

ITU Regional Development Forum on Bridging the ICT Standardization Gap for CEE, CIS and Baltic States Tashkent, 10-11 June 2008

Summary Report

At the invitation of the Directors of the ITU's TSB and BDT, and kindly hosted by the government of Uzbekistan, an ITU Regional Development Forum on Bridging the ICT Standardization Gap was held in Tashkent, Uzbekistan, from 10-11 June 2008. Some 115 participants from 18 ITU Member States participated, from Central and Eastern Europe (CEE), the Commonwealth of Independent States (CIS) and Baltic States. The meeting was followed by a WTSA-08 preparatory meeting for the CIS region on 12 June. For more information, see: <http://www.itu.int/ITU-T/wtsa-08/prepmeet/rcc/programme-forum.html>.

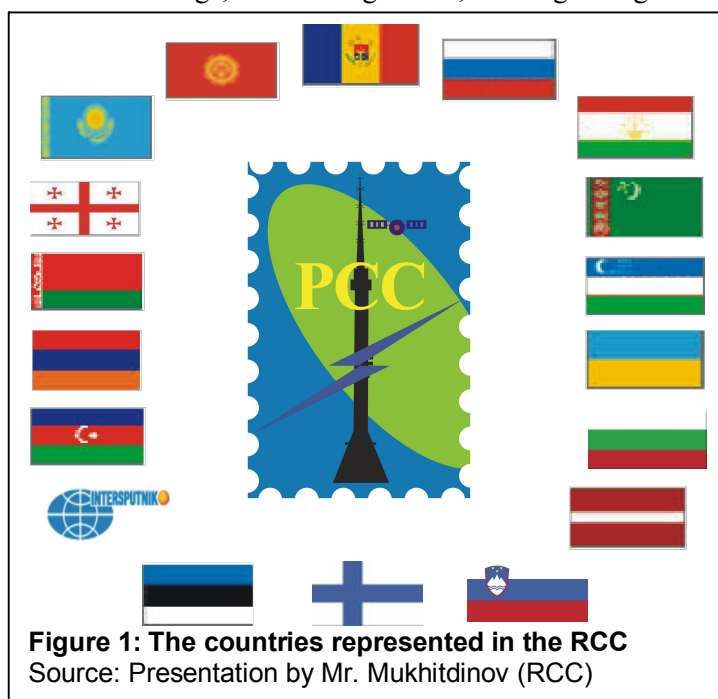
First Day: Tuesday 10 June

Opening session

The opening session began with a welcome address on behalf of the host country, Uzbekistan, from **H.E. Mr Abdulla ARIPOV**, Deputy Prime-Minister of the Republic of Uzbekistan, Director-General of the Communications and Information Agency of Uzbekistan. This was followed by a welcome on behalf of the Director of the ITU Bureau for Telecommunications Development (BDT), **Mr Sami Al Basheer Al Morshid**, given by his deputy, Dr Yuri Grin, and by a [keynote address](#) from **Mr Malcolm JOHNSON**, Director, Telecommunication Standardization Bureau (TSB). The Director-General of the Executive Committee of the Regional Commonwealth in the field of Communications (RCC), **Mr Nurudin MUKHITDINOV**, gave a welcome address on behalf of the RCC, which is organizing the WTSA-08 preparatory meeting and, finally, the chairman of the meeting, **Mr Asadjan KHODJAEV**, Deputy Director-General of the Communications and Information Agency of Uzbekistan, gave his opening remarks.

This Forum is one of a series of regional meetings—one per region per year—which are being held as a way of bringing discussion and debate on hot topics in current ITU work closer to the regions. In 2008, the regional events are being held in Accra, Brasilia, Damascus, and Hanoi as well as in Tashkent, and are being held back-to-back with WTSA-08 regional preparatory meetings. Mr Johnson highlighted a number of initiatives that ITU in general and ITU-T particular have taken recently to help assist in bridging the gap, including making ITU-T Recommendations online free of charge, establishing a fund, offering a range of remote participation tools, establishing links with academia (through the Kaleidoscope series of workshops) and holding the first Global Standardization Symposium (GSS), on the theme of Bridging the Standardization Gap, in Johannesburg, on 20 October 2008.

Mr Mukhitdinov highlighted the remarkable progress that has been made in the countries of the region (see Figure 1) in terms of the development of information and communication technologies (ICTs). The ITU and RCC speakers all gave their thanks to the host country, and noted that a number of ITU events have been hosted by Uzbekistan in recent years, which have all been marked by the generous hospitality of the hosts.



SESSION One: Overview of ITU activities, and how to participate

This session provide an overview on ITU activities with specific relevance to the CIS, CEE and Baltic States. It highlighted decisions taken by the last Plenipotentiary Conference in 2006 concerning bridging the standardization gap (Resolution 123 PP-06) and the activities carried out by the three ITU sectors. It also provided a practical guide to how to participate in ITU's activities, including using remote collaboration tools.

Mr Malcolm JOHNSON, Director, Telecommunication Standardization Bureau (TSB), presented an [overview of ITU-T activities](#). ITU-T has some 303 Sector Members and 121 Associates. The structure of the Sector (Figure 2) is headed by the World Telecommunication Standardization Assembly (WTSA), which meets once every four years, and the work programme is established by the Telecommunication Standardization Advisory Group (TSAG), which meets once or twice per year. Most of the work is carried out by Study Groups, and this is in turn filtered down to Working Parties, Rapporteur Groups and Focus Groups. ITU-T works quickly, typically approving Recommendations in just two months. ITU-T has a number of strategic advantages compared with other standards development organizations, including its truly global reach, its ability to develop non-discriminatory standards, the practice of working by consensus, its flexibility in generating new initiatives, its fast and transparent working procedures, its common policy on intellectual property rights and copyright, and finally its brand name, with more than fifty years of history.

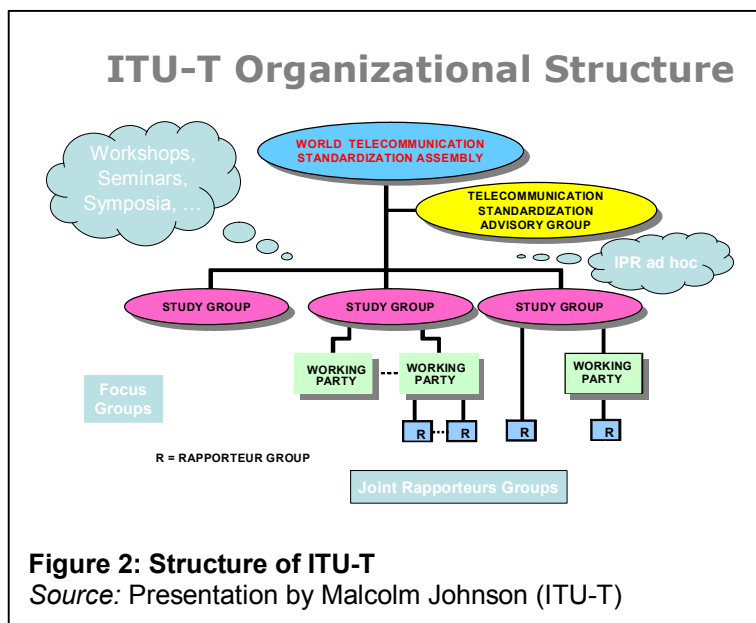


Figure 2: Structure of ITU-T
Source: Presentation by Malcolm Johnson (ITU-T)

Mr Alexandre VASSILIEV, Counsellor, Radiocommunication Bureau, presented an [overview of ITU-R activities](#). He began with a welcome address from the Director of the Radiocommunication Bureau, **Mr Valery TIMOFEEV** (see presentation). Mr. Vassiliev indicated that ITU-R standards are currently employed by all countries – the most impressive figures are:

- more than 3.5 billion mobile telephone handsets in use around the world;
- more than 1.5 billion TV sets worldwide.

He explained that the ITU-R has developed both mandatory (international treaty status) and voluntary standards. The ITU World and Regional Radiocommunication conferences adopt mandatory standards such as the Radio Regulations and Regional Agreements, which are being ratified by governments. The ITU-R Study Groups and the Radiocommunication Assemblies develop voluntary standards (ITU-R Recommendations), which are used in different areas of radiocommunications. Further, Mr. Vassiliev focused on the outcomes of the Regional Radiocommunications Conference 2006 (RRC-06), the World Radio Conference 2007 (WRC-07), which are

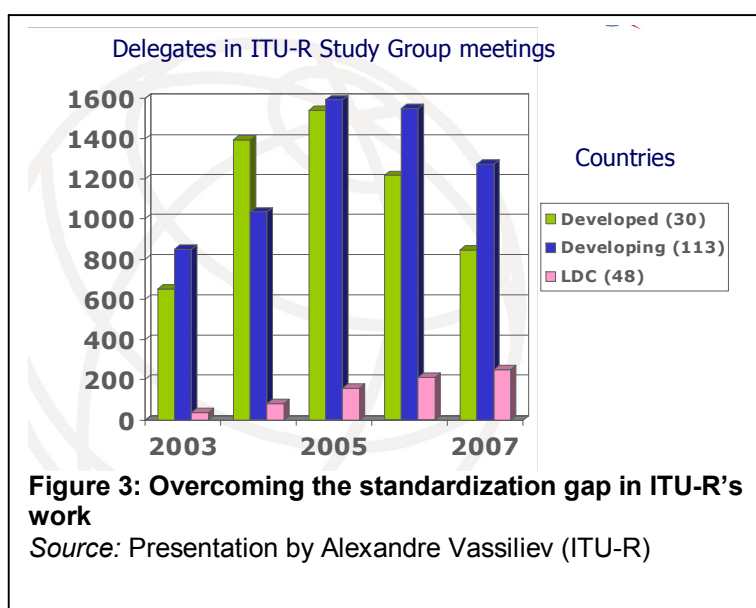
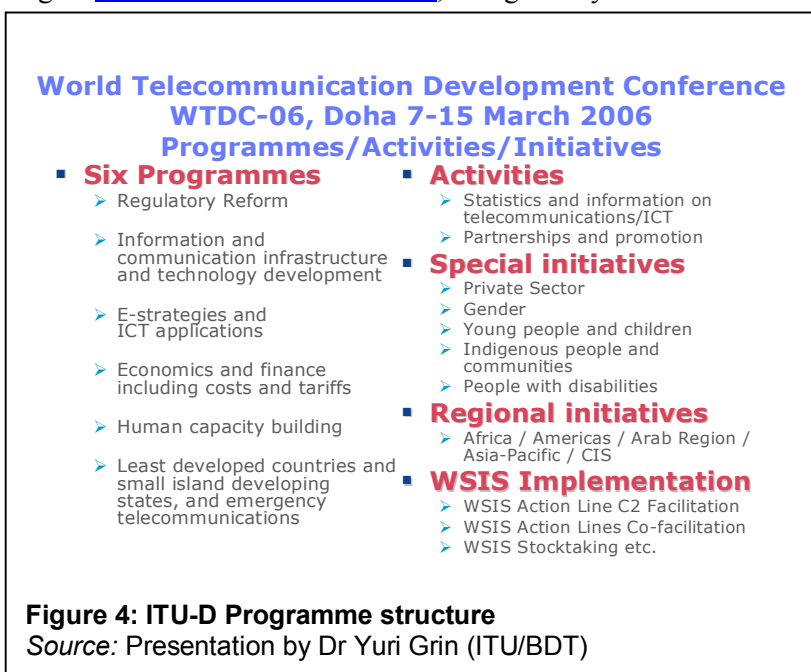


Figure 3: Overcoming the standardization gap in ITU-R's work
Source: Presentation by Alexandre Vassiliev (ITU-R)

especially important to Administrative Region C Member States. He noted that, there had been an increase in the percentage of developing countries participating in the work of the ITU-R Study Groups, with a particular growth in participation by least developed countries (see Figure 3). In practice all countries of this region participated in Radiocommunication Sector conferences, that developed mandatory standards (Radio Regulations and Regional Agreements, however, there are still only a few countries that actively participate in the development of ITU-R Recommendations (voluntary) standards. Finally, he provided a short overview of actions undertaken by ITU-R in order to reduce the gap in standardization between developed and developing countries.

The final presentation in the session, providing an [overview of ITU-D activities](#), was given by **Dr Yuri GRIN**, Deputy-Director, BDT. The Development Sector has 323 Sector Members and 6 Associates. He described the structure of ITU-D activities, which was shaped, most recently by the World Telecommunication Development Conference (WTDC) held in Doha, Qatar, March 2006. The WTDC adopted the Doha Action Plan which sets out six main programmes (see Figure 4) as well as two activities (indicators and partnerships) and a special initiative (on women, youth, children, indigenous people, persons with disabilities rural areas and private sector issues). He also outlined the Connect Africa project, for which the Summit was held in Kigali, 29-30 October 2007.



Session 2: The ICT Standardization Gap in the CEE, CIS and Baltic States

The second session, presenting an overview of the ICT standardization gap in the region, was chaired by **Mr Asadjan KHODJAEV**, Deputy Director-General of the Communications and Information Agency of Uzbekistan. The session provided an opportunity for policy-makers from the region to express their future requirements. This session also included a presentation on the standardization gap and the wider digital divide, and what can be done to overcome it.

In the opening presentation, **Dr Tim Kelly**, Head, Standardization Policy Division, ITU-T, explained the concept of “[Bridging the ICT Standardization Gap](#)”. He explained that the Gap might be defined as “disparities in the ability of developing countries, relative to developed ones, to access, implement, contribute to and influence international ICT standards, specifically ITU-T Recommendations”. He introduced the concept of the “standardization development ladder” (see Figure 5) to describe the different levels at which a developing country can participate in ITU’s standards-making activities. At each stage of the ladder, it is possible to identify both indicators to measure the level of participation, and actions that can be taken to promote participation. He encouraged countries from the region to use the opportunity of this Forum and WTSA-08 preparatory meeting to make proposals to the Assembly, for instance in terms of an update to Resolution 44 on Bridging the Standardization Gap, proposals for new study group questions, nominations of regional representatives for study group officials, proposals on the allocation of the Standardization Gap Fund etc.

Dr Kelly's presentation was supplemented by a presentation of the activities of the Telecommunication Standardization Advisory Group (TSAG) [ad hoc group on bridging the standardization gap](#) by its chairman, **Mr Oleg MIRONNIKOV**, ZNIIS, Russian Federation. The group met twice during the December 2007 TSAG meeting (see Annex E to [TSAG R.22](#)). TSAG invited the TSB Director, *inter alia*, to develop a more elaborate set of indicators for measuring the standardization gap, which will be reported to the July 2008 meeting. The Group also developed a questionnaire intended for developing countries. He encouraged countries from the region to respond to the questionnaire, which can be found online at: <http://www.itu.int/ITU-T/gap>.

Prof Andrey KOUCHERIAVY, Vice-Chair, ITU-T Study Group 11, ZNIIS (Russian Federation) presented some ideas on an [approach to bridging the standardization gap](#). In particular, he focused on the development of handbooks and he outlined a procedure for the development of handbooks, which would typically take around 2 years and 7 months. He also explained how this could be reduced to just eleven months through regional initiatives, giving the example of the NGN Regional Standards Initiative. He proposed that ITU-T initiate a new series of regional handbooks to serve the particular concerns of the region.

Mr Zokhid ZIYAEV, Engineer of Scientific Engineering and Marketing Research Centre presented on [Broadband access technologies and their introduction in fixed networks of Uzbekistan](#). The digitization of exchanges in Uzbekistan has proceeded rapidly, from just 35 per cent in 2002 to over 85 per cent in the first quarter of 2008, and this has provided the necessary platform for the development of broadband services. Fixed line subscribers crossed the 2 million mark in the first quarter of the year while mobile subscribers have almost doubled in the space of just six months (from 3.4 million at the end of 2007 to 6.8 million). Internet users now amount to 2.1 million (more than the number of fixed lines: see Figure 6) and there are almost 800 service providers. This is one reason why Internet access prices have fallen to almost one quarter of the level of 2002. He outlined the respective advantages and disadvantages of different ways of providing broadband service (e.g. DSL, fibre optics, mobile broadband).

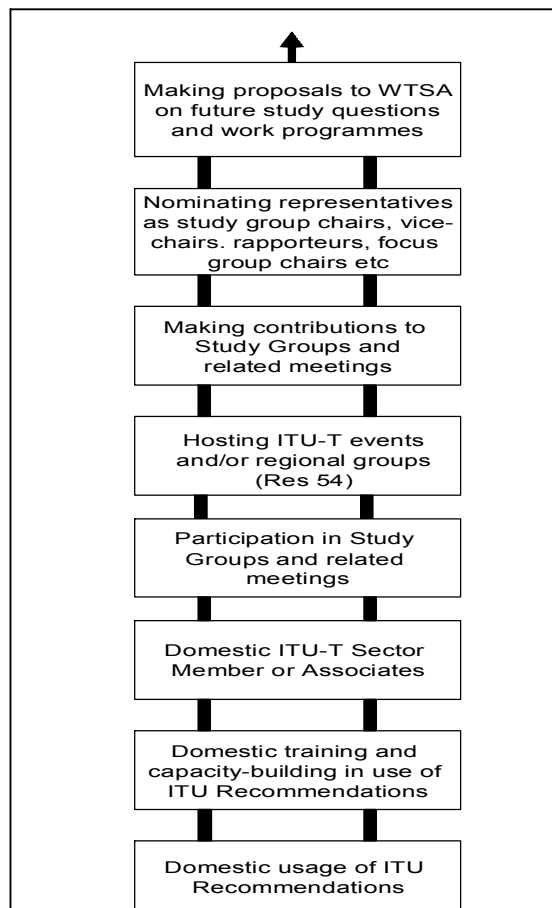


Figure 5: The standardization ladder of development
Source: Presentation by Tim Kelly (ITU-T)

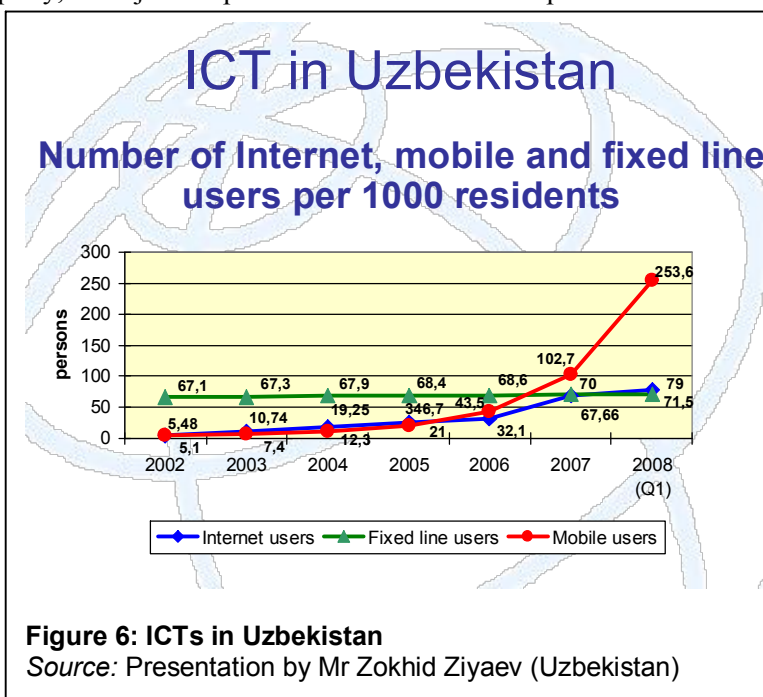
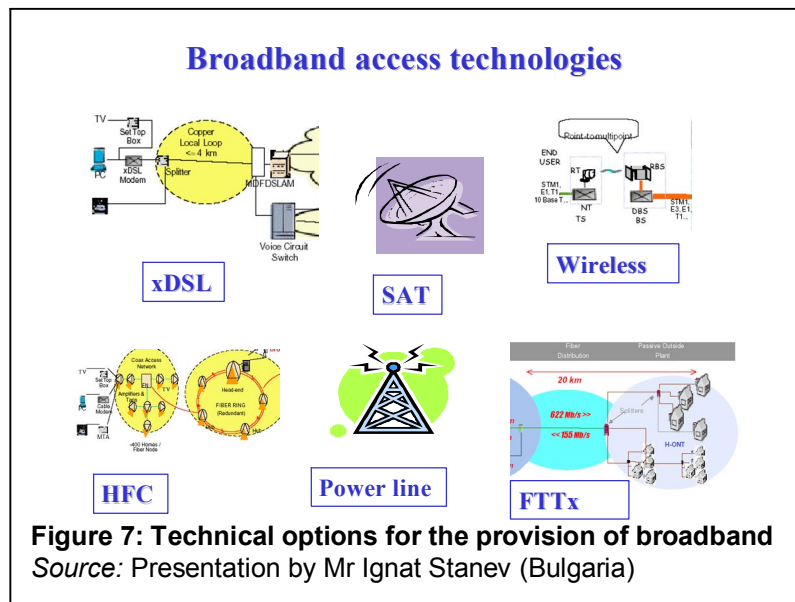


Figure 6: ICTs in Uzbekistan
Source: Presentation by Mr Zokhid Ziyayev (Uzbekistan)

[Mr Ignat STANEV](#), International Teletraffic Congress, Bulgaria, presented on [Broadband wireless access](#). For the purposes of statistical indicators, “broadband” is defined by ITU as services offering transmission speeds equal to or greater than 256 kbit/s in one or both directions, and the same threshold is applied to both fixed and mobile services. He provided statistics on the development of broadband within Europe and on the percentage of households with a PC. He presented information on the technical options for delivering broadband (see Figure 7) and put forward a business case for delivering broadband in remote and rural areas. He presented the European Union’s “Broadband for All” project which is being developed within the framework of the CORDIS programme. He concluded with some case studies of rural broadband from the field, covering Oman, Papua New Guinea, Mali and Georgia.



The final presentation in this session was given by [Ms Asel TULEGENOVA](#), Chief Manager of Technology Processes Management Department, JSC Kazakhtelecom on the topic [Standardization as a Tool for Quality of Service Upgrade](#). She described the work of the Telecom Management Forum (TMF) and showed how optimization tools can help to improve the provision of high-quality telecommunication services.

Session 3: Current ITU-T Standardization Hot Topics

The third session of the Forum, dealing with the activities of the ITU Telecommunication Standardization Sector (ITU-T), was chaired by **Mr Gary FISHMAN**, Chairman ITU-T Telecommunication Standardization Advisory Group (TSAG), Alcatel-Lucent. In his [opening remarks](#), he challenged participants to consider three actions that could be taken straight away to help bridge the standardization gap and to develop a “toolkit” of measures that could help a particular developing country to climb at least two steps on the “standardization development ladder”(see Figure 5).

Mr Fishman also gave the opening presentation on the [activities of TSAG](#). TSAG is the advisory group for the ITU-T and its basic responsibilities include reviewing the policies, programmes and priorities of the sector, promoting guidelines for the work of the sector, fostering cooperation, both internal and external, and advising the Director, for instance on the creation of new groups. Since its creation, following the Helsinki WTSA-96 meeting, TSAG has been successful in “cooling” some “hot issues”, such as the streamlining of approval processes (under the alternative approval process, AAP), moving work between study groups and improving

How TSAG Helps ITU-T and You

- **By meeting in the same cycle as meetings of the Study Groups, it shortens the time to solve problems and to respond to demands of the membership (i.e., every 8-9 months)**
- **TSAG Group on Bridging the Standardization Gap**
- **TSAG Young Delegates Group**
- **TSAG builds the roads and the bridges that allow all members to navigate through the standards landscape as quickly or as deliberately as they want, ensuring openness and transparency**

Figure 8: How TSAG is helping developing countries
 Source: Presentation by Mr Gary Fishman (TSAG chair)

coordination, and implementing a deadline (Time-E) for the transition to all-electronic working methods. One of TSAG's recent successes is the campaign to introduce free ITU-T Recommendations online, which was approved by the 2007 meeting of the ITU Council. TSAG has also taken a number of measures to assist individual delegates (Figure 8). Current hot topics for TSAG include preparing the sector to respond efficiently, regardless of the technology involved, developing an efficient study group structure (to be resolved at WTSA-08), as well as improved coordination, bridging the standardization gap, and Technology Watch.

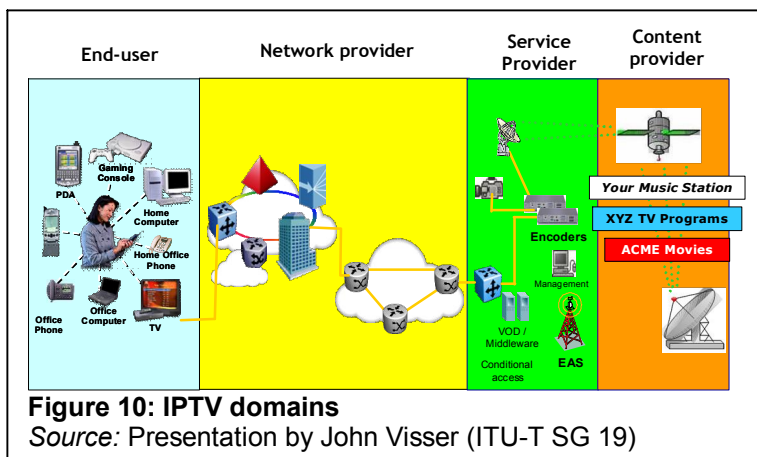
Ms Tatiana KURAKOVA, Counsellor, ITU-T Study Group 19 (mobile telecommunication networks) gave an [Overview of ITU-T SG 19 activities](#). SG19's work covers all aspects of mobility (see Figure 9), which is the main area of recent subscriber growth in the telecommunications sector. Originally, this aspect of standardization work had been covered by SG-11 but it was moved into a special study group in 2000 and into SG19 in 2004. The Group has established good working relations with other relevant bodies, notably ITU-R, 3GPP and 3GPP2. There are currently five questions under study which are mainly focused on the further development of IMT-2000 (third generation mobile). Future studies will look at fixed-mobile convergence and the likely merger of SG19 into a future NGN study group.

Study Group 19 Summary of Mandate

- Lead study group on mobile telecommunication networks and for mobility
- Responsible for studies relating to: network aspects of mobile telecommunications networks, including International Mobile Telecommunications 2000 (IMT-2000) and beyond, wireless Internet, convergence of mobile and fixed networks, mobility management, mobile multimedia functions, internetworking, interoperability and enhancements to existing ITU-T Recommendations on IMT-2000

Figure 9: Mandate of ITU-T Study Group 19
Source: Presentation by Ms Tatiana Kurakova (ITU/TSB)

Mr John VISSER, ITU-T SG 19 Chairman, Nortel, Canada presented ITU-T's work on [IPTV](#) (Internet Protocol Television). IPTV might be defined as multimedia services delivered over an IP-based network which is managed to provide a required level of quality of service/quality of experience, security, interactivity and reliability. IPTV domains are illustrated in Figure 10. ITU-T's IPTV Focus Group had been established in April 2006 and terminated its work in January 2008. However, the pace of work is continuing under a new guise as an IPTV-GSI (Global Standards Initiative), with five meetings planned during 2008. The work to date has succeeded in establishing an agreed functional architecture for non-NGN and NGN-based platforms and has conducted an in-depth discussion on home network architecture and related issues. The proceedings of the Focus Group are available for free-of-charge download at: www.itu.int/publ/T-PROC-IPTVFG-2008/en.



Mr Alexandre TSYM, Vice-Chair, ITU-T Study Group 6 (Outside Plant), ZNIIS, Russian Federation, gave the next presentation, covering [Environmental and safety procedures for outside plant](#), in particular the work of ITU-T Study Group 5. He began with an updated examination of Prof Jipp's historic work on the relationship between telecommunications and economic development. However, using examples from the CIS region, he was able to show that progress has been far from linear. He went on to describe the Recommendations developed by SG5 (the L-series of ITU-T Recommendations) looking in more detail at L.45, L46 and L.63 and then at the K-series of ITU-T Recommendations, in particular K.59 and K.64.

Mr Dmitry CHERKESOV, Vice-chairman, ITU-T Study Group 4 (Telecommunication Management), NIIR read a presentation on [ITU-T's Telecommunication management work](#). Study Group 4 is responsible for standards for the management of telecom services, networks, and equipment. Telecom management systems are a crucial part of the business processes at the heart of any service providers' operation. Standards created by SG4 focus on fault, configuration, accounting, performance and security management (FCAPS) interfaces. FCAPS interfaces sit between network elements and management systems and also between two management systems. He described the various working parties of SG4, and focused his presentation on a number of recent ITU-T Recommendations, specifically, M.3200 and M.3050 which together form the basis for M.3400.

Mr Oleg MIRONNIKOV, Vice-chairman of ITRs expert group, ZNIIS, Russian Federation returned for a presentation on the International Telecommunication Regulations (ITRs). The ITRs date back to the 19th century and have treaty-status, having been revised most recently by the 1988 World Administrative Telephone and Telegraph Conference (WATTC-88). A process to revise the ITRs was originated in 1998 and this was continued at the PP-06 (Antalya) in the new Resolution 46, which establishes a working group within ITU-T. It is proposed that a future World Conference on International Telecommunications (WCIT), which is the body with authority to revise the ITRs, could be held in 2012, if so decided by the 2010 PP. However, this will only be feasible if there is the likelihood of some degree of convergence on national positions on the future of the ITRs. This may become clearer following the March 2009 World Telecommunication Policy Forum, on the topic of Convergence. The latest proposals on the ITRs can be found in TD/14 Rev. 2.

The final presentation in this session was given by **Dr Tim KELLY**, Head of the Standardization Policy Division, TSB on the topic [ICTs, Climate Change and Emergency Telecommunications](#). This new work programme had been initiated at the December 2007 meeting of TSAG. He outlined briefly the scientific background for climate change and the contribution of ICTs to global greenhouse gas emissions (estimated at 2-2.5 per cent of the total, excluding radiocommunicaitons). He went on to describe how ICTs are used for measuring and monitoring climate change and how they can be used also for mitigation. ITU's main role, to date, has been in the area of adaptation, especially in the area of emergency telecommunications. All three sectors are involved in this work. For instance, satellite telephones were recently sent to Myanmar and China following the recent natural disasters. Thanks to the Tampere Convention, the transfer of the technology was able to be realized within days of the tragedies. In conclusion, he also provided information on the two ITU symposia being held in the first half of 2008, the second of which will take place in London, next week (see Figure 11).

ITU Symposia on ICTs and Climate Change

- **Kyoto, Japan, 15-16 April, co-organized by MIC Japan**
- **London, UK, 17-18 June, supported and hosted by BT**
- **Outline agenda**

1. **ICTs to the Rescue?**
2. **Corporate responsibility: Towards a climate-neutral ICT sector**
3. **ICTs for monitoring climate change**
4. **ICTs as a green technology**
5. **Towards a high-bandwidth, low carbon future**
6. **Adapting to climate change**

➤ Webcast using GoToWebinar

Figure 11: ITU symposia on ICTs and climate change
Source: Presentation by Tim Kelly (ITU/TSB)

The first day concluded with a Reception, generously hosted by the Communications Authority of Uzbekistan, followed by the Euro 2008 game between Russia and Spain.

Day Two: Wednesday 11 June

Session 4: International Radiocommunication standards and guidelines

This session, focusing on the work of the ITU's Radiocommunication Sector (ITU-R) was chaired by **Mr Albert NALBANDIAN**, CPM-11 Chairman, Advisor to Minister of Transport and Communication of

the Republic of Armenia. In his opening slides he focused on what can be done to reduce the standardization gap in the field of radiocommunications.

The first speaker was **Mr Baiysh NURMATOV**, Member of the RRB, Kyrgyzstan, who presented the Activities of the Radio Regulations Board. He introduced the members of the RRB, who were elected at the 2006 Antalya Plenipotentiary. The current chair is Ms Julie Napier Zoller (USA) and the vice-chair is Mr Ali Ebadi (Malaysia) Members include representatives from Cameroun, Canada, Lithuania, France, Kyrgyzstan, Poland, Morocco, Nigeria, India and Pakistan. He described the working methods of the RRB and its relationship to the WRC and to the Radiocommunication Bureau.

Mr. Alexandre VASSILIEV, Counsellor, BR, presented on the topic [Standardization in radiocommunications: Radiocommunication Assembly and ITU-R Study Group activities](#).

The ITU's radiocommunication roots lie in the International RadioTelegraph Convention (Berlin, 1906), which forms the basis of today's Radio Regulations, and international treaty. Its mission is to ensure the rational, equitable, efficient and economical use of the radiofrequency spectrum by all radiocommunication services. The World Radiocommunication Conference (WRC) meets every 3-4 years to revise the Radio Regulations. The Radiocommunication Assembly (RA), which usually precedes the WRC, considers the ITU-R Study Groups structure, working methods and adopts the some radiocommunication standards (ITU-R Recommendations). The last RA-07 adopted a new structure for the ITU-R study groups (see Figure 12) that amalgamates the almost 40 Radio Services into a small number of study groups and set their work programme. These SGs are responsible for more than 1'000 ITU-R Recommendations in the area of spectrum management and radio technology. In addition, two departments of the BR deal respectively with Space Services and Terrestrial Services using the software developed by the third BR department (Informatics, Administration & Publication Department), for the processing of notifications from members and recording in the Master International Frequency Register (MIFR) in accordance with ITU-R treaty level standards. The results are published in a series of different publications (on DVD & the Web), informing all Administrations about spectrum use. With regard to the activities of ITU-R Study Groups, the close relationship between the radiocommunication standardization work and the development of technical bases for radio conferences was stressed. As a consequence, it was noted that the radiocommunication standardization gap would also result in deficiencies on the technical capacity of countries to effectively participate in ITU radio treaty-making conferences.

Mr Albert NALBANDIAN, CPM-11 Chairman, Advisor to Minister of Transport and Communication of the Republic of Armenia returned to the podium to present the [Outcomes of WRC-07 and Preparation for](#)

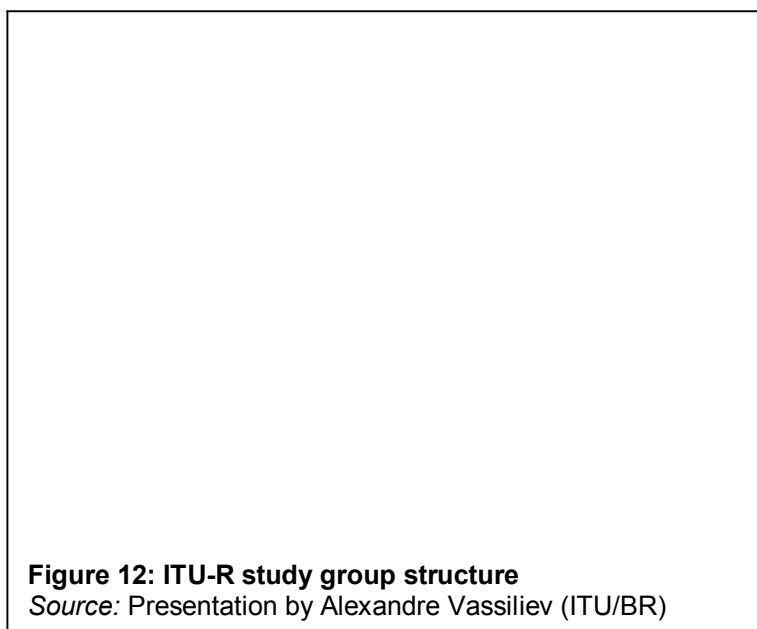
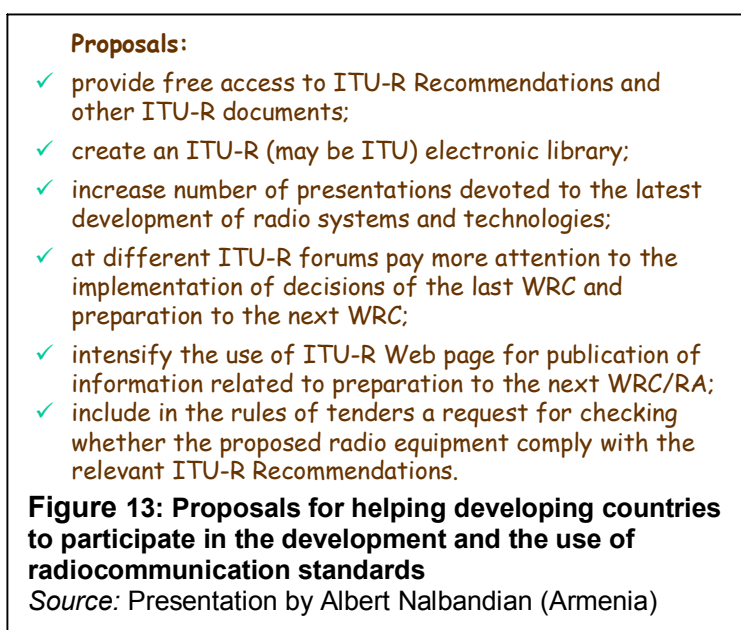


Figure 12: ITU-R study group structure
Source: Presentation by Alexandre Vassiliev (ITU/BR)



Proposals:

- ✓ provide free access to ITU-R Recommendations and other ITU-R documents;
- ✓ create an ITU-R (may be ITU) electronic library;
- ✓ increase number of presentations devoted to the latest development of radio systems and technologies;
- ✓ at different ITU-R forums pay more attention to the implementation of decisions of the last WRC and preparation to the next WRC;
- ✓ intensify the use of ITU-R Web page for publication of information related to preparation to the next WRC/RA;
- ✓ include in the rules of tenders a request for checking whether the proposed radio equipment comply with the relevant ITU-R Recommendations.

Figure 13: Proposals for helping developing countries to participate in the development and the use of radiocommunication standards
Source: Presentation by Albert Nalbandian (Armenia)

[World Radiocommunication Conference 2011 \(WRC-11\)](http://www.itu.int/publ/R-ACT-WRC.8-2007/en). The Final Acts of WRC-07 are available at: <http://www.itu.int/publ/R-ACT-WRC.8-2007/en>. WRC-07 attracted almost 3'000 delegates from 161 Member States, with 2.4 million downloads and resulted in a Final Acts of some 500 pages. One of the major outcomes of the conference was harmonized outcomes for the spectrum requirements for IMT. He explained the specificity of the development of radiocommunications, problems to be resolved and the role of WRCs in radiocommunication standardization. Mr. Nalbandian also provided information concerning the WRC-07 decision specifically relevant to developing countries. He underlined the importance of participation of developing countries in ITU-R Study Group activities. Mr. Nalbandian has formulated some proposals (see Figure 13), which could assist these countries. He also provided an overview of WRC-11 preparation process. The next WRC will take place in 2011 with some 33 agenda items in prospect.

Mr Turhan MULUK, INTEL Corp., presented on [WiMAX¹ Standards and Regulations](#). He began by

looking at the situation of broadband within the region, where penetration is generally below 1 per cent and Internet penetration below 5 per cent. WiMAX (technically speaking, IMT-OFDMA TDD WMAN) has now been adopted by ITU as one of the family of IMT standards (third generation mobile). By comparison with other 3G standards, it allows for relatively rapid and cost effective roll-out of broadband mobile services and it fits well with existing wired and wireless infrastructure. Whereas second generation mobile mainly uses GSM and third generation is mainly based on CDMA technologies, WiMAX uses OFDMA (Orthogonal frequency-division multiple access), which provides high data rates,

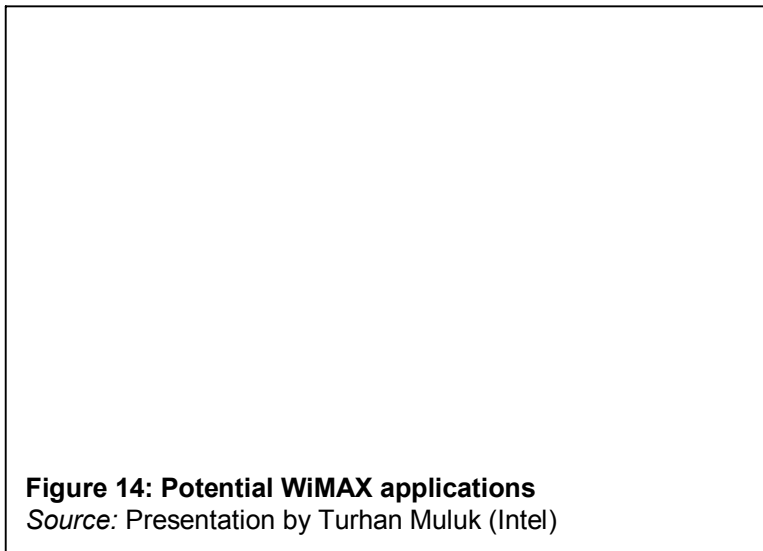


Figure 14: Potential WiMAX applications
Source: Presentation by Turhan Muluk (Intel)

spectrum efficiency and advanced radio-frequency (RF) techniques. The roadmap for mobile WiMAX sees a progression from 33 Mbit/s to 100 Mbit/s by 2008-2009, with the possibility of speeds at 1 G bit/s at nomadic speeds by 2010. One of the major applications is likely to be broadband mobile Internet use, opening up a wide range of potential applications on the new range of ultra-mobile PCs (see Figure 14). To benefit from Mobile WiMAX, he advised administrations to consider the allocation of 2.5 GHz or 2.3 GHz band IMT spectrum.

The final presentation in the session, delivered by **Mr Konstantin TROFIMOV**, Vice-chair, ITU-T SG 19, Russian Federation, looked at ITU-R and ITU-T cooperation in IMT standardization. With the addition of WiMAX (see presentation above) ITU-R has now defined six different standards for IMT-2000 (3G mobile) and cooperation between the Radio and Standardization Sectors continues to be close.

Session 5: Development Issues in the CIS, CEE and Baltic States

This session was chaired by [Prof Vladimir MINKIN](#), Chairman, TDAG, Deputy Director-General, NIIR, Russian Federation. It focused on ITU-D activities to promote ICT development and implementation.

Prof Minkin gave the opening presentation on the activities of the [Telecommunication Development Advisory Group](#) (TDAG). TDAG is an open advisory group that meets once a year. It is open to representatives of Member States, Sector Members and to chairmen and vice-chairmen of Study Groups. In addition, the Director may invite representatives of bilateral cooperation and development aid agencies, and multilateral development institutions to participate in the meetings. Its mandate is to give advice to the director of the Telecommunication Development Bureau (BDT) on setting priorities, formulating strategies, and preparing and implementing the budget and the operational plan of the ITU Development Sector (ITU-D). At its most recent meeting, on 6-8 February 2008, the key items were reports on the outcomes of the Connect Africa Summit, and the meetings on emergency telecommunications and indicators as well as preparation for the Global Symposium for Regulators, which took place in Pattaya, Thailand, 11-13 March. TDAG has two working groups looking at private sector issues and human resources development.

Ms. Natasa GOSPIC, University of Belgrade, Transport and Traffic Engineering Faculty, Serbia, presented on [ITU-D Study Group activities](#). There are two Study Groups in ITU-D, which carry out similar work to those of ITU-R and ITU-T, but without producing Recommendations. SG1 deals with Telecom development strategies and policies while SG2 deals with the development and management of telecom services and networks and ICT applications. Meetings normally take place at the ITU-HQ in Geneva, once per year, but with additional meetings as required. In addition, regional or sub-regional meetings may be held. The work programme is organized according to questions, and those currently under study are summarized in Figure 15.

Dr Mikhail NATENZON, Chairman of the Board of JSC “National Telemedicine Agency”, Russian Federation presented on Standardization problems in telemedicine systems with a view to ensuring the

SG 1

- 6-2/1 Regulatory impact of next generation networks on interconnection appropriate interconnection arrangements for new generations networks.
- 7-2/1 Regulatory policies on universal access to broadband services
- 10-2/1 Regulation for licensing and authorization of converging services
- 12-2/1 Tariff policies, tariff models and methods of determining the costs of services on national telecommunication networks, including next-generation networks
- 18-2/1 Domestic enforcement of telecommunication laws, rules, and regulations by national telecommunications regulatory authorities
- 19-2/1 Implementation of IP telephony in developing countries
- 20-2/1 Access to telecommunication services for people with disabilities
- 21-2/1 Impact of telecommunication development on the creation of employment
- 22-2/1 Securing information and communication networks: Best practices for developing a culture of cybersecurity

SG2

- 9-2/2 Identification of study topics in the ITU-T and ITU-R study groups which are of particular interest to developing countries
- 10-2/2 Telecommunications for rural and remote areas
- 11-2/2 Examination of terrestrial digital sound and television broadcasting technologies and systems, including cost/benefit analyses, interoperability of digital terrestrial systems with existing analogue networks, and methods of migration from analogue terrestrial techniques to digital techniques
- 14-2/2 Telecommunications for e-health
- 17-2/2 Progress on activities for e-services/applications in the world
- 18-2/2 Implementation aspects of IMT-2000 and information-sharing on systems beyond IMT-2000 for developing countries
- 19-2/2 Strategy for migration from existing networks to next-generation networks for developing countries
- 20-2/2 Examination of access technologies for broadband telecommunications
- 22-2/2 Utilization of ICT for disaster management, resources, and active and passive space-based sensing systems as they apply to disaster and emergency relief situations

Figure 15: Topics under study in ITU-D Study Groups
Source: Presentation by Ms Natasa Gospic (Serbia)



compatibility of national telemedicine systems, with the help of a number of video-clips. He presented the background to a telemedicine project established in Uzbekistan, with assistance from ITU. He showed how this project will develop over the period 2008-2012. An example of the mobile telemedicine units that are in use is shown in Figure 16. He went on to describe the type of applications that are available, such as transmission of X-Ray images, use of video-conferences, and the delivery of emergency services during natural disasters. The Mobile Telecommunication Unit recently received an international award in the presence of the Russian Minister and President Putin visited a Mobile Telemedicine Unit in October 2006.

Mr Ignat STANEV, International Teletraffic Congress, Bulgaria, presented the ITU-D's work on [network planning](#), which had been initiated on the basis of work originally carried out in Bulgaria. He described the computer model used, which has eight planning domains, and explained the relationship with next-generation networks (NGN). He outlined the fixed network planning tool – OnePlan Access – and the radiocommunication planning tool – Multilink. He went on to describe a case study of using the tool, beginning with a case around Stuttgart, and he showed how the model could also be used for demand forecasting.

Mr Vladimir SHESTAKOV, MTUCI, Russian Federation, presented on [Modern ICTs in Education](#). He described an application in the Moscow area which is used for a variety of purposes, including access to teaching resources, maintenance of student records, tele-teaching, etc. He particularly emphasized the role that computers can play in motivating students, especially boys who are sometimes hard to reach with traditional educational techniques. He went on to describe the changes that have been possible now that many students have Internet access both at home and at school.

Mr Oscar GONZALEZ SOTO, ITU-D consultant, presented on [Telecom Solutions for Rural and Low Density Areas](#). Although many telecommunication problems have been addressed, thanks to technological change and market liberalization, providing access in rural and low-population density areas has proved quite intractable, though this is where between 40-60 per cent of the world's population lives. In reality, there are many different types of rural and low-density area (e.g., low density villages, or resorts, rural clusters, dispersed settlements) and different technological solutions may be more appropriate (see Figure 17). He went on to give typical examples of network architectures, depending on the type of geography and technology used. He also showed a number of scenarios which illustrated the fact that rural wireless is more dependent on population density while wireless local loop is more dependent on traffic demand.

Telecom Solutions for Rural and LD Areas
Frequent applicability mapping at access

Technology Solution	Scenario Type			
	LD Villages	LD resorts	Rural Clusters	Disperse settlements
WL-DLC/xDSL	✓✓	✓✓	✓ (if OSP available)	
WL-PLC			✓	✓
FTTx	✓ FTTC	✓✓ FTTP		
WiMax	✓✓	✓✓	✓	✓
IMT 2000- WLL			✓✓	✓
Satellite			✓	✓✓
Mobile	✓✓	✓✓	✓✓	✓

Most frequent applicability is illustrated per solution category

Figure 17: Telecom solution for rural areas
Source: Presentation by Mr Oscar Gonzalez Soto

The final presentation in this session was given by **Mr. Andrei UNTILA**, ITU Area office, Moscow, covering the [activities of the ITU regional office](#). He explained the workshops, programmes and other activities that have been undertaken, and their relationship to the Doha Plan of Action. He also outlined the planned activities covered by the 2007-2010 operational plan.

Session 6: Next-Generation networks (NGN): Development trends and migration scenarios

This session was moderated by **Prof. Andrey KOUCHERIAVY**, Vice-Chair, ITU-T Study Group 11, ZNIIS, Russian Federation. It presented the evolution of NGN and future perspectives on the relevant access technologies, service and network architecture with a special focus on convergence, home, office and mobile applications, IP-Based platforms, Multiple Access Networks, and relevant business models for NGN. Moreover, the session also examined charging and accounting principles for NGN and migration scenarios towards NGN, including related telecommunication economic and policy issues at regional level.

The first presentation was given by **Ms. Tatiana KURAKOVA**, Counsellor, NGN project management tool coordinator, TSB, covering an

[Overview of ITU-T's NGN activities](#).

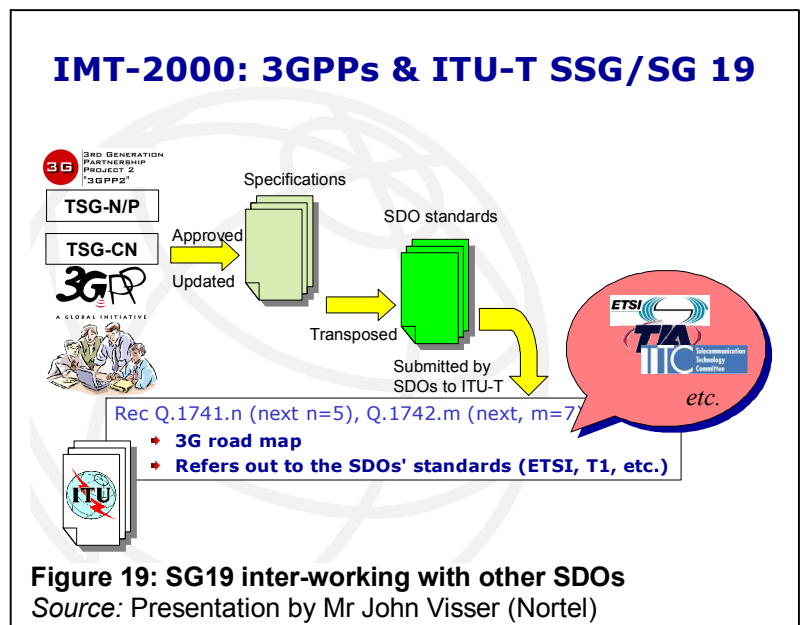
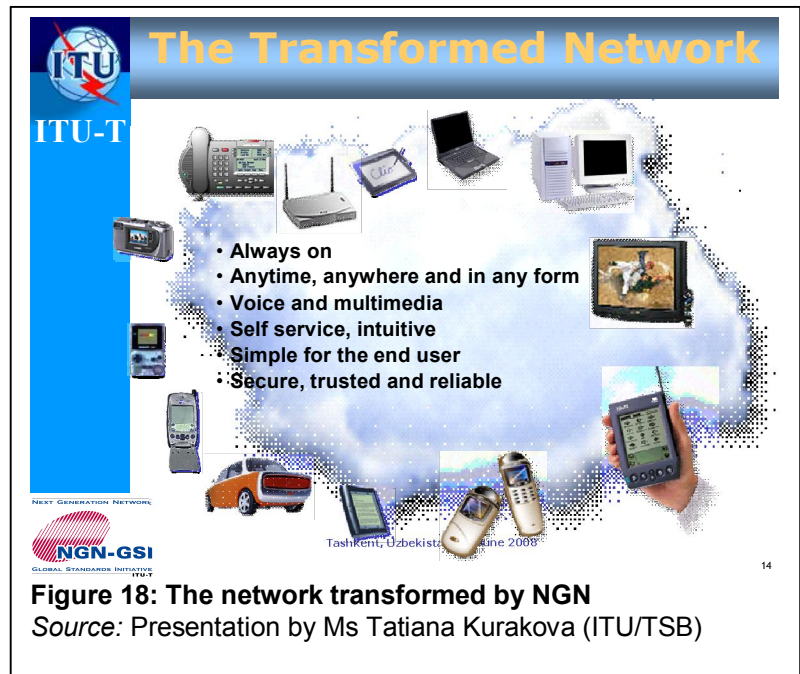
Prior to 2004, NGN activities had been handled by a variety of Study Groups. In that May of that year, a Focus Group on NGN was established, with a lifetime of 18 months. At the 2004 WTS, SG13 was nominated as the lead study group on NGN activities. It has developed a release plan indicating when different output recommendations can be expected (see www.itu.int/ngnproject).

In September 2005, the NGN Focus was superseded by the NGN Global Standards Initiative (NGN-GSI) with the goal of further strengthening ITU-T's leading role in this area. It typically holds four meetings per year with rapporteur groups from SGs 11, 13 and 19 as well as from 12, 16 and 17. The most recent meetings were held in January 2008 in Seoul and in May in Geneva. NGN is expected to result in a transformation of the traditional circuit-switched telephone network, as indicated in Figure 18.

NGN is expected to result in a transformation of the traditional circuit-switched telephone network, as indicated in Figure 18.

Mr. John VISSER, Chairman, ITU-T Study Group 19 (mobile telecommunication networks), Nortel, presented on [Next-generation networks on a mobile platform](#). He began by showing how mobility has provided the main area of telecommunications growth in recent years, with illustrations from Japan and Korea. He then described the creation of the Special Study Group (SSG) in 2000, which later became ITU-T Study Group 19, dealing with mobility and especially with IMT-2000 (third generation mobile).

SG19 works very closely with the ITU-R especially with Working Party 5D (formerly 8F) and with other standards development organizations, like 3GPP and 3GPP2 (see Figure 19). He went on to describe the inter-relationship of SG19's work with the NGN-GSI, especially in the area of fixed-mobile convergence. He also explained how the work is coordinated with ITU-D where a handbook on IMT-2000 has been developed. In the current study period there are at least five ITU-D SG questions dealing with IMT-2000 and NGN.



Mr. Riccardo PASSERINI, Senior Telecommunication Engineer, ITU/BDT, presented on [assisting developing countries in developing an NGN strategy](#).

He described the evolutionary principle which is based on a step by step approach with an NGN as the target network. He also explained how, by establishing different priorities, operators may manage the migration according to different scenarios. He outlined the principles set out in ITU-T Recommendation Y.2261 on the migration from a PSTN/ISDN environment for a call server (CS)-based and IMS-based migration to NGN. He also looked at ITU-D Study Question 19-1/2 on the strategy for migration for developing countries. This study question has established a series of issues for study and a set of expected outputs, including annual updates on NGN deployment, a methodologies report and a set of guidelines. The last rapporteur's meeting was held in Geneva, 18-19 February 2008 (see Figure 20) and the next SG2 meeting will be held 15-19 September 2008, also in Geneva. Finally, he outlined the ITU project on an International Telecommunication Testing Centre (ITTC) for new technologies, including Methodical testing on Next Generation Networks (NGN), which was adopted in the Doha Action Plan.

Rapporteur's Group meetings

- **Last Rapporteur's Group Meeting: Geneva 18-19 February 2008**
 - **Draft "guidelines for developing countries on migration towards NGN": The objective of these guidelines is to offer guidance for developing countries on the technical issues for consideration when envisaging a migration of their existing PSTN/ISDN networks to NGN.**

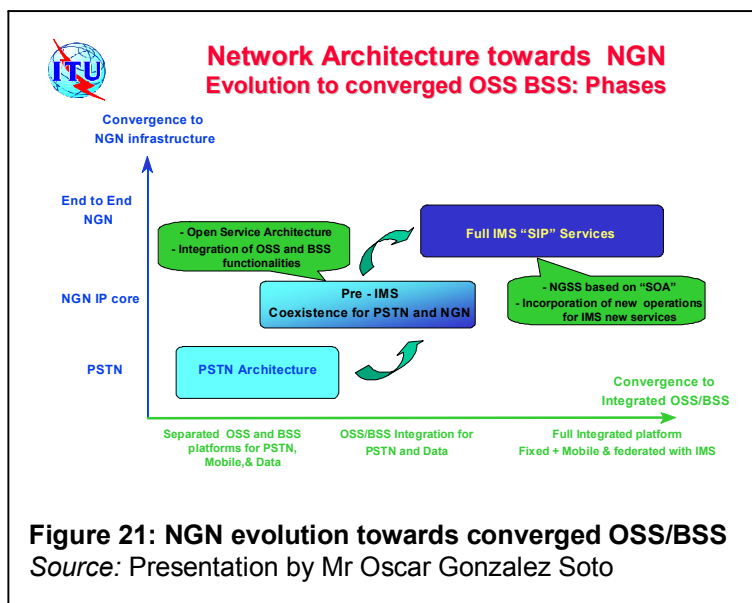
http://www.itu.in/dms_ties/itu-d/md/06/rgq19.1.2/c/D06-RGQ19.1.2-C-0011!R1!MSW-E.doc

- **Next Rapporteur's Group Meeting: During the next SG2 Meeting, Geneva 15-19 September 2008**

Figure 19: Outcomes of last ITU-D Rapporteur's meeting
Source: Presentation by Mr Riccardo Passerini

Mr. Asiljon MIRKHABIBOV, Head of Department of Scientific Engineering and Marketing Research Centre, Uzbekistan, presented on [Prospects for the introduction of NGN in the telecommunication networks of Uzbekistan](#). He outlined the planned network architecture and showed the planned partnerships to be established with ITU-T (SG 11 and 13), ETSI (TISPAN) and IETF.

Mr. Oscar GONZALEZ SOTO, ITU-D consultant, presented on [Network Architecture in the evolution of NGN and OSS/BSS](#). Network topology design is the most important factor when performing the migration of a PSTN towards a modern integrated multi-service network. He outlined the main factors and steps in the migration of a network topology towards the new architecture of NGN with new IP mode network elements. He analyzed a number of alternative network architectures alternatives as a function of geography, level of network development and age, growth rates, etc. A new network topology, with less fewer nodes and high-capacity links, is required which implies a requirement to review the location of network elements, the security design and design methodologies. By combining the network evolution at access, local and transit levels it is possible to develop a good strategy for economic evolution paths towards a full functionality of NGN. He outlined the transition towards a converged OSA/BSS in a series of phases (see Figure 21).



The final presentation in this session, on [testing model networks as an instrument for bridging the standardization gap](#), was presented by **Mr. Denis ANDREEV**, Director of Technopark, ZNIIS and Editor of Q8/11, ITU-T SG 11 and **Mr. Dmitry TARASOV**, ZNIIS, Russian Federation.

Session 7: Security and regulatory issues

The final session as moderated by **Ms. Diana KORSAKAITE**, Deputy Director, Communications Authority of Lithuania. It provided an overview of security standards and current security standardization work and assessed whether developing countries and countries with economies in transition have particular special security needs that are not already being addressed by the current work. Ms Korsakaite, who is a member of the ITU's High-Level Experts Group (HLEG) for developing a Global Cybersecurity Agenda, described the growing importance of cybersecurity concerns within the region, noting the recent attacks on Estonia.

Mr. Sergey LUKOVSKIY, Director of Information and Telecommunication Networks Centre of Competence, Russian Federation, described [Regional Activities in the Field of Security](#). In particular, he described the ITU-T X series of Recommendations on the security baseline for network operators.

Mr. Eduard DJANSERIKOV, Head of Department, Kyrgyztelecom JSC, Kyrgyzstan, Head of WG on Information Security, RCC Commission on Telecommunications, read a paper on the development of security guidelines within his company.

Ms. Natasa GOSPIC, University Belgrade, Transport and Traffic Engineering Faculty, Serbia, presented on [Developing country contributions to network development](#). She said that developing country concerns are too often neglected in the standards development process and called upon ITU-D to establish a programme for first-time delegates similar to that offered by ITU-T. She argued that holding SG meetings at regional and sub-regional level offers an excellent means of bridging the standardization gap (see Figure 22). As an example of best practice, she cited the case of ITU-D work carried out under Q18/2 on the strategy for migration of

Regional and subregional meetings

- *Regional and subregional meetings offer a valuable opportunity for information exchange and for the development of management and technical experience and expertise.*
- *Every opportunity should be taken to provide additional opportunities for experts from developing countries to gain experience by participating in regional and subregional meetings which deal with study group work.*

Figure 22: Value of regional and sub-regional meetings
Source: Presentation by Ms Natasa Gospic

mobile networks to IMT-2000 and beyond. A rapporteur group was created, but by the time of the mid-term review in September 2004, it was clear that very few contributions had been received from developing countries. Accordingly, a regional meeting was organized in Yaoundé, Cameroon, from 27-29 June 2005 on Guidelines for a smooth transition to IMT-2000. Two successive drafts of the guidelines were developed in advance of the meeting, and the needs of developing countries were clearly expressed in the draft. The final text was adopted during the meeting. The meeting identified the need to identify appropriate frequencies for IMT-2000 implementation and to develop tutorial material.

Ms. Tatiana ABDALIMOVA, Head of the Laboratory of Scientific Engineering and Marketing Research Centre, Uzbekistan, presented on [National Standards in the field of security and their harmonization with International Standards](#).

The final presented, on the [Outcomes of Global Symposium for Regulators 2008](#): Infrastructure sharing, was given by **Mr. Andrei UNTILA**, ITU Area office, Moscow. This year's GSR, the one of a series of annual events, had been held in Pattaya, Thailand, from 11-13 June, preceded by a Global ICT Leaders Meeting, open to the private sector. This year, the main theme was "Six degrees of sharing", and looked at principles for infrastructure sharing among network operators. The results will be presented in the next edition of the ITU's *Trends in Telecom Reform* publication.

Closing session: Wrap-up and conclusions

Mr Malcolm JOHNSON, Director, TSB, on behalf of ITU, gave a [vote of thanks](#) to the hosts of the event and the RCC. He said that he was sure that the excellent ideas that have been generated, not only in the forum but also in the discussions over coffee, lunch and dinner, will prove an excellent basis for consideration of common proposals in the WTSA Preparatory Meeting which will start tomorrow morning. He identified a number of issues that could be considered in regional preparations in the presentations including telemedicine; security; quality of service; interoperability and the ITU Mark; use of regional groups; and the desire to hold more meetings in the region. He expressed his support for regional preparations and noted the value of regional solidarity. He concluded by inviting everyone to WTSA-08 in Johannesburg.

Mr Yuri GRIN, Deputy-Director, BDT, echoed Mr Johnson's words and raised a number of questions:

- Is it a good idea to continue regional forums (one per region per year)?
- Why are there fewer people at the closing session than the opening? What can we do to improve?
- Why are not all countries of the region represented here? How can we reach them all?

He expressed ITU's willingness to improve in future years and invited participants to nominate proposals for future topics. He noted that it will be difficult for the next host country to match Uzbekistan's excellent arrangements and hospitality in hosting the meeting.

Mr Asadjan KHODJAEV, Deputy Director-General of the Communications and Information Agency of Uzbekistan, commended ITU for holding this regional forum and for creating an opportunity for the development of practical results, which will be evident tomorrow when the regional proposals are presented at the CIS region preparatory meeting, which will be organized in a more informal manner. He noted that we are not alone in working on standards and that a group of companies have just announced that they will work together on developing WiMAX standards and pooling of patents. So, clearly there is considerable commercial interest in standards development. He wished everyone a successful meeting tomorrow.

Please note that this is an unofficial draft summary of the meeting.

Full copies of all the presentations can be found on the ITU website for this event at:
<http://www.itu.int/ITU-T/wtsa-08/prepmeet/rcc/programme-forum.html>