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**Question(s):** All/13

Geneva, 30 November – 11 December 2015

**TD****Source:** SG13 Chairman**Title:** Agreed ToR for the FG IMT-2020

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**Terms of Reference for extension of FG IMT-2020****Terms of Reference of the continuation of Focus Group IMT-2020****1. Rationale and scope**

The rapid adoption of mobile broadband services and growing expectations from users for superior mobile broadband experiences are motivating industry, academia and governments to explore how to meet these demands.

In early 2012, ITU embarked on a programme on “*International Mobile Telecommunications (IMT) for 2020 and beyond*”, setting the stage for IMT-2020 research, development, and marketing activities around the world.

ITU-T Study Group 13 is mandated to study the requirements, architectures, capabilities and mechanisms of future networks including mobile. There is a desire to establish an open platform for experts representing ITU members and non-members in order to gain deep understanding of the IMT-2020 agenda, from non-radio transmission related network perspective. Recognizing activities being undertaken around the world, it is necessary to identify the specific areas for ITU-T Study Group 13, in order for ITU-T Study Group 13 to make constructive contributions to IMT-2020, together with other standardization bodies. Note, This Focus Group will not have any radio transmission related aspects in its work scope.

At the current early stage of IMT-2020 journey, the outcomes of this Focus Group will consist of continuing to define the visions and objectives related to IMT-2020, in order to help progress and promote standardization by ITU-T Study Group 13 and other SDOs on IMT-2020.

With regard to specific tasks, the following areas have been identified as areas of study/activity;

- 1) Explore the demonstrations or prototyping with other groups, notably the open source community
- 2) Enhance aspects related to Networks softwarization and ICN;

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- 3) Continue to refine and develop the IMT-2020 network architecture
- 4) Continue the study of fixed mobile convergence aspects
- 5) Continue to study network slicing for the front haul/back haul network
- 6) Continue to define new traffic models and associated QoS and OAM aspects applicable to IMT-2020 networks.

## **2. ITU-T Focus Group on IMT-2020 (FG IMT-2020)**

### **2.1 Objective**

The objective of the Focus Group is to continue to refine network aspects related to IMT-2020 networks, and produce base material for the development of draft Recommendations to be approved by SG13, building upon the information produced during the standardization gap analysis of IMT-2020 networks. In addition, the Focus Group will undertake to begin to investigate demonstrating or prototyping network aspects related to the expected IMT-2020 architecture. This would include involvement of, and participation by, other groups, notably the open source community. The Focus Group continues to serve as an open platform for network architecture experts representing ITU members, academia and non-members to move forward in the IMT-2020 direction.

### **2.2 Specific tasks and deliverables**

Subject to sufficient level of participation, the focus group may, at its discretion, reduce the scope to only those areas where there is sufficient critical mass to produce meaningful output.

#### **2.2.1 Demonstration and prototyping**

This task will begin to investigate demonstration or prototyping various aspects of IMT-2020 networks. Note: At a minimum, output from the FG would be to produce a document that would indicate what type of work is needed, who can be involved, what existing demonstration platforms exist and how existing demonstrations or prototypes may fit within the work of the other subgroups within the FG.

#### **2.2.2 Network softwarization**

This work will continue to refine aspects related to network softwarization, building on, or refining the output from the first Focus Group. Softwarization of the network has been studied in academia, this work will help identify issues that may exist in translating this from theory to application.

#### **2.2.3 Information centric networking (ICN)**

The work will continue investigating the use of ICN approaches within the IMT-2020 goals. There is much academic and industrial work around ICN in the 5G context at this time. We will suggest experiments aimed at guiding the broader community in next steps that can help bridge the gap between the research and practical use of ICN in IMT-2020. The output of this work will be a document that describes those experiments and provides recommendations on how ICN can be adopted in IMT-2020.

#### **2.2.4 IMT-2020 network architecture**

The work will produce base material for the development of draft Recommendations to be approved by SG13, based on the architecture work produced during the identification of standardization gaps as reported in the report of FG IMT-2020. The output of this work will be a document that describes in depth the network architecture needed to address identified architectural gaps. .

#### **2.2.5 Fixed mobile convergence**

Recognizing that a connected society in the years beyond 2020 will need to accommodate a similar user experience for end-users regardless of whether they are on the move or stationary, the new 5G

standards aim at maintaining high quality service at high mobility, enabling the successful deployment of applications on a moving platform, such as in cars or high-speed trains.

Note: Fixed-mobile convergence will be covered as an essential component of network architecture (See 2.2.4, above).

### **2.2.6 Network slicing for the front haul/back haul**

This work will study and define the use of network slicing in the context of control of the front haul/back haul network. Note, that it is expected that the transport and equipment aspects of front haul and back haul networks will be performed by Study Group 15. The work of the Focus Group is limited to dealing only with control aspects.

### **2.2.7 Network management aspects including QoS and OAM aspects**

IMT-2020 is seen as enabling new applications not limited to requiring high bandwidth, low latency and diverse service requirements. This item will define new network management aspects for the IMT-2020 network, including any QoS or OAM aspects. The work will produce base material for the development of draft Recommendations to be approved by SG13.

## **2.3 Parent group**

ITU-T Study Group 13 is the parent group of this Focus Group.

## **2.4 Relationships**

The Focus Group will work in close cooperation with related ITU-T and ITU-R study groups, standards developing organizations, industry forums and consortia, research and development communities.

## **2.5 Leadership**

See clause 2.3 of Recommendation ITU-T A.7.

## **2.6 Participation**

See clause 3 of Recommendation ITU-T A.7. A list of participants will be maintained for reference purposes and reported to the parent group.

It is important to mention that the participation in this Focus Group has to be based on contributions and active participations.

## **2.7 General financing**

See clauses 4 and 10.2 of Recommendation ITU-T A.7.

## **2.8 Administrative support**

See clause 5 of Recommendation ITU-T A.7.

## **2.9 Meetings**

The Focus Group will conduct regular meetings. Location and dates of the meetings will be determined by the Focus Group and announced by electronic means (e.g. e-mail, website, etc.) at least six weeks in advance.

The Focus Group will endeavour to utilise remote collaboration tools to the maximum extent. Focus Group meetings will be accompanied by thematic workshops as appropriate.

## **2.10 Duration and milestones of the Focus Group**

The Focus Group lifetime is until the end of 2016. All deliverables will be considered by Study Group 13 at its first meeting in study period 2017-2020.

### **2.11 Working language**

The working language is English.

### **2.12 Technical contributions**

Contributions are to be submitted at least seven calendar days before the meeting takes place.

### **2.13 Intellectual property rights**

See clause 9 of Recommendation ITU-T A.7.

### **2.14 Approval of deliverables**

Approval of deliverables shall be taken by consensus.

### **2.15 Progress reports**

See clause 11 of Recommendation ITU-T A.7.

### **2.16 Announcement of Focus Group formation**

The formation of the Focus Group will be announced via TSB Circular to all ITU membership, via the ITU-T Newslog and other means, including communication with the other involved organizations.

### **2.17 Working guidelines**

See clause 13 of Recommendation ITU-T A.7.

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