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BEST PRACTICES IN ICT POLICY

TELECOMMUNICATIONS INTERCONNECTION: LINKING NETWORKS TOGETHER

GENERAL PRINCIPLES FOR INTERCONNECTION AGREEMENTS

Interconnection agreements between carriers are generally negotiated on a voluntary bilateral basis with market-based prices (i.e. I'll carry your traffic if you carry mine).

Regulatory bodies need to intervene in a few cases, such as:

- **Traffic imbalance:** Where one carrier puts more traffic on another's network, carriers may be unable to reach fair agreements.
- **Monopoly power:** Where an incumbent carrier owns a network or installed base customers, the unequal bargaining power between the parties may require regulatory intervention. Monopolies (especially long-standing government-based ones) often feel threatened by competition, and may restrict interconnection agreements to protect themselves.
- **Universal service:** If interconnection seems to be partially at fault for a lack of service to underserved areas (such as rural areas).

WHAT IS INTERCONNECTION?

Interconnection refers to the arrangements under which service providers connect their equipment, networks, and services to each other, in order to allow their customers to access to services and networks of other service providers.

Interconnection at its broadest affects voice services (local, long distance, cellular, DSL, Voice over Internet Protocol), data (Internet, email, text messaging, chat/instant messaging), and equipment (customer-owned such as telephones, modems, or computers and provider-owned such as telephone lines and switches).

In other words, without interconnection, customers of the “XYZ” cellular phone company could only call other “XYZ” customers. “ABC” Internet service provider customers would only be able to send emails to other “ABC” customers.

INTERCONNECTION AND THE INTERNET

Unlike telecommunications carriers, Internet Service providers (ISPs) establish peering relationships where they exchange Internet traffic with other ISPs and carriers (i.e. their peers). Depending on the size and traffic levels, these exchanges may be paid, reciprocal, or go through Internet Exchange Points.



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CURRENT INTERCONNECTION CHALLENGES

- Monopolistic or dominant operators.
- New entry of mobile phone operators and negotiations with fixed line operators.
- Interconnection across borders/international connections.
- Internet peering and paid peering.
- Broadband access, such as DSL, “bistream access”, “local loop” unbundling.

STRATEGIES TO IMPROVE INTERCONNECTION OPPORTUNITIES

- **A strong, independent regulatory body** that collects up-to-date information on technology and policy impact data on the economy, government needs, and consumer issues. This regulatory body should be able to both mitigate the impact of a monopoly carrier (including the government) and also intervene for the public good.
- **High level of private sector involvement** (including for-profit businesses and civil society groups) informing the regulators about their needs and the impacts of interconnection decisions.
- **Follow international standards** for interconnection, including the World Trade Organization's (WTO) General Agreement on Trade in Services (GATS) and others.

Suggested Further Reading

Interconnection: Basic Concepts and Principles. Philippe Defrainge, Cullen International. RIWI-Policy Program, October 2002
http://www.dot-com-alliance.org/library/librarydetails.php?partnerfile_id=20

Local Loop Unbundling. Philippe Defrainge, Cullen International. RIWI-Policy Program, October 2002
http://www.dot-com-alliance.org/library/librarydetails.php?partnerfile_id=18

Network Access and Interconnection. Thomas Navin, Federal Communications Commission. Professional Development Workshop for the Telecommunications Regulatory Commission of Jordan, March 2004.

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