**3GPP TSG-SA5 Meeting #154 *S5-241114***

**Changsha, China, 15 - 19 April 2024** *Revision of S5-240012*

**Source: WG Vice chair (Ericsson)**

**Title: Living document for stage 2-3 alignment**

**Document for: Information**

**Agenda Item: 6.1**

# 1 Decision/action requested

*This document is provided for information to describe any gaps in provided stage 3 SS types for agreed stage 2 definitions*

**Note 1:** Creating/updating this document is dependent on contributions from all authors of agreed/approved **Rel-18 and Rel-19 Cat-B/C CRs and TS-pCRs** to an SA5 meeting **impacting stage 3**. Thus, **only Rel-19 (normative) Work Item tdocs need to be checked**, and possibly some **Rel-18/19 Cat-B/C CRs if any**).

**Note 2**: **Cat. C CRs also need to be checked** – because even if they “only” modify existing solutions they may add some new entities such as attributes to improve or correct an existing functionality (see e.g. CR S5-235822 from SA5#150).

**Note 3**: New TSs sent to SA for Approval should also be checked and reported in case any gaps exist – if any preceding pCRs had been missed to check.

**DraftCRs (or input to DraftCRs) don’t need to be checked**, as they will be checked when the final CR is agreed. (Hint: Search for all “Cat. B” and “Cat. C” CRs and for all “pCR” occurrences under the normative Work Items).

**Note 4:** In the current chair notes’ rightmost column, also the DraftCR contributions have a “Cat.B/C” label.

Clause 2 contains some example email formats for how to report “SS gaps”.

# 2 Example emails to report gaps

Example email 1:

Dear leaders,

the agreed tdoc S5-223xyz “Rel-18 CR…” is creating a gap as one SS type is missing, see the table entry below.

* + TS 28.541

|  |  |  |
| --- | --- | --- |
| *Tdoc for proposal* ***creating*** *a gap in SS* | *Missing SS* | *(Optional) Location of the change, e.g. clause number, IOC, etc.* |
| *S5-223xyz <title>* | *YANG* | *Added IOC EP\_XnC* |

Best regards,

NN

Example email 2:

Dear leaders,

the agreed tdoc S5-223xyz “Rel-18 CR…” is not creating a gap, as the CR is only correcting an error in an existing SS. See the table entry below.

Best regards,

NN

List of agreed/approved tdocs NOT creating a gap

|  |  |
| --- | --- |
| *Tdoc* | *Reason* |
| *S5-222xyz <title>* | *Only correcting an error in an existing SS* |

Example email 3:

Dear leaders,

the approved tdoc S5-223xyz “Rel-18 pCR…” is filling a gap as an earlier missing SS type is now provided, see the table entry below.

So the referred tdoc in the third column should be removed from the living document.

* + Draft TS 28.5xy

|  |  |  |
| --- | --- | --- |
| *Tdoc for proposal* ***filling*** *a gap in SS* | *Missing SS* | *Ref. to tdoc that should be removed from the living document* |
| *S5-222xyz <title>* | *YAML* | *S5-221xyz <title>* |

Best regards,

NN

Example email 4:

Dear leaders,

the agreed tdoc S5-223xyz “Rel-18 CR 28.622…” is creating a gap as one corresponding SS type in TS 28.623 is missing, see the table entry below.

* + TS 28.622 / 28.623

|  |  |  |
| --- | --- | --- |
| *Tdoc for proposal creating a gap in SS* | *Missing SS* | *(Optional) Location of the change, e.g. clause number, IOC, etc.* |
| *S5-223yzq <title>* | *YAML* |  |
|  |  |  |

Best regards,

NN

----------------------------------------------

# 3 Living document

## 3.1 List of agreed/approved tdocs creating a gap

* + TS 28.104

**Note: The complete TS (Rel-18/Rel-19) contains only YAML SS code. As long as this is the case, there is no need to record new CRs adding only YAML SS code in this table.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
|  |  |  |  |

* + TS 28.105

**Note: The complete TS (Rel-18/Rel-19) contains only YAML SS code. As long as this is the case, there is no need to record new CRs adding only YAML SS code in this table.**

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| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
|  |  |  |  |

* + TS 28.312

**Note: The complete TS (Rel-18/Rel-19) contains only YAML SS code. As long as this is the case, there is no need to record new CRs adding only YAML SS code in this table.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
|  |  |  |  |

* + TS 28.317

**Note: The complete TS (Rel-18/Rel-19) contains only YAML SS code – by reference to 28.532 for the provisioning MnS operations, and Forge for the RANSC NRM part, see clause 7.2. As long as this is the case, there is no need to record new CRs adding only YAML SS code in this table.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
|  |  |  |  |

* + TS 28.532

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
| SA5#152 | S5-237446 Rel-18 CR TS 28.532 Add resources-RanScNrm as Resource for provisioning MnS | YANG |  |

* + TS 28.622 / 28.623

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
| SA5#151 | S5-236364 Rel18\_CR\_28623\_Stage 3 Report Amount attribute for NR | YANG | Separate ReportAmount parameter added for all applicable Immediate MDT configurations in NR |
| SA5#151 | S5-237119 Rel18 TS28.623 Add NRM fragments for scheduler and condition monitor (OpenAPI definition) | YANG | Implement the OpenAPI SS of stage 3 according to stage 2 design (Add NRM fragments for scheduler and condition monitor) |
| SA5#152 | S5-237463 / S5-237464 Rel-18 CR TS 28.622/28.623 Enhance the ManagementDataCollection to support request management data per PLMN (6.5.11.1) | YANG |  |
| SA5#153 | S5-240182 / S5-240837 Rel-18 CR 28.622 ( 28.632 Add new method for specifying the scope of subscriptions | YANG |  |

* + TS 28.538

**The complete TS (Rel-18/Rel-19) contains only YAML SS code. As long as this is the case, there is no need to record new CRs adding only YAML SS code in this table.**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
|  |  |  |  |

* + TS 28.541

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal creating a gap in SS*** | ***Missing SS*** | ***(Optional) Location of the change, e.g. clause number, IOC, etc.*** |
| SA5#145e | S5-225837 TS28.541 Rel-18 NRM enhancements for UDRFunction | YANG | IOC UDRFunction, Data type SupiRange, IdentityRange etc. |
| SA5#145e | S5-225838 TS28.541 Rel-18 NRM enhancements for UDMFunction | YANG | IOC UDMFunction, Data type SupiRange, IdentityRange etc. |
| SA5#145e | S5-225839 TS28.541 Rel-18 NRM enhancements for PCFFunction | YANG | IOC PCFFunction, Data type SupiRange, IdentityRange etc. |
| SA5#145e | S5-225063 TS28.541 Rel-18 NRM enhancements for NSSFFunction | YANG | IOC NSSFFunction |
| SA5#145e | S5-225062 TS28.541 Rel-18 NRM enhancements for UPFFunction | YANG | IOC UPFFunction, Data type InterfaceUpfInfoItem, AtsssCapability etc. |
| SA5#145e | S5-225061 TS28.541 Rel-18 Enhance 5G Core managed NF Profile NRM fragment | YANG | Data type ManagedNFProfile |
| SA5#145e | S5-225830 Rel-18 CR TS 28.541 Update NWDAFFunction IOC to support management and control purpose | YANG | IOC NWDAFFunction |
| SA5#145e | S5-225840 Rel-18 CR 28.538 ECSFunction IOC update | YANG | IOC ECSFunction (added attributes) |
| SA5#146 | [S5-226089](https://ericsson-my.sharepoint.com/personal/thomas_tovinger_ericsson_com/Documents/1%20aMina_Dok/eSOM/SA5_BIDRAG_MM/1%20Bidrag/Meeting146/Bidrag/SA5) CR to TS 28.541 Rel-18 NRM enhancements for AUSFFunction | YANG | NRM enhancements for AUSFFunction |
| SA5#146 | S5-227014 CR to TS 28.541 Rel-18 NRM enhancements for NEFFunction | YANG | NRM enhancements for NEFFunction |
| SA5#146 | S5-226091 CR to TS 28.541 Rel-18 NRM enhancements for NSACFFunction | YANG | NRM enhancements for NSACFFunction |
| SA5#146 | S5-226650 TS28.541 Rel-18 NRM enhancements for NWDAFFunction | YANG | NRM enhancements for NWDAFFunction |
| SA5#146 | S5-226815 TS28.541 Rel-18 NRM enhancements for SCPFunction | YANG | NRM enhancements for SCPFunction |
| SA5#146 | S5-226651 TS28.541 Rel-18 NRM enhancements for SEPPFunction | YANG | NRM enhancements for SEPPFunction |
| SA5#146 | S5-226095 TS28.541 Rel-18 NRM enhancements for UDSFFunction | YANG | NRM enhancements for UDSFFunction |
| SA5#146 | S5-226653 Rel-18 CR TS 28.541 Update NWDAFFunction IOC to support management and control purpose | YANG | Update NWDAFFunction IOC to add “administrative state” |
| SA5#147 | S5-232908 TS28.541 Rel-18 NRM enhancements for SMSFFunction | YANG | Added missing attributes on SMSF based on TS 29.510 |
| SA5#147 | S5-232909 TS28.541 Rel-18 NRM enhancements for NRFFunction | YANG | Refactoring the UDMFunction and UDRFunction attribute list as preparation for later on NRF NRM enhancement based on TS 29.510 |
| SA5#147 | S5-232910 TS28.541 Rel-18 NRM enhancements for LMFFunction | YANG | Added missing attributes on LMF based on TS 29.510 |
| SA5#147 | S5-232915 TS28.541 Rel-18 NRM enhancements for AFFunction | YANG | Added missing attributes on AF based on TS 29.510 |
| SA5#147 | S5-232121 TS28.541 Rel-18 NRM enhancements for EASDFFunction | YANG | Added missing attributes on EASDF based on TS 29.510 |
| SA5#147 | S5-232916 TS28.541 Rel-18 NRM enhancements for NSSAAFFunction | YANG | Added missing attributes on NSSAAF based on TS 29.510 |
| SA4#149 | S5-234586 Add NetworkSliceController and NetworkSliceSubnetController IOCs to support asynchronous LCM operations | YANG | Adds NetworkSliceController and NetworkSliceSubnetController IOCs |
| SA5#150 | S5-235434 Rel-18 CR TS28.541 Update the feasiibility check NRM fragment to support the missing requirements | YANG | Adds new attr. to IOC FeasibilityCheckAndReservationJob |
| SA5#150 | S5-235927 Rel-18 CR 28.541 Non IP Support Stage-3 | YANG | Stage 3 for S5-235926. Adds attr. nonIPSupport to dataType ServiceProfile. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235217 TS28.541 Rel18 NRM enhancements for NRFFunction | YANG | Adds NRM enhancements for NRFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235218 TS28.541 Rel18 NRM enhancements for BSFFunction | YANG | Adds NRM enhancements for BSFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235219 TS28.541 Rel18 NRM enhancements for AANFFunction | YANG | Adds NRM enhancements for AANFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235220 TS28.541 Rel18 NRM enhancements for TSCTSFFunction | YANG | Adds NRM enhancements for TSCTSFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235221 TS28.541 Rel18 NRM enhancements for GMLCFunction | YANG | Adds NRM enhancements for GMLCFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235933 TS28.541 Rel18 Improve LogicalInterfaceInfo model to add support of static route | YANG | Adds one more Allowed valued to LogicalInterfaceInfo.routingProtocol. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235934 Rel-18 CR 28.541 Update NRM enhancements for NWDAFFunction | YANG | Adds new attr. nwdafLogicalFuncSupported to NWDAFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-236096 Rel-18 CR TS 28.541 NTN Coverage Availability Information Configuration Stage 3 | YANG | Stage 3 for S5-236095. Adds attr. satelliteCoverageInfoList to AMFFunction. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-235641 Rel-18 CR 28.541 NTN Location Restriction Stage 3 | YANG | Stage 3 for S5-235640. Adds attr. nTNPLMNInfoList to AMFFunction, and more. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-236100 Rel-18 CR 28.541 Add NRM Info Model definitions for NTN management(Stage3 Yaml) | YANG | Stage 3 for S5-236099. Adds several IOCs, attributes and data types. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-236096 Rel-18 CR TS 28.541 NTN Coverage Availability Information Configuration Stage 3 | YANG | Stage 3 for S5-236095. Adds attr. satelliteCoverageInfoList to AMFFunction, and more. No YANG SS provided although this is generally defined in this TS. |
| SA5#150 | S5-236092 Rel-18 CR TS 28.541 UL and DL reliability configuration in slice and subnet profiles | YANG | Adds several new attributes in slice and subnet profiles. No YANG SS provided although this is generally defined in this TS. |
| SA5#151 | S5-236242 TS28.541 Rel18 NRM enhancements for NRFFunction and AmfInfo and SmfInfo | YANG | Added missing attributes on NRF based on TS 29.510. Missing attributes added to AmfInfo and SmfInfo (to align with TS 29.510). |
| SA5#151 | S5-236243 TS28.541 Rel18 NRM enhancements for UpfInfo and PcfInfo and NetInfo | YANG | Added missing attributes on UpfInfo and PcfInfo and NetInfo based on TS 29.510. |
| SA5#151 | S5-236244 TS28.541 Rel18 NRM enhancements for MBUPFFunction | YANG | Added missing attributes on MB-UPF based on TS 29.510. Correct the stage 3 for InterfaceUpfInfoItem. |
| SA5#151 | S5-236245 TS28.541 Rel18 NRM enhancements for MBSMFFunction | YANG | Added missing attributes on MB-SMF based on TS 29.510 |
| SA5#151 | S5-236335 Rel-18 CR TS 28.541 Fix inconsitencies related to network slice SLA attribute availability | YANG | Attribute availability added to CNSliceSubnetProfile, RANSliceSubnetProfile and TopSliceSubnetProfile |
| SA5#151 | S5-237120 Rel-18 CR TS 28.541 Fix inconsitencies related to network slice SLA attribute kPIMonitoring | YANG | Attribute kPIMonitoring added to RANSliceSubnetProfile and TopSliceSubnetProfile |
| SA5#151 | S5-236338 Rel-18 CR TS 28.541 Fix inconsitencies related to network slice SLA attribute maxDLDataVolume and maxULDataVolume | YANG | Attributes maxDLDataVolume and maxULDataVolume added to RANSliceSubnetProfile and TopSliceSubnetProfile |
| SA5#152 | S5-238149 Rel-18 CR TS 28.541 Add NRM for network slice isolation | YANG |  |
| SA5#152 | S5-237360 TS28.541 Rel18 NRM enhancements for NRFFunction | YANG |  |
| SA5#152 | S5-237361 TS28.541 Rel-18 NRM enhancements for MNPFFunction | YANG |  |
| SA5#152 | S5-238313 Rel-18 CR TS 28.541 Add support for GSMA attributes related to data networks | YANG |  |
| SA5#152 | S5-237684 Rel-18 CR TS 28.541 Stage 3 Add FL related attributes in NWDAFFunction | YANG |  |
| SA5#152 | S5-238214 Rel-18 CR TS 28.541 Update definitions of Ephemeris | YANG |  |
| SA5#152 | S5-237610 Rel-18 CR 28.541 Add energy saving attributes to IOC UPFFunction | YANG |  |
| SA5#153 | S5-240885 Rel-18 CR1138 28.541 Adding MCE ID | YAML |  |
| SA5#153 | S5-240888 Rel-18 CR TS 28.541 Add missing name contain information for ExternalGNBCUCPFunction and ExtenralGNBDUFunction | YANG |  |
| SA5#153 | S5-240893 Rel-18 CR TS 28.541 Add slice validity info to ServiceProfile | YANG |  |
| SA5#153 | S5-240036 TS28.541 Rel18 NRM enhancements for NfInfo and PcscfInfo | YANG |  |
| SA5#153 | S5-240897 Rel-18 CR TS 28.541 Enhancement to clarify Network slice SLA requirement for inter-packet delay variation | YANG |  |
| SA5#154 | S5-242197 Rel-18 CR TS 28.541 Adding Mapped cell ID | YANG |  |
| SA5#154 | S5-242199 Rel-18 CR TS 28.541 Adding NTN fragment for LMF on UE location verification | YANG |  |

## 3.2 List of agreed/approved tdocs not creating a gap

Note: Below are just some examples; this table is in fact not important to fill in (completely) as it is the information about created or filled gaps that is the objective of this document, i.e. clause 3.1 and 3.3.

|  |  |  |
| --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal not creating a gap in SS*** | ***Reason*** |
| SA5#145e | [S5-225](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225153.zip)209 YANG Mapping Rule Corrections | Correction in existing SS |
| SA5#145e | [S5-225153](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225153.zip) Correct notifyMOIChanges handling for YANG leaf-lists | Correction in existing SS |
| SA5#145e | S5-225832 Add BWP Set configuration support in NRM (stage 2) | Adding stage 2 feature – with corresponding YAML SS in [S5-225](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225196.zip)831 and YANG SS in [S5-225](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225123.zip)123 |
| SA5#145e | [S5-225](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225196.zip)831 Rel-18 CR 28.541 Add BWP set support to NRM (Stage3, YAML) | YAML SS corresponding to S5-225832 |
| SA5#145e | [S5-225](file:///D:\2022年工作\标准工作\3GPP\SA5%23145e\docs\S5-225123.zip)123 Rel-18 28.541 Add BWP set support to NRM (stage 3, YANG) | YANG SS corresponding to S5-225832 |
| SA5#145e | S5-225843 Rel-18 CR 28.538 Add a procedure of EAS instantiation triggered by measurement data | Only adding new procedures, no impact on operations etc. |
| SA5#145e | S5-225844 Rel-18 CR 28.552 EAS discovery failure | Defines a new measurement of EAS discovery failure to support dynamic EAS instantiation - no SS update needed. |
| SA5#145e | S5-225845 Rel-18 CR 28.538 add a use case for EAS discovery failure measurement | Adds a new UC and req. in 28.538 – no SS update needed. |
| SA5#145e | S5-225849 CR Rel18 28405 Handling QMC at Handover for NR | No SA5 SS definitions exist for 28.405; references to RAN TSs are used for protocol def. |
| SA5#145e | S5-225500 CR Rel18 28405 adding SBA for NR | No SA5 SS definitions exist for 28.405; references to RAN TSs are used for protocol def. |
| SA5#145e | S5-225851 Rel-18 CR TS 28.552 Add measurements for UE throughput of Dedicated BWP | Defines new measurements in 28.552 – no SS update needed |
| SA5#145e | S5-225344 Rel-18 CR 28.552 beam measurements | Defines new measurements in 28.552 – no SS update needed |
| SA5#145e | S5-225852 Add beam specific inter-system handover counters related to MRO | Defines new measurements in 28.552 – no SS update needed |
| SA5#145e | S5-225192 R18 CR TS 28.552 Add use case of remote interference related performance measurement | Adds a new UC in 28.552 – no SS update needed |
| SA5#145e | S5-225853 Rel18\_CR\_28550\_GPB Schema introduction for Streaming of PMs | Introduces a GPB schema for PM streaming – N/A to the YAML/YANG SS mapping |
| SA5#145e | S5-225855 Rel-18 CR 28.531 Fixing provisioning data reporting service | Refers to existing operations in 28.532 and removes the ref. to to subscribe and unsubscribe. |
| SA5#145e | S5-225091 Rel-18 CR TS 28.531 Add provisioning procedure for slice activation and deactivation using adminsitrative state | Only adding new procedures, no impact on operations etc. |
| SA5#145e | S5-225090 Rel-18 CR TS 28.531 Removal of redundant network slice modification use case | Only Removing redundant use case and req. |
| SA5#145e | S5-225854 Rel-18 CR TS 28.531 Update procedures for modification of Network Slice and Network Slice Subnet MOIs | Only modifying existing procedures, no impact on operations etc. |

## 3.3 List of agreed/approved tdocs filling a gap

|  |  |  |  |
| --- | --- | --- | --- |
| ***Meeting#*** | ***Tdoc/title for proposal filling a gap in SS*** | ***Missing SS*** | ***Ref. to tdoc that should be removed from the living document*** |
| SA5#146 | S5-226740 FIles and File IOCs YANG | YANG | No corresponding Tdoc# in this living document (gap created before this document’s creation). Missing YANG for FIles and File IOCs added. |
| SA5#151 | S5-236252 TS28.623 Rel18 OpenAPI SS for SupportedNotifications | YAML | Fills the gap caused by S5-235330 from SA5#150. |
| SA5#151 | S5-236251 TS28.623 Rel18 OpenAPI SS for QMCJob | YAML | Fills the gap caused by S5-225504/ S5-225848 and S5-226617 from SA5#145e and SA5#146. |
| SA5#151 | S5-236316 Rel-18 CR TS 28.541 Add YAML solution set for NRM for operator specific QoS model for RAN sharing | YAML | Fills the gap caused by S5-235940 from SA5#150. |