



PROVISIONAL

**DECLARATION OF PARAMARIBO  
ON BRINGING BROADBAND TO RURAL AREAS**

December 9, 2009

## **Preamble**

The Caribbean Telecommunications Union in collaboration with the International Telecommunications Union hosted a workshop on **“Bringing Broadband to Rural Areas”** in Paramaribo, Suriname from 8<sup>th</sup> – 9<sup>th</sup> December, 2009. The workshop was facilitated by Edwin San Roman who worked on the development of a plan to deploy broadband in the Dominican Republic. Edwin San Roman’s presentation was in the form of a case study from which he distilled a framework methodology that was adopted in addressing the issues of broadband access in the Dominican Republic. At appropriate times during the workshop the participants broke out into working groups to apply the methodology using Suriname as the surrogate for the Caribbean region.

Arising out of this work the **“Declaration of Paramaribo”** is unanimously agreed by the participants to take forward to their respective authorities and to recommend to member states of the Caribbean Telecommunications Union who were not represented at the workshop. This approach is consistent with the mandate and objectives of the Caribbean Telecommunications Union to facilitate the development of policy designed to harmonise the approaches of the Caribbean region in the innovated use of Information and Communication Technologies (ICTs) to further the economic and social development of the Caribbean and its peoples.

## **The Declaration of Paramaribo**

### **Accepts the Vision that:**

The Caribbean builds an ICT environment where

- every citizen, regardless of age or geographic location, can access the best training and learning resources in the world;
- where all nationals, residents and visitors can access government information or services on-line
- enterprises can innovate in the delivery of their products and services to fulfil social and developmental needs in a responsible way

- every government agency have the tools to perform their tasks in an efficient, transparent manner

The objective is to build human capacity, strengthen social cohesion and drive economic development in all member states.

### **Recognises that:**

1. Broadband generally refers to provision of high capacity data access over the public Internet.
  - a. network connection to transfer a specified minimum number bits within a given period of time. It is usually measured in bits per second, or "bps."<sup>ii</sup>
2. Provision of to high-speed telecommunication services is the most important infrastructure issue facing countries in the new, globalized, world order. Whether for business, government, healthcare, cultural preservation or educational purposes, high-speed internet access has become a necessity—not a luxury.
3. Efforts to bring government services to citizens will not be fully realized without greater and more affordable broadband deployment.
4. Broadband Internet access is essential for developing inclusive, knowledge-based societies and for the provision of e-services (health, education disaster preparedness).
5. Broadband connectivity is a key component for the development, adoption and use of Information and Communication Technologies (ICT) in the economy and in society.
6. Broadband is of strategic importance because of its ability to accelerate the contribution of ICTs to growth and innovation in all sectors and to social and regional cohesion.
7. Many countries in the Caribbean region currently lack:
  - a. An integrated national policy that takes ICT into consideration as a fundamental developmental platform;
  - b. Comprehensive policy, legislative and regulatory frameworks to support ICT development;
  - c. Adequate telecommunications backbone infrastructure to optimally carry fast-speed broadband traffic.
  - d. Affordable broadband services
  - e. Comprehensive databases of relevant, up-to-date social and economic information

### **Recommends:**

1. Review and update existing ICT and Telecommunications Laws to include provisions relating to the deployment of Broadband services in a transparent and non-discriminatory manner to foster a competitive environment;
2. Review existing procedures and laws relating to the granting of right of ways to ensure equability and efficiency;
3. Ensure that content service providers have access to broadband networks facilities on a fair and non discriminatory basis
4. Require Service providers to publicly provide information on the availability of broadband networks including the speed characteristics

5. Evaluate how universal service funds can be used to facilitate the deployment of broadband services
6. Explore Public Private Partnerships to accelerate the deployment of broadband facilities without compromising the development of competition
7. Establish a specific standard for the minimum bandwidth speeds that would satisfy broadband objectives that are consistent with economic and social development objectives. Appendix A shows what services are possible at certain bandwidth speeds.
8. Consider providing appropriate fiscal incentives to encourage investment in broadband facilities for both service providers and end users. Where there are barriers to investment and acquisition of ICT tools and services these should be addressed.
9. Ensure that institutes of learning are adequately equipped with appropriate ICT facilities and connectivity and that educators are appropriately trained in the use of these facilities
10. Central Government establishes a working group or central department to aggregate the demand of government agencies – departments, municipalities, schools, universities, security, E-government and hospitals and health centres – with a view to confirming investment opportunities for the private sector while strengthening its negotiating position for lower prices

## Appendix A

<i>Type of Connection</i>	<i>Typical Speed</i>	<i>Remarks</i>	<i>Estimated Download times (1,500 KB File, equivalent to a 2 minute video clip) *</i>
<b>Dial-up Modem</b>	56 kbps	Common Internet Access often referred to as "Snail Speed"	20-30 minutes
<b>ISDN (integrated services digital network)</b>	128 kbps	Offered by telephone companies, international communications standard for sending voice, video, and data over digital telephone lines or normal telephone wires	10-15 minutes
<b>T-1</b>	1.544 mbps	Point to point connection, dedicated phone connection, popular leased line option for businesses connecting to the Internet and for Internet Service Provider (ISP) connecting to the Internet backbone	1-3 minutes
<b>Cable Modem</b>	1.5 mbps	Designed to operate over cable TV lines. Provided by cable companies	5-10 minutes
<b>DSL (Digital Subscriber Line)</b>	8 mbps (downstream)	Constant Internet connection, offered by telephone companies, low upload speed	< 5 minutes
<b>Frame Relay</b>	25 mbps (upward)	Used for connecting Local and Wide Area Networks. Frame Relay networks in the U.S. can support data transfer rates at T-1 and T-3 speeds	< 1 minute
<b>T-3</b>	44.7 mbps	Dedicated phone connection, used mainly by Internet Service Provider (ISP) connecting to the Internet Backbone and for the backbone itself. Supports real time video	< 1 minute
<b>OC-3</b>	155.5 mbps	Typical backbone speed	< 1 minute
<b>OC-9</b>	466.56 mbps	Used for both LANs and WANs	< 1 minute
<b>OC-12</b>	622.08 mbps	Used for both LANs and WANs	< 1 minute
<b>OC-18</b>	933.12 mbps	Used for both LANs and WANs	< 1 minute
<b>OC-24</b>		Used for both LANs and WANs	< 1 minute
<b>OC-36</b>	1.866 Gbps	Used for both LANs and WANs	< 1 minute
<b>OC-48</b>	2.488 Gbps	Used for both LANs and WANs	< 1 minute
<b>OC-96</b>	4.976 Gbps	Used for both LANs and WANs	< 1 minute
<b>OC-192</b>	10 Gbps	Highest speed backbone presently available	< 1 minute
<b>OC-255</b>	13.21 Gbps	No telecom vendor presently uses this for their backbone	< 1 minute
<p>* Actual download times depend on many different factors, including line condition and network traffic congestion.            Source: Webopedia.com, CNET.com</p> <p><b>bps</b>=bits per second  <b>Kbps</b>=kilobits per second=1000 bits per second  <b>Mbps</b>=Millions bits per second=1,000,000 bits per second  <b>Gbps</b>=Gigabits per second=1,000,000,000 (one billion) bits per second  <b>Tbps</b>=Terabits per second=1,000,000,000,000 (one trillion) bits per second</p>			

Source: LinkMichigan, <http://ref.michigan.org/cm/attach/94595AF5-BAE2-4BEE-856A-22DA8A130538/linkmichigan2.pdf> (accessed 9th December 2009).

**Time required to download a  
24 megabyte file of X-ray images**

<b>Speed</b>	<b>Time</b>
56 kbps (Dial-Up)	58 minutes
128 kbps (ISDN)	24 minutes
1.54 mbps (Cable)	< 3 minutes
8 mbps (DSL)	< 40 seconds

Source: The Main Street Economist, August 2000

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<sup>i</sup> You can think of bandwidth as a highway with cars travelling on it. The highway is the network connection and the cars are the data. The wider the highway, the more cars can travel on it at one time. Therefore more cars can get to their destinations faster. The same principle applies to computer data -- the more bandwidth, the more information that can be transferred within a given amount of time