LIAISON STATEMENT

Title: Formation of a new ETSI ISG for the Fifth Generation Fixed Network (F5G)

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From (source): ETSI ISG F5G

Contact(s): Wei Lin (wei.linwei@huawei.com)

To: IEEE 802.3

Copy to: dlaw@hpe.com

Response to: Wei Lin (wei.linwei@huawei.com); ISGsupport@etsi.org; hakim.mkinsi@etsi.org
(if applicable)

Attachments: None
(if applicable)

1. Overall description:

ETSI has created in December the new Industry Specification Group (ISG) Fifth Generation Fixed Network (F5G).

ISG F5G aims at studying the evolution of the fixed network, required to match and further enhance the benefits that 5G has brought to mobile networks; more in general the ISG will focus on the innovation of fixed networks, required to improve the whole scenario of communications, identifying the improvements needed with respect to deployed technology and the completely new characteristics of what represents the 5th generation fixed network.

To accomplish this, the ISG will

- identify the overall characteristics of the 5_{th} generation fixed network,
- explore all relevant F5G scenarios and use cases that may include *(but are not limited to)* home, business and multiple vertical industries,
- perform a gap analysis to identify necessary enhancements to existing standards and required developments of new technology specifications,
- study the overall framework of F5G technology, outlining its complete landscape.

In more detail, the principal technical and performance characteristics of the distinct fixed network generations from F1G to F5G should be documented through investigating the historical and future evolution, including transport, access and in-premises networks. Each generation will be identified through a set of key characteristics such as use cases, technology and performance.

The evolution of the fixed network creates a new era of opportunities by extending fibre to the home to fibre to 'X' scenarios, where X might be replaced by everywhere:

• in home scenarios, emerging services such as Cloud VR (virtual reality) and AR (augmented reality) video streaming, online gaming, etc., introduce the necessity for ultra-broadband, extremely low latency and zero packet loss;

• in business scenarios such as enterprise cloudification, leased line, POL, etc., for which high reliability and high security are required;

• vertical industry scenarios have specific requirements pushing the deployment of fibre infrastructures, e.g. extreme environmental conditions in terms of humidity, temperature, electromagnetic interference.

Various use cases of these different scenarios will be investigated by F5G, and the corresponding requirements will be clearly documented.

F5G targets a full fiber network in order to maximize the value of technologies such as OTN, XG(S)-PON and complementary ones, as Wi-Fi 6.

New technologies or extensions to existing technologies will be identified by means of a gap analysis. This will be done by exploring, for example, new ODN technologies, XG(S)-PON enhancements, Wi-Fi 6 enhancements, control plane and user plane separation techniques, smart energy efficiency management, end-to-end full stack slicing, Artificial Intelligence enabled autonomous operation and management, synergy of Transport and Access Networks, adaptation of Transport Network to industrial scenarios and applications, mobile network x-hauling, and convergence with 5G core network.

The above new features will require a new E2E network architecture, which is able to encompass legacy networks and SDN/NFV-based networks.

ISG F5G's work will be in large part oriented to pre-standards work including the identification of technology and standards gaps: ISG F5G therefore considers of utmost importance the collaboration with other standardization group/body (either inside or outside of ETSI), traditional owners of the relevant technologies; ISG F5G may consider, where deemed necessary, to solicit enhancements to the specifications of other bodies or the develop of new ones.

At the Kick-off meeting ISG F5G approved 5 new work items, reflecting the above mentioned activities, that are available on the ISG page on ETSI portal (link below).

The ISG F5G, therefore, looks forward to a close and fruitful cooperation

Further details on the ISG terms of reference, planned deliverables and other documentations are available through the following link: Link to F5G Portal.

2. Actions:

For information; no action required

3. Date of next meetings of the originator:

F5G#2 27-29 May, Munich, D

F5G#3 26-29 August, Lisbon, P