About Computing & Consulting, LLC

Information Technology Infrastructure Audit

Date

Presented to

Client

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Dear Client,

Thank you for the opportunity to present this audit report.

We have conducted a thorough assessment of your IT infrastructure. This proposal outlines the discoveries we made, our recommendations, and solutions.

We look forward to discussing this document with you after your review.

Thank you again for your time and we look forward to serving you in the future.

Sincerely,

Aida Keehner
President
akeehner@aboutccllc.com

Support: 443-569-8558 X1
Sales: 443-569-8558 x2
Direct: 443-569-8576
Fax: 443-817-0896
Cell: 410-977-6352

200 Azar Court, 2nd Floor
Arbutus, MD 21227
http://www.aboutccllc.com
About Computing and Consulting, LLC.
Enhancing Your Business, Earning Your Trust
"We don't just build and maintain networks, we build relationships"

ASSESSMENT CHECKLIST

- ▶ Reviewed network security and infrastructure
- ▶ Reviewed firewall capabilities and reliability
- ▶ Audited all servers and respective software applications
- ▶ Assessed workstation and server relationships
- ▶ Reviewed virus and spam protection

ASSESSMENT RESULTS

Network, Firewall and ISP

The servers and workstations currently on the network in the offices of Company X are currently protected by a *brand_name* Firewall. The firewall currently holds the DHCP role. That particular model of firewall has the current specifications:
- Ideal for _small_ networks.
- Has a limitation of 6,000 maximum connections (Definition of a connection: each internet page is a connection, each banner is also one connection, as an example, one internet page (or tab) could contain up to 10 connections at one time).
- No Gigabit Ethernet Interface (Port).
  .

The current ISP for data is PROVIDER with a T1 line linked through the firewall via a Router.

Company X expressed some concerns about the bandwidth.

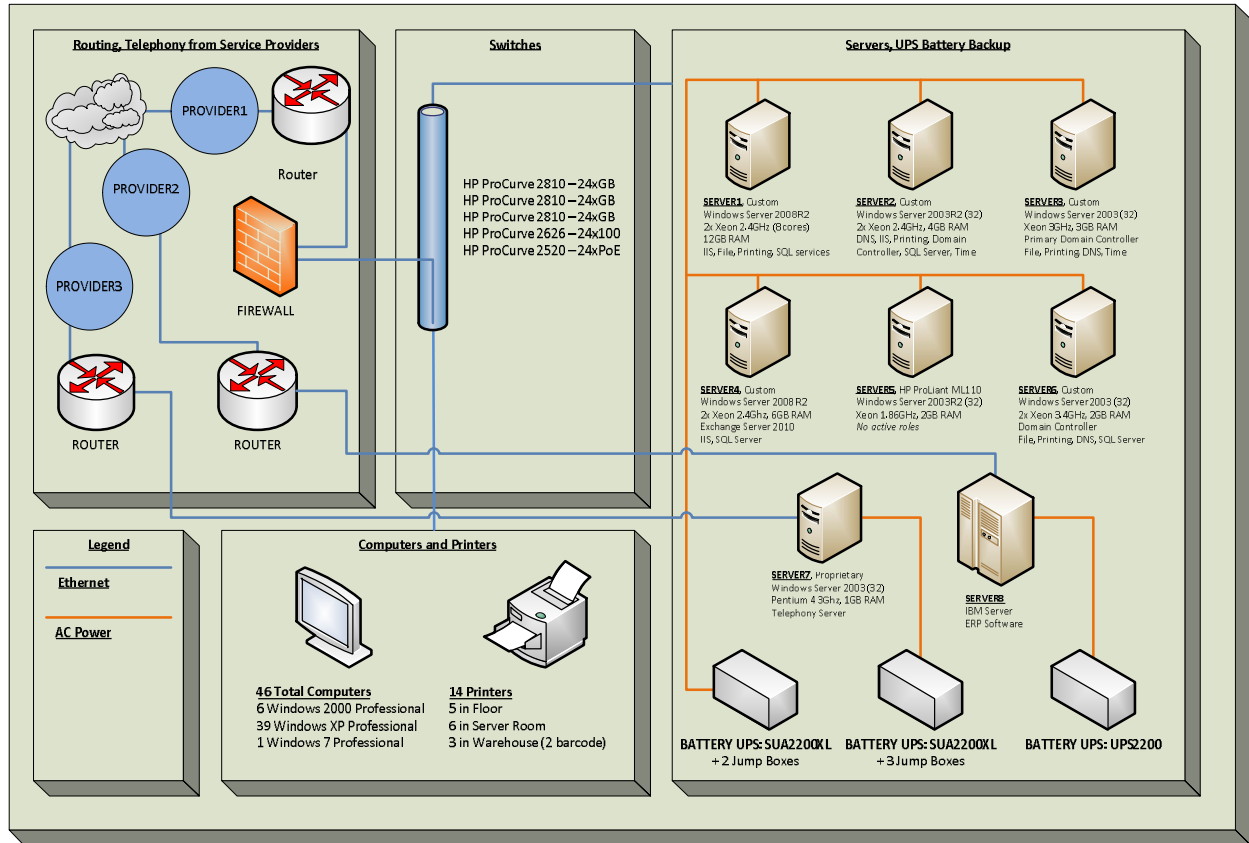As far as the network backbone, the rack contains 5 switches (all gigabyte switches) described as follow:
- HP Procurve 2810-24G (24 ports, 2 Free)
- HP Procurve 2810-24G (24 Ports, 0 Free)
- HP Procurve 2810-24G (24 Ports, 5 Free)
- HP Procurve 2626 (24 Ports, 3 Free)
- HP Procurve 2520-24POE (24 Ports, 19 Free)

All the networking equipment is located in the server room.

Please find below a graphic representation of the existing network:

Configuration Diagram

Routing, Telephony from Service Providers

PROVIDER1

PROVIDER2

PROVIDER3

Router

FIREWALL

ROUTER

ROUTER

Switches

HP ProCurve 2810 – 24xGB
HP ProCurve 2810 – 24xGB
HP ProCurve 2810 – 24xGB
HP ProCurve 2626 – 24x100
HP ProCurve 2520 – 24xPoE

Servers, UPS Battery Backup

SERVER1, Custom
Windows Server 2008R2
2x Xeon 2.4GHz (8cores)
12GB RAM
IIS, File, Printing, SQL services

SERVER2, Custom
Windows Server 2003R2 (32)
2x Xeon 2.4GHz, 4GB RAM
DNS, IIS, Printing, Domain
Controller, SQL Server, Time

SERVER3, Custom
Windows Server 2003 (32)
Xeon 3GHz, 3GB RAM
Primary Domain Controller
File, Printing DNS, Time

SERVER4, Custom
Windows Server 2008 R2
2x Xeon 2.4Ghz, 6GB RAM
Exchange Server 2010
IIS, SQL Server

SERVER5, HP ProLiant ML110
Windows Server 2003R2 (32)
Xeon 1.86GHz, 2GB RAM
No active roles

SERVER6, Custom
Windows Server 2003 (32)
2x Xeon 3.4GHz, 2GB RAM
Domain Controller
File, Printing, DNS, SQL Server

SERVER7, Proprietary
Windows Server 2003 (32)
Pentium 4 3Ghz, 1GB RAM
Telephony Server

SERVER8
IBM Server
ERP Software

BATTERY UPS: SUA2200XL
+ 2 Jump Boxes

BATTERY UPS: SUA2200XL
+ 3 Jump Boxes

BATTERY UPS: UPS2200

Legend

Ethernet

AC Power

Computers and Printers

46 Total Computers
6 Windows 2000 Professional
39 Windows XP Professional
1 Windows 7 Professional

14 Printers
5 in Floor
6 in Server Room
3 in Warehouse (2 barcode)

Servers

There are a total of 8 servers in Company X network:
1- **SERVER1:** This is the new Goldmine Server. This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows 2008 R2 Standard Service Pack1, on a 64Bit platform, has 12GB of RAM and dual Intel Xeon processor at 2.40Ghz clock speed. This server is part of CUSTOMER Domain and has the following roles:
   a. Web Server (IIS is installed)
   b. File services (for files sharing)
   c. Print and document services (for printer sharing)
   d. SQL Server

   We noticed that even though it has a Gigabit Network card, the connection speed on that server was only 100Mbps. It is also utilizing SERVER1 as the DNS server.
2- **SERVER2:** This is the shipping server. This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows Server 2003 R2 Standard Edition Service Pack 2 on a 32Bit platform, has 4GB of RAM and dual Intel Xeon processor at 2.40Ghz clock speed. This server is part of CUSTOMER Domain (separate domain from the rest of servers) and has the following roles:
   a. DNS
   b. IIS
   c. Print Server
   d. Domain Controller
   e. SQL Server
   f. Time source
3- **SERVER3:** This is the Primary Domain Controller in the Domain DOMAIN. This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows Server 2003 Standard Edition Service Pack 2 on a 32Bit Platform, has 3GB of RAM and only one Intel Xeon processor at 3.05Ghz clock speed. This server has the following roles:
   a. File Server
   b. Print Server
   c. Domain Controller
   d. DNS Server
   e. Time Source

   This server also used to be the old Exchange server.

4- **SERVER4:** This is the new Exchange server (Exchange server 2010 Standard). This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows Server 2008 R2 on a 64Bit Platform, has 6GB of RAM and dual Intel Xeon processor at 2.40Ghz clock speed. This server has the following roles:
   a. IIS
   b. Mail Server
   c. SQL Server

5- **SERVER5:** This used to be the old Goldmine Server. This server is an HP Proliant ML110 G4. It is running Windows Server 2003 R2 Standard Edition Service Pack 2 on a 32Bit Platform, has 2GB of RAM and one Intel Xeon processor at 1.87Ghz clock speed. This server has currently no roles assigned to it.

6- **SERVER6:** This is the Telephony server used for the Altigen Phone system (server based phone system). This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows Server 2003 Standard Edition Service Pack 2 on a 32Bit Platform, has 1GB of RAM and one Intel Pentium 4 processor at 3.00Ghz clock speed. The Altigen software version is 6.5.

7- **SERVER7:** This is the Blackberry server. This server is probably a custom built server since we couldn't gather any information concerning the manufacturer. It is running Windows Server 2003 Service Pack 2 on a 32Bit Platform, has 2GB of RAM and dual Intel Xeon processor at 3.40Ghz clock speed. This server has the following roles:
   a. File Server
   b. Print Server
   c. Domain Controller
   d. DNS Server
   e. SQL Server

8- **SERVER8:** This is the main IBM server running the core applications for Company X (Clients/Ordering/Invoicing).

All the servers are protected by UPS power backup devices. The table below provides a summary of the servers used at Company X:

NAME	MODEL	SERIAL #	HDD TOTAL	HDD FREE	CPU#	CLOCK	TOTAL RAM	USED/ FREE	OS	ROLES
SERVER1	INTEL	AZSW4191627	146.93GB	62.29GB	1	3.5GHZ	3GB	4/6	2003 STD. SP2	PDC
										DNS
										PRINT SERVER
										FILE SERVER
SERVER2	INTEL	NA	597.89GB	533.58GB	2	2.4GHZ QUAD CORE	6GB	6/9	2008R2 STD	FILE SERVER
										WEB SERVER
SERVER3	INTEL	BZDW50800184	73.26GB	25.79GB	2	3.4GHZ	2GB	2/6	2003R2 STD	DC
SERVER4	ML110 G4 1.0	2UX71401HW	79.86GB	24.91GB	1	1.87GHZ DUAL CORE	2GB	2/4	2003R2 STD SP2	NO ROLES
SERVER5	NA	NA	1197.26GB	1106.45GB	2	2.4GHZ QUAD CORE	12GB	6/12	2008R2 STD SP1	WEB SERVER
										FILE SERVER
										PRINT SERVICES
										DOC SERVICES
SERVER6	DESKTOP	NA	80.3GB	23.73GB	1	3GHZ P4	1GB	2/4	2003 STD SP2	APP SERVER
										FILE SERVER
SERVER7	INTEL S5520HC	NA	299.0GB	240.99GB	2	2.4GHZ QUAD CORE	6GB	6/9	2003R3 STD SP2	PDC
										APP SERVER
										DNS

Workstations

There are a total of 46 workstations described as follow:
- 1 Windows 7 Professional with the latest service pack.
- 38 Windows XP professional with the latest Service Pack.
- 1 workstation in the showroom with Windows XP Professional but missing Service Pack 3.
- 6 Windows 2000 Professional with only 2 with the latest service pack.

The table below provides a summary of the current workstations used at Company X:

NAME	MODEL	LOCATION	SERIAL #	HDD TOTAL	HDD FREE	RAM	SLOTS Used/Total	CPU	OS
WORKSTATION	IBM-9623065U)-1.0	OFFICE		158.54GB	59.48GB	3GB	4/-4	3.2ghz p4	XP Pro sp3
WORKSTATION	IBM 9228MC1 SVT	OFFICE		658.85GB	399.15GB	3GB	4/-8	(2)2ghz dual core	XP Pro sp3
WORKSTATION	IBM 622564U	OFFICE		800.14GB	488.67GB	3GB	4/-4	3.4ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	23.91GB	2GB	2/-2	2.65ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	25.81GB	1.2GB	2/-2	2.65ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	24.73GB	1.2GB	2/-2	2.65ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	24.13GB	1.2GB	2/-2	2.65ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	24.35GB	1.2GB	2/-2	2.65ghz p4	XP Pro sp3
WORKSTATION	IBM 814833U	OFFICE		76.00GB	53.45GB	3.3GB	4/-4	3.2ghz p4	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	208.74GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	227.79GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.08GB	192.82GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	228.91GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	224.92GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.08GB	201.85GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	221.29GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	224.79GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	211.37GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	212.70GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.08GB	214.68GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	222.19GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	216.20GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	212.73GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	GATEWAY SX2803 P01-B2	OFFICE		982.38GB	944.81GB	4GB	2/-4	3.2ghz dual core	win 7 pro sp1

WORKSTATION	LENOVO 9851B5U	OFFICE		156.30GB	79.53GB	2GB	2/-2	2.4ghz dual core	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		250.05GB	226.65GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3
WORKSTATION	LENOVO 9979AU	OFFICE		2156.67GB	2090.97GB	2GB	2/-4	3.0ghz dual core	XP Pro sp3
WORKSTATION	LENOVO 9702CTO	OFFICE		154.83GB	125.19GB	1GB	1/-2	2.2ghz dual core	XP Pro sp3
WORKSTATION	LENOVO 9851B5U	OFFICE		156.30GB	118.05GB	2GB	2/-2	2.4ghz dual core	XP Pro sp3
WORKSTATION	LENOVO 9702CTO	OFFICE		154.83GB	101.45GB	1GB	1/-2	2.2ghz dual core	XP Pro sp3
WORKSTATION	IBM-814833U	OFFICE		76.00GB	20.20GB	3GB	3/-4	3.2ghz p4	XP Pro sp3
WORKSTATION	IBM 830557U	OFFICE		39.09GB	35.88GB	256MB	2/-2	1.8ghz p4	2000 Pro sp3
WORKSTATION	IBM 830557U	OFFICE		39.09GB	35.65GB	256MB	2/-2	1.8ghz p4	2000 Pro sp3
WORKSTATION	IBM 830557U	OFFICE		39.09GB	36.11GB	256MB	2/-2	1.8ghz p4	2000 Pro sp3
WORKSTATION	IBM 830557U	OFFICE		39.09GB	35.29GB	256MB	2/-2	1.8ghz p4	2000 Pro sp3
WORKSTATION	IBM 683323U	OFFICE		19.34GB	14.55GB	1.5GB	3/-4	1.3ghz p4	2000 Pro sp4
WORKSTATION	IBM 830557U	OFFICE		39.09GB	35.54GB	256MB	2/-2	1.8ghz p4	2000Pro sp4
WORKSTATION	IBM 819893U	OFFICE		37.53GB	25.53GB	512MB	2/-2	2.65Ghz p4	XP Pro sp2
WORKSTATION	IBM 819893U	OFFICE		37.53GB	29.59GB	1.2GB	2/-2	2.65Ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.53GB	28.55GB	1.2GB	2/-2	2.65Ghz p4	XP Pro sp3
WORKSTATION	IBM 819893U	OFFICE		37.60GB	25.95GB	1GB	2/-2	2.65Ghz p4	XP Pro sp3
WORKSTATION	LENOVO 921525U	OFFICE		72.52GB	59.98GB	2GB	2/-2	3.07Ghz p4	XP Pro sp3
WORKSTATION	LENOVO 9265LTU	OFFICE		154.93GB	123.71GB	1GB	1/-2	2.2ghz core duo	XP Pro sp3
WORKSTATION	LENOVO 9265LTU	OFFICE		154.93GB	125.11GB	1GB	1/-2	2.2ghz core duo	XP Pro sp3
WORKSTATION	LENOVO 8705D6U	OFFICE		156.00GB	134.54GB	2GB	2/-2	2.8ghz pent. D	XP Pro sp3
WORKSTATION	LENOVO 9965A2U	OFFICE		246.09GB	227.42GB	4GB	4/-4	2.67ghz quad core	XP Pro sp3

Printers

Please find below a list of the printers in Company X's network:

Floor Printers	Server Room Printers	warehouse printers

Antivirus and Spam Protection

The network of Company X is protected by Symantec End Point Protection version 11.0.6000.436 (which is not the latest version). The manager portion of the software is installed on the Blackberry server.

Symantec Mail security 2.1.0.33 is installed on the Exchange Server. Symantec Mail Security for Microsoft Exchange provides real-time protection for email against viruses, spam, spyware, phishing, and other attacks while enforcing content policies on Microsoft Exchange Server 2003, 2007 and 2010.

Backup

The software backup in place in Company X network is Symantec Backup Exec 13.0.2896. It is setup as a backup to tape. The tape drive is installed on the new Exchange server and is an HP ULTRIUM SCSI 2.

We are not sure at this point if any other method of backup is being performed on these three servers.

Summary

Overall, Company X infrastructure and operation run fairly smoothly, however not as efficiently nor as safely as we would like to see:

- The current firewall in place is not adequate for Company X's operations.
- There are also at least two servers that are not necessary.
- The bandwidth needs to be upgraded
- Some reconfigurations would need to be performed on the servers

Please find below our recommendations.

RECOMMENDATIONS

CRITICAL

- **Bandwidth:** It is clear that the current bandwidth allocated to Company X network is not sufficient due to the extensive amount of download/upload of data. We might want to combine the two ISP and get more T1 from one vendor (either Paetec or AT&T)
- **Firewall:** The firewall needs to be replaced. It is outdated, will not be supported anymore by Sonicwall, and not adequate for Company X's security and bandwidth's needs. We would recommend at least a Sonicwall NSA 240. The new firewall will also have Web Security as a function.
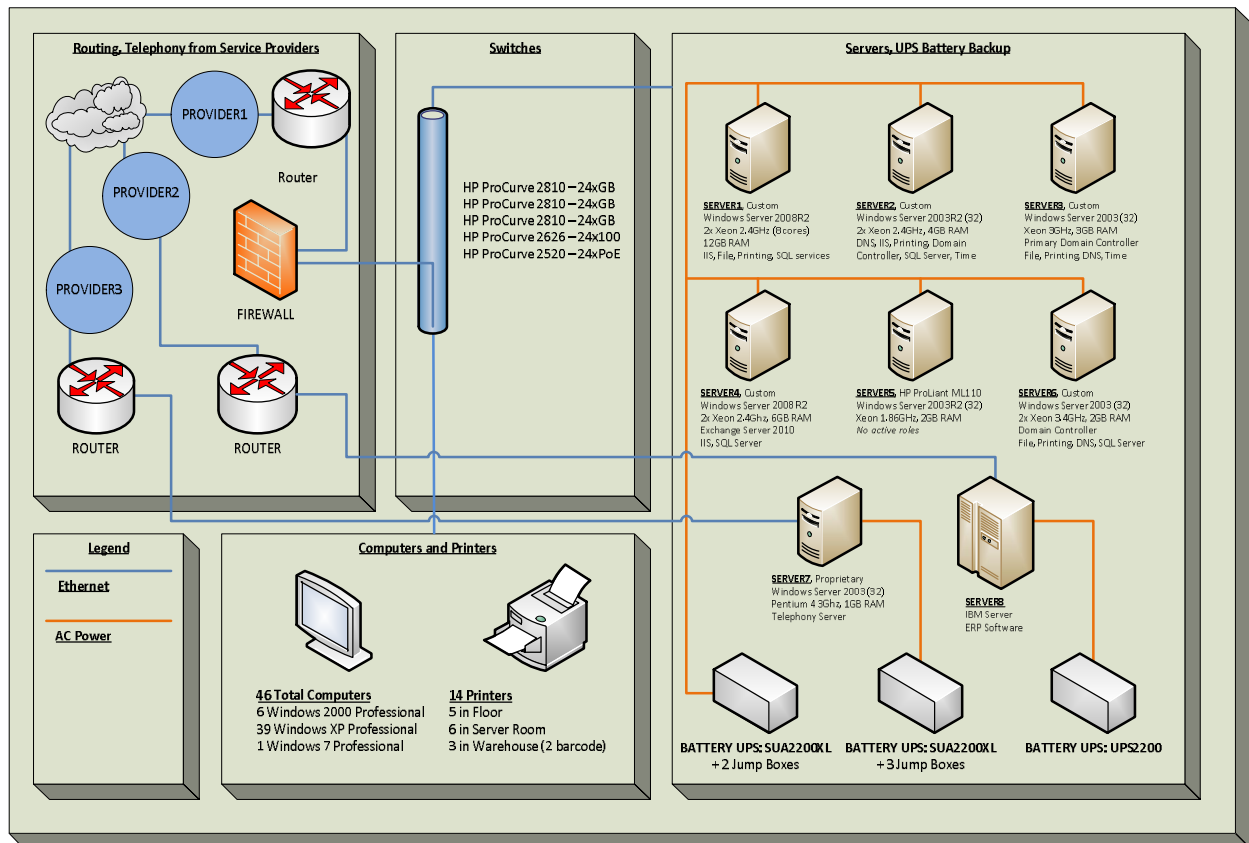
RECOMMENDED

- There are few items that needs to be reconsidered in the way the servers are designed:
    - The exchange server should also have the DNS role for redundancy.
    - The old Goldmine server should be retired from the network since it is not holding any roles.
    - The Blackberry server application doesn't require a dedicated server. We could either install the software on the exchange server or on the new Goldmine server. These 2 previous options would eliminate 2 servers from the network, therefore should reduce the monthly cost on maintenance for Company X.
    - Install Common Operating Environment (COE). All workstations should be on the same operating system for a smoother network
    - Upgrade Symantec End Point Protection to the latest version.
    - Clean up the server room and label everything
    - The points of Sales are outdated. We need to research and present a solution that will utilize a more current technology, especially for the devices used to capture Credit card information and kiosks. Also and while we understand that the workstations used are only dummy terminals for the AS 400 emulation software, most of the

devices are running Windows 2000 Professional as an Operating System.

The following graphic layout represents how we would like to re-configure Company X's network:

Configuration Diagram

Routing, Telephony from Service Providers

PROVIDER1

PROVIDER2

PROVIDER3

Router

FIREWALL

ROUTER   ROUTER

Switches

HP ProCurve 2810 – 24xGB
HP ProCurve 2810 – 24xGB
HP ProCurve 2810 – 24xGB
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Servers, UPS Battery Backup

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Xeon 3GHz, 3GB RAM
Primary Domain Controller
File, Printing, DNS, Time

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Windows Server 2008 R2
2x Xeon 2.4Ghz, 6GB RAM
Exchange Server 2010
IIS, SQL Server

SERVER5, HP ProLiant ML110
Windows Server 2003R2 (32)
Xeon 1.86GHz, 2GB RAM
No active roles

SERVER6, Custom
Windows Server 2003 (32)
2x Xeon 3.4GHz, 2GB RAM
Domain Controller
File, Printing, DNS, SQL Server

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SERVER8,
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ONGOING MAINTENANCE & SERVICE

About Computing and Consulting, LLC. provides full maintenance and help desk service for our client's IT infrastructure.

Services include, but are not limited:

- Full IT department services
- Network management and service
- Workstation and server upgrades, troubleshooting, and maintenance
- Help desk solutions
- On call services 24 hours a day, 7 days a week