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# 1 SWS\_UDPNetworkManagement

## 1.1 Specification Item ECUC\_UdpNm\_00007

### Trace References:

none

### Content:

Name	UdpNmNodeDetectionEnabledUdpNmGlobalConfig.UdpNmNodeDetectionEnabled		
Parent Container	UdpNmGlobalConfig		
Description	<p>Pre-processor switch for enabling the node detection support.</p> <p>This parameter shall be derived from NmNodeDetectionEnabled.</p> <p>This parameter shall only be enabled if UdpNmNodeIdEnabled == true.</p> <p>If(UdpNmPduCbvPosition != UDPNM_PDU_OFF) then Equal(NmNodeDetectionEnabled) else Equal(False).</p> <p>Tags: atp.Status=obsolete</p>		
Multiplicity	1 0..1		
Type	EcucBooleanParamDef		
Default value	-		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	-	
	Post-build time	-	
Scope / Dependency	scope: local dependency: Not available if UdpNmPassiveModeEnabled		

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

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

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

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

=== EcuC CanNm ===

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

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

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

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

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

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

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile

time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties

as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

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

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

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

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

=== EcuC LinNm ===

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

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

handle."

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

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

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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



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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE

UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."  
Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"  
Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"  
Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."  
Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.2 Specification Item ECUC\_UdpNm\_00008

### Trace References:

none

### Content:

Name	UdpNmNodeIdEnabledUdpNmGlobalConfig.UdpNmNodeIdEnabled		
Parent Container	UdpNmGlobalConfig		
Description	Pre-processor switch for enabling the source node identifier. This parameter shall be derived from NmNodeIdEnabled. Tags: atp.Status=obsolete		
Multiplicity	1 0..1		
Type	EcucBooleanParamDef		
Default value	-		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	-	
	Post-build time	-	
Scope / Dependency	scope: local		

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

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

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time

-> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

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

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled



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

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

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

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

=== EcuC LinNm ===

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

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of

NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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



requirement to chapter 8.3.14 CanNm\_GetPduData

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

(SRS\_Nm\_00153)"

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

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.3 Specification Item ECUC\_UdpNm\_00015

#### Trace References:

none

**Content:**

Name	UdpNmRepeatMsgIndEnabledUdpNmGlobalConfig.UdpNmRepeatMsgIndEnabled		
Parent Container	UdpNmGlobalConfig		
Description	Enable/disable the notification that a RepeatMessageRequest bit has been received. Tags: atp.Status=obsolete		
Multiplicity	1 0..1		
Type	EcucBooleanParamDef		
Default value	—		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	—	
	Post-build time	—	
Scope / Dependency	scope: local dependency: calculationFormula = If (UdpNmPassiveModeEnabled == False) then Equal(NmRepeatMsgIndEnabled) else Equal(False)		

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

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

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

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

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

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

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

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

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

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

=== EcuC FrNm ===

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

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

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

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

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

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



## POST-BUILD

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

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

## === EcuC LinNm ===

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

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

## === BSW UML CanNm ===

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

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

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

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

## === BSW UML UdpNm ===

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

SWS\_UdpNm\_00220.

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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



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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.4 Specification Item ECUC\_UdpNm\_00017

### Trace References:

none

### Content:

Container Name	UdpNmChannelConfigUdpNmChannelConfig
Description	This container contains the channel-specific configuration parameters of the UdpNm.
Configuration Parameters	

## Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
UdpNmActiveWakeupBitEnabled	ECUC_UdpNm_00074
UdpNmAllNmMessagesKeepAwake	ECUC_UdpNm_00089
UdpNmCarWakeupBitPosition	ECUC_UdpNm_00087
UdpNmCarWakeupBytePosition	ECUC_UdpNm_00086
UdpNmCarWakeupFilterEnabled	ECUC_UdpNm_00077
UdpNmCarWakeupFilterNodeId	ECUC_UdpNm_00078
UdpNmCarWakeupRxEnabled	ECUC_UdpNm_00076
UdpNmImmediateNmCycleTime	ECUC_UdpNm_00079
UdpNmImmediateNmTransmissions	ECUC_UdpNm_00075
UdpNmMainFunctionPeriod	ECUC_UdpNm_00032
UdpNmMsgCycleOffset	ECUC_UdpNm_00029
UdpNmMsgCycleTime	ECUC_UdpNm_00028
UdpNmMsgTimeoutTime	ECUC_UdpNm_00030
UdpNmNodeDetectionEnabled	ECUC_UdpNm_00090
UdpNmNodeId	ECUC_UdpNm_00031
UdpNmNodeIdEnabled	ECUC_UdpNm_00091
UdpNmPduCbvPosition	ECUC_UdpNm_00026
UdpNmPduNidPosition	ECUC_UdpNm_00025
UdpNmPnEnabled	ECUC_UdpNm_00061
UdpNmPnEraCalcEnabled	ECUC_UdpNm_00060
UdpNmPnHandleMultipleNetworkRequests	ECUC_UdpNm_00063
UdpNmRemoteSleepIndTime	ECUC_UdpNm_00023
UdpNmRepeatMessageTime	ECUC_UdpNm_00022
UdpNmRepeatMsgIndEnabled	ECUC_UdpNm_00092
UdpNmRetryFirstMessageRequest	ECUC_UdpNm_00085
UdpNmTimeoutTime	ECUC_UdpNm_00020
UdpNmWaitBusSleepTime	ECUC_UdpNm_00021
UdpNmComMNetworkHandleRef	ECUC_UdpNm_00018
UdpNmPnEraRxNSduRef	ECUC_UdpNm_00073

## Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency
UdpNmRxPdu	1..*	This container describes the UdpNm RX PDU's.
UdpNmTxPdu	0..1	This container describes the UdpNm TX PDU's.

Included Containers		
Container Name	Multiplicity	Scope / Dependency
UdpNmUserDataTxPdu	0..1	Preprocessor switch for enabling the Tx path of Com User Data. Use case: Setting of NMUserData via SWC.

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

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

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

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

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

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

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

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

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



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

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

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

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

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

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

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

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

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

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

**=== SWS NmIf ===**

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

**=== SWS CanNm ===**



Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

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

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

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

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management

PDU if UdpNmNodeIdEnabled is set to TRUE.

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.5 Specification Item ECUC\_UdpNm\_00030

### Trace References:

none

### Content:

Name	UdpNmMsgTimeoutTime		
Description	Transmission Timeout of NM-message. If there is no transmission confirmation by the UDP Interface within this timeout, the UDPNM module shall give an error notification. This parameter is only valid if UdpNmPassiveModeEnabled is disabled. UdpNmMsgTimeoutTime should be a multiple of UdpNmMsgCycleTime.  Tags: atp.Status=obsolete atp.StatusRevisionBegin=4.3.1		
Multiplicity	1 0..1		
Type	EcucFloatParamDef		
Range	[0.001 .. 65.535]		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Scope / Dependency	scope: local		

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

- RfC #75622: [UdpNm] Requirements are missing for UdpNmMsgTimeoutTime

**Problem description:**

Currently there are no requirements for the parameter UdpNmMsgTimeoutTime and how the TX Timeout Handling should look like.

As algorithm should be similar to CanNm i propose to overtake complete solution from CanNm SWS.

**Agreed solution:**

[1] Add following requirement in 7.6.1 NM Message Transmission

[SWS\_UdpNm\_xxxx1] If UdpNm\_SoAdIfTxConfirmation is called with result E\_NOT\_OK, UdpNm shall call the function Nm\_TxTimeoutException. (SRS\_Nm\_00137)

[2] Set ECUC\_UdpNm\_00030 to obsolete

[3] Rework Figure 6 in 8.8 UML State chart diagram

- delete condition/action "Tx-Timeout Timer has expired/Nm\_TxTimeoutException();" in states "Repeat Message State" and "Normal Operation State"

[4] Rework Figure 7 in 9.1 UdpNmTransmission

- replace UDPNM\_MSG\_CYCLE\_TIME with UdpNmMsgCycleTime  
- delete both calls of StartTimer(UDPNM\_MSG\_TIMEOUT\_TIME)  
- add StartTimer(UdpNmTimeoutTime) after UdpNm\_SoAdIfTxConfirmation() => UdpNm calls StartTimer() from module Message Timeout Timer

[5] Rework Figure 8 in 9.2 UdpNm Reception

- replace UDPNM\_MSG\_TIMEOUT\_TIME with UdpNmTimeoutTime  
- move call of StartTimer(UdpNmTimeoutTime) after UdpNm\_SoAdRxIndication()  
-Last change on issue 75622 comment 12-

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.6 Specification Item ECUC\_UdpNm\_00055

### Trace References:

none

### Content:

Name	UdpNmComUserDataSupportUdpNmGlobalConfig.UdpNmComUserDataSupport		
Description	Enable/disable the user data support.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: local dependency: If UdpNmPassiveModeEnabled == True then UdpNmComUserDataSupport = False		

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

- RfC #76264: [UdpNm] UdpNm\_Transmit handling should be adapted to CanNm

#### Problem description:

UdpNm\_Transmit function is currently not handled by UdpNm.  
But as UdpNm is for 4.3 adapted for partial networking support like CanNm also this functionality should be synchronized with CanNm.

#### Agreed solution:

Affected requirements shall be reworked as follows.

[SWS\_UdpNm\_00315]

If UdpNmComUserDataSupport or UdpNmPnEnabled is enabled the UdpNm implementation shall provide an API UdpNm\_Transmit.(SRS\_Nm\_02503)

Add the following requirement as the last item in chapter "7.7.2 User Data (optional)" (after the Note).

[SWS\_UdpNm\_00XXX]

If UdpNmComUserDataSupport is enabled and if UdpNm is in RepeatMessage state or NormalOperation state and if UdpNm\_Transmit() is called, UdpNm shall request an additional transmission of the NM PDU with the current user data.(SRS\_Nm\_02503)

[SWS\_UdpNm\_00317]

[SWS\_UdpNm\_00377]

Replace PduR\_UdpNmGetTxData with PduR\_UdpNmTriggerTransmit.

Add trace to SRS\_Nm\_02503 for both requirements.

[ECUC\_UdpNm\_00055]

Add dependency: If UdpNmPassiveModeEnabled == True then UdpNmComUser-DataSupport = False

–Last change on issue 76264 comment 7–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.7 Specification Item ECUC\_UdpNm\_00090

#### Trace References:

none

#### Content:

Name	UdpNmNodeDetectionEnabledUdpNmChannelConfig.UdpNmNodeDetectionEnabled		
Parent Container	UdpNmChannelConfig		
Description	<p>Pre-processor switch for enabling the node detection support.</p> <p>This parameter shall be derived from NmNodeDetectionEnabled.</p> <p>This parameter shall only be enabled if UdpNmNodeIdEnabled == true.</p> <p>If(UdpNmPduCbvPosition != UDPNM_PDU_OFF) then Equal(NmNodeDetectionEnabled) else Equal(False).</p>		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Scope / Dependency	scope: local dependency: Not available if UdpNmPassiveModeEnabled		

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



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

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

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



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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobal-

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

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

=== EcuC FrNm ===

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

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

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

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

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

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

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

=== EcuC LinNm ===

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

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

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

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

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

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

State CanNm shall enter Repeat Message State."

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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



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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.8 Specification Item ECUC\_UdpNm\_00091

### Trace References:

none

### Content:

Name	UdpNmNodeIdEnabledUdpNmChannelConfig.UdpNmNodeIdEnabled		
Parent Container	UdpNmChannelConfig		
Description	Pre-processor switch for enabling the source node identifier. This parameter shall be derived from NmNodeIdEnabled.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Scope / Dependency	scope: local		

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

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

### Problem description:



The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

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

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to

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

=== EcuC FrNm ===

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

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

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

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

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

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

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

=== EcuC LinNm ===

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

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

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

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation

State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

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

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

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

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

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

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

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

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

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

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

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

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

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



=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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



=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.9 Specification Item ECUC\_UdpNm\_00092

### Trace References:

none

### Content:

Name	UdpNmRepeatMsgIndEnabledUdpNmChannelConfig.UdpNmRepeatMsgIndEnabled		
Parent Container	UdpNmChannelConfig		
Description	Enable/disable the notification that a RepeatMessageRequest bit has been received.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	–	
Scope / Dependency	scope: local dependency: calculationFormula = If (UdpNmPassiveModeEnabled == False) then Equal(NmRepeatMsgIndEnabled) else Equal(False)		

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

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

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

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

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

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

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

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

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

=== EcuC LinNm ===

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

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

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

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

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

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

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

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

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

**=== SWS NmIf ===**

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

**=== SWS CanNm ===**

Remove SWS\_CanNm\_00135

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

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

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

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

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

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE

and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228



Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.10 Specification Item SWS\_UdpNm\_00014

**Trace References:**[SRS\\_Nm\\_00153](#)**Content:**

If the node detection functionality is enabled, the function `Nm_RepeatMessageIndication` shall be called upon every reception of the `UdpNmNodeDetectionEnabled` and `UdpNmRepeatMsgIndEnabled` are set to TRUE and Repeat Message Request bit is received, `UdpNm` module shall call the callback function `Nm_RepeatMessageRequest` bit if `UDPNM_REPEAT_MSG_IND_ENABLED` is enabledIndication.

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

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

**Problem description:**

The following attributes are NmEcu global:

`nmRepeatMsgIndEnabled`  
`nmNodeDetectionEnabled`  
`nmNodeIdEnabled`

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the `atpStatus` to obsolete for the following attributes:

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

introduce the following optional attributes to `NmCluster`:

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

=== EcuC NmIf ===

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

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

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

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

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

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

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

=== EcuC LinNm ===

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

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

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

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of  
Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUser-



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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the



most recently received Network Management PDU if `UdpNmNodeDetectionEnabled` or `UdpNmUserDataEnabled` or `UdpNmNodeIdEnabled` is set to `TRUE`." and move this requirement to chapter "8.3.12 `UdpNm_GetPduData`"

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove `SWS_FrNm_00170`

Remove `SWS_FrNm_00172`

Remove `SWS_FrNm_00228`

Remove `SWS_FrNm_00266`

Remove `SWS_FrNm_00267`

Remove `SWS_FrNm_00268`

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

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

due to a call of FrNm\_RepeatMessageRequest."

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.11 Specification Item SWS\_UdpNm\_00018

### Trace References:

none

### Content:

The following errors shall be detectable by the UdpNm depending on its build version (development/production mode).

Type or error	Relevance	Related error code	Error Value
API service used without module initialization	Development	UDPNM_E_NO_INIT UNINIT	0x01
API service called with wrong channel handle	Development	UDPNM_E_INVALID_CHANNEL	0x02
API service called with wrong PDU ID.	Development	UDPNM_E_INVALID_PDUID	0x03
UdpNm initialization has failed, e.g. selected configuration set doesn't exist	Development	UDPNM_E_INIT_FAILED	0x04
Null pointer has been passed as an argument	Development	UDPNM_E_PARAM_POINTER	0x12

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

- RfC #59085: Rollout of 'Runtime errors'

#### Problem description:

Inconsistencies in SWS with semantics of Default errors  
–Last change on issue 59085 comment 26–

#### Agreed solution:

solution in Column "G" of the new attachment  
<https://www.autosar.org/bugzilla/attachment.cgi?id=4604>

#### Notes:

- It is not enough just to migrate the error from one classification table to another. Please also check the related requirements (and background information) which is referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification "belongs".

\*\*\* BSW UML Model \*\*\*

SWS\_CanNm:

Chapter 8.6.1 Optional Interfaces:

Add within SWS\_CanNm\_00325 the API function Det\_ReportRunTimeError

SWS\_LinIf:

SWS\_LinIf\_00359: add Det\_ReportRuntimeError

SWS\_UdpNm:

Replace UDPNM\_E\_NO\_INIT with UDPNM\_E\_UNINIT in description of API  
UdpNm\_MainFunction\_<Instance Id> (SWS\_UdpNm\_00234)

\*\*\* ECUC XML \*\*\*

Not affected. No configuration of runtime error reporting required (see SWS BSW  
General).

–Last change on issue 59085 comment 88–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.12 Specification Item SWS\_UdpNm\_00039

**Trace References:**

none

**Content:**

If UdpNm is not initialized a call of any UdpNm function except UdpNm\_Init shall be rejected and E\_NOT\_OK shall be returned. If Default Error detection is enabled it shall report UDPNM\_E\_NO\_INIT UNINIT to the Default Error Tracer.

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

- RfC #59085: Rollout of 'Runtime errors'

**Problem description:**

Inconsistencies in SWS with semantics of Default errors

–Last change on issue 59085 comment 26–

**Agreed solution:**

solution in Column "G" of the new attachment  
<https://www.autosar.org/bugzilla/attachment.cgi?id=4604>

**Notes:**

- It is not enough just to migrate the error from one classification table to another. Please also check the related requirements (and background information) which is referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification

"belongs".

\*\*\* BSW UML Model \*\*\*

SWS\_CanNm:

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Chapter 8.6.1 Optional Interfaces:

Add within SWS\_CanNm\_00325 the API function Det\_ReportRunTimeError

SWS\_LinIf:

---

SWS\_LinIf\_00359: add Det\_ReportRuntimeError

SWS\_UdpNm:

---

Replace UDPNM\_E\_NO\_INIT with UDPNM\_E\_UNINIT in description of API  
UdpNm\_MainFunction\_<Instance Id> (SWS\_UdpNm\_00234)

\*\*\* ECUC XML \*\*\*

Not affected. No configuration of runtime error reporting required (see SWS BSW  
General).

–Last change on issue 59085 comment 88–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.13 Specification Item SWS\_UdpNm\_00061

**Trace References:**

none

**Content:**

After initialization the UdpNm Message Cycle Timer shall be stopped.

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

- RfC #76498: [UpdNm] Superfluous requirement about stopping Message Cycle Timer

**Problem description:**

SWS\_UdpNm\_00061 states that Message Cycle Timer shall be stopped but this is already provided by SWS\_UdpNm\_00033.

When comparing to CanNm the 00061 requirement relates to the Message Tx Timeout Timer. As for the handling of this timer already RfC # 75622 exists i add this as depends on.

Proposal is to either reformulate SWS\_UdpNm\_00061 to Message Tx Timeout Timer (which could then be handled by the other RfC) or to simply delete SWS\_UdpNm\_00061 depending if this timer is now needed or not.

–Last change on issue 76498 comment 7–

**Agreed solution:**

Delete SWS\_UdpNm\_00061 and note below

–Last change on issue 76498 comment 7–

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.14 Specification Item SWS\_UdpNm\_00107

**Trace References:**

none

**Content:**

When Repeat Message State is left and the option If UdpNmNodeDetectionEnabled is enabled, set to TRUE UdpNm shall clear the Repeat Message Bit shall be cleared when leaving Repeat Message State.

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

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

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled

nmNodeDetectionEnabled

nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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



plate::NetworkManagement::NmCluster

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

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

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

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

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

=== EcuC LinNm ===

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

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

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

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

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

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

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

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

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

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

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

**=== SWS NmIf ===**

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

**=== SWS CanNm ===**

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation

State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

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

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

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

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

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

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–



**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.15 Specification Item SWS\_UdpNm\_00111

**Trace References:**[SRS\\_Nm\\_00153](#)**Content:**

At If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request Bit Indication bit is received in the Ready Sleep State, the Ready Sleep State shall be left and the UdpNm shall enter Repeat Message Stateshall be entered.

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

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

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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



**=== EcuC NmIf ===**

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

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

**=== EcuC CanNm ===**

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

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

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

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

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

=== EcuC FrNm ===

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

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

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

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

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

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile

time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

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

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

=== EcuC LinNm ===

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

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

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

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

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

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of

SWS\_UdpNm\_00221,  
SWS\_UdpNm\_00220.

SWS\_UdpNm\_00309,

SWS\_UdpNm\_00219,

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

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

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

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

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

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

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

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

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

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

this requirement to chapter "8.3.12 UdpNm\_GetPduData"

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

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

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

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

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

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

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

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of



Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

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

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

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

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

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

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.16 Specification Item SWS\_UdpNm\_00112

### Trace References:

SRS\_Nm\_00153

### Content:

At Repeat Message Request (If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest ) is called in the Ready Sleep State, the Ready Sleep State shall be left and the UdpNm shall enter Repeat Message State shall be entered.



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

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

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

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

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

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

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

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

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

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

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

=== EcuC UdpNm ===

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

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

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

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

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

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

**VARIANT-POST-BUILD**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

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

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

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

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

=== BSW UML UdpNm ===

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

=== SWS NmIf ===

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

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

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

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

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

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

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

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

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

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

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

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

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

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

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm

shall enter Repeat Message State. (SRS\_Nm\_00153)"

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

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

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

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

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

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

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

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

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

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

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

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

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



Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

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

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

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

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

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

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

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

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

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM



PDU Data has failed or is not configured for this network handle."

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

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.17 Specification Item SWS\_UdpNm\_00113

#### Trace References:

SRS\_Nm\_00153

#### Content:

At Repeat Message Request (If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest ) in is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bitshall be set.

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

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

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

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

introduce the following optional attributes to NmCluster:

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

=== EcuC NmIf ===

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

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

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

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

=== EcuC CanNm ===

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

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

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

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

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile

time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties

as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network

handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE



UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."  
Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"  
Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"  
Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."  
Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Mes-



sage Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.18 Specification Item SWS\_UdpNm\_00119

### Trace References:

SRS\_Nm\_00153

### Content:

At If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request Bit Indication bit is received in the Normal Operation State, the Normal Operation State shall be left and the UdpNm shall enter Repeat Message State shall be entered.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties

as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to

Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME,  
VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties  
as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTem-  
plate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelCon-  
fig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of  
the node identifier out of the most recently received NM PDU has failed or is not  
configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of  
the node identifier of the local node has failed or is not configured for this network  
handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of  
Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of  
NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of  
SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219,  
SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144,

and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE."



Remove SWS\_CanNm\_00274  
Remove SWS\_CanNm\_00276  
Remove SWS\_CanNm\_00270  
Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of



the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured

for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNm-SourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.19 Specification Item SWS\_UdpNm\_00120

### Trace References:

SRS\_Nm\_00153

### Content:

At Repeat Message Request (If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest ) is called in the Normal Operation State, the Normal Operation State shall be left and the UdpNm shall enter Repeat Message Stateshall be entered.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled|NmNodeDetectionEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME,

**VARIANT-POST-BUILD**

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC FrNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC LinNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTem-

plate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE



and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE."

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"



Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set

to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.20 Specification Item SWS\_UdpNm\_00121

**Trace References:**

SRS\_Nm\_00153

**Content:**

At Repeat Message Request (If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest ) in is called in the Normal Operation State, Udp Nm shall set the Repeat Message Bitshall be set.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time

-> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of



NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this



requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication.

(SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat

Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.21 Specification Item SWS\_UdpNm\_00132

### Trace References:

none

**Content:**

The **optional** service call UdpNm\_GetNodeIdentifier shall provide the **source node identifier contained in node identifier out of** the most recently received **NM packet** Network Management PDU if UdpNmNodeIdEnabled is set to **TRUE**.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===



set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135



Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE."

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE."

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdentifierEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNm-SourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of

the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.22 Specification Item SWS\_UdpNm\_00133

### Trace References:

none

### Content:

The **optional** service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node **if UdpNmNodeIdEnabled is set to TRUE**.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig

alConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===



set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===



Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State,

UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.23 Specification Item SWS\_UdpNm\_00135

### Trace References:

none

### Content:

Support of Repeat Message Request Bit and Repeat Message State Request shall be statically configurable with use of the UdpNmNodeDetectionEnabled switch (configuration parameter).

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled



UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled  
UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD



Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature."  
to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management

PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of

Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE.

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall

request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.24 Specification Item SWS\_UdpNm\_00138

### Trace References:

none

### Content:

The **optional** service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received **UDP NM packet** Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeatMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled|NmNodeDetectionEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled



Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlob-

alConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation

State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE

and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole



NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.25 Specification Item SWS\_UdpNm\_00139

**Trace References:**

none

**Content:**

The optional service UdpNm\_GetPduData shall be statically configurable. It shall be available if UdpNmNodeIdEnabled or UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled is TRUE.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

**Problem description:**

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

**Agreed solution:**

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatM

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of

Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of  
NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of  
SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219,  
SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144,  
and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE  
and Repeat Message Request bit is received in the Normal Operation State CanNm  
shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE  
and Repeat Message Request bit is received in the Ready Sleep State CanNm shall  
enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE  
and function CanNm\_RepeatMessageRequest is called in the Normal Operation  
State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE  
and function CanNm\_RepeatMessageRequest is called in the Normal Operation  
State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE  
and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State  
CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE  
and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State  
CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE  
CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRe-  
peatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received  
CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall  
provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most

recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRe-



peatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.26 Specification Item SWS\_UdpNm\_00164

### Trace References:

none

**Content:**

At successful reception of a NM PDU the UdpNm shall notify the upper layer by calling Nm\_PduRxIndication.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #76500: [UdpNm] Superfluous requirement regarding Nm\_PduRxIndication

**Problem description:**

Requirement SWS\_UdpNm\_00164 is a duplicate to SWS\_UdpNm\_00037 and should be removed.

Requirement SWS\_UdpNm\_00165 is a requirement against a NM API and not a UdpNm API and should therefore also be removed.

Delete chapter 7.7.4 NM PDU Rx Indication (optional)  
–Last change on issue 76500 comment 2–

**Agreed solution:**

Remove SWS\_UdpNm\_00164 and SWS\_UdpNm\_00165  
Delete chapter 7.7.4 NM PDU Rx Indication (optional)  
–Last change on issue 76500 comment 3–

**BW-C-Level:**

Application	Specification	Bus
1	1	1

**1.27 Specification Item SWS\_UdpNm\_00165****Trace References:**

none

**Content:**

The optional service Nm\_PduRxIndication shall be statically configurable. It shall be available if UdpNmPduRXIndicationEnabled is TRUE.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #76500: [UdpNm] Superfluous requirement regarding Nm\_PduRxIndication

**Problem description:**

Requirement SWS\_UdpNm\_00164 is a duplicate to SWS\_UdpNm\_00037 and should be removed.

Requirement SWS\_UdpNm\_00165 is a requirement against a NM API and not a UdpNm API and should therefore also be removed.

Delete chapter 7.7.4 NM PDU Rx Indication (optional)

–Last change on issue 76500 comment 2–

**Agreed solution:**

Remove SWS\_UdpNm\_00164 and SWS\_UdpNm\_00165

Delete chapter 7.7.4 NM PDU Rx Indication (optional)

–Last change on issue 76500 comment 3–

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.28 Specification Item SWS\_UdpNm\_00169

**Trace References:**

none

**Content:**

During initialization of the UdpNm module, the UdpNm module shall enable the Network Management PDU transmission (start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset).

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75370: [UdpNm] Usage of <Bus>NmMsgCycleOffset is different to CanNm

**Problem description:**

UdpNmMsgCycleOffset is used differently in UdpNm then in CanNm CanNmMsgCycleOffset in two requirements:

[SWS\_UdpNm\_00169] During initialization of the UdpNm module, the UdpNm module shall enable the Network Management PDU transmission (start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset) ()

-> This requirement makes no sense as during initialization UdpNm is set to Bus-Sleep Mode where no communication shall take place! This requirement has to be removed!

[SWS\_UdpNm\_00178] When the Network Management PDU transmission ability is enabled, the UdpNm module shall start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset in order to start transmission of Network Management PDUs. ()

-> In CanNm no offset is applied which is IMO better as synchronization to other nodes is not delayed. Requirement has to be adapted to CanNm formulation.

#### Agreed solution:

Remove SWS\_UdpNm\_00169

Adapt SWS\_UdpNm\_00178 similar to CanNm:

"When the Network Management PDU transmission ability is enabled, the transmission of NM PDUs shall be started latest within the next NM main function."  
(SRS\_Nm\_02512)

–Last change on issue 75370 comment 1–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.29 Specification Item SWS\_UdpNm\_00178

#### Trace References:

[SRS\\_Nm\\_02512](#)

#### Content:

When the Network Management PDU transmission ability is enabled, the **UdpNm module shall start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset in order to start transmission of Network Management PDUs** **transmission of NM PDUs shall be started latest within the next NM main function.**

#### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75370: [UdpNm] Usage of <Bus>NmMsgCycleOffset is different to CanNm

#### Problem description:

UdpNmMsgCycleOffset is used differently in UdpNm then in CanNm CanNmMsgCycleOffset in two requirements:

[SWS\_UdpNm\_00169] During initialization of the UdpNm module, the UdpNm module shall enable the Network Management PDU transmission (start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset) ()

-> This requirement makes no sense as during initialization UdpNm is set to Bus-Sleep Mode where no communication shall take place! This requirement has to be removed!

[SWS\_UdpNm\_00178] When the Network Management PDU transmission ability is enabled, the UdpNm module shall start the UdpNm Message Cycle Timer with UdpNmMsgCycleOffset in order to start transmission of Network Management PDUs. ()

-> In CanNm no offset is applied which is IMO better as synchronization to other nodes is not delayed. Requirement has to be adapted to CanNm formulation.

#### Agreed solution:

Remove SWS\_UdpNm\_00169

Adapt SWS\_UdpNm\_00178 similar to CanNm:

"When the Network Management PDU transmission ability is enabled, the transmission of NM PDUs shall be started latest within the next NM main function."  
(SRS\_Nm\_02512)

–Last change on issue 75370 comment 1–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.30 Specification Item SWS\_UdpNm\_00191

#### Trace References:

none

#### Content:

If not initialized, the NM shall reject every API service apart from UdpNm\_Init; the called function shall not be executed, but instead of that it shall report UDPNM\_E\_NO\_INIT UNINIT to the Default Error Tracer (if development error detection is enabled) and it shall return E\_NOT\_OK to the calling function



## RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #59085: Rollout of 'Runtime errors'

### Problem description:

Inconsistencies in SWS with semantics of Default errors  
–Last change on issue 59085 comment 26–

### Agreed solution:

solution in Column "G" of the new attachment  
<https://www.autosar.org/bugzilla/attachment.cgi?id=4604>

### Notes:

- It is not enough just to migrate the error from one classification table to another. Please also check the related requirements (and background information) which is referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification "belongs".

### \*\*\* BSW UML Model \*\*\*

#### SWS\_CanNm:

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#### Chapter 8.6.1 Optional Interfaces:

Add within SWS\_CanNm\_00325 the API function Det\_ReportRunTimeError

#### SWS\_LinIf:

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SWS\_LinIf\_00359: add Det\_ReportRuntimeError

#### SWS\_UdpNm:

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Replace UDPNM\_E\_NO\_INIT with UDPNM\_E\_UNINIT in description of API  
UdpNm\_MainFunction\_<Instance Id> (SWS\_UdpNm\_00234)

### \*\*\* ECUC XML \*\*\*

Not affected. No configuration of runtime error reporting required (see SWS BSW General).

–Last change on issue 59085 comment 88–

### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.31 Specification Item SWS\_UdpNm\_00219

### Trace References:

none

### Content:

Service name:	UdpNm_GetNodeIdentifierUdpNm_GetNodeIdentifier	
Syntax:	Std_ReturnType UdpNm_GetNodeIdentifier( NetworkHandleType nmChannelHandle, uint8* nmNodeIdPtr )	
Service ID[hex]:	0x06	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	nmChannelHandleUdpNm_GetNodeIdentifier.nmChannelHandle	Identification of the NM-channel
Parameters (inout):	None	
Parameters (out):	nmNodeIdPtrUdpNm_GetNodeIdentifier.nmNodeIdPtr	Pointer where the source node identifier from the most recently received NM PDU shall be copied to.
Return value:	Std_ReturnType	E_OK: No error E_NOT_OK: Getting of the source node identifier from node identifier out of the most recently received NM PDU has failed or is not configured for this network handle.
Description:	Get node identifier from the most recently received NM PDU. Caveats: UdpNm is initialized correctly. Configuration: Optional (Only available if UdpNmNodeIdEnabled == true).	

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig

alConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."



Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State,

UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.32 Specification Item SWS\_UdpNm\_00220

### Trace References:

none

### Content:

Service name:	UdpNm_GetLocalNodeIdentifierUdpNm_GetLocalNodeIdentifier	
Syntax:	Std_ReturnType UdpNm_GetLocalNodeIdentifier( NetworkHandleType nmChannelHandle, uint8* nmNodeIdPtr )	
Service ID[hex]:	0x07	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	nmChannelHandleUdpNm_GetLocalNodeIdentifier.nmChannelHandle	Identification of the NM-channel
Parameters (inout):	None	
Parameters (out):	nmNodeIdPtrUdpNm_GetLocalNodeIdentifier.nmNodeIdPtr	Pointer where node identifier of the local node shall be copied to.
Return value:	Std_ReturnType	E_OK: No error E_NOT_OK: Getting of the node identifier of the local node has failed or is not configured for this network handle.
Description:	Get node identifier configured for the local node. Caveats: UdpNm is initialized correctly. Configuration: Optional (Only available if UdpNmNodeIdEnabled == true).	

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

**=== SysT ===**

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

**=== EcuC NmIf ===**

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

**=== EcuC CanNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME,

**VARIANT-POST-BUILD**

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC UdpNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

**=== EcuC FrNm ===**

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled



FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not



configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE

and function `UdpNm_RepeatMessageRequest` is called in the Ready Sleep State, `UdpNm` shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change `SWS_UdpNm_00107` to "If `UdpNmNodeDetectionEnabled` is set to TRUE `UdpNm` shall clear the Repeat Message Bit when leaving Repeat Message State."

Change `SWS_UdpNm_00014` to "If `UdpNmNodeDetectionEnabled` and `UdpNmRepeatMsgIndEnabled` are set to TRUE and Repeat Message Request bit is received, `UdpNm` module shall call the callback function `Nm_RepeatMessageIndication`. (SRS\_Nm\_00153)"

Change `SWS_UdpNm_00138` to "The service call `UdpNm_GetPduData` shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if `UdpNmNodeDetectionEnabled` or `UdpNmUserDataEnabled` or `UdpNmNodeIdEnabled` is set to TRUE." and move this requirement to chapter "8.3.12 `UdpNm_GetPduData`"

Change `SWS_UdpNm_00375` to "If `UdpNm_GetPduData` is called in the context of `Nm_CarWakeUpIndication` and if `UdpNmNodeDetectionEnabled` or `UdpNmUserDataEnabled` or `UdpNmNodeIdEnabled` is set to TRUE, `UdpNm` shall return the PDU data of the PDU that causes the call of `Nm_CarWakeUpIndication`."

Change `SWS_UdpNm_00219` Return Value description `E_NOT_OK` to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change `SWS_UdpNm_00132` to "The service call `UdpNm_GetNodeIdentifier` shall provide the node identifier out of the most recently received Network Management PDU if `UdpNmNodeIdEnabled` is set to TRUE.

Change `SWS_UdpNm_00220` Return Value description `E_NOT_OK` to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change `SWS_UdpNm_00133` to "The service call `UdpNm_GetLocalNodeIdentifier` shall provide the node identifier configured for the local host node if `UdpNmNodeIdEnabled` is set to TRUE.

Change `SWS_UdpNm_00221` Return Value description `E_NOT_OK` to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change `SWS_UdpNm_00309` Return Value description `E_NOT_OK` to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove `SWS_FrNm_00170`

Remove `SWS_FrNm_00172`

Remove `SWS_FrNm_00228`

Remove `SWS_FrNm_00266`

Remove `SWS_FrNm_00267`

Remove `SWS_FrNm_00268`

Change `SWS_FrNm_00124` to "If `FrNmNodeDetectionEnabled` is set to TRUE

the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

### 1.33 Specification Item SWS\_UdpNm\_00221

#### Trace References:

none

#### Content:

Service name:	UdpNm_RepeatMessageRequestUdpNm_RepeatMessageRequest	
Syntax:	Std_ReturnType UdpNm_RepeatMessageRequest( NetworkHandleType nmChannelHandle )	
Service ID[hex]:	0x08	
Sync/Async:	Asynchronous	
Reentrancy:	Reentrant (but not for the same NM-Channel)	
Parameters (in):	nmChannelHandleUdpNm_Repeat MessageRequest.nmChannelHandle	Identification of the NM-channel
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: No error E_NOT_OK: Setting of Repeat Message Request Bit has failed or is not configured for this network handle.
Description:	Set Repeat Message Request Bit for all NM messages transmitted on the bus after this function has returned without error. Caveats: UdpNm is initialized correctly. Configuration: Configuration of UdpNm_RepeatMessageRequest: Optional (Only available if UdpNmNodeDetectionEnabled == true).	

#### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD



## POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

### === EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

### === EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):



FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall

provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of

FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.34 Specification Item SWS\_UdpNm\_00222

### Trace References:

none

### Content:

Service name:	UdpNm_SetCoordBits	
Syntax:	Std_ReturnType UdpNm_SetCoordBits( NetworkHandleType nmChannelHandle, uint8 nmCoordBits )	
Service ID[hex]:	0x12	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant (but not for the same NM-Channel)	
Parameters (in):	nmChannelHandle	Identification of the NM-channel
	nmCoordBits	2 bit value to set the NM coordinator ID in the control bit vector of each NM message (coding as depicted in Figure "Control Bit Vector".)
Parameters (inout):	None	
Parameters (out):	None	
Return value:	Std_ReturnType	E_OK: No error E_NOT_OK: Setting the coordinator ID bits has failed
Description:	Sets the NM coordinator ID in the control bit vector of each NM message.	

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75410: [UdpNm] API UdpNm\_SetCoordBits is outdated and shall be removed

#### Problem description:

API UdpNm\_SetCoordBits is no longer used by NM coordinator in AUTOSAR 4 and therefore shall be removed.

#### Agreed solution:

Remove SWS\_UdpNm\_00222

#### BW-C-Level:

Application	Specification	Bus
1	1	1

## 1.35 Specification Item SWS\_UdpNm\_00229

### Trace References:

none

### Content:

The callback function `UdpNm_SoAdIfTxConfirmation` shall inform the DET (if enabled), if the function call has failed because of the following reasons:

- Invalid channel handle (`UDPNM_E_INVALID_CHANNEL`)
- `UdpNm` was not initialized (`UDPNM_E_NO_INIT`)

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76502: [UdpNm] Wrong DET Check / Handle in `UdpNm_SoAdIfTxConfirmation`

#### Problem description:

SWS\_UdpNm\_00229 states that DET check shall be performed for invalid channel handle but `UdpNm_SoAdIfTxConfirmation` gets an `PduId` handle.

#### Agreed solution:

Remove requirements SWS\_UdpNm\_00229, SWS\_UdpNm\_00230, SWS\_UdpNm\_00232, SWS\_UdpNm\_00233

Add new requirement in chapter 7.12.7:

SWS\_UdpNm\_xxxx1: "When `UdpNm` Callback Notifications with an invalid `PduId` are called, the called function shall not be executed and `E_NOT_OK` shall be returned if possible. If Development Error Detection is enabled then additionally `UdpNm` shall report `UDPNM_E_INVALID_PDUID` to the Default Error Tracer."

—Last change on issue 76502 comment 8—

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.36 Specification Item SWS\_UdpNm\_00230

### Trace References:

none



**Content:**

If an error has to be indicated to the DET, the callback function `UdpNm_SoAdIfTxConfirmation` shall use the value of `UdpNm` channel handle as the instance id.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #76502: [UdpNm] Wrong DET Check / Handle in `UdpNm_SoAdIfTxConfirmation`

**Problem description:**

SWS\_UdpNm\_00229 states that DET check shall be performed for invalid channel handle but `UdpNm_SoAdIfTxConfirmation` gets an `PduId` handle.

**Agreed solution:**

Remove requirements SWS\_UdpNm\_00229, SWS\_UdpNm\_00230, SWS\_UdpNm\_00232, SWS\_UdpNm\_00233

Add new requirement in chapter 7.12.7:

SWS\_UdpNm\_xxxx1: "When `UdpNm` Callback Notifications with an invalid `Pdu ID` are called, the called function shall not be executed and `E_NOT_OK` shall be returned if possible. If Development Error Detection is enabled then additionally `UdpNm` shall report `UDPNM_E_INVALID_PDUID` to the Default Error Tracer."

–Last change on issue 76502 comment 8–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

**1.37 Specification Item SWS\_UdpNm\_00232****Trace References:**

none

**Content:**

The callback function `UdpNm_SoAdIfRxIndication` shall inform the DET (if enabled), if function call has failed because of the following reasons:

- Invalid channel handle (`UDPNM_E_INVALID_CHANNEL`)
- `UdpNm` was not initialized (`UDPNM_E_NO_INIT`)
- `udpSduPtr` equals `NULL_PTR` (`UDPNM_E_PARAM_POINTER`)

- Invalid PDU ID (UDPNM\_E\_INVALID\_PDUID)

#### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76502: [UdpNm] Wrong DET Check / Handle in UdpNm\_SoAdIfTxConfirmation

##### Problem description:

SWS\_UdpNm\_00229 states that DET check shall be performed for invalid channel handle but UdpNm\_SoAdIfTxConfirmation gets an PduId handle.

##### Agreed solution:

Remove requirements SWS\_UpdNm\_00229, SWS\_UdpNm\_00230, SWS\_UdpNm\_00232, SWS\_UdpNm\_00233

Add new requirement in chapter 7.12.7:

SWS\_UdpNm\_xxxx1: "When UdpNm Callback Notifications with an invalid Pdu ID are called, the called function shall not be executed and E\_NOT\_OK shall be returned if possible. If Development Error Detection is enabled then additionally UdpNm shall report UDPNM\_E\_INVALID\_PDUID to the Default Error Tracer."

–Last change on issue 76502 comment 8–

##### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.38 Specification Item SWS\_UdpNm\_00233

#### Trace References:

none

#### Content:

If an error has to be indicated to the DET, the callback function UdpNm\_SoAdIfRxIndication shall use the value of UdpNm channel handle as the instance id.

#### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76502: [UdpNm] Wrong DET Check / Handle in UdpNm\_SoAdIfTxConfirmation

##### Problem description:

SWS\_UdpNm\_00229 states that DET check shall be performed for invalid channel handle but UdpNm\_SoAdIfTxConfirmation gets an PduId handle.

**Agreed solution:**

Remove requirements SWS\_UpdNm\_00229, SWS\_UdpNm\_00230, SWS\_UdpNm\_00232, SWS\_UdpNm\_00233

Add new requirement in chapter 7.12.7:

SWS\_UdpNm\_xxxx1: "When UdpNm Callback Notifications with an invalid Pdu ID are called, the called function shall not be executed and E\_NOT\_OK shall be returned if possible. If Development Error Detection is enabled then additionally UdpNm shall report UDPNM\_E\_INVALID\_PDUID to the Default Error Tracer."

–Last change on issue 76502 comment 8–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.39 Specification Item SWS\_UdpNm\_00234

**Trace References:**

none

**Content:**

Service name:	UdpNm_MainFunction<Instance_Id>UdpNm_MainFunction
Syntax:	void UdpNm_MainFunction<Instance_Id>( void )
Service ID[hex]:	0x13
Description:	Main function of the UdpNm which processes the algorithm describes in that document. E.g.: UdpNm_MainFunction_0() represents the UdpNm instance for the UDP channel 0 UdpNm_MainFunction_1() represents the UdpNm instance for the UDP channel 1 ... Inform the DET (if enabled) if function call has failed because of the following reasons: UdpNm was not initialized (UDPNM_E_NO_INITUNINIT) If an error has to be indicated to the DET the <Instance Id> shall be used as the instance id. Caveats: UdpNm is initialized correctly, i.e. the function shall be robust if one or more channels are not initialized Configuration: Mandatory

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #59085: Rollout of 'Runtime errors'

**Problem description:**

Inconsistencies in SWS with semantics of Default errors

–Last change on issue 59085 comment 26–

**Agreed solution:**

solution in Column "G" of the new attachment  
<https://www.autosar.org/bugzilla/attachment.cgi?id=4604>

**Notes:**

- It is not enough just to migrate the error from one classification table to another. Please also check the related requirements (and background information) which is referring to that error and adapt them if needed.
- The review task of the ITs shall be done by the WP to which the specification "belongs".

\*\*\* BSW UML Model \*\*\*

SWS\_CanNm:

\_\_\_\_\_

Chapter 8.6.1 Optional Interfaces:

Add within SWS\_CanNm\_00325 the API function Det\_ReportRunTimeError

SWS\_LinIf:

\_\_\_\_\_

SWS\_LinIf\_00359: add Det\_ReportRuntimeError

SWS\_UdpNm:

\_\_\_\_\_

Replace UDPNM\_E\_NO\_INIT with UDPNM\_E\_UNINIT in description of API  
UdpNm\_MainFunction\_<Instance Id> (SWS\_UdpNm\_00234)

\*\*\* ECUC XML \*\*\*

Not affected. No configuration of runtime error reporting required (see SWS BSW General).

–Last change on issue 59085 comment 88–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.40 Specification Item SWS\_UdpNm\_00309

### Trace References:

none

### Content:

Service name:	UdpNm_GetPduDataUdpNm_GetPduData	
Syntax:	Std_ReturnType UdpNm_GetPduData( NetworkHandleType nmChannelHandle, uint8* nmPduDataPtr )	
Service ID[hex]:	0x0a	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	nmChannelHandleUdpNm_GetPduData.nmChannelHandle	Identification of the NM-channel
Parameters (inout):	None	
Parameters (out):	nmPduDataPtrUdpNm_GetPduData.nmPduDataPtr	Pointer where NM PDU shall be copied to.
Return value:	Std_ReturnType	E_OK: No error E_NOT_OK: Getting of NM PDU data has failed Data has failed or is not configured for this network handle.
Description:	Get the whole PDU data out of the most recently received NM message. Caveats: UdpNm is initialized correctly. Configuration: Optional (Only available if UdpNmNodeIdEnabled==true or UdpNmNodeDetectionEnabled==true or UdpNmUserDataEnabled==true).	

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

#### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled  
SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled  
Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures  
Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled  
CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNmGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile

time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties



as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled

FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network

handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE

UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."  
Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"  
Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"  
Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."  
Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."  
Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."  
Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267

Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Mes-

sage Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.41 Specification Item SWS\_UdpNm\_00315

### Trace References:

SRS\_Nm\_02503

### Content:

If UdpNmComUserDataSupport or UdpNmPnEnabled is enabled the UdpNm implementation shall provide an API UdpNm\_Transmit. This API shall never be called by PduR as the UdpNm will always query the data by means of PduR\_UdpNmTriggerTransmit. UdpNm\_Transmit is an empty function returning E\_OK at any time. This requirement is relevant to avoid linker errors as PduR expects this API to be provided.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76264: [UdpNm] UdpNm\_Transmit handling should be adapted to CanNm

#### Problem description:

UdpNm\_Transmit function is currently not handled by UdpNm.  
But as UdpNm is for 4.3 adapted for partial networking support like CanNm also this functionality should be synchronized with CanNm.

#### Agreed solution:

Affected requirements shall be reworked as follows.

[SWS\_UdpNm\_00315]

If UdpNmComUserDataSupport or UdpNmPnEnabled is enabled the UdpNm implementation shall provide an API UdpNm\_Transmit.(SRS\_Nm\_02503)

Add the following requirement as the last item in chapter "7.7.2 User Data (optional)" (after the Note).

[SWS\_UdpNm\_00XXX]

If UdpNmComUserDataSupport is enabled and if UdpNm is in RepeatMessage state or NormalOperation state and if UdpNm\_Transmit() is called, UdpNm shall request an additional transmission of the NM PDU with the current user data.(SRS\_Nm\_02503)

[SWS\_UdpNm\_00317]

[SWS\_UdpNm\_00377]

Replace PduR\_UdpNmGetTxData with PduR\_UdpNmTriggerTransmit.

Add trace to SRS\_Nm\_02503 for both requirements.

[ECUC\_UdpNm\_00055]



Add dependency: If `UdpNmPassiveModeEnabled == True` then `UdpNmComUserDataSupport = False`

–Last change on issue 76264 comment 7–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.42 Specification Item SWS\_UdpNm\_00317

**Trace References:**

[SRS\\_Nm\\_02503](#)

**Content:**

If `UdpNmComUserDataSupport` is enabled and NM-PDU is not configured for triggered transmission in SoAd (`SoAdBswModules/SoAdIfTriggerTransmit = FALSE`), the `UdpNm` shall collect the NM User Data from the referenced NM I-PDU by calling `PduR_UdpNmGetTxData TriggerTransmit` and combine the user data with the further NM bytes each time before it requests the transmission of the corresponding NM message.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #76264: [`UdpNm`] `UdpNm_Transmit` handling should be adapted to `CanNm`

**Problem description:**

`UdpNm_Transmit` function is currently not handled by `UdpNm`.

But as `UdpNm` is for 4.3 adapted for partial networking support like `CanNm` also this functionality should be synchronized with `CanNm`.

**Agreed solution:**

Affected requirements shall be reworked as follows.

[SWS\_UdpNm\_00315]

If `UdpNmComUserDataSupport` or `UdpNmPnEnabled` is enabled the `UdpNm` implementation shall provide an API `UdpNm_Transmit.(SRS_Nm_02503)`

Add the following requirement as the last item in chapter "7.7.2 User Data (optional)" (after the Note).

[SWS\_UdpNm\_00XXX]

If `UdpNmComUserDataSupport` is enabled and if `UdpNm` is in `RepeatMessage` state or `NormalOperation` state and if `UdpNm_Transmit()` is called, `UdpNm`



shall request an additional transmission of the NM PDU with the current user data.(SRS\_Nm\_02503)

[SWS\_UdpNm\_00317]

[SWS\_UdpNm\_00377]

Replace PduR\_UdpNmGetTxData with PduR\_UdpNmTriggerTransmit.

Add trace to SRS\_Nm\_02503 for both requirements.

[ECUC\_UdpNm\_00055]

Add dependency: If UdpNmPassiveModeEnabled == True then UdpNmComUserDataSupport = False

–Last change on issue 76264 comment 7–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.43 Specification Item SWS\_UdpNm\_00375

### Trace References:

none

### Content:

If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #75405: [NmIf] make "[RepeateMsgInd|NodeDetection|NodeId]Enabled" channel based configurable

#### Problem description:

The following attributes are NmEcu global:

nmRepeatMsgIndEnabled  
nmNodeDetectionEnabled  
nmNodeIdEnabled

This attributes should be configurable per channel.

### Agreed solution:

=== SysT ===

set the atpStatus to obsolete for the following attributes:

SystemTemplate::NetworkManagement::NmEcu.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmEcu.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmEcu.nmNodeDetectionEnabled

introduce the following optional attributes to NmCluster:

SystemTemplate::NetworkManagement::NmCluster.nmNodeIdEnabled

SystemTemplate::NetworkManagement::NmCluster.nmRepeatMsgIndEnabled

SystemTemplate::NetworkManagement::NmCluster.nmNodeDetectionEnabled

=== EcuC NmIf ===

set the atpStatus to obsolete and make them optional for the following parameters:

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeIdEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmRepeatMsgIndEnabled

Nm:NmGlobalConfig:NmGlobalFeatures:NmNodeDetectionEnabled

-upstream-mapping for Nm:NmGlobalConfig:NmGlobalFeatures:(NmNodeIdEnabled|NmRepeatMsgIndEnabled)

Remove ECUC\_Nm\_00213 NmNodeIdEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00212 NmNodeDetectionEnabled from NmGlobalFeatures

Remove ECUC\_Nm\_00229 NmRepeatMsgIndEnabled from NmGlobalFeatures

=== EcuC CanNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

CanNm:CanNmGlobalConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmNodeDetectionEnabled

Introduce new optional parameters in CanNmChannelConfig (same properties as in CanNmGlobalConfig container):

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeIdEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmRepeatMsgIndEnabled

CanNm:CanNmGlobalConfig:CanNmChannelConfig:CanNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_CanNm\_00005 CanNmRepeatMsgIndEnabled from CanNmGlobalConfig

alConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00007 CanNmNodeDetectionEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_CanNm\_00083 CanNmNodeIdEnabled from CanNGlobalConfig to CanNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC UdpNm ===

set the atpStatus to obsolete and make them optional for the following parameters:

UdpNm:UdpNmGlobalConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmNodeDetectionEnabled

Introduce new optional parameters in UdpNmChannelConfig (same properties as in UdpNmGlobalConfig container):

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeIdEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmRepeatMsgIndEnabled

UdpNm:UdpNmGlobalConfig:UdpNmChannelConfig:UdpNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_UdpNm\_00015 UdpNmRepeatMsgIndEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00007 UdpNmNodeDetectionEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Move ECUC\_UdpNm\_00008 UdpNmNodeIdEnabled from UdpNmGlobalConfig to UdpNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC FrNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmGlobalConfig:FrNmGlobalFeatures:FrNmNodeDetectionEnabled

Introduce new optional parameters in FrNmChannelConfigs (same properties as in NmGlobalFeatures container):

FrNm:FrNmChannelConfig:FrNmChannel:FrNmSourceNodeIdentifierEnabled  
FrNm:FrNmChannelConfig:FrNmChannel:FrNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_FrNm\_00040 FrNmNodeDetectionEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

Append "FrNmSourceNodeIdentifierEnabled needs to be TRUE to use this feature." to the description of Move ECUC\_FrNm\_00040.

Move ECUC\_FrNm\_00042 FrNmSourceNodeIdentifierEnabled from FrNmGlobalFeatures to FrNmChannelConfig and change Value Configuration Class to Pre-compile time -> VARIANT-PRE-COMPILE / Link time -> VARIANT-LINK-TIME, VARIANT-POST-BUILD

=== EcuC LinNm ===

set the atpStatus to obsolete and make them optional for the following parameters:  
LinNm:LinNmGlobalConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmNodeDetectionEnabled

Introduce new optional parameters in LinNmChannelConfig (same properties as in LinNmGlobalConfig container):

LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeIdentifierEnabled  
LinNm:LinNmGlobalConfig:LinNmChannelConfig:LinNmNodeDetectionEnabled

+upstream-mapping 1:1 to new SysT attributes in SystemTemplate::NetworkManagement::NmCluster

Move ECUC\_LinNm\_00021 from LinNmGlobalConfig to LinNmChannelConfig

Move ECUC\_CanNm\_00007 from LinNmGlobalConfig to LinNmChannelConfig

=== BSW UML CanNm ===

Change SWS\_CanNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_CanNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_CanNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_CanNm\_00222 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== BSW UML UdpNm ===

Remove the complete "Configuration:" part from the description of SWS\_UdpNm\_00221, SWS\_UdpNm\_00309, SWS\_UdpNm\_00219, SWS\_UdpNm\_00220.

=== SWS NmIf ===

Remove SWS\_Nm\_00142, SWS\_Nm\_00146, SWS\_Nm\_00148, SWS\_Nm\_00144, and SWS\_Nm\_00231.

=== SWS CanNm ===

Remove SWS\_CanNm\_00135

Change SWS\_CanNm\_00119 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00111 to "If CanNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00120 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00121 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Normal Operation State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00112 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall enter Repeat Message State."

Change SWS\_CanNm\_00113 to "If CanNmNodeDetectionEnabled is set to TRUE and function CanNm\_RepeatMessageRequest is called in the Ready Sleep State CanNm shall set the Repeat Message Bit."

Change SWS\_CanNm\_00107 to "If CanNmNodeDetectionEnabled is set to TRUE CanNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_CanNm\_00014 to "If CanNmNodeDetectionEnabled and CanNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received CanNm module shall call the callback function Nm\_RepeatMessageIndication."

Change SWS\_CanNm\_00138 to "The service call CanNm\_GetPduData shall provide whole PDU data (Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE." and move this requirement to chapter 8.3.14 CanNm\_GetPduData

Change SWS\_CanNm\_00407 to "If CanNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if CanNmNodeDetectionEnabled or CanNmUserDataEnabled or CanNmNodeIdEnabled is set to TRUE, CanNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_CanNm\_00132 to "The service call CanNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if CanNmNodeIdEnabled is set to TRUE.

Change SWS\_CanNm\_00133 to "The service call CanNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if CanNmNodeIdEnabled is set to TRUE.

Remove SWS\_CanNm\_00274

Remove SWS\_CanNm\_00276

Remove SWS\_CanNm\_00270

Remove SWS\_CanNm\_00272

=== SWS UdpNm ===

Remove SWS\_UdpNm\_00135

Remove SWS\_UdpNm\_00139

Change SWS\_UdpNm\_00119 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00111 to "If UdpNmNodeDetectionEnabled is set to TRUE and Repeat Message Request bit is received in the Ready Sleep State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00120 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00121 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Normal Operation State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00112 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State,



UdpNm shall enter Repeat Message State. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00113 to "If UdpNmNodeDetectionEnabled is set to TRUE and function UdpNm\_RepeatMessageRequest is called in the Ready Sleep State, UdpNm shall set the Repeat Message Bit. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00107 to "If UdpNmNodeDetectionEnabled is set to TRUE UdpNm shall clear the Repeat Message Bit when leaving Repeat Message State."

Change SWS\_UdpNm\_00014 to "If UdpNmNodeDetectionEnabled and UdpNmRepeatMsgIndEnabled are set to TRUE and Repeat Message Request bit is received, UdpNm module shall call the callback function Nm\_RepeatMessageIndication. (SRS\_Nm\_00153)"

Change SWS\_UdpNm\_00138 to "The service call UdpNm\_GetPduData shall provide whole payload (Source Node ID, Control Bit Vector and User Data) of the most recently received Network Management PDU if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE." and move this requirement to chapter "8.3.12 UdpNm\_GetPduData"

Change SWS\_UdpNm\_00375 to "If UdpNm\_GetPduData is called in the context of Nm\_CarWakeUpIndication and if UdpNmNodeDetectionEnabled or UdpNmUserDataEnabled or UdpNmNodeIdEnabled is set to TRUE, UdpNm shall return the PDU data of the PDU that causes the call of Nm\_CarWakeUpIndication."

Change SWS\_UdpNm\_00219 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the most recently received NM PDU has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00132 to "The service call UdpNm\_GetNodeIdentifier shall provide the node identifier out of the most recently received Network Management PDU if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00220 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00133 to "The service call UdpNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node if UdpNmNodeIdEnabled is set to TRUE."

Change SWS\_UdpNm\_00221 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_UdpNm\_00309 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

=== SWS FrNm ===

Remove SWS\_FrNm\_00170

Remove SWS\_FrNm\_00172

Remove SWS\_FrNm\_00228

Remove SWS\_FrNm\_00266

Remove SWS\_FrNm\_00267



Remove SWS\_FrNm\_00268

Change SWS\_FrNm\_00124 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Normal Operation State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00130 to "If FrNmNodeDetectionEnabled is set to TRUE the FlexRay NM module shall leave the Ready Sleep State and enter the Repeat Message State at the end of a NM Repetition Cycle when a Repeat Message Request is active and Ready Sleep Time has not expired. During this transition it shall set the Repeat Message Request Bit if the Repeat Message Request is active due to a call of FrNm\_RepeatMessageRequest."

Change SWS\_FrNm\_00243 Return Value description E\_NOT\_OK to "Setting of Repeat Message Request Bit has failed or is not configured for this network handle."

Change SWS\_FrNm\_00172 to "The function FrNm\_RepeatMessageRequest shall request node detection on the FlexRay Bus NM nodes if FrNmNodeDetectionEnabled is set to TRUE."

Change SWS\_FrNm\_00244 Return Value description E\_NOT\_OK to "Getting of the node identifier out of the last received NM-message has failed or is not configured for this network handle."

Change SWS\_FrNm\_00047 to "The function FrNm\_GetNodeIdentifier shall provide the node identifier from the most recently received NM-message if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00245 Return Value description E\_NOT\_OK to "Getting of the node identifier of the local node has failed or is not configured for this network handle."

Change SWS\_FrNm\_00046 to "The function FrNm\_GetLocalNodeIdentifier shall provide the node identifier configured for the local host node (FrNmNodeId) if FrNmSourceNodeIdentifierEnabled is set to TRUE."

Change SWS\_FrNm\_00242 Return Value description E\_NOT\_OK to "Getting of NM PDU Data has failed or is not configured for this network handle."

Change SWS\_FrNm\_00265 to "The function FrNm\_GetPduData shall get the whole NM PDU data out of the most recently received NM message if FrNmControlBitVectorEnabled or FrNmSourceNodeIdentifierEnabled or FrNmUserDataEnabled is set to TRUE."

=== SWS LinNm ===

–Last change on issue 75405 comment 51–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.44 Specification Item SWS\_UdpNm\_00377

### Trace References:

[SRS\\_Nm\\_02503](#)

### Content:

If UdpNmComUserDataSupport is enabled the UdpNm shall collect the NM User Data from the referenced NM I-PDU by calling PduR\_UdpNmGetTxData TriggerTransmit and combine the user data with the further NM bytes within the call of UdpNm\_TriggerTransmit.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76264: [UdpNm] UdpNm\_Transmit handling should be adapted to CanNm

#### Problem description:

UdpNm\_Transmit function is currently not handled by UdpNm.  
But as UdpNm is for 4.3 adapted for partial networking support like CanNm also this functionality should be synchronized with CanNm.

#### Agreed solution:

Affected requirements shall be reworked as follows.

[SWS\_UdpNm\_00315]

If UdpNmComUserDataSupport or UdpNmPnEnabled is enabled the UdpNm implementation shall provide an API UdpNm\_Transmit.(SRS\_Nm\_02503)

Add the following requirement as the last item in chapter "7.7.2 User Data (optional)" (after the Note).

[SWS\_UdpNm\_00XXX]

If UdpNmComUserDataSupport is enabled and if UdpNm is in RepeatMessage state or NormalOperation state and if UdpNm\_Transmit() is called, UdpNm shall request an additional transmission of the NM PDU with the current user data.(SRS\_Nm\_02503)

[SWS\_UdpNm\_00317]

[SWS\_UdpNm\_00377]

Replace PduR\_UdpNmGetTxData with PduR\_UdpNmTriggerTransmit.

Add trace to SRS\_Nm\_02503 for both requirements.

[ECUC\_UdpNm\_00055]

Add dependency: If UdpNmPassiveModeEnabled == True then UdpNmComUser-DataSupport = False

–Last change on issue 76264 comment 7–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.45 Specification Item SWS\_UdpNm\_00379

**Trace References:**

[SRS\\_Nm\\_00137](#)

**Content:**

If UdpNm\_SoAdIfTxConfirmation is called with result E\_NOT\_OK, UdpNm shall call the function Nm\_TxTimeoutException.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #75622: [UdpNm] Requirements are missing for UdpNmMsgTimeoutTime

**Problem description:**

Currently there are no requirements for the parameter UdpNmMsgTimeoutTime and how the TX Timeout Handling should look like.

As algorithm should be similar to CanNm i propose to overtake complete solution from CanNm SWS.

**Agreed solution:**

[1] Add following requirement in 7.6.1 NM Message Transmission

[SWS\_UdpNm\_xxxx1] If UdpNm\_SoAdIfTxConfirmation is called with result E\_NOT\_OK, UdpNm shall call the function Nm\_TxTimeoutException. (SRS\_Nm\_00137)

[2] Set ECUC\_UdpNm\_00030 to obsolete

[3] Rework Figure 6 in 8.8 UML State chart diagram

- delete condition/action "Tx-Timeout Timer has ex-

pired/Nm\_TxTimeoutException();" in states "Repeat Message State" and "Normal Operation State"

[4] Rework Figure 7 in 9.1 UdpNmTransmission

- replace UDPNM\_MSG\_CYCLE\_TIME with UdpNmMsgCycleTime
- delete both calls of StartTimer(UDPNM\_MSG\_TIMEOUT\_TIME)
- add StartTimer(UdpNmTimeoutTime) after UdpNm\_SoAdIfTxConfirmation() => UdpNm calls StartTimer() from module Message Timeout Timer

[5] Rework Figure 8 in 9.2 UdpNm Reception

- replace UDPNM\_MSG\_TIMEOUT\_TIME with UdpNmTimeoutTime
- move call of StartTimer(UdpNmTimeoutTime) after UdpNm\_SoAdRxIndication()
- Last change on issue 75622 comment 12–

#### BW-C-Level:

Application	Specification	Bus
1	4	1

## 1.46 Specification Item SWS\_UdpNm\_00463

### Trace References:

none

### Content:

When UdpNm Callback Notifications with an invalid Pdu ID are called, the called function shall not be executed and E\_NOT\_OK shall be returned if possible. If Development Error Detection is enabled then additionally UdpNm shall report UDPNM\_E\_INVALID\_PDUID to the Default Error Tracer.

### RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #76502: [UdpNm] Wrong DET Check / Handle in UdpNm\_SoAdIfTxConfirmation

#### Problem description:

SWS\_UdpNm\_00229 states that DET check shall be performed for invalid channel handle but UdpNm\_SoAdIfTxConfirmation gets an PduId handle.

#### Agreed solution:

Remove requirements SWS\_UpdNm\_00229, SWS\_UpdNm\_00230,  
SWS\_UpdNm\_00232, SWS\_UpdNm\_00233

Add new requirement in chapter 7.12.7:

SWS\_UpdNm\_xxxx1: "When UdpNm Callback Notifications with an invalid Pdu ID are called, the called function shall not be executed and E\_NOT\_OK shall be returned if possible. If Development Error Detection is enabled then additionally UdpNm shall report UDPNM\_E\_INVALID\_PDUID to the Default Error Tracer."

–Last change on issue 76502 comment 8–

**BW-C-Level:**

Application	Specification	Bus
1	4	1

## 1.47 Specification Item SWS\_UpdNm\_00464

**Trace References:**

[SRS\\_Nm\\_02503](#)

**Content:**

If UdpNmComUserDataSupport is enabled and if UdpNm is in RepeatMessage state or NormalOperation state and if UdpNm\_Transmit is called, UdpNm shall request an additional transmission of the NM PDU with the current user data.

**RfCs affecting this spec item between releases 4.3.0 and 4.3.1:**

- RfC #76264: [UdpNm] UdpNm\_Transmit handling should be adapted to CanNm

**Problem description:**

UdpNm\_Transmit function is currently not handled by UdpNm.

But as UdpNm is for 4.3 adapted for partial networking support like CanNm also this functionality should be synchronized with CanNm.

**Agreed solution:**

Affected requirements shall be reworked as follows.

[SWS\_UpdNm\_00315]

If UdpNmComUserDataSupport or UdpNmPnEnabled is enabled the UdpNm implementation shall provide an API UdpNm\_Transmit.(SRS\_Nm\_02503)

Add the following requirement as the last item in chapter "7.7.2 User Data

(optional)" (after the Note).

[SWS\_UdpNm\_00XXX]

If UdpNmComUserDataSupport is enabled and if UdpNm is in RepeatMessage state or NormalOperation state and if UdpNm\_Transmit() is called, UdpNm shall request an additional transmission of the NM PDU with the current user data.(SRS\_Nm\_02503)

[SWS\_UdpNm\_00317]

[SWS\_UdpNm\_00377]

Replace PduR\_UdpNmGetTxData with PduR\_UdpNmTriggerTransmit.

Add trace to SRS\_Nm\_02503 for both requirements.

[ECUC\_UdpNm\_00055]

Add dependency: If UdpNmPassiveModeEnabled == True then UdpNmComUserDataSupport = False

–Last change on issue 76264 comment 7–

#### **BW-C-Level:**

<b>Application</b>	<b>Specification</b>	<b>Bus</b>
1	4	1