Business Network for Franklin Supply Company

By

Alex Tebbe

Submitted to
the Faculty of the Information Technology Program
in Partial Fulfillment of the Requirements for
the Degree of Bachelor of Science
in Information Technology

University of Cincinnati
College of Applied Science

June 2007
Introduction

Franklin Supply Company is an old fashioned type of retail company that wants to enter the technological business world. As described in this project, the history of the company, the current business system, the problem, a solution to fix the problem, the technical areas, users, a network diagram, testing, a budget, and a timeline will be discussed. An efficient solution will bring the company up-to-date from a technology standpoint.

History

Franklin Supply Company is a company in the agriculture industry. Franklin Supply is a full service grain elevator that is located in Rushville, Indiana. The company currently makes feeds for many types of animals from small dogs all the way to full grown cows (7). Franklin Supply takes components to make feed stored in overhead bulk tanks and mixes the components in feed mixers to get the ration needed for a particular animal.

Previous Business System

Previously, there was no system in place except for one laptop computer in one office of the Franklin Supply Company. On that pc (personal computer), the user runs the program Intuits Quicken (4) which is used to control the inventory of products.

The way the company is run currently, when a customer wants to place an order, the office manager or the secretary writes down the order on a piece of paper. Then, the order is looked up in a filing cabinet and then rewritten on an order form. That order is then walked over
to the production area where it is then processed at the appropriate time. If it is a delivery, it is placed on a truck. If it is a pick-up, it is set aside to be picked up at a later time.

When it is time to write up a bill, all of the products are listed in a binder, and the office manager has to look up each individual item and write the price down on an order form. Then all of the items have to be added up and the accounting terms are 3/10 or n/30. That means that all bills have to have a 3% discount calculated on them just in case that the customer pays the bill within 10 days.

**Problem Need**

Franklin Supply Company needs to get a computer system in place to save time and money. With the current system, there is a lot of wasted paper by the office workers having to write down the order on a small piece of paper when the order is received on the phone. Then there is a lot of time lost when the office manager has to walk to the filing cabinet to get the components of the order. The order then has to be written again on the order sheet, which takes more time. Finally, after the order is written up, it has to be walked over to the manufacturing facility.

After all the orders are written up and completed, the bill has to be made out. All of the items have to be looked up and written down. That leaves room for a lot of human error. Then the orders are calculated with a three percent discount added in for the payment within ten days. This procedure is just a lot of repetitious work.
Product Description and Intended Use

There are many aspects of Franklin Supply Company that would benefit from having a computer system in place. A computer system in place will be more efficient, cost effective and not too mention time saving. Currently, there is no computer system in place. Every company needs to have a computer system in place to keep up with the times of today's fast pace business world.

The network system for Franklin supply will allow many computers to connect at the same time. The system will allow for the office personnel to use the QuickBooks system to create invoices, view inventory, create receipts, and print orders in office and also the manufacturing area. This will save on time by not having to walk orders over to the manufacturing building. This will save paper and also be much more efficient. There will be a wired and wireless network in the office building with the manufacturing building connecting wirelessly. All users connecting to the network will login and authenticate with Active Directory. All users will have access to their own personal email to communicate more effectively.

User Profiles

There are three different profiles that will be used. This will be set up by the role an employee plays at the company.
Administrator Profile

This is the business owner and myself which will do the administrative tasks on the network. The tasks will include, installing software, making changes to accounts, adding new users, terminating old users, updating software, bring new computers onto the domain, and anything else that might occur.

Power Users

This is the office personnel so they can log on and do the daily invoices and operations. They can run QuickBooks and other applications to do their day to day business.

Users

This is the manufacturing employees because they will not have a need to be on a computer that much so they will not as many rights. All they have to do is get the orders from the office and carry out the order.

All of the users will be able to log on anywhere in the network through AD

Design Protocols

Windows 2003 Small Business Server

Windows 2003 SBS (Figure 1) was installed for the operating system for the server at Franklin Supply Company. This was chosen because of the stability and performance of the operating system. SBS can handle up to 75 users under the license agreement of Microsoft. Dynamic Host Configuration Protocol (DHCP Figure 2) was set up as well. This is set up to give out the Internet Protocol (IP) addresses to the systems that connect to the
franklinsupply.com domain. Domain Naming System (DNS Figure 3) is set up to translate the names from computer name to IP address.

Windows 2003 SBS (Figure 1)

DHCP (Figure 2)
DNS (Figure 3)

**Active Directory**

Microsoft Active Directory (AD Figure 4) was chosen for the authentication method onto the network. Each user is set up with a username and password to log onto the computers. This way, he or she can log into any computer in the domain and still have access to their documents and settings. Active Directory uses Lightweight Design Access Protocol (LDAP) directory services provided by Microsoft. Through AD, the administrator can push out updates and set policies for many items through the group policy editor built into AD. Through AD printers, computers, and users can be managed.
Active Directory (Figure 4)

Exchange Mail System

The Exchange mail system is part of the software that comes with Windows 2003 SBS. Exchange Server (Figure 5) was set up to be able to give each and every employee access to his or her own personal email address. The naming scheme for the email address is first initial last name @franklinsupply.com. For example, jtebbe@franklinsupply.com is Jeff Tebbe’s email address for the company. Exchange was set up based on the best practices on Microsoft’s website. This is managed through the same machine as AD. Exchange and AD work together to authenticate users on the domain.
Exchange Server (Figure 5)

File Server

On the same server, I created a file server to hold the entire users My Documents folder. That is redirected by AD. All of the items in the users My Documents folder is automatically saved on the server so this way it is backed up and it also helps QuickBooks authenticate with AD. The users can also save anything he or she wants on the file server. There is file security on each of the folders on the file server. This is done through AD and NTFS security. Each folder is given different permissions so that way only the correct users have access to that folder.
QuickBooks 2005

QuickBooks is a off the shelf software package made by Intuit. QuickBooks is used to keep track of customer files, inventory, sales receipts, bank account information, payroll and many other duties. QuickBooks is set up in multi-person format meaning that multiple people could connect to it at the same time. The master database file is stored on the file server and other users connect to it. With the license Franklin Supply has purchased, they can have up to five concurrent connections at the same time. It can be installed on more than five pc’s, but only 5 of them can connect to the master file. QuickBooks is set up to authenticate with AD. This keeps the names the same and then the information is stored in My Documents folder which is one the file server. This way the user does not have to log in to the network and QuickBooks everyday.
QuickBooks (Figure 7)

SBS Backup

The backup solution that I chose was built into SBS 2003. I have it set up to back up incremental every night and a full back up on Sunday afternoon. This way each week there is a full backup. Everything is backed up to a 300 gigabyte USB external hard drive. This can be taken home for off site storage or put in a safe for disaster recovery.
Backup (Figure 8)
Deliverables

1. A complete physical network on site up and running.
2. AD working with DNS and DHCP
3. Exchange working
4. QuickBooks system working
5. File Server
6. Group Policy in effect
7. Backup Solution
8. Network Hardware Configuration
Timeline

There are a number of items that have to be completed in a timely fashion to have the project done on time. Figure 2 shows the order and the time that all items will be completed. The fully intergraded business system is in place and ready to use in June of 2007.

Franklin Supply Project Timeline

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research</td>
<td>103 days</td>
<td>Mon 9/25/06</td>
</tr>
<tr>
<td>2</td>
<td>Write Proposal</td>
<td>11 days</td>
<td>Mon 11/20/06</td>
</tr>
<tr>
<td>3</td>
<td>Present Proposal</td>
<td>1 day</td>
<td>Mon 11/27/06</td>
</tr>
<tr>
<td>4</td>
<td>Develop Test Database and Network</td>
<td>65 days</td>
<td>Mon 1/1/07</td>
</tr>
<tr>
<td>5</td>
<td>Components</td>
<td>65 days</td>
<td>Mon 1/1/07</td>
</tr>
<tr>
<td>6</td>
<td>Configure Hardware</td>
<td>65 days</td>
<td>Mon 1/1/07</td>
</tr>
<tr>
<td>7</td>
<td>Configure PC’s and servers</td>
<td>65 days</td>
<td>Mon 1/1/07</td>
</tr>
<tr>
<td>8</td>
<td>Test</td>
<td>75 days</td>
<td>Thu 2/1/07</td>
</tr>
<tr>
<td>9</td>
<td>Implement</td>
<td>28 days</td>
<td>Mon 4/23/07</td>
</tr>
<tr>
<td>10</td>
<td>Present Project</td>
<td>1 day</td>
<td>Mon 6/4/07</td>
</tr>
<tr>
<td>11</td>
<td>Final Report</td>
<td>9 days</td>
<td>Mon 5/21/07</td>
</tr>
<tr>
<td>12</td>
<td>Present Final Report</td>
<td>1 day</td>
<td>Fri 6/8/07</td>
</tr>
</tbody>
</table>

Timeline (Figure 9)
Budget

Here is the complete budget for the entire project. This is not counting the computers that Franklin Supply has already purchased and owned.

**Franklin Supply Project Budget**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Retail Cost</th>
<th>Cost Incurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>Provided by the IT computer lab</td>
<td>$750.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>2 Gigabit Thumb Drive</td>
<td>Have</td>
<td>49.99</td>
<td>0</td>
</tr>
<tr>
<td>Windows Server 2003 Small Business</td>
<td>Evaluation Version For This Term</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SBS Backup</td>
<td>Backup data solution</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Microsoft Virtual PC</td>
<td>Provided by the IT computer lab</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>McAfee Antivirus</td>
<td>Provided by the IT computer lab</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Personal Laptop Computer /XP</td>
<td>Have</td>
<td>1250</td>
<td>0</td>
</tr>
<tr>
<td>Quicken QuickBooks</td>
<td>Already Purchased</td>
<td>199.99</td>
<td>0</td>
</tr>
<tr>
<td>Linksys Wireless Router</td>
<td>Already Purchased</td>
<td>139.99</td>
<td>0</td>
</tr>
<tr>
<td>2 PC’s w/ XP</td>
<td>Already Purchased</td>
<td>1800.00</td>
<td></td>
</tr>
<tr>
<td>2 Lexmark Laser Printers</td>
<td>Have</td>
<td>500.00</td>
<td>0</td>
</tr>
<tr>
<td><strong>Retail Total:</strong></td>
<td><strong>4969.97</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Budget (Figure 10)
When the Items say already purchased, that is because before I started this project, the business owner was going to try to do this himself.

**Software and Hardware Used**

**Software**

Microsoft Small Business Server 2003 – I used this on the server to integrate Active Directory, Exchange, Backup solution, file storage, and also the data portion of Quick Books 2005.

Quick Books 2005 – This is an invoice and inventory tracking software made by Intuit. I used this to create the invoices and daily tickets.

Microsoft Windows XP Professional – This was used for the three workstations that the company has.

Microsoft Office 2003 Professional – This is used on all of the workstations for use of Word, Excel and PowerPoint.

**Hardware**

Server – One custom built PC that I used as a server to implement the project.

Dell Dimension 2400 desktop computers – 2 desktop computers for the office employees

HP Pavilion ZV6000 laptop – 1 laptop for Jeff Tebbe the business owner.

Linksys Wireless Router – WRT54GS router with built in speed booster.

2 Lexmark 232 laser printers – printers to print out invoices and orders
Proof of Design

This is a network diagram with all of the components of the network. I have physically wired the office building and setup wireless for the manufacturing area. This way, it was cheaper and easier than digging under the driveway from one building to the other.
Conclusions

In today’s fast paces business, all companies have to be on the cutting edge of technology. Franklin Supply Company is in a need for a computer system in place, and this one will handle every need they may have. The network is expandable and efficient to handle any thing that might come up in the future.
Bibliography


