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Evaluation Report on e-Government Programme Focusing on Infrastructure/ Internet Gateway and Messaging System

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Abstract

The revolutionary advances in Information and Communication Technologies (ICTs) are ushering in change in every aspect of life. Everything from business to governance is undergoing change. This report focuses on the deployment of Information Technology infrastructure in Ondo State, Nigeria as the nexus of the state e-Government programme with focus on (1) Central Base Station set up (2) Structured Local Area Network of Key Governmnet Offices (3) Fibre Optic Interconnectivity between central base station and governor's office complex plus allied locations (4) Installation and configuration of servers in the main Data Center (5) Installation and configuration of servers in the Disaster Recovery Centre (6) Installation and Configuration of Secured Wireless Network for remote Ministries, Departments and Agencies (MDAs) (7) Installation and Configuration of State Surveillance System (8) Training of users, technicians and other personnel (9) Provision of second layer support services for users and first layer support-technicians, and; (10) Provision of hardware and infrastructure support services to content providers like Oracle Financials, the state Electronic Personnel Administration and Salary System (ePASS) and the state Automated Revenue-generation, Collection-administration and Accounting System (ARCAS).

Keywords: e-government; Accounting system; Surveillance system

Introduction

Ondo State, Nigeria was established on 3rd of February 1976. According to the 2006 population census, the state has a population of 3,441,024 people disambiguated as 1,679,761 females and 1,761,263 males. The state has the reputation of a high literacy level relative to other states of the Nigerian federation. In 2004, few months after the new government had taken over; the State Executive Council adopted a policy classifying Information Communication Technology as an effective policy of state for the driving of the institution of governance as well as a tool for the promotion of efficiency, accuracy and speed of service delivery. To accomplish this, the state which hitherto was noted for being conservative veered off this traditional path and frontally adopt e-Governance as its core programme and thus become one of the leading lights amongst states of the federation that have taken the giant leap towards the adoption of information technology.

Objective and scope

1. The objective of this report is to itemize the functional steps taken in the deployment of a robust information technology platform in Ondo State

2. To itemize the gains resulting from this effort

3. To provide the adjusted design of the central data centre and main base station

4. To enumerate the roles and the reciprocal contribution to knowledge that resulted from the active participation of engineers-in-training as part of the deliberate local content initiative adopted by the government of Ondo State as at that time. The author of this work was privileged to be part of the young engineers in training who actively participated as a team member, sub-unit leader and measurement group leader throughout the duration of the deployment of the information technology tools. The author was also a participant in the train the trainer scheme designed to spread technical knowledge amongst the officials of the state's civil service. A technical team was setup by the coordinator in which I was the sub-unit leader and I worked as a Network Administrator after the various installations on daily bases.

Definition of core terms

e-Government: The term "e-government" focuses on the use of new information and communication technologies (ICTs) by governments as applied to the full range of government functions. In particular, the networking potential offered by the Internet and related technologies has the potential to transform the structures and operation of government [1]. The World Bank defines e-Government as "the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government" [2]. e-Government is thus the application of modern computing technology in driving all facets of governance in order to enhance government to citizen (G-2-C), government to business (G-2-B) and government to government (G-2-G) interactions, promote transparency, eliminate barriers with respect to space and time and make life better for the people by enhancing book keeping, record warehousing and safety and access to government and governance [3]. In the case of Ondo State, this would imply a total change in processes and system which in itself would require ultimately a specialized way to manage such changes.

Core Technology Application in Ondo State

The core areas of technology application in Ondo State are in which the author participated included:

1. Central base station set up

2. Structured Local Area Networking of Key Government Offices

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3. Fibre Optic Interconnectivity between central base station and governor's office complex plus allied locations

4. Installation and configuration of servers in the main Data Center

5. Installation and configuration of servers in the Disaster Recovery Centre

6. Installation and Configuration of Secured Wireless Network for remote Ministries, Departments and Agencies (MDAs)

7. Installation and Configuration of State Surveillance System

8. Training of users, technicians and other personnel

9. Provision of second layer support services for users and first layer support-technicians, and;

10. Provision of hardware and infrastructure support services to content providers like Oracle Financials, the state Electronic Personnel Administration and Salary System (ePASS) and the state Automated Revenue-generation, Collection-administration and Accounting System (ARCAS).Few of these will be explained in greater details.

Networking of the different government ministries, departments and agencies

This was to ensure every department can have access to records and make such available in a central pool accessible to authorized officials of government irrespective of their location. It was to enhance centralization while allowing for decentralization at the same time-a sort of dialectic (i.e., making sure all data or information units are available - as if such information are available at a central source) while at the same time allowing for such information to be accessible to myriads of people outside or in different workstations [4].

Satellite earth stations

As illustrated on the (Figure 1) two satellite earth stations were installed at the ICT center SITDEC. A 3.8m dish was installed to serve as the main circuit to the Internet while a 1.8m earth station provides backup. For optimal use of both circuits, load sharing at approximately ratio 7:3 is implemented. To provide diversity in technology, the 3.8 m Earth station uses *C-Band technology* while the 1.8 m earth station provides services using the *KU-Band technology* [5]. Also, the satellite providers are in different continents with one in Israel while the other is in Canada. This is to reduce the effect of disruption by sharing the risk.

Structured local area network

The entire cabling of the government offices and ministries was achieved using Ethernet cables in a structured fashion. All cables were well terminated on patch panel located in a rack at each ministry. The number of patch panel or size of rack was determined by the total number of points installed. From the patch panel, points were patched on to a Cisco catalyst switch which then connects to the backbone either through fibre or radio. All points were well labelled as indicated in the diagrams (Figures 2 and 3).

Fibre optic interconnectivity

Fibre Optic Cables were installed with SITDEC as the central point in a star topology format. Multimode optic fibre cable was installed to connect the Governor's office complex, the State Government Secretariate, and other ministries, department and agencies within the vicinity. Fibre optic has large bandwidth capacity and can accommodate the bandwidth requirements of the large ministries around the SITDEC. It also has spare capacity for future expansion. To provide redundancy, protection and long haul capacity, four core, armoured optic fibre cables were installed using direct burial methods. In laying the fibre, adequate care was taken to ensure protection. Fibre was laid at depth of 1 m below the top soil. At cross roads, galvanized pipes was used and manholes was installed at junction's necessary points along the fibre route each fibre was well terminated using fusion splicing techniques, and arranged in a fibre patch panel/cartridge at both ends. Single mode optic fibre cable was also used to interconnect the data recovery centre (DRC) and SITDEC. From the DRC, interconnectivity of the Government house is achieved using Ethernet cable and multimode fibre optic cable [6]. The total length of the fibre metro ring was 5.2 km (Figure 4).

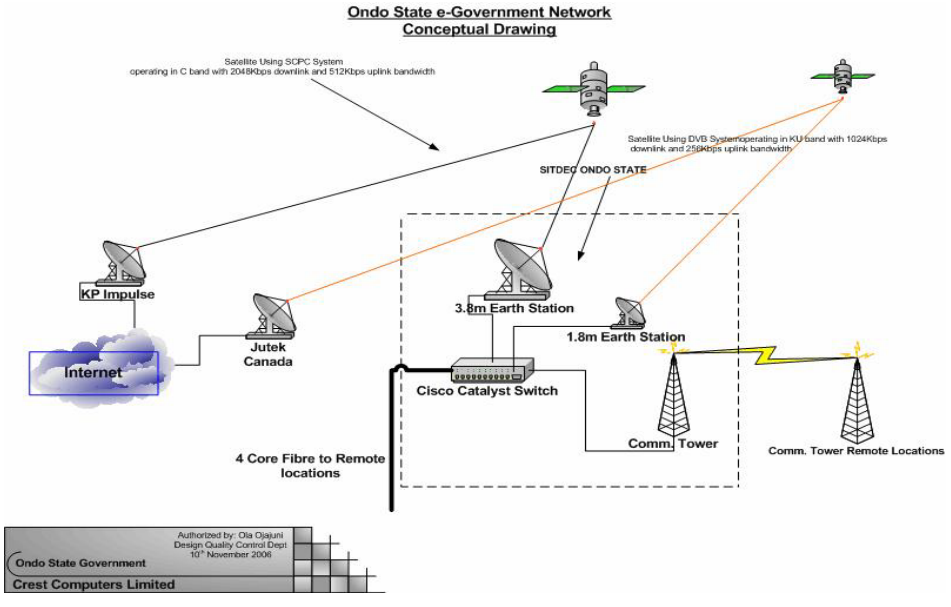

Figure 1: Satellite Link with Earth Stations.

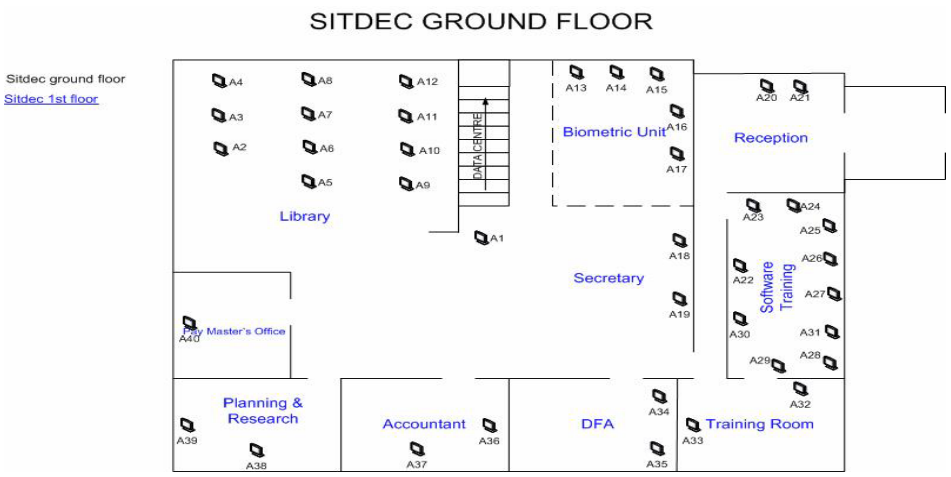

Figure 2: Structural Local Area Network of SITDEC ground Floor.

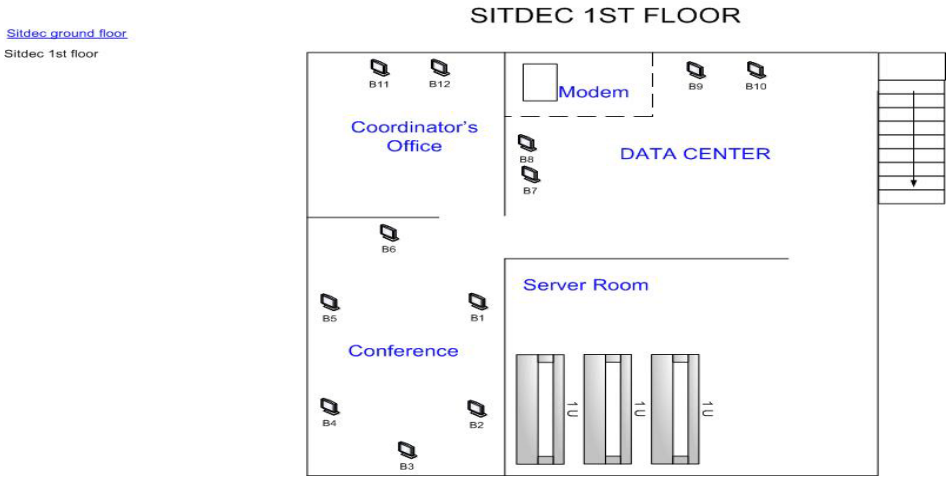

Figure 3: Structural Local Area Network of SITDEC First Floor.

Data center

In addition to the main communication network. The data center is used to house computer systems and associated components, such as telecommunications and other storage systems. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and security devices. The state governments seeing the challenges ahead repairs were made to SITDEC building, a 60 metre tower constructed and provisions made for following:

1. Installation of raised floors at SITDEC and the Data Recovery Centre.

2. Electrical works at both SITDEC and the Data recovery Centre.

3. Earthen (Grounding) of all electrical equipment.

4. Improvement or repair to buildings that accommodate Communication equipment including partition, painting etc as directed by SITDEC.

Wireless local area network

The wireless LAN operating on the 2.4 GHz frequency range consist of the following networks provided by Mikrotik radio, SITDEC-1 or SITDEC, SITDEC-2 and SITDEC-WAP-1. SITDEC-WAP-1 is located in SITDEC building to provide wireless access within the building (Figure 5).

SITDEC-1 provides wireless access from the tower located at SITDEC to a distance of approximately 2 miles omni directionally (Laptop Wilan) and approximately 6 miles using an external antenna (topology considered).

SITDEC-2 is located on the former OSRC tower at Oke Eda. The choice of the location is to provide further coverage. Traffic from the station is backhauled to the network centre at SITDEC using Motorola point-to-point Backhaul radios. The backhaul radio operates at 5.8GHz. Frequency diversity is implemented on the Wireless LAN to avoid frequency interference.

Broadband radio network

The Motorola broadband radio network implemented operates at 5.8GHz frequency range. Three access points are located on the tower at SITDEC, while another two are on the tower at Oke Eda. The choice of the locations is strategic taking into consideration the topology and foliage around the installation environment (Figure 6).

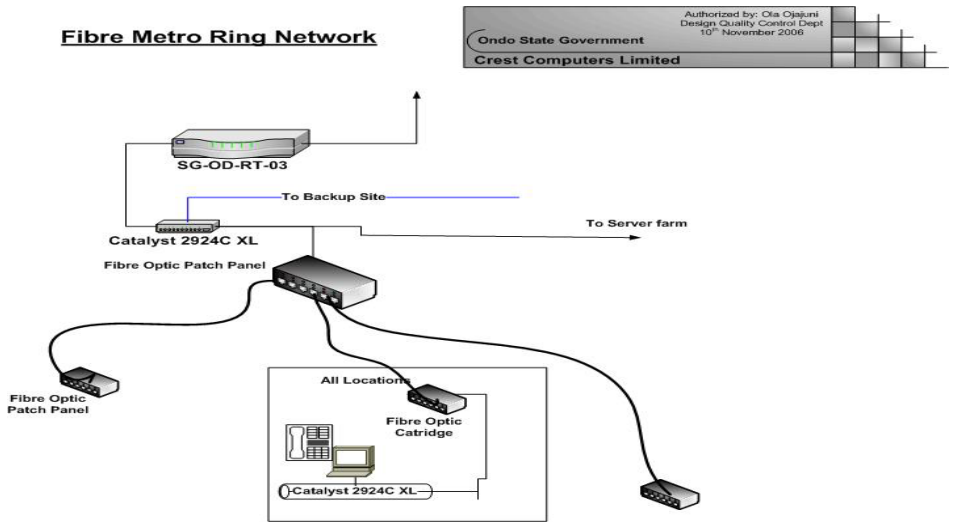

Figure 4: Structural Fibre Network.

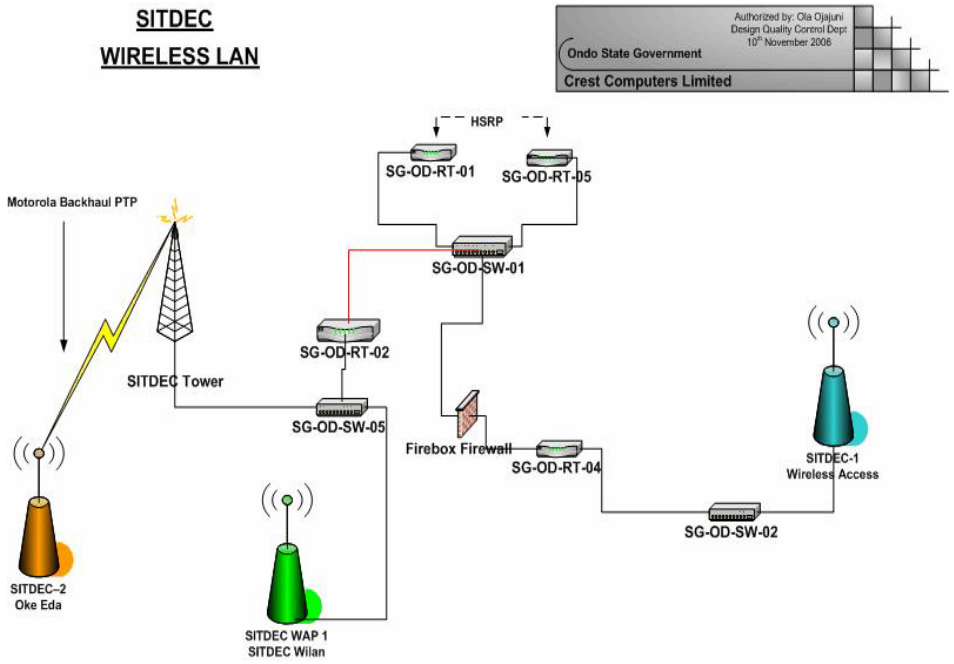

Figure 5: Wireless Networks within the SITDEC Office.

Subscriber modules are then installed at remote locations to provide access the State Government network. Security is provided by encrypting transmitted data between the subscriber modules and the access points. Interconnectivity of the State house of Assembly is achieved by using the Motorola point-to-point radio as indicated in the diagram.

State Surveillance System

A state wide surveillance system was also installed. To provide a real time view of places and locations in Ondo State for the purpose of monitoring events – movements, activities, civil disturbances, riots etc. In addition, a real time recording of activities for the purpose of providing intelligence materials for law enforcement agencies in tracking criminals and criminal activities within the state capital. The cameras are so intelligent to track every visual activity even in night mode. In addition, the cameras can be integrated to an existing intranet or extranet network because of its capability as TCP/IP based design. Therefore more than of the cameras can be viewed at the same time. Below are demo pictures illustrating the capability of the surveillance security camera systems.

Training of personnel

People can be ignorant in any field, hence the idea of being "computer literate" cannot be over emphasize. The government took a bold step to make sure that all Ondo state staff was trained in ICT including the civil servant in the state. Once the people are trained,

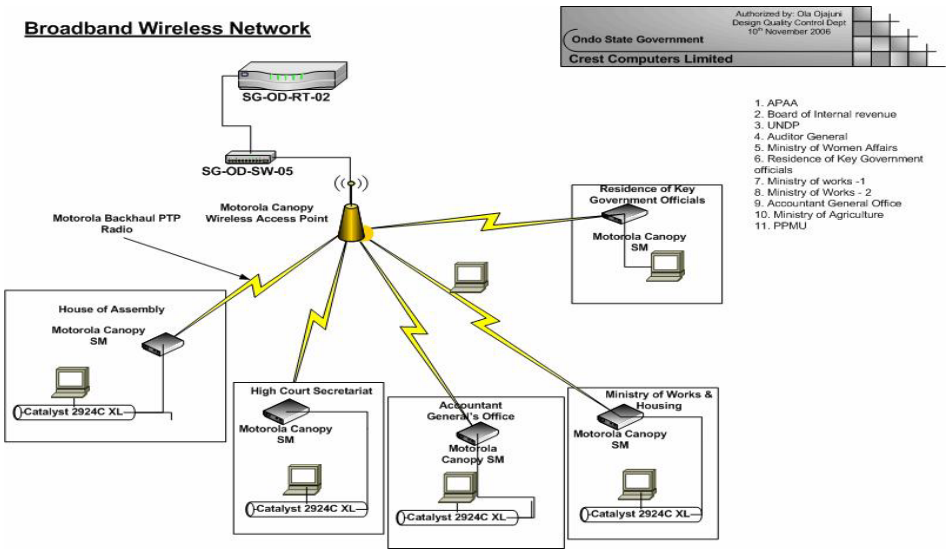

Figure 6: Indicating the 5.8 GHz Radio Network.

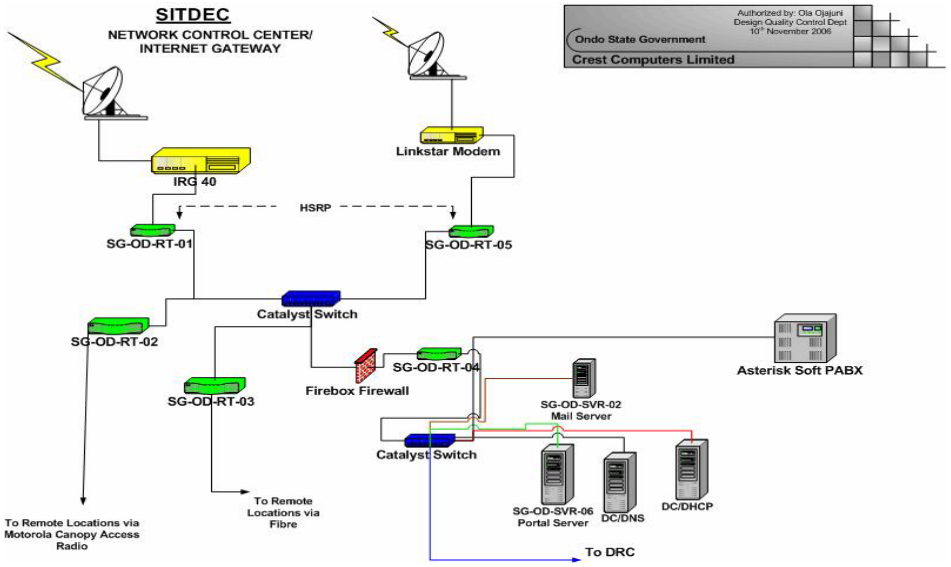

Figure 7: Diagram illustrates the layout and configuration of the network centre at SITDEC Data Centre.

then the first step towards e-governance has been taken. Training of assigned personnel was conducted by our instructors. Over eighty SITDEC administrators, Engineers and Youth Corpers took part in the training. This was conducted during and after the installations as part of technology transfer.

Network control centre/internet gateway

Internet services are provided using two modems, a Shiron IRG40, and a Linkstar .The Shiron gateway provides the main access to the Internet while the Linkstar provides redundancy. As indicated earlier, load sharing is achieved by using both modems at ratio 7:3. The first router (SG-OD-RT-01) connects to the Shiron satellite modem and the first catalyst switch while router five (SG-OD-RT-05) connects to the Linkstar modem. All other routers also connect to switch one (SG-OD-SW-01). The routing protocol in use throughout the network is Enhanced gateway Internet Routing Protocol (EIGRP) (Figure 7). A Watch Guard firewall (SG-OD-FW-01) is installed right before router 4 (SG-OD-RT-04). This is to provide maximum security to critical application servers and the some wings of the State government networks. Security to other parts of the network is provided using Cisco IOS security.SG-OD-RT-01 and SG-OD-RT-05 runs Cisco proprietary HSRP to provide redundancy to the Internet. Router 2 (SG-OD-RT-02) segments the broadband radio network and wireless LAN while router 3 segments the fibre network (for load balancing, part of the fibre network and SITDEC-01 are segmented behind SG-OD-RT-02). Asterisk voice box provides PBX functions to all IP phone users irrespective on location on the state government network.

Services

Services which are capable of delivering Voice, Video and Data services in line with the requirements of Ondo State Government Project Team were also provided.

Telephony

This service is to be in the form of packetized voice over IP.

Data

The data services also provide a Broadband type access to IP based multimedia such as: - Video streaming (not to be confused with TV channel Broadcast/Streaming over IP).

Internet Access - provides connectivity to an ISP who delivers content-based services including email and WEB access.

Intranet – Access to information on a "need–to-know" basis, and information sharing and dissemination within the government establishment.

Microsoft operating system and back-end-servers

Microsoft windows 2003 server operating system was installed on all the servers' hardware. While Active Directory provides a single point of network resources management allowing administrators to add delete or relocate users and easily. This was installed and configured on the system and a limited amount of users and resources were configured for test purposes. Microsoft Portal services was installed and configured on SG-OD-SVR-06. Microsoft Exchange server 2003 was installed and configured on SG-OD-SVR-05. The following were verified among other things after the installation of the mail server.

1. Web access to e-mail boxes were provided for users.

2. User mailboxes were tested and verified to be available on the mail server.

3. E-mail profiles were configured such that certain defaults (i.e., automatically signed and/or encrypted) are applied based on the user profile.

4. E-mail management at all levels (SITDEC & branch) can be subject to policy- based profiles, including taking into consideration such criteria as business priority, bandwidth availability, and scheduled synchronization.

5. Standard security process standards (i.e., no external relaying) are applied to all e-mail servers. (These must be audited on a regular basis).

6. E-mail anti-virus services are installed on all e-mail servers, and will update automatically.

7. E-mail profiles (location of local e-mail server, size of mailbox, usage profiles) can be defined for all users based on their functional groups.

8. All outgoing e-mails can be tagged with an appropriate recipient/usage clause.

9. All e-mails going to/or coming from the Internet/Extranet are be filtered through a central email content management system.

10. The central e-mail content management system filters all incoming/outgoing mail for viruses and attachments. It quarantines suspected e-mails and/or their attachments. Alerts is be forwarded to the appropriate administrators/admin systems.

11. The e-mail content management system can filter the contents of all mails for policy-guided e-mail content. It is able to quarantine suspected e-mails and/or their attachments. Alerts, (including notifications of non-policy guided encryption of mails), must be forwarded to the appropriate administrators/admin systems.

12. Performance monitoring for the e-mail system can be integrated into the enterprise management.

Bill of engineering measurement and evaluation of e-Government project in Ondo State

Preliminary studies: A need assessment study was initially carried out by a team of experts to estimate the situation on ground in Ondo State before the commencement of e-Government programme. The discovery amongst others included:

1. Most government agencies still depended on typewriters for word processing. This impacted negatively on efficiency.

2. Computer to personnel ratio was very low while an entire Ministry comprising of about 2,000 workers had in certain instances just 2 computers.

3. It took an average of 22 days for the processing of monthly payroll of workers while cases of ghost workers were rampant.

4. Access to the internet was only possible in one point in the entire Ondo State government service.

5. Reports on the Ondo State Internally Generated revenue was only possible after 3 months thereby enabling banks to hold on perpetually to government money which in turn inhibited the government from being able to generate adequate funds.

Impact assessment: It was envisaged from the onset that the deployment of e-Government in Ondo State would have the following immediate impacts on governance:

1. Increase tremendously the computer to personnel ratio

2. Increase computer awareness and literacy

3. Each office in any Ministry would require being equipped with a computer and all computers would be on the same network to promote information sharing and sharing of common access to the internet.

4. Because of envisaged impacts on the existing system and processes, there would be needed to manage such changes through structured training and deliberate awareness campaigns targeted at the civil servants.

5. There would be need to put in place a computer training laboratory that could accommodate civil servants on a one year training programme and which would later serve as a permanent training location and refresher training center for workers.

6. Parts of the content to be placed on the infrastructure when completed would directly address monthly nominal and payroll management while effort would be made to also place a content that could help the state manage its internally fund generation stream.

7. Provide several nodes that could serve as points of access to the internet.

Bill of Engineering Measurement and Evaluation (BEME): Bill of engineering measurement and evaluation was shown in the Table 1.

Benefits

Some of the benefits recorded after the deployment of the e-Government programmes are:

1. Increased computer to personnel ratio

2. Increased core ICT manpower support technologist and engineers. The State was able to get 6 (six) of its workers certified in

J8131A	Curve Wireless Access Point	Pcs	4	25,000.00	100,000.00
J8443A	Curve ext AP 6 dBi direct antenna	Pcs	4	15,000.00	60,000.00
J8136A	Curve 802.11b AP Card 150wl 13CH	Pcs	4	5,000.00	20,000.00
5700BHRF20	5.7 GHz 20 Mbps Backhaul Kit with Reflector	Pcs	5	140,000.00	700,000.00
ACPSSW-02	90-230VAC/50-60HZ Power supply - includes Europlug (CEE 7/	Pcs	5	2,500.00	12,500.00
300SS	Surge Suppressor	Pcs	5	3,850.00	19,250.00
	Access Cards				
XBS-PCMCI-1	802.11b PCMCIA Access card	Pcs	1	3,000.00	3,000.00
XBS-PC-1	802.11b PCI card	Pcs	1		
	FIBRE-CABLE				
ARSMFibre	4 Core Single Mode Fibre 6 km	Lot	6000m		180,000.00
	Fibre Patch Panel - 12 Port	Pcs	8	10,000.00	80,000.00
	Fibre Fusion Splice tray	Pcs	8	5,380.00	43,040.00
	Fibre Pigtails	Pcs	44	2,500.00	110,000.00
	Terminating Kits		4	1,500.00	6,000.00
	Fibre Enclosures	Pcs	5	2,000.00	10,000.00
	MEDIA CONVERTER				
10/100bt-SM15	10/100base-T/100base-fl singlemode fiber converter 15km	Pcs	10	12,000.00	120,000.00
	CISCO SWITCHES AND ROUTERS				
WS-C2924C-XL-EN	10/100 Autosensing Fast Ethernet Switch	Pcs	25	25,000.00	625,000.00
WS-C2621	c2621 router	Pcs	6	100,000.00	600,000.00
WS-2960G	[2960G-24TC-L] 20 Ethernet 10/100/1000 ports, and 4 dual-purpose Gigabit Ethernet uplinks with LAN Base software	Pcs	2	40,000.00	80,000.00
Pix525	Cisco IOS Firewall Unrestricted	Pcs	1	150,000.00	150,000.00
	CANOPY SYSTEM				
TK1017	5.7 GHZ ACCESS POINT Cluster with 30 subcriber base modules	Pcs	1	120,000.00	120,000.00
27RD	Reflector Hardware Kit	Pcs	15	7,000.00	105,000.00
BAM02CD	BACM 2.0 Authentication Server Software CD	Pcs	1	25,600.00	25,600.00
BAMAP02	BACM 2.0 Software License Activation Key for AP Authentication	Pcs	6	5,000.00	30,000.00
S3	CAT 5 CABLE TESTER	Pcs	1	1,500.00	1,500.00
	LAN MATERIALS				
	Patch Panels	Pcs	80	8,000.00	64,000.00
	RJ 45	Pcs	4000	10.00	40,000
	Cat 5e Cables	Pcs	150	9,000.00	1,350,000.00
	Cable Ties	Pcs	100	500.00	50,000.00
	Trunkings	Pcs	500	350.00	175,000.00
	Face Plates & Accessories	Pcs	1000	550.00	550,000.00
	9U Racks		15	40,000.00	600,000.00
	22U Racks	Pcs	3	60,000.00	180,000.00
	48U Racks	Pcs	6	85,950.00	515,700.00
	Shielded Gigaplus Cable	Pcs	10	28,000.00	280,000.00
	60 metres Mast	Pcs	1	500,000.00	500,000.00
	Voice Over IP				
	Voice Business Edition	Pcs	1		
	5 hours pre-paid Technical Support & configuration	Pcs	1		
	Rack Server - Dual Intel Xeon processor, -3Ghz/1MB, - 4GB PC-2 3200 Memory, - 2 X HP 36.4GB Pluggable Ultra320 SCSI 15,000 rpm (1") Universal Hard Drive , - Dual GiGa Ethernet Port, - Redundant PSU, -Cd- Rom,	Pcs	1	400,000.00	400,000.00
	Hard IP Phones, - Omni-0104	Pcs	20		
	Wireless IP Phones - F1004	Pcs	5		
	Eyebeam Soft Phone, with v1.1, with Audio,Video+IM	Pcs	200		
	Video Conferencing Solution				
	3000 (NTSC) with Media Center Cart and one 34-inch (32 viewable) NTSC Display, IP as described in 2200-10800-001, English remote, NA power. Uses VSX built in speaker and subwoofer.	Pcs	3	250,000.00	750,000.00
	VSS Serial Network Module (V.35, RS449, RS530 with RS366 dialing), adapter cable, serial interface cable ordered separately	Pcs	3		
	VSS MultiPoint Software License Key	Pcs	3		
	CABLE - VSS Conference link cable, 50'	Pcs	3		
	Standard, 3 Yr, VSX7000, parts 30 day Return to Factory, telephone technical support during business hours, software updates & upgrades MSRP	Pcs	3		

	Surveillance Camera				
0221-002	Lexion 221 Day & Night Network Camera	Pcs	5		
0217-141	Verso Cool Outdoor Housing & Housing Fan HPV42K0A017	Pcs	5		
0217-091	Lexion Wall Bracket Adapter Plate WCPA	Pcs	5		
XPEBL	Milestone Xprotect Enterprise Base License	Pcs	1		
XPECL	Milestone Xprotect Enterprise Camera License	Pcs	1		
	Power Protection Systems				
	Digital Inverters	Pcs	5		
	Inverter Batteries	Pcs	5		
	10KVA Stabilizers	Pcs	5		
	Transtector Surge protection System	Pcs	1		
	20KVA UPS	Pcs	1		
	Blaxus Ring Earth & Lighting Protection System	Pcs	1		
	Internet Gateway Systems				
	3.8M Very Small Aperture System	Pcs	1		
	IPSAT or RG2000 Modem	Pcs	1		
	30794 5W C – Anacom	Pcs	1		
	Flexible Wave Guide (3ft)	Pcs	1		
	Mounting Kit Redundant	Pcs	1		
	MTx Reject Filter	Pcs	1		
	Cable 200ft	Pcs	1		
	IPSAT or RG2000 modem	Pcs	1		
	IBS Mux + reed Solomon Encoding	Pcs	1		
	Connector Kit	Pcs	1		
	Harmonic 501	Pcs	1		
	LNB	Pcs	1		
	Messaging System/Servers				
DELL	Rack Server - Dual Intel Xeon processor, 3Ghz/1MB, - 1GB PC-2 3200 Memory, - 2 X 76 GB Pluggable Ultra320 SCSI 15,000 rpm (1") Universal Hard Drive - Dual GiGa Ethernet Port, - Redundant PSU, -Cd- Rom,	Pcs	3		
DELL	Rack Server - Dual Intel Xeon processor, -3Ghz/1MB, - 1GB PC-2 3200 Memory, - 2 X 76 GB Pluggable Ultra320 SCSI 15,000 rpm (1") Universal Hard Drive - Dual GiGa Ethernet Port, - Redundant PSU, -Cd- Rom,	Pcs	4		
	Metadot Business Edition (World Class Web Portal)	LOT			
	LINUX BSD Mail	LOT			
	Cisco Secure ACS	LOT			
	Installations				
	LAN	LOT			
	WAN	LOT			
	Security	LOT			
	Video Conferencing	LOT			
	Softswitch VOIP	LOT			
	Surveillance Systems	LOT			
	Tower Erection/Painting	LOT			
	Server Installation and Configuration	LOT			
	Messaging and Collaboration Installation & configuration	LOT			
To be provided by client	Tower Foundation	LOT			
	VSAT	LOT			
	Freight and Duties	LOT	1		
	Contingencies 5% of Subtotal of Project Cost	LOT	1		
	Consultancy 10%	LOT	1		

Table 1: Showing list of equipment.

the following areas (networking, security, database administration etc.) with such qualifications as CCNA, CCNP, OCA, OCP etc.

3. In the first year of the state government putting software content to enhance internally generated revenue on the state ICT infrastructure, the state recorded total revenue of N4.4billion as against the previous N2.4 billion. This translated to a gain of N2.0 billion. This translated to an unprecedented increase of 83%. E-Government deployment in Ondo State also reduced the time required to process reports for stakeholders from 3 months to a few minutes while searches on records took only a few seconds.

4. The State government was also able to increase its efficiency in the monthly payroll management by reducing the processing time required for the monthly preparation of payroll from about 22 days to about 2 hours. Access to previous records was also made possible

Description	₦ (-)	₦ (+)	In Kind
Total expenditure on e-Government in Ondo State	997,000,000		
Total direct financial gains accruable directly from e-Government in Ondo State during the same period		2,000,000,000	
Quantifiable savings from payroll preventive stuffing (traditional ghost worker syndrome)		400,000,000	
Gains from improved efficiency resulting from reduction in time required from processing assignments			Not directly measurable. Exempted from this work.
	997,000,000	2,400,000,000	
GAINS	1,403,000,000		

Table 2: Showing cost benefits and analysis.

within seconds as against endless time spent in ravaging files by civil servants before the advent of e-Government in Ondo State.

Cost benefit analysis

The cost and the benefit analysis shown in the Table 2.

Conclusion and Recommendation

It can be safely concluded that investing in modern technology and the deployment of same as have been done in Ondo State is profitable. Between 2004 and February 2009, the total investment of Ondo State government in ICT was N997 million whereas the corresponding gains to government totaled N2.4 billion during the same period. Of more importance however are the not-easily quantifiable gains that came into government during this same period. Such gains relate directly to the speed of service delivery that accompanied a shortened time e.g., bring the time required to process payroll from 22 days to about 2 hours would free civil servants time for other productive endeavors within the service. e-Government in Ondo State was not however without its own challenges. One of the core challenges is the distribution of internet access to ensure all civil servants could have access to the internet as originally envisaged. This has not been achieved. Other challenges are fear to embrace change and the problem of continuity. If these challenges can be tackled and overcome, the state would indeed be able to continue to benefit from the deployment of e-Government.

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