Social, Economic Awareness and Service Universalization

Objectives and requirements for the Future Networks

ICTs and social inclusion





"Developing countries need the right ICT infrastructure, skilled workers, and institutional and policy frameworks that reflect best-practice learning but also are responsive to local context constraints and opportunities." Dr William Lehr, Massachusetts Institute of Technology (MIT), USA

ICTs and social inclusion

But, what is the right ICT infrastructure?



Technology and digital divide

- Existing network technologies can provide almost all of these services;
- There is a large number of applications to support them;
- What is the problem?
 - Most of the networks are in economically attractive areas. That is why we have digital divide in developing countries.
- How can we diagnose and solve this?
 - ✤ To expand the networks, we have to consider some perspectives:



- These perspectives are mutually interrelated;
- Governments can only act directly on one of them;
- The market and technologies have their own dynamics;
- The starting point is technology;
- It is necessary that social issues and economic incentives are in the desirable requirements for the design and operation of networks.

Economic incentives in Future Networks

- This idea is not abstract and technology-centered;
- The matter has already been addressed in REC. ITU-T Series Y (Y.3001 and Y.3035), and such important topic should be reinforced in the new cycle (2030).

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What is necessary

- A. Create conditions for expanding networks by reducing digital divide in developing countries;
- B. Promote the universalization of telecommunications services and social inclusion through ICTs;
- C. Contribute to improving competitive environment manufacturers and operators;
- D. Reduce costs of CAPEX and OPEX

Suggestions for requeriments

- I. Expand adoption of open network principles;
 - Reverse compatibility and expansion of the use of software defined networks;
- III. Expand adoption of simple design principles;
- IV. Network products with low-cost requirements in their life cycle, as well as the deployment of flexible networks (throughput, storage, processing and consumption of energy per service)

Technology and Economic incentives

Potential economic incentives resulting from each application

- I. Open network principles and open interface
 - Facilitate the deployment and provision of networks in different areas urban / rural, developed or developing countries;
 - Reduce barriers to entry of new manufacturers and new operators, improving the competitive environment;
 - ✓ Encourage operators to offer services that no longer depend on large investments in complementary proprietary technologies.

Technology and Economic incentives

- II. Reverse compatibility and use of software-defined infrastructure:
 - ✓ To mitigate the technological disruption, offender of CAPEX, allowing the coexistence of legacy networks with the future ones;
 - Dissociate network service provisioning from hardware dependency;
 - ✓ Reduce OPEX costs.
- III. Adoption of simple design principles:
 - Reduce network lifecycle costs (development, deployment, operation and management);
 - Encouraging the entry of new manufacturers improving the competitive environment.

Technology and Economic incentives

- IV. Network products with low-cost requirements in their life cycle, as well as the deployment of flexible networks
 - Allow to deploy networks in locations served by telecommunications service universalization policies;
 - Provide low cost network equipment that optimizes traffic to meet specific demand locations;
 - Provide low cost network equipment capable of offering services according to demand;
 - Provide low cost network equipment to optimize energy consumption according to demand.

Contribution

Proposal for a recommendation to be discussed at FG NETWORK 2030

- About the requirements:
 - Make explicit in the text that FNs consider economic and social issues in order to reduce entry barriers for new actors in the network ecosystem and to facilitate the provision of facilities in urban and rural areas in developed and developing countries by the large-scale application of open network principles and open interface;
 - Consider the need to reduce the cost of development, deployment, operation and management by expanding the application of simple design principles, reverse compatibility and by adopting software-defined infrastructure;
- About the Use Cases:
 - ✓ Address the universalization of telecommunications services in the development of products for networks that consider low-cost requirements in their life cycle, as well as the deployment of flexible networks, in view of throughput, storage, processing and energy consumption services.

Thank you!

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