Establishment of New ITU-T Focus Group Related to Disaster Relief

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Abstract

At the last meeting of the Telecommunication Standardization Advisory Group (TSAG) of ITU-T (International Telecommunication Union, Telecommunication Standardization Sector) in January 2012, it was agreed that three focus groups studying new standardization areas for a limited period would be newly established in January 2012. This article provides a little background information about their establishment and touches on their study directions, especially for the focus group dealing with disaster relief. In addition, this article also introduces the main results of the TSAG meeting.

1. Overview of ITU-T TSAG meeting

ITU-T TSAG (International Telecommunication Union, Telecommunication Standardization Sector, Telecommunication Standardization Advisory Group) discusses strategic plans and working methods related to ITU-T standardization, unlike a Study Group (SG) whose role is to make Recommendations. Dr. Hideo Imanaka of NTT's R&D Planning Department, one of the authors of this article, regularly participates in TSAG meetings. TSAG discusses the SG structure of ITU-T for the next period, working methods for subjects that overlap two or more SGs, and the establishment of Focus Groups (FGs), which undertake intensive study of new standards.

As shown in **Table 1**, the TSAG meeting in January 2012 established three new FGs and two Joint Coordination Activities (JCAs). The FGs are related to disaster relief, service aspects of machine-to-machine (M2M) communication, and ways to bridge the standards gap for developing countries; the JCAs will work on a structure for making ITU-T Recommendations based on the deliverables of two FGs that concluded their work last December, namely FG Smart on the Smart Grid and FG Cloud on cloud computing.

2. Establishment of FG on disaster relief

2.1 Background

The Great East Japan Earthquake and the accompanying tsunami devastated a large part of the east coast of Japan on March 11 2011. At the subsequent annual CTO (Chief Technical Officer) meeting, which provides an opportunity for discussion of future ITU-T study subjects by CTO-level personnel from ITU-T member companies throughout the world, Japanese companies including NTT addressed the importance of standardization studies in relation to safety confirmation systems, emergency communication, and information and communications technology (ICT) systems to be utilized during a disaster [1].

The experience of Japanese telecommunications companies is expected to be useful for telecommunications operators worldwide because they faced huge damage as a result of the earthquake, tsunami, and nuclear power plant accident. In addition, Japanese telecommunications operators have a lot of experience regarding network resiliency to both earthquakes and typhoons, and this experience is going to be put to use after the flooding in Thailand in November 2011. At TSAG, the Japanese government led the discussion on establishing an FG on disaster relief as requested by the ITU-T director, and it was agreed to establish a new FG in TSAG.

The new FG covers (1) disaster relief systems, which provide relief by using ICT in the event of a disaster, (2) network resiliency, which provides sustainable communication even during a disaster, and (3) network recovery, which restores network facilities. Therefore, the new FG was named "Focus Group on Disaster Relief systems, Network Resilience

Table 1. Major results of TSAG meeting in January 2012.

Status	Former FG	New organization	Chair	Description
New		FG DR&NRR	NTT (Japan)	Disaster relief
New		FG M2M	CATR (China)	e-Health (initial target)
New		FG Innovation	NSN (Germany)	Gap analysis
Complete	FG Smart	JCA-SG&HN	Lantiq (Germany)	Expansion of JCA-HN
Complete	FG Cloud	JCA-Cloud	CISCO (USA)	New WP in SG13

WP: Working Party

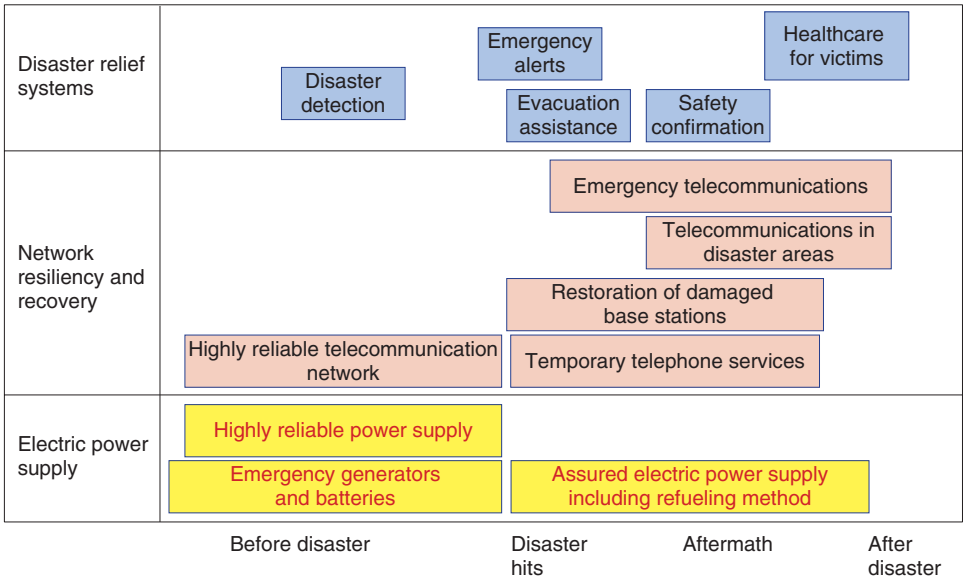

Fig. 1. Expected study scope of FG-DR&NRR.

and Recovery (FG DR&NRR)" [2].

2.2 Objectives of FG DR&NRR

The expected study area of this FG is very wide. Some examples of study items are shown in **Fig. 1**. First, we must find a way of guaranteeing a highly reliable electric power supply, for example, by using multiple electrical distribution routes and redundant electrical generation systems. We must also find a way to ensure that electric power, including a method of refueling generators, is available in the event of a disaster. Next, we must consider the subjects of network resiliency and recovery by both developing a highly reliable network design such as multiple network routes and ensuring that emergency telecommunications is available by establishing temporary telephone services when a disaster occurs and restoring damaged mobile base stations as soon as possible afterward. As regards disaster relief systems, we must study emergency warning systems, systems to assist evacuation by using digital signage, and safety confirmation systems that use the World Wide Web and voice messages. In addition, we need to consider a healthcare system for disaster victims who are living in shelters as a disaster relief system that can help ease mental stress. The FG may not cover all of these subjects, but its study area must nevertheless be very wide ranging.

In this FG, the goal is to specify disaster categories and use cases for disaster relief, describe the requirements for tackling disasters, and provide an analysis of the gap between standardization activities and subjects requiring standardization.

2.3 Plans for FG-DR&NRR

The chairman of this FG is Noriyuki Araki, the other author of this article, because Japan was deeply involved in the establishment of this FG at TSAG meetings, and NTT has a sense of responsibility that motivates it to contribute to society.

The first meeting of this FG was held in Geneva during the last week of June 2012. Following the first meeting, it is planned to hold an FG meeting once every few months. If at all possible, the meeting should be held in countries that have experienced a huge disaster in recent years, such as Indonesia, Thailand, Turkey, and Chile.

3. Overview of other FGs and JCAs

3.1 FG M2M

It was agreed to establish an FG on the service layer of machine-to-machine communication. This group is called FG M2M, as shown in Table 1. At first, it seemed that it might be difficult to obtain agreement to establish this FG because the difference between M2M and the "Internet of Things" (IoT), which is already being studied in ITU-T's IoT-GSI (GSI: Global Standards Initiative), is unclear and because it is related to "oneM2M", whose establishment is being planned by several regional standardization bodies such as the European Telecommunication Standards Institute (ETSI). Finally, after consideration of the close connection between ITU and the World Health Organization (WHO), the establishment of the FG was agreed and the first target was determined to be e-Health as an M2M application.

The chairman of FG M2M comes from the China Academy of Telecommunication Research (CATR). The first meeting was held in Geneva in April 2012 and the second meeting was held in Beijing in June 2012. In the last week of April 2012, a joint WHO-ITU workshop on e-Health was convened, and it discussed the need for e-Health standardization.

3.2 FG Innovation

To undertake a gap analysis of telecommunication standards by analyzing the best practices of ICT innovation, it was agreed to establish an FG on innovation, called FG Innovation, on the basis of a German proposal. The chairman of this FG is from a German company. This FG will discuss how to deploy standardized technologies in developing countries.

3.3 JCA-SG&HN

An FG on smart grids, called FG Smart, studied standardization of the Smart Grid from 2010, and its work was completed in December 2011. In this TSAG, it was agreed to establish JCA-Smart Grid and Home Network (JCA-SG&HN), which will coordinate standardization activities within ITU and with other standards development organizations (SDOs) to make ITU-T Recommendations based on the FG deliverables. This JCA is the former JCA-HN, which coordinated home network standardization work, and the smart grid issue is included in it because of the close relationship between these subjects.

3.4 JCA-Cloud

An FG on cloud computing, called FG Cloud, completed its work in December 2010. It was agreed to establish JCA-Cloud, which will coordinate standardization activities within ITU and with other SDOs to make ITU-T Recommendations based on the FG deliverables. It was also agreed to establish a working party, which is a study organization within an SG that handles several Questions, in SG13: the Study Group that covers future networks.

4. Future work plan

The newly established FG DR&NRR will not only study the standardization necessary to achieve networks that are robust in the event of disasters, but also play the role of distributing effective ways of proceeding during a disaster anywhere in the world based on the experiences of Japanese companies, including the NTT Group, with a view to contributing to society. NTT has been affected by many disasters such as the Great East Japan Earthquake, the Hanshin-Awaji Earthquake, many huge typhoons, and the volcanic eruption of Mt. Unzen. We believe that passing on what we have learned from these experiences to the world will repay, in some small way, the many countries that provided great help and huge support after our recent disaster.

References

[1] CTO Meeting Geneva Communiqué.
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