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## Regional approaches to e-government initiatives in the Caribbean

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UNITED NATIONS

ECLAC

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This document has been prepared by Michele Marius, consultant with the Caribbean Knowledge Management Centre (CKMC) of the ECLAC subregional headquarters for the Caribbean, and additional contributions were made by Robert Crane Williams, Associate Information Management Officer of ECLAC CKMC. The paper was prepared under the supervision of Peter Nicholls, Chief of CKMC.

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## Abstract

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The development and support of electronic government (e-government) applications is a resource-intensive and difficult endeavour, particularly for the small island developing States of the Caribbean. Small economies are challenged to support the Information and Communication Technology (ICT) infrastructure needed for e-government projects, and in many instances, their small populations undermine the economies of scale that can justify the required investment. Given these challenges, Caribbean countries may benefit from taking a regional approach to the procurement of e-government applications and services. Potential benefits to multi-lateral collaboration on e-government include reduced purchasing and maintenance costs, improved application quality, reduced redundancy of effort, and the standardization of systems and outputs.

This paper examines the potential benefits and challenges of regionally managed e-government development initiatives. It examines the current state of e-government in four Caribbean countries – Barbados, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago – in order to establish a broader understanding of the challenges that face e-government initiatives in the region. It also reviews a number of e-government initiatives that have been undertaken through projects managed at a regional level. Based on this analysis, it presents a set of best practices that are recommended to agencies engaged in the task of coordinating the implementation of regionally-based e-government initiatives.



## Introduction

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In a 2015 survey, experts in information and communications technology (ICT) rated strategic goals related to e-government as two of the top ten priorities for the Information Society in the Caribbean. These priorities spoke to the need to make e-government procedures and services available through multiple channels, as well as the value of using ICTs to facilitate increased transparency in government. The survey results indicated that respondents also saw the need to promote standards for the interoperability of e-government systems, and recognized the importance of using digital platforms to facilitate two-way interaction between citizens and government (ECLAC, 2015c).

However, the survey also exposed disagreement among the experts concerning the relative value of expanding regional cooperation in the development and procurement of government ICT systems. While, in theory, Caribbean governments could benefit from economies of scale by working together to develop and support e-government applications, past experiences have exposed difficulties in implementing e-government projects across national borders. This paper seeks to identify and explore these issues, to develop an understanding of the institutional challenges to broader collaboration on e-government initiatives, and to identify means by which these challenges can be overcome.

To start this exploration, a definition of e-government is in order. It is closely related to the concept of e-governance, which the Commonwealth Secretariat has defined as governments' "utilisation of information and communications technology to interact with and provide services to businesses, citizens, and other governments with the intent to improve transparency, increase public service efficiency and deepen democracy". E-government, viewed as a subset of e-governance, refers to the public sector structure that enables these goals, through the implementation of systems that enable "electronic service delivery, electronic workflow, electronic voting, and electronic productivity" (Awan, Amin and Kirkby, 2013).

An important goal of e-government systems is to enable bidirectional engagement, permitting remote interaction between a government and its citizens, government and businesses, and within the government itself. These interactions would entail, for example:

- Enabling the electronic submission of forms for activities such as tax reporting, registration for social services, and applications for licenses and permits.



- Orchestration of activities that require coordination across government ministries, departments and agencies, such as budgeting, resource management and project planning functions.
- Facilitation of public access to a broad range of information concerning the activities of the government, including legislative and policy decisions, procurement processes, and public records.

Caribbean governments have begun the process of modernization that is required to implement e-government services, though the effectiveness of these efforts has been mixed. The 2014 United Nations E-Government Survey, compiled by the UN Department of Economic and Social Affairs (UN DESA), reviewed the state of e-government in 193 countries and compiled the results into the E-Government Development Index (EGDI). Of the 16 Caribbean countries included in the EGDI, their ranked performance ranged from 59<sup>th</sup> (Barbados), to 176<sup>th</sup> (Haiti). Importantly, it appears that the region's development in this area is not keeping pace with the rest of the world; the relative performance of almost all Caribbean countries on this indicator has declined —some quite significantly— when compared with the results of the 2012 survey undertaken by the same department.

Caribbean performance in the deployment of e-government services may actually be overstated by this ranking because the EGDI gives a heavy weight to metrics that are not directly related to the implementation of e-government initiatives. For example, the EGDI comprises metrics such as mobile phone penetration, adult literacy, and student enrolment – many of which are areas of relative strength for Caribbean countries. While the region's high level of mobile penetration –approximately 113 subscriptions per 100 inhabitants across the CARICOM region in 2013 (ITU, 2014)– does indicate a high potential for the public to use mobile technology to engage with e-government processes, it says little about countries' actual performance in deploying effective systems for e-government. However, there is one sub-index of the EGDI that speaks directly to this performance: the Online Services Index (OSI). This metric is collated through first-hand examination of a number of websites in each country, and measures the maturity of e-government services, as per the four stages of development described in Table 1.

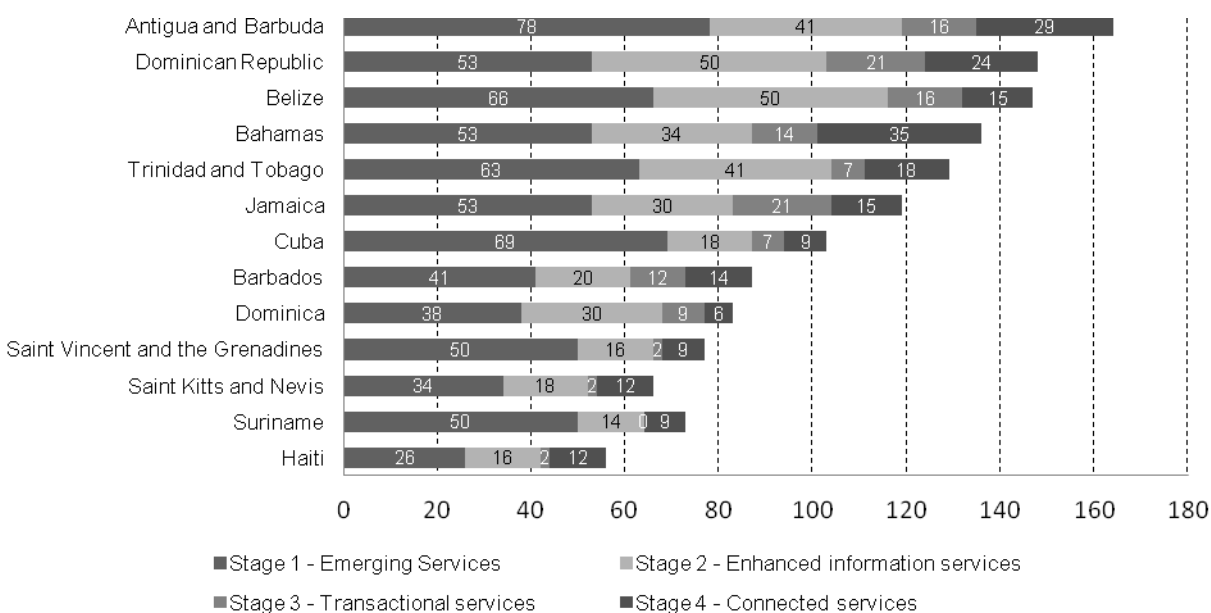
**Table 1**  
**Description of the stages of development of e-government online services**

Online Services Stages	Description
Stage 1: Emerging services	Government websites provide basic information and documents. They have links to ministries, departments and other branches of government. Citizens are able to obtain updated information in the national government and ministries and can follow links to archived information.
Stage 2: Enhanced information services	Government websites deliver enhanced one-way e-communication between government and citizen, such as downloadable forms. Some limited e-services enable citizens to submit requests for non-electronic forms or personal information. The sites have audio and video capabilities and are multi-lingual.
Stage 3: Transactional services	Government websites engage in two-way communication with their citizens where electronic authentication of the citizen's identity is required to successfully complete the exchange. Government websites process both financial and non-financial transactions.
Stage 4: Connected services	Government websites have changed the way governments communicate with their citizens. E-services and e-solutions cut across the departments and ministries in a seamless manner through the use of integrated applications. Governments create an environment that empowers citizens by using Web 2.0 and other interactive tools to proactively request information and opinions of its users.

Source: UNDESA, e-Government Survey 2014.

The performance of Caribbean countries in the OSI is summarized by the graph in Figure 1. It shows that there is a broad range in terms of the quantity of e-government services available online, as well as the relative sophistication of those services. In general, it can be noted that the vast majority of e-government services in the region are either in the “emerging” or the “enhanced” stage. This primarily represents one-way communication from the government to the public; most countries have only a limited number of “transactional” or “connected” services, designed to enable broader and more efficient two-way interaction. This impression is corroborated, to some degree, by a first-hand review of select government services in the four countries under specific focus in this study. The results of this review, summarized in Annex 1, compare publicly accessible e-government services for specific transactions to gauge the extent to which those transactions can be conducted remotely. That review also reveals that the quality of these services tends to be uneven, often featuring unclear documentation, systems that have been down for an extended period of time, and a lack of appropriate linkages between related systems.

**Figure 1**  
**Breakdown of the 2014 scores across the four stages examined to determine the ONLINE SERVICES INDEX (OSI) for select Caribbean countries**



Source: UNDESA, e-Government Survey 2014.

The small-island developing States of the Caribbean face difficulties in implementing e-government services, in part because the processes needed to accomplish this modernization are highly resource-intensive, in terms of both human and financial capital. The region’s small economies are challenged to support the ICT infrastructure needed for e-government projects, and, in many instances, small populations undermine the economies of scale that can justify the required investments.

Thus, to better benefit from economies of scale and scope, Caribbean governments should consider the potential gains from a regionalized approach to the procurement, implementation and maintenance of e-government systems and applications. Increased harmonization of national e-government development efforts across the region would reduce costs, improve application quality, eliminate redundancy, and enable the standardization of outputs. Further, such an effort would support the wider thrust of the Caribbean Single Market and Economy across the region, for which cohesion and coordination among the participating territories is crucial. Additionally, the establishment of a robust

regional market for e-government applications would bolster the development of the Caribbean ICT industry, which has the potential to be an important pillar for economic growth in the region.

There are, however, significant barriers to implementing regionalized approaches to the procurement of e-government applications. While these include technical, security, and human capacity issues, some of the broader difficulties are rooted in policy and institutional structure. Notwithstanding these differences, there are several e-government-related challenges common to the countries of the region for which a regional (or multi-country) approach could provide distinct advantages. To that end, this study has been commissioned to examine the extent to which Caribbean governments may be able to adopt a collaborative and harmonised approach to e-government development efforts. It will seek to determine where and how such a regional approach can be used effectively, in a way that would reduce costs, improve application quality, eliminate redundancy, and enable the standardization of outputs.

To achieve that objective, this paper examines global and regional projects in support of e-government, and considers what elements of these initiatives have been effective. It reviews the current state of e-government in select Caribbean countries<sup>1</sup> to provide a national level understanding of the issues. These countries have been selected because they are indicative of the diversity of the countries in the region, in terms of population, land mass, and ICT infrastructure development. The paper builds on the lessons learned from these investigations to identify systemic challenges that could affect regionalization of e-government initiatives. Based on this analysis, it presents a set of best practices that are recommended to agencies that take on projects to coordinate the implementation of regionally-based e-government initiatives.

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<sup>1</sup> Barbados, Jamaica, Saint Vincent and the Grenadines and Trinidad and Tobago.

## I. E-government in the Caribbean

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As a means of providing background on the current state of e-government, as practiced in the region, this chapter presents case studies on current conditions in four Caribbean States<sup>2</sup>. Each national case study opens with a summary of the country's policy framework for e-government. Thereafter, a cross section of e-government initiatives is presented which highlight, to some degree, the depth and breadth of the e-government activities that either have been or are being undertaken in each of the countries.

To summarise the broader regional trends revealed through analysis of these case studies, there has been a continual effort to implement e-government initiatives in the Caribbean. For example, analysis of the case studies below suggests that governmental revenue-collecting agencies, such as Inland Revenue and Customs and Excise Departments, were typically the first areas that moved to implement e-government systems. As a result, common systems and applications have emerged, an example of which is the use of the ASYCUDA software application by a number of Customs and Excise Departments across the region (see Chapter II). Knowledge management systems within government have also been given a high priority. In recent years, initiatives for social inclusion have also become part of the e-government agenda, especially in terms of providing wider connectivity to underserved populations. Recently, there has also been an increased focus on e-government initiatives that provide support for social services – Saint Vincent and the Grenadines' Health Information System stands out as a noteworthy example in this area. Similar projects are expected to soon be implemented in Jamaica and Barbados.

A further commonality among the countries examined is that they are either in the process of, or have already established, a government Wide Area Network (WAN) to connect all important government ministries, departments and agencies. This activity, which for most countries is only possible due to international donor funding, highlights the importance of connecting all important institutions of government to not only realise a common physical network, but also to create the foundation for a more cohesive government into the future. Notwithstanding, an ECLAC-convened Expert Group Meeting (meeting of experts) in March 2015 considered that there may in fact be excessive focus on development of networks infrastructure. The capital required for these projects was

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<sup>2</sup> Barbados, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago.

considered, in some cases, to be “an unduly large proportion of national ICT budgets”, especially in light of cases where existing infrastructure went underutilised for lack of appropriate project planning.

An examination of national policies for e-government implementation in some countries, such as Barbados and Trinidad and Tobago, revealed very detailed plans that were being followed, which were ambitious in the types and impact of the projects they intend to complete. Other countries, such as Jamaica and Saint Vincent and the Grenadines, had less central direction in their e-government focus, with individual ministries, departments and agencies undertaking projects at their own initiative. In the case of Saint Vincent and the Grenadines – which may be representative of other small, OECS countries – the availability of regional projects such as the Electronic Government for Regional Integration Project (EGRIP) and the Caribbean Regional Communications Infrastructure Program (CARCIP) appeared to have been a major driver in project implementation.

Perhaps as a result of the diversity of the driving forces behind e-government initiatives, there are still concerns about duplication of effort and the lack of standardisation of approach across government organizations. Hence an important area of focus for many of the countries is to eliminate the silos that currently exist across the public service, where government ministries, departments and agencies implement their own individual projects, processes and standards, and move to more cohesive and coherent approaches across the entire government.

It should be recognized that, in many cases, the highly decentralized nature of e-government is a reflection of past initiatives toward the decentralization of government itself. The theories of the New Public Management, which gained significant currency as an organizational principal for Caribbean governments in the 1990s and 2000s, put a premium on restructuring civil service operations toward more independent and atomic units that were run in alignment with management practices adapted from the private-sector. Unfortunately, experience around the world has demonstrated that this type of system is not well adapted to making the best possible use of cross-cutting functionalities, such as those that are enabled by ICT. This limitation has been evident in Jamaica, for example, where it has been reported that there are extensive but under-utilized fibre optic networks in Kingston, which were installed for use by various individual government agencies that were apparently unaware of, or unable to get access to, previously existing infrastructure (ECLAC, 2015).

The siloed nature of government structures also underlies another critical issue that is widespread in the Caribbean. There is evidence that e-government services are built around the functions and structure of government agencies, rather than the needs of the citizens who are accessing them. A review of the web pages that Barbados, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago established to enable their citizens to request a passport (see Annex I) revealed that, while each provided some type of downloadable passport form, none provided a link from the passport web page to the web page providing information on how to request a birth certificate – even though a birth certificate is generally required as part of the passport application process. By contrast, a review of the passport application process for both the United Kingdom and Singapore showed that both of those countries provided a link between the passport application web page and the birth certificate request web page. It should be noted that providing this type of cross-linking of web pages comes at no great expense in terms of the cost of implementation at a technical level. It does, however, require that the designers of these processes are enabled to work across institutional boundaries to develop e-government services based around the needs of users, rather than the functions of agencies.

Recently, there has been evidence of movement toward a more cross-cutting approach to e-government. For example, in Jamaica, a new post of Chief Information Officer has been created as a means of improving coordination of ICT projects. In Trinidad and Tobago, there has been a shift in ICT strategy from an e-government policy framework based on the Canadian model – which had deep foundations in New Public Management – to one based on the practices of Singapore, which works toward the development of customer-centric, holistic, and integrated e-government services (CDB, 2008). Moreover, Barbados, Saint Vincent and the Grenadines, and Trinidad and Tobago have each developed a “portal” type front-end that provide a centralized point of access to e-government services.

A review of the various national e-government systems enumerated below, however, will reveal a conspicuous absence of systems that unify the management of citizen data between and among e-government services. For example, there is no means of connecting birth and death information with taxation systems, or identification systems with licensing systems. This level of integration is currently being undertaken by global leaders in the e-government<sup>3</sup> space, but will likely be some time in coming for Caribbean countries.

## A. Barbados

### 1. Policy framework for e-government

Of the four countries under specific examination in these case studies, Barbados is the only country with a standalone e-government policy. The strategic document for this policy was developed in 2006, with a goal that sought to improve the “convenience, speed, efficiency, quality and variety of services and information delivered by Government” (Office of Public Sector Reform, 2006). In 2013, the Ministry of the Civil Service, under whose remit e-government falls in Barbados, proposed to update the country’s e-government strategy, “to reflect the current state of ICT in the public sector and the changes in technology” (Office of Public Sector Reform, 2013). At the time of writing, a well-known professional services firm, Deloitte, had been selected to prepare the strategy, which should be completed before the end of 2015.

The 2006 version of the policy comprised three goals, as outlined in Table 2 below.

**Table 2**  
**Goals and objectives of the Barbados e-government strategy**

Goals	Objectives
Better delivery of services to citizens and businesses	To review and enhance all government services utilising ICT
Greater productivity and efficiency in the operations of government agencies	To put in place a structure to manage the E- government programme To put in place the technical infrastructure and architecture to support the various E- government initiatives To ensure that adequate resources (physical, human and financial) are provided to support the successful implementation of the E- government programme.
Greater transparency and governance through broadening public participation in the governmental process	To develop a communications/ marketing strategy to ensure that people, both external and internal to the public service, understand the vision, the changes that will occur and the tangible benefits to be derived from E- government

Source: Office of Public Sector Reform (2006), e-Government Strategy, p. 44-45.

Notably, Barbados’ e-Government Strategy does not encompass an objective recognizing the government’s role as an institutional customer that can help support the development of local companies within the nation’s ICT industry. This may be considered a missed opportunity, because the cultivation of partnerships with ICT companies in the private sector would go far to encourage the development of needed skills in the local workforce. By promoting the establishment of local vendors, it would also help to reduce long-term support costs for e-government services. However, in reviewing the list of selected e-government initiatives in the section below, one might note a significant reliance on service vendors

<sup>3</sup> Examples of global leaders in e-government undertaking this type of systems integration include Singapore, the United Kingdom, and Estonia.

from off-island, or outside of the region. This is by no means unique to Barbados, but rather is common in the Caribbean.

In addition to its stand-alone e-Government Strategy, Barbados has a National ICT Strategic Plan for the period 2010-2015, which includes some brief references to e-government. Specifically, the policy calls for the establishment of a national steering committee to oversee the implementation of an approved e-government (and i-government<sup>4</sup>) policy, and to support the procurement of requisite hardware and software in order to establish the envisaged e-government environment (Ministry of Economic Affairs, Empowerment, Innovation, Trade, Industry and Commerce, no date).

## **2. Select e-government initiatives**

### **a) Computerisation of government's financial and human resource functions (SmartStream)**

Prior to preparation of the 2006 strategy, Barbados had implemented a number of e-government-related initiatives including the Computerisation of Government's Financial and Human Resource Functions. This was accomplished, in large part, through implementation of the SmartStream Product Suite, comprised of modules that encompassed ledger functionality, funds control, accounts receivable and budget, payables and purchasing, payroll and personnel, and cash receipting. According to an assessment of budgeting practices, sponsored by the European Commission, “[t]he Smartstream electronic environment within which the Budget is planned and executed has been designed in such a way as to ensure that payments and receipts are correctly processed, recorded and reported, and that up-to-date financial reports can be generated at any time” (Wiggins and Biggs, 2010).

Spin-off opportunities which emerged from the implementation of SmartStream included the deployment of an intranet across the Barbados Public Service, which facilitated electronic communication between connected ministries, departments, agencies and their employees (Office of Public Sector Reform, 2006).

### **b) Electronic document and record management system**

In relation to infrastructure related works, Barbados has implemented the Electronic Document and Record Management System (EDRMS). Rolled out in 2010 with the Cabinet Office as the pilot agency, the EDRMS is projected to be deployed across the entire government, pending resources to facilitate wider roll-out of the system. The EDRMS will allow the Government to manage its information more efficiently and cost effectively (Office of Public Sector Reform, 2013).

### **c) Overhaul of government procurement system**

With the support of the Inter-American Development Bank (IADB), the Government of Barbados is in the process of overhauling its national procurement system, which will include an e-procurement portal. The main goal of the project is to improve the effectiveness of public procurement, which should result in “saving time and money through competitive prices and reduced process time, while ensuring the transparency and integrity of the system.”

The goal of the new system is to strengthen the public procurement legal framework, improve procurement operations, strengthen institutional capacity in agencies with responsibilities for public procurement, and to modernize and update supporting technology-related infrastructure. In relation to this last goal, it will establish an e-tendering and e-procurement system to disseminate procurement opportunities and the results of tenders and procurement processes (IADB, no date).

With regard to the e-tendering and e-procurement system, the Government of Barbados planned to purchase a commercial off-the-shelf system and have it customised to its needs (Barbados Ministry of Finance, 2012). In 2013, it secured a solution from PROACTIS, a spend control and e-procurement solutions provider, which would integrate with the Government’s existing systems, such as its SmartStream finance and enterprise resource planning system (PROACTIS, no date).

<sup>4</sup> I-government – “information government,” the provision of information by governments.

#### **d) Government Wide Area Network**

The design and the preparation of policies and standards for the Government Wide Area Network (GWAN) were precursors for the actual rollout of that network, and were undertaken by PSTG Consulting out of Trinidad and Tobago. Deployment of the network is expected to commence within this calendar year. As of January 2015, the project was open to tender.

When implemented, the GWAN will provide a cohesive and high-speed network across the Barbados Government, which would satisfy the growing demand for capacity and services. Further, in addition to the considerable cost savings to be realised, the network would allow for the roll out of enterprise-wide applications and services, along with standardisation and consolidation of equipment and expertise (Office of Public Sector Reform, 2013).

#### **e) Knowledge management system for Barbados**

In 2014, the European Union funded a consultancy to design, develop and deliver an implementation strategy and action plan for a fully integrated and rationalised Knowledge Management System (KMS) for Barbados. The conceptualised system “allows for the sharing of information, ideas and processes from multiple sources, enhances decision-making capabilities, and improves information access for all stakeholders, thereby improving the country’s international competitiveness” (EuropeAid 2014).

The scope of work for the project covers four main areas:

- Conducting background research and delivering knowledge management orientation sessions.
- Auditing the country’s knowledge assets.
- Undertaking KMS modelling and design.
- Developing a capacity building framework.

The assignment was won by ACE, International Consultants (Spain) in partnership with Ecorys (Netherlands), and comprised a team of international and regional consultants, who were engaged for a six month period starting in September 2014.

#### **f) ASYCUDA**

Automated Systems for Customs Data (ASYCUDA) was implemented in Barbados in 1993, and led to considerable simplification of then-existing processes (Office of Public Sector Reform, 2006). Further discussion of the ASYCUDA initiative may be found in Section II. E.

## **B. Jamaica**

### **1. Policy framework for e-government**

Jamaica’s approach to e-government is elucidated as part of its national ICT policy, last updated in 2011. That wider policy is aligned with the country’s longer-term strategic vision, as set out in its National Development Plan 2030, which, for the ICT sector, includes imperatives such as achieving sustained global competitiveness and improved governance. Specific to e-government, Jamaica’s expressed policy objective is:

“To create a transformational state bureaucracy; on demand ‘government through integrated end to end’ processes across the Government service and with stakeholders; effective communication; stimulation of public involvement; empowerment of citizens; minimization of social exclusion, and realization of the knowledge based society.” (Government of Jamaica, 2011)

Much of Jamaica’s work on e-government is being led by the Public Sector Transformation Unit (PSTU), which was established to develop “an efficient, responsive and cost-effective framework of operations for the public sector.” The 2011 Public Sector Master Rationalisation Plan (MRP) sets out a roadmap for the transformation of Jamaican Public Sector, in the following areas: shared corporate services, devolution of authority, standardisation of administrative regions, development of a National



Identification System, establishment of a Government of Jamaica Network Infrastructure, and reform of user fees (PSTU, 2011).

An observation that has been made about Jamaica's efforts to date is that while the activities undertaken across government might improve the systems and processes of an individual organisation, through a more holistic lens, it would appear disjointed and, in some instances, at cross-purposes with other projects across government. Historically, the efforts towards improving e-government in Jamaica have not been managed or overseen by a single entity. In addition to the PSTU, the Ministry of Science, Technology, Energy and Mining, eGov Jamaica Limited, along with a wide cross-section of ministries, departments and agencies, have all undertaken a variety of activities, a few of which are outlined in Section 2 below. As a result of the disjointed nature of these efforts, it has been recognised that the country's e-government thrust needs a champion and focal point – to provide leadership and to own the entire exercise (Jamaica Observer, 2014). To address this issue, the Government of Jamaica has recently appointed its first Chief Information Officer, charged with oversight of e-government initiatives.

It should be noted that eGov Jamaica Limited was formerly Fiscal Services Limited (FSL), a government-owned company responsible for providing IT services to the Ministry of Finance and Planning and associated revenue departments. In 2013, the Jamaica Cabinet of Ministers approved a broadening of FSL's responsibility to implementing ICT projects for the Government, and the company was renamed to eGov Jamaica Limited (eGov Jamaica Limited, no date). However, it is the author's sense that eGov Jamaica Limited has been going through the process of establishing itself in its new role, and was not yet in a position to fully participate in the implementation of some of the projects that had been proposed, thus affecting the timelines envisaged.

## **2. Select e-government initiatives**

### **a) Government of Jamaica network infrastructure (GovNet)**

Included as a task in the PSTU's 2011-2013 implementation plan, the GovNet project in Jamaica was conceptualised to allow the seamless transfer of information between Government ministries, departments, agencies and other stakeholders, along with providing online services to the public. Though conceptualisation and implementation of the GovNet project commenced in as early as 2010, it was recently redesigned to include data centre computing services, consolidated voice and email systems, plus Internet services, to facilitate cost effective and efficient services to citizens (Robinson, 2014). Key elements of GovNet's design include:

- Authentication services, to allow users to use a single credential to access multiple systems and resources across the Government Ministries, Departments and Agencies of Jamaica;
- Endpoint access and security – to preserve the confidentiality, integrity and availability of the government's ICT infrastructure and information assets;
- Connectivity of ministries, departments and agencies via a high-speed fibre network and other communication links (Robinson, 2014).

### **b) Common HR and payroll software**

The implementation of a common human resource and payroll software application across Government would promote greater cohesion and reduce the "silo approach to software acquisition" (PSTU, 2011). As of the time of writing, the procurement process to select the final products was still ongoing. Bids were being evaluated, and roll out of the selected application has not yet commenced.

### **c) Harmonised GOJ telephony**

The creation of a cohesive and harmonised telephony system (PBX, CUG and other voice communications systems) across the Government by standardising common products and procedures is expected to reduce considerably the Government's overall expenditure on such services. In addition to identifying suitable hardware, the activity would include the preparation of voice communications procurement and standards recommendations for Cabinet approval, which subsequently would be enforced across the Government, as prescribed (PSTU, 2011).

Though included in the PSTU's 2011-2013 implementation plan, this activity is still in the preliminary stages, which has been attributed to the teething pains of eGov Jamaica Limited, which would be the lead agency. However, the Government has designated this activity as a priority item, hoped to be completed by March 2016.

**d) Cohesive and harmonised ICT landscape across government**

Another activity that was proposed for implementation, with the objective of realising cost savings and reducing the silos across the Government, was the development of a cohesive and harmonised GOJ ICT landscape. Tasks that would be undertaken include:

- Standardising common products, services and procedures.
- Developing recommendations for Enterprise Agreements and bulk purchasing standards, which when approved by Cabinet would be implemented.
- Undertaking a Free and Open Source Software (FOSS) Pilot Project.

The full scope of this activity is not completed, and reportedly had been deferred pending the appointment of the Chief Information Officer. The FOSS pilot project has been conducted, and lessons-learned from that experience are expected to contribute to a national governance framework and policy guidelines for adoption of FOSS by the public sector.

**e) Community access points**

Funded by the telecommunications Universal Access Fund, the Community Access Points (CAP) project provides community organisations across Jamaica with computers and associated equipment, along with Internet Access. These CAPs allow residents to use the Internet at minimal or no cost to undertake, among other things, bill payments, education, communication and to access online government resources. As of March 2015, USF had approved financing for 257 CAPs across Jamaica, 213 of which have already been put into service (Channer, 2014).

**f) Consolidated tax registration for businesses**

To improve ease of doing business in Jamaica, business registration and incorporation, along with registration of the following taxes payable by businesses in Jamaica and statutory requirements were consolidated into a single form (a "Super Form"):

- Income/corporate tax.
- General Consumption Tax (GCT).
- Tax compliance.
- National insurance.
- Housing.
- Education.

The form, which is submitted to the Office of the Registrar of Companies (ORC), would eliminate the need for persons to apply separately to at least three agencies, thereby reducing the time, effort and bureaucracy associated with starting a business in Jamaica.

Although the business registration and incorporation processes cannot be done online, the ORC's electronic registration systems has been integrated with that for the Tax Administration of Jamaica thus allowing registration for a tax number, GCT, and issuance of a tax compliance certificate to be completed in real time. However, registration with National Insurance Scheme Office (for national insurance), the National Housing Trust (for the housing tax), and the Human Employment and Resource Training Trust/National Training Agency (for the education tax), have not yet been integrated electronically (eGov Jamaica Limited, no date).

### **g) Development approval process**

The approval process for development initiatives in Jamaica can be lengthy, as a number of agencies, starting with the local planning authority, through to the National Environmental Planning Agency, along with other supporting specialty organisations, such as the National Works Agency and the Ministry of Health, might be required to review the submissions made. The Application Management and Data Automation (AMANDA) software is web-based commercial-off-the-shelf and enterprise resource planning software that is being used to manage and track the development application process (Ministry of Local Government and Community Development, no date).

In making the AMANDA system available online to all of the participating entities in the development approval process, a number of benefits will be realised, including:

- A more efficient process and streamlining of the approvals process to no more than 90 days.
- Improved accountability and transparency.
- Ease of tracking applications by applicants.
- After testing and commissioning of the system in 2014, the full rollout of AMANDA among local authorities was completed in March 2015 (Jamaica Gleaner, 2015).

### **h) Implementation of ASYCUDA World**

As at the time of writing, ASYCUDA World is in the first stage of pilot testing in Jamaica, which has been limited to exports from the port of Kingston. A paperless entry system in the form of an electronic single administration document has also been introduced as part of the pilot. Following the current phase, testing will commence on imports before going live with both modules activated. A full system roll-out across all ports and airports is expected by December 2016. The total cost of this venture is US \$4 million, and is funded by an Inter-American Development Bank (IADB) loan (Jamaica Information Service, 2014).

## **C. Saint Vincent and the Grenadines**

### **1. Policy framework for e-government**

Similar to many countries, Saint Vincent and the Grenadines does not have a dedicated e-government plan or policy framework, but a number of e-government-related initiatives have been included in its National ICT Strategy and Action Plan. The strategy and action plan has been designed to focus on nine key areas, which includes government, agriculture, community development, health, tourism, education and human resource development.

With regard to government, the primary objectives are to “ensure that ICT is optimally utilised within government to improve cost-effectiveness and the quality of services provided to citizens and businesses, and to support the administration of justice and national security”. To that end, the following policies have been adopted:

- Mandate all ministries and agencies to incorporate the utilisation of ICT in their development plans, programmes and projects.
- Require that all appropriate government information be put on-line within a reasonable timeframe through a single government electronic portal.
- Encourage and support the provision of government services through electronic channels where appropriate and cost effective.
- Develop and implement a policy framework to support and enable shared services within government, including the government backbone, email, Internet, VOIP and Storage Area Networks (SANs).

- Facilitate the policy and governance framework to enable integrated service delivery across government.
- Expand and strengthen the policy and standards framework utilised within government.
- Support the use of ICT to improve national security and the administration of justice in the country.
- Enhance the security of ICT users by implementing a Certificate Authority.
- Implement a human resource management information system across government (Ministry for Telecommunications, Science, Technology and Innovation (2010)).

The ministry with responsibility for e-government in Saint Vincent and the Grenadines is the Ministry of Foreign Affairs, Foreign Trade, Commerce and Information Technology. A focus on this organization has been on the development of the country's ICT policy and legislative framework.

## 2. Select e-government initiatives

Many of the projects outlined in this section are, or have been, financed by regional/multi-country programmes, of which Saint Vincent and the Grenadines is or has been a part.

### a) EGRIP initiatives

EGRIP is a programme that was implemented within the Organisation of Eastern Caribbean States to “promote the efficiency, quality and transparency of public services through the delivery of regionally integrated e-government applications that apply economies of scale” (World Bank, 2008). Saint Vincent and the Grenadines was one of the beneficiaries of the project<sup>5</sup>, which is further detailed in Chapter II.

In Saint Vincent and the Grenadines, EGRIP financed:

- Implementation of a multi-purpose identification system, along with interoperability between the Civil Registry, Immigration and the Electoral Office in Saint Vincent and the Grenadines.
- Development of a policy, legal and regulatory framework and Health Information System policy and training of health practitioners.
- Procurement and integration of a Point of Sale system for the Buildings Roads and General Service Authority (BRAGSA).
- Procurement of IT equipment for the Postal Corporation Districts in Saint Vincent and the Grenadines, and for law enforcement (Regional Integration and Diaspora Unit, no date).

### b) CARCIP Saint Vincent and the Grenadines

As further detailed in Chapter II, CARCIP is a World Bank-funded initiative of which Saint Vincent and the Grenadines is a participating country. In Saint Vincent and the Grenadines, the financial support available through CARCIP (USD 6.0 million or ECD 16.0 million over a five-year period) is being used to address regional connectivity and infrastructure, ICT-led innovation, and to provide the requisite implementation support. This includes both activities to support e-government, and to support broader connectivity and development in the ICT sector. Currently active and on-going projects include the following:

- Conducting a study on broadband gaps in Saint Vincent and the Grenadines.
- Replacing the microwave system that connects the Grenadines (specifically, Bequia, Canouan and Union Island) to Saint Vincent, with fibre optic cable, thereby improving not only connectivity between the islands for the delivery of government services, but also the quality of the Internet access available to residents of the Grenadines.

<sup>5</sup> The others were Dominica, Grenada and Saint Lucia.

- Extending the Government Wide Area Network (GWAN) fibre network out of the capital, Kingstown, thus connecting government agencies, including seaports, the new airport, community college, teachers and technical colleges, security/emergency response agencies, to each other (CARCIP, no date).
- Replacing and upgrading the existing Private Branch Exchanges (PBXes) across all Government Ministries and Departments with Internet Protocol-based systems. This activity is expected to be replicated in countries across the region, which when connected will result in a regional private network and better communication between government agencies in the region (CARCIP, no date).
- Establishing an Internet Exchange Point (IXP) in Saint Vincent and the Grenadines. As of the time of this writing, the equipment has been procured and the location secured, but commissioning and launch has not yet been scheduled.
- Facilitating business incubation and training through tenders open to businesses registered and having a physical presence in Saint Vincent and the Grenadines, and able to provide the stipulated services (CARCIP, no date).

It should be noted that the CARCIP SVG efforts at developing the national broadband infrastructure come at a time when the Saint Vincent and the Grenadines broadband market is experiencing consolidation. The parent companies of the two network operators in that country have merged, and the country is at risk due to the potential monopolization of the broadband market. However, the CARCIP SVG's plan to improve broadband in the Grenadine islands and to extend the Government Wide Area Network represents a potential opportunity to help establish a competing broadband provider in the national market. If these projects are implemented through the use of a public private partnership with an entity other than the monopoly provider, the infrastructure that is established could be used to form key parts of a broader national network, which would provide an important, and much needed competitive force in the national broadband marketplace (ECLAC 2015).

#### **c) Saint Vincent and the Grenadines Health Information System**

The Government of Saint Vincent and the Grenadines has been rolling out an electronic Health Information System (HIS) aimed at improving the delivery of health care in the country. The system focuses on the following nine modules representing the major service areas by the local health ministry: electronic health records/admission-discharge-transfer, clinician order entry, maternal child health, HIV/AIDS, laboratory and testing, supply chain management, public health, human resources, and financial costing and pricing.

The HIS was implemented with the use of an off-the-shelf software application, ACSiS, which has been customised by software owners, Populus, for the country's needs. Populus, a Canadian company, has also implemented similar systems in Belize and St. Lucia, and is currently working to implement the software in Barbados (Populus, no date). The project also entailed deployment and upgrading of computing equipment and network infrastructure to connect the health care facilities across Saint Vincent and the Grenadines, along with training and capacity building for both technical teams and end-users. To date, the HIS has been implemented and is being used at 36 facilities across the country (Saint Vincent and the Grenadines Health Information System, no date).

#### **d) Electronic income tax filing**

In the 2013/14 financial year, the Inland Revenue Department in Saint Vincent and the Grenadines implemented an electronic filing system for submission of annual income tax returns. Some of the hardware needed for this project was procured under EGRIP (World Bank, 2013).

In addition to permitting the electronic filing of tax returns, the implementing project included an e-payment module to allow users to pay taxes through the system. However, as of the time of this writing, the electronic payments were not permitted, as the requisite supporting legislation was yet to be enacted.

### e) Implementation of ASYCUDA World

Since 1997, the Saint Vincent and the Grenadines Customs and Excise Department has been a user of the ASYCUDA programme. The Department migrated to ASYCUDA++ in 2007, and migrated to the latest version, ASYCUDA World, in September 2013 (Saint Vincent and the Grenadines Customs and Excise Department, no date).

## D. Trinidad and Tobago

### 1. Policy framework for e-government

The National ICT Plan 2014-2018, termed smarTT, builds on the country's National ICT Plan 2003-2008, which was dubbed "fastforward". The fastforward plan was focused on connectivity, and facilitated the expansion of broadband access in communities, schools, and within the Government. However, in the immediate post-fastforward era, the pace of development slowed down. This was due to, among other things, a major change in government, and a change in focus from the Canadian e-government model and philosophy to that of Singapore (see Box 1). This time period also saw the establishment of National Information and Communication Technology Company Limited (iGovTT), a state-owned enterprise that offered ICT consultancy services to government Ministries. This is a similar model to what has been established in Jamaica, with eGov Jamaica Limited.

#### Box 1 E-government institutional model

The migration to an e-government system is a major transformational undertaking as it entails extensive reform of existing structures and processes via a facilitated use of technology. One of the main barriers to the successful implementation of e-government is institutional - lack of leadership and the capabilities needed to leverage ICT for development strategies and to integrate ICT investments with organizational, process, and skill changes.

There is no blue-print for e-government, with many countries, including Trinidad and Tobago, changing institutional strategies, or taking from successful best practice of other countries in order to achieve their desired results. Four main institutional strategies have been identified:

#### Models for e-government institutions in various countries:

Model	Benefits	Example countries
Policy and Investment coordinated (steered by revenue collection agencies; ministry of finance, economy and treasure)	Direct control of funds required by other ministries to implement e-government. Helps integrate e-government with overall economic management.	Canada Australia United Kingdom United States
Technical Coordination (steered by technological expertise; ministry of ICT, science and technology industry)	Ensure that technical staff is available, eases access to non-governmental stakeholders	Singapore Ghana India Pakistan
Administrative Coordination (ministry of public administration, services, affairs, interior, or administrative reform)	Facilities integration of administrative simplification and reforms in e-government	Germany South Africa Mexico Republic of Korea
Shared or no coordination	Least demanding and with little political sensitivity, does not challenge existing frameworks or responsibilities	Russian Federation Sweden

Source: Hanna and Qiang 2009 (adapted).

SmarTT is the first phase on a 15-year ICT roadmap for Trinidad and Tobago, and is focused on increasing ICT utilization and uptake in both the public and private sector, as well as among citizens. The plan has been designed around the following thematic areas:

- Innovation and human capital development.
- Access and digital inclusion.
- e-Business and ICT sector development; infrastructure development.
- e-Government.

With regard to e-government, Trinidad and Tobago has formulated four imperatives that are accompanied by a series of programmes (see Table 3), and should be implemented within the life of the current plan (Government of Trinidad and Tobago, 2013).

**Table 3**  
**Imperative and proposed e-government programmes for Trinidad and Tobago**

Imperatives	Proposed Programmes
Enabling the Migration to Transactional e-Services	<ol style="list-style-type: none"> <li>1. Government-to-Citizens (G2C) e-Services Delivery – to transition from informational to transactional (end-to-end) services.</li> <li>2. Government-to-Businesses (G2B) e-Services Delivery</li> <li>3. Multi-Channel Access – to facilitate the continued development of tconnect, which already provides access to government services through a range of channels</li> <li>4. e-democracy Platform-facilitating deeper and real-time engagement between government and its citizens</li> </ol>
Collaborating to Implement Shared ICT Systems and Processes	<ol style="list-style-type: none"> <li>1. Enhancements to GovNeTT – the government’s Wide Area Network</li> <li>2. Smart Card Development</li> <li>3. National Geographic Information System (GIS) Plan</li> <li>4. Government to Employees (G2E) Intranet Portal</li> <li>5. Cloud Computing – to introduce cost savings and efficiencies through pooled ICT resources</li> <li>6. Document and Information Management</li> </ol>
Building Government Infrastructure to Develop and Support a Vibrant e-Government Ecosystem	<ol style="list-style-type: none"> <li>1. Shared Storage and Shared Infrastructure</li> <li>2. Frameworks for efficient operation, governance and standardisation of the Infrastructure</li> <li>3. Middleware Platform - to allow ministries departments and agencies to rapidly develop, deploy and operate their e-services</li> </ol>
Securing the ICT Environment	<ol style="list-style-type: none"> <li>1. National Cyber-Security Strategy</li> <li>2. Information Security Policy</li> <li>3. Information Security Awareness Programme</li> <li>4. Risk Management Programme</li> <li>5. Disaster Recovery and Business Continuity Management</li> </ol>

Source: Draft Trinidad and Tobago National ICT Plan 2014 – 2018.

In addition to the e-government development framework that has been conceptualised for Trinidad and Tobago, smarTT acknowledges that the two islands are “at different stages of ICT readiness in terms of infrastructure, connectivity, training and access”. As a result, the plan includes priorities specifically for Tobago.

The following two programmes have been proposed for Tobago under the e-government theme:

- Programme 1: Collaborating to Implement Shared ICT Systems and Processes – establishing an intranet and supporting policies to connect national and local government departments and offices, and bring all of those offices on to GovNeTT.

- Programme 2: Government to Citizens e-Services Delivery – to support greater online engagement between citizens and the government, and establish the foundation to move from the provision of basic to more transactional services (Government of Trinidad and Tobago, 2013).

## 2. Select e-government initiatives

The projects outlined below have had their foundation in “fastforward” and the iterations of that plan that followed, prior to smarTT. The first three are generally recognised as key projects and successes of Trinidad and Tobago’s e-government efforts.

### a) GovNeTT communications backbone

The establishment of a Government Wide Area Network in Trinidad and Tobago was one of the major key initiatives of the “fastforward” National ICT Plan. For the most part, it required that then-existing and individually government-operated Local Area Networks be interconnected and transformed into a cohesive platform. The GovNeTT Communications Backbone project was implemented as a public-private-partnership between the Government of the Republic of Trinidad and Tobago (GoRTT) and Fujitsu, and comprised two main phases:

- Phase 1 – commenced in 2005, and connected over 20 ministries and 200 public sector sites. Services available on the network include Internet access, e-mail, instant messaging, secure data transmission, and access to a central government help desk service (Fujitsu, no date).
- Phase 2 – commenced in 2008, it expanded GovNeTT by connecting 400 additional sites via a high speed Metro Ethernet core (1/10GB links) and enhanced the suite of GovNeTT shared services. In this phase, bandwidth, redundancy and security were augmented to accommodate a broad range of new government applications and technologies, such as video/audio conferencing IP telephony, Voice Over IP (VOIP) systems, and central data centre hosting services for the Government (Fujitsu, no date).

Since the establishment of GovNeTT continual enhancements are being made to the network. For example, in 2013, a tender was published for ‘The Provision of ICT Enhancements and Managed Services for the Government Wide Area Network (GovNeTT) Communication Infrastructure’, which included the following projects:

- Common service operations and support.
- Data centre hosting services/physical infrastructure management and maintenance services.
- Last mile communication infrastructure.
- Service desk.
- Integrated unified communication (GoRTT, no date).

### b) Trinidad and Tobago government portal (ttconnect)

ttconnect is the e-government portal for the GoRTT, which is managed by iGovTT. It aims to provide a user-centric medium through which to access a broad range of government services, including the following:

Applying for national identification documents.

- Applying for tax numbers and submitting tax returns (payment of taxes online has not yet been implemented).
- Applying for grants and subsidies, such as those available for home improvement, construction and purchase.

In addition to the online portal (ttconnect Online), ttconnect services can be accessed through a network of service centres, including mobile “express buses” that are essentially service centres on wheels. There are also automated self-service kiosks which are located throughout the country, ttconnect mobile, which provides mobile/cellular-enabled version of ttconnect Online, and a telephone helpdesk accessible through a toll-free contact number (GoRTT, no date). These various systems enable broad



segments of the population to access e-government services, especially those who may not readily have Internet access available to them.

Similar to GovNeTT, tconnect is still evolving as new services and functionalities continue to be channeled through that platform. For example, the introduction of a single tconnect identifier (ID), which users must possess in order to electronically access e-Government services and personalize their experience, has commenced. Additionally, the concept of ‘joined up government’, where there is ‘no wrong door’ to access government services is continually being fostered through the tconnect initiative.

### **c) TTbizlink**

Modelled on Singapore’s TradeNet and launched in 2009, ttbizlink is a Single Electronic Window through which businesses and individuals can access GoRTT’s trade and business services, thus facilitating greater ease of doing business (iGovtt, 2012). Through ttbizlink over twenty five (25) business and trade e-services can be accessed, including:

- New work permit applications and extensions – from the Ministry of National Security;
- Import and export licenses – from the Ministry of Trade, Industry, Investment and Communications;
- Business name registration and company incorporation – from Ministry of Legal Affairs;
- Fiscal incentives and import duty concessions – from the Ministry of Trade, Industry, Investment and Communications;
- Export health certificates – from the Ministry of Health, or the Ministry of Food Production (GoRTT, no date).

### **d) Electronic government and knowledge brokering**

The Electronic Government and Knowledge Brokering Program for the Development of a National e-Government Strategy for the GoRTT is a 10-year, USD 28 million programme, funded by the IADB, that aims to “develop an approach and roadmap for e-government systems and their supporting infrastructure to maximise the ability of the GoRTT to achieve its national, regional and international objectives” (UN Development Business 2010). Key elements of the project are as follows:

- Knowledge brokering, to improve the institutional and human resource capabilities of public agencies through effective knowledge-transfer.
- e-Government solutions, financing a range of G2G, G2C, G2B and G2E projects.
- Promotion of the programme, through a variety of activities such as seminars, workshops, a programme website, and newsletter (IADB, no date).

Though the project was submitted to the IADB in 2006, it is still in early stages of being implemented. As of 30 November 2014, over 75 per cent of the project funds had not yet been disbursed.

### **e) Implementation of ASYCUDA world**

The Customs and Excise Division in Trinidad and Tobago are long standing users of the ASYCUDA software with initial implementation of ASYCUDA 2.7 in 1993. The division has continued to upgrade to the most current versions of the software with ASYCUDA++ in 2006 and currently operate ASYCUDA World (YouTube, 2013).

## II. Regional initiatives in e-Government

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Although individual countries have been implementing a broad range of initiatives to improve e-government integration and use in their respective countries, to varying degrees in general and in the Caribbean in particular, those efforts are being bolstered by a number of global and regional projects. In some cases, these projects cover a broad scope of ICT-related initiatives, among which e-government capacity building is a prominent, but not dominant element. The EGRIP and CARCIP projects are examples of this. Other projects focus on providing a number of different countries with an e-government capability in one specific area.

Both of these approaches have had successes and failures. In general, the choice of the model is largely based on the modus operandus of the international organization sponsoring the effort – World Bank-funded projects have tended toward broadly scoped efforts, while narrower initiatives have been directed by organizations with a specialty in a specific area. For example, the UN Conference on Trade and Development (UNCTAD) has been very successful in implementing the ASYCUDA software for automating customs operations, not just in the Caribbean, but around the world.

These initiatives have been largely dependent on the instigation and funding of external donors and agencies. With the exception of the members of the OECS, there has been limited initiation of regional ICT projects on the part of Caribbean countries, and efforts to coordinate e-governance policies among countries —such as through the development of the Caribbean Single ICT Space— have been slow to emerge. There is also a heavy reliance on external funding, rather than on national budgets, for capital-intensive e-government and ICT projects. This is problematic in instances where countries that are eligible for concessionary development funding are able to participate, but neighbouring countries, with a somewhat higher GDP, are excluded from funding. As a result, the management of funding-related challenges may consume important project resources, and limited participation by countries can result in limited benefits from economies of scale.

## A. EGRIP

Managed by the Secretariat of the Organization of Eastern Caribbean States (OECS), the Electronic Government for Regional Integration Project (EGRIP) was undertaken by the governments of Antigua and Barbuda, Dominica, Grenada, Saint Lucia, Saint Kitts and Nevis, and Saint Vincent and the Grenadines. The project commenced in 2009, and closed in 2014. In some ways, EGRIP is the most successful example of regional cooperation in e-government to date in the Caribbean. However, the project also faced significant setbacks that considerably curtailed the scope of what it was able to achieve. Accordingly, the EGRIP experience holds a number of important lessons for the region.

EGRIP's objective was to “promote the efficiency, quality and transparency of public services through the delivery of regionally integrated e-government applications that apply economies of scale” (World Bank, 2008). To that end, the programme was divided into two phases. The first sought to strengthen and harmonize national and regional e-government related policies, processes, platforms and frameworks. This included policy and strategy development, the adoption of common ICT standards, the development and implementation of legal and regulatory frameworks, and the strengthening of the institutional framework for e-government within the OECS. The second phase of the project was focused on upgrading e-government technology to promote harmonization in core areas of importance to public finance, including budgeting, tax administration, customs, and procurement. This phase of the project also sought to benefit social and economic sectors, including tourism, health, education and agriculture.

Initially, the project was to be funded through the World Bank concessionary lending mechanism known as International Development Association (IDA). However, these loans were not available to Saint Kitts and Nevis and Antigua and Barbuda, because of their upper-middle income status. Additional funds therefore had to be raised through a grant from the Caribbean Development Bank, to enable the inclusion of these two countries in the project.

Although there were a number of successful outputs from EGRIP —see Box 2— the project had to be modified during its implementation and the number of activities undertaken was reduced. The main reason for that adjustment was that, after proposed solutions for some of the project activities had been sent to tender, the quoted costs that were returned far exceeded the budgets that had been previously estimated (see Table 4). This required a reprioritisation of the project's goals. In some cases, alternative methods were conceived to implement project activities. Other activities simply had to be cut from the scope of the project (see Box 3).

Among the cancelled portions of the project were activities related to the implementation of public sector financial management, using a software application called “SmartStream”. This software is already widely used in the Caribbean; in Barbados, for example, it has been effectively used in roles such as budget preparation and accounts management. Some elements of this software were already being used in OECS countries, having been in place since the 1990s, which is why a more fully-featured SmartStream system was initially planned for inclusion into the EGRIP project. However, the licensing cost for the new SmartStream software modules turned out to be prohibitive —almost USD \$2 million more than had been budgeted for that portion of the project. Alternatives were considered— for example using Open Source software —but these could not be accomplished within the timeframe for the project. Thus, the SmartStream element was cut from the project's scope.

**Box 2**  
**Key achievements of the EGRIP project**

Key achievements of the Electronic Government for Regional Integration Project (EGRIP) project include:

- Development a web-based Monitoring and Evaluation (M&E) Information System.
- Preparation of a suite of OECS harmonized e-government legislation, which was enacted by the OECS heads of government for all member states.

Delivery of the following to strengthen the e-government framework:

- Harmonized e-government standards, interoperability framework and enterprise architectures
  - Harmonized ICT management and investment practices
  - A framework for total cost of ownership analysis and optimization
  - A business plan, strategic institutional design and implementation plan to establish an e-government desk/centre of excellence at the OECS secretariat
  - Train the trainer capacity building workshops
- Strengthening the National Health Information Systems in Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines
  - Securing technical assistance in Public Financial Management
  - Strengthening the e-government framework in Saint Vincent and the Grenadines, specifically the government website, national backbone and the Building, Roads and General Services Authority (BRAGSA).
  - Implementation of a front-end tax electronic filing System in Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines.
  - Implementation of an Electronic Procurement System for OECS Pharmaceutical Procurement Services for all nine OECS states.
  - Implementation of a Multi-Purpose Identification (MPID) System in Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines.

Source: OECS, 2013.

**Table 4**  
**Procurement plan estimate at negotiation and lowest negotiated price after competitive procurement process for select e-Government applications under EGRIP**

e-government Application	Procurement Plan Estimate (D)	Lowest Negotiated Price (D)
Multi-Purpose Identification System	0.95 million	3.14 million
Software for National Budget Preparation	0.30 million	>2.20 million
eTax Filing System	1.05 million	1.50 million
Electronic Tendering System for OECS Pharmaceutical Procurement Service	0.44 million	0.53 million
<b>Total</b>	<b>2.74 million</b>	<b>&gt;7.37 million</b>

Source: OECS, 2013.

One of the more successful elements of the EGRIP project was the implementation of an Electronic Procurement System for the OECS Pharmaceutical Procurement Services, covering all OECS member States. Cooperative purchasing of pharmaceuticals in the OECS actually long predated the implementation of this system as an e-government initiative. Thus, there was already a process and supporting legal framework in place, and a longstanding tradition of cross-national institutional cooperation in this area. These factors may have been important contributors to the relative success of the pharmaceutical purchasing component of the EGRIP project.

**Box 3**  
**Activities removed from the EGRIP project**

At least 12 activities, totalling approximately USD 2.3 million, were cancelled, including the following (Originally budgeted cost in parenthesis):

- Start-up implementation support (Dollars 200,000)
- Support to national e-Government Steering Committees (Dollars 60,000)
- Budget preparation software package (Dollars 300,000)
- Development of Public Financial Management (PFM) website (Dollars 90,000)
- Development of interfaces for SIGTAS to SmartStream and ASYCUDA World to SIGTAS (Dollars 120,000)
- Hardware and standard software for SmartStream and PFM websites (Dollars 240,000)
- Development of the PFM system operations manual and personnel training (Dollars 150,000)
- E-government in Customs: Regional Customs Information Systems (Dollars 621,214)
- E-government in health and other social and productive sectors (Dollars 547,843)
- Development and implementation of Regional Health Management Information System (Dollars 387,499)

Source: OECS, 2013.

**Box 4**  
**TAKE-AWAYS from the EGRIP project**

At an Expert Group Meeting (EGM) on regional approaches to e-government applications development in the Caribbean, organised by ECLAC on 17 March 2015, to discuss an earlier draft of this report, Karlene Francis, the former Project Manager of EGRIP, highlighted key contributors to the successes of the project. Based on her experience, she made several recommendations of best practices that would be useful to future projects in the region:

- Particular attention ought to be given during the design phase of the project to understanding the problem to be addressed and ascertain the real demand within the countries for a solution. This may be accomplished through the use of a workshop, held with subject matter experts from each of the participating countries, to discuss the problem and the type of solution that is needed. Such an approach would help to ensure effective utilisation of resources and establish the long-term sustainability of implemented systems.
- The project design and the financial allocation should be flexible enough that it can accommodate differing policies and can consider the political landscape, as these were real threats to project success. It was also emphasised that when implementing regional ICT solutions, political commitment at a national level is essential.
- Obtaining stakeholder buy-in, and achieving quick wins as a means of demonstrating the value of the project at the national level are important. Although a focus on quick wins might appear to be at the expense of engaging with deeper, more systemic problems for which achieving success is significantly more difficult, quick wins can improve stakeholder buy-in and enable the consensus needed within the country to push the project forward.
- An important element of ensuring sustainability is the need to build time into the project to enable a suitable hand-over period after the software goes live. The success of the pharmaceutical purchasing element of the project was due in large part to the ability of project staff to offer a high level of support to users for over a year after the software had been deployed. In contrast, the Multipurpose Identification System, another system that was implemented by EGRIP, was not deployed until late in the project cycle. As a result, it was not possible to give users the post-implementation support needed as part of the handover, and adoption of the new system suffered. Hence all projects ought to have a suitable post-implementation period included as part of the initial planning.
- For timely and successful procurement under a regional project, as was done for EGRIP, it was necessary for the countries working together to delegate authority to a single party. At the beginning of the project, the countries drafted a letter to the donor, in this case to the World Bank, in which they delegated procurement authority to the regional implementing agency. This is necessary to avoid delay in the procurement process, in which the implementing agency would be required to go back to the individual countries for procurement approval.

Source: ECLAC, 2015.

## B. CARCIP

The Caribbean Regional Communications Infrastructure Program (CARCIP) is a World Bank funded initiative that has been open to all CARICOM member countries. Its objective is to “increase access to regional broadband networks and advance the development of an ICT-enabled services industry in the Caribbean Region” (World Bank, 2012), through three programme components, as outlined in Table 5. At a regional level, the CARCIP initiative is coordinated by the Caribbean Telecommunications Union (CTU) (See Box 5). The programme started in 2012, and is set to close in 2017.

**Table 5**  
**Key components of CARCIP**

Project Components	Description
Component 1: regional connectivity infrastructure	Physical connectivity infrastructure, which would include developing missing infrastructure links such as submarine cable infrastructure, terrestrial broadband backbone fibre networks, and national and regional Internet Exchange Points. Enabling environment that would ensure Public Private Partnership in the deployment of submarine cable infrastructure, including landing stations, telecoms regulatory support, harmonization of policies, shared services and institutional capacity building, and (d) strategies and frameworks to promote effective use of ICT for productive activities.
Component 2: ICT-led innovation	Fostering growth of regional IT and IT Enabled Services (ITES) industry, through:: <ul style="list-style-type: none"> <li>• development of regional network of technology incubators, IT parks and technology centres, etc.</li> <li>• targeted skills development and certification programs;</li> <li>• creation of special financing vehicles, such as regional or national Venture Capital Funds for IT industry</li> <li>• strategies, policies, regulatory and incentive structures to support a multi-lingual regional IT and ITES industry.</li> </ul>
Component 3: implementation support	Supporting implementation, institutional and capacity building, knowledge-sharing activities, as well as monitoring and evaluation of the programme.

Source: World Bank, 2012.

Though, at the onset of the project, it was expected that there would be wide participation among Caribbean countries, only Grenada, Saint Lucia, and Saint Vincent and the Grenadines have signed on to CARCIP. The Dominican Republic has also considered engagement with CARCIP, but, as of the time of this writing, has not signed on to an agreement. Participation by some countries may have been limited by the structure of the available funding. Like EGRIP, the project relied on World Bank IDA-based loans, and these are not available to countries with relatively high incomes. For countries that did qualify, IDA credit was available in the form of 40 year loans, with 10 years grace period, zero interest rate, and 0.75% service charge (CARCIP SVG, 2012).

At the meeting of experts in March 2015, it was stated that unlike EGRIP, CARCIP was not initially conceptualised as a regional project. It was only following take-up by the aforementioned three countries, when challenges began to emerge that the CTU was asked to coordinate:

“Some of these problems included the pursuit of individual interest, differing policy directions, and financial limitations. Some countries were not in agreement with the loan payment policy and countries feared that this may become a burden for future generations. In general, the project did not fit national priorities and was planned to be restructured as part of the upcoming mid-term review” (ECLAC, 2015).

### **Box 5**

#### **The Caricom Telecommunications Union**

Established in 1989, the Caribbean Telecommunications Union (CTU) is an institution of CARICOM and is headquartered in Trinidad and Tobago. Its mission is “to create an environment in partnership with members to optimise returns from ICT resources for the benefit of stakeholders”, and as an organization, it aims “to be the prime catalyst facilitating regional cooperation, economic, social and cultural development of the peoples of the Caribbean through the provision of efficient and advanced information and telecommunication services.”

The CTU fulfils its role and mandate, by, among other things:

- Representing the CARICOM region at international meetings.
- Facilitating knowledge sharing and consensus building on important issues.
- Facilitating training and capacity building among and within CARICOM Member States.
- Offering expert/consulting services to the countries.
- Securing technical assistance for and on behalf of the Member States.

The CTU organises an annual meeting of the Caribbean Internet Governance Forum, which is a multi-stakeholder meeting on regional Internet Governance (IG) policies and structures. The meeting reviews and updates the Caribbean IG Framework, which sets out the region’s position on a broad range of issues, and is used as a basis for communicating the region’s position at international IG meetings.

The CTU is also directing the Caribbean Spectrum Management Project which was established to build spectrum management capacity in CARICOM countries, along with a harmonised approach to electromagnetic spectrum management policies in the region. The project includes assessment of frequency band plans, considers issues such as the digital switchover and white space management, and is developing a framework to minimise cross-border radio interference.

Source: Caribbean Telecommunications Union.

Further, Carlton Samuels, a representative of ICT4D, who had examined the CARCIP project documents for the Caribbean Knowledge and Learning Network (CKLN), indicated that he had recommended that the CKLN opt against agreeing to coordinate the project. In summarizing his reasoning, he said that he felt that “the overall budget was unreasonable, the loan funding was challenging, and the project design was not flexible enough to accommodate the telecommunication community” in the region. Those deficiencies were attributed to the fact that the countries had no input in the design of the project and nor did it reflect national objectives, resulting in limited participation in the project (ECLAC, 2015).

## **C. HIPCAR**

Conceived by the International Telecommunications Union (ITU), CARICOM and the CTU, the Harmonization of ICT policies and legislation across the Caribbean (HIPCAR) Project sought to facilitate the development of a more coordinated approach to ICT development in the region. The project was launched in 2008, with its beneficiaries being the 15 full members of CARICOM.

The approach employed was for technical specialists from the participating countries to be actively involved throughout the entire project, in an effort to increase their sense of ownership of the project and its outputs. On conclusion of the project in 2013, assessment reports, model policy guidelines and legislation texts had been prepared on the following topics:

- e-Commerce – transaction.
- e-Commerce – evidence.
- Access to information.
- Privacy and data protection.
- Cybercrime and cybersecurity.
- Interception of communication.

- Universal Service and Access framework.
- Licensing in a convergent environment.
- Interconnection including cost modeling.

Although representatives from the participating countries were actively involved in producing the project outputs, very few countries have adopted the model legislation. At the aforementioned expert group meeting, it was suggested that national legislatures have been slow to pass laws based on this legislation, in part because these issues are not considered high priority. However, this hesitation may reflect problems with the model laws themselves.

For example, a discussion paper by Zahid Jamil, which reviewed HIPCAR’s Model Law on Cybercrime alongside model laws from other similar efforts, including EGRIP, noted that the HIPCAR Model Law is an edited version of a previous Commonwealth Model Law. That paper argued, however, that “Apart from being generally fraught with failed attempts at innovation, poor language and drafting, technically and legally incorrect and overreaching provisions, it is unsafe. In many respects it over criminalizes and in others under criminalizes, contains overly broad and ambiguous offences which are open to unsafe and arbitrary interpretation.” The paper further suggests that the process for developing this type of law was flawed, as they are assembled by consultants based on “the outcome of workshops and consultations with participants,” as opposed to being negotiated through a formalized inter-governmental process. As a result, the paper claims that both the HIPCAR law and the EGRIP law have important divergences from existing international standards and best practices, and this “may create barriers and reduce the readiness of many States to cooperate internationally against cybercrime” (Jamil, 2014).

To some extent, the “innovations” in these model laws may have come as a result of the need to align language with existing statutes and legislative frameworks in the Caribbean. And yet, there has also been extensive criticism toward legislation that has gone forward based on these models, largely based on concerns that they may have a negative effect on the rights of the media and the exercise of free speech. For example, there has been pressure to amend Grenada’s law, passed in 2013 and based on the EGRIP model. There has also been significant pushback toward HIPCAR-based legislation proposed in Trinidad and Tobago (Bissessar, 2014). Additional third-party review of these model laws may be warranted.

#### Box 6

##### The Eastern Caribbean Telecommunications Authority (ECTEL)

The Eastern Caribbean Telecommunications Authority (ECTEL) was established by Treaty signed by five OECS countries, namely, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines, on 4 May 2000. An institution of the OECS, its primary objective is to facilitate a harmonised and coordinated approach to telecommunications regulation in the Treaty countries.

ECTEL is part of a two-tiered regulatory machinery, comprising local regulators (a National Telecommunication Regulatory Commission) in each of the five Treaty countries, with ECTEL as a regional body at the hub. Under the Treaty, the countries committed to “co-ordinate with each other and with ECTEL”, to “take all appropriate measures for ensuring implementation of the policy and recommendations of ECTEL” and to meet financial and other commitments necessary to support ECTEL’s ongoing operations.

Though ECTEL’s role is advisory, because it has no jurisdiction in the Treaty countries, the countries tend to follow its recommendations. This facilitates the goal of harmonization, and enables the countries to benefit from ECTELs economies of scale. The organisation has become the repository of technical expertise that would not be readily available within each of the local regulators, which would be expensive to acquire and maintain individually.

Source: ECTEL.

## D. PUICA eastern Caribbean modernization project

PUICA is the Spanish acronym for the Organization of American States’ Universal Civil Identity Programme in the Americas, which “supports Member States in their efforts to eradicate under-



registration, in order to ensure recognition of the right to civil identity for all persons in the region”. PUICA’s three year Eastern Caribbean Modernization Project, which was completed in 2014, helped Civil Registries in Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines with the digitalization of vital statistical information. This entailed scanning over 2.5 million vital statistical records, and cataloguing the results in an electronic database. As part of the project, “PUICA purchased equipment, developed software, and trained data entry clerks to scan and input information from books containing birth, death, marriage, adoption and legitimization certificates” (OAS, 2014).

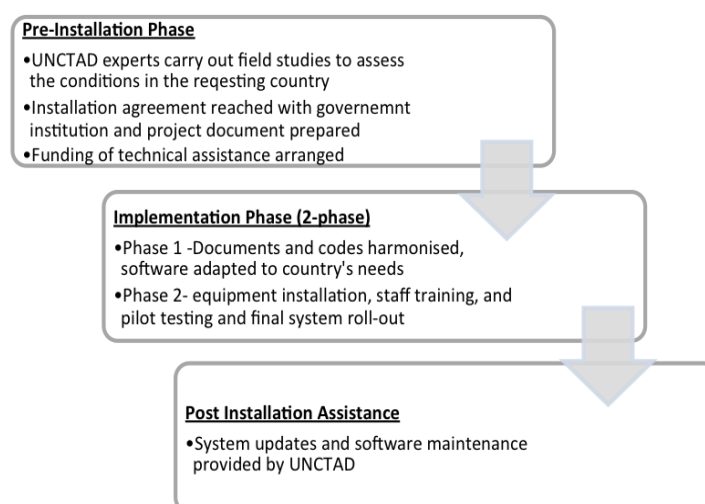
## E. ASYCUDA

ASYCUDA—the Automated SYstem CUstoms Data—is an example of an e-government project that has been implemented in a large number of countries, and coordinated at a global level. A project of the United Nations Conference on Trade and Development (UNCTAD), ASYCUDA was born out of a request in 1981 by the Economic Community of Western African States (ECOWAS) for assistance to compile foreign trade statistics. The end result, which has kept pace with technological advancements, is a customizable software system that provides an integrated customs management system that tracks, among other things, manifests, customs declarations, and accounting and transit procedures.

Since its initial development, ASYCUDA has been installed in over 90 countries worldwide, including several Caribbean countries<sup>6</sup>. This automated system results in more efficient and effective processes, limiting the scope for corruption. ASYCUDA also integrates into broader e-government initiatives, by being able to connect with other governmental databases and knowledge management systems.

The implementation of ASYCUDA is frequently tied to comprehensive reform of the existing customs management processes. Thus, the standard implementation process, outlined in, employs a phased approach, to ensure the full transfer of knowledge and system ownership to help achieve long-term sustainability.

**Figure 2**  
**Implementation phases for an ASYCUDA installation project**



Source: ASYCUDA, 2015.

<sup>6</sup> Anguilla, Antigua and Barbuda, Aruba, Barbados, Belize, Curacao, Dominica, Grenada, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago and Turks and Caicos Islands.

## F. CARIPASS

The CARICOM Travel Card (CARIPASS) was to be an electronic documentation system that would enable eligible CARICOM nationals to expedite the process of clearing immigrations and customs when travelling between CARICOM countries. The system was to be implemented using electronic border-security and information sharing infrastructure that had been established to facilitate interregional travel associated with the region's hosting of the Cricket World Cup in 2007. During a four-month period surrounding that event, ten countries in the CARICOM region had effectively established a common visa regime that enabled freedom of movement to all persons traveling within the CARICOM Single Domestic Space. However, the enabling legislation in participating countries sunsetted following the event, the region reverted back to the previous regime of national visas (Jones and Ayow, n.d.).

There was widely expressed hope that the common system could be re-established, and a widespread expectation that it would be possible. The implementation of the system for the Cricket World Cup meant that there had already been an extensive investment of both human and financial resources, and that much of the required ICT infrastructure had already been purchased, installed, and tested. The CARIPASS was even designed with a built-in sustainable funding mechanism, in the form of fees to be collected from applicants for a CARIPASS Travel Card.

Despite these advantages, however, and absent from the external impetus of the Cricket World Cup, there was ultimately limited political will to implement the harmonization of immigration and visa policies that were needed to make the CARICOM Single Domestic Space a permanent institution. This was despite a number of official commitments made over the course of ensuing years. For example, shortly after the close of the 2007 Cricket World Cup, CARICOM's Twenty-Eighth Meeting of the Conference of Government approved the implementation of the CARIPASS regional travel card. This commitment was repeated by the same body the next year, together with an indication that the system was expected to come into service in the second quarter of 2009 (CARICOM, 2008). That expectation was later revised to September 2010 (CARICOM IMPACS, 2010).

Meanwhile, in March 2010, a CARIPASS treaty was established and signed by Antigua and Barbuda, Grenada, Haiti, Saint Kitts and Nevis, Saint Lucia, and Trinidad and Tobago. Guyana later acceded to the treaty. Though this treaty has entered into force, and media stories up through 2012 seem to indicate that CARIPASS adoption was seen as just around the corner, the CARIPASS initiative has never come to fruition. While no official closing was ever publicly declared for the CARIPASS project, it appears that interest in this system has simply faded away over time. Even the official CARIPASS website has been taken off line.

### **Box 7** **The CARICOM single ICT space**

As part of the CARICOM Strategic Plan 2014-2019, the Heads of Government of CARICOM have endorsed the establishment of a 'Single ICT Space', which is conceptualized as the 'digital layer' to the Caribbean Single Market Economy (CSME).

This vision has been subsequently elaborated through various multi-stakeholder forums and the contributions of the CARICOM ICT Cluster of Organizations, which include the CARICOM Secretariat, the Caribbean Telecommunications Union, the Caribbean Broadcasting Union (CBU), the Caribbean Centre on Administration Development (CARICAD) and the Caribbean Knowledge and Learning Network (CKLN). As prepared for the Fifty-Sixth Special Meeting of the Special Council for Trade and Economic Development (COTED) on Information and Communications Technologies, the draft "Roadmap" for the CARICOM Single ICT Space envisions "an ecosystem of regionally harmonized ICT policies, legislation, regulations, technical standards, best practices, networks and services". This is hoped to increase access to digital services and enhance functional cooperation in the region on the use of ICT to promote innovation, increase productivity, and support the achievement of regional imperatives for social, cultural, and economic development.

## Box 7 (concluded)

The roadmap lists eight objectives of the CARICOM Single ICT Space:

- To provide equitable, affordable access to information and communication technologies that is secure, ubiquitous and reliable;
- To harmonize regulation and reduce costs for online businesses, services and customers in the CARICOM region;
- To facilitate the rapid, real-time acquisition, processing and dissemination of information;
- To use ICTs to gather information and apply knowledge effectively for social and economic progress;
- To communicate, do business, offer services and innovate across the region overcoming the physical boundaries that separate us;
- To be the digital layer to support the CSME;
- To facilitate regional cooperation and collaboration and maximize the use of our scarce human and financial resources;
- To enhance opportunities for entrepreneurial development, innovation and advancement.

To accomplish the establishment of this space, the Roadmap proposes the establishment of policy and legislative frameworks, as well as the development of a technical framework to establish common standards for networking and support the selection of appropriate technologies for the delivery of features and services. A number of activities have been proposed to enable the establishment of these frameworks, including the development of a political charter, the performance of current-state assessments and gap analyses, the identification of work to be undertaken to achieve the goal of ICT integration, the establishment of monitoring mechanisms for measuring progress and effectiveness, and the securing of funding for the execution of the Programme.

Source: Caribbean Telecommunications Union (CTU) (2015) Vision and Roadmap for a CARICOM Single ICT Space.

### **III. Key challenges to regional cooperation on e-government projects**

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For countries with relatively small populations and limited resources, such as those in the Caribbean, collaboration on a project for mutually beneficial results can be a distinct advantage to the individual countries involved. In many instances, the countries benefit not only from the economies of scale realised and being able to participate in projects that they otherwise might not be able to afford, but also from being in a position to accelerate their countries' development, based the success of the projects implemented.

However, given the diversity of the Caribbean as regards size, political status, economy and level of development, several challenges are likely to be experienced when seeking to implement projects on a regional basis.

#### **A. Differing policies and priorities**

As reflected in Chapter I, some countries have clearly articulated, standalone policies and strategies for e-government. In others, e-government may only have received cursory mention in a wider national ICT policy or under a public sector transformation programme. Further, the focal points and areas identified for development are likely to be different, based on individual circumstances and their long-term vision, goals and priorities.

Moreover, although Caribbean countries might readily acknowledge that e-government is important, and deserving of concerted effort to facilitate its development, inevitably competing imperatives, which will challenge the priority ascribed to e-government projects. In some instances, limited access to external financing for e-government-related activities have caused countries to deprioritise that area in favour of others for which there would be greater support, resulting in relatively underdeveloped e-government platforms in countries across the region.

## **B. Financial limitations**

With the exception of Haiti and Guyana, the World Bank has classified all CARICOM countries at least “Upper Middle Income”. However as small-island developing States, they are subject to a broad range of vulnerabilities, which makes their actual positions considerably more tenuous than what might be suggested by having an Upper Middle Income designation.

Further, many Caribbean countries are currently experiencing severe economic and financial challenges, in some cases being under the strain of very high debt burdens. Hence, many do not have the funds available to self-finance projects. In the event they endeavour to rely on donor support, projects would need to be aligned with the donor’s priorities, and the countries may still need to contribute some portion of the funding.

In aligning proposed projects with the donor’s priorities, it may mean that proposals submitted might not truly reflect the countries’ true needs and goals, but have been crafted to secure support from those organisations. As a result, while those projects might be successfully implemented, their actual impact on the circumstances at hand might be marginal at best, though considerable sums might have been spent.

Additionally, there is a tendency for donor-funded projects to rely on hiring experts from outside the region, which does little to build capacity in the local ICT industry.

## **C. Differing systems and processes**

Historically, all Caribbean countries had been a colony of a European country, and to varying degrees would have adopted some of the latter’s systems and structures. Hence, although there will be some commonalities in the government-related systems and structures adopted, especially among colonies with a common history, there will be differences in how they were implemented and have evolved. As a result, and depending on the project, the actual scope of the work that can be conducted on a regional basis might need to be superficial, in order to accommodate the individual differences of the participating countries.

## **D. Differing levels of development and infrastructure**

A frequent comment from the interviews conducted was the uneven implementation of e-government-related activities across individual governments. Government ministries, departments and agencies implemented projects in isolation to each other (in silos), resulting in considerable duplication of resources and effort, along with the adoption of dissimilar equipment, software, processes, etc., which considerably compounds efforts to establish a national, cohesive and coherent platform. The same is likely to be experienced when a multi-country approach is employed.

Hence when regional infrastructure/network-related projects are being proposed, an important consideration would be the differences in the networks, software, protocols, etc., that have been established in participating countries for a particular project. Again, those differences could limit the scope and depth of the works that can be implemented as a group, versus what the countries may need to implement individually based on their unique circumstances.

## **E. Procurement limitations**

Most Caribbean countries are sovereign states and have developed detailed government procurement rules and procedures with several checks and balances, to, among other things, foster transparency, reduce corruption, encourage the participation of local businesses, and to weed out the serious bidders from the purely opportunistic ones. Based on the information publicly available, it appears that many of the countries might not have readily envisaged, nor considered, circumstances in which the procurement

of goods and services for the government might not be controlled nationally, or by the designated national authorities.

For example, in Jamaica, bidders for government projects ought to have a Tax Compliance Certificate, which requires that they are duly registered or incorporated in Jamaica, and are registered with all of the taxing agencies, before they submit a bid for consideration. If other countries have similar requirements, and each set of requirements must be adhered to for a multi-country project, it can make the bidding process especially onerous and even a deterrent to prospective contractors. Further, national procurement rules and evaluation processes can differ, which means that at the end of separately run national tenders, the winning bidders might also be different, which essentially obviates a regional approach and the benefits therein.

Ideally, and for projects through which multiple countries would benefit, the preferred approach would be to centralise the procurement and project management responsibilities, resulting in more efficient and cost-effective use of resources. However, such an approach would require the participating countries to cede some control and authority to this central body to make decisions on their behalf. This delegated procurement authority was used successfully in the EGRIP project. However, that project had the advantage of working solely within the OECD, which may have made the task of procurement policy alignment easier.

For projects that are being financed by donor agencies, typically, their procurement rules are applied, which tend to centralise the procurement requirements for multi-country initiatives. Instead, other conditions may be imposed, such as the nationality of the bidders, thus limiting the use of local (or regional) experts.

At the time of writing, and as part of CSME, CARICOM intends to implement a regional procurement system, the Regional Integration Electronic Public Procurement System, across its member states, with funding from the European Union. The system is expected to be operational by 2016, and the first phase is estimated at € 600,000 or approximately USD 650,000<sup>7</sup> (Jamaica Information Service, 2014). It is possible that, once this system is in place—along with corresponding policy changes at a national level— procurement-based hurdles to regional cooperation on e-government projects will be reduced.

## **F. National politics**

Although almost all Caribbean countries have democratically elected governments, in some instances, the politics and partisan behaviour can be divisive. As result, there is a concern that, with a change of government, planned projects or projects that are in progress might get side-lined, or even abandoned.

For example, the change in political leadership in Trinidad and Tobago in 2010 was reportedly a contributor to the delays in implementation of e-government projects generally. It was also during that period that the strategic framework for managing e-government projects changed from the policy-directed Canadian model to the more technology-centric Singapore model, requiring a thorough re-examination and revision of the process through which systems were adopted.

## **G. Individualist ideals**

A frequently occurring experience in the Caribbean when regional projects have been implemented is that while countries agree to be part of the process, and initially commit to implement the outputs of the exercise, they frequently abandon those outputs in favour of more individual pursuits. For example, through CARICOM and other regional agencies, there have been a number of projects to develop model legislation, with the expectation that, with minor adjustments, members would adopt it, thereby establishing a common approach on a particular issue. However, typically, only a handful of countries

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<sup>7</sup> Based on USD 1 = € 0.92.

promulgated the legislation. Many appeared to abandon it outright, whilst for others it went through such extensive revisions, it no longer resembles what had been initially envisaged and agreed.

A recent example of this point is with regard to the outputs of the HIPCAR project. Although the project officially ended in 2013, some of the model policies and legislative texts were finalised from as early as 2010. However, in the nearly five years that have elapsed, very few of the 15 countries that participated in the project have promulgated the legislation that was prepared. This may be a result of how these model laws are drafted – based on the input of working groups, rather than through a formalized intergovernmental negotiating process that would require a higher level of national commitment to the process.

## **H. Change management concerns**

Finally, it is also important to highlight that outside of the challenges of managing country differences when conceptualising and implementing regional projects, countries can be resistant to change. Frequently, key concerns are the disruption to existing systems that could result; the training and capacity building needs for existing employees; and the effort required to revise processes and procedures after the upgrades are completed. Although there might be a general excitement about new e-government projects while they are being implemented, it is important to provision adequate support to countries during the post-implementation period, to enable a smooth transition from existing structures to those implemented as outputs of a particular project.

Although it is essential that provisions be included in any new e-government project to manage change that must inevitably occur, it is also recommended that champions be identified, such as a head of department or organisation that are enthusiastic about and supportive of those projects, and set the tone for their teams. In Jamaica, plans are underway to appoint a Chief Information Officer, which would be a newly created position that will not only act as focal point for much of e-government-related projects that are being implemented, but will also own and offer leadership to the disparate initiatives currently occurring across government ministries, departments and agencies.

## **IV. Recommended practices for implementing regional e-government initiatives**

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In this section, lessons from regional projects discussed in Part III, along with feedback from the interviews conducted for this study and from the meeting of experts held in March 2015, have been distilled to isolate critical success factors that may be considered best practice when implementing regional projects.

### **A. Agree on common objectives and goals**

Although countries will have different policies, priorities, and be at differing stages of e-government development, in order to undertake a regional project, it is essential that common goals and objectives be identified. This consensus may be achieved in two key ways, which may be employed separately, or merged together:

- By the countries negotiating with each other to agree upon activities, some of which may be common to some or all of the grouping, that could be included in the project; and/or
- Based upon an already established regional agreement, objectives and goals, the project is designed to help the participating countries become better aligned with those objectives, and achieve important milestones.

Both approaches have their advantages. For the former, it may be possible for seemingly dissimilar countries to establish a single project, where the shared activities might be limited to project management and administration. To some degree, CARCIP, with its broad project scope and objectives, and open to all CARICOM countries to participate, has been designed using this model.

With regard to designing a project that supports a regional position, the efforts of the OECS illustrate this approach. In the OECS, there have been on-going and concerted efforts towards deepening the integration of its member countries, as with the ECTEL harmonization of telecommunications regulatory infrastructure. The country's close cooperation on the EGRIP project, though not wholly successful in meeting its initial goals, did provide a substantial boost to the e-government systems of the participating countries, and strengthened the links and overall development in the Eastern Caribbean.



Further, at the meeting of experts it was noted that frequently there is a lack of coordination across agencies, leading to a recommendation that could be applied both on a national and regional basis. This would be to “establish a policy for ICT for e-government, followed by a strategy, legal framework and implementation plan”. This approach would not only foster clearer and more consistent alignment of the countries, but would also facilitate a more efficient and effective project implementation based on the earlier activities that should have been undertaken and the consensus needed for them to be achieved (ECLAC, 2015).

It is therefore recommended that, from the outset of a regionally-focused e-government project, in which it is necessary to manage the needs and interests of multiple countries, all parties must come to early agreement on the critical goals and objectives of the initiative. Clarity and agreement on the objectives will not only help in managing country expectations, they will also provide the foundation for transparency and accountability across all aspects of the engagement.

It is also recommended that those goals and objectives be established following careful examination and consultation with the participating countries. It would be critical to understand, among other things, their current situation in relation to e-government; any specific goals (short, medium and long term) they might have; any specific challenges they might be experiencing; and any concerns they might have in participating in a regional approach. Using this information, it should be possible to not only develop a profile for each country, but also begin to identify commonalities that could become the starting point for designing activities that could be implemented on a regional basis.

## **B. Ensure country commitment**

The success of any regional project would, to an appreciable extent, be dependent on the commitment of the countries to the project, which would include but not be limited to:

- Providing the resources needed.
- Ensuring that the agreed activities are not, without good reason, altered significantly or abandoned.
- Ensuring that the agreed activities are executed within the specified timelines, and the requisite follow up is undertaken.

The HIPCAR project highlights a situation where, although the draft legislation and policies for a number of ICT-related topics were produced, it could still be argued that the project has had limited impact, since very few countries have implemented them. Further, although the countries actively participated in the preparation of those outputs, which should have fostered some sense of ownership, there was no formal obligation on the countries to adopt them after they had been finalised. This limited commitment may have also led to a lower overall quality of output, which further reduced the potential for its adoption. Hence, although the topics covered might have been considered important and the countries would have benefitted if they were implemented, other national and political priorities were allowed to overtake them, resulting essentially in the waste of that effort to advance the legal ICT framework in the region.

However, country commitment can be improved if projects seek to solve problems for which there is some demand or urgency for it to be addressed. When such circumstances exist, greater engagement and support by the countries are likely to occur, increasing the likelihood of in-country adoption or implementation.

In order to successfully implement a regional project it is essential to have the commitment of the participating countries, which at the very least would comprise having the requisite political and policy support at the highest levels of government. Thus, as a means of reducing the risk of limited country commitment, it is recommended that project implementing agencies consider the establishment of legally binding contracts with the countries, which may not only address matters related to how funds are handled, but also secure commitments from the countries on:

- The specific activities they intend to implement, and the approach that will be employed (as appropriate);
- Their willingness to adjust, in a timely manner, their policy, legal and regulatory frameworks to meet agreed goals and objectives;
- Their willingness to expediently remove roadblocks that might emerge.
- It should be noted that legal agreements which encompass the above conditions are often a prerequisite for the receipt of donor funding for a project.

### **C. Enable a participatory posture**

The introduction of e-government not only has the potential to transform existing government systems and processes, it also demands that users, especially government employees, adjust and evolve to work in the changing environment. Though in many instances, the implementation of specific problems relies on expertise external to the country or region, it is critical to ensure local participation, to ensure the relevance of the outputs to the local situation. To the extent possible, it is recommended that projects are designed in a manner that allows policy makers and technocrats to participate and contribute to them as they are being implemented. Such an approach would not only facilitate a greater sense of ownership of a project and its outputs, but also would allow the consultants and project advisors to benefit from the in-country experience and expertise of local resource persons, which could result in more relevant and robust project deliverables.

Additionally, and in order to manage operational changes that should occur once projects are completed, capacity building and knowledge transfer should be incorporated into the project, and specified as a deliverable. Comprehensive staff participation in training and capacity building opportunities should be encouraged, as it could increase the chances of a more seamless transition from an older system, to that which is being implemented.

### **D. Manage project resources at a regional level**

Although the participating country is likely to have an in-country unit or agency that manages and coordinates all local activity, it is also crucial to have a unit or agency that will oversee and manage the entire project. It is also recommended that countries delegate to this regional unit (some) powers to act on their behalf, and to act as the executing agency for the project.

In addition to facilitating greater coordination and management of the project, procurement of goods and services could be administered and managed by this regional unit resulting in more efficient and cost-effective processes. Should they be conducted at the national level —by each participating country— each process could yield different results, and it would be expensive (both in time and money) for bidders to prepare separate submissions for each country and adhering to their own unique process. More importantly, countries would not benefit from the economies of scale and the savings that would be inevitably realised by a single procurement, which could include provision for some customisation of the output to the needs and/or systems of each country. Further, the movement toward a single, standardized system to streamline e-government procurement would be an important aid to the development of the ICT industry in the region. If regional companies were able to more easily sell their product to Caribbean governments, it would provide them with a solid, reliable customer base that would give them the security and revenue they need to grow.

### **E. Encourage common interoperability standards**

One of the frequently occurring themes in the countries examined was the diverse systems and processes that have been implemented across their individual governments, resulting in considerable challenges when those systems are to be integrated. As a result, many of the countries either recognised —or were

already in the process of— developing interoperability standards for their ministries, departments and public authorities that would prescribe the hardware, software, protocols, etc., that should be adopted, thereby making future integration less challenging.

In light of the continuing focus on strengthening communication and linkages between governments across the region, preparation of a common set of interoperability standards that could be adopted by the participating countries would not only be highly beneficial in fostering regionalism, but could also accelerate the integration envisaged.

An area that could benefit from regional coordination is in relation to trade, noting that the Customs Department in most Caribbean countries are already using the ASYCUDA software. Consideration could thus be given to ways in which the information management processes surrounding the trade of goods across the region could be optimised, and the attendant processes simplified. Could the manifests, bills of lading, etc., be lodged with the port and/or Customs Department in the country of origin and shared electronically with the corresponding office in the destination country? This streamlined process would go far to reduce the considerable paperwork and bureaucracy that still obtains across much of the region. Further, given the fact that most countries are using the same software, there is considerable scope and potential to share and strengthen technical skills and expertise across the countries, and this could lead to considerable cost savings to individual countries and to the region as a whole.

## **F. Consider long-term sustainability**

Governments, as one of the largest employers in their countries, are coveted customers for software vendors selling propriety software. However, software licensing can be prohibitively expensive, especially in smaller countries. In those circumstances, there can be extensive use of pirated software and little or no version control of the applications in use, which could result in incompatibilities across offices, and more importantly, networks being more susceptible to software vulnerabilities.

This problem could be reduced through the establishment of institutional mechanisms to enable government customers from different countries to collectively purchase software licenses and support agreements. This would allow participating countries to better leverage economies of scale and negotiate deeper discounts with vendors. If successful, government agencies can become more lawful users of proprietary software, and be in a position to better maintain the applications that are in use. These are both considerations that are important given the ever-increasing necessity of maintaining a vigilant position on cybersecurity.

Moreover, the ability to negotiate collectively is likely to become increasingly important as ICT systems migrate to cloud-based systems, in which software is more frequently licensed on a subscription basis, and options for continued use of older versions of software become less viable. Further, increasing standardization among the software packages used among the multiple countries of the region can help to encourage the emergence of local and regional companies equipped to provide support for this software, which would reduce support costs and provide a needed boost to the region's ICT industry.

## **G. Make prudent use of open source software**

In 2013, a UNESCO study of Free and Open Source Software, Open Data and Open Standards indicated that, among public authorities, Open Source Software (OSS) was being used for specialist activities, such as for statistical processing, archiving and library services (UNESCO, 2013). The proprietary versions of those specialist software applications tend to be prohibitively expensive, when compared with the budgets allocated to those agencies. Furthermore and in many instances, the OSS versions tend to be widely used globally, and their use may even be considered a best practice for certain types of systems.

The use of OSS can result in significant cost savings for Caribbean governments. It can also foster innovation, as access to the source code allows applications be customised to suit the specific needs of a department or ministry. Open source software is already being used in the Caribbean countries, largely in support roles – as with the Firefox browser, the Apache web server, and website management systems

such as WordPress and Drupal. Use of Open Source-based enterprise software packages for e-government has been more limited, but it does represent a potential opportunity. In many cases, other governments of the world have e-government software packages that they have developed, and are willing to share on an Open Source basis; several such systems have been made available through the Red Gelac project.

Thus, the region could benefit from projects that foster the increased use of OSS across Caribbean governments. These initiatives could encourage selection and use of specific applications across the region, thereby promoting certain standards and practices, which could also support future government-to-government collaboration and transactions. One pilot area where this may be feasible is in the adoption of open source technologies for geographical information systems (GIS). These systems have potentially valuable use in areas such as urban planning and disaster risk management, but in the past, the cost of proprietary systems has been a barrier to adoption. There is, however, a broad array of open source software available in this field, and the regional adoption of a standardized suite of GIS packages could allow for the cross-national sharing of expertise and cooperation in capacity-building efforts.

A move toward Open Source as the default in application selection would help to reduce the problem of “vendor lock-in,” as illustrated through the example of the SmartStream software application. This proprietary software was already being used by some of the countries in the Eastern Caribbean, and part of the plan under EGRIP was to modernize and expand its use. However, the cost of licenses had increased substantially, following a change in ownership of the product; the new vendor was quoting in the region of USD 2.5 million for the licences but only USD 300,000 had been budgeted, resulting in that portion of the project having to be abandoned.

In light of this experience, focal points from some countries expressed a willingness to explore and consider OSS options. However, it was emphasized in discussion at the meeting of experts that OSS solutions might not be viable if a critical mass of participating countries (or organisations) was not achieved, as they can be costly to customise and it would also be critical to develop product-specific expertise. Though Open Source Software can be free of charge to acquire, countries must still be prepared to assign adequate resources to maintain such applications.

Hence a critical element to ensure comprehensive adoption and use of OSS across government ministries, departments and agencies, would be to adopt specific applications as standards at the national, and possibly the regional, level. Further, there ought to be a clear provision for training and for capacity building across all levels of government, with consideration given for the establishment of a community of practice through which a knowledge base on the various OSS applications that are being used can be developed and nurtured.



## V. Conclusion

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While the countries in the region are at different stages of development with respect to e-government, the most prominent of the common issues that they are experiencing is the need for a comprehensive framework, encompassing a common set of government-wide standards, protocols and processes to be followed by the entire public sector. For example, in two of the four countries that were examined for this study, there appeared to be very detailed e-government plans, but in the others, a clear and coherent approach to the subject was not as evident. Instead, individual Ministries, departments and agencies seemed to undertake their own independent projects, which led to concerns about duplication of effort, and the lack of common standards across government agencies to facilitate future interoperability.

To the extent that common national standards can be aligned together as common regional standards, there is the potential to benefit from economies of scale through multi-lateral cooperation in procurement, capacity building, and industrial development for the ICT sector. Though Caribbean countries have been working in e-government individually, the common set of issues and challenges they face has already led to the adoption of similar software projects. These include the implementation of ASYCUDA, the widespread use of electronic information management systems, and a general movement toward the usage of Open Source Software. However, there is still much redundancy in implementation, coupled with misalignment in choices of technology; many initiatives could benefit considerably from tighter harmonization of efforts.

Unfortunately, there are also significant challenges that stand in the way of this coordination. These challenges range from differing national policies and priorities, to procurement process issues, change management concerns during the implementation process, and difficulty in escaping the problem of vendor lock-in. Close examination of these issues, and of the experiences of regional e-government initiatives in the recent past, has shown that many potential regional projects are unlikely to be able to overcome all these constraints— but this is not universally the case, and regional initiatives *can* play an important role in the development of e-government systems in the Caribbean. Those projects most likely to succeed are carefully targeted to address common problems, have sufficient commitment from partner countries, and build upon pre-existing legal and institutional frameworks for collaboration. Notably, these success criteria for regional projects are hardly unique to the e-government arena, but rather can be applied across a broad range of regional development needs.



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## **Annexes**

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## Annex 1

### Review of select government services

A survey comprising of two test scenarios was conducted of the publicly accessible e-government portals in the countries under review to determine the extent to which the transactions could be completed remotely, without the need for face-to-face interaction. Identical scenarios were also conducted on the government portal sites of Singapore, a fellow island state, and the United Kingdom, a benchmark portal, for direct comparison.

As a starting point for each assessment, a country specific Google search was conducted with a view to simulating the entry point of an average citizen.

#### 1. Scenario 1 – Applying for an adult passport, first time applicant

**Rationale:** This assessment metric was specifically chosen, as it is intrinsically two-fold, given the applicant would be required to obtain a birth certificate, as proof of identity, prior to being able to complete the passport application. In this regard not only were the specific government departments being individually assessed, but also the inter-relation between departments. It was anticipated that this scenario could not be completed in its entirety remotely as security measures include a standard requirement for a first time applicant to attend in person. To this end all elements, except the interview, were assessed.

**Result:** Table 2 highlights the key findings of the assessment.

**Table 2**  
Results from review of passport application process in select Caribbean countries and in Singapore and the UNITED Kingdom

Assessment Metric	Barbados	Jamaica	St. Vincent Grenadines	Trinidad & Tobago	Singapore	United Kingdom
Passport Application						
Dedicated website	Y	Y	Y	Y	Y	Y
Clear instructions	Y	Y	N	Y	Y	Y
Online forms	Y	Y	Y	Y	Y	Y
Submit form	In person	Drop off	??	In person	Online/post	Online/Post
Fee payment	In person ???	??	??	Cash/card	Card/kiosk	Online/Post
Receipt of passport		Collect	??	Collect	Collect/Kiosk	Delivered
Birth Certificate Application						
Link from passport site	N	N	N	N	Y	Y
Dedicated website	N	Y	Y	Y	Y	Y
Instructions	N	Y	Y	Y	Y	Y
Online forms	Y	Y	N	Y	Y	Y
Submit form	Postal option	Online	In person	Postal option	Online/in person	Online/post
Fee payment	Money order	??	In person	Free	Card	Online
Receipt of certificate	Post	Collect	Collect	Post	Post/Collect	Post

Source: Author's compilation.

**Key findings:**

- All countries had a dedicated website for passport applications, with only the non-Caribbean sites —UK and Singapore— having a direct link from passports to birth certificates.
- To varying extents there were instructions for the passport application process, however, on the Caribbean websites, the finer details of form submission, processing time and fee payment were vague and unclear.
- For the Caribbean websites the fee payment metric was unclear with the tester left to assume or call in to ascertain specific instructions.

**2. Scenario 2 – Tendering for a government contract**

**Rationale:** This assessment metric was chosen to represent the business interest that could be generated internal and external to the country. The ability to search, apply, submit and track a tender remotely is of paramount importance for external interests.

**Result:** Of the Caribbean states assessed, only Trinidad and Tobago appeared to have a fully functioning tendering website which allowed documentation access, submission and payment to be conducted both in person and remotely.

Jamaica has a dedicated website for advertisement of tenders/procurement, however at the time of testing, the search function was inoperable. Links to secondary websites where tender notices in the form of scanned newspaper articles were also available. All documentation related to the tendering process must be collected and submitted in person. It is worth noting that Jamaica is in the process of upgrading to an e-government procurement site, funded by the IDB, which should see an improvement in accessibility of the tendering process, however the expected completion date is late 2015.

Barbados is reported to have invested in PROACTIS, an e-procurement software in 2013, however with the responsible government department (Central Purchasing) not having an accessible website, it is uncertain how one would access the database. Similarly Antigua and Barbuda and St. Vincent and the Grenadines did not appear to have an accessible website for the responsible government department.

Both Singapore and England have dedicated sites within their respective e-government portals for all matters related to government procurement and tendering. On each of these sites there is a searchable database for both live and completed tender projects as well as all related documentation. The requirement for user registration and authentication is necessary to access key documents and figures. Links to other spaces - responsible departments on the portal where tenders can be viewed - are also available.



## **Annex 2**

### **Resource persons interviewed**

#### **Barbados**

- Haseley Straughn, e-Government Development Officer, Ministry of the Civil Service

#### **Jamaica**

- Cecil McCain, Director Post and Telecommunications, Ministry of Science, Technology Energy and Mining
- Karlene Mckenzie, Modernization Projects Coordinator, Office of the Cabinet
- Veniece Pottinger Scott, Director General, Public Sector Transformation Unit (PSTU), Office of the Cabinet
- SueAnn G. Waite, Principal Director, Modernisation Policy Development, Public Sector Modernisation Division, Office of the Cabinet

#### **Saint Vincent and the Grenadines**

- Roxanne John, Project Manager –CARCIP, Saint Vincent and the Grenadines

#### **Trinidad and Tobago**

- Tracy Hackshaw, Deputy National Chief Information Officer, Ministry of Science and Technology

#### **Regional**

- Jennifer Astaphan, Executive Director, CariCAD
- Jennifer Britton, Deputy Programme Manager, ICT for Development (ICT4D), CARICOM Secretariat
- Nigel Cassimire, Telecommunications Specialist, Caribbean Telecommunications Union
- Karlene Francis, former Project Manager – EGRIP

## Annex 3

### Interview questions

#### To country resources persons:

- Confirm (and as necessary augment) the list of e-government projects that have been implemented in their individual countries.
- Provide supporting information on the e-government projects that have been implemented in their individual countries.
- Confirm (and as necessary augment) the list of regional e-government projects of which their individual countries have been a part.
- Provide supporting information on the regional e-government projects of which their individual countries have been a part.
- Provide copies of output reports that might have been produced.
- Discuss existing national e-government policies and/or implementation plans:
  - What does the country view as priorities in relation to advancing e-government?
  - Are there any projects or initiatives that the country plans to implement in the short- to medium-term?
  - Are there any projects or initiatives that the country has had to defer, or cancel? If yes, what might have been the reasons for that situation?
  - What does the country perceive as the benefits of advancing e-government?
  - Has there been any measurable/measured success as a result implementing an e-government-related initiative?
  - What have been some of the challenges experienced when implementing an e-government-related initiative?
  - Are there any specific government services or applications that could urgently benefit from a project to transition it to digital platform?
- For regional e-government projects of which their individual countries have been a part:
  - What were the benefits of being a member of that project?
  - To date, what have been some of the successes to your country, and to the regional grouping, from those projects?
  - What were some of the challenges of being a member of that project?
  - What were some of the challenges experienced in trying to implement a multi-country project?
  - Are there any recommendations, or specific matters that should be considered, when trying to implement a multi-country e-government project?
  - How was procurement under the project addressed?
  - From a national procurement perspective, would there be any challenges for your country to be involved in a regional project?

## To regional resource persons:

- Confirm (and as necessary augment) the list of regional e-government projects that have been implemented in the Caribbean.
- Provide supporting information on the regional e-government projects that have been implemented in the Caribbean.
- Provide copies of output reports that might have been produced.
- For regional e-government projects, discuss:
  - How might the regional e-government policy, prepared by CARICOM, assist in developing e-government in the region? (Are countries required to model their national policies on it?)
  - What have been the benefits of implementing a multi-country e-government project?
  - To date, what have been some of the successes from past projects?
  - What are some of the challenges when trying to implement a multi-country project?
  - Are there any multi-country e-government projects or initiatives that will be implemented in the short- to medium-term?
  - Are there any multi-country e-government projects or initiatives that have had to be deferred, or cancelled? If yes, what might have been the reasons for that situation?
  - Are there any recommendations, or specific matters that should be considered, when trying to implement a multi-country e-government project?
  - Are there any specific government services or applications that could urgently benefit from a project to transition it to digital platform?
  - How was procurement of goods and services handled on those projects?
  - What are recommended approaches to handle procurement activities in a multi-country project?

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