



**Information Technology Support
for the Jamaican National
Family Planning Board:
Results of the Assessment & Design Phase**

Prepared by

Glenn Strachan

Chief Information Officer, VP

Academy for Educational Development

for

USAID Jamaica and

The Jamaican National Family Planning Board

Contract No. HNE-1-00-96-00018-00 DO#802

LearnLink *Task Order No. 05*

December 11, 1997



Academy for Educational Development

Executive Summary

The networking requirements for the Jamaican National Family Planning Board (JNFPB) are simple, and very straight-forward. Thirty-five persons within the main office are to receive a computer system.¹ These computers will all be connected to a network file server which will provide each one of those people with access to centralized applications such as Word Processing, Spreadsheets, E-Mail, the Internet and various other programmes tailored to meet end user requirements.

The real challenge of this project will be for the JNFPB staff who will require a great deal of patience as they transition from the familiar to the unfamiliar. Staff members may initially find that the new systems make their jobs more complicated and may return to doing simple tasks the old way until they feel comfortable with the new computer system. For some, that level of comfort may never be realized while others will soon wonder how they ever lived without computers.

Imperative in the adoption of computer systems is an examination of work flow patterns and traditional methodologies for getting things done. Humans often retain certain behaviors because they are comfortable, tried and tested. Often times, as computers are introduced into an uncomputerised environment, end-users will simply overlay old behavior patterns onto these new machines and never truly realise the benefits of computerization. The real challenge for JNFPB will be to analyze virtually everything they do and see how computers might be able to streamline a process, or perhaps even eliminate some processes.

There is another concept that is also important - sustainability. There's a story about a man who bought the boat of his dreams and people always saw this man cleaning and maintaining his boat but never taking it out for a sail.. Someone finally asked him why he never took his boat out for pleasure cruises and he answered that he spent so much money buying the boat that he couldn't afford the gas. All networks require maintenance, some more while others need less. Having a network manager on staff is a cost. Buying paper to support printers is a cost. Buying tapes for the backup system is a cost. The challenge for me is to design a network system which will not burden the JNFPB with unanticipated costs. For this reason I have made certain decisions regarding every piece of equipment in order to assure long term viability of their networking systems. I might have been able to purchase a file server for less money, but then I would be sacrificing a crucial element which is going to extend the life of that file server such as a redundant power supply, or a system which will still run when a hard drive dies. If ever there was a time to avoid being penny wise and a pound foolish this is it. At the same time, I cannot simply ignore the reality of cost constraints, so I believe I have achieved a balance between the ever present pressure to buy cheap and also buy smart.

This paper discusses in great detail every environmental factor affecting the installation of a complete networking infrastructure for the Jamaican National Family Planning Board.

¹ In addition to this total, one computer is to be placed in the Kingston Warehouse, while the remaining four computer systems are to be placed into the outlying JNFPB regional offices. These systems will not be networked. Further discussion covering these systems can be found in Workstation Requirements Section and the Communication Requirements Section.

Table of Contents

| | |
|--|----|
| Executive Summary | 3 |
| Server Room Environment | 7 |
| Network Infrastructure | 8 |
| Work Station Environment | 8 |
| Power Protection | 9 |
| Warranty Coverage of Systems in Jamaica | 9 |
| Discussion of Distribution of Computers to District Offices | 9 |
| Applications Environment | 10 |
| Application and Connectivity Software Recommendations Chart | 10 |
| Communications Environment | 12 |
| How does the growth of Internet Access options affect JNFPB in Kingston? | 12 |
| How does the growth of Internet Access options affect JNFPB office in outlying regions? | 13 |
| Equipment Requirements in the Home Office | 13 |
| Training Services | 13 |
| Network Manager | 13 |
| Tentative Plan For Delivery of Services | 14 |
| Elements That Must Be Completed by JNFPB Before the Installation of Computer Equipment | 14 |

Elements That Must Be Completed by Glenn Strachan before the Installation of Computer Equipment 15

Technical Specifications for Computer Equipment 15

Item 01 - Workstation Option Number 1 15

Item 02 - Work Station Option Number 2 17

Item 03 - Work Station Option Number 3 19

Item 04 - File Server Option 1 20

Item 05 - File Server Option 2 23

Item 06 - Printer Option Number 1 25

Item 07 - Network Hubs Descriptions and Options: 26

Item 08 - Network Interface Cards 26

Item 09 - Uninterruptible Power Supply for Server 28

Item 10 - CD-ROM Tower 29

Item 11 - Hewlett-Packard ScanJet 5100C Flatbed Scanner 29

Item 12 - HP Colour LaserJet V Printer 29

Item 13 - LCD Projector 29

Item 14 - Digital Camera 29

Item 15 - Windows NT 4.0 Server (22 Users) 29

Item 16 - Microsoft Office 97 Professional Version (40 Licenses) 29

Item 17 - SPSS for Windows 95 Basic Version and several add on Modules 29

Item 18 - Microsoft Project for Windows 95 (2 Users) 30

Item 19 - Netscape 4.04 (Free of Charge) 30

Item 20 - Laserjet 4000 30

Item 21 - Shiva LanRover E/Plus 8 port Ethernet Device with Power Kit 33.6 modems
..... 30

Item 22 - Shiva LanRover E/Plus 4 port Ethernet Device with Power Kit 33.6 modems
..... 30

Item 23 - 3Com 12 port 10mb Entry Level Hub 30

Item 24 - HP JetDirect Ethernet External Adapter for 3 Printers 30

Item 25 - APC Backup-280 Workstation UPS System 30

| | |
|--|----|
| Item 26 - Caere OmniPage Professional for Windows 95 | 30 |
| Item 27 - Pagemaker for Windows 95 | 31 |
| Item 28 - Microsoft FrontPage for Windows 95 | 31 |
| Item 29 - DLT Tapes for Quantum 4000 | 31 |
| Item 30 - Photoshop Professional | 31 |
| | |
| - Correspondence During Visit | 32 |
| Memo Number 1 to Mr. Dean | 32 |
| Memo Number 2 to Mr. Dean | 32 |
| Memo Number 3 to Mr. Dean | 34 |
| Request for Pricing information from Cabling Vendors | 36 |
| Thank You Memo Sent to All of the Cabling Vendors | 37 |
| Request for Pricing Memo Sent to Training Providers | 39 |
| Letter Sent to Xerox Company Regarding Support for Dell Computers | 39 |
| Follow-Up Letter Sent to Xerox Regarding Computer Coverage Requesting Information | 40 |
| Memo Sent To Ms. Grey at USAID | 41 |
| Memo to M.r. Dean/Ms. Grey/Dr. Swallow regarding PBX Issues | 45 |

Server Room Environment

Requirement: Selection of a room to serve as the home for the new networking systems.

JNFPB has selected the present computer room to serve as the site for the new file server and ancillary services. The following equipment will be required in the new file server room.

3/4" X 4' X 4" piece of plywood to be mounted on cement wall in file server room. Onto this plywood a metal rack will be mounted. This rack will measure 19 1/2" wide by 4' long and 18" deep. One 48 port patch panel will be mounted in this rack. One 3COM 100mb management hub plus four 100mb 12-port hubs, each connected via a backplane connection providing 48 ports of switched 100mb Ethernet ports, will also be housed on this rack as well as an eight-port Shiva Remote Access Device and an additional patch panel containing ten (10) analog phone jacks capable of providing both in-bound and out-bound centralized communications for all users at JNFPB.

The electrical plant for this room will require the installation of 4 Quad Isolated Ground Plug Units. To service all of the devices in the server area. Within the rack there will also be a rack mountable APC UPS-2200 watt UPS unit into which the Server and Hubs will be connected.

It is envisioned that the server will be a Dell PowerEdge Model 4200 or 2200 dependant upon overall budgetary constraints.² Within this file server there will be a redundant power supply to help reduce the chances of power supply failure. The file server will also be equipped with a RAID system (Redundant Array of Inexpensive Drives) to further insure against system failure and the lost of data should a hard drive fail. This file server will also possess two Central Processing Units to provide the greatest response to end users needs plus be able to run communication and backup sessions in the background without system response degradation.

An appropriate desktop will need to be placed in the new Server room upon which the new file server will be placed for easy accessibility.

²The advantages and disadvantages of each server are discussed within the body of the specifications document.

Network Infrastructure

Requirement: Determine how the network systems will be wired.

The networking infrastructure will be all IEEE Category 5 cabling throughout configured in a 10Base-T pin out. All connections will be "home run" from work station to the Category 5 patch panel located in the file server room. All users will be using 3Com 3C509 10/100 Fast Ethernet TX Cards running at 100mb. Since there will only be one file server in the overall system configuration no Ethernet Switching device will be required at this time.

A final number of work station pulls has not been determined as of this moment, but the Cabling companies have been asked to base their proposal on a total of 48 station pulls. It is recommend that more pulls be done then the total number of computers since printers will also need to be connected to the network and the various meeting rooms should also have a network connection for future presentations.

Work Station Environment

Requirement: Determine the most appropriate computer configuration for each user

Users will receive a Pentium-based computer system running the Windows 95 operating system. There will be three computer offerings: high-end and low-end for the Main office and a configuration for remote offices. The lower end system will be a 200mhz Pentium MMX System while the higher end system will be a Pentium II 266mhz system. The remote office system will be similar to the low-end system but will come with a modem, and a LaserJet printer. All systems will come with 64mb RAM and at least a 3 gigabyte hard drive. It is recommended that all systems come with a 17" monitor that provides 15.7" viewing space rather than the smaller 15" monitor with a 13.3" viewing screen.

The reason behind offering two levels of system configuration for the main offices comes from an analysis of anticipated user requirements. If a persons job responsibility is going to be limited to Word Processing, E-Mail and Internet Access then the lower end solution will certainly meet their needs. If a person is going to being creating large spreadsheets, accessing database systems, creating complicated graphical images and other system intensive applications then they are an appropriate candidate for a higher end system. Since job responsibilities are likely to change as people grow into

their systems JNFPB may be required to reallocate systems at a later point but both of these systems should provide more than adequate responsiveness for many years to come.

Power Protection - My discussions with several different people has led me to believe that all workstations will need better protection than a simple surge protector. Mr. Michael Anderson from Xerox has made it quite clear that unless the systems are equipped with either a shutdown device or a small Uninterruptible Power Supply some systems will lose their power supply, or have other elements within the computer destroyed by power spikes. Because of this recommendation I suggest that we purchase an APC 280 w for each work station. While this will add an additional \$99 to the cost of each workstation that will seem like a small price to pay rather than have the computer system completely replaced.

Warranty Coverage of Systems in Jamaica - The warranty for Dell Computer Systems purchased in the States is NON-TRANSFERABLE to Jamaica despite having accomplished this in other countries. While saving \$99 per system by not purchasing a service agreement which is not transferable, we need to have some form of support should problems arise during the next three years. I contacted the company which is the Dell Service Representative in Kingston and they have stated that they will NOT cover the systems under any agreement other than a Time and Materials agreement which is the most expensive type of coverage available.³ Faced with this reality, there are two possible options. The first is to purchase an extra system, or two, which can be easily swapped when a system breaks down. The second is to put away \$100 for each system purchased into a fund which will be used in case a system breaks down. I plan to contact Dell when I return to the States and see what I can do to possibly change their mind regarding the transfer of the Warranty. Xerox stated that if Dell would transfer the Warranty they would honour the agreement as long as Dell did pay them in timely fashion. Finally, the Xerox company is not certified to work on any Dell system other than the Optiplex model. I did not recommend the Optiplex system because I believe it would be overkill for the environment. The Dell Dimension system was just selected as the number one computer system for the second year running. It had the best performance/price ratio index of ALL systems judge by PC Magazine.

Discussion of Distribution of Computers to District Offices - from the outset of this project it was determined that a certain number of computer systems would be placed in the main office (warehouse included) while each one of the outlying centres would receive a computer system as well. Part of the scope of my job is to determine how effectively those outlying centres could be incorporated into the overall network being established for the JNFPB. It is quite simple to place a computer system in each office, and provide for some form of training for the users of these

³If we are unable to transfer the warranty for these systems, I would recommend that JNFPB negotiate a Time and Materials contact on a competitive basis since Xerox offers no real advantage over any other vendor capable of working on personal computers.

systems, and I certainly encourage this course. It is a much more complicated issue to provide outlying users with an effective level of communications which would result in their being seamlessly incorporated into the new JNFPB network. For this reason I believe it would be more advisable to distribute all of the computers systems to the outlying offices, but concentrate on bringing up a single site such as Montego Bay. When all of the problems have been effectively worked out with this location then the Network Manager would begin the process of bringing up the remaining sites one at a time (also see further discussion in Communications Section).

Applications Environment

Requirement: Select the appropriate Software Packages to meet JNFPB needs.

All users will have access to the Microsoft Office 97 Professional Office Suite product which will be centrally installed on the file server. The MS Office Suite provides Word Processing, Spreadsheet, Presentation Graphics, Access and a Personal Information Manager (PIM). Selected individuals will have access to selected software packages such as MS Project, SPSS, and Graphics oriented software. All users will also have access to an E-Mail system which will provide access to both internal users and external addresses on the Internet. Users will also be able to access the World Wide Web (WWW) via the use of Netscape Professional Edition 4.04.

Microsoft is the world leader in many areas and their Office Suite controls 85% of the world market. Providing the end-users with a 100% totally Microsoft environment helps insure compatibility between applications and the Operating system.

| Application and Connectivity Software Recommendations Chart | | | |
|--|--|---------------------------------------|--|
| Category | Options | Selection | Comments |
| Office Productivity | | | |
| Office Suite | WordPerfect Office; Microsoft Office | Microsoft Office 97 with Access 97 | Purchase of entire suite rather than individual productivity applications offers strong advantages in cost, integration, and ease of use |
| Word Processor | WordPerfect; Microsoft Word | Microsoft Word | Decision driven largely by office suite cost and integration |
| Spreadsheet | WordPerfect Quattro Pro; Microsoft Excel; Lotus | Microsoft Excel | Office suite issues plus quality |

| Application and Connectivity Software Recommendations Chart | | | |
|--|--|---|---|
| Presentation | WordPerfect Presentation; Microsoft PowerPoint | Microsoft PowerPoint | Office suite issues plus quality |
| Database | Paradox; Access; FoxPro; Others | MS Access 97 | |
| Statistics | Servstat; SPSS; SAS; Others | Servstat; SPSS | Best choices for specific needs, power, flexibility, and cost |
| Accounting | Proprietary; Commercial Integrated Package | Not within scope of this project. | |
| Special Purpose | | | |
| Graphical and Multimedia | Many, highly specific in purpose | Choose later according to exact needs | Fast evolving category, best not to purchase prior to use |
| Groupware | Lotus Notes; Netscape Collabra | None -- stick with capable email program | |
| Online Database | Many | Medline, Popline Free of Charge via Internet | If usage low or sporadic, method of charging may be most significant factor |
| Document Management | Many | More research required | NFPB requirement is largely for circulation control, rather than true document management |
| Connectivity | | | |
| Email | Many | Microsoft Exchange 5.5 and MS Outlook | Choose capable integrated package with additional functions: attachments, calendar, task assignment, etc. |
| Internet | Netscape's Navigator or Communicator; Microsoft's Internet Explorer | Netscape 4.04 | Future integration issues, plus cost, may indicate Microsoft's product, but complex relationship to intranet and email decisions |
| Remote Access | Many | Shiva Remote Access Device | Need remote access to email as a minimum; prefer remote access to network services for field sites |

Communications Environment

Requirement: Determine the best method for providing remote offices access to e-mail and the Internet. Also determine best method for providing Internet and e-mail access to home office staff.

This section has proven to be the most difficult for me to write because it required me to become very familiar with the communications capacity found in Jamaica, in a very short period of time. In the States, gaining access to a modem line is something most of us take for granted. In Jamaica, access to a voice or modem line is not guaranteed, and highly affected by location. As far as I can tell, access to a good "clean" phone line is better guaranteed in the bigger cities and unpredictable in the outlying regions. Phone service is also expensive, made so by the allowance of a monopoly to the Telecommunications of Jamaica company which controls ALL local and overseas access. Bundled within the TOJ domain is Jamaica's access to the Internet.

During the past four years, TOJ has provided access to the Internet through the creation of their own Internet Service making them an Internet Service Provider, or ISP. People throughout Jamaica are able to open up an account with an ISP and then, using their computer, dial into a number which provides them access to Internet Related Services. Until very recently, TOJ was the only ISP which severely restricted access to the Internet in Jamaica. Only recently has TOJ allowed other companies to access TOJ for Internet access. This has led to a growth in ISP providers which means more and more people in Jamaica are gaining access to the Internet.

In addition, until just recently, anyone outside of Kingston was required to pay long distance charges in order to access the Internet since those access numbers were limited to Kingston exchanges. As each day passes Internet access options seem to evolve and many of the largest cities either have, or will soon have local access numbers into which they can call and gain access to the Internet.

How does the growth of Internet Access options affect JNFPB in Kingston?

The new network will have a built-in communication system capable of providing four or eight people with simultaneous access to an outgoing phone line. This communication system will enable people to send faxes from their desktop, or connect to the Internet, all at the same time. Once connected to an Internet Service provider using an established account, staff members at JNFPB will be able to explore the Internet, and search for information which heretofore had been unavailable to them. In addition, the file server itself will also serve as a Web Server and provide for the transfer of e-mail to and from the Internet.

How does the growth of Internet Access options affect JNFPB office in outlying regions?

With the increase in locally based Internet Access points (POPs), some of the JNFPB offices will be able to dial into a local phone number and then access both the Web and their E-Mail. They will also be able to transfer and receive files. This goes a long way towards providing seamless access to the new JNFPB networking systems. The problem with this option is that some sites may not have access to a "clean line" capable of sustaining a modem connection and the same sites will probably not have access to a local number which will provide them with access to the Internet. My guess is that it will be a number of years before some of these sites can effectively be integrated into the JNFPB network as long as phone services are limited within their region.

Equipment Requirements in the Home Office - A device known as a Shiva LanRover E/Plus will be installed with the rest of the networking equipment and provide access to outbound communication lines. The installation of the Shiva device will require that eight additional analog lines be added to the Meridian PBX system at JNFPB. In addition, JNFPB will need to add a Direct Inward Dial (DID) phone line which will be attached to the modem located in the file server. This line will be responsible for the transfer of e-mail to the Internet. It should be noted that this is a CRITICAL element associated with the creation of the networking systems for JNFPB. No communication options will be available if analog phone lines are not also made available. This means that JNFPB may have to upgrade their existing Meridian PBX system in order to incorporate the inclusion of the additional phone lines. JNFPB can make a decision to go with a smaller Shiva device which has only 4 connections but it must be able to provide a DID line in order to guarantee e-mail services.

Training Services

Requirement: How will the staff be trained in the use of the new computer systems?

A training company will be selected to act as the training agent in the use of Microsoft Products for the JNFPB. I will be receiving bids from three training providers and make a selection based on price and quality of plan.

Documentation regarding a training plan will be provided in January.

Network Manager

Requirement: Selection of a person to serve as the manager for this networking installation

This is absolutely imperative to the life of this project and the sustainability of the network. Someone needs to take ownership of the network and make it his own. The Network Manager needs to be able to respond to end-user needs and certain networking needs. It would be preferable to get a less trained person who knows computer systems than to not fill this position. I do not necessarily believe that the JNFPB requires a Web Master since I believe that these two positions can be filled by one person.

I have reworked the position requirements and do hope that JNFPB will pursue the recruitment of a network support person.

Tentative Plan For Delivery of Services

Requirement: How will all of this equipment be delivered and setup?

Once every single aspect related to the design of this network has been worked out we will perform the following tasks:

- The equipment purchase process will begin once JNFPB and USAID have agreement as to the total number of systems to be purchased plus approval for the overall budget.
- The cabling contract will be awarded during the first week of January and begin on the 15th of February and be completed by the last day of the month.
- Once the computer equipment is received in Washington two workstations and one file server will be configured and scheduled for shipment along with the rest of the computer systems to arrive in Jamaica no later than the last week of February.
- Installation of the computer systems will begin during the first week of March concurrently with staff training in the use of Microsoft Office Products and Windows 95.
- By the 15th of March the JNFPB will have a completely function networking infrastructure and one remote site (MoBay) will also be functional.

Elements That Must Be Completed by JNFPB Before the Installation of Computer Equipment

Selection of Server Room - Concurrence Required

N/A

| | |
|---|------------|
| User and Site Selection for Computer Systems | N/A |
| Selection of a Network Manager | N/A |
| Electrical Improvements in the present computer room - estimated cost | \$500 U.S. |
| PBX Improvement and Programming for X analog lines - | Unknown |
| Table for Housing File Server and other equipment - Estimated Cost | \$200 U.S. |

Elements That Must Be Completed by Glenn Strachan before the Installation of Computer Equipment

- Selection of Vendor for Cabling (Data and Voice)
- Selection of Vendor for Training
- Selection of Vendor for Internet Services
- Finalisation of Equipment Bid and Procurement of Equipment
- Configuration of Equipment (Some to be done in the States)
- Selection of Vendor for Shipping Services
- Shipping of Equipment to Jamaica
- Installation of Cabling at JNFPB

Technical Specifications for Computer Equipment

Item 01 - Workstation Option Number 1

Quantity - 5

This would be the system configuration for the remote office. This system is similar to the in-house system with the exception of modem and a printer.

Dell Dimension PC:

MiniTower, 200MHz Pentium® processor with MMX technology
DM20T - [220-9081]

Memory:

64MB SDRAM Memory

64M - [311-4007]

Keyboard:

Spacesaver 104-key Keyboard for Windows 95

W - [310-1234]

Monitor:

800HS Trinitron Monitor, 13.7 inch Viewable Image Size

8HT - [320-5400]

Hard Drive:

4.3GB EIDE Hard Drive

43 - [340-1022]

Floppy Drive:

1.44MB Floppy Drive

3 - [340-7694]

Operating System:

Windows 95 with Internet Explorer 4.0

WCIE4 - [412-0066][420-0138][420-6092]

Mouse:

Microsoft System Mouse

M - [310-6108]

Network Card:

3Com 3C905-TX 10/100 Ethernet Adapter

3C5 - [430-3014]

Modem:

33.6/56K WinModem

WINMO - [313-3608]

CD-ROM Drive:

14/32X EIDE CD-ROM

CD32 - [313-0355]

Bundled Software:

MS Office '97 CD - Small Business edition w/Bookshelf
SBE97BS - [412-1405][412-1393]

Installed Software:

McAfee VirusScan 3.1 (For Windows 95 only)
MCAFEE - [412-0080]

Item 02 - Work Station Option Number 2

Quantity - 25

This is a very nice system more than capable of providing a strong level of performance for a long period of time.

Dell Dimension XPS MiniTower:

200MHz Pentium® processor w/MMX technology
XP20MT - [220-9027]

Memory:

64MB RAM
64M - [311-4017]

Keyboard:

Spacesaver 104-key Keyboard for Windows 95
W - [310-1234]

Monitor:

1000LS Monitor, 15.9 inch Viewable Image Size
10LS - [320-5410]

Video Card:

4MB Matrox Millennium II PCI Video Board
MILL4 - [320-5407]

Hard Drive:

6.4GB EIDE Hard Drive

64 - [340-1021]

Floppy Drive:

1.44MB Floppy Drive

3 - [340-1690]

Operating System:

Microsoft Windows 95 (CD-ROM)

WC - [420-6095]

Mouse:

Microsoft PS2 Intellimouse

IM - [310-0050]

Network Card:

3Com 3C905-TX 10/100 Ethernet Adapter

3C5 - [430-3014]

CD-ROM Drive:

14/32X EIDE CD-ROM

CD32 - [313-0356]

Sound Upgrade:

SB16 WaveSynth Wavetable

SBW - [313-0150]

Installed Software:

McAfee VirusScan 3.1 (For Windows 95 only)

MCAFEES - [412-0080]

Accessories:

APC Surge Arrest Pro w/telephone strip

APCSAP - [03150-45]

Item 03 - Work Station Option Number 3

Quantity - 10

This would be the high-end system reserved for people performing Database, Statistical and Accounting functions.

Dell Dimension XPS MiniTower:

266MHz Pentium® II processor w/512k Cache

XPD266 - [220-9061]

Memory:

64MB SDRAM (2 DIMMS)

64M - [311-4017]

Keyboard:

Spacesaver 104-key Keyboard for Windows 95

W - [310-1234]

Monitor:

1000TX Monitor, 15.9 inch Viewable Image Size

10TX - [320-5235]

Video Card:

4MB STB nVidia AGP Card

4AGPSTB - [320-5423]

Hard Drive:

6.4GB Ultra ATA Hard Drive

64 - [340-7770]

Floppy Drive:

1.44MB Floppy Drive

3 - [340-7015]

Operating System:

Microsoft Windows 95 (CD-ROM)

WC - [420-6092]

Mouse:

Microsoft PS2 Intellimouse
IM - [310-0050]

Network Card:

3Com 3C905-TX 10/100 Ethernet Adapter
3C5 - [430-1240]

CD-ROM Drive:

14/32X EIDE CD-ROM
CD32 - [313-0355]

Installed Software:

McAfee VirusScan 3.1 (For Windows 95 only)
MCAFEE - [412-0080]

Accessories:

APC Surge Arrest Pro w/telephone strip
APCSAP - [03150-45]

Item 04 - File Server Option 1

This would be the high end selection for a Windows NT File Server for the JNFPB. The difference between this system and option 2 is related to being a completely different model. This offering is a level up from the second option and brings with it a level of expandability not present in the second choice. This system has more disk space capacity. It also has a better Tape Backup solution available only in this model. This would be my choice.

Dell PowerEdge 4200 Server:

300MHz Pentium® II processor w/512K Cache, redundant
power supply
P4300R - [220-0027]

Second Processor:

Additional 300MHz Pentium II Processor
PR300 - [311-0287]

Memory:

320 MB RAM (4 DIMMS)

320M4D - [311-0211]

Keyboard:

Performance 104-key Keyboard

P - [310-0038]

Monitor:

800HS Trinitron Monitor, 13.7 inch Viewable Image Size

8HT - [320-5401]

1st Hard Drive:

9GB Ultra/Wide SCSI-3 Hard Drive

9SU - [340-5889]

Secondary Controller:

RAID w/16MB ECC RAM

PERC16E - [340-0300]

Floppy Drive:

1.44MB Floppy Drive

3 - [340-5891]

Operating System:

Microsoft NT 4.0 CD, 10 users

NTS40CD - [430-2185]

Mouse:

Logitech System Mouse

LDN - [310-0016]

Network Card:

3Com 3C900 PCI Combo Etherlink

3C900 - [430-0062]

Tape Drive:

Quantum DLT 4000 Internal Tape Back-Up

TB14 - [340-0447]

CD-ROM Drive:

12/24X SCSI CD-ROM
CD24S1 - [313-0155]

2nd Hard Drive:

9GB Ultra/Wide SCSI-3 2nd Hard Drive
9SU - [340-5889]

Hard Drive Configuration:

RAID 5 - Requires 3 or more drives
RAID5 - [340-5898]

Ready Ware:

ReadyWare Install Fee (charged 1x per system if Readyware
items are ordered)
RW - [365-1234]

3rd Hard Drive:

9GB Ultra/Wide SCSI-3 3rd Hard Drive
9SU - [340-5889]

Non Factory Installed

Software:

Seagate Backup Exec for NT/Netware - Single
TBSWSS - [340-0450]

4th Hard Drive:

9GB Ultra/Wide SCSI-3 4th Hard Drive
9SU - [340-5889]

5th Hard Drive:

9GB Ultra/Wide SCSI-3 5th Hard Drive
9SU - [340-5889]

Modem

US Robotics 56K X2 Internal Modem

UPS System

APC SU2200RMNET
Smart UPS - 2200

Power Supply

Redundant Power Supply

Item 05 - File Server Option 2

The Server is a Dell PowerEdge 2200 with the following configuration. This system is approximately \$5000 less than the previous system and has half the disk space.

Dell PowerEdge 2200 Server:

300MHz Pentium® II processor w/512K Cache

P2300M - [220-0049]

2nd Processor (must match speed selection above):

additional 300MHz Pentium II processor w/512K Cache

300MS - [311-0354]

Memory:

320MB RAM (4 DIMMS)

320M - [311-0301]

Keyboard:

Performance 104-key Keyboard

P - [310-0038]

Monitor:

800HS Trinitron Monitor, 13.7 inch Viewable Image Size

8HT - [320-5401]

1st Hard Drive:

9GB Ultra/Wide SCSI-3 Hard Drive

9SU - [340-0041]

Secondary Controller:

RAID w/16MB ECC RAM

PERC16E - [340-0095]

Floppy Drive:

1.44MB Floppy Drive

3 - [340-0081]

Operating System:

Microsoft NT 4.0 CD, 10 users

NTS40CD - [430-2185]

Mouse:

Logitech System Mouse

LDN - [310-0016]

Network Card:

3COM 3C905 10/100 Ethernet, PCI Adapter, Twisted Pair

3C905 - [430-0061]

Tape Drive:

12/24GB DDS-3 Tape Drive

TB12 - [340-0189]

CD-ROM Drive:

12/24X SCSI CD-ROM

CD24S - [313-0158]

2nd Hard Drive (all hard drive sizes must match):

9GB Ultra/Wide SCSI-3 2nd Hard Drive

9SU - [340-0041]

Hard Drive Configuration:

RAID 5 - Requires 3 or more drives

C8 - [340-0902]

Service:

3Yr Std Warranty -Yr1,Nxt Bus Day Parts & Labor;

Yrs 2&3,Nxt Bus Day Parts

S3W - [900-1700][900-5112]

Ready Ware:

ReadyWare Install Fee (charged 1x per system if

Readyware items are ordered)

RW - [365-1234]

3rd Hard Drive (all hard drive sizes must match):

9GB Ultra/Wide SCSI-3 3rd Hard Drive

9SU - [340-0041]

Non-Factory Installed Software:

Seagate Backup Exec for NT/Netware - Single

TBSWSS - [340-0450]

Modem

US Robotics 56K X2 Internal Modem

UPS System

APC SU2200RMNET

Smart UPS - 2200

Item 06 - Printer Option Number 1

Description HP P/N

HP LaserJet 5Si MX printer C3167A

Includes 12 Mbytes RAM, one IEEE 1284 ECP bi-directional parallel port, HP JetDirect Ethernet/LocalTalk interface card, one HP MIO expansion slot, enhanced HP PCL 5, Adobe PostScript Level 2 language, one HP microfine toner cartridge, one 100-sheet multipurpose tray, two 500-sheet paper trays with automatic size sensing, printer software, power cord and documentation. Printer interface cables not included.

Supplies and Accessories

Description HP P/N

Printer Cabinet

C2975A

2,000-Sheet Input Tray

C3763A

Envelope Feeder

C3765A
Replacement toner cartridge
C3909A
16-Mbyte SIMM
C3146A

HP JetDirect card for Ethernet (Fast Ethernet 100Base-TX)
Need New Part Number

Item 07 - Network Hubs Descriptions and Options:

3Com manufacturers a very good solution for establishing a 100mb network.

Ordering Information

1 SuperStack II Hub 100 100BASE-TX 48-Port System 3C250B-TX-4PK
1 SuperStack II Hub 100 Management Unit 3C215A

Accessories

4 SuperStack II Hub 100 Expansion Cable 3C219

Each SuperStack II Hub 100 or management unit is covered by a five-year limited warranty. Power supplies and fans are warranted for one year. To qualify for the warranty, you must submit a registration card. Advance hardware exchange is available during the first year; thereafter, return the hub to 3Com for repair. The warranty is not offered where restricted or prohibited by law.

Item 08 - Network Interface Cards

Quantity - 35

3Com 3C905 10/100 PCI Ethernet Card

High-performance, reliable networking at 10 or 100 Mbps with Dynamic Access software

Fast EtherLink XL and Fast EtherLink network interface cards set the industry standard for performance. With exclusive 3Com Parallel Tasking technology, you get top speeds at both 10 Mbps and 100 Mbps. The Fast EtherLink XL NIC supports 10/100BASE-TX and 10/100BASE-T4 (Category 3, 4, and 5 UTP) for the PCI bus. Fast EtherLink NICs support 10/100BASE-TX for EISA and ISA buses.

3Com's leadership in Ethernet and Fast Ethernet solutions ensures you a smooth migration to high-speed networking and unprecedented network functionality. One migration solution begins with Fast EtherLink® XL network interface cards (NICs), which offer 3Com DynamicAccess™ software that brings intelligence to the edge of the network.

Supply your high-performance PCs and servers with dual-speed Fast EtherLink XL PCI or Fast EtherLink ISA or EISA NICs for the fastest available data through-put rates in either 10 or 100 Mbps environments. 3Com Fast EtherLink NICs enable a total workgroup solution with high-speed connections to PCI or ISA client PCs and PCI or EISA servers.

Together with 3Com SuperStack® II switches and hubs, Fast EtherLink NICs are powerful, reliable, and the easiest way to move to 100 Mbps networking.

Item 09 - Uninterruptible Power Supply for Server

APC SU2200NET

Smart UPS - 2200

The award-winning power of Smart-UPS, in a convenient rack-mount design

APC's slimline rack mount Smart-UPS RM deliver premium uninterruptible power and the most advanced performance features available. Offered in a broad range of VA ratings (700, 1000, 1400, 2200 & 3000 VA models) to address a variety of network equipment configurations, Smart-UPS RM's are easy to install and are compatible with all popular rack systems, including the APC NetShelter and Compaq server rack.

All standard Smart-UPS RM models only occupy 5.25" (3U) of precious rack space, and ship with standard 19" (46.5 cm) rack-mount brackets installed. If you will be installing your RM UPS in a 23" (59.2 cm) rack, 23" brackets are available separately from your dealer for Smart-UPS 700RM, 1000RM & 1400RM. APC's Smart-UPS RM's are the perfect Uninterruptible Power Supply (UPS) for rack mount file servers, hubs, routers, telecommunications systems and other mission-critical applications.

The Smart-UPS 2200RM and 3000RM ship with mounting hardware for a 4-post rack system. This hardware is also available separately if you desire a 4-post mount with smaller Smart-UPS RMs (700RM, 1000RM, 1400RM).

Includes PowerChute plus software for advanced UPS power management and diagnostics and APC's PowerNet SNMP Agent

APC Smart-UPS RM ship with APC's PowerChute plus UPS power management and diagnostic software to provide network administrators with useful UPS information and great flexibility in configuring UPS reaction to power events. By tailoring each UPS to the network environment you can significantly enhance network performance and reliability. Use your APC Smart-UPS in conjunction with PowerChute plus for maximum, custom protection. In addition to extensive unattended system shutdown, you'll get UPS testing/status, Remote UPS management and Environmental/power monitoring. Smart-UPS includes PowerChute plus support for Novell Netware, Windows NT, Windows 95, Windows 3.x and Windows for Workgroups.

APC*s PowerNet SNMP Agent, included with PowerChute plus permits you to monitor and control the APC UPS*s protecting servers along your entire network data path. Smart-UPS includes PowerNet SNMP Agent for Windows NT and Novell Netware.

Item 10 - CD-ROM Tower

Microtest Discport 7 Bay CD-ROM Tower with 100mb Ethernet Card (Not 10mb Card)

Not recommended since All work stations will have CD-ROM's.

Item 11 - Hewlett-Packard ScanJet 5100C Flatbed Scanner

With Paper Feeder and Adaptec 2940 PCI Card

Item 12 - HP Colour LaserJet V Printer

Quantity - 1

Item 13 - LCD Projector

To Be Determined by End Of December

Item 14 - Digital Camera

To Be Determined by End of December.

Item 15 - Windows NT 4.0 Server (22 Users)

Item 16 - Microsoft Office 97 Professional Version (40 Licenses)

Item 17 - SPSS for Windows 95 Basic Version and several add on Modules

Item 18 - Microsoft Project for Windows 95 (2 Users)

Item 19 - Netscape 4.04 (Free of Charge)

Item 20 - Laserjet 4000

Quantity - 5

Item 21 - Shiva LanRover E/Plus 8 port Ethernet Device with Power Kit 33.6 modems

Quantity - 1

Item 22 - Shiva LanRover E/Plus 4 port Ethernet Device with Power Kit 33.6 modems

Quantity - 1

Item 23 - 3Com 12 port 10mb Entry Level Hub

Quantity = 1

Item 24 - HP JetDirect Ethernet External Adapter for 3 Printers

Quantity - 2

Item 25 - APC Backup-280 Workstation UPS System

Quantity - 40

Item 26 - Caere OmniPage Professional for Windows 95

Quantity - 1

Item 27 - Pagemaker for Windows 95

Quantity - 2

Item 28 - Microsoft FrontPage for Windows 95

Quantity - 1

Item 29 - DLT Tapes for Quantum 4000

Quantity - 26

Item 30 - Photoshop Professional

Quantity - 1

- Correspondence During Visit -

Memo Number 1 to Mr. Dean

To: Mr. Dean

From: Glenn Strachan

Date: 3rd December 1997

RE: Inputs Required From You

1. List of users to receive computers with a selection of whether that user will receive a high-end system or a low-end system

2. Help with determining where those people are located so we can create a wiring plan

3. Help with contacting an Electrician who can give us a quote for the installation of 4 Quad power outlets which are isolated and grounded. These four quad units will be placed on the left facing wall as you enter the present computer room.

4. Determination of whether we will be meeting with representative from MoH.

Memo Number 2 to Mr. Dean

FINAL VERSION

4th December 1997

Good morning. I wanted to write a short memo making you aware of my progress to date. I know that we have a meeting today and hopefully we can spend some time afterwards discussing any outstanding questions you might have regarding my progress. I want to make sure that you are happy with the direction I am going. Here are some brief sketches of the progress I have made.

COMMUNICATIONS

Meridian Telephone Switch

It occurred to me this morning that we will need to have whoever is responsible for you Meridian PBX come in and meet with me next week to discuss the capacity of that switch to handle 10 analog lines, and the cost associated with that addition plus the reprogramming of the switch. We are also going to need to create two DID lines (direct inward dial) which will allow outside systems to call into the new networking systems. Hopefully your system has a maintenance contract and there is an individual I can meet with during my stay.

Internet Service Provider

I met with a company named World Telenet the other day and they are the only Internet Service Provider working outside of TOJ for their Internet Access. During the first quarter of the new year they will have an Earth Station in place connected to UUNET, the largest provider of Internet access in the States. World Telenet also plans to have a POP in Montego Bay by March meaning that your office in MB will be able to have access to e-mail services and the Internet. I believe that we most certainly want to go ahead with plans to buy them a computer system. In addition, World Telenet said that they will have POPs in the five largest cities in Jamaica. If those cities correspond with your cities then we may also want to pre-purchase computers for those offices as well. I will discuss this with you today.

CABLING

I have made great strides in completing the entire network picture for your office. Yesterday's meetings with the cabling companies went well and I do believe they will be returning during the next few days in order to perform more survey work before providing me with a final pricing bid.

These are the names of the people I met with yesterday and should I not be available they will be contacting you in order to return to the building:

Carlton Samuals

Complete Corporate Solutions (CCS)

1c Pawsey Road, Kingston 5

Tele: 926-3490

Richard Chin
Management Control Systems (MCS)
Grenada Crescent, Kingston 5
Tele: 929-8661

Don Dixon
IBM
52 Knutsford Blvd., Kingston 5
Tele: 926-3200

EQUIPMENT

I completed an equipment list and have sent it off to my purchasing person in DC to get a rough estimate for each item. Once we determine how many machines we are going to purchase I will create a final Bid.

TRAINING

I have contacted three training providers and have only heard back from one. I will contact the others this morning in order to make sure that they are interested in bidding on providing training services.

We can discuss these, or any other points you would like to cover today when I meet with you and the MoH representative. Until our meeting at 2:30 I will be doing a lot of writing at the USAID office. Please feel free to contact me.

Glenn Strachan

Memo Number 3 to Mr. Dean

To: Mr .Lennox Dean

From: Glenn Strachan

Date: 4th December 1997

RE: Popline and MEDLine

Turns out that both services can be accessed via the World Wide Web free of charge by going to the following web addresses

Here is some information assembled by an AED Research Assistant for me in response to your question regarding Popline and MEDLine -

Medline can be searched for free at <http://www.ncbi.nlm.nih.gov/PubMed/>

*See this site for setting up a free account for Popinform, a new interface of Popline, <http://www.jhuccp.org/popinfr1.stm>

Otherwise: Popline is available through the National Library of Medicine and here is the pricing.
For regular billed access

There are no minimums or subscription fees associated with MEDLARS access.

There is no charge to apply for a MEDLARS User ID.

Charges to use MEDLINE and other non-royalty databases are based on the following components:

Connect Time: 4¢ per minute

Citation Charge: 1¢ per citation you view/print/download

Character Charge: 5¢ per 1,000 characters you view/print/download

Search Statement Charge: 6¢ per search statement submitted by you.

Work Unit Charge: 4¢ for each 100 work units. This is the amount of work the computer must do to perform your search.

Your charges will depend largely on how long you are connected to the NLM computer and how much information you receive. MEDLINE searchers generally spend between \$1.25 to \$5.00 per search.

Example 1: A MEDLINE search using Grateful Med software retrieves 25 references which the user elects to download with abstracts. Depending on the number and length of the abstracts the cost of this search may run between \$2.50 and \$4.50.

Example 2: A MEDLINE search using Grateful Med software retrieves 15 references which the user elects to download without abstracts or MeSH headings. The cost of this search may run between 50¢ and \$1.50.

You may be able to cut a deal with NLM. Here is the address for setting up an account: http://www.nlm.nih.gov/databases/establish_online_account.html

Request for Pricing information from Cabling Vendors

Request for Bids

The Academy for Educational Development, in conjunction with the United States Agency for International Development, desires to receive pricing information for networking cabling which is to be installed within a Jamaican Government building.

My name is Glenn Strachan and I am the person responsible for overseeing the installation of all networking systems at the Jamaican National Family Planning Board. I am in Jamaica until the 12th of December and would like to make arrangements with someone within your company to meet with me at the JNFPB to see the facility and then present a competitive bid. The winning bidder will be required to complete the installation prior to the 15th of February.

Here are some of the specs related to the installation:

All cabling, wall jacks, patch panels, station and patch cables must meet the Category 5 IEEE specifications. All wires will be jacked out to meet the specifications of a 10Base-T Ethernet environment. There will be two points of termination on each cable pull; jack termination and patch panel termination. Your estimates must cover a total of fifty (50) separate cable pulls.

Since time is short I would appreciate it if you could contact as soon as possible. I can be reached during my time in Jamaica at 926-3645 x2202. After leaving Jamaica, I can be reached at Academy headquarters in Washington, DC. The number there is 202-884-8018.

Thank you,

Glenn Strachan
Chief Information Officer, VP
Academy for Educational Development
1875 Connecticut Ave., NW Suite 900
Washington, DC 20009
(202)884-8018 Fax - (202)884-8413

Thank You Memo Sent to All of the Cabling Vendors

3rd December 1997

I would like to take a moment to thank you for coming out to the Jamaican National Family Planning facility in order to find out more about the request for a price quotation. As I stated prior to your departure, I wanted to put together this note with covers the most salient points about this installation.

Point 1 - Number of Pulls

Your bid should cover the cost for pulling 48 data lines AND 10 voice lines. All of these line will be properly terminated in the File Server room. JNFPB will finalise the location for each one of

those lines hopefully by the end of this week, but certainly next week.

Point 2 - Required Equipment

A 4' rack to be wall mounted onto a piece of plywood. A 48 port patch panel for the data lines and a 12 port patch panel for 10 analog lines. Station and Patch panel cables (10' + 3' lengths). Adhesive conduit for the delivery of the data jack to the end user.

Point 3 - Secondary Visits

If you would like to return to the building that is no problem, just give me a call and I will arrange to meet you there. This time you can get up into the ceiling and examine the building seams. I can be reached at the USAID Mission extension 2202.

Point 4 - Preliminary Pricing

If at all possible I would appreciate some preliminary pricing prior to Thursday so it can be included in my overall presentation to the Family Planning Board. The FINAL RFQ will need to be delivered to me, in Washington, by the 31st of December. Your document MUST include references, information about your company, and the final pricing. Please also state within this document how you will perform the inter-floor connection and how you will secure the cables within the ceiling.

Point 5 - What Happens If You Are Selected

You will be expected to begin the job during the second week of February and finish NO LATER than the last day of the month.

I hope that answers all of your questions,

Thanks again,

Glenn Strachan

Request for Pricing Memo Sent to Training Providers

FINAL VERSION

2nd December 1997

Dear PC Training Service Provider,

My name is Glenn Strachan and I am overseeing the installation of networking systems for the Jamaican National Family Planning Board in conjunction with a grant from the United States Agency for International Development. We have selected the Microsoft Office 97 Suite and would like to determine what type of training offerings your company has to meet the needs of the office staff of 22 users.

I will be in Jamaica until the 12th of December and would like to have an opportunity to either meet with you, or speak with someone over the phone during my stay. The actual training sessions would not take place until early April but we need to make plans for the training sessions now. You should also note that the selection of your training company will be based on depth and scope of your training programmes and cost. We are extending this request for a bid to three training providers in Kingston.

I will can be contacted at the USAID office by calling 926-3645 extension 2202. Since time is short I would appreciate your earliest attention to this request. If you are unable to contact me during this stay I invite you to contact me at my office in the States.

Letter Sent to Xerox Company Regarding Support for Dell Computers

1st December 1997

Mr. Michael Anderson

Xerox

Technical Service Manager

78a Hadley Road, Kingston 10

Tele: 906-4404

Fax: 920-1177

Dear Mr. Anderson,

Thank you for taking time today to discuss the possibility of accepting the transfer of the Dell Warrantee on 40 systems which my organization will be purchasing in the very near future for the Jamaican National Family Planning Board (JNFPB). I am presently in country trying to finalise our installation schedule and to arrange for cabling of the JNFPB office. It is my actual intention to get the ball rolling on the transfer of the warrantee prior to making the purchase. I will make you aware of any information I receive from Dell as soon as I receive it. Our plan is to purchase the systems in the States, install all of the software at our office in Washington, then ship the units to Jamaica. Doing this will enable us to catch bad systems prior to sending the systems to Jamaica plus give us a chance to fully configure their complete network prior to shipment.

I would look for another correspondence from me some time in February. I look forward to working with you, and your company.

Sincerely,

Glenn Strachan
Chief Information Officer, VP
Academy for Educational Development
1875 Connecticut Ave., Suite 900
Washington, DC 20009
(202)884-8018

Follow-Up Letter Sent to Xerox Regarding Computer Coverage Requesting Information

FINAL VERSION

4th December 1997

Michael Anderson

Technical Service Manager
Dell Service Provider
Xerox
78a Hadley Road, Kingston 10
Tele: 906-4404
Fax: 920-1177

Dear Mr. Anderson,

My purchasing agent in the States has just informed me that Dell will NOT transfer the service agreement to Jamaica as I had hoped they would given similar experiences in other countries. The difference may stem from the fact that in those other cases the foreign companies did have small offices (branch offices) located in the States. Here are the system configurations for what we will be purchasing. These specifications actually call for a Dimension System as opposed to the more expensive OptiPlex. There will be a total purchase of 40 systems but only 28 will reside in Kingston while the others will be sent to outlying offices.

If it turns out that you need to transfer this information to a different person please feel free to do so. I hope that someone can contact me at the USAID Mission by calling 926-3645 and asking for extension 2202.

[MORE TEXT ALREADY INCLUDED ABOVE]

Memo Sent To Ms. Grey at USAID

FINAL VERSION

4th December 1997

Memo to: Ms. Grey, USAID
Mr. Dennis Foote, LearnLink
From: Glenn Strachan

RE: Plans for the National Family Planning Board

Good morning. I wanted to write a short memo making you aware of my progress to date. What follows is an early draft of the overall plan for delivery of the networking systems to JNFPB. I sent an equipment list to my purchasing person in DC and have asked her to provide me with preliminary figures so I can include them in my final report due next week. I still require several more pieces of information related to pricing for the cabling pulls as well as Training costs. I am also aware of your suggestion that we ask them to place bars over their windows, but I do not have an estimate for the cost of performing this task.

Server Room Environment

JNFPB has selected the present computer room to serve as the site for the new file server and ancillary services. The following equipment will be required in the new file server room.

3/4" X 4' X 4" piece of plywood to be mounted on cement wall in file server room. Onto this plywood a metal rack will be mounted. This rack will measure 19 1/2" wide by 4' long and 18" deep. Two 24 port or one 48 port patch panels will be mounted in this rack. One 3COM 100mb management hub plus 4 100mb 12 port hubs each connected via a backplane connection providing 48 ports of switched 100mb Ethernet ports will also be housed on this rack as will an eight port Shiva Remote Access Device plus an additional patch panel containing ten (10) analog phone jacks capable of providing both in-bound and out-bound centralized communications for all users at JNFPB.

The electrical plant for this room will require the installation of 3-4 Quad Isolated Ground Plug Units. To service all of the devices in the server area. Within the rack there will also be a rack mountable APC UPS-2200 watt UPS unit into which the Server and Hubs will be connected.

It is envisioned that the server will be a Dell PowerEdge Model 4200 or 2200 dependant upon overall budgetary constraints.⁴ Within this file server there will be a redundant power supply to help reduce the chances of power supply failure. The file server will also be equipped with a RAID system (Redundant Array of Inexpensive Drives) to further insure against system failure and the lost of data should a hard drive fail. This file server will also possess two Central Processing Units to

⁴The advantages and disadvantages of each server are discussed within the body of the specifications document.

provide the greatest response to end users needs plus be able to run communication and backup sessions in the background without system response degradation.

An appropriate desktop will need to be placed in the new Server room upon which the new file server will be placed for easy accessibility.

Network Infrastructure

The networking infrastructure will be all IEEE Category 5 cabling throughout configured in a 10Base-T pin out. All connections will be "home run" from work station to the Category 5 patch panel located in the file server room. All users will be using 3Com 3C509 10/100 Fast Ethernet TX Cards running at 100mb. Since there will only be one file server in the overall system configuration no Ethernet Switching device will be required at this time.

A final number of work station pulls has not been determined as of this moment, but the Cabling companies have been asked to base their proposal on a total of 48 station pulls. It is recommend that more pulls be done then the total number of computers since printers will also need to be connected to the network and the various meeting rooms should also have a network connection for future presentations.

Work Station Environment

Selected individuals will receive a new Pentium-based computer system running the Windows 95 operating system. There will be two computer offerings: high-end and low-end. The lower end system will be a 200mhz Pentium MMX System while the higher end system will be a Pentium II 266mhz system. All systems will come with 64mb RAM and at least a 4 gigabyte hard drive. It is recommended that all systems come with a 17" monitor that provides 15.7" viewing space rather than the smaller 15" monitor with a 13.3" viewing screen.

Applications Environment

All users will have access to the Microsoft Office 97 Professional Office Suite product which will be centrally installed on the file server. The MS Office Suite provides Word Processing, Spreadsheet, Presentation Graphics, Access and a Personal Information Manager (PIM). Selected individuals will have access to selected software packages such as MS Project, SPSS, and Graphics oriented

software. All users will also have access to an E-Mail system which will provide access to both internal users and external addresses on the Internet. Users will also be able to access the World Wide Web (WWW) via the use of Netscape Professional Edition 4.04.

Communications Environment

All users will be able to dial out by accessing a device manufactured by a company named Shiva. This device will provide for eight outgoing, or incoming, simultaneous communication sessions. The Shiva product offers a solution for people within the Kingston office to dial out to the Web, and also for other JNFPB offices to call into the new server environment and receive e-mail. Installation of the Shiva device will require the installation of ten additional analog lines added to the Meridian PBX system. Eight of those lines will be dedicated to user needs while two lines will be dedicated to the file server. The file server will connect to an Internet Service Provider (ISP) on a set schedule and act as a gateway for the transfer of e-mail between the Internet and JNFPB.

Training Services

A training company will be selected to act as the training agent in the use of Microsoft Products for the JNFPB. I will be receiving bids from three training providers and make a selection based on price and quality of plan.

Tentative Plan For Delivery Of Services

The Computer RFP process will begin once JNFPB and USAID have total agreement as to the total number of systems to be purchased plus approval of the overall budget.

Cabling is tentatively scheduled to begin during the 3rd week of February and be completed by the last day of February.

If the computer systems are ordered within the first two weeks of January they should be ready for shipment, and arrive in Jamaica on time to correspond with the end of the cabling installation. This would mean an installation beginning in the early weeks of March. As the systems are delivered office staff can begin to go to training outside of the office.

Elements That Must Be Completed by JNFPB before the Installation of Computer Equipment

Selection of Server Room - Concurrence Required
User and Site Selection for Computer Systems
Selection of Network Manager

Elements That Must Be Completed by Glenn Strachan before the Installation of Computer Equipment

Selection of Vendor for Cabling
Selection of Vendor for Training
Selection of Vendor for Internet Services
Finalisation of Equipment Bid and Procurement of Equipment
Configuration of Equipment (Some to be done in the States)
Selection of Vendor for Shipping Services
Shipping of Equipment to Jamaica

Memo to M.r. Dean/Ms. Grey/Dr. Swallow regarding PBX Issues

To: Mr. Lennox Dean
Ms. Grace Ann Grey
Dr. John Swallow
From: Glenn Strachan
RE: Crucial Requirement for JNFPB
Date: 9th December 1997

In trying to determine the best option for providing Internet Access and E-Mail services to the

JNFPB, I have come up with a solution which will require at least 5 analog lines one of which must be a Direct Inward Dial (DID) number meaning it can be called into from an outside phone line. JNFPB owns a Meridian PBX system which was installed by, and is managed by Telecommunications of Jamaica (TOJ). Mr. Dean has had a preliminary conversation with a person at TOJ who suggested that they may need to upgrade their PBX in order to provide for an additional 5 analog lines. The way analog lines are usually provided for within a Meridian switch is by installing a specific card that provides analog lines (up to 16 lines on a single card). Until we have a TOJ Telecommunications specialist examine the PBX, we will not know the extent to which the PBX must be upgraded and the cost for that upgrade. While I did recognize the Meridian PBX issues early on in my stay, I never really gave much thought to how difficult it may be to upgrade this system in a timely and costly manner. I am certain that I am victim to my own US-based thought processes which considered this a very simple action but I imagine that once we get involved with TOJ we may find it a long drawn out and costly requirement.

While this in no way affects the installation of networking systems at JNFPB, it does have great influence over the Internet Access and E-Mail solution I am recommending. I have asked Mr. Dean to contact TOJ again and see whether I can meet with them ASAP.