

# ITU Arab Regional forum on NGN

5-6 March 2014- Rabat, Morocco

## ITU-D Activities on NGN

Study Period 2010-2014

Q26/2



# NGN and ITU-D Hyderabad Action Plan (HAP)

- NGN is one of the Priority areas of [the Programme 1](#) of HAP (Information and Communication Infrastructure and Technology Development)

# ITU-D Study Groups

## The History

- The ITU-D Study Groups were established in order to deal with specific telecommunication questions of general interest to developing countries, according to Resolution 2 of WTDC-94 that was held in Buenos Aires, 21-29 March 1994
- The terms of reference, the procedures to be applied by the Study Groups, the Questions under Study have been amended through the successive WTDCs: WTDC-98 (Valletta 23 March-1 April 1998), WTDC-2002 (Istanbul 18-27 March 2002), WTDC-06 (Doha 7-15 March 2006), WTDC-10 (Hyderabad 24 May-4 June 2010)

# ITU-D STUDY GROUPS

- **SG 1: Telecommunication development strategies and policies**

National telecommunication **policies and regulatory strategies** which best enable countries to benefit from the impetus of telecommunications as an engine of economic, social and cultural development.

Finance and economics, including World Trade Organization (WTO) issues, tariff policies, case studies, application of accounting principles as developed by ITU-T Study Group 3, private-sector development and partnership.

# ITU-D STUDY GROUPS

- **SG 2: Development and management of telecommunication services and networks and ICT applications**

Methods, techniques and approaches that are the most suitable and successful for service provision in planning, developing, implementing, operating, maintaining and sustaining telecommunication services which optimize their value to users. This work will include specific emphasis on telecommunication network security, mobile communication and communications for rural and remote areas, with particular focus and emphasis on applications supported by telecommunications

The implementation and technical application of information and communication technology, using studies by the others Sectors, taking into account the special requirements of the developing countries

# Reports from the former Study Period

- SG1:

Question 6-2/1: Regulatory impact of next generation networks on interconnection

- SG2:

Question 19-1/2: Strategy for migration from existing networks to next-generation networks for developing countries

# Output of Q.6-2/1: Regulatory impact of next generation networks on interconnection

## ISSUES FOR STUDY

- Regulatory impact of next-generation networks on interconnection
- legislative and regulatory framework that would be needed to implement appropriate interconnection arrangements for new generations networks.

## OUTPUT

- <http://www.itu.int/publ/D-STG-SG01.06.2-2010/en>
- The document contains the **Report on Question 6-2/1**. The report contains a brief discussion on the main issues and potential challenges to NGN interconnection

# Output of Q. 19-1/2: Guidelines for migration of Existing Networks to Next-Generation Networks (NGN) for Developing Countries

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.

- It explains the **trends of telecommunication that would eventually lead to NGN**, it explains the NGN technology and provides guidelines for NGN migration as well as some case **examples**. The report also provides some considerations regarding the **regulatory problems** raised by NGN migration.
- The document contains seven sections and seven annexes. Sections 1-3 contain a **general outline of the technology developments that led to NGN**, and what NGN really means both in terms of functionalities and benefits and network architecture. Relevant details that are associated with those sections can be found in **Annexes 1 and 2**.



## Output of Q. 19-1/2: Guidelines for migration of Existing Networks to Next-Generation Networks (NGN) for Developing Countries (cont.)

- Section 4 discusses the migration to NGN and can be considered as the core of the report. Associated technical details on migration are presented in Annex 3.
- Section 5 of the report presents some examples of NGN deployments. Section 6 outlines some regulatory challenges raised by NGN migration and finally section 7 presents the status of NGN migration and further work stressing on the importance of the development of Broadband access as a lever for NGN migration in developing countries.

## Output of Q. 19-1/2: Guidelines for migration of Existing Networks to Next-Generation Networks (NGN) for Developing Countries (cont.)

- **Annexes 4 and 5** contain respectively the questionnaire of Q19 that was sent in April 2008 to administrations and sector members and a summary of the responses received (unfortunately only 9 responses in total). Annex 6 contains the text of Opinion 2 of the last World Telecom Policy Forum (WTPF-09) of Lisbon on the “implications of the advent of NGN and advanced broadband access”. Finally section 7 presents a list of relevant ITU standards related to NGN.

# SG1: QUESTIONS UNDER STUDY

- **Q 7-3/1:** Implementation of universal access to broadband services
- **Q 10-3/1:** The impact of the licensing and authorization regime and other relevant regulatory measures on competition in a converged telecommunication/ICT environment
- **Q 12-3/1:** Tariff policies, tariff models and methods of determining the costs of services on national telecommunication networks, including next-generation networks
- **Q 18-2/1:** Enforcing national policies and regulations on consumer protection notably in a converging environment
- **Q 19-2/1:** Implementation of IP telecommunication services in developing countries
- **Q 20-1/1:** Access to telecommunication/ICT services by persons with disabilities and with special needs
- **Q 22-1/1:** Securing information and communication networks: Best practices for developing a culture of cybersecurity
- **Q 23/1:** Strategies and policies concerning human exposure to electromagnetic fields
- **Q 24/1:** Strategies and policies for the proper disposal or reuse of telecommunication/ICT waste material

# SG2: QUESTIONS UNDER STUDY

- **Q 9-3/2:** Identification of study topics in the ITU-T and ITU-R study groups that are of particular interest to developing countries
- **Q 10-3/2:** Telecommunications/ICT for rural and remote areas
- **Q 11-3/2:** Examination of terrestrial digital sound and television broadcasting technologies and systems, interoperability of digital terrestrial systems with existing analogue networks, and strategies and methods of migration from analogue terrestrial techniques to digital techniques
- **Q 14-3/2:** Information and Telecommunications/ICTs for e-Health
- **Q 17-3/2:** Progress on e-government activities and identification of areas of application of e-government for the benefit of developing countries
- **Q 22-1/2:** Utilization of telecommunications/ICTs for disaster preparedness, mitigation and response
- **Q 24/2:** ICT and climate change
- **Q.25/2:** Access technology for broadband telecommunications including IMT, for developing countries
- **Q.26/2: Migration from existing networks to next-generation networks for developing countries: technical, regulatory and policy aspects**

# Q.26/2: Migration from existing networks to next-generation networks for developing countries: technical, regulatory and policy aspects

Q26/2



## ISSUES FOR STUDY

- Trends of telecommunication networks towards NGN.
- Examination of NGN technologies, Migration solutions to NGN (ITU-T SG13 works on NGN)
- Interconnection for NGN, technical and regulatory aspects

## OUTPUT

Report on studies of various issues related to migration from existing networks to next-generation networks and among others the description of the technical, legislative and regulatory framework that would be needed to implement appropriate interconnection arrangements for new generation networks. Economic impact to implement these interconnection arrangements are also to be reported.

- **The main Report and respective Annexes**  
<http://www.itu.int/md/D10-SG02-C-0278>, are going to be finally approved by the fourth and final ITU-D Study Group 2 meeting of the current study period, to be held in Geneva, Switzerland, from 16-20 September 2013.

# ITU-D Q.26/2: The main Report and the Annexes

## Scope of the Report and the Annexes



- This Technical Paper provides comprehensive knowledge **about the legacy networks and NGN including analysis of differences between them.** This Technical Paper introduces key features of legacy networks and NGN based on ITU-T Recommendations. Based on this, this document analyses **“Gaps” between legacy networks and NGN in terms of services, architectures and technologies used in each networks.** Those “Gaps” would be used for identify different migration scenarios from legacy networks to NGN. In addition, this Technical Paper addresses various issues to be considered for the developing countries when initiate migration project and also for choosing specific types of scenarios, for example, status of legacy networks and their business environments including relevant systems. Trends, motivation and economic impacts to implement these interconnection arrangements are part of the Report. Further considerations on impacts for choosing migration scenarios such as user needs, **policy and regulation environments of the country are also introduced.**

# Content of the Main Report



- Migration to NGN
- Technology developments for NGN migration
- Regulatory Challenges for NGN migration
- Reviews from NGN deployment
- Case Studies
- Method for the promising technologies and status of NGN deployments

# Content of the Annexes



## **Annexes:**

- 1: Trends of Telecommunication
- 2: Tariff Considerations on Data Service including NGN
- 3: NGN Functional Architecture/Security
- 4: Quality of Service in NGN
- 5: NGN Management
- 6: NGN Testing
- 7: Examples of Migration Scenarios
- 8: Issues on NGN
- 9: ITU NGN standards



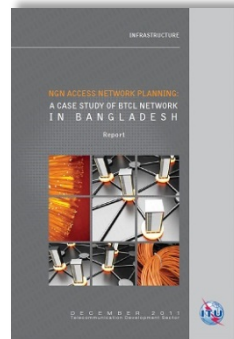
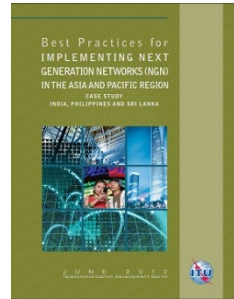
# Possible Future of Question 26 for the next Study Period

- 1) NGN and telecom/ICT resources
- 2) Identification of telecom resources and their managements
- 3) Methods and technologies to deal with telecom resources
- 4) Specific cases of networks and their capabilities: cloud computing, network virtualization, etc.

# Programme 1: Other Activities on NGN

## Case Studies and Direct Assistance

- Best Practices for Implementing Next-generation networks (NGN) in the Asia and Pacific Region; [Region Case Study: India, Philippines and Sri Lanka](#)
- NGN access network planning: [A case Study of BTCL Network in Bangladesh](#)



***THANK YOU FOR YOUR ATTENTION!***