



National Connectivity from Dream to Reality - NIA

Quincy Prentice
Craig David

Background

- ▶ **NIA Information Technology Department**
 - ▶ Responsible for maintaining the IT infrastructure for the Nevis Island Administration. (Local government on Nevis).
 - ▶ 40+ departments that across 20+ physical locations.
 - ▶ 300+ computers.
 - ▶ Staff of 7 persons.



History – c. 2006

- ▶ Nevis Island Administration spans 40+ departments in 20+ locations.
- ▶ Highly dispersed.
- ▶ Departments display highly ‘nomadic’ tendencies.
- ▶ Lack of centralized IT services
 - ▶ Several disjoint NT domains present the larger departments (e.g. IRD, Customs, Financial Services)
 - ▶ No DNS.
 - ▶ No Remote Support.



FITRIX Project

- ▶ This project was initiated in 2006 as part of the Ministry of Finance's planned decentralization of Treasury operations.
- ▶ As part of this project the accounting application, Fitrix, was to be rolled out to the various departments.
- ▶ Naturally this would require a wide area network to support the rollout of this application.
- ▶ The IT Department was commissioned to build this network over which the application would run.



Network Architecture

- ▶ The network was built on top of a local ISPs network utilising VPN technology.
- ▶ Hardware VPN devices (Symantec VPN 200s) were initially utilitised.
- ▶ Over time most of these devices were replaced by Linux firewalls running OpenSwan which provided a relatively inexpensive and robust solution.
- ▶ The network was extended to users using RAS. This provides remote connectivity for users when they are not in the office as well as connectivity for users in locations that are not connected using Linux firewalls.



Network Architecture

- ▶ The implementation of VAT has also necessitated the establishment of a link between various departments in St. Kitts and Nevis (IRD, VAT & Customs).
- ▶ This link was established in 2010 and currently connects the NIA WAN to GOSKN network.



Applications & Services

- ▶ Since the WAN was deployed a number of applications and services have been rolled out on top of it.
- ▶ These fall into two primary categories:
 - ▶ End user applications
 - ▶ SIGTAS – Tax Administration (IRD, Traffic Department, Ministry of Finance)
 - ▶ Fitrix – Accounting (All Departments)
 - ▶ SIGBUD & Budget Tool 2.0 – Budgeting (All Departments)
 - ▶ CSDRMS – Debt Management
 - ▶ CTO Mist – Statistics
 - ▶ Email



Applications & Services

- ▶ Management type services and applications that have assisted in reducing the burden on the IT staff.
 - ▶ Active Directory
 - ▶ Internet Access Control
 - ▶ Antivirus
 - ▶ Group Policy
 - ▶ Network Monitoring
 - ▶ Remote Support
 - ▶ Update Services



Spinoff effects

- ▶ Consolidation of server infrastructure
- ▶ Consolidation of licensing arrangements
 - ▶ Oracle (Utilized for SIGTAS, SIGBUD & TRIPS)
 - ▶ SQL Server (CTO Mist & CSDRMS)
- ▶ Effective centralized backups of critical information.
- ▶ Improved control over IT infrastructure.
- ▶ Improved response time to user requests.
- ▶ Improved security
 - ▶ Through the Active Directory we are able to manage access to resources.



Issues

- ▶ Bandwidth, bandwidth, bandwidth!!!
- ▶ Reliability of supporting infrastructure
 - ▶ Network
 - ▶ Stable and reliable power supply.
- ▶ Security – This is something that has to be managed on an ongoing basis. The centralized model is good in that it allows policies to be managed from a single location however, there is also a risk of compromising the network if this is not adequately secured.
- ▶ End user training/education



Future Plans

- ▶ NIA is presently in the process of upgrading WAN to fibre at four different locations.
- ▶ This upgrade will assist in:
 - ▶ Eliminating bandwidth issues.
 - ▶ Rollout of VOIP services.
 - ▶ Rollout of additional network services (e.g. Centralize file shares that will allow improved security and backups for the end user).
 - ▶ Improving the end user experience for various existing network applications.
 - ▶ A solid foundation now exists whereby internal applications can be extended to the general public.



Thank you!

