Internet Exchange Points
Collaborating for the Greater Good
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You wouldn’t send a package from your office in Port-of-Spain, destined for a client in San Fernando, through Miami USA, would you? That would be foolish, unnecessarily expensive and inefficient. Yet this inefficient routing is what is being done every day with Internet traffic between local Internet Service Providers (ISPs), destined for local customers.

This scenario is not limited to the Caribbean. In many developing countries, poor connectivity between ISPs often results local traffic being routed over expensive international links simply to reach destinations within the country of origin. These links have to be paid for in foreign currency. In effect, ISPs are paying international ‘shipping’ rates for a local delivery.

There is an internationally recognized solution to this inefficiency. It is an Internet Exchange Point, or IXP.

Why IXPs
The primary role of an IXP is to keep local Internet traffic within local infrastructure and to reduce costs associated with traffic exchange between Internet Service Providers (ISPs). IXPs allow for the free exchange, or peering, of domestic Internet traffic between Internet service Providers (ISPs). Within the Internet community, IXPs are considered to be essential to facilitating Internet-based economic growth. The absence of IXPs compromises our ability to build a robust domestic internet ecosystem and economy.

IXPs can improve the quality of Internet services in a country by reducing the delays associated with unnecessary routing traffic. Furthermore, IXPs can serve as a convenient hub for hosting value-added and critical infrastructure within a country.

ISPs that take advantage of interconnection at an IXP to deliver local traffic, can reduce the portion of their Internet traffic that must be delivered via their out-of-country transit providers.

The Caribbean Story
Building an IXP is a trivial exercise technically; however, building the level of trust and collaboration between the stakeholders requires new levels of cooperation and trust. In the English-speaking Caribbean, regional service providers do not have a strong history of collaborating for mutual benefit.

The launch of Internet Exchange Points in Grenada (GREX), and the British Virgin Islands (BVIX) earlier this year was therefore received as a major achievement for the Caribbean. Two of the region’s largest ISPs—LIME (Cable and Wireless) and FLOW (a subsidiary of Columbus Communications)—are now exchanging traffic and, perhaps more significantly, have established a precedent that can be replicated throughout the Caribbean.
Plans are afoot to take advantage of the new IXP with local video and audio streaming, VoIP, domestic data backup, new e-government services, distance learning, e-health, and other high-bandwidth, low-latency applications that depend on local traffic exchange.

The GREX milestone was achieved as a direct result of the joint promotion and support for domestic peering in the Caribbean by the Caribbean Telecommunication Union (CTU), an intergovernmental agency, and Packet Clearing House (PCH), a U.S.-based research nonprofit. Through a regional outreach initiative, branded the Caribbean ICT Roadshow, the CTU and PCH are raising awareness of the purpose of IXPs and their benefits to development in the region.

To further strengthen existing peering facilities and build human resource capacity, PCH is working in partnership with the Caribbean Network Operators Group (CaribNOG), a nonprofit association of network engineers and technical specialists. CaribNOG has declared its intention to place hardware and software services such as file servers with open source, cultural, and educational content at regional IXPs. The CTU plans to continue working with regulators in the region to ensure that the regulatory environment evolves to support the emerging Internet economy.

Benefits Realised
Regional governments, regulators and ISPs are recognizing IXP proliferation is critical for developing the kind of domestic Internet economy necessary to spark new levels of indigenous innovation, local content creation, and industry growth.

Already IXPs have provided tangible benefits in Haiti, St. Maarten, Curaçao, Grenada and the British Virgin Islands. Major content providers like Akamai, Google and Yahoo! are also taking advantage of the IXPs and are now locating content caches in the Caribbean to give users of their service a better experience.

Dominica is on scheduled to launch their IXP in January 2012. Trinidad and Tobago ISPs are in an advanced stage of planning in a process facilitated by the Telecommunications Authority of Trinidad and Tobago (TATT). It remains to be seen whether the stakeholders in other territories like Jamaica and Barbados can overcome issues that have thus far impeded the process.

Collective Responsibility
Reaping the benefits of ICT is dependent on reducing Internet connectivity and bandwidth costs, improving infrastructure, and improving quality of service to all Internet users. The responsibility now rests on ISPs, governments, businesses, and consumers. Collectively we must press for faster roll out of the ICT infrastructure and services that are foundational to our dreams of building a Caribbean knowledge-based society.