

## ANNEX 4

### Terms of Reference (ToR) for the ISG “IPv6 Enhanced innovation” (ISG IPE)

Approved by the Director-General on **19 October 2020**, following ETSI Board consultation

#### Scope

The key goal of the ETSI ISG IPE is to (1) provide and demonstrate PoCs (Proof of Concepts) and test case descriptions to support innovation on IPv6 networking topics and validate standards based approaches and (2) focus on “automated IP networking e2e reference architecture” spanning multiple IETF areas, domains and IETF WGs, introducing a horizontal approach that complements the IETF activities.

In addition, ISG IPE identifies and describes new IPv6 based use cases, as contributed by the Industry represented by the founding members, specifies the derived requirements needed by the reference architectures in order to enable the deployment of IPv6 across new and evolving technology domains such as, 5G connectivity, Industrial Internet, Artificial Intelligence and the pervasive use of Hybrid-Multi-Cloud services.

ISG IPE also seeks to enhance the capture and dissemination of feedback from real-life IPv6 deployments, trials, show cases and relevant industry projects. The purpose of the capture and dissemination of feedback is to allow the rapid convergence of the IPV6 standard, to share best practices in order to allow the smooth transition from legacy IP solutions.

#### Areas of Activity

The ISG will focus on the following activities:

- Identify gaps and recommendations of existing and required IPv6 standards both inside ETSI and in other SDOs;
- Identify and describe IP Network related use cases & specific scenarios, derived requirements and IP networking challenges in the following areas:
  - IPv6 based 5G (and beyond 5G) IP transport and cloud & IP network convergence
  - IPv6 based enterprise networking and Industrial Internet
  - IPv6 cybersecurity and management,
- Document an automated networking e2e reference architecture, using IPv6;
- Describe an IPv6 based specific deployment best practices / guidelines and transition tools for: (1) IPv4 to IPv6, (2) dual stack to IPv6 only;
- Provide and demonstrate PoCs and test case descriptions to validate IPv6 standards-based approaches.

#### Outreach and engagement (collaboration with other stakeholders)

ISG IPE encourages the active cooperation and interaction between all relevant ETSI technical groups, external SDOs and Fora as well as the R&D communities working in the domain of IPv6 deployment.

ISG IPE plans to communicate the progress of their work with other SDOs in order to avoid overlap and to encourage a coordinated approach.

There are two IETF WGs that are directly related to ISG IPE, i.e., IETF WG v6OPS and IETF WG 6MAN. However, please note that:

- The ISG IPE has two major differences with respect to IETF V6OPS WG:
  - ISG IPE will leverage ETSI's traditional strength in PoCs, innovation and e2e architecture and use cases which are not in the charter of V6OPS.
  - ISG IPE will provide clear recommendation to the industry regarding how to apply the various protocols defined by IETF to provide a total IPv6 solution. IETF rarely provides clear recommendation on total solutions.
- The main differences with respect to 6MAN is that it focuses on maintenance of IPv6 protocol specifications, while ISG IPE focuses on PoCs, innovation, use cases and reference architecture.

## **Annex (informative): collaboration with other bodies**

ISG IPE will set up appropriate communication channels to the following groups:

### **ETSI groups**

- EPP 3GPP
- TC CYBER
- TC ITS
- ISG ENI
- ISG F5G
- ISG MEC
- ISG NFV
- ISG NIN
- ISG SAI
- ISG ZSM

and others as identified during the progression of the work.

### **External groups**

- 5G-ACIA Alliance for Connected Industries and Automation
- 5G-AA Automotive Association
- AIOTI (Alliance for IoT Innovation)
- BBF (The Broadband Forum)
- CCSA (China Communications Standards Association)
- EC Horizon Europe programme
- IEEE and ACM Conference Committees
- IETF (Internet Engineering Task Force)
- IPv6 Forum
- ITU-T (ITU Telecommunication Standardization Sector)
- TM Forum (Tele Management Forum)

and others as identified during the progression of the work.