= A Serial Introduction Part 4= Winners of ITU-AJ Encouragement Awards 2015

In May every year, the ITU Association of Japan (ITU-AJ) proudly presents ITU-AJ Encouragement Awards to people who have made outstanding contributions in the field of international standardization and have helped in the ongoing development of ICT.
These Awards are also an embodiment of our sincere desire to encourage further contributions from these individuals in the future.
If you happen to run into these winners at another meeting in the future, please say hello to them.
But first, as part of the introductory series of Award Winners, allow us to introduce some of those remarkable winners.

Digital Broadcasting Experts Group (DiBEG)

Association of Radio Industries and Businesses (ARIB)
di-jim3@arib.or.jp http://www.dibeg.org/
Fields of activity: Promotion of ISDB-T Worldwide

Promotion and Support Activities of Japanese Digital Terrestrial Television Broadcasting System (ISDB-T) Worldwide

The Digital Broadcasting Experts Group (DiBEG) was established in September 1997 to promote ISDB-T worldwide. Digital terrestrial television broadcasting (DTTB) systems are categorized roughly into the Japanese system, the European system, the US system, and the Chinese system. The Japanese DTTB system (ISDB-T) has an advantage in that broadcasting services for both fixed terminals and mobile terminals can be provided by one transmitter so that TV networks can be configured with efficient capital investment. Moreover, the feature of providing broadcast services for battery-operated mobile terminals that can receive broadcasting anywhere and even at the time of any disaster and the emergency warning broadcast system are effective as countermeasures to natural disasters.

As the result of DiBEG active promotion of ISDB-T worldwide in cooperation with MIC of Japan, on the basis of their strenuous comparison test results of the DTTB systems, Brazil decided to adopt the ISDB-T system first outside Japan in June 2006. As of April 2016, ISDB-T has been adopted by 18 countries. For details on ISDB-T adopting countries, see the DiBEG homepage (http://www.dibeg.org/index.html).

DiBEG has also been encouraging the exchange of technical information and international cooperation among ISDB-T adopting countries and extending support to them. For example, DiBEG has been active in the following activities.

- Technical support to ISDB-T International Forum
- Technical support to ISDB-T adopting countries

The ISDB-T International Forum has been established and regularly held to deal with issues on the harmonization of technical standards and the exchange of technical information among the ISDB-T adopting countries. Under the ISDB-T International Forum, there are three Working Groups: hardware, interactivity & middleware, and the Emergency Warning Broadcast System (EWBS). DiBEG has been contributing to the creation and revision of the ISDB-T Harmonization Documents arranged by each of the WGs. DiBEG has also been supporting and giving advice to the ISDB-T adopting countries to develop their own ISDB-T standards and operational guidelines as well as extending support to JICA technical experts from Japan, who are assigned to those ISDB-T adopting countries to help implement ISDB-T networks.

Additionally, DiBEG recently started study on the next-generation ISDB-T, as Japan and Brazil have agreed that the Japan-Brazil Joint Working Group would expand to study the whole field of ICT, including the integrated broadcast-broadband system and next-generation DTTB system.

DiBEG will continue to promote the ISDB-T system worldwide and support the ISDB-T adopting countries.

Masashi Eto

National Institute of Information and Communications Technology (NICT)
eto@nict.go.jp http:www.nict.go.jp
Fields of activity: ITU-T SG17

Towards a Secure IPv6 Environment

As a countermeasure against the exhaustion of the Internet Protocol version 4 (IPv4) address apace, Internet Protocol version 6 (IPv6) has been developed by the Internet Engineering Task Force (IETF). IPv6 is intended to provide many built-in benefits such as a large address space and self-configuration capabilities. Because it is a new protocol that is likely to be massively adopted in the coming years and operates differently than IPv4, both foreseeable and unforeseeable security threats will arise.

NICT has been focusing on research and development regarding IPv6 security from 2007 in order to identify and systematize security threats in the IPv6 environment and has developed countermeasures against those threats. NICT also launched the IPv6 Technical Verification Council in 2012 with IPv6 related industries and conducted experiments to verify the security capability of the IPv6 software stack of the members' products.

On the basis of these activities in NICT, I have been involved in the international standard of "IPv6 technical security guidelines" in ITU-T SG17 from 2012, which was approved in 2013 as Recommendation X.1037.

Recommendation ITU-T X.1037 provides a set of technical security guidelines for telecommunication organizations to deploy and operate IPv6 networks and services. The content of this Recommendation focuses on how to securely deploy network facilities for telecommunication organizations and how to ensure secu-

rity operations for the IPv6 environment. The Recommendation is also for developers of network products, security operators, and managers of enterprise networks that are planning to deploy IPv6 so that they can mitigate security threats on their IPv6 network.

I am currently in charge of the development of the draft Recommendation of "Secure software update capability for Intelligent Transportation System (ITS) communications devices" (X.itssec-1) in ITU-T SG17, as well as international standardization regarding IoT security. Through these activities, I will continue to contribute toward the realization of a trustworthy network environment.

Makoto Kadowaki
NEC Magnus Communications. Ltd
kadowaki@magnus.nec.co.jp http://www.necmagnus.com/english/index.html
Fields of activity: Optical Access Network

International Standardization Activities Related to Optical Access Systems

I have been involved in the standardization of optical access systems, aligning them with national standards for 100 Mbit single-fiber bidirectional optical transmission schemes through cooperation with the IEEE802.3 committee, and the drafting of ITU-T PON (Passive Optical Network) Recommendations, but here I would like to focus on my work as the main editor of ITU-T Recommendation G.986 (1 Gbit/s point-to-point Ethernet-based optical access system).

Since 2010, Japanese businesses have been calling for the establishment of a mutual interconnection environment that can satisfy future needs by offering 1 Gbit/s Internet connections. To this end, the drafting of standard specifications is being led by the Optical Access Sub-working Group of the Telecommunication Technology Committee (TTC; a national standards organization), and the process of submitting proposals to the ITU-T has also begun.

To create an ITU-T Recommendation, there were two issues that have to be addressed: (1) the segregation of the IEEE802.3 specification and the ITU-T SG15 Recommendation, and (2) the OAM (Operations, Administration, Maintenance) provisions used in this specification.

With regard to the first of these issues, ITU-T SG15 and the IEEE802.3 committee entered into a liaison relationship to coordinate their efforts. By clarifying the background to the specifications drawn up by both sides, we were able to get the IEEE802.3 committee to allow ITU-T to take charge of drawing up the carrier-class optical interface specifications.

The second issue was that of proposing OAM specifications that would be acceptable to other countries. We managed to achieve this by proposing a specification based on OMCI (ONU Management and Control Interface), which has already been accepted as the OAM of the current Recommendation (B-PON).

On the other hand, in the OAM transmission scheme used by the current Recommendation, we found that there were still some issues with the system's ability to accommodate multi-port type device models, but we were able to arrive at a solution by defining a new OAM transfer packet whereby a multiplexed structure can be introduced into the port information. I'm glad that these efforts resulted in Japan's proposals being accepted, allowing us to demonstrate the high level of Japanese technology to the rest of the world.

Susumu Tanaka
NEC Corporation
s-tanaka@bp.jp.nec.com http://jpn.nec.com/
Fields of activity: ASTAP

A Disaster Prevention ICT System Suitable for Developing Countries

Thank you everyone. It is a great honor to receive the ITU Association Award for Encouragement of International Activities.

Since 2012, in my capacity as chairman of the ASTAP (Asia-Pacific Telecommunity Standardization Program) specialist committee on disaster prevention and disaster recovery, I have been working on the standardization of ICT systems for disaster prevention. At the same time, NEC has also been playing an active role at disaster prevention workshops and other such events all over the world, where we have been introducing comprehensive and advanced disaster prevention ICT systems that have mainly been supplied to locations in Japan.

In conducting these activities, I have been acutely aware of the frequent occurrence of natural disasters such as tsunamis, typhoons and volcanic eruptions in Japan, and the large amounts of government funding allocated to disaster prevention.

Among the world's developed nations, Japan has made great progress in the installation of large-scale disaster prevention systems, both from a civil engineering viewpoint and from an ICT viewpoint. When we introduce these systems to people in developing countries, people are amazed by and very grateful for their advanced capabilities.

However, getting developing countries to use these disaster prevention systems is a completely different matter. There are many things that developing countries should do as part of their nation-building efforts. Basic infrastructure such as electric power, roads, water supply and sewerage facilities are the most urgent needs, and the fact is that funding for the installation of disaster prevention systems is seldom available.

On the other hand, due to the effects of global warming, it is known that natural disasters are occurring more frequently in these developing countries. Since we must now face the prospect of dealing with disaster prevention on a more or less global scale, I hope we can create effective ICT systems that are more affordable to developing countries, allowing these systems to be actually introduced even with limited funding. Based on this idea, I hope to continue working on standardization efforts aimed at implementing disaster prevention ICT systems that are geared towards developing countries.