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Coordination on Multilingualism Necessary to Avoid Net Fragmentation

The joint ITU/UNESCO Global Symposium on Promoting the Multilingual Internet closed with the chairman encouraging the two organizations to take a lead role in promoting international cooperation for developing the multilingual internet and encouraging interested relevant organizations as well as individuals to actively join these initiatives and strengthen their cooperation in this regard. Specifically it was said, there is a need for increased ITU/UNESCO involvement in the harmonization of standards, in addition to their specific programmes to promote multilingualism and local content throughout the digital world.

There is, it was agreed, a huge demand for the support of multiple languages and responding to this in a more coordinated way, experts concurred is a key way to avoid fragmentation of the internet.

Chair, Direk Charoenphol, National Telecommunications Commission, NTC, Thailand: "It is fundamental that, in the end, multilingualism – whether using IDNs, keywords or contents – be natively supported in operating systems and browsers, not retrofitted, to avoid the need for plug-ins, which creates a constant source of user and operational difficulties."

Houlin Zhao, Director, Telecommunication Standardization Bureau, ITU: "By organizing this event, ITU has demonstrated its determination to work on these issues." He thanked UNESCO for its support in the organization of the event.

Elizabeth Longworth, Director, Information Society Division, UNESCO: "We should not talk about culture as a feature of communications technology – rather, the internet is a domain of human activity in its own right, where language and content are manifestations of the users' cultures and so the focus should be on the users' ability to participate, to become content providers and to navigate across linguistic boundaries."

A roadmap or guidelines highlighting steps towards a multilingual internet is seen as an important initiative. It was agreed that this is a complex task that requires substantial and strengthened cooperation between relevant bodies.

During the three-day Symposium, a number of presentations were made and discussions focused on standardization activities and technical solutions for internationalized domain names (IDNs), for equipping non-scripted languages and allowing them to be present on the internet, the development and promotion of local contents, and measurements of the current linguistic diversity on the internet. Perspectives of domain name registries and an overview of the associated intellectual property issues that arise when multilingual domain names are deployed were also presented.

IPTV Focus Group Announced

ITU will take the lead in international standardization for IPTV with the announcement that it is to form a Focus Group on IPTV (FG IPTV).

The first meeting of the FG IPTV will take place 10-14 July in Geneva. The official announcement is in Circular 85, and a new web page has details on how to participate, significant dates and news.

The announcement, while acknowledging that standards work is ongoing in many different places, including ITU, is a reaction to an industry call for ITU to push forward and coordinate global standardization effort in the field.

IPTV is a system where a digital television service is delivered to consumers using the Internet Protocol over a broadband connection. It will help pave the way for players, many of whom are already moving to IP-based NGN infrastructure, to offer a triple-play of video, voice and data.

Standards are necessary in order to give service providers, whether traditional broadcasters, ISPs or telecoms service providers, control over their platforms and their offerings. Standards here will encourage innovation, help mask the complexity of services, guarantee QoS, ensure interoperability and ultimately help players remain competitive.

The mission of IPTV FG is to coordinate and promote the development of global IPTV standards taking into account the existing work of the ITU study groups as well as SDOs, fora and consortia.

The group was launched following a decision taken at a public consultation meeting attended by around 120 experts from the world's ICT companies. Attendees agreed that all players in the IPTV value chain will benefit from worldwide standards, that there is a lot of work to be done and that rapid progress is necessary in order to avoid market fragmentation. The Focus Group mechanism was seen as the most effective way of addressing this.

Houlin Zhao, Director of the Telecommunication Standardization Bureau of ITU: "We have seen a desire to expedite and accelerate a global focus on standards for IPTV. There has been extraordinary consensus that ITU must lead this work and I am pleased that – again – ITU is seen as the right place to develop and harmonize this international standardization work, as well as identify and help fill gaps where there is still a standardization need."

Bilel Jamoussi, Director Strategic Standards, Nortel: "Industry applauds ITU's initiative to create this Focus Group and will contribute to its success."

The FG will build upon existing work. Its scope will include architecture and requirements, QoS, security, network and control aspects, end system aspects – terminals etc., interoperability, middleware and application platforms.

Video Coding Work Progressed in April Meetings

Work in the video coding space progressed, following meetings taking place in Geneva in April.

Also, the beginning of the month saw the Japan launch of a new mobile terrestrial digital audio/video broadcasting service using H.264 and called "1seg". The video compression standard (full name ITU-T Rec. H.264 or MPEG-4 pt.10/ AVC) jointly developed by ITU-T SG16 and the ISO/IEC Moving Picture Experts Group (MPEG) is now being deployed in products from companies including Apple, Sony, BT, France Telecom, Intel, Motorola, Nokia, Polycom, Samsung, Tandberg and Toshiba and in services such as over-the-air broadcast television, the new HD DVD and Blu Ray disc formats, and a large number of deployments of direct-broadcast satellite-based television services.

In Geneva, a new Recommendation was consented that will allow the use of a 'back channel' to convey the level of loss or corruption in video messages and, if necessary, apply measures to compensate for that. So, for example, at the content delivery end, an encoder, upon determining that a message is not getting through properly, may decide to reduce the message to its bare essentials resulting in a lower fidelity for the end user. Alternatively, the encoder and decoder can deploy intelligent recovery mechanisms. This will better support Recommendation H.264's use in environments that may be more susceptible to error, for example in mobile telephony and IP-based video conferencing.

The new Recommendation has been drafted in such a way that it can be applied to existing (e.g. H.262, H.263, H,264) and future video coding standards.

The work took place during co-located meetings of the Joint Video Team (JVT) and ITU-T Study Group 16, home of media coding work in ITU. Over 90 documents were considered by the JVT group, which is the ITU-T and ISO/IEC joint project to enhance standard video coding performance, and is home to H.264/AVC.

An amendment to H.264 added support of new extended-gamut colour spaces, which are recently-specified enhanced methods of measuring and representing the brightness and color of the objects in video pictures. Also, in relation to H.264, work continued on developing new profiles supporting its use in high-end studio applications that use the 4:4:4 color sampling system and on developing scalable video coding (SVC) extensions.

Standard Offers Improved VoIP Quality

SG16 completed work on a new scalable voice codec – G729.1 – that will significantly improve voice quality in VoIP calls by offering wideband quality. Wideband telephony gives more natural sounding voice and greatly improves intelligibility and listening comfort.

G.729.1 extends the ITU-T G.729 speech coding standard widely used in VoIP systems and is fully interoperable with it. It will allow smooth transition from narrow band (300-3400 Hz) "PSTN" quality telephony to high quality wideband (50-7000Hz) telephony over IP and efficient deployment in existing infrastructures.

G.729.1 can operate at 12 bit rates from 32 kbit/s down to 8 kbit/s with wideband quality above 14 kbit/s to dynamically provide the optimum voice quality according to service and network constraints: The bit rate can be adjusted "on-the-fly" during a call by simple truncation of the "embedded" bitstream at any point of the communication chain such as gateways or other devices combining multiple data streams. This highly flexible bit rate adaptation will avoid network congestion and the dropping of packets that severely impair the overall quality.

Multilingual Internet Work Progresses

Study Group 17 meeting in Korea, April, gave final approval to the Question on Internationalized Domain Names (IDN) that provides direction and focus to ongoing work.

ITU-T was mandated to work on IDN at the 2004 World Telecommunication Standardization Assembly in Brazil. IDN will contribute to easier and greater use of the internet in those countries where the native or official languages are not represented in ASCII characters.

Andrzej Bartosiewicz, representing Poland and acting as Rapporteur for IDNs said: "We have received a number of contributions in this area and have been impressed with the level of interest and the productive nature of discussions. There are a number of organizations working in the field and I believe coordination will be an important focus of any work."

Bartosiewicz said that a web page will be published shortly with news on ITU-T studies in the area, as well as related events and technical documents. An official 'circular letter' will be sent to Member States, he said, requesting information about their experiences on the use of IDN. Given the response to this communication SG 17 will be able to better assess the current situation and needs.

Standard Extends Use of Legacy Equipment for Deaf in IP Networks

A new standard extending support of a key communications tool for the deaf and hard of hearing to IP-based networks was consented at a recent meeting of ITU-T's Study Group 16. The continued support of textphones (TTYs) as operators increasingly shift to IP is important for the many thousands of users of these systems.

The announcement marks a key milestone in the development of what ITU terms 'Total Conversation', that is the convergence of voice, video and text telephony.

The new standard known as ITU-T Recommendation V.151 relates to text over IP (ToIP). ToIP is the transport of real-time text over IP networks. It differs from instant messaging in that ToIP systems transmit bi-directionally, one character at a time. This gives the user the feel of real-time communication, just like voice or video systems that transport streaming media over IP.

ToIP services are available using a legacy textphone (TTY) which has long been the preferred tool of the deaf and hard-of-hearing, an enabled IP phone or a PC-based client.

V.151 has an important role to play in the protection of text quality when transported through IP networks, also offering the potential to enable communication between earlier incompatible textphones from different regions.

Accessibility Checklist for Future Standards

Study Group 16 has published an 'Accessibility Checklist' for the makers of standards to ensure that they are taking into account the needs of those to whom accessibility to ICTs are restricted, the deaf or hard-of-hearing for example. Experts say that such a list will help to ensure that accessibility needs are taken into account at an early stage, rather than 'retrofitted'. The list will be published on a new web page acting as a repository for accessibility in standards information.

Study Group 16's standardization work in the field of accessibility aims to ensure that all sectors of the global community have equal access to communications and online information. This effort goes back to the 1990s with V.18 (an ITU-T Recommendation on a multi-function text telephone).

The work takes into account the fact that users of ICTs have a varied capability for handling information and the controls for its presentation. The source of this variation lies in cultural and educational backgrounds as well as in age-related functional limitations, in disabilities, and in other natural causes. Everyone can benefit from this accessibility standardization work, as anyone can be permanently or temporarily disabled due to physical, environmental (e.g. a phone call in a noisy environment) or cultural (e.g. spoken language diversity) conditions. Moreover, we will all grow old and lose facilities that we take for granted now, thus enlarging the part of the population that benefits from accessible communication.

The most important goal of ITU-T's accessibility activity is to make sure that newly developed standards contain the necessary elements to make services and features usable for as broad a range of people as possible. Standards describe how equipment should interact and what quality is necessary for media to be usable for all; additionally, suitable methods of media delivery for people with disabilities are described.

Standards for Single Sign-On Given Consent at ITU-T Meeting

The Security Assertion Markup Language (SAML) and Extensible Access Control Markup Language (XACML) authored by OASIS (Organization for the Advancement of Structured Information Standards) have been consented as internationally recognized ITU-T Recommendations. The announcement is the first result of the formal relationship between the standardization sector of ITU and OASIS.

The standards (ITU-T Recommendations X.1141 (SAML) and X.1142 (XACML)) address the concern of how to allow safe single sign-on, a system that enables a user to authenticate once and gain access to the resources of multiple software systems. While solutions existed in this space, all were proprietary, and therefore not addressing the problem on a global level.

SAML and XACML are designed to control access to devices and applications on a network. The need for standards in this area has become more of an issue as business networks increasingly use the public internet.

SAML addresses authentication and provides a mechanism for transferring authentication and authorization decisions between cooperating entities, XACML leverages this information to determine access to resources by focusing on the mechanism for arriving at those authorization decisions.

An additional feature of SAML is that it allows organizations to communicate information without any change to their own internal security architectures.