Worcester Polytechnic Institute

Friendly House
Accounting System

Version 9

Worcester Polytechnic Institute

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Worcester Polytechnic Institute

Revision History

Date	Version	Description
03/31/2006	9	Added methodology
03/30/2006	8	Added current system
03/27/2006	7	Replaced network backup recommendations with a new model
03/24/2006	6	Added supporting of Great Plains; Edited report
03/19/2006	5	Made appropriate recommendations
03/12/2006	4	Updated Network backup solution
03/04/2006	3	Detailed how the system would be rolled out in the report from prior notes
02/27/2006	2	.Added software and hardware changes
02/21/2006	1	Selected hardware options from Dell

Abstract

This project provides recommendations to upgrade the accounting system used by
Friendly House. It summarizes its current limitations and how these issues will be
addressed. An outline is provided for implementing this new system.

Current System

Network structure

Computer	Function	Operating System
Dell PowerEdge 1400	Server for Friendly House	Windows NT 4.0 Server
Dell Optiplex GRX	Server for Friendly House	Windows NT 4.0 Professional
Dell Dimension L1000r	Desktop in Accounting	Windows 2000
Dell Dimension R1000r	Desktop in Accounting	Windows 2000

Table 1: Current Computers

Friendly House has two old servers that need to be upgraded. The Financial Office has two computers that are connected to each other, but not to other computers. The Social service office computers are interconnected. The Classroom computers are connected to the server, but not to other computers. Other Friendly House sites are not connected to the server.

Financial System

	Microsoft Great Plains	Millenium Payroll and Human Resources	Lotus Smart Suite	Not Supported
General Ledger	X			
Accounts Payable	X			
Payroll		X		
Human Resources		X		
Monthly Journal Entries			X	
Cash accounting			X	
Banking			X	
Documentation of Donations			X	
Cash Reconciliations				X
Compare Budgeted Expenses				X

Table 2: Current Financial System Features

The accounting system for Friendly House involves several separate sub-systems that are not integrated. This is its fundamental weakness. The General Ledger and Accounts

Payable systems are from Great Plains software. The Payroll and Human Resources functions are maintained on Millenium Payroll and Human Resources software. Monthly Journal Entries, cash accounting, banking, and documentation of donations both in-kind and cash are done using the Lotus Smart Suite. The agency budget is also done on Lotus, so the agency cannot compare budgeted expenses with actual expenses. This is a major functional weakness of the current system.

The lack of integration of the various system components necessitates a lot of duplication of effort, in transferring data from one software system to another. Also, the sub-systems are inherently inflexible. Some functionality is missing entirely such as back reconciliation and cash reconciliations, which is now done manually.

The servers are backed up weekly on tape, and are periodically verified, but not routinely. Most reports have been created in Lotus though and have been saved on the desktops. There are no backups of these reports.

The system is operating in a stable manner at present; however, the computer and software are approximately 10 years old, and there is concern that overcapacity will cause the system to crash.

This section was presented as provided by Friendly House and Mr. Houssan.

Methodology

This project provides recommendations to upgrade the software and hardware used by the accounting system. We placed special focus on trying to make a proposal that will save Friendly House money.

Gathering Information

We used information on the current system and its limitations to create our recommendations. Michael Houssan provided us with the information we needed on the system because Edwin was unavailable. We discovered the current accounting system was several separate sub-systems that were not integrated. We learned the reports were saved to desktops and were not backed up. There was also a desire to provide remote access to the accounting information.

Determining Software

There were numerous accounting packages we could have chosen from, but because of its existing implementation, and people's familiarity with previous versions of Microsoft Great Plains, Mr. Houssan felt it would work best to use the newest version of this software. We were provided with documentation on the existing version of Great Plains. Great Plains is designed for a client server environment. To learn the features and requirements of Great Plains, we evaluated this software on our own computer. We learned that Microsoft FRx report writer, which is needed to generate repots, is included with Great Plains.

We learned that the accounting office currently has Lotus Smart Suit and Microsoft Office. These suits provide the similar types of software. We determined using Microsoft Office would allow accounting to work in the same environment as other employees of Friendly House. Microsoft Office can also open documents created in Lotus, so no information would be lost.

With Friendly House being provided with a quote by Navint Consulting for upgrading Great Plains for $3,600 and the cost of each copy of Office student license for $130, we searched for more cost effective solutions. We discovered Friendly House is eligible for a grant from Microsoft to provide all their software for free.

Michael Houssan indicated that Friendly House needs to continue using Millenium Payroll and Human Resources. Information on how Friendly House is licensing this software was not provided.

Determining Hardware

We determined the existing server would have trouble supporting resource intensive package like the newest version of Great Plains. We recommend letting Great Plains reside on a separate server with internet connection behind a private IP address, to protect and secure its financial information. The server can be remotely accessed through an SSL tunnel created with the server and another computer with public IP address. We determined which computer models by Dell meets the server requirements with the lowest cost.

Although the existing desktops used in accounting are old, we determined they could still be used in the new accounting system.

We recommend this solution for backing up all the computers at Friendly House. Other departments at Friendly House also save valuable information locally to their desktops. Centralizing resources enables Friendly House to optimize the implementation and execution of backups instead of trying to implement solutions for every computer.

Recommending a Rollout

Recommendations for deploying the new system are provided to support the continuation of this project. One of the major goals of the rollout is to prevent any down time and maintain integrity of the accounting system.

System Proposal

Software

Software	Price
Great Plains 7.5 or 9.0	$0
FRx Desktop	$0
Millenium Payroll and Human Resources	Handled by Friendly House
Microsoft Windows Pro License	$0
Microsoft Office 2003 License	$0-$130

Table 3: Software Requirements

Server

Accounting is utilizing Microsoft Great Plains 7.0. Microsoft Great Plains 7.0 can be upgraded to version 9.0. Microsoft Great Plains 9.0 requires a computer with a Pentium III processor, 600 MB free disk space, and a recommended 512 MB of RAM.[1] The payroll and human resource functions are maintained on Millenium Payroll and Human Resources. Michael Houssan has indicated that this is not something we should change.

Desktop

Accounting has two desktops for Edwin and Mary. To be able to create reports with Great Plains, these computers need to have Microsoft FRx locally installed. Microsoft Great Plains 9.0 includes the latest version of Microsoft FRx Desktop to accompany it as a report writer. To write documents, e-mails, make presentations, and create custom reports, these computers will also need the latest version of Microsoft Office, currently 2003. Microsoft Office includes Word, Outlook, PowerPoint, and Excel.

Licensing

Microsoft gives software to nonprofit qualifying organizations in their Microsoft Giving Programs that meet their general requirements. One of the three categories for the requirements are, "Nonprofit—in the United States, 501(c)(3) designation—or a nongovernmental organization that holds charitable status in their country." The software

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[1] http://www.microsoft.com/dynamics/gp/product/90systemrequirements.mspx

donation is a demand driven program. This means that this program could provide software for all computers at Friendly House. Only one request can be made each year by eligible organizations.[2] For more information on Microsoft Giving Programs, please see: http://www.microsoft.com/citizenship/giving/apply/

Other Options

Friendly House is well qualifying and deserving of Microsoft Giving Programs. However, if Microsoft does not donate the software to Friendly House Professor Pollice may be able to provide a license for Microsoft Great Plains 7.5 and the accompanying FRx Desktop. The cheapest option for purchasing Microsoft Office 2003 will either be purchasing individual student licenses for $130 through a reseller such as Amazon or multiple licenses through Microsoft Open License Charity program. This program allows charitable organizations qualified as §501(c)(3) organizations as defined by the United States Internal Revenue Code to purchase only one software package, and multiple licenses at a reduced price.[3] These pricing are available through Microsoft Resellers to qualifying organizations. For more information on Microsoft Open License Charity, please see: http://www.microsoft.com/licensing/programs/open/opencharity.mspx

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[2] http://www.microsoft.com/citizenship/giving/apply/
[3] http://www.microsoft.com/licensing/programs/open/opencharity.mspx

Hardware

Server

Hardware	Description
Model	Dell OptiPlex 210L Mini-Tower
Processor	Pentium 4 Processor 521 with HT (2.80GHz, 1M, 800MHz FSB)
OS	Windows XP Professional
Memory	1.0GB DDR2
Hard Drive	160GB SATA
Optical Drive	16X DVD-ROM
Support	3 Year On-site Economy Plan
Price:	$600 with $100 off

Table 4: Server

The Dell OptiPlex provides an affordable high performance server to meet Friendly House's expanding needs. The computer can receive all of the benefits from Windows XP as it would from Windows Server since it is only serving two clients, including remote access. 1.0 GB of memory will help the server to continue to run smoothly for the next few years and not crash due to memory intensive applications like Great Plains. A 160 GB hard drive will provide enough storage space for the accounting software and reports. The DVD drive will allow for the installation of CD and DVD optical media on the server. A three-year on-site economy plan provides next-business-day on-site service following phone-based support covering most defects.

Hardware	Description
Model	Dell OptiPlex 210L Mini-Tower
Processor	Pentium 4 Processor 521 with HT (2.80GHz, 1M, 800MHz FSB)
OS	Windows XP Professional
Memory	2.0GB DDR2
Hard Drive	160GB SATA
Optical Drive	16X DVD+/-RW
Support	Business Essential Plan
Price:	$1,060 with $100 off

Table 5: Accounting Server Upgrades

We recommend that that Friendly House further upgrades this server with the following options. An additional 1.0 GB of memory for $178 can help ensure that the server continues to run smoothly in the next few years. The DVD drive can also be upgraded to a writable DVD drive to provide cost effective backups for an additional $34. The support plan can be also provide same-day on-site service and gold technical support for an additional $238.
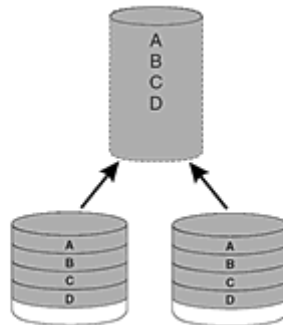
Network Backup

Hardware	Description
Model	Dell PowerEdge 830
Processor	Celeron, 2.8GHz/1MB Cache/800MHz FSB
OS	Windows Storage Server 2003, Express Edition
Memory	1 GB DDR2
Storage	2 X 250 GB. SATA /SW RAID
Support	3 Year Basic: L1 Hardware Queue, Next Business Day Onsite
Price	$1,426.00

Table 6: Network Backup

The Dell PowerEdge can provide centralized backup for most computers at Friendly House. With a 2.8GHz processor, with 1 MB of Cache, it offers a high performance backup solution. 1 GB of memory will support the operating system and processes. The hard drives are hot swappable enabling offsite backups and easy replacements.

Table 7: RAID 1

Two 250 GB hard drives implemented with Redundant Array of Independent Disks (RAID) provide redundant storage capacity of 250 GB. RAID 1 uses disk mirroring to create a copy of all on the second hard drives in case one drive fails. The warranty covers three-year phone support for hardware failures and dispatch of parts and labor following phone-based support.
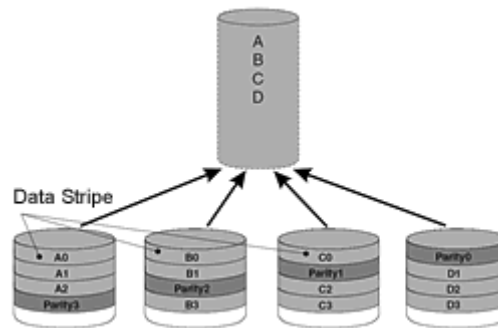
Hardware	Description
Model	Dell PowerEdge 830
Processor	Celeron, 2.8GHz/1MB Cache/800MHz FSB
OS	Windows Storage Server 2003
Memory	1 GB DDR SDRAM
Storage	4 X 250GB. SATA /SW RAID
Tape Backup	PV110T, LTO-2-L, 200/400GB,Internal TBU w/39160 SCSI Controller
Tape Media	LTO-2,200/400G, 5 Pack
Backup SW	Symantec Backup Exec QuickStart Edition Server Protection Pack
Support	3 Year Basic: L1 Hardware Queue, Next Business Day Onsite
Price	$4,563 with 1,200 discount for orders over $4,200

Table 8: Network Backup Upgrades

If the Dell PowerEdge will be used to provide backup for all the computers at Friendly
House, it can provide additional archive space by upgrading to four 256 GB hard drives
implemented with RAID 5.

Table 9: RAID 5

RAID 5 uses disk striping with parity to distribute its data across disks in the array
providing it with efficient storage and data redundancy. The parity drive allows the array
too still be operational if one drive in the array fails. To support this configuration, the
operating system needs upgrading to Windows Storage Server 2003 for $1,048.
Recommended offsite backups can also be included with tape drives, media, and software
for $2,389.

Desktop

To save money, Edwin and Mary may be able to reuse the Dimension L1000r and R1000r that they are already using. However, to help these systems stay optimized, the operating system and software may need to be re-installed. Furthermore, these computers may be further upgraded with additional RAM.

Windows 2000 Professional requires 64 MB of RAM and 133 MHz or higher Pentium-compatible processor. Windows XP requires 300 MHz or higher processor and 128 MB of RAM.[4] To maximize functionality and increase performance, Windows 2000 can be installed on each of the computers.

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[4] http://www.microsoft.com/windowsxp/pro/upgrading/sysreqs.mspx

Rollout

Background

Although the rollout is outside the scope of this project, it is provided here as a recommendation. One of the major goals of the rollout however is to minimize if not prevent any down time and maintain integrity of the accounting system. While the new system is being set up, the existing system including server and desktops should not be moved or changed. The existing server will remain in place running duplicate transactions for one accounting period to ensure the consistency of all information.

Acquiring Software

Friendly House should create a list of all the Microsoft software that it needs on all of its computers for the next twelve months. Apply for funding of the software by following the instructions at: http://www.microsoft.com/citizenship/giving/apply/

If Friendly House is not provided with funding, Professor Pollice may be able to provide a license for Microsoft Great Plains 7.5 and FRx Desktop. Friendly House will still be entailed to the Microsoft Open License Charity program. To acquire this license from Microsoft, call (800) 426-9400. Software can be purchased under this program from authorized resellers listed in Table 10, which includes Dell.

Reseller Name	Phone
Amherst Computer Products	(800) 431-8031
ASAP Software Express Inc	(800) 248-ASAP
CDW	800-800-4239
Comark	((800) 767-0353
CompuCom Systems	(972) 856-3600
Consistent Computer Bargains, Inc.	(800)-342-4222
Dell	(800) 449-3355
En Pointe Technologies	(866) 659-7926
GTSI	(800) 234-GTSI
Hewlett-Packard Company	(800) 597-4622
Insight Enterprises, Inc.	(800) 467-4448
Manchester Technologies, Inc.	(800) 632-9880
Micro Warehouse, Inc.	(800) 397-8508
PC Connection	(888) 213-0260
PC Mall (includes Creative Computer and MacMall)	(800) 863-3282
Provantage	(330) 494-3781
Sarcom	(614) 854-1000
SoftChoice US	(800-268-7638
Softmart	(800) 686-9400
Software House International (SHI)	(888) 680-8960
Software Plus	(888) 251-7638
Software One, Inc.	(800) 444-9890
Software Spectrum, Inc.	(800) 624-0503
Systemax (includes Global Computer, Tiger Direct, Midwest Micro and Dartek)	(800) 8GLOBAL
Zones, Inc. (including PCZone and MacZone)	(800) 408-9663

Table 10: Charity Resellers5

Friendly House may also purchase individual licenses to Microsoft Office 2003 at a discounted rate by purchasing student licenses for as low as $130 through a reseller such as Amazon.

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[5] http://download.microsoft.com/download/6/8/9/68964284-864d-4a6d-aed9-f2c1f8f23e14/charity_resellers.doc

Ordering Hardware

Friendly House needs to select the modifications of the proposed hardware. After receiving funding from the Worcester Town Council, Friendly House may order the needed hardware.

Setup

The Dell OptiPlex server is a mini-tower PC, which requires Microsoft Great Plains. Great Plains CDs consist of optional accounting components. Knowledge of the accounting infrastructure and new requirements will need to go into installing Great Plains. Millenium Payroll and Human Resources will also need to be re-installed on the new server. Connect the server into the network. You may download and install a free copy of Avast! anti-virus software for non-commercial use. Configure Remote Desktop for remote access.

The Dell PowerEdge network backup is a tower server. Connect the server into the network. You may download and install a free copy of Avast! anti-virus software for non-commercial use.

You can back up all documents and reports on the Dimension L1000r and R1000r. Format these systems and reinstall Microsoft Windows 2000. After Windows 2000 is set up, install Microsoft Office 2003 and FRx Desktop. Download and install a free copy Avast! anti-virus software for non-commercial use.

Migration

Microsoft Great Plain includes optional components to help with migration from earlier versions of Great Plains and other accounting records on installation. Monthly Journal Entries, cash account, banking, and documentation of donations both of kind and cash that are currently being done in Lotus Smart Suite will need to be setup in Great Plains. Mr. Houssan has also indicated that he would like to see the accounting numbers changed

in the new system to reflect the different expenses. Friendly House will need to decide whether to change this before or after the migration of accounting information.

Testing

Ensure that Microsoft Great Plains and Millenium Payroll and Human Resources are run as expected on the Dell OptiPlex server. Update the virus definition of Avast! Check that the server can be logged in through Remote Desktop. The status of all the devices and drivers need to be checked in System Manager to help prevent anticipated problems. Run Disk Defragmenter to optimize the computer and help repair any potential corrupted sectors of the disk.

To ensure data archiving with the Dell PowerEdge, information needs to be copied from and to it. Information should be retrieved once a month to validate the continued integrity of data. Update the virus definition of Avast! Check that the server can be logged in through Remote Desktop. The status of all the devices and drivers need to be checked in System Manager to help prevent anticipated problems. Run Disk Defragmenter to optimize the computer and help repair any potential corrupted sectors of the disk.

Ensure that the Dimension L1000r and R1000r can connect to the Dell OptiPlex server, FRx Desktop can generate reports, and Microsoft Office is fully installed and run as expected. Update the virus definition of Avast!. The status of all the devices and drivers need to be checked in System Manager to help prevent anticipated problems. Run Disk Defragmenter to optimize the computer and help repair any potential corrupted sectors of the disk.

Appendix A - Microsoft Great Plains

Software

Microsoft Dynamics - GP Standard	QTY	UNIT	EXTENDED
Great Plains			
Foundation Layer (includes 1 user)	1	$700.00	$700.00
Additional Users	1	$750.00	$750.00
Bank Reconciliation	1	$350.00	$350.00
General Ledger (with FRx Desktop 1 Designer User)	1	$1,400.00	$1,400.00
Integration Manager - Financials	1	$1,500.00	$1,500.00
Integration Manager - Distribution	1	$1,500.00	$1,500.00
Payables Management	1	$700.00	$700.00
Seagate Crystal Reports Professional (1-User)	1	$500.00	$500.00
Great Plains Software Sub Total			$7,400.00
Microsoft Migration Promotion Discount			($5,400.00)
Great Plains Software Total			$2,000.00
Microsoft SQL Runtime Database	2	$190.00	$380.00
Microsoft Great Plains Enhancement (16% of System List Price)			$1,244.80
Grand Total (Software & Enhancement)			**$3,624.80**

Professional Services

Microsoft Dynamics GP - Standard	Low	High	Expected
Great Plains - Implementation, Training:			
Install, Set-Up, Configure	2	4	4
Data Conversion	10	12	12
Workstation Implementation	2	3	3
Version 9.0 Module Training	4	8	8
Project Management	2	3	3
Hours Total:	20	30	30
Project Totals: (based on $ 165.00 hourly rate)	$ 3,300.00	$ 4,950.00	$ 4,950.00

Quote from Navint Consulting

Appendix B - OptiPlex 210L

SYSTEM COMPONENTS		
OptiPlex 210L Intel® Pentium® 4 Processor 521 with HT (2.80GHz, 1M, 800MHz FSB), Genuine Windows® XP Home Edition, SP2, without Media **Save $100 on select OptiPlex 210L desktops through Dell Small Business** Special offer	Qty Unit Price	1 $1,160.00 - $100.00

Module	Description
OptiPlex 210L Minitower P4	Intel® Pentium® 4 Processor 521 with HT (2.80GHz, 1M, 800MHz FSB)
Operating System	Genuine Windows® XP Home Edition, SP2, without Media
File System	NTFS File System for all Operating Systems
Memory	2.0GB DDR2 Non-ECC SDRAM,533MHz, (2DIMM)
Keyboard	Dell USB Keyboard, No Hot Keys
Monitors	No Monitor
Hard Drive	160GB SATA, 7200 RPM Hard Drive with Data Burst Cache™
Floppy Drive	No Floppy Drive
Mouse	Dell USB 2-Button Entry Mouse with Scroll
Lead Free Motherboard	RoHS Compliant Lead Free Chassis and Motherboard
CD or DVD Drives -- Read, Write and Store Data	16X DVD+/-RW, Roxio Creator Dell Edition
Resource CD	No Resource CD
Energy Star Setting	Energy Star Enable
Dell Service & Support Plans	3 Year On-site Business Essential Plan
Onsite System Setup	No Onsite System Setup
Mail- In Rebate	None
Miscellaneous	OptiPlex 210L Pentium Tower
Purchase Intent	Purchase is not intended for resale.
	TOTAL:$1,060.00

Quote from Dell.com

Worcester Polytechnic Institute

Appendix C - PowerEdge 830

PowerEdge 830
Featuring Windows(R) Storage Server 2003 R2
FREE PROCESSOR UPGRADE! 2.8GHZ,1M,P4,800FSB, Microsoft
Windows® Storage Server 2003 R2, Express Edition, SW RAID
**Save $200 on select PowerEdge 830 servers through Dell Small
Business**
Special Offer

Qty	1
Unit Price	$1,626.00
	- $200.00
.	

Module	Description
PowerEdge 830	FREE PROCESSOR UPGRADE! 2.8GHZ,1M,P4,800FSB
Operating System	Microsoft Windows® Storage Server 2003 R2, Express Edition, SW RAID
Memory	1GB DDR2,533MHz,2x512MB Single Ranked DIMMs
Keyboard	No Keyboard Option
Monitor	No Monitor Option
Hard Drive	250GB 7200 RPM SATA Hard Drive
Floppy Drive	No Floppy Drive
Mouse	No Mouse Option
Network Card	On-board Single Port Gigabit Network Adapter
Mouse	No Mouse Option
Documentation	Electronic Documentation Only
2nd Hard Drive	250GB, Serial ATA, 1 inch, 7.2K RPM, Additional Hard Drive
Hard Drive Configuration	Onboard SATA, 2 Drives Connected to Onboard SATA Controller
Drive Cage Configuration	Chassis with Non-Hot Swap Drives for PE830
Hardware Support Services	3Yr BASIC NBD: L1 Hardware Queue, Next Business Day Onsite, M-F 8am-6pm
Installation Support Services	No Installation Assessment
	TOTAL:$1,426.00

Quote from Dell.com