

Question 12-1/2: Examination of broadband communications over traditional copper wire, taking into account certain aspects of technologies, systems and applications

This study should include a cost / benefit analysis as well as an examination of the level of complexity of deploying such solutions, in particular in conjunction with existing or future backbone infrastructure.

1 Statement of problem or situation

There are more than 600 million copper loops installed world-wide. A vast majority of them can support broadband communications using Digital Subscriber Line (DSL) technologies without any particular reengineering.

These new techniques permit deployment of applications (tele-medicine, distance learning, tele-work, Internet access, intranet access) which require multi-megabit per second transmission capabilities on the same access networks which so far were only supporting multi-kilobit per second transmission.

The main merit of broadband communication over traditional copper lines using DSL technologies is the ability to leverage existing investments already made by telecommunication administrations. Also, developed countries have successfully conducted trials, and the technology and products have reached a level of maturity which permits us to consider large scale deployments. Therefore, developing countries can begin to benefit from such experience immediately.

The ITU-D can play a role in assisting Sector Members evaluate the appropriateness of this technical array and analyse the economic issues involved in deploying broadband communication applications over traditional copper loops, including the integration of these access network solutions with existing or future backbone networks infrastructure.

2 Question or issue proposed for study

Identify the technical and economical impacts and development aspects of the deployment of broadband communication technologies and applications on traditional copper loops using DSL technologies with particular attention to cost of customer premises equipment, easiness of deployment, and integration with existing and future backbone infrastructure.

3 Specification of the expected output

- A yearly updated version of the Report on DSL technologies.
- Economic cost-benefit analysis of deployment of broadband communication technologies, products, and applications over traditional copper loops, including an assessment of the demands in developing countries and the interoperability of these solutions with existing and future backbone infrastructure (report, year 1998).
- Guidelines for access network deployment using DSL technologies to be an integral part of the Report on DSL.

4 Required timing of the expected output

The course of the next ITU-D study period.

5 "Proposers/Sponsors" - Those who expected study of the Question or issue

This technological issue was originally adopted for study by ITU-D Study Group 2 in the last cycle (1998-2002).

6 Input required, in carrying out the study

- 1) Collection of related contributions and data from ITU-D Member States and Sector Members, and those organizations and groups listed below in Part 9 of this document.
- 2) Examination of ITU-T study group questions related to this technological array.
- 3) Discussion of the relevant ITU-D study groups.

7 Target audience for the output

a)

	Developed countries	Developing countries	LDCs
Telecom Policy makers	Y	Y	Y
Telecom Regulators	Y	Y	Y
Service Providers	Y	Y	Y
Manufacturers	Y	Y	Y

b) Target audience - Who specifically will use the output?

Users of the output to be middle and upper-level managers among operators and service providers worldwide. Manufacturers will also gain information for designing their solutions with developing countries and LDCs in mind.

8 Proposed method of handling this question/issue

It is proposed that this Question be handled within a **study group**.

9 Coordination requirements of the study

The ITU-D Rapporteur's Group dealing with this question should coordinate closely with:

- the relevant study groups in ITU-T;
- other International and Regional Organizations, as appropriate, including the DSL Forum.
