

## **Question 6/3 –International Internet and fibre cables connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, fibre cables optimization, cost of provision of services and impact of Internet protocol version 6 (IPv6) deployment**

### **1 Motivation**

The Internet has become a fundamental conduit for the global economy and society as a whole. However, the cost of international internet connectivity remains high in many regions of the world. In addition, to ensure the continuity of Internet growth and stability at the regional and global levels, it is necessary to promote and encourage the adoption of IPv6. As more and more devices come online around the world, IPv6 preparedness is increasingly urgent, and an understanding of the economic impact of the necessary deployment of IPv6 merits further study.

The work of ITU-T study groups is key the continuing growth and accessibility of information and communications technologies (ICT), and Study Group 3 provides a unique global forum to improve the understanding of the financial and economic aspects associated with International Internet connectivity and related topics.

Nowadays, trans-border terrestrial telecommunication cables are well utilized only between neighbouring countries, once a third or more countries are involved, the settlements agreement among those very difficult to reach, therefore the cables are under-used due to over-priced charging. By utilizing existing or new trans-border terrestrial telecommunication cables, each countries' existing domestic telecommunication networks can be opened up and linked together, to become a fully connected international terrestrial cable network, which will greatly contribute to Connect 2020, UN Sustainable Development Goal (number 9C), and the development of the Internet globally, considering the role of ITU in developing settlement Recommendations and guidelines for trans-multi-country terrestrial telecommunication cables.

Broadband connectivity comes in many forms. Fibre cables, including submarine and terrestrial cables, provide the basic bandwidth, either directly or through backhaul traffic, for the international connection of the Internet and traditional telecommunication networks. The improvement of the connectivity and utilization of fibre cables will greatly help reduce the cost of the International Internet Connectivity (IIC).

Enhancing the ability of developing countries to exchange traffic locally at a national level and regionally, would lower the cost of international bandwidth. In this context, the establishment of Internet exchange points (IXPs), facilities where all Internet players can interconnect directly to each other, can improve quality of service, and reduce transmission costs. Furthermore, with the exponential growth of devices connected to the internet, it is also important to assess the adoption and the implementation IPv6 migration.

### **2 Question**

Study the high cost of international internet and fibre cable connectivity (including IP peering, Regional Traffic Exchange Points, optimization of fibre cables, and the cost of provision of services) and study the economic impact of IPv6 deployment.

### **3 Tasks**

The tasks to be undertaken by this Question include:

- Understand the basis of the cost of international Internet and fibre cable connectivity, and identify factors contributing to high costs.
- Identify mechanisms for reducing costs of IIC.

- Identify costs associated with integration of IPv6 and develop scope and methodology for monitoring the impact of IPv6 deployment on international telecommunications services and networks.
- Continue identifying the consideration of various issues/aspects related to the policy, tariffs, charging and economic aspects of trans-multi-country terrestrial telecommunication cables.
- Study and develop Recommendations and guidelines, as appropriate, regarding the settlement agreements of trans-multi-country terrestrial telecommunication cables.
- Terms and definitions for recommendations or studies dealing with this question.

Texts under development: D.BGPE, D.CompIIC, D.CostModelIIC, D.50.Suppl.3, STUDY\_IIC, and STUDY\_TCST.

An up-to-date status of work under this Question is contained in the SG3 work programme at [https://www.itu.int/ITU-T/workprog/wp\\_search.aspx?sp=17&q=6/3](https://www.itu.int/ITU-T/workprog/wp_search.aspx?sp=17&q=6/3).

#### **4 Relationships**

##### **Recommendations:**

- ITU-T D.50
- ITU-T D.50 Supplements
- ITU-T D.265

##### **Questions**

- None

##### **Study Groups**

- ITU-D SG1
- ITU-T SG2

##### **Standardization bodies**

- None

##### **WSIS Action Lines**

- C2

##### **Sustainable Development Goals**

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