ISG ENI - Industry Specification Group on Experiential Networked Intelligence

The use of artificial intelligence (AI) techniques in the network supervisory system could help solve some of the problems of future network deployment and operation. We have therefore set up a new Industry Specification Group on Experiential Networked Intelligence (ISG ENI) to develop standards for a Network Supervisory assistant system.

The ISG ENI focuses on improving the operator experience, adding closed-loop artificial intelligence mechanisms based on context-aware, metadata-driven policies to more quickly recognize and incorporate new and changed knowledge, and hence, make actionable decisions. ENI will specify a set of use cases, and the generic technology independent architecture, for a network supervisory assistant system based on the 'observe-orient-decide-act' control loop model. This model can assist decision-making systems, such as network control and management systems, to adjust services and resources offered based on changes in user needs, environmental conditions and business goals.

The introduction of technologies such as Software-Defined Networking (SDN), Network Functions Virtualisation (NFV) and network slicing means that networks are becoming more flexible and powerful. These technologies transfer much of the complexity in a network from hardware to software, from the network itself to its management and operation. ENI will make the deployment of SDN and NFV more intelligent and efficient and will assist the management and orchestration of the network.

We expect to complete the first phase of ENI work in 2019. It will include a description of use cases and requirements and terminology, including a definition of features, capabilities and policies, which we will publish in a series of informative best practice documents (Group Reports (GRs)).
We will also carry out a gap analysis of work on context-aware and policy-based standards, working with other Standards Developing Organisations to reuse existing standardised solutions for legacy and evolving network functions wherever possible, to avoid the duplication of effort. This informative phase will be followed in 2018 by the development of Group Specifications starting with an architecture using AI techniques. Security and a closed loop learning policy-model are subjects to be addressed shortly.