**3GPP TSG-SA5 Meeting #140-e *S5-216375***

e-meeting, 15 - 24 November 2021 (revision of S5-215165)

**Source: China Mobile, Huawei, AsiaInfo, China Unicom, China Telecom, ZTE, CATT, Lenovo, Motorola Mobility, Intel, NEC**

**Title: New SID on evaluation of autonomous network levels**

**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: Study on evaluation of autonomous network levels

Acronym: FS\_ANLEVA

Unique identifier:

Potential target Release: Rel-18

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

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

# 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) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 880027 | Autonomous network levels | *ANL in Rel-17* |
|  |  |  |

**Dependency on non-3GPP (draft) specification:**

# 3 Justification

Autonomous network levels (ANL) is being addressed in normative work (Ref. WID on autonomous network levels, UID 880027) in SA5 in Rel-17. The concepts, framework, use cases, requirements and generic autonomous network levels are defined in TS 28.100.

Current autonomous network levels definition in Rel-17 provides a qualitative description of the autonomy capability (participation of the human and telecommunication system) of each task in the workflows, which lacks a practical evaluation method. Therefore, based on the autonomous network level definition, a quantitative evaluation method needs to be investigated, including evaluation mechanisms and concrete effectiveness indicators for each autonomous network level. Evaluation mechanisms could be used to quantitatively evaluate the autonomy capability of each specified task in generic workflow, and further evaluate the comprehensive and quantitative autonomous network level of the individual scenario, management scope and the whole telecom system if needed.

Existing KPIs/KQIs could be used to evaluate the performance of the autonomous network, but it is not sufficient to reflect the effect from autonomous management perspective. Key effectiveness indicators could be used to help the NOPs to understand what benefits from autonomous management perspective they could get from upgrading their network systems to the corresponding levels and how to evaluate the gains by doing so.

# 4 Objective

The objective is to study the following evaluation aspects of autonomous network levels:

1. Generic methodology for quantitatively evaluating the autonomous network levels (evaluation mechanisms for autonomous network levels).
2. Key effectiveness indicators for evaluating the effects of achieving each autonomous network level for each identified scenarios from network management perspective.
3. Process of autonomous network levels evaluation for the use cases defined in Rel-17.
4. Potential autonomy requirements for corresponding management services with evaluation of autonomous network levels.

# 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 |
| TR | 28.xyz | Study on new aspects of autonomous network levels | Dec. 2022(SA#98) | Mar. 2023(SA#99) | *Cao Xi, China Mobile, caoxi@chinamobile.com**Xu Ruiyue, Huawei, xuruiyue@huawei.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)

*Cao Xi, China Mobile, caoxi@chinamobile.com responsible for objective 1),2).*

*Xu Ruiyue, Huawei, xuruiyue@huawei.com responsible for objective 3),4).*

# 7 Work item leadership

*SA5*

# 8 Aspects that involve other WGs

*Co-ordination with SA2, RAN3 and ETSI ZSM where appropriate.*

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| China Mobile |
| Huawei |
| AsiaInfo |
| China Unicom |
| China Telecom |
| ZTE |
| CATT |
| Lenovo |
| Motorola Mobility |
| Intel |
| NEC |