**3GPP TSG-SA5 Meeting #144-e *S5-224099***

e-meeting, 27 June - 1 July 2022

**Source: China Mobile, HUAWEI**

**Title: TS 28.317 Use cases and requirements for Self-configuration Management**

**Document for: Approval**

**Agenda Item: 6.4.1.1**

# 1 Decision/action requested

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

# **2 References**

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

[2] S5-222726 TS 28.317 v0.1.0

# **3 Rationale**

This document is going to provide proposals on use cases and requirements for Self-configuration management.

# **4 Detailed proposal**

This document proposes the following updates for TS 28.317.

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| **1st Change** |

# Management capabilities

### 5.x Self-configuration process management

#### 5.x.1 Use cases

Self-configuration refers to the procedure of taking RAN NE to a state ready to to carry traffic in an automated manner, which may include following activities: generate the RAN NE initial configuration data, download and activate software, download and active configuration data, self-test, and update network resource model, etc.

Self-configuration process is performed by self-configuration entity in an automated manner, but it is important for operators to control and monitor the self-configuration process. So self-configuration entity needs to expose self-configuration management capabilities to authorized consumer to monitor and control the self-configuration process for certain RAN NE. The authorized consumer can be the entity who wants to monitor and control self-configuration process, such as Network Manager for RAN NE deployment.

The authorized consumer can request self-configuration entity to create and activate an self-configuration process for certain RAN NE in the case of the authorized consumer trigger the self-configuration process. Besides, self-configuration entity also can create and activate a self-configuration process triggered by itself based on the Self-configuration management profile (representing authorized consumer's decision) configured by the authorized consumer.

As the self-configuration process is complex and time-consuming, the authorized consumer needs to monitor the progress of the self-configuration process. Self-configuration process includes several steps (each step can represent one or several of activities) according to the self-configuration capabilities. So the authorized consumer may want to be informed the important events for step transition (e.g. start to execute a new step) and abnormal events during the self-configuration process. The authorized consumer also wants to be informed the reasons when abnormal event (e.g. failure) occurred.

The authorized consumer may want to set the stop point(s) for certain step of the self-configuration process based on self-configuration capability. When a stop point is reached, the self-configuration process is paused and the consumer is informed with the pause information (incl. corresponding step information). When the consumer sends a resuming request, the self-configuration process will continue to execute to the next step.

During the self-configuration, the authorized consumers can send request to Self-configuration entity to query the list of ongoing self-configuration process or the progress for certain self-configuration process.

When the last step of the self-configuration process is completed, self-configuration entity needs to send the result of this process to the authorized consumers. The authorized consumers can terminate an ongoing self-configuration process for failure analysis and solving. When the last step of the self configuration process is completed successfully, the self-configuration entity can delete the self-configuration process automatically.

#### 5.x.2 Requirements

**REQ-SCM -1:** 3GPP management system shall have the capability to allow the authorized consumers to create and activate a self-configuration process.

**REQ-SCM -2:**  3GPP management system shall have the capability to allow the authorized consumers to query the list of ongoing Self-configuration processes.

**REQ-SCM -3：**3GPP management system shall have the capability to report the step information of a self-configuration process to the authorized consumers.

**REQ-SCM -4:** 3GPP management system shall have the capability to report abnormal information to the authorized consumers when detected.

**REQ-SCM -5:** 3GPP management system shall have the capability to inform the authorized consumers the result (success or failure) of the self-configuration process when the process is finished.

**REQ-SCM -6:** 3GPP management system shall have the capability to allow the authorized consumers to query the progress of the self-configuration process when needed.

**REQ-SCM -7：**3GPP management system shall have the capability to allow the authorized consumers to terminate an ongoing self-configuration process.

**REQ-SCM -8:** 3GPP management system shall have the capability to inform the authorized consumers the information that it has deleted the self-configuration process automatically.

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| **End of change** |