**3GPP TSG-SA5 Meeting #139-e *S5-215401***

**e-meeting, 11 - 20 October 2021**

**Source: Ericsson, Huawei**

**Title: Inventory for 5G**

**Document for: Approval**

**Agenda Item: 6.5.6**

# 1 Decision/action requested

***Approve the proposal***

# 2 References

[1] 3GPP TS 28.631: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Requirements".

[2] 3GPP TS 28.632: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[3] 3GPP TS 28.633: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions".

[4] 3GPP TS 28.925: "Study on enhancement of service based management architecture"

# 3 Rationale

LTE has specifications for inventory. See [1], [2] and [3]. 5G does not have any specifications for that at all.

The LTE specifications can be converted to SBMA. This contribution proposes to analysis the issue on inventory management feature in SBMA for 5G.

# 4 Detailed proposal

To agree the following changes in 28.925 [4]:

**First change.**

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 28.533: "Management and orchestration; Architecture framework".

[3] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".

[4] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".

[5] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Multi-connectivity; Stage 2".

[6] ETSI GS ZSM 002: “Zero-touch network and Service Management (ZSM); Reference Architecture”.

[7] 3GPP TS 28.510: "Configuration Management (CM) for mobile networks that include virtualized network functions; Requirements".

[8] 3GPP TS 28.511: "Configuration Management (CM) for mobile networks that include virtualized network functions; Procedures".

[9] 3GPP TS 28.512: "Configuration Management (CM) for mobile networks that include virtualized network functions; Stage 2".

[10] 3GPP TS 28.513: "Configuration Management (CM) for mobile networks that include virtualized network functions; Stage 3".

[11] 3GPP TS 28.515: "Fault Management (FM) for mobile networks that include virtualized network functions; Requirements".

[12] 3GPP TS 28.516: "Fault Management (FM) for mobile networks that include virtualized network functions; Procedures".

[13] 3GPP TS 28.517: "Fault Management (FM) for mobile networks that include virtualized network functions; Stage 2".

[14] 3GPP TS 28.518: "Fault Management (FM) for mobile networks that include virtualized network functions; Stage 3".

[15] 3GPP TS 28.520: "Performance Management (PM) for mobile networks that include virtualized network functions; Requirements".

[16] 3GPP TS 28.521: "Performance Management (PM) for mobile networks that include virtualized network functions; Procedures".

[17] 3GPP TS 28.522: "Performance Management (PM) for mobile networks that include virtualized network functions; Stage 2".

[18] 3GPP TS 28.523: "Performance Management (PM) for mobile networks that include virtualized network functions; Stage 3".

[19] 3GPP TS 28.525: "Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Requirements".

[20] 3GPP TS 28.526: "Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Procedures".

[21] 3GPP TS 28.527: "Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Stage 2".

[22] 3GPP TS 28.528: "Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Stage 3".

[23] 3GPP TS 28.622: "Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[24] 3GPP TS 32.103: "Integration Reference Point (IRP) overview and usage guide".

[25] 3GPP TS 28.537: "Management capabilities ".

[26] 3GPP TS 32.425: "Performance measurements Evolved Universal Terrestrial Radio Access Network (E-UTRAN".

[27] 3GPP TS 28.552: "5G performance measurements".

[28] 3GPP TS 28.500, "Concepts, use cases and requirements".

[29] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".

[30] 3GPP TS 32.662: "Telecommunication management; Configuration Management (CM); Kernel CM Information Service (IS)".

[x] 3GPP TS 28.631: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Requirements".

[y] 3GPP TS 28.632: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[z] 3GPP TS 28.633: "Telecommunication management; Inventory Management (IM) Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions".

[a] 3GPP TS 32.156 "Telecommunication management; Fixed Mobile Convergence (FMC); Model repertoire".

**Next change.**

# 4.x Issue #x: Inventory missing in 5G

### 4.x.1 Description

LTE has specifications about inventory: 3GPP TS 28.631 [x], 3GPP TS 28.632 [y] and 3GPP TS 28.633 [z] that define the requirements, Network Resource Model Information Service (IS) and Solution Set. 5G does not have anything similar, even though 5G also consist of software, hardware, network functions and licences.

The attribute table is not follow the latest template documented in TS 32.156 [a], for example, the legal value for “isReadable”, “isWritable”,”isInvarient” and “isNotifyable” should be True or False.

### 4.x.2 Potential solutions

Update the specifications for inventory for 5G (using SBMA) in Rel-17.

Following are the proposed solutions to update the 3GPP TS 28.631 [x], 3GPP TS 28.632 [y] and 3GPP TS 28.633 [z] to support inventory management in SBMA for 5G.

* Update the description of the Scope to indicate the inventory management specification is applicable for the deployment using service based management architecture and Clarify which objects are used in the SBMA and IRP architecture in 3GPP TS 28.631 [x], 3GPP TS 28.632 [y].
* Update the attribute table in 3GPP TS 28.632 [y] to follow the latest template documented in TS 32.156 [a].
* Provide the YANG and YAML solution sets for inventory management NRM in 3GPP TS 28.633 [z].

The Work item NSA\_SBMA can be extended with this functionality.

**Next change.**

## 5.x Issue #x Inventory missing in 5G

Update the specifications for inventory 3GPP TS 28.631 [x], 3GPP TS 28.632 [y] and 3GPP TS 28.633 [z] to be valid in Rel-17 for SBMA.

Extend the Work item NSA\_SBMA to include inventory TSs.

**End of changes.**