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Table of Contents

| | | |
|------|----------------------------------|-----|
| 1 | SWS_OS | 3 |
| 1.1 | Specification Item ECUC_Os_00020 | 3 |
| 1.2 | Specification Item ECUC_Os_00022 | 5 |
| 1.3 | Specification Item ECUC_Os_00033 | 12 |
| 1.4 | Specification Item ECUC_Os_00035 | 19 |
| 1.5 | Specification Item ECUC_Os_00036 | 22 |
| 1.6 | Specification Item ECUC_Os_00037 | 29 |
| 1.7 | Specification Item ECUC_Os_00038 | 36 |
| 1.8 | Specification Item ECUC_Os_00039 | 43 |
| 1.9 | Specification Item ECUC_Os_00040 | 49 |
| 1.10 | Specification Item ECUC_Os_00041 | 56 |
| 1.11 | Specification Item ECUC_Os_00044 | 65 |
| 1.12 | Specification Item ECUC_Os_00047 | 73 |
| 1.13 | Specification Item ECUC_Os_00048 | 79 |
| 1.14 | Specification Item ECUC_Os_00073 | 86 |
| 1.15 | Specification Item ECUC_Os_00075 | 96 |
| 1.16 | Specification Item ECUC_Os_00254 | 102 |
| 1.17 | Specification Item ECUC_Os_00396 | 109 |
| 1.18 | Specification Item ECUC_Os_00402 | 117 |
| 1.19 | Specification Item SWS_Os_00287 | 120 |
| 1.20 | Specification Item SWS_Os_00563 | 122 |
| 1.21 | Specification Item SWS_Os_00695 | 124 |
| 1.22 | Specification Item SWS_Os_00701 | 127 |
| 1.23 | Specification Item SWS_Os_00815 | 130 |

1 SWS_OS

1.1 Specification Item ECUC_Os_00020

Trace References:

none

Content:

| | |
|--------------------------|--|
| Container Name | OsApplicationHooksOsApplicationHooks |
| Description | Container to structure the OS-Application-specific hooks |
| Configuration Parameters | |

Included parameters:

| | |
|--------------------------------|---------------|
| Included Parameters | |
| Parameter Name | SWS Item ID |
| OsAppErrorHook | ECUC_Os_00213 |
| OsAppShutdownHook | ECUC_Os_00125 |
| OsAppStartupHook | ECUC_Os_00124 |
| OsMemoryMappingCodeLocationRef | ECUC_Os_00402 |

Included containers:

| |
|------------------------|
| No Included Containers |
|------------------------|

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod.
The OS shall use this SwAddrMethod in order to generate the correct MemMap
MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
```

/.. Task Body or Task forward declaration ..//

```
8
9 # define OS_STOP_SEC_<sadm>
10 # include "Os_MemMap.h"
```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: Os-
Task (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks
(ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section
where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value

Not post build-able

Pre-compile time All Variants

Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_XXXXX] d The OS code shall wrap each declaration of Task, ISR
and hook functions with the Memory Mapping Allocation Keywords macros.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task, ISR or hook functions declaration>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyy] d The RTE Generator shall wrap each definition of a task body

with the Memory Allokation Keywords.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
4 <Task definition>
```

```
5
```

```
6 # define OS_STOP_SEC_<sadm>
```

```
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |

1.2 Specification Item ECUC_Os_00022

Trace References:

none

Content:

| | |
|----------------|--------------------|
| Container Name | OsAppModeOsAppMode |
|----------------|--------------------|

| | |
|--------------------------|--|
| Description | <p>OsAppMode is the object used to define OSEK OS ISO 17356-3 properties for an OSEK OS ISO 17356-3 application mode.</p> <p>No standard attributes are defined for AppMode.</p> <p>In a CPU, at least one AppMode object has to be defined.</p> <p>[source: OSEK OIL Spec. 2.5ISO 17356-6]</p> <p>An OsAppMode called OSDEFAULTAPPMODE must always be there for OSEK ISO 17356 compatibility.</p> |
| Configuration Parameters | |

Included parameters:

| |
|------------------------|
| No Included Parameters |
|------------------------|

Included containers:

| |
|------------------------|
| No Included Containers |
|------------------------|

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356
ISO 17356-2: introduction?
ISO 17356-3: OS
ISO 17356-4: COM
ISO 17356-5: NM (not sure we need to have such reference)
ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version
with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-

TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents &

related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====
CP_TR_AutosarModelConstraints
see PS for the SWCT.
=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

====>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.3 Specification Item ECUC_Os_00033

Trace References:

none

Content:

| | |
|----------------|----------------|
| Container Name | OsEventOsEvent |
|----------------|----------------|

| | |
|--------------------------|--|
| Description | Representation of OS events in the configuration context. Adopted from the OSEK OIL ISO 17356-6 specification. |
| Configuration Parameters | |

Included parameters:

| | |
|---------------------|---------------|
| Included Parameters | |
| Parameter Name | SWS Item ID |
| OsEventMask | ECUC_Os_00034 |

Included containers:

| |
|------------------------|
| No Included Containers |
|------------------------|

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356
ISO 17356-2: introduction?
ISO 17356-3: OS
ISO 17356-4: COM
ISO 17356-5: NM (not sure we need to have such reference)
ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version
with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3,
<http://www.osek-vdx.org/mirror/os223.pdf>"

by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5,
OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"

by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System,
Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface)
Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM
or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

—Last change on issue 73564 comment 28—

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.4 Specification Item ECUC_Os_00035

Trace References:

none

Content:

| | |
|--------------------------|--|
| Container Name | OsHooksOsHooks |
| Description | Container to structure all hooks belonging to the OS |
| Configuration Parameters | |

Included parameters:

| Included Parameters | |
|--------------------------------|---------------|
| Parameter Name | SWS Item ID |
| OsErrorHook | ECUC_Os_00036 |
| OsPostTaskHook | ECUC_Os_00037 |
| OsPreTaskHook | ECUC_Os_00038 |
| OsProtectionHook | ECUC_Os_00214 |
| OsShutdownHook | ECUC_Os_00039 |
| OsStartupHook | ECUC_Os_00040 |
| OsMemoryMappingCodeLocationRef | ECUC_Os_00402 |

Included containers:

| |
|------------------------|
| No Included Containers |
|------------------------|

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod.

The OS shall use this SwAddrMethod in order to generate the correct MemMap MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
```

```
/* Task Body or Task forward declaration */
```

8

```

9 # define OS_STOP_SEC_<sadm>
10 # include "Os_MemMap.h"

```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: Os-Task (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks (ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value

Not post build-able

Pre-compile time All Variants

Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_xxxxx] d The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

```

1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task, ISR or hook functions declaration>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"

```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyyy] d The RTE Generator shall wrap each definition of a task body with the Memory Allokation Keywords.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task definition>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |

1.5 Specification Item ECUC_Os_00036

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsErrorHookOsHooks.OsErrorHookin container OsHooks | | |
| Description | Error hook as defined by OSEK ISO 17356 true: Hook is called false: Hook is not called | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | – | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | – | |
| | Post-build time | – | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356
ISO 17356-2: introduction?
ISO 17356-3: OS
ISO 17356-4: COM
ISO 17356-5: NM (not sure we need to have such reference)
ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version
with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are

supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the

sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface)
Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM
or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.6 Specification Item ECUC_Os_00037

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsPostTaskHookOsHooks.OsPostTaskHookin container OsHooks | | |
| Description | Post-task hook as defined by OSEK ISO 17356 true: Hook is called false: Hook is not called | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | – | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | – | |
| | Post-build time | – | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.

References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

- * OSEK web site

- * the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable

schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.7 Specification Item ECUC_Os_00038

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsPreTaskHookOsHooks.OsPreTaskHookin container OsHooks | | |
| Description | Pre-task hook as defined by OSEK ISO 17356 true: Hook is called false: Hook is not called | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | – | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | – | |
| | Post-build time | – | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task

(that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked

for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====
SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section

2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3,
<http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5,
OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System,
Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface)
Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)
and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.8 Specification Item ECUC_Os_00039

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsShutdownHookOsHooks.OsShutdownHookin container OsHooks | | |
| Description | Shutdown hook as defined by OSEK ISO 17356 true: Hook is called false: Hook is not called | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | — | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | — | |
| | Post-build time | — | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilter-TypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====
Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:
ISO 17356-4
OSEK/VDX Communication (COM)
www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline

monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.9 Specification Item ECUC_Os_00040

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsStartupHookOsHooks.OsStartupHookin container OsHooks | | |
| Description | Startup hook as defined by OSEK ISO 17356 true: Hook is called false: Hook is not called | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | - | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | - | |
| | Post-build time | - | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilterTypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilterTypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,

from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,

from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.10 Specification Item ECUC_Os_00041

Trace References:

none

Content:

| | |
|--------------------------|---|
| Container Name | OsIsrOsIsr |
| Description | The OsIsr container represents an OSEK ISO 17356 interrupt service routine. |
| Configuration Parameters | |

Included parameters:

| Included Parameters | |
|--------------------------------|---------------|
| Parameter Name | SWS Item ID |
| OsIsrCategory | ECUC_Os_00042 |
| OsIsrResourceRef | ECUC_Os_00043 |
| OsMemoryMappingCodeLocationRef | ECUC_Os_00402 |

Included containers:

| Included Containers | | |
|-----------------------|--------------|--|
| Container Name | Multiplicity | Scope / Dependency |
| OsIsrTimingProtection | 0..1 | <p>This container contains all parameters which are related to timing protection</p> <p>If the container exists, the timing protection is used for this interrupt. If the container does not exist, the interrupt is not supervised regarding timing violations.</p> |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356
ISO 17356-2: introduction?
ISO 17356-3: OS
ISO 17356-4: COM
ISO 17356-5: NM (not sure we need to have such reference)
ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version
with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that

is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline

monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints
see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of

the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod. The OS shall use this SwAddrMethod in order to generate the correct MemMap MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
/* Task Body or Task forward declaration */
```

```
8
```

```
9 # define OS_STOP_SEC_<sadm>
```

```
10 # include "Os_MemMap.h"
```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: OsTask (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks (ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value

Not post build-able

Pre-compile time All Variants

Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_xxxxx] d The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
4 <Task, ISR or hook functions declaration>
```

```
5
```



```
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyy] d The RTE Generator shall wrap each definition of a task body

with the Memory Allokation Keywords.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task definition>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |

1.11 Specification Item ECUC_Os_00044

Trace References:

none

Content:

| | |
|--------------------------|---|
| Container Name | OsOSOsOS |
| Description | OS is the object used to define OSEK OS ISO 17356-3 properties for an OSEK ISO 17356 application. Per CPU exactly one OS object has to be defined. |
| Configuration Parameters | |

Included parameters:

| Included Parameters | |
|----------------------|---------------|
| Parameter Name | SWS Item ID |
| OsNumberOfCores | ECUC_Os_01019 |
| OsScalabilityClass | ECUC_Os_00259 |
| OsStackMonitoring | ECUC_Os_00307 |
| OsStatus | ECUC_Os_00046 |
| OsUseGetServiceId | ECUC_Os_00047 |
| OsUseParameterAccess | ECUC_Os_00048 |
| OsUseResScheduler | ECUC_Os_00049 |

Included containers:

| Included Containers | | |
|---------------------|--------------|--|
| Container Name | Multiplicity | Scope / Dependency |
| OsHooks | 1 | Container to structure all hooks belonging to the OS |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

- * OSEK web site

- * the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline
monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline
monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3,
<http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5,
OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System,
Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface)
Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM
or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====
SWS_StandardTypes:
In Section 3.2: replace
[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by
[7] OSEK/VDX Operating System, ISO 17356-3: OS
=====
CP_TR_AutosarModelConstraints
see PS for the SWCT.
=====

=====

SRS_NetworkManagement:

- 1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"
Remove the description:
[5] [STD_OSEK_NM]
OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3
[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3
<http://www.osek-vdx.org/>
Change to :
OSEK/VDX NM Specification
www.iso.org
==>
7.2.1 ISO 17356-5
[5] ISO 17356-5: NM Specification
www.iso.org
- 2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]
- 3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]
–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.12 Specification Item ECUC_Os_00047

Trace References:

none

Content:

| | | | |
|---------------------------|--|---|--------------|
| Name | OsUseGetServiceIdOsOS.OsUseGetServiceIdin container OsOS | | |
| Description | As defined by OSEK ISO 17356 | | |
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | - | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | - | |
| | Post-build time | - | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-

TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents &

related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====
CP_TR_AutosarModelConstraints
see PS for the SWCT.
=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"
Remove the description:
[5] [STD_OSEK_NM]
OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3
[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3
<http://www.osek-vdx.org/>

Change to :
OSEK/VDX NM Specification
www.iso.org

====>

7.2.1 ISO 17356-5
[5] ISO 17356-5: NM Specification
www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]
–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.13 Specification Item ECUC_Os_00048

Trace References:

none

Content:

| | |
|-------------|--|
| Name | OsUseParameterAccessOsOS.OsUseParameterAccessin container OsOS |
| Description | As defined by OSEK ISO 17356 |

| | | | |
|---------------------------|---------------------|---|--------------|
| Multiplicity | 1 | | |
| Type | EcucBooleanParamDef | | |
| Default value | – | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | – | |
| | Post-build time | – | |
| Scope / Dependency | scope: local | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers

and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

```
/* for OSEK compliance this typedef has been added */
```

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

```
/* for ISO 17356 compliance this typedef has been added */
```

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3,
<http://www.osek-vdx.org/mirror/os223.pdf>
 by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5,
 OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>
 by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System,
 Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface)
 Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM
 or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.14 Specification Item ECUC_Os_00073

Trace References:

none

Content:

| | |
|--------------------------|---|
| Container Name | OsTaskOsTask |
| Description | This container represents an OSEK ISO 17356 task. |
| Configuration Parameters | |

Included parameters:

| Included Parameters | |
|---------------------|---------------|
| Parameter Name | SWS Item ID |
| OsTaskActivation | ECUC_Os_00074 |
| OsTaskPriority | ECUC_Os_00075 |

| Included Parameters | |
|--------------------------------|---------------|
| Parameter Name | SWS Item ID |
| OsTaskSchedule | ECUC_Os_00076 |
| OsMemoryMappingCodeLocationRef | ECUC_Os_00402 |
| OsTaskAccessingApplication | ECUC_Os_00077 |
| OsTaskEventRef | ECUC_Os_00078 |
| OsTaskResourceRef | ECUC_Os_00079 |

Included containers:

| Included Containers | | |
|------------------------|--------------|---|
| Container Name | Multiplicity | Scope / Dependency |
| OsTaskAutostart | 0..1 | This container determines whether the task is activated during the system start-up procedure or not for some specific application modes. If the task shall be activated during the system start-up, this container is present and holds the references to the application modes in which the task is auto-started. |
| OsTaskTimingProtection | 0..1 | This container contains all parameters regarding timing protection of the task. |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356
ISO 17356-2: introduction?
ISO 17356-3: OS
ISO 17356-4: COM
ISO 17356-5: NM (not sure we need to have such reference)
ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to
* OSEK web site
* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,

from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"

by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"

by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod. The OS shall use this SwAddrMethod in order to generate the correct MemMap MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
/* Task Body or Task forward declaration */
```

```
8
```

```
9 # define OS_STOP_SEC_<sadm>
```

```
10 # include "Os_MemMap.h"
```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: OsTask (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks (ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value

Not post build-able

Pre-compile time All Variants

Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_xxxxx] d The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

```

1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task, ISR or hook functions declaration>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"

```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyy] d The RTE Generator shall wrap each definition of a task body

with the Memory Allokation Keywords.

```

1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task definition>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"

```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |

1.15 Specification Item ECUC_Os_00075

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsTaskPriorityOsTask.OsTaskPriorityin container OsTask | | |
| Description | The priority of a task is defined by the value of this attribute. This value has to be understood as a relative value, i.e. the values show only the relative ordering of the tasks. OSEK OS ISO 17356-3 defines the lowest priority as zero (0); larger values correspond to higher priorities. | | |
| Multiplicity | 1 | | |
| Type | EcucIntegerParamDef | | |
| Range | 0 .. 4294967295 | | |
| 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 #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vedx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,

from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in [SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.16 Specification Item ECUC_Os_00254

Trace References:

none

Content:

| | | | |
|---------------------------|---|---|--------------|
| Name | OsTrustedFunctionNameOsApplicationTrustedFunction.OsTrustedFunctionNamein container Os ApplicationTrustedFunction | | |
| Description | Trusted function (as part of a trusted OS-Application) available to other OS-Applications. This also supersedes the OSEK OIL ISO 17356-6 attribute TRUSTED in APPLICATION because the optionality of this parameter is describing that already. | | |
| Multiplicity | 1 | | |
| Type | EcucFunctionNameDef | | |
| Default value | – | | |
| maxLength | – | | |
| minLength | – | | |
| regularExpression | – | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | – | |
| | Post-build time | – | |
| Scope / Dependency | scope: ECU dependency: Required for scalability class 3 and 4 and in trusted OS-Applications. | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[..]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type DataFilter-

TypeEnum in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of DataFilter

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of DataFilter

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. OSEK COM 3.0.3 specification [18], DataFilters can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of DataFilter

According to the origin of DataFilter, i.e. ISO 17356-4 specification [18], DataFilters can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====

Dem

=====

Replace the reference [17] Communication in Chapter 3.1 Input documents &

related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,
from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,
from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf
by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====
CP_TR_AutosarModelConstraints
see PS for the SWCT.
=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"
Remove the description:
[5] [STD_OSEK_NM]
OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3
[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3
<http://www.osek-vdx.org/>
Change to :
OSEK/VDX NM Specification
www.iso.org
====>
7.2.1 ISO 17356-5
[5] ISO 17356-5: NM Specification
www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]
–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.17 Specification Item ECUC_Os_00396

Trace References:

none

Content:

| | |
|--------------------|--|
| Module Name | OsOs |
| Module Description | Configuration of the Os (Operating System) module. |

| | |
|----------------------------|---------------------|
| Post-Build Variant Support | false |
| Supported Config Variants | VARIANT-PRE-COMPILE |

Included containers:

| Included Containers | | |
|---------------------|--------------|--|
| Container Name | Multiplicity | Scope / Dependency |
| OsAlarm | 0..* | An OsAlarm may be used to asynchronously inform or activate a specific task. It is possible to start alarms automatically at system start-up depending on the application mode. |
| OsAppMode | 1..* | <p>OsAppMode is the object used to define OSEK OS ISO 17356-3 properties for an OSEK OS ISO 17356-3 application mode.</p> <p>No standard attributes are defined for AppMode.</p> <p>In a CPU, at least one AppMode object has to be defined.</p> <p>[source: OSEK OIL Spec. 2.5 ISO 17356-6]</p> <p>An OsAppMode called OSDEFAULTAPPMODE must always be there for OSEK ISO 17356 compatibility.</p> |
| OsApplication | 0..* | <p>An AUTOSAR OS must be capable of supporting a collection of OS objects (tasks, interrupts, alarms, hooks etc.) that form a cohesive functional unit. This collection of objects is termed an OS-Application.</p> <p>All objects which belong to the same OS-Application have access to each other. Access means to allow to use these objects within API services.</p> <p>Access by other applications can be granted separately.</p> |
| OsCounter | 0..* | Configuration information for the counters that belong to the Os Application. |
| OsEvent | 0..* | Representation of OS events in the configuration context. Adopted from the OSEK OIL ISO 17356-6 specification. |
| OsIoc | 0..1 | Configuration of the IOC (Inter OS Application Communicator). |
| OsIsr | 0..* | The OsIsr container represents an OSEK ISO 17356 interrupt service routine. |
| OsOS | 1 | <p>OS is the object used to define OSEK OS ISO 17356-3 properties for an OSEK ISO 17356 application.</p> <p>Per CPU exactly one OS object has to be defined.</p> |

| Included Containers | | |
|---------------------|--------------|--|
| Container Name | Multiplicity | Scope / Dependency |
| OsPeripheralArea | 0..65534 | Container to structure the configuration parameters of one peripheral area. The container short name can be used to access this area. |
| OsResource | 0..* | An OsResource object is used to co-ordinate the concurrent access by tasks and ISRs to a shared resource, e.g. the scheduler, any program sequence, memory or any hardware area. |
| OsScheduleTable | 0..* | An OsScheduleTable addresses the synchronization issue by providing an encapsulation of a statically defined set of alarms that cannot be modified at runtime. |
| OsSpinlock | 0..* | An OsSpinlock object is used to co-ordinate concurrent access by TASKs/ISR2s on different cores to a shared resource. |
| OsTask | 0..* | This container represents an OSEK ISO 17356 task. |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73564: References to OSEK

Problem description:

The OSEK web site is not available.
References need to be updated.

OSEK was pushed to ISO 17356

ISO 17356-2: introduction?

ISO 17356-3: OS

ISO 17356-4: COM

ISO 17356-5: NM (not sure we need to have such reference)

ISO 17356-6: OIL (not sure we need to have such reference)

I tried to select the documents where it would make sense to get a fix.

Agreed solution:

Replace references to

* OSEK web site

* the OSEK file name / version

with an ISO reference (with ISO version)

Check references to OSEK subsection (or avoid such references), to make

sure that the section numbering in ISO is the same.

SWS OS

=====

Change references in chapter 3.2.1 to ISO. Remove [16], [18], [19] and [20]

Remove [22] from chapter 3.2.2

Remove "OSEKtime OS [16] and the HIS Protected OSEK [22] are immature specifications that contain concepts necessary for AUTOSAR and satisfy specific application domains. It is the purpose of this document to identify these needs and to recommend the use of parts (or all) of these specifications as appropriate." from chapter 4.1.

Change "OSEK OS" to new ISO reference ("OSEK OS[.]" - many occurrences, also in chapter 10)

Remove "So called hard and smooth synchronization from OSEKtime [16] are supported by this single unified concept in AUTOSAR OS. Smooth synchronization may be emulated by setting the small adjustment values on the final expiry point. Hard synchronization may be emulated by setting large adjustment values on the final expiry point." from 7.4.2.2.3

Remove "and provides the type of protection given by the OSEKtime Interrupt re-enable schedule event [16]." from 7.7.2.1

Remove chapter 12.3

SWCT:

=====

Replace reference to OSEK COM:

Fifteen filter algorithms formally described by the enumeration type DataFilter-TypeEnum in the meta-model are taken from OSEK COM 3.0.3 specification [18] that is referenced by the RTE specification [2].

by:

Fifteen filter algorithms formally described by the enumeration type `DataFilterTypeEnum` in the meta-model are taken from the ISO 17356-4 specification [18] that is referenced by the RTE specification [2].

Replace:

[TPS_SWCT_01222] Applicability of `DataFilter`

This OSEK specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

by:

[TPS_SWCT_01222] Applicability of `DataFilter`

The ISO 17356-4 specification states that filtering is only used for messages that can be interpreted as C language unsigned integer types (characters, unsigned integers and enumerations).(RS_SWCT_03221)

Replace:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. OSEK COM 3.0.3 specification [18], `DataFilters` can only be applied to values with an integer base type.()

by:

[constr_1044] Applicability of `DataFilter`

According to the origin of `DataFilter`, i.e. ISO 17356-4 specification [18], `DataFilters` can only be applied to values with an integer base type.()

Replace footnote to [constr_1090]:

This constraint is valid at least in the OSEK standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

by:

This constraint is valid at least in the ISO 17356-3 standard where an extended task (that can have wait points) can only exist a single time in the context of the scheduler.

=====
Dem
=====

Replace the reference [17] Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

Dcm

=====

Replace the reference [8]Communication in Chapter 3.1 Input documents & related standards and norms Bibliography by : ISO 17356-3 in www.iso.org/

=====

EXP_VFB

Add an entry in chapter "13 References" related to ISO 17356-4:

ISO 17356-4

OSEK/VDX Communication (COM)

www.iso.org

Change the references to "OSEK-COM V3.0.3" in Table 4.2 (4.3.2 From the point of view of the receiver) and EXP_Vfb_00028 (4.3.4 Filtering between the sender and the receiver) to "ISO 17356-4". Link the references to the entry in chapter "13 References".

=====

SRS_BSWGeneral

5 General Requirements on Basic Software

Replace "OSEK OS" by "ISO 17356-3"

5.2.3.4 Standard header Files

Replace in [SRS_BSW_00348]

Because E_OK is already defined within OSEK OS, E_OK has to be checked for being already defined:

/* for OSEK compliance this typedef has been added */

by

Because E_OK is already defined within ISO 17356-3, E_OK has to be checked for being already defined

/* for ISO 17356 compliance this typedef has been added */

6.2 Related Standards and Norms

Remove

6.2.1 OSEK

[STD_OSEK_OS] OSEK/VDX Operating System Specification

<http://www.osek-vdx.org>

Replace with ISO 17356-3 norm

=====

SRS_COM

1)

Remove [DOC_OSEK_GLOS] and all its references, since a) AUTOSAR has an own wording and glossary b) the references to (old) OSEK-terms most probably create more confusion than guidance

2)

Set reference of [DOC_OSEK_COM] to: ISO 17356-4: COM

Move reference to Chapter 7.3 ISO and remove Chapter 7.2 OSEK

3)

Remove section references to [DOC_OSEK_COM], just keep the textual references no numbers

4)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM

5)

[SRS_Com_02084]: Change following text in Description,

from

< The possibilities to define those conditions shall be the same as defined in [DOC_OSEK_COM] reception filter algorithms (see [DOC_OSEK_GLOS], Section 2.2.2).

to

> The possibilities to define those conditions shall be the same as defined in [DOC_ISO_COM] reception filter algorithms (see [DOC_ISO_COM], Section 3.2.3).

6)

[SRS_Com_02058]: Change following text in Supporting Material,

from

< If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_OSEK_COM] (Section 2.5.1).

to

> If no update bits are used, the AUTOSAR COM module provides the deadline monitoring defined in [DOC_ISO_COM] (Section 3.5.1).

=====

SRS_Os

in chapter 6.2.1 OSEK:

Replace "[STD_OSEK_OS] OSEK/VDX Operating System, Version 2.2.3, <http://www.osek-vdx.org/mirror/os223.pdf>"
by "[STD_OSEK_OS] ISO 17356-3: OS"

Replace "[STD_OSEK_OIL] OSEK / VDX Implementation Language (OIL) V2.5, OSEK Implementation Language, <http://www.osek-vdx.org/mirror/oil25.pdf>"
by "[STD_OSEK_OIL] ISO 17356-6: OIL"

Remove "[STD_OSEK_TTOS] OSEK/VDX Time-Triggered Operating System, Version 1.0, July 24, 2001, <http://www.osek-vdx.org/mirror/ttos10.pdf>"

Remove "[STD_OSEK_ORTI] OSEK/VDX ORTI (OSEK RunTime Interface) Part A Version 2.1.1, Part B Version 2.1, <http://www.osek-vdx.org/mirror/ORTI-A-211.pdf>"

in [SRS_Os_11002]: remove [STD_OSEK_TTOS] from Supporting Material

=====

SWS_COM

1)

Set reference of [17] to ISO 17356-4: COM

Set reference of [18] to ISO 17356-6: OIL

2)

Search and replace textual references to OSEK COM 3.0.3 by ISO 17356-4: COM or [17] (if suitable)

and textual references to OSEK OIL by ISO 17356-6: OIL or [18] (if suitable)

=====

SWS_StandardTypes:

In Section 3.2: replace

[7] OSEK/VDX Operating System, Version 2.2.2 www.osek-vdx.org/os222.pdf

by

[7] OSEK/VDX Operating System, ISO 17356-3: OS

=====

CP_TR_AutosarModelConstraints

see PS for the SWCT.

=====

=====

SRS_NetworkManagement:

1) Change Section 7.2.1 name from "OSEK" to "ISO 17356-5"

Remove the description:

[5] [STD_OSEK_NM]

OSEK/VDX NM Specification (ISO 17356-5), Version 2.5.3

[STD_OSEK_NM] OSEK/VDX NM Specification (ISO 17356-5), V2.5.3

<http://www.osek-vdx.org/>

Change to :

OSEK/VDX NM Specification

www.iso.org

==>

7.2.1 ISO 17356-5

[5] ISO 17356-5: NM Specification

www.iso.org

2) Replace "OSEK-NM" to "ISO 17356-5: NM Specification" in [SRS_Nm_02515]

3) Replace "OSEK NM 2.5.3" to "ISO 17356-5: NM Specification" in
[SRS_Nm_00142]

–Last change on issue 73564 comment 28–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 1 | 1 |

1.18 Specification Item ECUC_Os_00402

Trace References:

none

Content:

| | | | |
|---------------------------|--|---|--------------|
| Name | OsMemoryMappingCodeLocationRefOsTask.OsMemoryMappingCodeLocationRef | | |
| Description | Reference to the memory mapping containing details about the section where the code is placed. | | |
| Multiplicity | 0..1 | | |
| Type | Foreign reference to [SW-ADDR-METHOD] | | |
| Post-Build Variant Value | false | | |
| Value Configuration Class | Pre-compile time | X | All Variants |
| | Link time | — | |
| | Post-build time | — | |
| Scope / Dependency | scope: ECU | | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod.

The OS shall use this SwAddrMethod in order to generate the correct MemMap MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
/* Task Body or Task forward declaration */
```

```
8
```

```
9 # define OS_STOP_SEC_<sadm>
```

```
10 # include "Os_MemMap.h"
```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: Os-Task (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks (ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value

Not post build-able

Pre-compile time All Variants

Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_xxxxx] d The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task, ISR or hook functions declaration>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyyy] d The RTE Generator shall wrap each definition of a task body

with the Memory Allokation Keywords.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
```

```

3
4 <Task definition>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"

```

where <sadm> is the shortName of the SwAddrMethod if configured in OsMemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |

1.19 Specification Item SWS_Os_00287

Trace References:

none

Content:

If the parameters in a call of TerminateApplication() are valid and the above criteria are met TerminateApplication() shall terminate <Application> (i.e. to kill all tasks, disable the interrupt sources of those ISRs which belong to the OS-Application and free all other OS resources associated with the application) AND shall activate the configured OsRestart Task of <Application> if <RestartOption> equals RESTART. If **no OsRestartTask is configured, no restart shall happen**. If the <Application> is restarted, its state is set to APPLICATION_RESTARTING otherwise to APPLICATION_TERMINATED. If the caller belongs to <Application> TerminateApplication() shall not return, otherwise it shall return E_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74850: TerminateApplication() with RESTART and no OsRestartTask configured.

Problem description:

We have a doubt in TerminateApplication() with RESTART option.

Consider the scenario where, TerminateApplication() is called with RESTART option and no OsRestartTask is configured for the referred <Application>.

The current SWS OS document does not mention any error or behavior regarding this scenario.

Which error shall be returned by the OS ? OR What will be the behavior of OS?

Agreed solution:

Change SWS_Os_00287 from:

[SWS_Os_00287] If the parameters in a call of TerminateApplication() are valid and the above criteria are met TerminateApplication() shall terminate <Application> (i.e. to kill all tasks, disable the interrupt sources of those ISRs which belong to the OS-Application and free all other OS resources associated with the application) AND shall activate the configured OsRestartTask of <Application> if <RestartOption> equals RESTART. If the <Application> is restarted, its state is set to APPLICATION_RESTARTING otherwise to APPLICATION_TERMINATED. If the caller belongs to <Application> TerminateApplication() shall not return, otherwise it shall return E_OK.

to

[SWS_Os_00287] If the parameters in a call of TerminateApplication() are valid and the above criteria are met TerminateApplication() shall terminate <Application> (i.e. to kill all tasks, disable the interrupt sources of those ISRs which belong to the OS-Application and free all other OS resources associated with the application) AND shall activate the configured OsRestartTask of <Application> if <RestartOption> equals RESTART. If no OsREstartTask is configured, no restart shall happen. If the <Application> is restarted, its state is set to APPLICATION_RESTARTING otherwise to APPLICATION_TERMINATED. If the caller belongs to <Application> TerminateApplication() shall not return, otherwise it shall return E_OK.

–Last change on issue 74850 comment 11–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 4 | 1 |

1.20 Specification Item SWS_Os_00563

Trace References:

none

Content:

The OperatingSystem shall not schedule any other Tasks which belong to the same OS-Application as the non-trusted caller of the service. **It shall be done by priority ceiling.** Also interrupts of Category 2 which belong to the same OS-Application shall be disabled during the execution of the service.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76945: [Os][RTE] Inconsistency on TerminateApplication() between RTE and Os / issues on [SWS_Os_00563]

Problem description:

Could you please advise if there's any known solution to solve following inconsistency/issues? (RTE, Os or both side)

1)

SWS RTE has following assumption between [SWS_Rte_07606] and [SWS_Rte_02761].

[...]

The OS ensures that the partition of the caller is not terminated or restarted when a trusted function is executed. If needed, the termination or restart of the callers partition is delayed after the trusted function returns.

[...]

However, Os doesn't guarantee it because there's no corresponding requirement at SWS Os.

And, actually, after preemption by a higher priority, the higher priority task can invoke TerminateApplication and then the partition of the (preempted) trusted function can be terminated

(Sequence)

Step-1. task switching from the trusted function to a higher priority task

Step-2. invocation of TerminateApplication by the higher priority task

==> the partition of the trusted function can be terminated

2)

Probably [SWS_Os_00563] intends to prevent termination of running trusted functions.

However it's incomplete. There're two issues:

*** Issue 2-1. Priority inversion**

During the period of "not schedule any other Tasks which belong to the same OS-Application as the non-trusted caller of the service", lower priority task which is belongs to other OS-Application can be scheduled and then it will cause priority inversion.

(Should we allow scheduling of the lower priority task in such case?)

*** Issue 2-2. No consideration about TerminateApplication**

[SWS_Os_00563] doesn't consider that invocation of TerminateApplication can also terminate running trusted functions.

(Should we block all tasks/Cat.2 ISRs which can invoke TerminateApplication?)

[SWS_Os_00563] The Operating System shall not schedule any other Tasks which belong to the same OS-Application as the non-trusted caller of the service. Also interrupts of Category 2 which belong to the same OS-Application shall be disabled during the execution of the service.

Agreed solution:

SWS RTE: change (between [SWS_Rte_07606] and [SWS_Rte_02761])

"The OS ensures that the partition of the caller is not terminated or restarted when a trusted function is executed."

to

"The OS ensures that the partition of the caller is not terminated or restarted when a trusted function is executed unless the termination of the partition calling the trusted function is caused by another TRUSTED partition"

After SWS_Os_00535 add the following note:

"Note: Although trusted OS-Application can be forcibly terminated by Tasks/Interrupts of other trusted OS-Applications it is not recommended. This may have further impacts, e.g. to users who are currently part of such an OS-Application via a CallTrustedFunction() call."

Change SWS_Os_00563 to:

"[SWS_Os_00563] ?The OperatingSystem shall not schedule any other Tasks which belong to the same OS-Application as the non-trusted caller of the service. It

shall be done by priority ceiling. Also interrupts of Category 2 which belong to the same OS-Application shall be disabled during the execution of the service. ? ()"

–Last change on issue 76945 comment 13–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 4 | 1 |

1.21 Specification Item SWS_Os_00695

Trace References:

SRS_Os_80021

Content:

| | | |
|---------------------|---|---|
| Service name: | ReleaseSpinlockReleaseSpinlock | |
| Syntax: | StatusType ReleaseSpinlock(SpinlockIdType SpinlockId) | |
| Service ID[hex]: | 0x1a | |
| Sync/Async: | Synchronous | |
| Reentrancy: | Reentrant | |
| Parameters (in): | SpinlockIdReleaseSpinlock.SpinlockId | The value refers to the spinlock instance that shall be locked. |
| Parameters (inout): | None | |
| Parameters (out): | None | |
| Return value: | StatusType | E_OK - In standard and extended status: No Error E_OS_ID - In extended status: The SpinlockId is invalid. E_OS_STATE - In extended status: The Spinlock is not occupied by the TASK E_OS_ACCESS - In extended status: The Spinlock cannot be accessed. E_OS_NOFUNC - In extended status: Attempt to release a spinlock while another spinlock (or resource) has to be released before. |
| Description: | ReleaseSpinlock releases a spinlock variable that was occupied before. Before terminating a TASK all spinlock variables that have been occupied with GetSpinlock() shall be released. Before calling WaitEVENT all Spinlocks shall be released. | |

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77073: Clarification regarding SWS_Os_00801 requirement.

Problem description:

Name: Somnath Holkar
Phone: +91 20 2295 3536
Role: Developer

Description/Motivation:

We have couple of questions regarding the spinlocks and resources.

Question No. 1 :

The requirement SWS_Os_00801 says that,

[SWS_Os_00801]If Spinlocks and Resources are locked by a Task/ISR they have to be unlocked in strict LIFO order. ReleaseResource() shall return E_OS_NOFUNC if the unlock order is violated. No other functionality shall be performed.(SRS_Os_80021)

Consider the below configuration settings,

Spinlock S1 - with "LOCK_WITH_RES_SCHEDULER" as lock method
Resource R1 - shared between OsTask1_Core0 and OsTask2_Core0.

Please consider the below scenarios.

1. Scenario 1 :

```
E_OK = GetSpinlock(S1);  
E_OK = GetResource(R1);  
E_OK = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);
```

2. Scenario 2 :

```
E_OK = GetResource(R1);  
E_OK = GetSpinlock(S1);  
E_OK = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);
```

3. Scenario 3 :

```
E_OK = GetResource(R1);  
E_OK = GetSpinlock(S1);  
E_OS_NOFUNC = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);
```

4. Scenario 4 :

```
E_OK = GetSpinlock(S1);  
E_OK = GetResource(R1);  
E_OS_NOFUNC = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);
```

Please provide comment on return values and behaviour of OS on above mentioned scenarios.

If Scenario No.4 is correct, then requirement (SWS_Os_00801) needs to be extended for a service ReleaseSpinlock() also for better clarity.

Question No. 2 :

Consider below configuration settings:

Spinlock S1, S2 and S3 with lock methods as "LOCK_WITH_RES_SCHEDULER" , "LOCK_ALL_INTERRUPTS" and "LOCK_CAT2_INTERRUPTS" respectively.

1.Scenario 1 :

```
E_OK = GetSpinlock(S1);  
? = ReleaseResource(RES_SCHEDULER);  
? = ReleaseSpinlock(S1);
```

In this case, what will be the return value or behaviour of ReleaseResource() and ReleaseSpinlock()?

2.Scenario 2 :

```
GetSpinlock(S2);  
ResumeAllInterrupts();  
ReleaseSpinlock(S2);
```

In this case, what will be the behaviour of ResumeAllInterrupts() service?
Will ResumeAllInterrupts() unlock interrupts locked by GetSpinlock(S2)?

3.Scenario 3 :

```
GetSpinlock(S3);  
ResumeOSInterrupts();  
ReleaseSpinlock(S3)
```

In this case, what will be the behaviour of ResumeOSInterrupts() service?
Will ResumeOSInterrupts() unlock interrupts locked by GetSpinlock(S3)?

Thanks and Regards,
Somnath

Agreed solution:

change SWS_Os_00695 (return values) from:

"E_OS_NOFUNC - In extended status: Attempt to release a spinlock while another spinlock has to be released before." to

"E_OS_NOFUNC - In extended status: Attempt to release a spinlock while another spinlock (or resource) has to be released before."

change SWS_Os_00701:

"... tries to release a spinlock while another spinlock has to be released before. No functionality shall be performed." to

"... tries to release a spinlock while another spinlock (or resource) has to be released before. No functionality shall be performed."

–Last change on issue 77073 comment 1–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 4 | 1 |

1.22 Specification Item SWS_Os_00701

Trace References:

SRS_Os_80021

Content:

The function ReleaseSpinlock shall return E_OS_NOFUNC if the TASK tries to release a spinlock while another spinlock (or resource) has to be released before. No functionality shall be performed.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77073: Clarification regarding SWS_Os_00801 requirement.

Problem description:

Name: Somnath Holkar

Phone: +91 20 2295 3536

Role: Developer

Description/Motivation:

We have couple of questions regarding the spinlocks and resources.

Question No. 1 :

The requirement SWS_Os_00801 says that,

[SWS_Os_00801]If Spinlocks and Resources are locked by a Task/ISR they have to be unlocked in strict LIFO order. ReleaseResource() shall return E_OS_NOFUNC if the unlock order is violated. No other functionality shall be performed.(SRS_Os_80021)

Consider the below configuration settings,

Spinlock S1 - with "LOCK_WITH_RES_SCHEDULER" as lock method

Resource R1 - shared between OsTask1_Core0 and OsTask2_Core0.

Please consider the below scenarios.

1. Scenario 1 :

```
E_OK = GetSpinlock(S1);  
E_OK = GetResource(R1);  
E_OK = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);
```

2. Scenario 2 :

```
E_OK = GetResource(R1);  
E_OK = GetSpinlock(S1);  
E_OK = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);
```

3. Scenario 3 :

```
E_OK = GetResource(R1);  
E_OK = GetSpinlock(S1);  
E_OS_NOFUNC = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);
```

4. Scenario 4 :


```
E_OK = GetSpinlock(S1);  
E_OK = GetResource(R1);  
E_OS_NOFUNC = ReleaseSpinlock(S1);  
E_OK = ReleaseResource(R1);  
E_OK = ReleaseSpinlock(S1);
```

Please provide comment on return values and behaviour of OS on above mentioned scenarios.

If Scenario No.4 is correct, then requirement (SWS_Os_00801) needs to be extended for a service ReleaseSpinlock() also for better clarity.

Question No. 2 :

Consider below configuration settings:

Spinlock S1, S2 and S3 with lock methods as "LOCK_WITH_RES_SCHEDULER" , "LOCK_ALL_INTERRUPTS" and "LOCK_CAT2_INTERRUPTS" respectively.

1.Scenario 1 :

```
E_OK = GetSpinlock(S1);  
? = ReleaseResource(RES_SCHEDULER);  
? = ReleaseSpinlock(S1);
```

In this case, what will be the return value or behaviour of ReleaseResource() and ReleaseSpinlock()?

2.Scenario 2 :

```
GetSpinlock(S2);  
ResumeAllInterrupts();  
ReleaseSpinlock(S2);
```

In this case, what will be the behaviour of ResumeAllInterrupts() service?
Will ResumeAllInterrupts() unlock interrupts locked by GetSpinlock(S2)?

3.Scenario 3 :

```
GetSpinlock(S3);  
ResumeOSInterrupts();  
ReleaseSpinlock(S3)
```

In this case, what will be the behaviour of ResumeOSInterrupts() service?
Will ResumeOSInterrupts() unlock interrupts locked by GetSpinlock(S3)?

Thanks and Regards,
Somnath

Agreed solution:

change SWS_Os_00695 (return values) from:

"E_OS_NOFUNC - In extended status: Attempt to release a spinlock while another spinlock has to be released before." to

"E_OS_NOFUNC - In extended status: Attempt to release a spinlock while another spinlock (or resource) has to be released before."

change SWS_Os_00701:

"... tries to release a spinlock while another spinlock has to be released before. No functionality shall be performed." to

"... tries to release a spinlock while another spinlock (or resource) has to be released before. No functionality shall be performed."

–Last change on issue 77073 comment 1–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 4 | 1 |

1.23 Specification Item SWS_Os_00815

Trace References:

SRS_BSW_00351

Content:

The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

1 #define OS_START_SEC_<sadm>

2 #include "Os_MemMap.h"

3

4 <Task, ISR or hook functions declaration>

5

6 #define OS_STOP_SEC_<sadm>

7 #include "Os_MemMap.h"

where <sadm> is the shortName of the SwAddrMethod if configured in OsMemoryMappingCodeLocationRef.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74978: Mismatch in memory allocation for Os Tasks

Problem description:

Currently following situation occurs:

The OS so declared the Task Bodies (in order to mount in its own configuration structures)

The RTE in turn defines some of the Task Bodies.

But both do that with different memory sections since there is no common source of information which memory section is requested for a Task Bodies.

In the meantime Compilers are on the market with a quite strict checking of the memory relates settings and in case of mismatch those compilers issue an error.

Proposal: add a configuration parameter at OsTask referencing a SwAddrMethod.

The OS shall use this SwAddrMethod in order to generate the correct MemMap MemoryAllocationKeywords (like Rte for Runnables)

E.g.

```
1 # define OS_START_SEC_<sadm>
```

```
2 # include "Os_MemMap.h"
```

```
3
```

```
/* Task Body or Task forward declaration */
```

```
8
```

```
9 # define OS_STOP_SEC_<sadm>
```

```
10 # include "Os_MemMap.h"
```

Agreed solution:

ECUC of SWS OS:

Add a reference attribute to the following Os config containers: Os-Task (ECUC_Os_00073), OsISR (ECUC_Os_00041), OsApplicationHooks (ECUC_Os_00020) and OsHooks (ECUC_Os_00035)

Details:

Name: OsMemoryMappingCodeLocationRef

Description Reference to the memory mapping containing details about the section where the code is placed

Multiplicity: 0..1

Type: Foreign reference to SW-ADDR-METHOD

No default value
Not post build-able
Pre-compile time All Variants
Scope: ECU

—

Add a requirement to SWS_OS

[SWS_Os_xxxxx] d The OS code shall wrap each declaration of Task, ISR and hook functions with the Memory Mapping Allocation Keywords macros.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task, ISR or hook functions declaration>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef. d (SRS_BSW_00351)

—

SWS RTE:

[SWS_Rte_yyyyy] d The RTE Generator shall wrap each definition of a task body

with the Memory Allokation Keywords.

```
1 # define OS_START_SEC_<sadm>
2 # include "Os_MemMap.h"
3
4 <Task definition>
5
6 # define OS_STOP_SEC_<sadm>
7 # include "Os_MemMap.h"
```

where <sadm> is the shortName of the SwAddrMethod if configured in Os-MemoryMappingCodeLocationRef of the according OsTask.

If OsMemoryMappingCodeLocationRef is not defined , <sadm> shall be CODE_<Taskname>. d (SRS_BSW_00351)

Add a note below:

"Requirement SWS_Rte_yyyyy is an exception to SWS_Rte_05088."

–Last change on issue 74978 comment 12–

BW-C-Level:

| Application | Specification | Bus |
|-------------|---------------|-----|
| 1 | 3 | 1 |