

**Faulkner Design Studios
IT Infrastructure Assessment**

IT MAX Group

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we make IT work

Network Architecture and Performance

IT MAX Score

8 /10

Overview:

- AT&T T-1 Internet connection at the Schaumburg branch, terminated at Cisco 1721 router
- 27 PCs connected through two unmanaged Cisco SD216 desktop switches in a LAN configuration
- Wireless network configured for use with laptops and Apple iPhones. Single access point with a residential Netgear 801.11a router. At 60% in its lowest reading, WiFi signal strength is adequate for your size office.

Risks & Issues

- Found no network documentation. In case of a fault, it would take 3-4 hours to figure out the network routes and what each device is responsible for. In case network/domain configuration needs to change, the lack of documentation creates a risk of triggering resource conflicts and knocking critical sources offline.
- Currently two different servers serve as file servers with data distributed across those servers. There is a network attached storage (NAS) device that has approximately 100GB of storage left. At the current growth of the dataset, it will fill up in approximately 6 months with no way to scale it.
- No connectivity between the Schaumburg and Chicago branches results in increased traffic, storage, lack of standardized file sharing and lack of unified backup strategy.

Recommendations

- Develop a detailed network diagram with device/unit configuration reports for LAN, static and DHCP Addressing
- Consider installing a Direct Attached Storage device with a RAID array that can be stacked for scalability purposes. You can then move all of the data onto this array and organize it so that users don't have to look for information on different servers.
- Consider establishing a full-time VPN connection between the Schaumburg and Chicago branches for better resource integration.

Business Continuity

IT MAX Score

5 /10

Overview:

- Tape backup configured (weekly schedule) for file server; no backup for Microsoft Exchange
- No offsite backup
- No disaster recovery plan in place

Risks & Issues

- Microsoft Exchange, Microsoft SQL Server, and Blackberry Enterprise Server all run on the same server (see "Hardware"). It's OK to combine the Exchange Server 2003 and Blackberry Server on one box, but SQL Server needs its own server to function properly. This has caused some instability in the past, but has even more significant future business continuity implications.
- Your two servers are currently out of warranty, and one is near the end of its planned lifecycle. In case of failure, the delays with getting technical help or spare parts for these two machines can result in longer than average, expensive down times. The impact may be especially significant with the server that houses your domain controller. An outage there may disable resources like the exchange server, SQL server, DHCP server and NAS.
- Microsoft Exchange Server is not currently backed up. This means that none of the email messages, contacts and calendar items are recoverable in the event of a major data loss.
- No disaster recovery plan in place. No procedure in place that can be followed to restore components or full system functionality. In case of disaster, this can lead to longer down times and outages.

Recommendations

- Provide separate server for Exchange 2003 and Blackberry Enterprise Server
- Provide separate server for SQL Server 2005
- Install a new domain controller with Microsoft Server 2008 on it to run the network and migrate all operation masters to the new machine having the old domain controller as the backup
- Configure backup of Microsoft Exchange Server
- Consider offsite backup for enhanced reliability and security of your backed up data
- Create a disaster recovery plan

Security

IT MAX Score

4 /10

Overview:

- All 27 PCs belong to a Windows domain with a domain controller used for Active Directory Services
- McAfee personal anti-virus software installed on all PCs; automatic updates enabled on 16 of the 27 PCs
- Unmanaged Cisco PIX office firewall
- No spam filtering or web content management solutions
- No spyware removal solution in use

Risks & Issues

- Group policy is not enforced on the network
- Password complexity is not enforced
- Externally facing security appliance (Cisco PIX) has a default password
- Network traffic control appliances have default passwords
- Found network shares that look like they need to have restricted access. All information is currently available to all on the network.
- All users use the same user ID and password for Cisco VPN connection.
- DNS Server Logs showed unauthorized queries made against it
- No centralized management of Microsoft Security Updates

Recommendations

- Create and enforce a group policy that will
 - Centralize user profiles and user documents
 - Centralize control over workstations
 - Map network resources
 - Map printers
 - Enforce passwords
- Modify default passwords on all security hardware.
- Integrate Cisco VPN authentication with Active Directory through RADIUS
- Secure the DNS Server and make sure that only internal IPs are able to query it
- Install and configure Windows Update Services
- Enable McAfee automatic updates on all PCs

Hardware Evaluation

IT MAX Score

7 /10

Overview:

- Server 1:
 - Custom box with no documentation; near end of life
 - Microsoft Exchange, Microsoft SQL Server and Blackberry Server, file sharing
 - Storage at 78%
 - Average CPU load 91%
 - Estimated time for running out of storage space: 3 months; no storage upgrade path
 - Server is overloaded, causing slowdowns and instability during peak times.
 - No warranty
- Server 2:
 - HP DL360 approximately 3 years old
 - Acts as a file sharing server and a domain controller
 - Storage at 62%
 - Average CPU load 48%
 - No performance issues
 - No warranty
- There are 20 PCs (mix of Dell, HP and eMachines) and 7 Laptops (Toshiba, IBM and HP)
- 3 all-in-one color inkjet printers approximately 2 years old.

Risks & Issues

- The two servers are currently out of warranty. See “business continuity” for details and implications.
- Server 1 is underpowered and houses too many incompatible, mission-critical applications. See “business continuity” for details and implications.
- Although a lesser issue, it is also unknown which PCs and laptops are under warranty. With no loaner/replacement equipment in stock, equipment failures here can lead to high costs in employee productivity.

Recommendations

- Evaluate replacing your two servers with new, more powerful machines in lieu of purchasing extended warranties for the old ones (minimal price differential). These will resolve your stability and application performance issues and offer greater business continuity.
- Replace inkjet all-in-one printers with newer, faster laser copier/printer machines. These offer much lower per page printing costs. You will likely recoup your investment in 6-9 months and enjoy considerable savings thereafter.

Desktop, Server and Network Management

IT MAX Score

6 /10

Overview:

- An outside IT contractor (single person) handles all help desk support, server management and network management responsibilities.
- Office manager is responsible for all communication and the submitting of help requests to the consultant.
- Break-fix support model; mostly onsite service; no remote troubleshooting tools are used.
- Every support incident is billed hourly, invoiced of a monthly basis.

Risks & Issues

- A single person is now handling your IT support for 27 PCs, 2 Servers and 2 network locations. Under this model, you could not effectively solve two issues at a time. This is especially acute for issues that involve your two separate locations.
- With onsite-only support, you are experiencing higher than normal delays with getting your issues addressed. This may hamper productivity at your office and can lead to significant losses with wider-scale incidents.
- You spend unnecessary time by having your employees escalate IT issues to the office manager, who then communicates to the IT contractor, who then calls the employee for the same story and to try and address the issue. This is done in an attempt to minimize IT contractor fees, but this has adverse effects on your employees' productivity.
- It seems as though common preventative maintenance processes (security and driver updates, hard drive defragmenting, spyware removal) are not addressed. This may contribute to some of the system performance issues you've been having over the last 6 months.

Recommendations

- Consider a combination of IT MAX Support and IT MAX Time services to take care of your it issues going forward. IT MAX Support all-inclusive, flat-fee support plans can lower your monthly costs by up to 60% compared to what you're paying now. Prepaying for a discounted block of IT MAX Time hours can help you save on common projects like expanding your network (planned in May) and adding a QuickBooks server (June).

Top 5 Risks/Issues to Address

- 1 Security:** change default passwords on all network and security equipment. Your network is now exposed to outside intrusion that can jeopardize your data and ruin your equipment beyond repair.
- 2 Business Continuity:** Microsoft Exchange, Microsoft SQL Server, and Blackberry Enterprise Server all run on the same server. It's OK to combine the Exchange Server 2003 and Blackberry Server one box, but SQL Server needs its own server to function properly. This has caused some instability in the past, but has even more significant future business continuity implication.
- 3 Business Continuity:** Your two servers are currently out of warranty, and one is near the end of its planned lifecycle. In case of failure, the delays with getting technical help or spare parts for these two machines can result in longer than average, expensive down times. The impact may be especially significant with the server that houses your domain controller. An outage there may disable resources like the exchange server, SQL server, DHCP server and NAS.
- 4 Business Continuity:** Your Microsoft Exchange Server is currently not backed up. This means that all of your email, calendar information, contacts, notes and other records are not recoverable after a major data loss incident. This is a major issue since you keep all of your customer contacts and contract information in Outlook.
- 5 Desktop, Server and Network Management:** Your current model does not allow you to address more than one issue at a time. The onsite-only service model causes significant delays in getting your problems addressed.

To discuss these or any other recommendations in this report, please contact IT MAX Group at 888-77-ITMAX.

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About IT MAX Group

In business for over 10 years, IT MAX Group provides IT support and services to small businesses in Chicagoland. We have helped many companies like yours to stabilize IT budgets, increase productivity and eliminate technology headaches. Spend your time doing what you do best — and let us do the same for your business.