



International Telecommunication Union

ITU-T and its Standardization Work

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ITU-T Workshop "Telecommunication Management and Operations Support Systems"
Beijing, China, 22-23 May 2006



ITU-T

Agenda

- o ITU-T Overview
- o NGN study in ITU-T
- o ITU-T workshops and new study topics

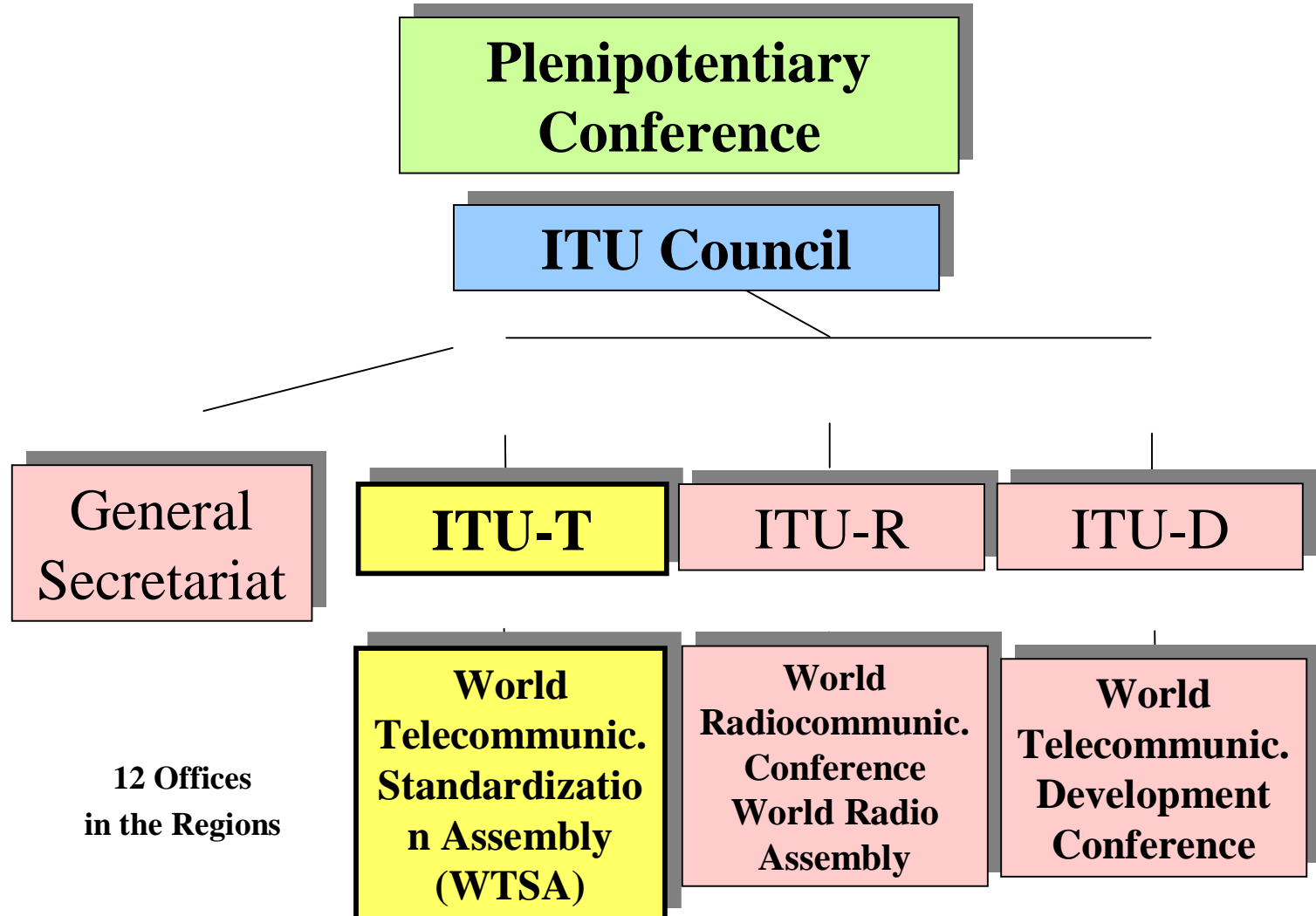
ITU Landmarks

- 1837** Invention of the first electric telegraph
- 1844** Samuel Morse sent his first public message over a telegraph line between Washington and Baltimore
- 1865** *Foundation of the International Telegraph Union by twenty States with the adoption of the first Convention. First Telegraph Regulations.*
- 1876 Alexander Graham Bell patents his invention of the telephone
- 1924** Paris - Creation of CCIF (International Telephone Consultative Committee)
- 1925** Paris - Creation of CCIT (International Telegraph Consultative Committee)
- 1927** Washington - Creation of the CCIR (Intl. Radio Consultative Committee)
- 1932** Madrid - Plenipotentiary Conference. Telegraph Union changes name to *International Telecommunication Union - ITU*
- 1947** ITU becomes a **Specialized Agency of the United Nations**
- 1956** Geneva - CCIF and CCIT merged into CCITT (International Telegraph and Telephone Consultative Committee)
- 1992** *Geneva - Plenipotentiary Conference. Creation of 3 Sectors: **ITU-T** (CCITT), **ITU-R** (IFRB, CCIR), and **ITU-D** (TCD)*



ITU-T Overview

ITU Structure

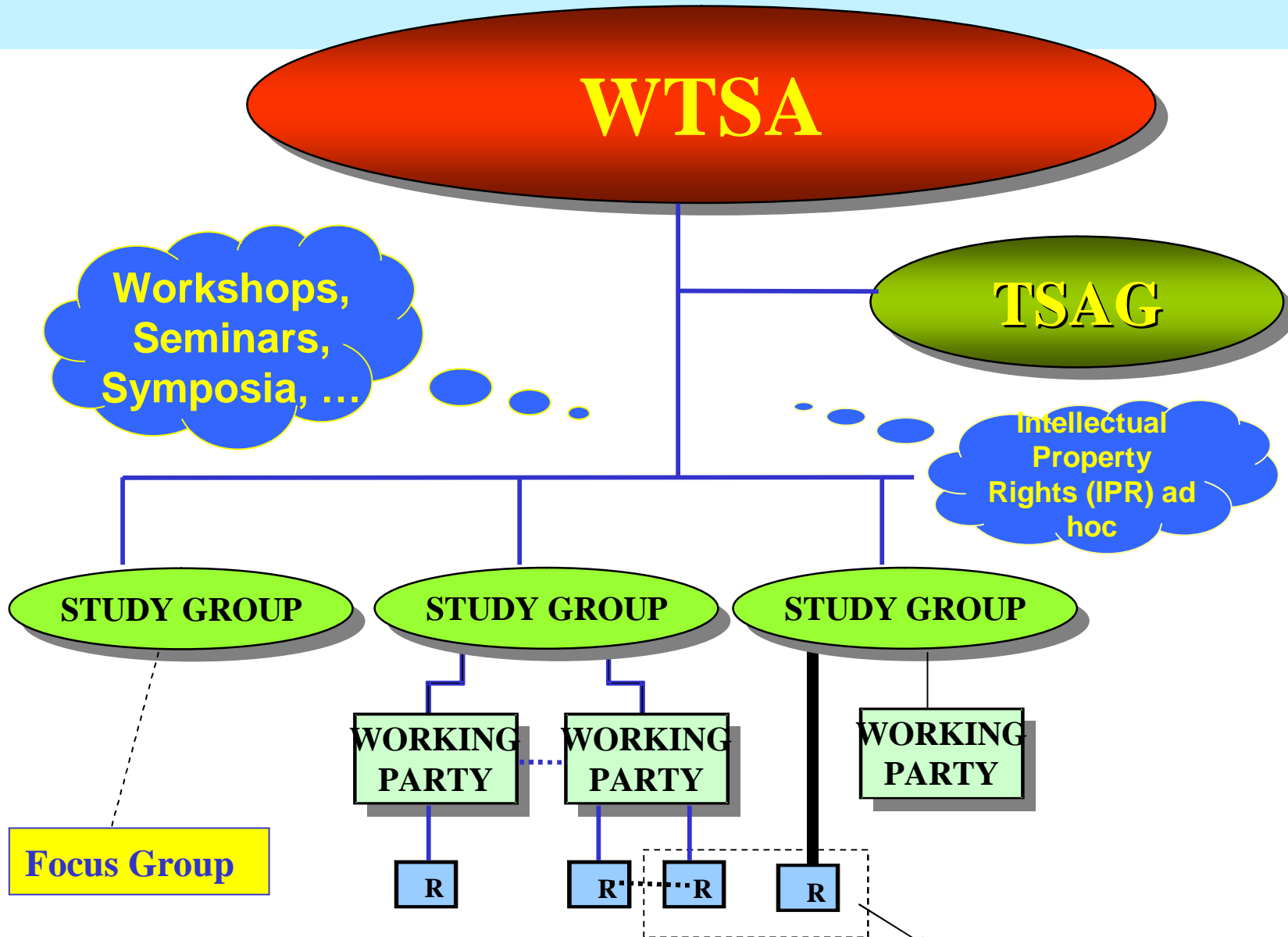


“The functions of the Telecommunication Standardization Sector shall be, bearing in mind the particular concerns of the developing countries, to fulfill the purposes of the Union relating to telecommunication standardization, as stated in Article 1 of this Constitution, by studying technical, operating and tariff Questions and adopting Recommendations on them with a view to standardizing telecommunications on a worldwide basis”



ITU is "membership-driven" !

- **Member States: Governments [190]**
- **Sector Members: [352]**
 - Recognized Operating Agencies (ROA), 157
 - Scientific or Industrial Organizations (SIO), 147
 - Other entities dealing with telecommunication matters: Regulators, Regional and other international telecommunication, standards, financial or development organizations, 48
- **Associates: [107]**
 - Associates as a way for small entities or organizations to participate in the work of a single ITU-T Study Group at a reduced financial contribution.



ITU-T Workshop on Telecommunication Management and Operations Supporting Systems
22-23 May 2006, Beijing

R Rapporteur Group

Joint Rapporteur group



ITU-T Overview

Study Groups

Study Group 2: Operational aspects of service provision, networks and performance

Study Group 3: Tariff and accounting principles, telecommunication economic and policy issues

Study Group 4: Telecommunications Management

Study Group 5: Protection against electromagnetic environment effects

Study Group 6: Outside Plant and related indoor installations

Study Group 9: Integrated broadband cable networks and television and sound transmission

Study Group 11: Signalling requirements and protocols



ITU-T Overview

Study Groups

Study Group 12: Performance and Quality of Service

Study Group 13: Next Generation Networks

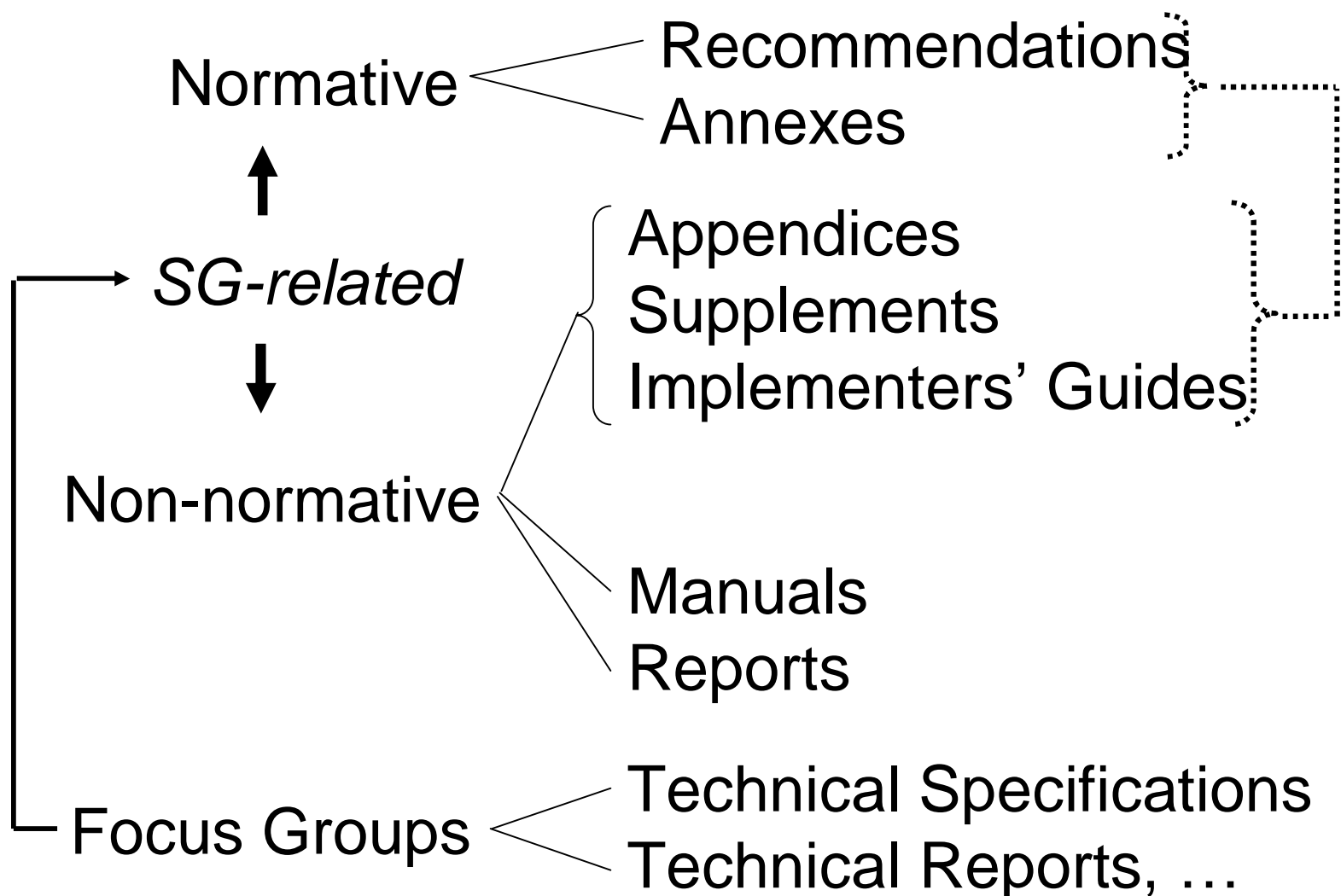
Study Group 15: Optical and other Transport Network Infrastructures

Study Group 16: Multimedia Terminals, Systems and Applications

Study Group 17: Security, Languages and Telecommunications Software

Study Group 19: Mobile telecommunication networks

Products



Approval of Recommendations

- o Alternative Approval Process (AAP)

*For **technical** Recommendations*

Once the text is considered to be mature, it is submitted for AAP at an SG or WP meeting (Rec A.8)

- o Traditional Approval Process (TAP)

*For Recommendations subject to **policy or regulatory** implications*

Initiated at any SG or WP meeting and completed, for final approval, at the subsequent SG meeting (WTSA- Res 1)

Approval and Publication of Recommendation

time	before 1998	1989 - 1993	1993 - 1996	1997 - 2000	2001 - 2004
Approval	4 years	2 years	18 months	9 months (exceptional cases 5 months)	2-9 months
Publication time	2- 4 years	2 years	1 - 1.5 year	6-12 months	3-9 months

- Notes:
- Pre-published Recommendations, available on ITU-T website, from a few days to four weeks after approval of the text
 - Recommendations in force, pre-published, superseded/obsolete: available on the ITU-T website
 - Forms of publications: Paper, CD-ROM, electronic bookshop, on-line, etc.
 - Free on line access since January 2001 (one free access per member and 3 free downloads for public)
 - “Approval time” counted between “Determination/consent” and final approval
 - **Av. Approval time under AAP = 9.5 Weeks**



ITU-T

ITU-T Overview

Cooperation

- International SDOs:
 - ISO, IEC, WSC; ISO/IEC JTC1
- Regional & National SDOs:
 - ATIS, TIA, TSACC, TTA, TTC, ARIB, CCSA, ETSI, ACIF, GSC
- Many Fora/SDOs:
 - IETF/ISOC, IEEE, 3GPPs, MPLS/FR, MEF, TMF, DSLF, OMA...
- Regional Telecom Organizations:
 - APT, ATU, CITELECOM, RCC, CEPT, ETNO, ...

(SDO = Standards Development Organization)

Main Study Groups addressing NGN

- SG 13
 - Functional requirements, services and architectures
- SG 11
 - Network Signalling and Control functional architectures in emerging NGN environments
 - Signalling and control requirements and protocols to support user attachment in NGN environments
- SG 19
 - Vision for IMT-2000
 - Mobility Management
 - Convergence of Fixed and Mobile
- SG16 has developed MM Services specifications directly applicable to NGN with the H.323 system, H.248 gateway control protocol, QoS, Security, Services & Applications
- N.B: all SGs have an “NGN” aspect to their work



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NGN in ITU-T

- NGN work in the ITU-T started in Study Group 13 mid 2003 and an NGN Joint Rapporteur Group was established in October 2003
- In May 2004 in Beijing, ITU-T Director launched the NGN Focus Group in response to a strong membership demand for NGN standards
- Key topics addressed:
 - Functional & Nomadicity Architecture (base on IMS & non-IMS)
 - QoS (include the xDSL Access)
 - Security Capability (inc. Authentication)
 - NGN Control and Signaling Capability
 - Evolution from CGN to NGN
- At the WTSA-04 the revised study group structure was agreed, Study Group 13 was given the task to lead the NGN work in the ITU-T and to be the parent study group for the NGN Focus Group



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NGN Study in ITU

- Highly flexible means to progress technical work
 - Meeting almost every two months:
 - FGNGN meeting in 6, 7, 9, 11/2004 and 3, 5, 6, 9, 11/2005
 - Open to any individual from a country which is a member of ITU:
 - Release-based deliverable: time to market
- The NGN Focus Group, at end of 2005, handed over its results to Study Group 13 and other relevant study groups to continue the development of global NGN standards under the new brand of “NGN-Global Standards Initiative (NGN-GSI)”

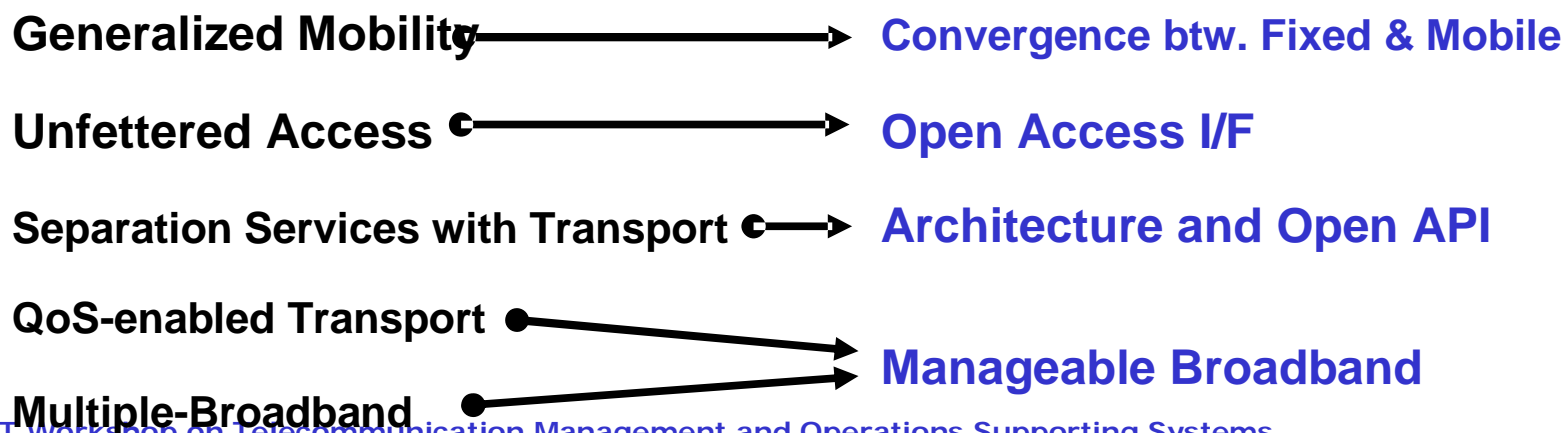
NGN in ITU-T

Definition of NGN

Definition
of NGN
(Rec.
Y.2001)

A NGN is a packet-based network able to provide Telecommunication services and able to make use of multiple broadband, QoS-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies.
It enables unfettered access for users to networks and to competing service providers and/or services of their choice.
It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.

Target Standards Area



Analysis of Input Documents and Participants

	Total Input	Contribution (China)	Liaison Statement	Others	Participants (China)
1 st (06-2004)	33	17 (1)	10	6	99(11)
2 nd (07-2004)	79	37 (9)	5	37	66(7)
3 rd (09/10-2004)	150	122 (39)	10	18	121(25)
4 th (11/12-2004)	129	98 (26)	11	20	123(25)
5 th (03-2005)	176	138(29)	26	12	142(21)
Total	567	412(104)	62	93	551(89)



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NGN in ITU-T

Analysis of IDs by organizations and regions

	ROA	SIO	Others
1 st	1	12	20
2 nd	3	29	47
3 rd	21	84	45
4 th	12	73	44
5 th	22	88	66
Total	59	286	222

	Asia	North America	Europe	Others
1 st	2	12	2	17
2 nd	12	21	3	43
3 rd	60	49	10	31
4 th	47	41	10	31
5 th	75	36	22	43
Total	196	159	47	165

Organization of Current NGN Study

GSI: Umbrella over the NGN standardization programme

NGN Global Standards Initiative
(led by SG13)

JCA: ITU-T, GSC PSO's and IETF managers: oversees coordination and planning of work

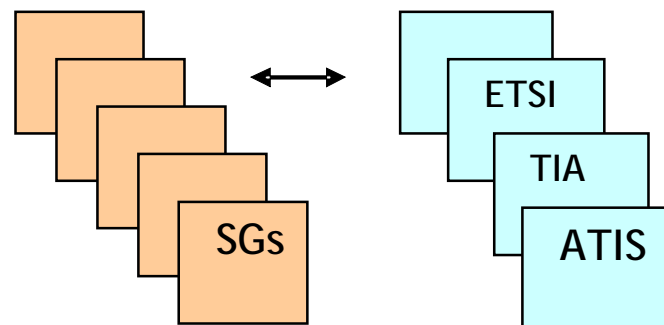
NGN-Joint
Coordination Activity

SG13
NGN
project
planning

TSR: Review results, identify issues to JCA

Technical & Strategic
Review (TSR)

Technical
Standardization work



NGN-GSI Schedule

- January 2006 Study Group and Rapporteur meeting
- April 2006 NGN Rapporteur meetings
- July 2006 Study Group and Rapporteur meetings
- October 2006 NGN Rapporteur meetings
- January 2007 NGN Rapporteur meetings
- April 2007 Study Group and Rapporteur meetings: approval of NGN release 1
- September 2007 NGN Rapporteur meetings



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Recent ITU-T Workshops on NGN

ITU-T&IETF Joint NGN Workshop 1-2 May 2005, Geneva, Switzerland

- Sessions co-chaired by ITU-T and IETF experts:
 - Requirements & Functional Architecture
 - Nomadicity & Mobility
 - QoS, Control & Signalling Capabilities
 - Network Management
 - Security Capabilities
 - Evolution
- Prior to NGNFG meeting, 230+ participants
- Better understanding between ITU-T and IETF of related work
- Identified detailed topics for discussion between ITU-T and IETF in technical areas of mobility, QoS, management, and security



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Recent ITU-T Workshops on NGN

ITU-T & ATIS Joint Workshop on NGN 19-20 March 2006, Las Vegas, USA

- Sessions co-chaired by ITU-T and ATIS experts on:
 - Updates of NGN work
 - NGN architecture & capabilities
 - Service Enablers
 - Signalling and Control
 - Interconnection, Interworking and Evolution
- Prior to TelecomNext show and ATIS Techthink conference, 170 participants
- particular emphasis given to NGN requirements and standards objectives from a North American perspective
- enhanced/extended ITU-T and ATIS cooperation



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Recent ITU-T Workshops on NGN

NGN and its Transport Networks

April 20-21, 2006, Kobe, Japan

- 7 technical sessions with 30 high-quality presentations on:
 - Japan's NGN strategy
 - NGN architecture & requirements
 - Network QoS & Control
 - Transport Network control
 - Market Opportunities & challenges
 - Broadband Access
 - Data over Transport Network
- Prior to NGN-GSI event, 432 participants from 22 countries
- Disseminate information of ITU-T NGN Study to Japan
- Japan's vision and experience shared with participants worldwide



Recent ITU-T Workshops on NGN

ITU-T

- NGN technical workshop in Korea
 - 14-15 March 2005, prior to NGNFG meeting
 - 350 participants
- NGN standardization seminar in Uzbekistan
 - 5-7 July 2005, invited by Communication & Informations Agency of Uz. for CIS&Baltic states
 - 86 participants
- NGN training seminar in Iran
 - 25-28 July 2005, invited by Telecommunication Infrastructure Company of Iran
 - 120 participants
- NGN Industry Event
 - 18 November 2005, London, UK
 - Celebration of NGN Release 1 proceedings
- NGN workshop in Vietnam
 - 15-16 May 2006, invited by MPT Viet. for Asia Pacific countries
 - 100 participants



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Summary of ITU-T NGN work

- Many organizations working on NGN, future generation technologies, while ITU is the leading and pre-eminent one.
- ITU providing global perspectives for an overall framework
- ITU leveraging near term detailed and well-focused technical work of relevant bodies into this consistent global framework



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ITU-T Workshops

- o **Open to the public and free of charge**
- o ITU-T's prime service means with 2-folds of functions/objectives:
 1. gather information from a wide variety of participants
 - Review point of cutting-edge technology development
 - Networking opportunity for key industry experts and policy makers from around the world
 - Identify new standardization topics to shape the future of ICT
 2. share its technical expertise and leadership with the global communications community
 - play an important role to disseminate information and up-to-date knowledge of ICT development, especially for developing countries
 - to maintain ITU-T pre-eminence by attracting new and forward-looking study

year	Number of workshops
2000	1
2001	10
2002	12
2003	14
2004	15
2005	18

Started with “IP-Telecoms Interworking Workshop” in 2000

Getting more and more ‘popular’



ITU-T workshops in the regions (besides NGN)

- IMT-2000 and beyond systems - Fix-mobile convergence:
 - Kyiv, Ukraine, 12 - 14 September 2005
 - Ottawa, 28 May 2002
 - Rio de Janeiro, 6 September 2001
- Training seminar on Standardization, ITU-T activities, etc for developing countries:
 - Kazakhstan, Ukraine, Iran, Uzbekistan, Brazil, Malaysia, Zimbabwe, Ghana, Cambodia, Vietnam, Uganda, Spain, Botswana, Portugal, Cuba, Senegal, India, Russia, Venezuela
- USA, UK, Norway, Germany, Korea, Japan, Canada have hosted ITU-T workshop events



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ITU-T workshops & new study

Most recent hot topics

- IPTV:
 - ITU-TSB director's consultation meeting on 4-5 April 2006
 - Creation of **IPTV Focus Group**
- RFID
 - Creation of **TSAG Correspondence Group on RFID** in July 2005
 - Workshop on "Networked RFID" in Geneva, 14-15 February 2006
- Conformance and Interoperability testing: Geneva, Jan. 2006
- Home Networking:
 - Workshop in Geneva, 13 - 14 October 2005 - creation of **HN-JCA**
 - Tokyo, Japan, 17-18 June 2004
- Video and Image coding
 - San Diego, USA, 9 - 11 May 2006
 - San Diego, USA, 31 July - 4 August 2005
 - Geneva, 22 - 23 July 2005



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ITU-T workshops & new study

- o Security:
 - Geneva, 3 - 4 October 2005
 - Moscow, Russian Federation, 29 March 2005
 - Florianópolis, Brazil, 04 October 2004
 - Seoul, Korea, 13-14 May 2002
- o IPv6, ENUM & Domain Names
 - Geneva, 22-23 June 2005
 - Kuala Lumpur, Malaysia, 24 July 2004
 - Geneva, 15-16 September 2003
 - Geneva, 3-4 March 2003
 - Geneva, 6 May 2002
 - Geneva, 8 February 2002



ITU-T workshops

- Upcoming ITU-T workshops:
 - End-to-End QoE/QoS, 14-16 June 2006
 - Workshop on emergency telecommunication service, Oct. 2006
 - Grid Workshop, 23-24 Oct. 2006
 - Broadband Europe 2006, 12-14 Dec. 2006
 - The Fully Networked Car II, March 2007
 - NGN workshop in Africa



ITU-T added value to global standardization

Leadership through coordination, governments and private sector consensus building, and collaborative working arrangements with external organizations, forums and consortia

Facilitating adoption of appropriate external specifications as ITU-T Recommendations

Facilitating interoperability and interworking

Developing requirements and architectural framework Recommendations as needed and appropriate

Identifying emerging industry needs for global standards and proposing efficient and coordinated work planning and sharing arrangements with external forums to meet needs



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For more information

[*http://www.itu.int*](http://www.itu.int)

- o ITU-T web site:

<http://www.itu.int/ITU-T/index.html>

- o NGN Project:

<http://www.itu.int/ITU-T/ngn/index.html>

- o ITU-T workshops and seminars:

<http://www.itu.int/ITU-T/worksem/index.html>



Thanks

ITU-T Workshop on Telecommunication Management and Operations Supporting Systems
22-23 May 2006, Beijing