetectUninit is configured to true, RteDevErrorDetect shall be configured to true. –Last change on issue 75045 comment 21–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.346   Specification Item SWS_Dem_CONSTR_6117

Trace References:

Content:

The aggregation of DemTextTableMapping at DemAlternativeDataType is only valid if the category of the CompuMethod of the DataType referenced by Dem AlternativeDataType.DemApplicationDataType has category set to TEXTTABLE or SCALE_LINEAR_AND_TEXTTABLE.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76101: Constraint for DemTextTableMapping in DemAlternativeDataType

  Problem description:

  In Rfc # 72285 it was decided to add a constraint for the sub-container handling the TextTableMapping (SWS_Dcm_CONSTR_xxxx1), but this was not added for Dem. I

think that this shall also be added to the Dem SWS.

In the same Rfc was there also attached a workflow description that was decided to be added in Dcm SWS. My opinion is that this description shall also be part of Dem SWS.

Agreed solution:

Create a SWS_Dem_CONSTR_xxxx1.
"The aggregation of DemDspTextTableMapping at DemAlternativeDataType is only valid if the category of the CompuMethod of the DataType referenced by DemAlternativeDataType.DemApplicationDataType has category set to TEXTTABLE or SCALE_LINEAR_AND_TEXTTABLE.

2) Dem SWS:
A new chapter in 7.11.9 with the headline: Scaling information on Service Interfaces

UseCase: Pass the SwDataDefProps details like CompuMethod, DataContraints and Units to the Dem Service SWC and make them there available per DID DataElement.
Two alternative work flows are available.

Work flow 1)

The feature of the first work flow is the use of a EcucForeignReference inside the generated Ecuc values. While importing the DEXT information a dedicated Ecuc parameter is generated, which holds a EcucForeignReference named DemDiagnosticDataElementRef to a DiagnosticDataElement in the DEXT file. This EcucForeignReference enables the access to all SwDataDefProps (BaseTyoe, CompuMethod, DatConstr, etc.) of the corresponding DiagnosticDataElement. The container DemAlternativeDiagnosticDataElement aggregate this EcucForeignReference. In the process step of generating the corresponding Service SWC all needed content will be copied directly based on the EcucForeignReference from DEXT to the Service SWC. In this work flow the existence of the DEXT file while the generation of the Service SWC is required.

Work flow2)

The feature of the second work flow is that while importing the DEXT information beside the Ecuc values also a SWC fragment is generated. In this SWC fragment all needed SwDataDefProps are directly copied from the DEXT file. Inside the generated Ecuc values the Ecuc Parameter DemAlternativeDataType.DemApplicationDataType refers to the SWC fragment and enables the access to all SwDataDefProps (BaseTyoe, CompuMethod, DatConstr,

etc.). In the process step of generating the corresponding Service SWC all needed content will be included based on the reference from DemAlternative-DataType.DemApplicationDataType to the SWC fragment. In this work flow the existence of the DEXT file while the generation of the Service SWC is not required. –Last change on issue 76101 comment 6–

BW-C-Level:

Application	Specification	Bus
1	4	1