**3GPP TSG-SA5 Meeting #142-e *S5-222399***

**e-meeting, 4 - 12 April 2022**

**Source: China Mobile, HUAWEI**

**Title: Concept Proposal for Draft TS 28.317**

**Document for: Approval**

**Agenda Item: 6.4.1**

# 1 Decision/action requested

***Discuss and approve on the proposal.***

# **2 References**

[1] SP-211431 New WID on Self-Configuration of RAN Nes

[2] S5-222397 pCR 28.317 Skeleton Proposal

[3] S5-222393 TS 28.317 v0.0.0 Initial skeleton

# **3 Rationale**

This document is going to provide proposals on concepts for ARCF data handling and self-configuration, which can leading to definition of use cases and requirements.

# **4 Detailed proposal**

This document proposes the following updates for TS 28.317.

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| **1st 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".

# [X] 3GPP TS 28.314 Management and orchestration; Plug and Connect; Concepts and requirements3 Definitions of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

**Self Configuration:** The process which brings a RAN network element into service requiring minimal human operator intervention or none at all.

**Self-establishment:** The procedure of a new RAN NE put from being powered up to ready for network service automatically.

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

<symbol> <Explanation>

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ARCF Automatic Radio Configuration Data handling Function

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# Concept and Background

## Background

Self-establishment of a new RAN NE can greatly improve the efficiency of RAN deployment. Self-establishment of a new RAN NE in network describes the procedure of a new RAN NE automatically establishing when it is powered up and connects to the IP network, which includes:

- ARCF data handling

- Plug and connect to management system

- Self-Configuration

Plug and connect to management system has been specified in TS 28.314 [X]. This document mainly focuses on ARCF data handling and Self-Configuration.

## ARCF data handling

ARCF data are the data which are required for successful activation (of e.g. cell, gNB) that require coordination between several cells and cannot be generated by management system for self-configuration process. Some of the ARCF data may be used directly as RAN NE configuration data and some of the ARCF data may be used to generate more other RAN NE configuration data. RAN NE will use the ARCF data together with other configuration data as RAN NE initial radio configuration data. The RAN NE initial radio configuration data will be used for self-configuration.

ARCF data handling makes the ARCF data available to the management system for self-configuration process, which may include ARCF data data preparation, ARCF data transfer and ARCF data validation.

ARCF data preparation: This makes the ARCF data ready in operators' network management system who provides the ARCF data. How to prepare the ARCF data in operators' network management system is out of scope of the present document.

ARCF data transfer: This transfers the ARCF data from operators' network management system (as MnS consumer) who provides the ARCF data to the management system supporting self-configuration (as MnS producer).Editor's note: Which MnS will be used for ARCF data transfer is FFS and the definition for ARCF data transfer may need adjustment if needed.

## ARCF data validation: This validates the syntax and semantics of ARCF data. It takes place in the the management system supporting self-configuration.4.3 Self-configuration

RAN NE can be taken to a state ready to carry traffic using Self-configuration in an automated manner. Self-configuration may include following processes: download and activate software, download and active configuration data, self-test, generate configuration data if needed, and update network resource model, etc. Besides management Self-configuration is needed, such as management of self-configuration task, management self-configuration process and management of self-configuration profiles, etc.

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| **End of change** |