



USAID
FROM THE AMERICAN PEOPLE

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).

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.

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.



dot-GOV, funded by U.S Agency for International Development (USAID) and implemented by Internews Network, Inc. works with USAID Missions and Bureaus to promote competitive policy and regulatory reforms in telecommunications and e-commerce to enhance economic and social development, and to attain universal access to information and communications technologies (ICTs).

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 collecting 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.

DEVELOPING INTERCONNECTION FRAMEWORKS FOR REGIONAL COLLABORATION AND INVESTMENT

USAID, through the dot-GOV program, has been building the capacity of the Telecommunications Regulator Association of Southern Africa (TRASA) to address key regulatory issues faced by its members.

In a region traditionally dominated by telecommunication monopolies, one of the first issues TRASA focused on was interconnection - to promote both new entrants (especially cellular phone operators) and inter-country investment in the telecommunications market. TRASA developed a general framework for interconnection agreements, leading the way for individual country agreements.

Suggested Further Reading

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

Local Loop Unbundling. Philippe Defrainge, Cullen International. RITI-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.

For more information, please contact:

USAID Laura Samotshozo dot-GOV Manager EGAT/EIT/IT 202-712-4562 lsamotshozo@usaid.gov	Edward Malloy Telecommunications Advisor EGAT/EIT/IT 202-712-1579 emalloy@usaid.gov	dot-GOV Sarah Tisch Program Director Internews Network 202-833-5740 x 203 stisch@internews.org	George Sadowsky Sr. Technical Advisor Internews Network 202 833-5740 x 200 george.sadowsky@internews.org	Alejandro Bermudez Del-Villar Program Associate Internews Network 202-833-5740 x 205 ahbermudez@internews.org
---	--	--	--	---

Funding for dot-GOV is provided by the U.S. Agency for International Development (USAID), Bureau for Economic Growth, Agriculture & Trade, Office of Energy and Information Technology (EGAT/EIT/IT) and Office of Women in Development (EGAT/WID), under the terms of Award number: GDG-A-00-01-00009-00. The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

  <http://www.dot-com-alliance.org>