**3GPP TSG-SA5 Meeting #135e *S5-211154rev02***

**25 Jan to 3 Feb 2021, E-meeting**

**Source: China Telecom**

**Title: Discussion Paper on providing cell energySaving Status information to NWDAF via Generic Provisioning Services**

**Document for: Endorsement**

**Agenda Item: 6.5.2**

# 1 Decision/action requested

***The group is asked to discuss and endorse on the proposal.***

# 2 References

[1] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3"

[2] 3GPP TS 28.310: " Management and orchestration; Energy efficiency of 5G".

[3] 3GPP TS 28.532: "Management and orchestration; Generic management services"

[4] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services; Stage 2".

[5] 3GPP TS 28.550: "Management and orchestration; Performance assurance"

[6] 3GPP TS 28.545: "Management and orchestration; Fault Supervision (FS)"

# 3 Rationale

3.1 Background

In the SA5-134e, the issue on providing cell energySaving Status information to NWDAF was discussed in S5-206373.

During the offline discussion, the potential solution using Provisioning service was mentioned.

In this contribution the potential solution using Provisioning service to provide cell energySaving Status information to NWDAF was introduced and discussed.

3.2 Discussion

In TS 28.541[1] clause 4.4.1, the attribute ‘*energySavingState*’ is defined as:

*Specifies the status regarding the energy saving in the cell.*

*If the value of energySavingControl is toBeEnergySaving, then it shall be tried to achieve the value isEnergySaving for the energySavingState.*

*If the value of energySavingControl is toBeNotEnergySaving, then it shall be tried to achieve the value isNotEnergySaving for the energySavingState.*

*allowedValues: isNotEnergySaving, isEnergySaving.*

And in the procedures of the Centralized energy saving solution described in TS 28.310[2] clause 6.2.2.1, *modifyMOIAttributes* operation of the Generic provisioning management service defined in TS 28.532[3] was invoked to manipulate this attribute.

**Observation 1: the cell energy saving status is specified by the attribute ‘*energySavingState*’. And the operations defined for the Generic provisioning management service can be invoked to operate with this attribute.**

In TS 28.532[3] clause 11.1.1.2, the *getMOIAttributes* operation is defined as:

*This operation is invoked by Generic Provisioning MnS consumer to request the retrieval of management information (Managed Object attribute names and values) from the MIB maintained by Generic Provisioning MnS producer. One or several Managed Objects may be retrieved based on the containment hierarchy.*

Therefore, the *getMOIAttributes* operation may be invoked by the Generic Provisioning MnS consumer to retrieve the ‘*energySavingState*’ attribute of the MOI corresponding to the cell so as to get the cell energy saving status corresponding to that cell.

**Observation 2: the *getMOIAttributes* operation may be invoked by the Generic Provisioning MnS consumer to retrieve the ‘*energySavingState*’ attribute of the MOI corresponding to the cell so as to get the cell energy saving status corresponding to that cell.**

The Generic Provisioning MnS is used for NRM management by MFs in management systems. This getMOIAttributes operation is invoked by Generic Provisioning MnS consumer to request the retrieval of management information (Managed Object attribute names and values) from the MIB maintained by Generic Provisioning MnS producer. One or several Managed Objects may be retrieved - based on the containment hierarchy.

NWDAF is not a Management Function which is responsible for the NRM management. In order to get the correct information from the MOI attributes retrieved, it requires the NWDAF having the knowledge of NRM MIB to understand NRM MOs modelling (containment hierarchy) defined by SA5.

**Observation 3:** **In order to get the correct information from the MOI attributes retrieved, it requires the NWDAF having the knowledge of NRM MIB to understand NRM MOs modelling (containment hierarchy) defined by SA5.**

As defined in the TS 23.288[4], NWDAF can be the management services consumer to gain access to the information provided by OAM:

*NWDAF shall use the following services* *to have access to the information provided by OAM:*

*- Generic performance assurance and fault supervision management services as defined in TS 28.532[3].*

*‐ PM (Performance Management) services as defined in TS 28.550 [5].*

*‐ FS (Fault Supervision) services defined in TS 28.545 [6].*

However, whether or not the NWDAF may use Generic Provisioning MnS to have access to the information provided by OAM is not described.

**Observation 4: It is not specified in TS 23.288 that whether the NWDAF may use the Generic Provisioning MnS to have access to the information provided by OAM.**

It is straight forward that if the NWDAF may act as the Generic Provisioning MnS consumer，based on the Observation1, 2 and 3, the issue being discussed on providing cell energySaving Status information to NWDAF has the possibility to be addressed.

In order to further investigate this potential solution that may address the aforesaid issue, we have the following proposals:

**Proposal 1: From SA5’s point of view, the NWDAF may act as the Generic Provisioning MnS consumer. However, the necessary knowledge, such as the knowledge of the NRM MIB, is required for the NWDAF to get the correct cell energySaving state information from the NRM attributes retrieved via this MnS.**

**Proposal 2: An LS may be sent to SA2 to ask for further clarification on whether NWDAF may use the Generic Provisioning management service to have access to the information provided by OAM.**

# 4 Detailed proposal

SA5 is asked to endorse the followings as the working assumption in the discussions related to providing the cell energySaving state information to NWDAF:

- From SA5’s point of view, though there are MnS defined in SA5 specs, it does not mean any entity can consume such MnS without any limitation/context. The Generic Provisioning MnS is used for NRM management purpose by Management Functions in management systems. If the NWDAF wants to act as the Generic Provisioning MnS consumer, the necessary knowledge, such as the knowledge of the NRM MIB, is required for the NWDAF to get the correct cell energySaving state information from the NRM attributes retrieved via this MnS.

- An LS may be sent to SA2 to ask for further clarification on whether NWDAF should use the Generic Provisioning management service to have access to the information provided by OAM.