CONCEPT PAPER

TOWARDS THE STRATEGIC PLAN ON TELECOMMUNICATION SERVICES IN THE CARICOM SINGLE MARKET AND ECONOMY (CSME)

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Executive Summary

The Caribbean economy, consisting of a diverse range of developing countries, operates within a highly information-based global economy. The vulnerabilities of the regional economies include high exposure to natural hazards such as frequent hurricanes, global economic fluctuations, traditional primary agricultural production and limited intra-regional trade, all frequently reflected in poor economic performance and external dependence. Recognizing the importance of harmonization, the Caribbean Single Market and Economy seeks to transform the vulnerabilities of individual countries into the combined strength of many, through the promotion and adoption of a regional development agenda.

Over the last decade, ICTs have been shaping the process of globalization and redefining many aspects of Caribbean economic and social development. However, whilst there has been significant economic progress in a few countries, the Caribbean as a whole continues to lag behind many of its post-colonial cohort countries from other global regions such as South East Asia. Its reliance of trade regimes tied to traditional export crops such as sugar and bananas has increased its vulnerability as world trade and economic conditions alter to new realities. In these circumstances the ingenuity and creative imagination of the region's people, alongside the catalytic development potential of new and emerging technologies such as telecommunications services, have become increasingly attractive to policy-makers and development strategists. In particular, trade in services has been highlighted as a facilitator of enhanced global competitiveness and a prospective vector of development in other sectors of the economies.

Telecommunications service delivery is itself undergoing rapid and unrelenting changes. The move from analogue to digital platforms complements global trends in the direction of convergence and so-called 'next generation networks'. Premised on more efficient use of broadband technology, even traditional providers are transitioning to Voice over Internet Protocol (VoIP) and sophisticated wireless delivery of information using Wimax and WiFi technologies. Telecommunication business models are increasingly emphasising revenue sources beyond conventional voice, including triple and quadruple play services also involving subscriber (cable) television, internet service delivery and wired or wireless telephony.

The nascent policy approaches to telecommunication and ICTs in the region recognize that diminished geography, technology convergence and instant communication present many

opportunities to renew Caribbean economies and move the region's development agenda forward.   It is also recognized that there are many economies of scale and scope to be achieved from adopting a harmonized integrated policy approach to the development of telecommunications services in the region, as exhibited for example in the more advanced integrating economies of the European Union.

 An innovative, strategic plan for telecommunications services, based on harmonization, co-operation and co-ordination is required to advance the region beyond individual forays and traditional policies. While diversity and competition are desirable and inescapable attributes, these need not be pursued amid under-developed, un-co-ordinated and counter-productive individual policies. This is especially the case when the newly burgeoning telecommunications service providers are pan-regional in nature, global in corporate scope and fiercely competitive in pursuit of their strategic objectives.

This concept paper highlights several key areas for promotion of such harmonized telecommunications and ICT policies and shared strategic objectives in the delivery of telecommunication services.   Importantly, the paper recognizes that technologies and competition are not ends in themselves, but tools and strategies towards human, social and economic development. To create a desirable enabling environment, the paper advocates a regional emphasis in CARICOM on human resources development through enhanced and early technology education, sustained information literacy training and public and private sector collaboration towards workforce readiness to take advantage of an expanding network infrastructure and falling prices of telecommunications equipment and services. Concurrent with the creation of an enabling human environment, CARICOM will need to focus on areas which will lead to increased competitiveness, namely, unambiguous harmonized legislation, support for eBusiness incubation, growth of electronic commerce, provisions against cyber-crime, facilitation of mServices in a growing mobile tele-environment, increased deployment of eGovernment services as an exemplary sector, encouragement of telecommuting and other flexible work arrangements as well as the promotion of on-going research and development through regional tertiary institutions and private 'cutting edge' innovators.

As with any regional plan, an important requirement will be the mechanisms for monitoring and evaluation of progress drawing on streamlined and focussed CARICOM policy oversight machinery for the sector.   The regional policy centre should also have a capacity to help engender among its member-governments the political will to provide a suitable macroeconomic and legislative framework. This includes access to dispute resolution, the provision of financing on terms and conditions that are conducive to the development of the sector and safeguards against technology-driven environmental degradation.

1.0   Introduction

The vision for the CARICOM Single Market and Economy (CSME) encourages the free movement of goods, services, capital, business enterprise and skilled labour within the region, requiring, *inter alia,* the harmonisation of policies, laws, regulations and common approaches with respect to fiscal, monetary and wider economic variables. The wider vision is that the CSME when fully constituted will provide an environment conducive to the success of the private and public sectors and civil society. The expected gains include "greater efficiency in the private and public sectors, higher levels of domestic and foreign investment, increased employment, and growth of intra-regional trade and of extra-regional exports" (Girvan 2006).

As the region moves towards the consolidation and implementation of a single seamless economic space by 2015, it is recognized that Information and Communications Technologies (ICTs) is a major driver for development both as a service sector itself and very importantly as an enabler to the growth and development of all other aspects of the economy and society. Globally, telecommunications services provide the engine of growth for the knowledge-based society.   In order for these small-island states that make up CARICOM to be able to compete effectively in the global economy, there must be the movement away from the traditional commodity-based sectors and toward the more service-oriented sectors. With the loss of competitiveness/preference in traditional commodity markets, it is imperative that the region explores the vast potential of value-added service industries and also adopts an approach that could see a diversified portfolio and not a dependence on any one area such as tourism.

It is against this background that there has been much discussion about the integral role of ICTs/telecommunications services, not only as an area where the region can provide competitive services, but as a medium to improving the competitiveness of other industries to compete in the global knowledge based society. In setting the Connectivity Agenda for the Americas, the Heads of State recognized the "new economy" defined by "enhanced capacity to access knowledge and to improve flows of information" and of the potential for connectivity to open new opportunities in society (Connectivity Agenda for the Americas, 2001).

It was reaffirmed that the CARICOM Heads of Government:

"… Recognized the potential of information and communications technologies (ICTs) for enhancing and integrating our societies in areas such as education, health, poverty-reduction, delivery of public information and governance – objectives articulated in the CARICOM charter of civil Society. They also noted the potential (of ICTs) for transforming our economic landscape, growing the CSME and advancing the regional trade agenda, by increasing competitiveness in services and seizing opportunities offered by e-commerce. The heads are however not unmindful of increasing challenges the digital revolution has posed for smaller economies such as ours, underscoring the need for a regional approach." (Nurse, 2003)

However, whilst there has been much discussion and action by some countries at the national level, a concrete plan for the development of this important service sector has not been fully articulated at the regional level. Therefore, as CARICOM moves forward with the concept of Caribbean Single Market and Economy, the vision for Telecommunications Services must be more strongly articulated against the background of the wider social, economic and developmental vision for CARICOM as a region.

The main objectives of this Concept Paper are to provide the framework for the articulation of such a vision by identifying the integrated policies that will support the development of the telecommunications services sector in the region, to explore the options for improving the policy environment and to propose a list of policy measures that could be considered and pursued under a CARICOM Strategic Plan for the sector for the period 2010 - 2014.

The concept paper draws from the existing body of work related to the development of the telecommunications/ICT services sector in CARICOM as well as the outputs from a Focus Group Consultation held in Jamaica during December 2008.

The paper will seek to:
1. Provide a brief status quo of the telecommunications services sector in the region;
2. Explore opportunities and threats for the development of the sector
3. Discuss the main issues and challenges
4. Articulate a framework for the development of a medium term strategic plan for the sector.

2.0   Overview of the Regional Telecommunications Sector

2.1 Definitions, Scope and Coverage of the Sector

By definition, telecommunications may refer to the science and technology of communicating at a distance, the electronic systems used to transmit the messages and the messages that are transmitted. The World Trade Organization (WTO) defines telecommunications services based on two categories:

1 - **Basic Telecommunications,** which include private and public services that involve end-to-end transmission of information. These services are provided through telecommunications network infrastructure and include inter alia,
- Voice telephone services
- Packet and Circuit switched data transmission services
- Telex and Telegraph Services
- Facsimile Services
- Private leased circuit services

2- **Value-Added Services,** where suppliers "add value" to the customer's information by enhancing its form or content or by providing for its storage and retrieval. Such services include,
- Electronic Mail
- Voice Mail
- Online information and database retrieval
- Electronic Data Interchange (EDI)

Telecommunications services therefore cover everything from the underlying infrastructure that facilitates various applications as well as the transmission media utilized by telecommunications equipment to deliver services. As defined under the UNCPC Version 1.1, a wide range of activities including wired and wireless carrier services, telecommunications equipment, telecommunication facilities and a wide range of other services are covered.

In considering the scope and coverage of the sector, telecommunications services must be recognized as not being limited to an industry in its own right, but as a key component to the development of other industries in the matrix of social and economic development, such as Manufacturing, Banking and Finance. However, telecommunications services do not refer only to infrastructure and hardware but also to data, information and knowledge and the associated human resource skills that are required. Therefore, any discussion on the path and role for telecommunications services must take this human element into account.

2.2 A brief analysis of the telecommunication service sector in CARICOM.

Today, the Caribbean has been identified as having one of the most robust ICT markets, with new telecommunications subscriber growth being estimated at 50% per year for the five-year period between 2003 and 2007[1]. The common trends in the region include:

- Increased recognition and emphasis on ICTs as one of the major drivers of economic growth and development, with a focus on access and affordability, across the populace;

- High voice telephony penetration but low Internet access and connectivity

- Recognition of the rapid contraction of conventional agricultural export crops and limited manufacturing production within the region

- Communications intensive economies, with high demand for new, mobile technologies in support of the increasingly culturally based service economy;

- Increased demand for bandwidth to satisfy connectivity needs;

- Moves towards regional harmonization in regional policy and planning; and

- Increased telecommunications and ICT investments in the region since 2000.

CARICOM has recognized that Information and Communication Technology (ICT) is probably the single most important facilitator of the integration process of its diverse member states. Telecommunications services/ICTs in the Caribbean have been developing along a particular continuum, focusing progressively on
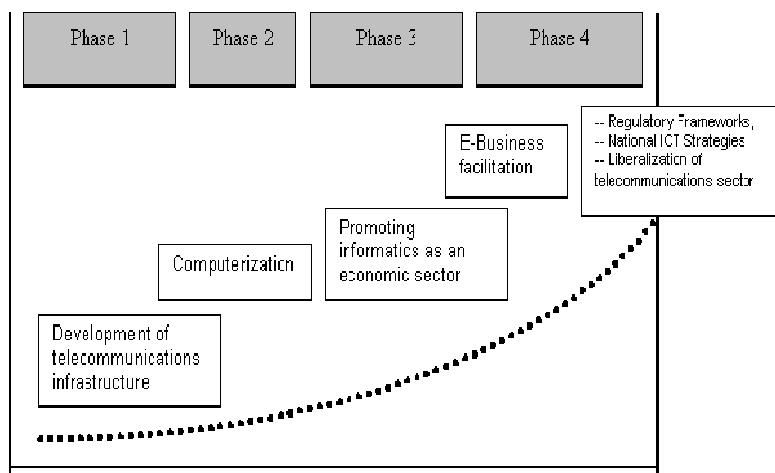
telecommunications infrastructure, computerization, development of informatics as an economic sector, and most recently on e-business facilitation. Figure 1 shows a **Typology of the ICT Development Continuum in CARICOM Countries[2]**. With the diversity of situations that exist among CARICOM countries, it is difficult to generalize about where along the continuum the

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[1] 2008, Latin America – Telecoms, Mobile and Broadband in Mexico and the Caribbean. www.buddecom.au

[2] Nurse. L.A. PhD. Digital Diaspora Network for Caribbean and ICT Development in CARICOM countries, 2003.

region lies, as there are significant disparities between the countries because of varying degrees of commitment among countries. It has also been noted that the slow project-based, rather than process driven growth of ICT in the individual CARICOM countries has resulted in the region as a whole lagging behind the leaders both in the developed and developing world.

A composite analysis of various indices which measure ICT diffusion show that countries such as The Bahamas, Barbados, Jamaica and Trinidad and Tobago are the most advanced CARICOM countries in terms of development of the telecommunications sector and in the area of policy reform. Antigua and Barbuda, Dominica, Grenada, St.Kitts & Nevis, St. Lucia, Monsterrat, St. Lucia and St Vincent & the Grenadines are noted to be at varying points in the intermediate stages of reform, while, Belize, Suriname and Guyana are deemed to be in the early stages. The Digital Access Index (DAI) developed by the ITU in 2003 provides some indication of the status of the sector in the various countries in terms of their progress in maximising the potential of ICTs[3]. Countries are classified into one of four digital access categories: high, upper, medium and low. The DAI ranking of selected Caribbean countries is presented in Table 1 below.

Table 1 - Digital Access Index: Ranking of Caribbean Countries

Upper Level	Medium Level	Lower Level
Bahamas 0.62	Belize 0.47	Haiti 0.15
St. Kitts and Nevis 0.60	Suriname 0.46	
Antigua & Barbuda 0.57	Guyana 0.43	
Barbados 0.57	Dominican Republic 0.42	
Dominica 0.54	(Cuba 0.38)	
Trinidad & Tobago 0.53		
Jamaica 0.53		
St. Lucia 0.52		
Grenada 0.51		

Source: Created from International Telecommunications Union DAI for 178 countries (2003)

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[3] This index measures the overall ability of individuals in a country to access and use Information and Communication Technology using the eight variables organized into five categories, availability of infrastructure, affordability of access, educational level, quality of ICT services, and Internet usage. From the DAI score it is possible to monitor a country's progress in ICT development with the emphasis on access.

The telecommunications success story in the region has been the rapid take off of mobile telephones, particularly in those countries, which have liberalized the sector. There have been large investments in the sector and an influx of new players in the Pan Caribbean market, such as Digicel, Claro (formerly Miphone), AT&T Wireless/Cingular, competing with early incumbent Cable and Wireless, now branded in the region as LIME. From a dominant monopoly player, the English-speaking region moved to a dynamic multiplayer market, especially in mobiles. In 2005, there were a reported 80 licensed operators across the region, with competition existing in most countries. Appendix 1 shows a listing of the various players across the region. The infrastructure has also been enhanced with the roll out of fibre optic networks across the region, which aims to provide high-speed access to converged services (see Appendix 2). In 2005, there were about 20 fibre optic submarine cable systems (with more under construction), of which 14 served the region primarily. There were also 34 geostationary systems with footprints across the region. However, despite the existing infrastructure with enough bandwidth capacity to serve the region, not all countries have adequate access, which results in high bandwidth prices.

Mobile penetration has increased significantly over the period, extending in recent times even to the low-income Caricom country of Haiti. However, whilst access to basic telephone service is significant, the data shows that access to the Internet is low, with the level of penetration of computers in households (measured by internet subscribers/100) estimated at 10.22 PC's per 100 persons in the CARICOM Countries[4]. While this is almost on par with the average for the Americas as a whole, it is low compared with estimates for the leading countries, such as 30.91 PC's per 100 persons in Canada and 23.78 in the USA (ITU Database). In terms of Internet usage and broadband penetration, 2007 data from the ITU indicate that Bermuda is the highest ranked member state both in terms of Internet users and broadband penetration, followed by Barbados. After Bermuda and Barbados, the level of broadband penetration in the region as a whole is quite low, demonstrating the varied levels of underdevelopment, which exist across the countries. It is thought that the low level of penetration in these areas is related to the high cost of the services provided, relative to incomes.

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[4]The estimate is based on 12 CARICOM countries for which data was available from the ITU.

According to a report by Peter Stern (2005), "there is good infrastructure in the Caribbean but it is unevenly distributed and expensive to use. Fixed telephone penetration, an index often used to measure the state of development of telecommunications infrastructure, in the CARICOM Member States and the Dominican Republic varies between about 50% in Barbados, Antigua & Barbuda and St. Kitts & Nevis and 1.7 % in Haiti. Similarly, there is a wide disparity in the penetration rates of cellular mobile, Internet access and Internet use". Appendix 3 shows the status of the CARICOM countries (2007) for which information was available from the ITU in terms of teledensity and access to telephones, mobile phones, Internet and broadband usage.

3.0   Telecommunications Services in CARICOM - Opportunities and Threats

Telecommunications has become a key issue internationally due to its critical role in infrastructure development. This development is constantly being enhanced by ongoing technological changes. With the declining cost of computing, the increases in communications capacity (larger bandwidth) and the continuing expansion of the Internet based data networks, linked networks are emerging as a primary medium of economic activity.

Telecommunication services offer the potential for development in many areas, which are key to overall sustainable economic growth and social advancements for the member states of CARICOM. To this end, it is noted the efficient, competitive telecommunications services can facilitate:

1. **"Restructuring of governmental and societal interaction patterns** – fostering evidence-based planning and action.
2. **Stimulating social, economic and political empowerment**, through the promotion of affordable access to services and information.
3. **Operating as a "force multiplier"** through rapid and reliable dissemination of relevant information, products, and best practices.
4. **Bridging the divide between developing and developed countries** and stimulating the competitive advantage of countries as they are drawn progressively into a globalized economy" (Nurse 2003).

Within these parameters, CARICOM countries are presented with many opportunities. Their quick and easy access to North America and the existence of a large Caribbean Diaspora, a basic core of highly skilled professionals both in the Caribbean and in the Diaspora, competitive wage structures (though higher than other regions such as Asia) increases the potential for tapping into and becoming competitive in many telecommunications related services, both basic and value added, such as outsourcing, informatics and call centres. Some countries are taking advantage of new business opportunities through e-commerce and telecommunications services that are being used to enhance efficiencies in the public and private sector. However, as indicated, the project-by-project piecemeal approach and the disparities in levels of development do not allow for the benefits of economies of scale to be felt across the region.

The proximity of the region to leaders in technology and application such as the United States, should provide opportunities to leapfrog some economic obstacles, learn from best practices and adopt a proactive approach to the adoption and use of new and emerging technologies both for the development of the sector itself and for its use in enhancing the competitiveness of other sectors of the economy. Low-cost access to advanced communication services and equipment promotes growth across all productive and services sectors, from agriculture to tourism by providing efficient linkages between producers and consumers. Activities such as e-commerce, online travel and hotel reservations, financial services, transport, professional services, and a host of business support services, are a few examples that CARICOM countries can seek to obtain and/or increase competitive advantage through the use of telecommunications services. Appendix 4 shows a list of areas in which CARICOM can seek to enhance competitiveness.

In seeking to benefit from the potential offered by telecommunications services/ICT, there are a number of critical issues, which if not addressed will pose a threat to the sustainable development of the sector and also impact the development of other sectors in the economy.

These include:

1. *The creation of an enabling environment, including the policy, legal and regulatory framework;*
2. *Addressing issues of connectivity, including upgrading of infrastructure and access and affordability of services;*
3. *Human Resource Skills Development,*
4. *Resource availability and allocation; and*
5. *Bridging the digital divide within CARICOM.*

It is clear that within the context of the CSME, seizing the opportunities and the benefits of economies of scale, whilst mitigating the threats will require a holistic, comprehensive approach by CARICOM, rather than the fragmented, non-integrated, piecemeal approach which has characterized the regional development of the sector.

4.0   Key Issues and Challenges

The issues and challenges faced by the region with respect to telecommunications services have been documented in a number of fora. Some of the key issues and challenges are identified and discussed below.

4.1   Policy, Legislative and Regulatory Framework

A major component of the successful development of a telecommunications sector is the existence of a legal and regulatory framework which provides certainty for investors, operators and other stakeholders. It is widely recognized that the policy, legislative and regulatory framework in the region suffers from fragmentation, antiquity and a lack of focus and flexibility in general. Whilst there has been some progress unilaterally in some countries, generally, the enabling legislation and regulations within the region are not comprehensive and inadequate and even where it exists, it is often outdated. Where new regulations were actually put in place they were not outlined within the context of integrated national ICT plans. Countries, including Jamaica and Trinidad and Tobago have outlined comprehensive national ICT plans within the framework of broader national plans. Some countries have also put in place legislation in relation to e-commerce and e-government activities. However, the prudency of countries pursuing this path alone has been questioned and it is now accepted that a more efficient and cost effective strategy would be to develop a regional approach. While steps have been taken towards harmonization, for example, the CTU's Project to harmonize spectrum policies across the region,

more needs to be done in terms of developing common standards and legislation which do not impact sovereignty or conflict with national competition and other laws.

A key challenge to policy makers and regulators is that the pace of technological development and convergence far outpaces the capacity to respond. This often leads to uncertainty which has significant negative implications for the continued attractiveness of the region as a mecca for investments in telecommunications. The challenge is to utilize more effectively the mechanism that CARICOM already has in place to pull together a harmonized approach to policy, legal and regulatory frameworks, based on global best practices applied to telecommunications in the region.

4.2 Human Resource Requirements

With the rapid pace of technological development, the region requires a strong base of persons versed in the technical, policy, legal and regulatory aspects of developing and delivering quality telecommunications. The human resources gaps, especially those on the policy and regulatory arena are extensively discussed in the World Bank's Infodev Report : *Building Local Capacity for ICT Policy and Regulation: A Needs Assessment and Gap Analysis for Africa, The Caribbean and the Pacific* (2007), with a Caribbean Chapter by Mallalieu and Dunn. Dunn's OOCUR Report on *Teaching and Research Agenda for Telecommunications, Recommendations for the proposed Caribbean Regulatory Research Centre* (2007) also addresses the issue.

The challenges to be addressed include the following[5]:

1. How to create a renewable cadre of human capital capable of understanding and operating in the new telecommunications environment available regionally?
2. What policy measures are necessary to stimulate the development of human capital specifically for highly technical jobs in the telecommunications sector?
3. What are the training and development gaps and the opportunities to fill those gaps in the region thereby decreasing the reliance on expatriates in the technical areas of telecommunications?
4. How to reduce risks by increasing investment in the development of regulatory skills?

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[5] TPM Telecommunications Consultation and Focus Group Guide, December 2008

4.3   Infrastructure

At the regional level connectivity infrastructure is a critical factor in the development of access to telecommunications services. This implies the need for investment in a national telecommunications infrastructure and especially to providing adequate bandwidth, with access to the international information superhighway at affordable cost.   The digital divide among CARICOM countries is evident in this area.   It is considered that cost is a major problem and deterrent to the speedier development and deployment of telecommunications infrastructure. Many of the major investments have been from foreign firms such as Digicel, Claro, Orange, Verizon etc.   The cost of capital for indigenous firms to compete in providing telecommunications services at affordable prices to the end users is often prohibitive.

4.4 Access to and use of Technology

While mobile telephony penetration is growing at a rapid rate in the region, the adoption of more advanced business-oriented technologies which are increasingly required to operate in the competitive global economy is advancing at a slower pace. A key challenge to CARICOM is to adopt regional policies that facilitate the move from basic telecommunications services to more advanced Web 2.0 applications and other efficient cutting edge telecommunications and ICT technologies. The other challenge is in addressing the issues that make access and affordability of these services a deterrent to adoption and use. A comparison of monthly charges for Entry Level, Middle Range and Upper Range Broadband Internet Access shows the Caribbean countries with charges far above those observed in most developed countries. (See Green Paper on Telecommunications and ICTs in CARICOM[6]).

4.5   Financing the sector's needs

Financing is a major impediment to the successful development of telecommunications services in the region. This was identified in the discussions leading to the World Summit on the Information Society in 2005. There are a number of issues, which present a challenge to CARICOM countries:

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[6] Green Paper, Action Plan for Telecommunications and ICT Services in CARICOM.

1. *Access to funding from indigenous financial institutions is difficult as institutions are often unable or unwilling to provide funding or where this is done, the cost of the capital is often high.*
2. *Though funding is available from multilateral agencies, quite often the terms and conditions of access are not suitable to the needs of the regional sector. Also, capital resources from these sources are often available on a project by project basis, rather than for integrated support to the sector.*
3. *The Governments of the region are often fiscally challenged to lend the financial support required to push the development of the telecommunications services sector. However, there may be opportunities to provide incentives through reduced taxation and other progressive fiscal regimes.*

4.6   Opportunities from Trade and Other Agreements

In recent years, there has been much focus on the digital divide between developed and developing countries, leading to the call for action and agreements which can help developing economies along the path which would reduce the divide. International intermediary organizations, e.g. The UN agencies, World Bank and the Inter American Development Bank, have been required to play a major role in helping to bridge that digital divide, which is now at the top of the international political and economic agenda. This is addressed in agreements such as those made at the World Summits on the Information Society in 2003 and 2005 and the Connectivity Agenda for the Americas outlined as a part of the FTAA process. The often un-co-ordinated participation of CARICOM as a region in international processes, including discussions on Economic Partnership Agreements and WTO negotiations often leads to missed opportunities for the region to influence the global agenda.

4.7   Institutional Requirements

CARICOM is challenged at two levels with respect to the institutional requirements necessary for the successful development of telecommunications services in the region. Firstly, at the regional level, there are several institutions often with overlapping and confusing jurisdictions. This will be a deterrent to the adoption of a harmonized approach to the development of the sector. This level of overlap also permeates the national institutions, leading to delays and a high degree of regulatory uncertainty. The issue is therefore to consolidate the activities of the various regional bodies and to adopt a more rationalised, planned approach to addressing the various issues dealt with by those institutions. At the national level, there is the need for the

development of vibrant corporate entities and independent regulatory institutions, which will work within the regional framework to promote national development of the sector.

5.0   The Policy Framework

A common policy framework for the development of telecommunications services in the Caribbean must be based on a foundation of harmonization, co-operation and co-ordination, recognizing the sovereignty and diverse stages of development among the members. Further, there must be incorporation of the various global, regional and national processes that impact on the development of telecommunications.

5.1   Global

At the global level, the Caribbean countries are signatories to a number of protocols and agreements that impact on the focus and substance of regional and national ICT policies.   Some of the processes which have a significant impact on the shaping of Caribbean policies and which should therefore be factored into the policy framework include:

- The WTO's General Agreement on Trade in Services (GATS) which has created a new paradigm for trade in services and provides a legal framework for the opening of such trade among Members. The agreements with respect to telecommunication services provides the stability and predictability of regulatory conditions needed to facilitate the expansion of services trade. It offers an effective framework to implement wide-ranging policy reforms which the CARICOM region could take advantage of.
- The UN Millennium Development Goals (MDGs), which seek to achieve social, economic and human development by the year 2015
- The Declarations and Plan of Action of the World Summit on the Information Society, which outline the framework for the development of ICTs as a sector and its integration with other key economic and social sectors of society.

5.2   Regional

CARICOM has enunciated in various forms a connectivity agenda that establishes broad parameters, which should influence the shaping of a policy framework. The agenda calls for CARICOM countries to:

- Individually and collectively move towards expanding access to global knowledge and full integration with the knowledge society
- Promote the modernization of the telecommunications sector
- Establish conditions taking into account national legal frameworks that promote and strengthen free and fair competition in telecommunications services
- Seek out innovative ways of facilitating access to and usage of computers and software in our learning environments

Given that telecommunications/ICT is not only an end in itself but an enabler to the wider socio-economic development, it is also important that the policy agenda for telecommunications services be integrated into the wider framework for the CSME, in all areas inclusive of policies related to Investment, Taxation and Incentives, Competition Policy, the Financial Services Sector, Research and Development, Human Resources and The Environment. These are discussed in Norman Girvan's *Towards a Single Economy and a Single Development Vision*, 2007.

5.3   National

At the national level, the policy framework has to take account of the diverse stages of development of telecommunications services across the countries. As indicated earlier some countries are far advanced along the continuum in terms of the development of the sector, whilst some are still in the embryonic stages. Additionally, the areas of focus will be different for each country. States such as Jamaica and Trinidad have already enunciated policies and strategic plans for the development of their telecommunications sector. The policy framework should therefore seek to promote best practices in seeking to bring the region as a whole to a high level of competitiveness within the global economy.

In addition to global, regional and national imperatives that must be taken into account, there are a number of general considerations or pre-requisites in the development of the telecommunications services sector, which should inform the policy framework. The Green Paper "Action Plan for Telecommunications/ICT Services in CARICOM - Addressing Convergence Issues in a Single Market" (2007) identifies a number of these, including:

i. The provision of affordable, good quality ICT services and equipment to allow firms to compete regionally and globally;

ii. Fair and competitive environment with reduced barriers for entry and simplified administrative rules;

iii. Easily accessible and readily available financing for ICT related businesses;

iv. Government support for research and development to support new technologies and applications;

v. An enabling environment characterised by security, privacy and regulatory certainty;

vi. Government led adoption to deliver high quality services to citizens

vii. A highly trained and skilled workforce

6.0   Strategic Planning 2010-2014 and Beyond

Against the background of the broad policy framework for the development of the telecommunications sector, it is required that a vision for the sector be established, along with strategic objectives and attendant action plans.   The strategic plan should also include the cross-sectoral linkages with telecommunications as the enabler for the development of these sectors.

In proceeding to develop a strategy for the Caribbean, the following strategic objectives previously identified by the CARICOM Secretariat should be fully explored and the relevant action items identified and implemented.

- Promotion of e-enabled human capital to enhance human capacity through online communities (e-communities) and online learning (e-learning)
- An enabling e-business environment for the growth of online business (e-business) and creation of new business opportunities.
- Efficient functioning of governmental machinery to build civil society and democratic governance (e-government)[7]

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[7] Nurse, L.A PhD. Digital Diaspora Network for Caribbean and ICT Development in CARICOM countries, 2003.

In doing so, the plan must also consider the development of the sector in its own right and also the sector as an enabler to economic, social and governmental sectors of the economy. The achievement of the strategic objectives will require the implementation of an integrated action plan that will target the major sectors of the region's economies. Adopting from the areas of focus of CARICOM Green Paper on Telecommunication and the e-Strategies articulated by individual countries in the region, a two-pronged model is to be explored along the lines of Creating an Enabling Environment for the sustainable development of telecommunications services and Creating a Competitive Environment with the provision of these services with a view to achieving the social and economic goals of CARICOM.

<u>Strategic Planning Framework Model</u>

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                    ┌─────────────────────────┐
                    │  Creating an Enabling   │
                    │      Environment        │
                    └─────────────────────────┘
                                 │
         ┌───────────────────────┼───────────────────────┐
         │                       │                       │
┌─────────────────┐   ┌─────────────────────┐   ┌─────────────────────┐
│ Human Resources │   │  Network Readiness  │   │  Policy, Legal and  │
│  Development/   │   │   Infrastructure    │   │ Regulatory Framework│
│ Education and   │   │ Development and     │   │                     │
│   Training      │   │ Pricing             │   │                     │
└─────────────────┘   └─────────────────────┘   └─────────────────────┘
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                    ┌─────────────────┐
                    │  Creating an    │
                    │  Competitive    │
                    │  Environment    │
                    └────────┬────────┘
          ┌──────────────────┼──────────────────┐
┌──────────────────┐ ┌──────────────────┐ ┌──────────────────┐
│ E'Business and   │ │   E'Government   │ │  Research and    │
│    Industry      │ │                  │ │  Development     │
└──────────────────┘ └──────────────────┘ └──────────────────┘
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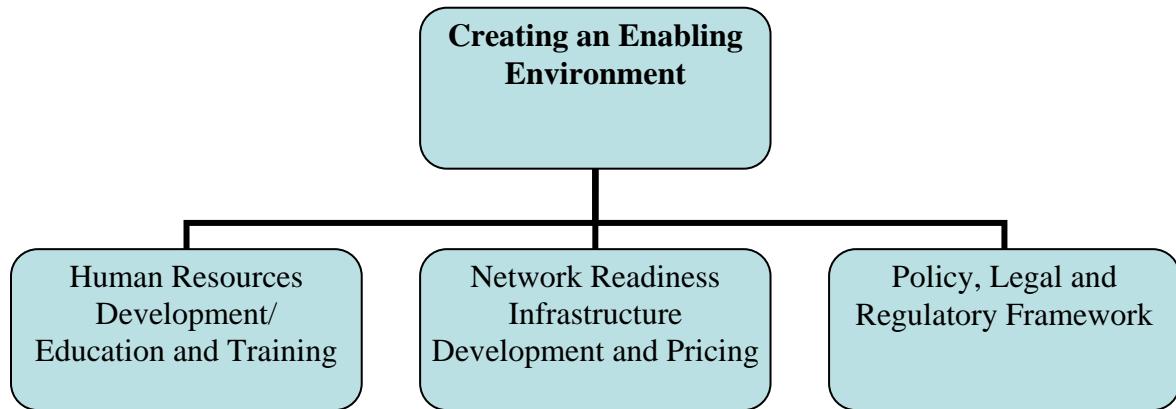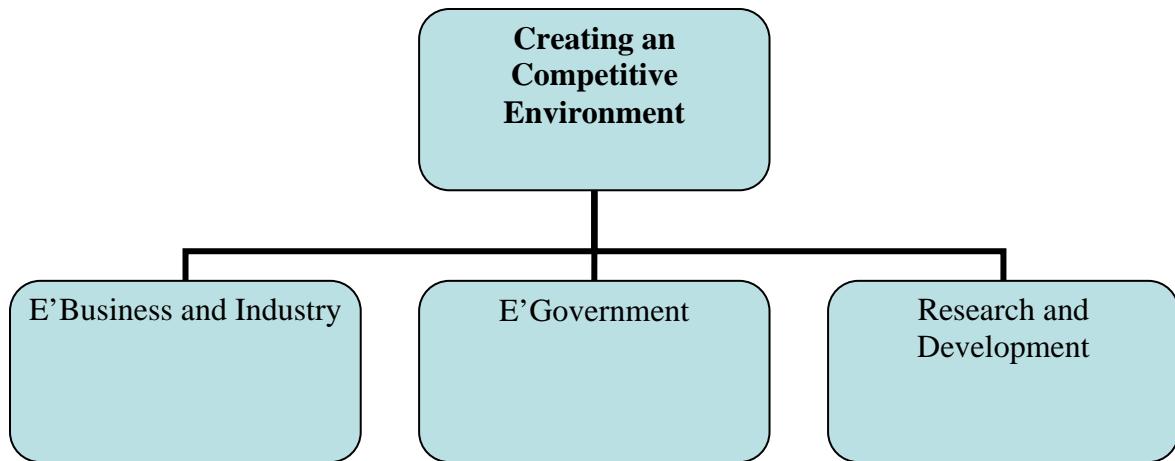
Strategic Planning Framework Matrix

Strategies	Focus Action Areas
Human Resources Development/Education and Training	• Training for Regulators, Legislators and Policy makers • Established Framework for sharing of best practices • Ensuring the sustainability of and increasing access to existing programmes for telecommunications training, both regionally and internationally.
Network Readiness, Infrastructure Development and Pricing	• Promoting access to fibre optic, satellite and wireless broadband systems for those countries that do not have access. • Revision and harmonization of pricing and tariff structures across the region. • Providing the framework for facilities based competition that will reduce interconnection and other transactions costs for new entrants.
Policy, Legal and Regulatory Framework	The Green Paper on Telecommunications and ICTs in CARICOM proposes an institutional and political framework for harmonizing policies, laws and rules, involving the various organs of CARICOM and other regional stakeholders. Additionally CARICOM will need to identify areas of common significance in which all countries can participate. Some of these would include: 1. Reformed Telecommunications and Competition Policies 2. Spectrum Policies and Digital Switch Over 3. Standards for Telecommunications Equipment 4. Emergency and Disaster Management 5. Common legislation related to E-Commerce, Cyber-Security, Intellectual Property and Digital Rights Management 6. Environmental Protection 7. Labour laws to encourage telecommuting 8. Consumer Protection Legislation

E'Business and Industry	Private /Public Sector Collaboration in determining national and regional priorities and in promoting common approaches to investment incentives and tax treatment.
	
	Key target industries to be identified including:
	    1. Tourism
	    2. Content and Culture
	    3. Telecommunications Related Businesses (see Appendix 4)
	    4. E'commerce, E'Health, E'Learning, M'Banking

E'Government	Promoting Government as a lead adopter of telecommunications services/ICT in promoting citizen-centric, participative governance that is efficient in meeting the needs of the people.
Research and Development	The development of a mechanism to support the establishment of a regional research and education network in the Caribbean and with the support of the academic and research community in the Caribbean the promotion of evidence-based policy and planning for telecommunications in the region.

6.1 Some Considerations towards the Development of the Strategic Plan

With CARICOM members acknowledging the linkages and interrelationships between telecommunications and all sectors of the economy, as well as the important role of a competitive telecommunication services sector itself as a major contributor to national and regional sustainable development, it is up to the Governments of region to agree and commit to a common vision which will guide the strategic planning framework. This commitment requires not only increased focus on the sector, which has been lacking to now, but it requires a commitment of dedicated human and financial resources.

CARICOM's plan should provide the framework for the development of country strategies, recognizing that each country will have different priorities. Therefore, each country's sustainable development needs should determine the national strategy in each case. The successful development and implementation of a telecommunication sector strategy will also require a multi-stakeholder approach. At the national level, Governments need to demonstrate

the political will to incorporate more ICT into the operational and other aspects of governance (e-government), and to allocate appropriate resources for achieving this objective. Further, business sector, NGO's and international organizations will be required to contribute resources.

Readily available and adequate financing for the development of the sector will be critical to the success of the plan. Therefore, CARICOM will need to forge linkages with regional financial institutions such as the CDB and multilaterals such as the World Bank and Inter-American Development Bank to ensure that the plan can be financed in its entirety and on conditions that are favourable to the members of CARICOM

At the level of CARICOM, co-ordination among the various organs is key to prevent replication and waste of resources. CARICOM should also play an integral role in promoting evidence-based policy making as a key aspect of modern policy making is that policy should be made on the basis of reliable data. There are a number of data gaps to be filled in terms of inter alia, the levels of development and priorities of the different island-states.

The Environment
As we move to tackle, in planned way, the opportunities presented by the innovations of our time, its important that timeless environmental and historical gems of the region – its once pristine seas and verdant valleys, monuments, picturesque villages and craggy mountain ranges, are not marred or scared by the detritus of development from this emerging telecommunications sector. National and regional ICT planning must take careful account of the impact of multiple transmission towers, unregulated outdoor advertising hoardings and the inevitable generation ejunk are managed in a sustainable manner, compatible with the continuing aspiration of a our residents and expectations of visitors. This would therefore be an important part of the regional strategic plan for the delivery of telecommunications and ICT services.

Finally, CARICOM will need to put in place the mechanisms to measure and evaluate the progress in the development of the sector at the regional and national levels.

7.0   Conclusion

"Telecommunications are emblematic of the highly integrated nature of modern economies: while the sector's own economic momentum depends on the existence of dynamic user industries, world-class communication links are today a sine qua non for a wide range of economic activities within services and beyond" (Pascal Lamy, Director General WTO. February 2008). A move toward the strategic development of the telecommunications sector for the region is unavoidable in the current environment.   Payne and Sutton refers to the outputs of World Bank Studies which concluded that economic growth in CARICOM depended on competitiveness, namely in service areas such as information and communication technology (ICT)-enabled products and services, offshore education, health services and niche education. They indicated that the route to a viable services-based economy necessitated "a pro-active approach", comprising "greater integration within the CARICOM region", "an orderly dismantling of preferences in return for increased financial and technical support", "improving the investment climate", "making the public sector more cost-effective" and "improving the quality and effectiveness of human resources"[8].   As the region moves along to road to the CSME, the key elements to such development include harmonization at all levels, co-ordination and co-operation among all stakeholders including governments, businesses, civil society and international and multilateral interests.

There is a wide array of studies, recommendations and experiences on which CARICOM can draw to formulate the specifics of the strategic regional plan, given the framework when agreed. However, recognizing the diverse state of development among the countries and the likely competing and differing priorities, it is important that all policies and plans which are adopted at the regional level be geared toward bridging the digital divide across the region. The many opportunities to participate in the information revolution and to enhance the competitive status of the region can only be grasped through an active rather than a passive approach to a CARICOM connectivity agenda.

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Appendix 1 – Players in the CARICOM Telecommunications Market

|	Current Market Status	Main Players
Antigua/Barbuda	Competition permitted in mobile	APUA, PCS, LIME, Cingular, Kelcom Int.
Bahamas	Duopoly infixed voice, monopoly in mobile and CATV	BTC. Cable Bahamas, Indigo
Barbados	Fully liberalized , Feb 2005	LIME, Digicel, TeleBarbados, Antilles Crossing, Kelcom Int.
Belize	Fully liberalized, Aug, 2002	Belize Telecommunication Ltd, Speednet
Dominica	Fully liberalized	LIME, Digicel, Orange, Caribe, SAT, Marpin
Dominican Rep.	Fully liberalized	Verizon Dominicana, TRICOM, Orange Dominicana, Centennial
Grenada	Fully liberalized, Mar. 2003	C&W, Global Network Providers, TWTC, Digicel
Guyana	Domestic Mobile and ISP's liberalized	GT&T, Cel*Star, CTL
Haiti		Conatel Teleco, Haitel, Comcel, Digicel, Rectel
Jamaica	Fully liberalized, Mar. 2003	LIME, Digicel, CLARO, FLOW
St. Kitts & Nevis	Fully liberalized, Mar. 2003	LIME, Digicel, Caribbean Cable, St. Kitts Cable,Cariglobe
St. Lucia	Fully liberalized, Mar. 2003	LIME, Digicel, AntillesCrossing
St. Vincent/Grenadines	Fully liberalized, Mar. 2003	LIME, Digicel, Kelcom Intl.
Suriname		Telesur, RTBG
Trinidad and Tobago	Fully liberalized, Jun 2004	TSTT, Digicel, Laqtel, Lisa

Adapted from Promoting Investment in Information Communication Technologies in the Caribbean. P. Stern 2006

The status has been updated where information is available

Appendix 2 – Fibre Optics Infrastructure in the Caribbean
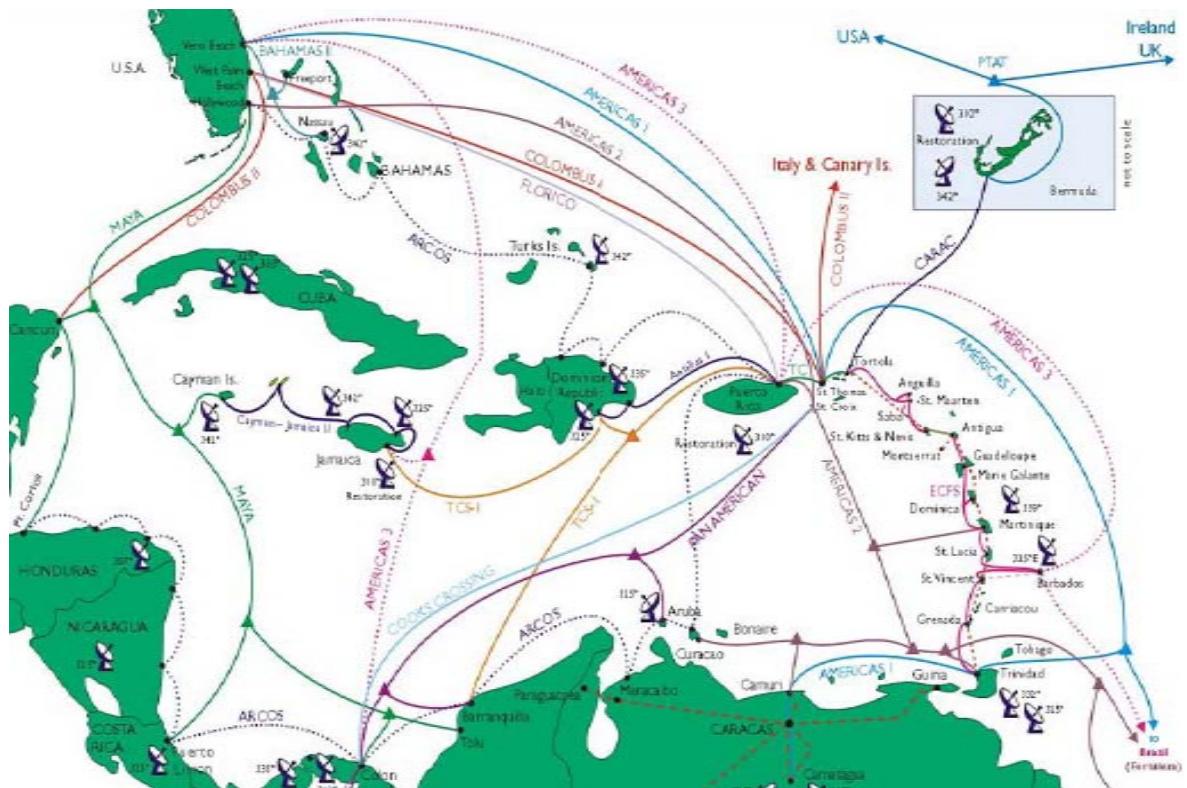
Caribbean Fibre Link Network
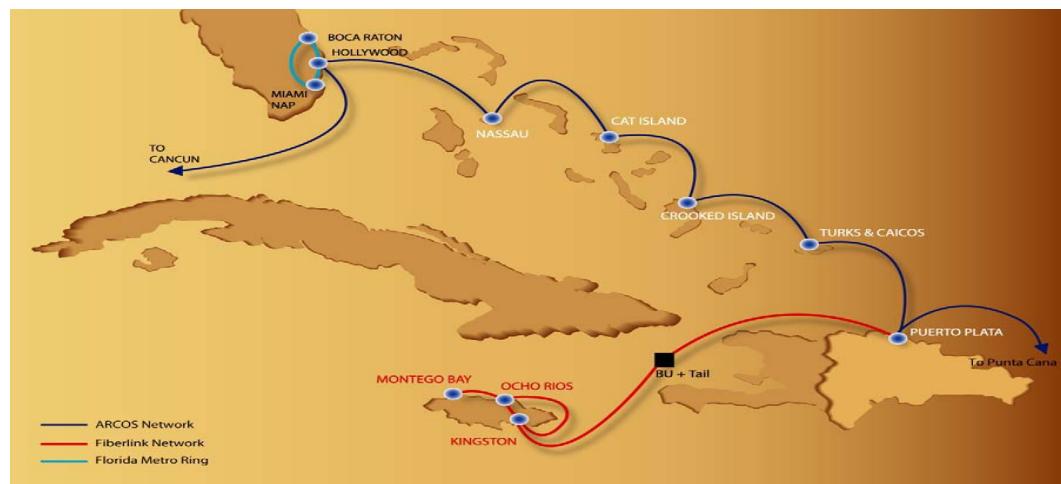
FibraLink Submarine Fibre

Source: Stern Peter, 2007 Promoting Investment in Information Communication Technologies in the Caribbean

Appendix 3 – Statistics on Fixed, Mobile Teledensity, Internet and Broadband Access

	Total Tel	Per 100 inhab	Mobile Subs/100	Mobile as a % of total tel.	Internet Subs/100	Internet Users/100	Broadband Users/100
Antigua/Barbuda	150.3	181.06	135.40	74.8	13.75	72.29	8.34
Bahamas	506.9	153.00	112.90	73.8	7.62	36.22	3.93
Barbados	341.1	126.53	87.76	60.5		59.36	20.45
Belize	152.2	52.91	41.12	77.7	2.74	11.12	2.27
Bermuda	117.8	182.85	93.32	51.0	58.82	74.42	36.71
Dominica	62.8	79.97	53.27	66.6	7.67	37.22	4.14
Grenada	73.9	71.33	44.59	62.5	7.63	21.77	5.35
Guyana	391.5	52.12	37.45	91.9	6.39	25.75	0.27
Jamaica	3040.3	112.03	98.58	88.0	3.19	55.27	3.42
St. Lucia			65.72			66.70	
St. Vincent/Grenadines	133.4	110.81	91.77	82.8	6.98	47.34	6.62
Suriname	401.5	88.83	70.80	79.7	1.83	9.61	0.59
Trinidad and Tobago	1817.1	136.29	113.24	83.1	6.13	15.96	2.66

Source: ITU World Telecommunication Indicators 2007

Appendix 4 – Some ICT Related Business Activities

- Key data entry for magazine subscriptions, coupons and other simple tasks
- Manuscript conversion from paper or voice to electronic files
- Corrections and repairs in highly automated systems such as airline ticket revenue accounting
- Information entry and judgement for health care claims processing
- Conversion of databases from old file formats to newer, easier to use systems
- Providing voice oriented and computer supported call center operations for technical help desks or customer services
- Telemarketing both inbound and outbound, for efficient sales and order entry processes
- Processing and analysis of market research data
- Computer aided design (CAD) services for engineering operations
- Geographic information services (GIS) for mapping
- Document storage and management
- Co-location, networking
- Web development, Web hosting
- Computer Graphics and animation
- Software programme conversion for changes in large system computer platforms
- Software development for a wide range of applications, some in support of the local informatics industry and others for use by unrelated customers.

Adapted from Green Paper on Telecommunications and ICTs in CARICOM