**3GPP TSG-SA5 Meeting #145-e *S5-225507***

**e-meeting, 15 - 24 August 2022**

**Source: Ericsson**

**Title: Update of the TR 28.925, due to the study being moved to Rel-18 and new proposals.**

**Document for: Approval**

**Agenda Item: 6.8.1**

# 1 Decision/action requested

***Approve the update of the TR.***

# 2 References

[1] SP-211451 Revised Study on Enhancement of service based management architecture

# 3 Rationale

The study was continued in Rel-18 [see ref 1], why some information in the TR needs to be updated.

New proposals are done according to off line discussions.

# 4 Detailed proposal

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| **First modification** |

### 4.1.1 Description

The scopes of specifications are not clear.

**TS 28.533** [2] (the TS is only valid for 5G and exists in Rel-15,16 and 17):

Scope:

There is no limitation in the scope that the TS is only valid for 5G (or rather not valid for 2G, 3G and legacy 4G.

There are no borders for where the SBMA is valid, which gives some problems when dealing with external entities governed by other fora, e.g. interfaces with MANO, towards verticals, other operators etc. All that control is left to access control, which is not (yet) specified. There is a link with the studies FS\_MNSAC and FS\_NSCE.

References:

28.510 [7], 28.511 [8], 28.512 [9], 28.513 [10], 28.515 [11], 28.516 [12], 28.517 [13], 28.518 [14], 28.520 [15], 28.521 [16], 28.522 [17], 28.523 [18], 28.525 [19], 28.526 [20], 28.527 [21] and 28.528 [22] are referred, but those TSs are not valid for 5G, They are used in Annex A.4, which is informative.

**TS: 28.622** [23] (The TS is valid for 3G, 4G and 5G and exists in Rel-15,16 and 17):

This TS is made for IRP architecture, but is applied also for Service Based Management Architecture, SBMA.

Introduction:

It is stated that the TS is part of a set that is used for management and orchestration of 5G.

Scope:

SBMA is not included according to scope. However, it is nothing is written whether the IRP architecture is valid for 5G. The scope does not say anything about this TS being valid for 5G (which the Introduction does).

The information that the TS is an IRP TS, with the information above in Introduction and Scope a logical conclusion is that IRPs are allowed to be used for 5G. However, the evolution of most IRP TSs has not been in par with the SBMA TSs.

**TS: 28.662 [30]** (The TS is valid for 3G, 4G and 5G and exists in Rel-15, 16 and 17):

This TS is made for IRP architecture, but is applied also for Service Based Management Architecture, SBMA.

This NRM would be beneficial to be included in SBMA, but an update is needed.

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| **Next modification** |

#### 4.1.2.1 Solution #1-1 scope of 28.533 [2]

a. Introduce the limitation that the TS is not valid for 2G, 3G and 4G in the Scope clause.b. Introduce text that 28.533 [2] is valid for SBMA.
c. Introduce text that access rights for interfaces are outside the scope for this TS (this is be replaced with a TS number when such a TS is published).
Also to be discussed whether access rights per external (and internal) interfaces are to be documented in some way.

Editor's Note: The internal and external access rights are connected to architectural discussions.

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| **Next modification** |

#### 4.1.2.x Solution #1-4 new SBMA TS for Generic RAN NRM

Replace 28.662 [30] with a new 5G TS for SBMA with information only applicable to SBMA. New information might be introduced. IRP applicable information is kept in 28.662, which would be valid for older systems using IRP the architecture.

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| **Next modification** |

### 4.7.2 Potential solutions

Replace 3GPP TS 28.631 [34], 3GPP TS 28.632 [35] and 3GPP TS 28.633 [36] with a new 5G TSs for SBMA.

* Provide the YANG and YAML solution sets for inventory management NRM in SBMA.

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| **Next modification** |

### 4.13.2 Potential solutions

Following table 4.13.2-1 provides the overview analysis on 3GPP Interface IRPs and the related SBMA specifications.

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| 3GPP Interface IRP specifications | Whether correponding SBMA specification is needed | Status |
| Generic/Common Interface IRPs | Name convention for Managed Objects (32.300) | Yes | The name convention is used in SBMA. |
| Notification IRP (32.301/2/6) | Yes | SBMA specification is already defined (TS 28.532) |
| Generic IRP (32.31x) | Not needed as it’s management of interface IRPs |  |
| FM related interface IRPs | Alarm IRP (32.111-x) | Yes | SBMA specification is already defined (TS 28.532) |
| Advanced Alarm Management IRP (32.12x) | Yes | Aready covered by FS\_FSEV SID |
| Test management IRP (32.32x) | TBD |  |
| CM related interface IRPs | Basic CM IRP (32.60x) | Yes | SBMA specification is already defined (TS 28.532) |
| Bulk CM IRP (32.61x) | TBD | YANG (RFC 7950) and Netconf (RFC6241) allows updating a single boolean attribute/leaf or the whole configuration. Individual and bulk are not handled separately. |
| Kernel CM IRP (32.66x) | TBD | YANG (RFC 7950) and Netconf (RFC6241) allows updating a single boolean attribute/leaf or the whole configuration. Individual and bulk are not handled separately.Part of operations defined in Kernel CM IRP have already a SBMA specification, e.g. notifyMOICreation, notifyMOIDeletion, etc. (cf. TS 28.532). |
| PM file format/collection & Trace related Interface IRPs | Performance Management IRP (32.41x) | Yes | SBMA specification is already defined (TS 28.532 and TS 28.550) |
| Performance Measurement collection (32.43x) | Yes | SBMA specification is already defined (TS 28.532 and TS 28.550) |
| Trace Management IRP (32.42x, 32.44x) | Yes | Already reused for SBMA |
| Notification Log IRP (32.33x) | Yes | Aready covered by FS\_eSBMAe SID (see FS\_eSBMAe\_WoP#7) |
| Supporting interface IRPs | File Transfer IRP (32.34x) | Yes | SBMA specification is already defined (TS 28.537 and TS 28.622) |
| Communication Surveillance IRP (32.35x) | Yes | SBMA specification is already defined (TS 28.537,TS 28.622, TS 28.532) |
| Entry Point IRP (32.36x) | Yes | SBMA specification is already defined (5GDMS, TS 28.537, TS 28.622) |
| Other interface IRPs | Partial Suspension of Itf-N IRP (32.38x) | TBD |  |
| Delta synchronization IRP (32.39x) | TBD |  |
| SON related Interface IRPs | Self-Configuration IRP (32.50x) | Yes | SBMA specification for PnC is already defined (TS 28.314/5/6)SBMA specification for SBMA is covered by RANSC WI |
| Software Management IRP(32.53x) | Yes | Covered by Issue #6 in clause 4.6 |

Following table 4.13.2-2 give the overview analysis on 3GPP NRM IRPs to derive which IRP spepcifications needs to be convert to SBMA specifications in the future.

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| 3GPP NRM IRP specifications | Whether correponding SBMA specification is needed | Status |
| FMC model | Umbrella Information Model (28.620) | Yes | Reused for SBMA  |
| Common NRM IRP | Generic NRM IRP (28.621/2/3) | Yes | Covered by Issue #4 in clasue 4.1. |
| 3GPP Access Network (AN) related NRM IRPs | Generic RAN NRM IRP (28.661/2/3) | Yes | Covered by Issue #4 in clasue 4.3 |
| GERAN NRM IRP (28.654/5/6) | Not applicable |  |
| UTRAN NRM IRP (28.651/2/3) | Not applicable |  |
| E-UTRAN NRM IRP (28.657/8/9) | Yes  | Covered by Issue #4 in clasue 4.3 |
| Generic RAN NRM IRP 28.661/2/3) | Yes | There is a dependency from 28.541 to 28.662 |
| 3GPP Core Network (CN)/IMS related NRM IRPs | CN NRM IRP (28.701/2/3) | Not applicable |  |
| CN NRM IRP (28.704/5/6) | Not applicable |  |
| EPC NRM IRP (28.707/8/9) | Not applicable |  |
| 3GPP H(e)NB related NRM IRPs | HNS NRM IRP (28.671/2/3) | Not applicable |  |
| HeNS NRM IRP (28.674/5/6) | Not applicable |  |
| Service management related NRM IRPs | SuM NRM IRP(28.751/2/3) | TBD | Not used for 5G??? |
| Supporting NRM IRPs | Inventory Management NRM IRP (28.631/2/3) | Yes  | Covered by Issue #7 in clasue 4.7 and5.4.They are already included in (informative) annex E in TS 28.533 about 5G specifications though still lacking SBMA-compatible solution set |
| Transport Network NRM IRP (28.731/2/3) | TBD | ATM is not used in 5G??? Is this correct??? |
| Signalling Transport NW IF NRM IRP (28.734/5/6) | TBD | CCS-7 is not used in 5G??? Is this correct??? |
| State management data definition IRP (28.624/5&) | Yes | Most of the relevant contents from 28.625 have been copied into 28.622/28.541. |
| Self-Organizing Networks NRM IRPs | SON Policy NRM IRP (28.627/8/9) | Not applicable |  |
| Non-3GPP access interworking NRM IRPs | EPC and non-3GPP access interworking system Network Resource Model (NRM) IRP (28.611/2/6) | Not applicable |  |
| Wireless Local Area Network NRM IRP | WLAN NRM IRP (28.681/2/3) | TBD |  |

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| **Next modification** |

## 5.1.1 Solution #1-1 scope of 28.533 [2]

It is recommended to not pursue the solution#1-1.

## 5.1.2 Solution #1-2 new SBMA TS for Generic NRM

Replace 28.622 [23] with a new 5G TS for SBMA, including stage 1, 2 and 3.

## 5.1.3 Solution #1-3 scope of referred TSs in 28.533 [2].

It is recommended to not pursue the solution#1-3.

## 5.1.4 Solution #1-4 new SBMA TS for Generic RAN NRM

Replace 28.662 [30] with a new 5G TS for SBMA, including stage 1, 2 and 3..

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| **Next modification** |

## 5.3 Issue #4 SBMA supporting management of 5G SA and NSA scenarios

Two management options are identified for 5G SA and NSA in section 4.4.2.

It is recommended that the NG-RAN management Option#2 is to be supported by specifying YANG and YAML solution sets in a new TS. It may be an own stage 3 TS or included in the stage 2 TS

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| **Next modification** |

## 5.4 Issue #7 Inventory missing in 5G

Replace 3GPP TS 28.631 [34], 3GPP TS 28.632 [35] and 3GPP TS 28.633 [36] with one or several new 5G TSs for SBMA for stage 1, 2 and 3.

Propose a Work Item to include inventory NRM in SBMA.

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| **Next modification** |

## 5.x Issue #10: Use of 32.401 in SBMA

Replace 32.401 [38] with a new 5G TS for SBMA.

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| **Next modification** |

## 5.y Issue #11: Use of 32.404 in SBMA

Update 32.404 [39] to include SBMA.

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| **End of modifications** |