



The Standards People



ETSI Zero touch network and Service Management (ZSM) Enabling agile service delivery and new business opportunities

Presented by: **Nurit Sprecher**
ETSI ISG ZSM Vice Chair

For: **Layer123 ZTA Congress 2019, Madrid**
ETSI ZSM Forum

26.03.19

Zero-touch network and service management

Trends and market drivers



- ✔ Rapid business digitization and automation of all major industries, supporting a similar level of business agility and flexibility
- ✔ Increase in overall complexity created by the transformation of the networks into programmable, software-driven and service-based architecture
- ✔ New business models and value creation opportunities enabled by technology breakthroughs such as Network Slicing, imposing unprecedented operational agility and higher cooperation across network domains

Zero-touch network and service management

The trigger



The disruptive deployment of 5G trigger the need for network transformation and radical change in the way networks and services are managed and orchestrated.



Full end-to-end automation of network and service management becomes an urgent necessity.

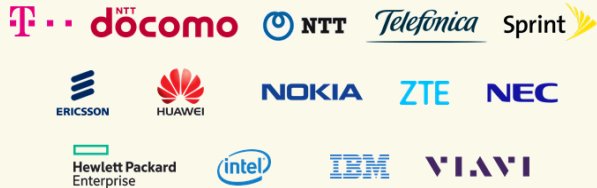
Current state of the industry

Currently there are multiple inconsistent management frameworks in the industry, many silos, a lack of alignment and a lack of interoperability.



It is essential to move to an environment that leverages synergies and achieves alignment through convergence on a single end-to-end network and service management architecture.

14 founding members



Key objective

Enable future operational processes and tasks to be executed automatically, end-to-end

Goal

Accelerate the definition of the end-to-end service management architecture, spanning both legacy and virtualized network infrastructures

Formed under the auspices of the ETSI ISG

Industry convergence

Facilitate collaboration with the relevant open-source projects, standardization bodies and fora

Interoperability

Provide a common foundation to enable a diverse ecosystem of open source groups to produce interoperable solutions

The ISG ZSM continues growing in a steady and healthy pace



65 members; 19 operators



Work status

✓ The ISG ZSM work has started with the approval of the following seven new Work Items (WIs):

✓ [ZSM 001](#): Requirements based on documented scenarios (specification) → **STABLE**

✓ [ZSM 002](#): Reference Architecture (specification)

✓ [ZSM 003](#): End to end management and orchestration of network slicing (specification)

✓ [ZSM 004](#): ZSM Landscape (report)

✓ [ZSM 005](#): Means for Automation (report)

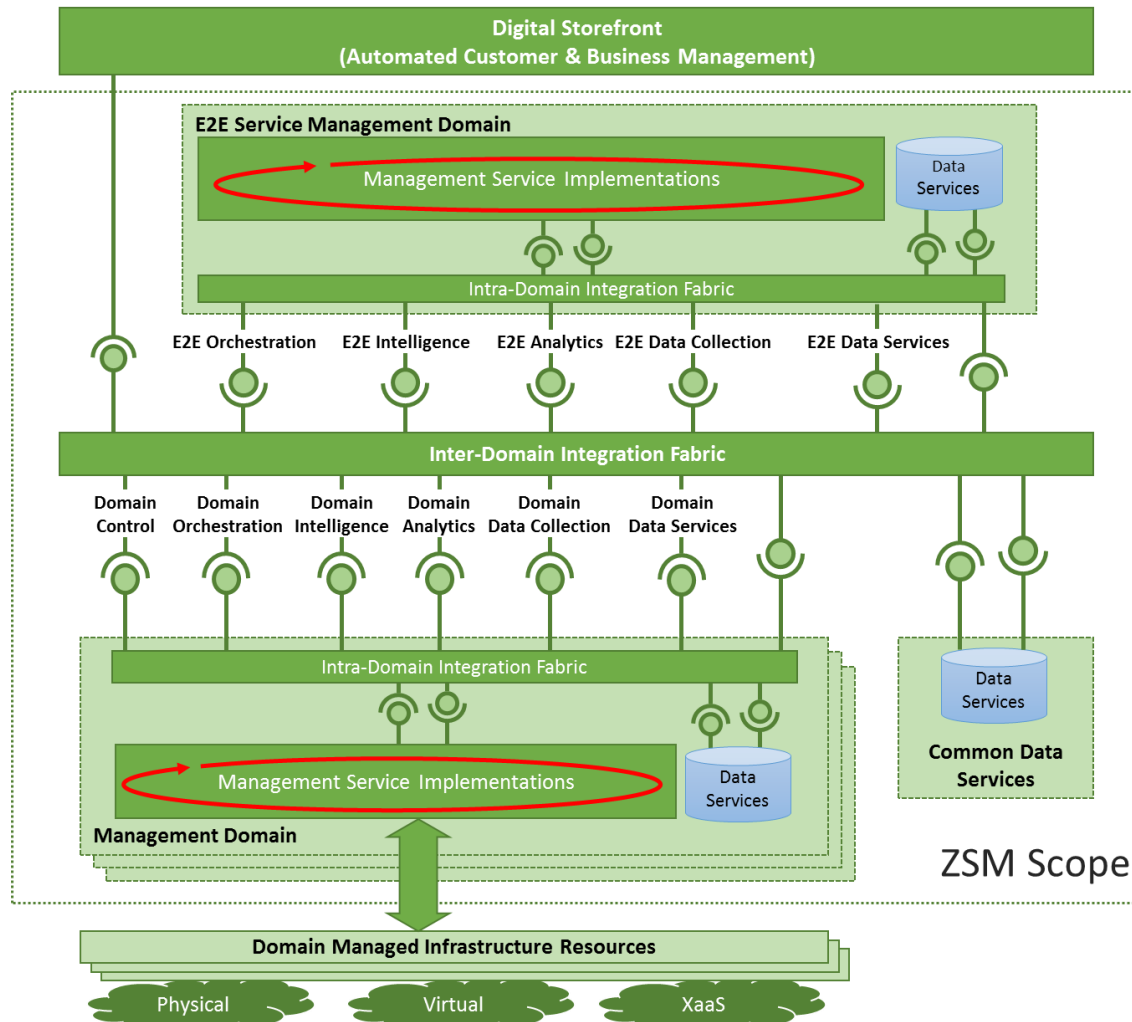
✓ [ZSM 006](#): Proof of Concept Framework (specification) → **PUBLISHED**

✓ [ZSM 007](#): Terminology

✓ [ZSM 008](#): End-to-end cross-domain service orchestration and automation

Note: the ZSM DRAFT specifications are publicly available via the ZSM open area ([Link](#)).

ZSM architecture (ZSM 002*)



Architectural principles:

- Modular, flexible, scalable and extensible service-based architecture
- Separation of concerns: network domain management and end-to-end cross-domain service management; resources in multiple domains can be managed separately.
- Support of open interfaces
- Support of model-driven service and resource abstraction
- Support of intent-based interfaces
- Enablement of adaptive closed-loop management automation, where the automated decision-making mechanisms can be bounded by rules and policies
- Support of stateless functional components
- Design for failure

ZSM Proofs of Concept (PoCs)

- ✔ ETSI ISG ZSM encourages PoCs to demonstrate the viability of ZSM implementations
- ✔ ZSM PoCs are multi-party projects: network/service providers, suppliers, universities, research centers, open source projects, integrators, etc.
 - ✔ The main PoC point of contact shall be an ISG ZSM member/participant
- ✔ ZSM PoCs address at least one of the PoC Topics listed on the ETSI ZSM WIKI page: [Link](#).
- ✔ The results and lessons learned from the ZSM PoCs will be channeled to the ISG ZSM specification work.

A first PoC proposal, ServoCloud ([Link](#)), was accepted; it aims to demonstrate efficient lifecycle and element management automation at scale.

Working principles

- ✔ Existing specifications and solutions (both ETSI and external ones) will be analysed and where appropriate leveraged to avoid duplication and maximize synergies.
- ✔ Input from implementations and Proof of Concepts (PoCs) will be used to validate the draft specifications.
- ✔ All deliverables will be openly published.



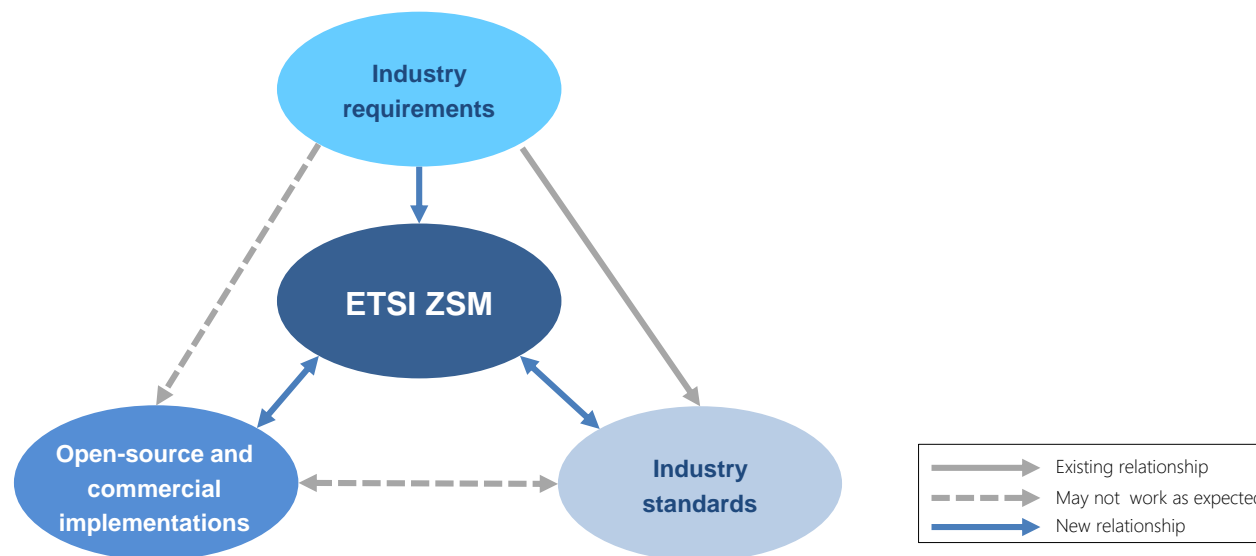
What next?

- ✔ The ISG will conduct a gap analysis to ensure that existing activities are not duplicated and that the barriers to end-to-end automation are addressed
- ✔ If a gap can be addressed by an existing body, that body will be encouraged to do the work to avoid duplication. The ISG will work to fill the remaining gaps.



Harmonization and collaboration across the industry

- ✔ Cooperation and alignment with other SDOs (including ETSI groups), forums and Open Source projects is essential to:
 - ✔ promote adoption of and alignment with the ZSM architecture and solutions;
 - ✔ achieve automated end-to-end network and service management
- ✔ The ISG ZSM intends to have an open dialogue with the related organizations and open source projects to encourage mutual convergence



Additional information

- ✔ ZSM Terms of Reference ([Link](#))
- ✔ ZSM technology page ([Link](#))
- ✔ ZSM blogs ([Link](#))
- ✔ ZSM Wiki, pointing to information related to ZSM PoCs ([Link](#))
- ✔ ZSM FAQ ([Link](#))
- ✔ List of members ([Link](#))
- ✔ Operators' white paper ([Link](#)) on the necessity of automation in end-to-end network and service management

Epilogue

- ✔ We have just embarked on an exciting journey towards the automation transformation that will help operators to meet user expectations for service agility and create new business opportunities.
- ✔ The ISG intends to drive a highly focused and agile industry effort involving key players spanning the breadth of the ecosystem.
- ✔ The ISG is open for both ETSI members and non-ETSI members. The different players in the value chain are welcome to join the ISG effort, contribute to the development of the specifications and demonstrate Proofs of Concepts (PoCs).

Thank you



Contact Details

Presenter: Nurit Sprecher

Nurit.sprecher@nokia.com

ETSI ZSM Support:

zsmsupport@etsi.org

Thank you!

