**3GPP TSG-SA5 Meeting #140-e *S5-216376***

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**

**Title: New WID on enhancement 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: Enhancement of autonomous network levels

Acronym: eANL

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

|  |  |
| --- | --- |
| X | Feature |
|  | Building Block |
|  | *Work Task* |
|  | 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* |
|  | Study on new aspects of autonomous network levels | *The study identifies key issues and potential solutions. Once a solution gets consensus, it is treated in this work item, for implementation in existing TSs.* |
| 810027 | Intent driven management service for mobile network | *Intent handling related requirements and solutions* |
| 910027 | Enhancements of Management Data Analytics Service | *MDAS related requirements and solutions* |
| 870030 | Enhanced Closed loop SLS Assurance | *Closed control loop related requirements and solutions* |

**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.

In Rel-17 work, generic MnS requirements and corresponding solutions for network optimization, RAN NE deployment and fault management are specified mainly for lower levels of autonomous network, e.g. level 1 to level 3. Enhanced generic requirements and solutions for higher autonomous network levels, e.g. those requirements for supporting the autonomy capabilities corresponding to MDA, IDMS are not specified.

The specification in Rel-17 identifies typical scenarios related to network and service deployment, maintenance and optimization, including RAN NE deployment, fault management, radio network coverage optimization and RAN UE throughput optimization. However, the generic solutions and requirements for supporting the autonomy capabilities corresponding to different autonomous network levels for other autonomous network related scenarios, such as service provisioning and energy saving, are not specified.

# 4 Objective

The objectives of this work item are to support enhancement of autonomous network levels:

1. Identify the additional generic MnS requirements of generic autonomous network level for network optimization, RAN NE deployment and fault management defined in Rel-17, especially those missing requirements to support autonomous network level 4 and 5.
2. Specify the solutions for generic MnS requirements identified in Objective 1).
3. Identify the enhanced autonomy capabilities corresponding to different autonomous network levels for additional management use cases for network and service deployment, maintenance and optimization phases which is not defined in Rel-17, including but not limited to energy saving and service provisioning.
4. Specify the concrete enhanced autonomy requirements and solutions for the enhanced autonomy capabilities identified in Objective 3).

# 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 |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| *TS28.100* | Update related description to support enhancement of autonomous network levels | June 2023(SA#100) |  |

# 6 Work item Rapporteur(s)

*Cao Xi, China Mobile, [caoxi@chinamobile.com](mailto:caoxi@chinamobile.com) responsible for objective 1),3).*

*Xu Ruiyue, Huawei, [xuruiyue@huawei.com](mailto:xuruiyue@huawei.com) responsible for objective 2),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

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