

Terms of Reference (ToR) for ETSI ISG Zero touch network and Service Management (ZSM)

Approved by the Director-General on 30 November 2017, following ETSI Board consultation

Scope

The “Zero touch network and Service Management Industry Specification Group” (ISG ZSM) will define a new, future-proof, horizontal and vertical end-to-end operable framework enabling agile, efficient and qualitative management and automation of emerging and future networks and services. Horizontal end-to-end refers to cross-domain, cross-technology aspects. Vertical end-to-end refers to cross-layer aspects, from the resource-oriented up to the customer-oriented layers. The goal is to have all operational processes and tasks (e.g., delivery, deployment, configuration, assurance, and optimization) executed automatically, ideally with 100% automation.

The ISG ZSM will initially focus on the 5G end-to-end network and service management (e.g. network slicing management) and will extend to the management for future network generations.

The ISG ZSM aims to facilitate the coordination and cooperation between relevant standardization bodies and open source projects. Mechanisms and means to ensure efficient and fruitful collaboration will be identified, evaluated and leveraged. The unique value of ISG ZSM will be in providing guidance to the implementation of management interfaces as well as coordinating and giving directions to achieve automated end-to-end network and service management solutions and architecture. As part of the end-to-end solution, the necessary management architecture and interfaces to support the end-to-end zero touch network and service management in multi-vendor environment will be identified.

The ISG ZSM will study and document use cases and analyse the related challenges. It will review and reuse existing standardized solutions wherever applicable, and conduct feasibility studies. The ISG ZSM will also evaluate and consider deliveries from open source projects. Based on these inputs, ISG ZSM will derive corresponding requirements and specify an end-to-end network and service management reference architecture.

It is proposed to complement the cooperation with other standardization bodies and open source projects with interoperability testing specifications, test platforms, acceptance tests, and test results dissemination (to be considered in the specifications activities) in the context of end-to-end management and automation. This work will be done in collaboration with the related organizations.

Areas of activity

The ISG ZSM will produce both informative documents (Group Reports) and normative documents (Group Specifications) and the work will initially focus on the following deliverables:

- Report(s) describing the challenges related to end-to-end horizontal and vertical network and service management,
- Report(s) describing the challenges related to automation in the context of network and service management,
- Specification(s) of the business use cases and related requirements,
- Specification(s) of the end-to-end network and service management concepts, features and capabilities,
- Specification(s) of the end-to-end network and service management functional architecture and solutions including interfaces/APIs/protocols and information / data models,
- Report(s) describing how emerging services (such as 5G services) can be supported by the ISG ZSM work,
- Report(s) providing gap analysis of the work done in existing standards and open source groups with relation to the agreed use cases and the recommended end-to-end network and service management architecture,
- Report(s) providing a descriptive PoC framework with minimum requirements, templates, process description,
- Specification(s) on test methodologies used to validate standard interfaces and data models.

The detailed ISG work plan may be modified as the work and project priorities evolve and will be maintained and made available on the ETSI Portal.

The ISG intends to re-use existing specification work wherever applicable.

Throughout the project, the ISG will provide recommendations to the existing standard groups when impacts on their specifications are foreseen.

The ISG ZSM will encourage its members and other organizations to create Proof of Concepts (PoCs) and use the results from those PoCs to validate the recommendations. However the ISG will not own the PoCs, but will seek to facilitate PoCs and plugtests by delivering technical (e.g. metrology, test plan) and procedural frameworks.

The PoCs will be demonstrated and advertised via the appropriate market channels and at key industry events.

Annex (informative): collaboration with other bodies

Close collaboration and coordination with other standard groups is required to ensure that all the organizations together provide complementary solutions. It will also be necessary to identify and agree the roles of the corresponding standardization bodies in filling the identified gaps.

ISG ZSM will set-up the appropriate communication channels to the following groups both within and outside of ETSI.

ETSI groups

The ISG initially intends to establish relationship with the following ETSI groups:

- ETSI ISG ENI
- ETSI ISG MEC
- ETSI ISG NFV
- ETSI OSG OSM
- ETSI PP 3GPP

and others as identified during the progression of the work.

External groups

The ISG also intends to cooperate with a number of external organizations including:

- ITU-T
- Broadband Forum
- IETF
- MEF
- TMF
- OASIS TOSCA
- ONF
- GSMA
- NGMN
- ONAP
- xRAN

and others as identified during the progression of the work.

