International Cooperation for Education about Standardization

ICES 2009 Workshop

ITU-T update on collaboration initiative with academia

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Contents

- Recapitulation
- Current results
- Strategy and way forward

- Backup slides: highlights of Kaleidoscope 2008 “Innovations in NGN”
Recapitulation: the ITU-T and Academia Initiative

In the previous chapter...
Issues identified in the Jan 2007 consultation meeting (1)

- Creation of an ITU-T/Academia Steering Committee (IASC).
- Establishment of a pre-standards environment trial:
  - Managed by the IASC, which would be tasked with defining the Terms of Reference (ToR) of each pre-standards group, their deliverables, and communication mechanisms with ITU-T SGs and FGs.
  - The theme could be one of the ones mentioned at this Consultation meeting, after a brief study of areas that could have critical mass (associated with the stocktaking initiative, see below).
- Implications concerning the creation of an ITU-T Journal.
- Preparation of promotion plan for ITU-T activities (workshops, meetings, etc) in the academic environment (coordinated with other ITU-T promotion initiatives).
- Development of an action plan for educational initiatives.
Issues identified in the Jan 2007 consultation meeting (2)

- Identification of opportunities for the organization of workshops and symposia, possibly co-located with ITU-T meetings and harmonized with the ITU-T Workshop/Seminar programme.

- Organize the first of a series of regular event to bring together academia, research organizations and ITU-T members in the “Kaleidoscope events: bridging Standardization and Research”

- Support ITU-T Secretariat in various information gathering activities:
  - Identify external programmes that can be used to support internships in ITU
  - Identify relevant publications and societies that could increase visibility of ITU's standardization work
  - Stocktaking of academic organizations interested in standardization and facilitate networking of these organizations with potential sponsors
  - Identify opportunities to increase ITU-T presence in the academic environment
Current results (1)

- Initiative home page
  http://itu.int/ITU-T/academia/
- Informal discussion group created
- Two Kaleidoscope conferences organized
  http://itu-kaleidoscope.org
  1. “Innovations in NGN”
     Geneva, 12-13 May 2008
  2. “Innovations for Digital Inclusion”
     Mar del Plata, AR, 1 Aug – 1 Sep 2009
  3. Under discussion
- Internship opportunities identified
  - in ITU via National programmes
  - Youth Forum internship opportunities
- Exploring development of an “ITU Technical Journal”
Current results (2)

- MoU with IEEE Communication Society
  - Events, publications, joint activities

- Database of academic contacts
  - Will evolve into a reference database for courses, training, workshops, etc

- Promotional plan of the ITU name in the academic environment
  - Events (Kaleidoscope, invite to meetings e.g. WTSA-08, etc)
  - Materials (Fliers, posters, etc)

- Education initiative

- World Telecommunication Standardization Assembly (WTSA-08) results
Kaleidoscope

- Series of academic conferences
  - Double-blind expert peer-review
  - Proceedings distributed by IEEE
- Theme: technological innovation, academic research, standardization and its socio-economic dimension
- Opportunity for academia to get into contact with ITU and its experts by exploring themes of common interest
- Create incentives for academia to contribute to standards development
Kaleidoscope 2008

See backup slides for background, participation, etc.

**Practical outcomes**

- Focus Group on Future Networks (FG-FN) created in Jan 2009 inspired on a paper from the conference (Aoyama) – a possible pre-standards environment
- WTSA-08 Res. 71 (see later)
- Papers of interest input for discussion in relevant Study Groups
- Discussion started on acknowledging contributors in the standards process
Kaleidoscope 2009

Bridging academia, research & ITU-T standardization activities for discussion on Innovation
Education initiative

- Two-fold: technology & standardization process
- Support academia in accessing documents used in the standards development process for use as teaching materials
  - Case-by-case, upon request
- Education of students in graduate and post-graduate programmes about standards and standardization
  - Currently, an incipient project
- Joining forces is not a bad idea
  - Support for developing syllabus
  - Motivating students
  - Contributing speakers / lecturers
  - Access to real standards setting meetings, etc
WTSA-08 results

Resolution 71 – Admission of academia, universities and their associated research establishments to participate in the work of ITU-T:

- Director to identify ways to increase cooperation between ITU-T and academia, universities and their associated research establishments, & increase their participation in the work of the Sector, including Study Groups
- ITU Council to consider the admission of academic institutions, universities and associated research establishments in ITU-T, including an appropriate level of financial contribution

Resolution 74 - Admission of Sector Members from developing countries in the work of the ITU-T

- Encourages the admission of sector members from developing countries using the same criteria as for the development sector
Conclusion
Strategic importance

- Engage academia to ensure continued flow of innovations for tomorrow’s standards
- Familiarize future professionals with ITU standards setting environment and how to benefit from it
  - Teach about it
  - Opportunities for hands-on training
  - Opportunities for “real” opportunities to explore the standardization process
- Identify suitable partnership / collaboration platforms
Simão Ferraz de Campos Neto joined the secretariat of the ITU Standardization Sector in 2002, and is the Counselor for ITU-T Study Group 16 (for standardization work on multimedia services, protocols, systems, terminals and media coding). He organized several workshops (e.g. Multimedia in NGN, Telecoms for Disaster Relief, RFID, Standardization in E-health; SIIT2005) and was the editor of the first version of the ITU-T Security Manual.

Prior to joining ITU in 2002, Mr Campos worked for 8 years as a scientist in COMSAT Laboratories performing standards representation and quality assessment for digital voice coding systems, and before that he was a researcher at Telebras’ R&D Center (CPqD).

A Senior Member of the IEEE, Mr Campos authored several academic papers and position papers, served in the review committee of several IEEE-sponsored conferences, and organized the first ITU-T Kaleidoscope Conference.
Backup slides

Kaleidoscope 2008 results
Consultation meeting on Cooperation between ITU-T and Universities


Motivation:
- Academia and R&Ds are pools of innovation largely untouched in ITU-T’s standardization process
- Students of today are the movers and shakers of tomorrow

Website: http://itu.int/ITU-T/uni

Creation of an informal group to progress the various topics identified at the meeting – report in Doc.40
- First tangible outcome: Kaleidoscope Events to bridge academia, research and ITU-T standardization activities
First Kaleidoscope Event

Bridging academia, research & ITU-T standardization activities for discussion on Innovations in NGN
Conference objectives

- Theme: “Innovations in NGN”
- Increase the dialogue between academia and experts working on the standardization of ICTs
- Identify visionary ideas on the future of NGN through a kaleidoscopic view of communication habits for the future, which can eventually lead to new topics for standardization concerning:
  - new services,
  - how NGN will affect the marketplace for ICTs, and
  - how society will be affected
- Highlight technologies, services and applications five years and beyond that will capitalize on the NGN infrastructure and lead to the ubiquitous network society in which information can be accessed anywhere and anytime by anyone and anything
- Address multidisciplinary aspects related to the deployment of NGN, including analysis of regulatory and societal challenges
Some facts

- Born at ITU & Academia Consultation Meeting (Geneva, 18-19 January 2007)
- 14-month preparation effort
- Double-blind, peer-reviewed
- Paper proposals: 141
- Accepted papers: 32 lecture, 22 poster sessions
- Best paper award
  - US$10,000 cash prize donated by Cisco Systems
  - Other sponsors: Platinum: Intel; Gold: ICF (Japan); Silver: Sun Microsystems
- Printed proceedings, but with electronic distribution via the IEEE Xplore channel
- 223 attendees, 48 countries
- Programme, presentations, etc: http://itu.int/ITU-T/uni/kaleidoscope/2008
Participants

Types of organization

- **Operators**: 15 (12%)
- **Academia**: 49 (40%)
- **Industry**: 26 (21%)
- **Governments**: 19 (16%)
- **R&D**: 8 (7%)
- **Others**: 5 (4%)

Participants per type of organization

- **Operators**: 15 (7%)
- **Academia**: 66 (29%)
- **Industry**: 46 (20%)
- **Governments**: 42 (19%)
- **R&D**: 19 (9%)
- **Others**: 15 (7%)
Participants survey*

- Very Satisfied: 50%
- Satisfied: 40%
- Neutral: 10%
- Dissatisfied: 0%
- No answer: 0%

Poster session:
- Very Satisfied: 20%
- Satisfied: 30%
- Neutral: 10%
- Dissatisfied: 0%
- No answer: 0%

Lecture sessions:
- Very Satisfied: 60%
- Satisfied: 30%
- Neutral: 10%
- Dissatisfied: 0%
- No answer: 0%

Overall impression:
- Very Satisfied: 40%
- Satisfied: 30%
- Neutral: 20%
- Dissatisfied: 5%
- No answer: 5%

* 41 respondents / 223 participants

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A new generation network – beyond NGN

- Tomonori Aoyama, Research Institute for Digital Media and Content, Keio University, Japan

This paper discusses requirements and several research activities of new generation networks (NwGN) coming after Next Generation Network (NGN) currently driven by ITU-T. The detailed research profiles of Japanese governmental projects such as AKARI project are introduced with possible future applications. Photonic technology has been applied for high speed communications, possible high speed communication services are also investigated in this paper. This paper addresses that photonic technology is also important for energy reduction of these services, which is one of the keenest issues in the world for the next decade. Among other concerns to increase power consumption of communication services, network appliances and sensors are not negligible because of their number and the penetration rate in ubiquitous or pervasive network services. This paper also introduces the maximum power consumption of these sensor devices required for keeping sustainable services.
Evolution of open IPTV standards and services
- Martin Körling, Ericsson

IP-based TV services bring opportunities for interactivity and personalization. They also bring challenges in delivery quality and interoperability. Open standards are essential to ensure market success but also to enable innovation of future services and applications. We give an overview of the current status of IPTV standardization, especially how specifications complement each other to achieve a complete system. Some key challenges and opportunities are described, including how to enable 3rd party innovation on top of IPTV platforms.
Digital communications is both pervasive and vital across society. This creates a growing public interest in the technical standards that proscribe public communications. The public is demanding, "Open Standards." The rallying cry, "Open Standards," means different things to different groups. This paper reviews the different needs of specific groups of society and develops ten different requirements of Open Standards. To implement these requirements, actions by standardization organizations, international bodies (e.g., WIPO, WTO) and national patent office rules are proposed. Interestingly, technical changes, in the form of new standards, rather than legal or policy changes, appear to be the most important mechanism to meet the requirements of open standards.
Three best paper laureates

- Architecture and business model of open heterogeneous mobile network
  - Yoshitoshi Murata†, ‡‡, Mikio Hasegawa‡‡, ‡‡‡, Homare Murakami‡‡, Hiroshi Harada‡‡, Shuzo Kato‡‡
  † Iwate Prefectural University, Japan; ‡‡ Ubiquitous Mobile Communication Group, National Institute of Information and Communications Technology, Japan; ‡‡‡ Department of Electrical Engineering, Faculty of Engineering, Tokyo University of Science, Japan

- Differential phase shift quantum key distribution
  - Hiroki Takesue; Toshimori Honjo; Kiyoshi Tamaki; Yasuhiro Tokura; NTT Basic Research Laboratories, Japan

- Open API standardisation for the NGN platform
  - Catherine Mulligan, University of Cambridge
Observations at closing panel: General (1)

- Very successful event
- Excellent quality papers
- Excellent attendance: *both Lecture and Poster sessions*
- It should be repeated yearly
- Highlight existence of best paper awards
- Emphasize recognition of best student papers (and define eligibility criteria)
Observations at closing panel:
General (2)

- Stress low acceptance rate for full papers (<30%).
- Advertise ‘IEEE explore’ prominently
- Try to have proceedings published directly by IEEE
- Improve conference visibility in academic circles
  - Publish reports in suitable outlets
  - Have 2009 CfPs published/printed *early* and let OC/PC members distribute them
Observations at closing panel: increasing cooperation

- Cooperation with academia needs to be reinforced
- ITU should try to find a way for Universities to join or participate by means which they can afford
- Representatives of two Member States proposed the creation of a special, low fee for qualified institutions of higher education
  - They mentioned proposals would be submitted to WTSA-08
- Recognition of contribution into standards would be useful to attract academia
  - E.g. introductory clause or a list on the Recommendation web page (together with Summary and Table of Contents)
  - Clear criteria are needed for acknowledgement of individuals
Putting the event to practical results

- Accommodate more visionary ideas presented at the event that may not fit within currently open standardization items
  1. Special future-looking Questions defined in the study groups
  2. Explore alternative means e.g. a pre-standards environment (suggested at the ITU & Academia Consultation meeting)
  3. Focus Group that would create a “sandbox [pre-standards] environment” where new, revolutionary concepts could be more freely explored
     - A Focus Group on Beyond NGN? → FG on Future Networks (FG-FN) created in Jan 2009

- Facilitate the participation of academia: new Resolution 71 approved by WTSA-08 in October 2008

- Relevant papers at the conference should be available to the study groups, as possible inputs in their standards work
  - TDs from the SG Chairmen?

- Invite authors of some interesting non-accepted papers to work further on ideas & contribute to the standardization work