**3GPP TSG-SA5 Meeting #141-e *S5-221239rev1***

e-meeting, 17 -26 January 2022 (revision of xx-yyxxxx)

**Source: Nokia, Nokia Shanghai Bell**

**Title: New SID on Basic SBMA enabler enhancements**

**Document for: Approval**

**Agenda Item: 6.2**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: New SID on Basic SBMA enabler enhancements

Acronym: FS\_BSEE

Unique identifier:

Potential target Release: Rel-18

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  | X | X |  |
| No | X | X |  |  |  |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Feature |
|  | Building Block |
|  | *Work Task* |
| X | Study Item |

## 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| N/A | N/A | N/A | N/A |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| N/A | N/A | N/A |

# 3 Justification

Up to Rel-14 the SA5 management architecture was based on reference points. For these reference points management interfaces were specified. These management interfaces followed the so called Integration Reference Point (IRP) concept.

In Rel-15 SA5 moved from the reference point based architecture to a new Service Based Management Architecture (SBMA), where only Management Service (MnS) components are normatively specified. These MnS components are used for building 3GPP-defined and vendor-specific Management Services and Management Functions.

Many of the MnS components standardized in Rel-16 and Rel-17 are inspired or identical to the legacy IRP concepts, and may need to be adopted to new requirements emanating from a service based architecture.

In some cases, material has been copied from Rel-14 to Rel-15 without providing necessary modificatons. For example, the stage 2 definition of the Fault Supervision MnS has 14 occurances of the term "IRP" and talks about the Notification IRP that does not exist in SBMA anymore. In addition, stage 2 describes an asynchronous mode for retrieving alarms copied over from the IRP framework, a concept that was dropped at stage 3 in SBMA. Another issue is that satge 2 and 3 definitions are contained in TS 28.532 and TS 28.622/3, which is not easy to read.

In some other cases, stage 3 has evolved in Rel-15, Rel-16 and Rel-17without proper alignment to stage 2. For example, stage 2 of the Provisioning MnS specifies a single operation request can create one single object, delete one single object, or modify one or multiple attributes of a single object. But at stage 3 one single operation can create one or more objects, delete one or more objects, and modify one or more attributes of one or more objects. In addition, concepts like the creation and deletion of attributes (by the MnS consumer of MnS producer) are discussed and already described for some specific cases, but the general concept is not described or supported by the stage 2 definitions of the Provisioning MnS.

Some important functions like support for logging or transactions have not yet been moved to the SBMA.

There are proposals to start and stop functions based on some triggers (events). Current proposals focus on adding the trigger functionality to the function itself. However, SBMA offers the possibility of service chaining that allows for other designs as well where the trigger function is clearly separated from the triggered function. For example, the already defined threshold monitor checks if a certain threshold is crossed for a certain measurement. If yes, the performance metric job is triggered to start collecting some other measurements.Also, regarding the specification methodology, numerous issues have popped up in the past without adressing them properly. For example, currently only a support qualifier ("S") is foreseen, that is often confused with the question if a certain attribute or parameter needs to be present or not in a notification or CRUD request/response. Mandatory attributes/parameters are deemed to be always present, which is not the case. Even though the implementation supports an attribute/parameter, it may be absent in a notification or CRUD request/response in certain conditions. Another issue are missing naming conventions for attributes, IOCs or data types. Readability of SA5 specifications would benefit from follwing naming conventions. Some naming conventions are mostly applied, but they are not documented and not applied everywhere.

In summary, there are a lot of areas for improvements and enhancements. Many of them are well known and have been discussed already.

This SI shall also provide the mandate to investigate smaller enhancements not mentioned in the SI for the case they are not covered by other SI/WI.

# 4 Objective

The objective of this study is to enhance and improve basic SBMA enablers and to add a few new ones. Topics to be addressed include:

* Investigate how the stage 2 definitions of the Fault Supervision MnS in TS 28.532 can be enhanced (with potential impact on TS 28.622/28.623)
* Investigate how the stage 2 definitions of the Prov MnS in TS 28.532 can be enhanced (to reflect mainly CM capabilities available already in the REST SS and NETCONF SS)
* Investigate if new capabilities should be added to the Provisioning MnS, for example the concept of creating and removing attributes of managed object instances, or filter profiles
* Investigate how the notification subscription mechanism in TS 28.622 can be enhanced (to allow for more targeted subscriptions, e.g. for changes of single attributes)
* Study versioning concepts (to allow forversioning independent of the TS version number)
* Studybackwads compatability concepts
* Investigate how the logging capability in the IRP framework (TS 32.332) can be moved to SBMA, and potentially be benhanced to include e.g. also operations
* Investigate how the transaction capability in the IRP framework (TS 32.612) can be moved to SBMA, and potentially be enhanced
* Study the need for generic triggers for starting and stopping functions based on specific events
* Study enhancements for the specification methodology (e.g. introduction of a Presence Qualifier, specification template for NRM fragments, introduction of common stage 2 data type definitions, naming conventions for e.g. attributes, object classes and data types)

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| Internal TR | 28:XXX | Study on Basic SBMA enabler enhancements | TSG 97(09-2022) | TSG 98(12-2022) | Pollakowski, Olaf, Nokia, olaf.pollakowski@nokia.com |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
|  |  |  |  |

# 6 Work item Rapporteur(s)

Pollakowski, Olaf, Nokia, olaf.pollakowski@nokia.com

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

None.

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Nokia |
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