**3GPP TSG SA WG5 (Telecom Management) Meeting #142e S5-222xxx**

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

**Source: SA5 Vice chair (Huawei)**

**Title: Collection Rel-18 OAM WoP**

**Document for: Approval**

**Agenda Item: 2**

**Note: this is an example of collection Rel-18 OAM WoP for discussion.**

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| **Item** | **WoP description** |
| **Intelligence and Automation** | |
| **1** | **Study on enhancement of autonomous network levels (FS\_eANL) (China Mobile, Huawei)(SP-211446)** |
| WoP#1.1 | 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. |
| WoP#1.2 | Study the potential solutions for generic MnS requirements identified in Objective 1). |
| WoP#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. |
| WoP#1.4 | Study the concrete enhanced autonomy requirements and potential solutions for the enhanced autonomy capabilities identified in Objective 3). |
| **2** | **Study on evaluation of autonomous network levels( FS\_ANLEVA)(China Mobile, Huawei)(SP-211445)** |
| WoP#2.1 | Generic methodology for quantitatively evaluating the autonomous network levels (evaluation mechanisms for autonomous network levels). |
| WoP#2.2 | Key effectiveness indicators for evaluating the effects of achieving each autonomous network level for each identified scenarios from network management perspective. |
| WoP#2.3 | Process of autonomous network levels evaluation for the use cases defined in Rel-17. |
| WoP#2.4 | Potential autonomy requirements for corresponding management services with evaluation of autonomous network levels. |
| **3** | **Study on enhanced intent driven management services for mobile networks (Huawei, Ericsson) (FS\_eIDMS\_MN)(SP-211450)** |
| WoP#3.1 | Investigate the new requirements for intent driven management for 3gpp network and services in the multi-vendor environment. |
| WoP#3.2 | Investigate the new generic capabilities for intent driven management, which includes but not limited to:   * Intent capability obtaining, allowing MnS consumer to obtain which intent expectation capability (e.g. coverage target and corresponding value range, RAN UE throughput target and corresponding value range, recommendations regarding partial or best effort fulfilling of the target) can be fulfilled by MnS producer. * Improvements for Intent LCM automation (e.g. around detection of conflicting requirements and their resolution), improvements for common Intent model and model extensions |
| WoP#3.3 | Investigate the solution (including enhance the intent information model based on R17 generic intent information model) to support Rel-17 leftover requirements (including intent expectation and intent report for radio network coverage performance to be assured and RAN UE throughput performance to be assured, IntentExpectation for radio service). |
| WoP#3.4 | Collaboration/alignment for intent driven management (e.g. model federation) with other SDOs (e.g. ETSI ZSM, TM Forum) should be considered. |
| **4** | **Study on intent-driven management for network slicing( Ericsson, Huawei) ( FS\_IDNSMN) ( S5-221513)** |
| WoP#4.1 | Potential mapping of slice management concepts, use cases and operations in TS 28.531 and related specifications to corresponding intent-driven management concepts, use cases and operations in TS 28.312. Both deployment and assurance are in scope. Domains include e2e for network slices, and RAN (NR) and CN (5GC) for network slice subnets. Areas where gaps exist, or where for other reason enhancements to the intent-driven framework would be needed should also be identified and potential new requirements and use cases should be proposed |
| WoP#4.2 | Investigation of how input requirements currently captured in service and slice profile attributes could instead be expressed as intent expectations including requirements, goals and constraints. |
| WoP#4.3 | Study of how standardized expectations for slicing can be combined with expectations based on types defined locally by operator or vendor. This is expected to be based on generic extension mechanisms for intents and expectations and should be coordinated with any related work done as part of ongoing work items, e g IDMS\_MN. |
| WoP#4.4 | With intent-driven management, the MnS consumer is providing input mainly via intent expectations and receiving output mainly via intent reports. Thus, the study should consider what parts of existing solution for network slicing might still be applicable and what parts are not. In addition, if still applicable, the study should further describe the possible relationship. This includes the following management components:  a. NRM entities such as NetworkSlice and NetworkSliceSubnet  b. Components used for reporting of slicing related data |
| WoP#4.5 | Conclusions and recommendations for further work. |
| **5** | **Study on AI/ ML management(Intel, NEC) (FS\_AIML\_MGMT) (SP-211443)** |
| WoP#5.1 | the use cases, potential requirements, and possible solutions for management of AI/ML capabilities for the AI/ML-enabled functions (e.g., MDA, RAN intelligence, NWDAF, etc.) in 5GS, including but not limited to the following capabilities:  -Validation of AI/ML model and AI/ML-enabled function  -Testing of AI/ML model and AI/ML-enabled function (before deployment)  -Deployment of AI/ML model (new or updated model) and AI/ML-enabled function  -Configuration of AI/ML-enabled function  -Performance evaluation of AI/ML-enabled function |
| WoP#5.2 | investigation of coordination between the AI/ML management capabilities and the AI/ML capabilities in 5GC; |
| WoP#5.3 | relation between AI/ML management and other services/functions/entities (including MnSs and network functions/entities); |
| WoP#5.4 | investigation of deployment scenarios where the solutions are needed for AI/ML model training and each of the AI/ML model management capability mentioned in objective 1). |
| WoP#5.5 | The study will also investigate whether there are available AI/ML management mechanisms developed outside of 3GPP can be considered. |
| **6** | **Study on Enhancement of the management aspects related to NWDAF(China Telecom) (FS\_MANWDAF)(SP-211435)** |
| WoP#6.1 | Investigate whether the NRM of NWDAF needs to be enhanced to support the logical decomposition of NWDAF and the deployment of multiple NWDAF in a hierarchy/tree with a flexible number of layers/branches, and how; |
| WoP#6.2 | Investigate and provide the performance management of the NWDAF on the following aspects:  1.Interaction aspect, such as quantifying the requests, subscriptions, responses and notifications received and/or generated by NWDAF.  2.Data collection aspect, such as quantifying data collection.  3.Output KPI aspect, such as measuring response time and training times, indicating model accuracy.  4.Efficiency aspect, such as estimating the usage of compute resource for treating the request/subscription, etc. |
| **7** | **Study on Fault Supervision Evolution(China Mobile, Huawei)(FS\_FSEV)(S5-221553)** |
| WoP#7.1 | The relationship between fault supervision evolution and other aspect, e.g. performance management. |
| WoP#7.2 | How fault supervision evolution supports 5G use cases, such as 5G SLS deterioration, risk prediction. |
| WoP#7.3 | Relation and interaction with eMDAS and eCOSLA for evolved fault supervision, e.g., how to take advantage of and integrate eMDAS capabilities into the solutions and if any, recommended capabilities needed for eMDAS enhancements. |
| WoP#7.4 | Whether there are use cases in eMDAS and eCOSLA that are not covered by the existing Fault Supervision. |
| WoP#7.5 | Whether new capabilities and additional alarm data are needed to support eMDAS and eCOSLA. |
| WoP#7.6 | The relationship between fault supervision evolution and other aspect, e.g. performance management. |
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