E-GOVERNMENT CASE STUDY

Government Communications Backbone
### Project Information

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Introduction

In May 2003, the Government of the Republic of Trinidad and Tobago (GORTT) launched its national Information and Communication Technology (ICT) strategy, dubbed “fastforward”. This strategy identified, *inter alia*, e-Government as a key driver for the delivery of efficient and effective citizen-centered services. In support of this goal, GORTT initiated a standard government-wide approach to the planning, design and implementation of a strategic IT infrastructure that would support the delivery of services and meet the operational needs of the individual ministries in the first instance, and would also enable a more integrated, government-wide and citizen-centred approach to future service delivery. This gave birth to GORTT’s public sector-wide infrastructure initiative known as the Communications Backbone.

The Backbone is the prescribed infrastructure that enables all ‘connected’ ministries and public sector agencies to communicate and share information through its secure network. It provides key services such as Internet access, e-mail (audio, video and text), e-messaging, e-scheduling, anti-virus protection and access to a dedicated Help Desk.

The Backbone’s robust network architecture, advanced technologies, scaleable design and forceful security grid are central to the high quality infrastructure foundation that has been put in place. This Government Wide Area Network (GWAN) is considered to be the platform of choice for GORTT’s ministries and public sector agencies.

Project Description

The Government of the Republic of Trinidad and Tobago’s Communications Backbone project seeks to establish a communications infrastructure that would enable each ministry and public sector agency to communicate and share information effectively and efficiently. The Ministry of Public Administration and Information (MPAI) was assigned lead responsibility for managing and coordinating the implementation of the Communications Backbone and acts as an agent in providing the necessary support to other ministries. The design and delivery of this Wide Area Networking infrastructure was contracted out to the alliance of the Telecommunications Services of Trinidad and Tobago Limited (TSTT) and Fujitsu Transaction Solutions (Trinidad) Limited.

The Backbone project embodies the concept of inter-networking, where multiple Local Area Networks (LANs) of varying protocols from several ministries and public sector agencies are connected to the Backbone. The Backbone is a hybrid of Intranet (using frame relay) and Extranet (using encryption technologies to provide secure access to services and applications).

The physical structure consists of edge routing devices and other networked devices and switches serving as connection points for the core ministries and public sector agencies, remote government offices, TSTT’s Frame Relay Network (the incumbent telecommunications provider’s frame relay network) and the Internet. The resulting platform facilitates and enables all ministries to automate many traditional work
processes, and also lends itself to rethinking and re-engineering the ways in which GORTT functions.

**Project Deliverables**

- **Internet Access**  
  *Providing Internet access to all connected end users through the use of standardized, dedicated and rules-based “government ISP services”*

- **Security** (Checkpoint Firewall)  
  *Ensuring privacy, integrity and security of data, information and services, using centralized and distributed rules-based firewall systems under the management of Government Network Management Centers (GNMCs)*

- **e-mail, e-messaging, e-scheduling**  
  *Using the Microsoft Exchange Email System and employing servers at ministries in a central and distributed management environment*

- **Help Desk Management System** (Magic)  
  *Administered centrally by Help Desk administrators and operators*

- **Anti-virus Protection** (McAfee)  
  *Employed at Server, Network and PC levels*

- **Training & Development**  
  *Formally (classroom-type) and informally administered training, including on the job knowledge transfer*

- **Change Management**  
  *Delivered through a comprehensive Change Management Plan that includes a Gap Analysis report, Communications Plan, Change Management report, Training Plan and a Proof of Concept (POC) module, administered through the persons acting as New Systems Facilitators (NSFs) in each of the ministries*

- **Site Readiness**  
  *Verifying sites’ suitability for Backbone connectivity through site visits and site assessments, and subsequently making sites ready through use of an outsourced agent*

- **GNMC Management** (Network Operations Group)  
  *Ensuring proper management of the Government Network Management Center (GNMC) through an outsourced*

**Objectives**

1. To connect all ministries and public sector agencies via a single Wide Area Network.
2. To facilitate the deployment of, and access to, Government’s enterprise-wide applications and services, thus bringing best practices into key public service operations. Examples of such applications include the Integrated Financial Management System (IFMS), the e-Government Portal, and the Integrated Human Resource Information System (IHRIS).

3. To facilitate information sharing, access and integration, as well as information administration within government.

4. To provide the tools to support Government’s vision of a truly interactive public service organization.

Impact/Results

Objectives 1 & 3:

- Impact: Provision of the following services through the network:
  - I. Internet Access
  - II. Security - Checkpoint
  - III. e-mail, e-scheduling and e-messaging - users can send and receive emails, perform group e-scheduling (calendaring) and instant e-messaging. e-mail has been the main catalyst for introducing people to use of technology.
  - IV. Help Desk – a support center for solving end user problems, providing e-support and handling inbound and outbound enquires from multiple channels, e.g. telephone, email. It is a useful Customer Relationship Management (CRM) tool in supporting the overarching thrust towards a more citizen-centric public service.
  - V. Anti-virus Protection - McAfee
  - VI. Training & Development

- Benefits
  - I. Ease of provision and dissemination of information
  - II. Improvements in collaboration and co-operation among government departments
  - III. Reduce communication costs among government departments

Objective 2 & 4

- Impact: Creation of a robust infrastructure to support Government’s enterprise-wide applications, e.g. Integrated Human Resource Information System (IHRIS), Integrated Financial Management System (IFMS)

- Benefits
  - I. Increased efficiency and effectiveness of government processes.
II. Significant enhancements in the quality and cost effectiveness of service delivery to the national community.

Key issues

Given the scope and complexity of this project, timely achievement of the deliverables depended on the participation of all ministries to ensure that necessary site preparation works were completed on time. This proved to be quite a challenging feat, and tested the flexibility and innovativeness of the project implementation teams.

Additionally, given the importance of site preparation to the success of the overall network, decisions were taken to outsource electrical and air-conditioning site preparations works. The combination of ongoing innovative efforts and outsourcing specific activities to remove risks of delay proved critical to the timely completion of the project.

Target Groups

Persons from all ministries and public sector agencies including Permanent Secretaries, Administrative Officers, Information Technology staff, Communications Specialists, Property Managers, Human Resources Practitioners, and New Systems Facilitators (NSFs)

Lessons Learned

I. Executive Leadership and Commitment

The importance of executive leadership and commitment cannot be overstated. The very nature of e-Government initiatives is characterized by the implementation of ICT across a number of quasi independent corporations called ministries. At the time of implementation of the Communications Backbone, there were limited policies and strategies in place for the use of ICT and the adoption of e-Government tools across the public service. In this environment, ministries were moving forward with individual and independent plans to deliver on their own mandates through the use of ICT. In Trinidad and Tobago, many ministries had already established connectivity to the Internet, including services such as email and messaging.

Ensuring that the Communications Backbone was viewed and adopted as the network of choice within the public service required all ministries (including those with existing WANS) to buy in to the benefits of this new Backbone infrastructure over and above their existing independent networks. Success in this venture was more likely when there was agreement at senior levels (Ministers, Permanent Secretaries) where decisions were based more on the bigger picture and less on technical jousting.
II. Managerial and Operational Relationships

Although Ministers and Permanent Secretaries gave top level support, it was identified very early in the project that, although critical, this required an execution arm. In recognizing the need to have effective actions taking place in all ministries, the e-Government team developed strong relationships at the managerial and operational levels of each ministry, and most importantly, with the IT departments and other key operational personnel (Administrative officers, Property Managers, Communications Specialists). These relationships developed through continuous communication, regular fact-to-face meetings and periodic presentations to stakeholders during times of rapid progress and most importantly during times of delays and challenges. Through these relationships many innovative tasks were made possible including working extra hours and on weekends in order to complete installations. This approach catered for the demands of aggressive time frames.

III. Lead with Change

As a key element, the Communications Backbone project contained a change component that focused on an analysis of the public service’s readiness to adopt the use of technology. Guided by the assessed levels of readiness, there was the creation of a change plan, training plan, and communications plan for implementation.

However, the Communications Backbone initiative was seen as much more than a mere technology project. It was viewed as the catalyst for e-Government in Trinidad and Tobago. As a result of this view, a new and innovative methodology was developed to lead the change necessary for the adoption and use of technology throughout the public service. The Communications Backbone team, together with the Public Sector Transformation Division, worked with change management consultants to ensure that the change management approach and associated mechanisms addressed the project’s needs and also took into consideration the broader change management objectives with respect to the use of ICT throughout the public service, in furtherance and in support of the country’s fastforward and Vision 2020 initiatives.

A new model was developed that called for the selection and recruitment of Twenty-Five (25) New Systems Facilitators (NSFs), assigned and fully dedicated to the implementation of the change management initiative of the Communications Backbone project, and thereafter, to continue the change management process as part of the Public Sector Transformation Division (PSTD’s) Programme for Public Sector Transformation.

These NSFs have been working in the respective ministries and have achieved commendable success. By engaging persons from all levels of the organization on a continuous basis throughout the development of the plans and the execution of small ICT related projects, the NSFs have built and maintained
momentum for change that will be critical for the success of the ongoing change strategy of all ICT projects to follow.