

# International Telecommunication Union



## ITU-T NGN Standardisation

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## ITU-T NGN Standardisation

- ITU-T
- ITU-T NGN standards activities
- ITU-T Global platform for NGN standards

# 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)*

## Functions of ITU-T

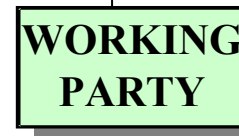
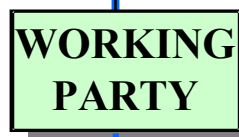
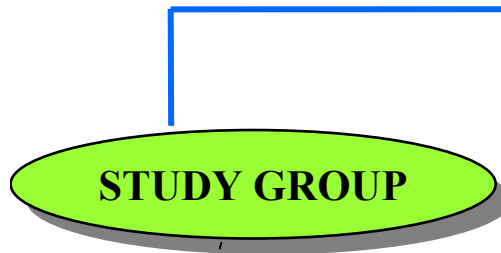
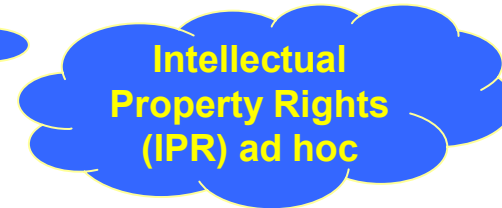
*"The functions of the Telecommunication Standardization Sector shall be, bearing in mind the particular concerns of the developing countries, to fulfill the purposes of the Union relating to **telecommunication standardization**, as stated in Article 1 of this Constitution, by studying **technical,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

## ITU-T Membership

- **Member States: Governments [189]**
- **Sector Members: [357]**
  - Recognized Operating Agencies (~ROA-160), Scientific or Industrial Organizations(~SIO-154) and Financial or Development Institutions (FDI);
  - Other entities dealing with telecommunication matters;
  - Regional and other international telecommunication, standards, financial or development organizations (~31).
- **Associates: [90]**
  - 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 Organizational Structure



**R** Rapporteur Group

Rapporteur groups

# Approval of Recommendations

- **Alternative Approval Process (AAP)**

*For technical Recommendations*

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

- **Traditional Approval Process (TAP)**

*For Recommendations subject to policy or regulatory implications*

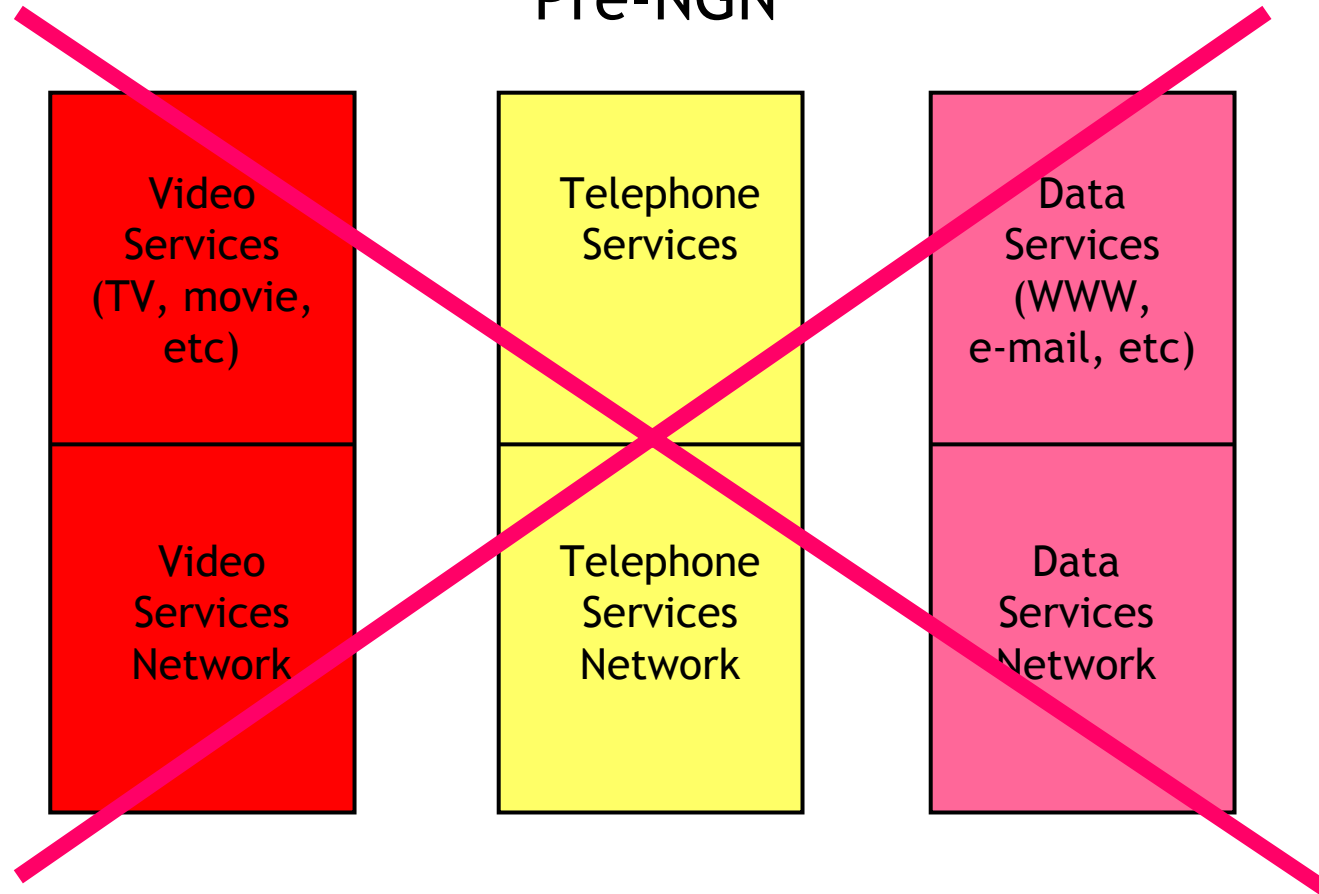
Initiated at a SG or WP meeting and completed, for final approval, at the subsequent SG meeting (WTSA- Res 1)

## ITU-T NGN standards activities

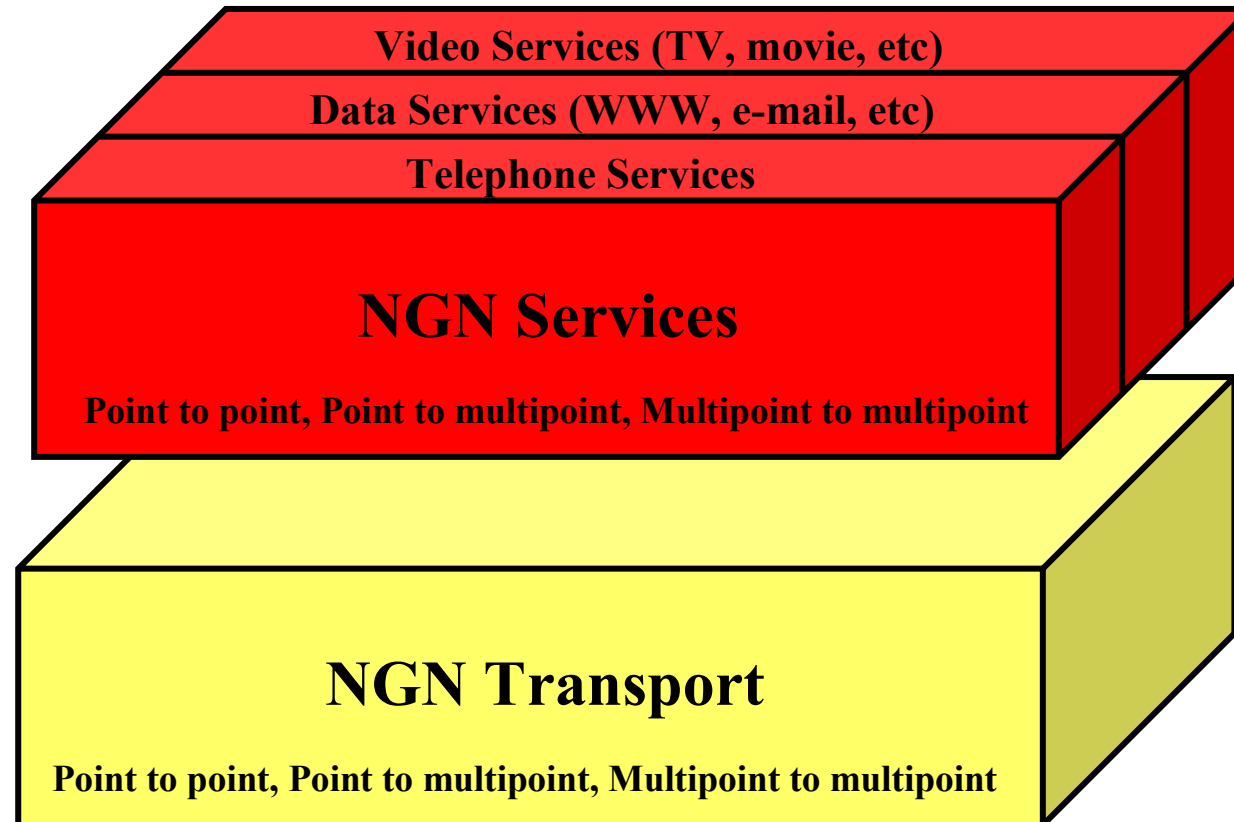
1. Trends for Next Generation
2. Definition and Features of NGN
3. Status of NGN work

## What's Old: Vertically-Integrated Networks

### Pre-NGN



### What's New: Horizontally-integrated Network



ITU-T Recommendation Y.2011

# Definition of NGN

ITU-T  
Rec.  
Y.2001  
(12/2004)

**Next Generation Network (NGN):**  
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.**

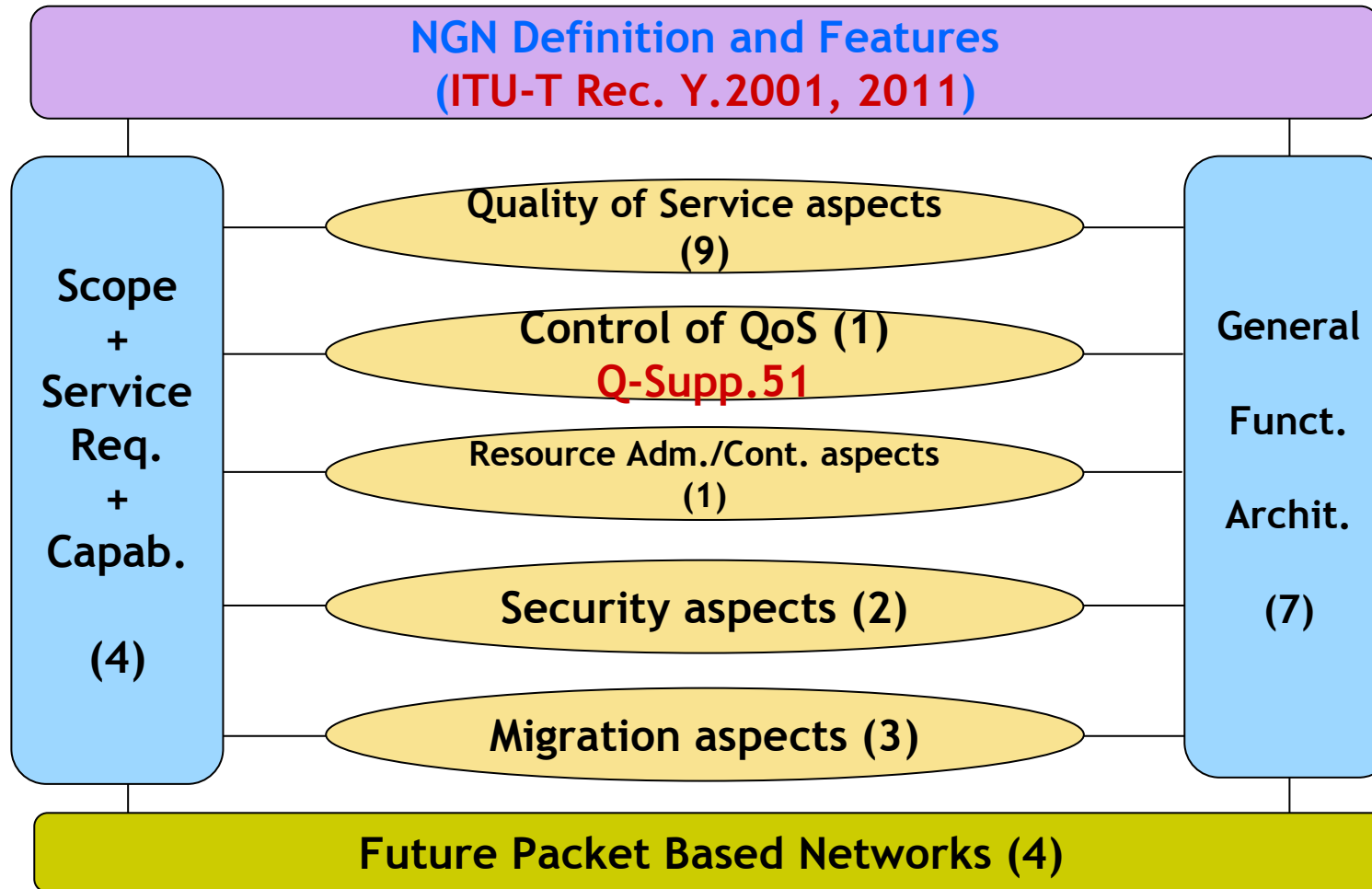
It enables **unfettered access** for users to networks and to competing service providers and/or services of their choice. It supports **generalized mobility** which will allow **consistent and ubiquitous provision of services to users.**

# Key Concepts for NGN Architecture

- Separation between service and transport
- Personal and Terminal Mobility
- Resource and admission control
- QoS selection & control
- Accommodation of legacy terminals and systems



# Deliverables from ITU-T FGNGN (Mid 2004 – Nov 2005)



## **R1 Deliverables (13) FGNGN –Approved (Nov 2005)**

WG	Title
WG 1	NGN Release 1 Scope
	NGN Release 1 Requirements
WG 2	Functional Requirements and Architecture of the NGN
	Mobility Management Capability Requirements for NGN
	IMS for Next Generation Networks
	PSTN/ISDN emulation architecture
WG 3	A QoS control architecture for Ethernet-based IP access network
	Performance measurement and management for NGN
WG 4	Signalling requirements for IP QoS
WG 5	Security Requirements & Guidelines for NGN Release 1
WG 6	Evolution of Networks to NGN
	PSTN/ISDN evolution to NGN
	PSTN/ISDN emulation and simulation

## Other Deliverables from FGNGN

Release	WG	Title
Independent	2	Framework for Customer Manageable IP Network
	3	Network performance of non-homogeneous networks in NGN

Release	WG	Title
R2	7	Problem Statement
		FPBN Requirements
		FPBN Architecture

## **ITU-T Global platform for NGN standards**

## ITU-T work relevant for NGN

- Signalling Protocols/QoS across multiple networks - SG11 (WTSA-04)
- Core Networks, Architecture/Requirements (NGN)- SG13 (WTSA-04)
- Access & Optical Networks - SG15
- Numbering & Addressing - SG2
- Performance & QoS - SG12
- Telecommunication management - SG4
- Services and applications + MM - SG16
- Security - SG17
- Mobile - SG19
- ITU-T Focus Group NGN (**FGNGN**) → bringing it all together (Mid 2004 - Nov 2005) → Parent SG13

# International Cooperation

- **International SDOs:** ISO, IEC, WSC; ISO/IEC JTC1
- **Regional SDOs:** ATIS, TIA, TSACC, TTA, TTC, ARIB, CCSA, ETSI, ACIF, GSC
- **For internet:** IETF/ISOC, ICANN, ccTLDs, etc.
- **Many Forums/SDOs:** such as IEEE, 3GPPs, ATM, MPLS/FR, MEF, TMF, ...
- **Regional Telecom organizations:** APT, ATU, CITEL, RCC, CEPT, ETNO, ...
- etc...

(SDO = Standards Development Organization)

## Cooperation

- 3GPP/TISPAN - IMS
- ATIS - US carrier requirements
- DSL Forum - Remote management of CPE
- IETF - IPv6, SIP extensions, MPLS, etc
- TMF - Standardised OSS components
- Open Mobile Alliance (OMA) - (Mobile) Applications, DRM
- Metro Ethernet Forum (MEF) - role of Ethernet in transport network
- IEEE 802.11x - Wi-Fi hotspots

# NGN-GSI, Future of ITU NGN (Jan-2006→)



- Co-located Joint Activity : SG 11 + 13 + 19  
and 2 + 12 + 15 + 16 + 17
- Areas of coverage
  - Release 2 Services and Capabilities
  - Functional Architectures and Requirements
  - Mobility Management and FMC
  - IPv6 application into NGN
  - End-End QoS
  - NGN Signaling with Resource Admission Control
  - Migration and Interworking aspects
  - NGN Security
  - IPTV?, Home Networking, Networked aspects of Identification services, ....others

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

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

*Thank you for your attention!*

