

<b>Document Title</b>	SWS_NetworkManagementInterface: Complete Change Documentation 4.3.0 - 4.3.1
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# 1 SWS\_NetworkManagementInterface

## 1.1 Specification Item ECUC\_Nm\_00200

### Trace References:

none

### Content:

Container Name	NmGlobalFeaturesNmGlobalFeatures
Description	—
Configuration Parameters	

### Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
NmBusSynchronizationEnabled	ECUC_Nm_00208
NmCarWakeUpCallout	ECUC_Nm_00234
NmCarWakeUpCalloutHeader	ECUC_Nm_00244
NmCarWakeUpRxEnabled	ECUC_Nm_00235
NmComControlEnabled	ECUC_Nm_00210
NmCoordinatorSupportEnabled	ECUC_Nm_00206
NmCoordinatorSyncSupport	ECUC_Nm_00240
NmGlobalCoordinatorTime	ECUC_Nm_00237
NmNodeDetectionEnabled	ECUC_Nm_00212
NmNodeIdEnabled	ECUC_Nm_00213
NmPduRxIndicationEnabled	ECUC_Nm_00214
NmRemoteSleepIndEnabled	ECUC_Nm_00207
NmRepeatMsgIndEnabled	ECUC_Nm_00229
NmStateChangeIndEnabled	ECUC_Nm_00215
NmUserDataEnabled	ECUC_Nm_00211

### Included containers:

No Included Containers
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### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77070: [NmIf] Generic <cdd>.h inclusion in context of CarWakeup

### Problem description:

Hello,

Requirement SWS\_Nm\_00124 specifies that:

<cdd>.h (If a CDD is used for CarWakeup-functionality. The name of the CDD is generic.)

1. Shouldn't be a configuration parameter available to specify the header file ?
2. In case NmCarWakeUpCallout is specified the declaration of the callout function shouldn't be in Nm.h ?

Best Regards,  
Lorant

**Agreed solution:**

add parameter to NmGlobalFeatures

Name: NmCarWakeUpCalloutHeader

Description : Defines the header file which declares the callout function configured via NmCarWakeUpCallout.

Multiplicity : 0..1

Type\_ EcucStringParamDef

Length 1-32

Variant Multiplicity false

Variant Value false

Config Class : Pre-compile for all variants

dependency : only available if NmCarWakeUpCallout is configured

change SWS\_Nm\_00124 to

The following header files shall be included by the Nm Interface module:

Std\_Types.h (for AUTOSAR standard types )

Note: Platform\_Types.h (for platform specific types) and Compiler.h (for compiler specific language extensions) are indirectly included via AUTOSAR standard types.

Nm\_MemMap.h (for memory abstraction)

SchM\_Nm.h (for interfaces with the BSW Scheduler)

ComM\_Nm.h (for Communication Manager callback functions)

BswM\_Nm.h (If the BswM is used for CarWakeup-functionality)

<NmCarWakeUpCalloutHeader>.h (If a CDD is used for CarWakeup-functionality.)

–Last change on issue 77070 comment 18–

**BW-C-Level:**

Application	Specification	Bus
1	3	1

## 1.2 Specification Item ECUC\_Nm\_00212

### Trace References:

none

### Content:

Name	NmNodeDetectionEnabledNmGlobalFeatures.NmNodeDetectionEnabled		
Parent Container	NmGlobalFeatures		
Description	Pre-processor switch for enabling the Node Detection feature. Tags: atp.Status=obsolete		
Multiplicity	1 0..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: Only valid if NmNodeIdEnabled is set to TRUE		

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**POST-BUILD**

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time  
-> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC UdpNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC FrNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."



Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall

provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of

FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.3 Specification Item ECUC\_Nm\_00213

### Trace References:

none

### Content:

Name	NmNodeIdEnabledNmGlobalFeatures.NmNodeIdEnabled		
Parent Container	NmGlobalFeatures		
Description	Pre-processor switch for enabling transmission of the source node identifier in NM messages. Tags: atp.Status=obsolete		
Multiplicity	1 0..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		

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD



=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."



=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of

Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall

provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if `UdpNmNodeDetectionEnabled` or `UdpNmUserDataEnabled` or `UdpNmNodeIdEnabled` is set to `TRUE`." and move this requirement to chapter "8.3.12 `UdpNm_GetPduData`"

Change `SWS_UdpNm_00375` to "If `UdpNm_GetPduData` is called in the context of `Nm_CarWakeUpIndication` and if `UdpNmNodeDetectionEnabled` or `UdpNmUserDataEnabled` or `UdpNmNodeIdEnabled` is set to `TRUE`, `UdpNm` shall return the PDU data of the PDU that causes the call of `Nm_CarWakeUpIndication`."

Change `SWS_UdpNm_00219` Return Value description `E_NOT_OK` to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change `SWS_UdpNm_00132` to "The service call `UdpNm_GetNodeIdIdentifier` shall provide the node identifier out of the most recently received Network Management PDU if `UdpNmNodeIdEnabled` is set to `TRUE`."

Change `SWS_UdpNm_00220` Return Value description `E_NOT_OK` to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change `SWS_UdpNm_00133` to "The service call `UdpNm_GetLocalNodeIdIdentifier` shall provide the node identifier configured for the local host node if `UdpNmNodeIdEnabled` is set to `TRUE`."

Change `SWS_UdpNm_00221` Return Value description `E_NOT_OK` to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change `SWS_UdpNm_00309` Return Value description `E_NOT_OK` to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== `SWS_FrNm` ===

Remove `SWS_FrNm_00170`

Remove `SWS_FrNm_00172`

Remove `SWS_FrNm_00228`

Remove `SWS_FrNm_00266`

Remove `SWS_FrNm_00267`

Remove `SWS_FrNm_00268`

Change `SWS_FrNm_00124` to "If `FrNmNodeDetectionEnabled` is set to `TRUE` the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of `FrNm_RepeatMessageRequest`."

Change `SWS_FrNm_00130` to "If `FrNmNodeDetectionEnabled` is set to `TRUE` the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it

shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.4 Specification Item ECUC\_Nm\_00229

### Trace References:

none

### Content:

Name	NmRepeatMsgIndEnabledNmGlobalFeatures.NmRepeatMsgIndEnabled
------	---

Parent Container	NmGlobalFeatures		
Description	Pre-processor switch for enabling the Repeat Message Bit Indication. Tags: atp.Status=obsolete		
Multiplicity	1 0..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		

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIndEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIndEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIndEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled



UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature."

to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.



=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdentifierEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdentifierEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUser-

DataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEn-

abled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNm\_SourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.5 Specification Item ECUC\_Nm\_00234

### Trace References:

none

### Content:

Name	NmCarWakeUpCalloutNmGlobalFeatures.NmCarWakeUpCalloutin container NmGlobalFeatures
Description	Name of the callout function to be called if Nm_CarWakeUpIndication() is called. If this parameter is not configured, the Nm If will call BswM_Nm_CarWakeUpIndication.
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	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Scope / Dependency	scope: local dependency: only available if NmCarWakeUpRxEnabled == TRUE		

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77069: Different API Declarations for Car Wake Up in NM and BswM modules

#### Problem description:

Hello,

Requirement SWS\_Nm\_00285 specifies that in case no callback function is specified, the Nm shall call BswM\_CarWakeUpIndication.

In the BswM module this function is not specified.

In BswM the function specified for Car Wake Up is:

BswM\_NmIf\_CarWakeUpIndication.

Which definition shall be used, the one specified in Nm or the one specified by BswM ?

Best Regards,  
Lorant

#### Agreed solution:

In the SWS Nm:

A1)Change SWS\_Nm\_00285 to:

[SWS\_Nm\_00285] If the <bus>Nm calls NmCarWakeUpIndication and Nm-CarWakeUpCallout is not defined, the NM Interface shall call the function BswM\_Nm\_CarWakeUpIndication with nmNetworkHandle as parameter.  
(SRS\_Nm\_02503)

A2)Change ECUC\_Nm\_00234 description to:

Name of the callout function to be called if Nm\_CarWakeUpIndication() is called. If this parameter is not configured, the Nm will call BswM\_Nm\_CarWakeUpIndication.

In the SWS BswM:

B1) Change "NmIf" to "Nm" in all of the following spec items (names & descriptions):

- SWS\_BswM\_00235 (BswM\_NmIf\_CarWakeUpIndication)
- ECUC\_BswM\_00856 (BswMModeRequestSource)
- ECUC\_BswM\_01048 (BswMNmIfCarWakeUpIndication)

B2) Change "NmIf" to "Nm" in the descriptive text found in chapters:

- 5.17
- 8.3.23
- Last change on issue 77069 comment 19–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.6 Specification Item ECUC\_Nm\_00244

**Trace References:**

none

**Content:**

Name	NmCarWakeUpCalloutHeaderNmGlobalFeatures.NmCarWakeUpCalloutHeader
Parent Container	NmGlobalFeatures
Description	Defines the header file which declares the callout function configured via NmCarWakeUpCallout.
Multiplicity	0..1
Type	EcucStringParamDef
Default value	–
maxLength	32
minLength	1
regularExpression	–
Post-Build Variant Multiplicity	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: Only available if NmCarWakeUpCallout is configured.		

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77070: [NmIf] Generic <cdd>.h inclusion in context of CarWakeup

#### Problem description:

Hello,

Requirement SWS\_Nm\_00124 specifies that:

<cdd>.h (If a CDD is used for CarWakeup-functionality. The name of the CDD is generic.)

1. Shouldn't be a configuration parameter available to specify the header file ?
2. In case NmCarWakeUpCallout is specified the declaration of the callout function shouldn't be in Nm.h ?

Best Regards,  
Lorant

#### Agreed solution:

add parameter to NmGlobalFeatures

Name: NmCarWakeUpCalloutHeader

Description : Defines the header file which declares the callout function configured via NmCarWakeUpCallout.

Multiplicity : 0..1

Type\_ EcucStringParamDef

Length 1-32

Variant Multiplicity false

Variant Value false

Config Class : Pre-compile for all variants

dependency : only available if NmCarWakeUpCallout is configured

change SWS\_Nm\_00124 to



The following header files shall be included by the Nm Interface module:

Std\_Types.h (for AUTOSAR standard types )

Note: Platform\_Types.h (for platform specific types) and Compiler.h (for compiler specific language extensions) are indirectly included via AUTOSAR standard types.

Nm\_MemMap.h (for memory abstraction)

SchM\_Nm.h (for interfaces with the BSW Scheduler)

ComM\_Nm.h (for Communication Manager callback functions)

BswM\_Nm.h (If the BswM is used for CarWakeup-functionality)

<NmCarWakeUpCalloutHeader>.h (If a CDD is used for CarWakeup-functionality.)

–Last change on issue 77070 comment 18–

#### BW-C-Level:

Application	Specification	Bus
1	3	1

## 1.7 Specification Item SWS\_Nm\_00124

#### Trace References:

SRS\_BSW\_00348, SRS\_BSW\_00353, SRS\_BSW\_00357, SRS\_BSW\_00381,  
SRS\_BSW\_00384, SRS\_BSW\_00412

#### Content:

The following header files shall be included by the Nm Interface module:

- Std\_Types.h (for AUTOSAR standard types )  
Note: Platform\_Types.h (for platform specific types) and Compiler.h (for compiler specific language extensions) are indirectly included via AUTOSAR standard types.
- Nm\_MemMap.h (for memory abstraction)
- SchM\_Nm.h (for interfaces with the BSW Scheduler)
- ComM\_Nm.h (for Communication Manager callback functions)
- BswM\_Nm.h (If the BswM is used for CarWakeup-functionality)
- <cddNmCarWakeUpCalloutHeader>.h (If a CDD is used for CarWakeup-functionality. The name of the CDD is generic.)

#### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77070: [NmIf] Generic <cdd>.h inclusion in context of CarWakeup



**Problem description:**

Hello,

Requirement SWS\_Nm\_00124 specifies that:

<cdd>.h (If a CDD is used for CarWakeup-functionality. The name of the CDD is generic.)

1. Shouldn't be a configuration parameter available to specify the header file ?
2. In case NmCarWakeUpCallout is specified the declaration of the callout function shouldn't be in Nm.h ?

Best Regards,  
Lorant

**Agreed solution:**

add parameter to NmGlobalFeatures

Name: NmCarWakeUpCalloutHeader

Description : Defines the header file which declares the callout function configured via NmCarWakeUpCallout.

Multiplicity : 0..1

Type\_ EcucStringParamDef

Length 1-32

Variant Multiplicity false

Variant Value false

Config Class : Pre-compile for all variants

dependency : only available if NmCarWakeUpCallout is configured

change SWS\_Nm\_00124 to

The following header files shall be included by the Nm Interface module:

Std\_Types.h (for AUTOSAR standard types )

Note: Platform\_Types.h (for platform specific types) and Compiler.h (for compiler specific language extensions) are indirectly included via AUTOSAR standard types.

Nm\_MemMap.h (for memory abstraction)

SchM\_Nm.h (for interfaces with the BSW Scheduler)

ComM\_Nm.h (for Communication Manager callback functions)

BswM\_Nm.h (If the BswM is used for CarWakeup-functionality)

<NmCarWakeUpCalloutHeader>.h (If a CDD is used for CarWakeup-functionality.)

—Last change on issue 77070 comment 18—

**BW-C-Level:**

Application	Specification	Bus
1	3	1

## 1.8 Specification Item SWS\_Nm\_00142

**Trace References:**

SRS\_Nm\_00150

**Content:**

Configuration of Nm\_GetPduData: This function is only available if NmGlobalFeatures.NmNodeIdEnabled or NmGlobalFeatures.NmUserDataEnabled is set to TRUE.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled

nmNodeDetectionEnabled

nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-

**POST-BUILD**

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature."  
to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC LinNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

**=== BSW UML CanNm ===**

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

**=== BSW UML UdpNm ===**

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219,

SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall

provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"



Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."



Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.9 Specification Item SWS\_Nm\_00144

### Trace References:

SRS\_Nm\_00150

### Content:

Configuration of Nm\_RepeatMessageRequest: This function is only available if NmGlobalFeatures.NmNodeDetectionEnabled is set to TRUE.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

### **Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### **Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled|NmNodeDetectionEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlob-

alConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation

State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE



and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."



Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole

NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.10 Specification Item SWS\_Nm\_00146

**Trace References:**

SRS\_Nm\_00150

**Content:**

Configuration of Nm\_GetNodeIdentifier: This function is only available if NmGlobalFeatures.NmNodeIdEnabled is set to TRUE.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to

CanNmChannelConfig and change Value Configuration Class to Pre-compile time  
-> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or



CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received,



UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE

the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.11 Specification Item SWS\_Nm\_00148

### Trace References:

SRS\_Nm\_00150

## Content:

Configuration of Nm\_GetLocalNodeIdentifier: This function is only available if NmGlobalFeatures.NmNodeIdEnabled is set to TRUE.

## RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTem-

plate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig  
Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE



and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE."

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272



=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of

the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdentifierEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNm-SourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network

handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.12 Specification Item SWS\_Nm\_00166

### Trace References:

SRS\_Nm\_00150, SRS\_Nm\_02515

### Content:

API function	Description
<BusNm>_CheckRemoteSleepIndication	Check if remote sleep indication takes place or not.
<BusNm>_DisableCommunication	Disable the NM PDU transmission ability.
<BusNm>_EnableCommunication	Enable the NM PDU transmission ability.
<BusNm>_GetLocalNodeIdentifier	Get node identifier configured for the local node.
<BusNm>_GetNodeIdentifier	Get node identifier out of the last successfully received NM-message.
<BusNm>_GetPduData	Pointer where NM PDU shall be copied to.
<BusNm>_GetState	Returns the state and the mode of the network management.
<BusNm>_GetUserData	Get user data out of the last successfully received NM message.
<BusNm>_NetworkRelease	Release the network, since ECU doesn't have to communicate on the bus.

API function	Description
<BusNm>_NetworkRequest	Request the network, since ECU needs to communicate on the bus.
<BusNm>_RepeatMessageRequest	Request a Repeat Message Request to be transmitted next on the bus.
<BusNm>_RequestBusSynchronization	Request bus synchronization.
<BusNm>_SetSleepReadyBit	Set the NM Coordinator Sleep Ready bit in the Control Bit Vector
<BusNm>_SetUserData	Set user data for NM messages transmitted next on the bus.
BswM_NmIf_CarWakeUpIndication	Function called by Nm If to indicate a CarWakeUp.
Com_SendSignal	The service Com_SendSignal updates the signal object identified by SignalId with the signal referenced by the Signal DataPtr parameter.
Det_ReportError	Service to report development errors.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76404: [Det] Clarifications on runtime errors

#### Problem description:

There are several uncertainties/problems in the SWS DET:

1. According to SWS\_Det\_00180, the callouts should have the same signatures as the corresponding DET functions, but they are void(void) (SWS\_Det\_00181, SWS\_Det\_00184, SWS\_Det\_00187).
2. Section 8.2.3.1 does not describe how the instance ID is passed to DET.
3. Configuration of header files for all three error type callouts are missing.
4. Why does the development error callout reside in DetNotification, while the other two callouts reside in DetGeneral?
5. The limitation in section 4.1 regarding "supervisor mode" does not really make sense. It is assumed that the DET is ignorant regarding the call context, and the software receiving DET callbacks (like DLT or the implementers of the callouts) need to take care of resolving the calling context, if necessary (e.g. in multi-core environments).
6. SWS\_Det\_00302 defines several runtime errors. But apart from DET\_E\_CANNOT\_REPORT, it is unclear in which situation these errors could be reported by DET: For errors reported by BSW, the DET has no means to validate anything that could lead to such an error. And for SWCs, the modeling already takes care that DET\_E\_WRONG\_MODULE and DET\_E\_WRONG\_INSTANCE cannot occur, while the other two errors can also not be checked by DET without further configuration.
7. Det\_ReportTransientFault (SWS\_Det\_01003) shall return the return value of a configured callout. But what shall happen if more than one callout exists, and the return different values?

8. SWS\_Det\_00052: The only API that can result in DET\_E\_PARAM\_POINTER is Det\_GetVersionInfo (as the error description mentions correctly). Please reformulate this requirement and move it to section 8.1.3.6 "Det\_GetVersionInfo".

–Last change on issue 76404 comment 13–

**Agreed solution:**

1.

~change SWS\_Det\_00181/184/187 such that signatures match the APIs

~Figures 3,5, and 7 to be corrected (return missing)

5. remove from 4.1. the sentence: "It is assumed that the whole Basic Software runs in supervisor mode or the switch to supervisor mode is done by a system call within the error reporting function of the DET module."

6. remove SWS\_Det\_00302 and SWS\_Det\_00303 and all included errors

7. change SWS\_Det\_01003 (Return Value-Part only): "Std\_ReturnType" If no callout exists it shall return E\_OK, otherwise it shall return the value of the configured callout. In case several callouts are configured the logical or (sum) of the callout return values shall be returned. Rationale: since E\_OK=0, E\_OK will be only returned if all are E\_OK, and for multiple error codes there is a good chance to detect several of them.

8. change SWS\_Det\_00052 from "in case a null pointer error occurs." to "in case a null pointer error occurs in Det\_GetVersionInfo." Do not move the requirement, since otherwise the section 7.7 would be empty, but add the following sentence to 8.1.3.6: "In case a null pointer is passed, DET\_E\_PARAM\_POINTER is returned, see SWS\_Det\_00052."

–Last change on issue 76404 comment 30–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

- RfC #77069: Different API Declarations for Car Wake Up in NM and BswM modules

**Problem description:**

Hello,

Requirement SWS\_Nm\_00285 specifies that in case no callback function is specified, the Nm shall call BswM\_CarWakeUpIndication.

In the BswM module this function is not specified.

In BswM the function specified for Car Wake Up is:

BswM\_NmIf\_CarWakeUpIndication.

Which definition shall be used, the one specified in Nm or the one specified

by BswM ?

Best Regards,  
Lorant

### Agreed solution:

In the SWS Nm:

A1)Change SWS\_Nm\_00285 to:

[SWS\_Nm\_00285] If the <bus>Nm calls NmCarWakeUpIndication and Nm-CarWakeUpCallout is not defined, the NM Interface shall call the function BswM\_Nm\_CarWakeUpIndication with nmNetworkHandle as parameter.  
(SRS\_Nm\_02503)

A2)Change ECUC\_Nm\_00234 description to:

Name of the callout function to be called if Nm\_CarWakeUpIndication() is called. If this parameter is not configured, the Nm will call BswM\_Nm\_CarWakeUpIndication.

In the SWS BswM:

B1) Change "NmIf" to "Nm" in all of the following spec items (names & descriptions):

- SWS\_BswM\_00235 (BswM\_NmIf\_CarWakeUpIndication)
- ECUC\_BswM\_00856 (BswMModeRequestSource)
- ECUC\_BswM\_01048 (BswMNmIfCarWakeUpIndication)

B2) Change "NmIf" to "Nm" in the descriptive text found in chapters:

- 5.17
- 8.3.23
- Last change on issue 77069 comment 19—

### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.13 Specification Item SWS\_Nm\_00231

### Trace References:

[SRS\\_Nm\\_00150](#)

**Content:**

Configuration of Nm\_RepeatMessageIndication: This function is only available if NmGlobalFeatures.NmRepeatMsgIndEnabled is set to TRUE.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures



=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTem-

plate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig  
Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE

and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE."

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of

the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNm-SourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network



handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.14 Specification Item SWS\_Nm\_00285

### Trace References:

SRS\_Nm\_02503

### Content:

If the <bus>Nm calls Nm\_CarWakeUpIndication and NmGlobalFeatures.NmCarWakeUpCallout is not defined, the NM Interface shall call the function BswM\_Nm\_CarWakeUpIndication with nmNetworkHandle as parameter.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77069: Different API Declarations for Car Wake Up in NM and BswM modules

#### Problem description:

Hello,

Requirement SWS\_Nm\_00285 specifies that in case no callback function is specified, the Nm shall call BswM\_CarWakeUpIndication.

In the BswM module this function is not specified.

In BswM the function specified for Car Wake Up is:



BswM\_Nmlf\_CarWakeUpIndication.

Which definition shall be used, the one specified in Nm or the one specified by BswM ?

Best Regards,  
Lorant

**Agreed solution:**

In the SWS Nm:

A1)Change SWS\_Nm\_00285 to:

[SWS\_Nm\_00285] If the <bus>Nm calls NmCarWakeUpIndication and Nm-CarWakeUpCallout is not defined, the NM Interface shall call the function BswM\_Nm\_CarWakeUpIndication with nmNetworkHandle as parameter.  
(SRS\_Nm\_02503)

A2)Change ECUC\_Nm\_00234 description to:

Name of the callout function to be called if Nm\_CarWakeUpIndication() is called. If this parameter is not configured, the Nm will call BswM\_Nm\_CarWakeUpIndication.

In the SWS BswM:

B1) Change "NmIf" to "Nm" in all of the following spec items (names & descriptions):

- SWS\_BswM\_00235 (BswM\_Nmlf\_CarWakeUpIndication)
- ECUC\_BswM\_00856 (BswMModeRequestSource)
- ECUC\_BswM\_01048 (BswMNmlfCarWakeUpIndication)

B2) Change "NmIf" to "Nm" in the descriptive text found in chapters:

- 5.17
- 8.3.23
- Last change on issue 77069 comment 19–

**BW-C-Level:**

Application	Specification	Bus
1	4	1