

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

1 Statement of the situation

During the third ITU-D study period (2002-2006), the Project Group on Question 6-1/1 ("Interconnection") has successfully completed its assigned objectives and the Report on Interconnection has been finalized with the support of experts from Study Groups 1 and 2. In response to comments by the Telecommunication Development Advisory Group (TDAG), ITU-D Study Group 1, at its September 2003 meeting, identified interconnection as a subject that should be maintained, though under a revised Question, in the next ITU-D study period. At its meeting in Geneva on 1 and 2 February 2005, the project group drafted the following revised Question entitled "**Regulatory impact of next-generation networks on interconnection**". It was proposed that the draft Question be circulated to the entire ITU-D membership before it is formally considered by the ITU-D study group meeting in September 2004.

2 Question for study

2.1 During the monopoly era, regulator and operator were not distinct and voice telephony was the main telecommunication service offered. As transition to competition started gathering momentum in the last decade, technology changes, the provision of innovative service and the entry of competitors to the incumbent players led to the establishment of independent regulators in various countries. New operators were provided with interconnection and local access at network bottlenecks under the control of incumbents. Open competition called for regulators to apply regulations in order to ensure a level playing field. Regulators were required to ensure that cost-based, non-discriminatory access to the incumbent's bottleneck facilities was available to all competitors.

2.2 Present trends in many countries already indicate the use of wireless and broadband technologies with handheld devices allowing multimedia communication from any location by transmitting volumes of digital voice, video and data traffic. PCs, workstations and servers are linked to high-speed virtual networks that span cities, countries and continents and share gigabits of information. Customers can receive distinct, tailored, private services that securely traverse shared public, hybrid networks. Visions of communication anywhere, anytime, are now becoming a reality.

2.3 Multiservice converged access network architecture employing optic cable, DSL, broadband, Ethernet, leased lines, frame relay and wireless and multiservice converged backbone network architecture (IP, ATM, MPLS, etc.) will now need to be catered for by regulators as service providers across the world provide a wide range of services and applications through next-generation networks (NGNs). This will increasingly involve a single backbone multiservice network instead of single-service networks as we migrate towards NGNs.

2.4 In existing, conventional networks in most countries, regulatory control is confined to interconnections and other bottleneck access and core network issues. These are readily identifiable, and the consequences are fairly predictable if competitive activity is left unchecked. In NGNs, however, points calling for regulatory control will not be easy to identify as they may reside in any layer of network hierarchy, i.e. from basic access to services or even content. It will be excessively difficult to predict the regulatory impact of the introduction of NGNs.

3 Expected output

3.1 In the next ITU-D study period 2006-2010, studies of various issues related to **Regulatory impact of next-generation networks on interconnection** are to be reported, and among others the description of the legislative and regulatory framework that would be needed to implement appropriate interconnection arrangements for new generations networks.

4 Timing

4.1 Mid-term report is expected by 2007.

4.2 Final report is expected by 2009.

5 Proposers

There was consensus at the last meeting of ITU-D Study Group 1, held in Geneva in September 2004, that the issue of **interconnection** is of extreme importance to all countries, particularly developing countries, and needs to be continued as a revised Question in the next study period 2006-2010 with a view to highlight the impact of NGNs on this issue.

6 Sources of input

The major source of input will be the experiences of those countries that have introduced competition and addressed the question of interconnection. Contributions from Member States and Sector Members will be essential to the successful study of the issue. Interviews, existing reports and surveys should also be used to gather data and information for finalization of a comprehensive set of best practice guidelines for administering interconnection for NGNs. Material from regional telecommunication organizations and working groups should also be utilized in order to avoid duplication of work. Close cooperation with ITU-T and other activities within ITU-D is required and extremely important.

7 Target audience

Target audience	Developed countries	Developing countries	Least developed countries (LDCs)
Telecommunication policy-makers	Interested.	Highly interested because of lack of experience.	Highly interested because of lack of experience.
Telecommunication regulators	Interested and experienced with different models.	Highly interested. Some countries have immediate need for information.	Highly interested. May also need specific models.
Service providers/operators	New entrants, regardless of size, extremely interested.	New entrants, regardless of size, extremely interested.	New entrants, regardless of size, extremely interested.
Manufacturers	Highly interested. It will promote infrastructure development.	Highly interested. It will promote infrastructure development.	Highly interested. It will promote infrastructure development.

a) Target audience

Based on the foregoing evaluation matrix, a broad range of telecommunication policy-makers, regulators and service providers from least developed countries and developing countries will all be highly interested in the results of the Question. Policy-makers and regulators from developed countries will also be interested in many of the issues addressed. Manufacturers will also have a high interest in the Question since appropriate interconnection measures will promote infrastructure development.

b) Proposed methods for the implementation of the results

The output of the study (report and guidelines) would be distributed as the output results of the ITU-D study groups. Given the importance of the issue, however, BDT could also conduct regional seminars and meetings, perhaps in conjunction with regional telecommunication organizations, to disseminate the results of the study on the Question. The results should be transmitted to the ITU-D Global Symposium for Regulators held annually, when the theme relates to interconnection. The results should be published by ITU for wider distribution.

8 Proposed methods of handling the Question

Within Study Group 1.

9 Coordination

9.1 Because the issue of interconnection is related to other issues being studied by ITU, coordination will be required not only within the ITU-D study groups and programmes but also with the study groups of the other ITU Sectors.

9.2 Regional organizations such as CITELE and APT would also be involved so that issues related to interconnection are coordinated and duplication of efforts minimized.

10 Other relevant information

As may become apparent within the life of this Question.
