

Wellness Check

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This Wellness Check is a service provided by D3 TECHNOLOGIES to select customers. This document provides an overview of the customer's unique Information Systems environment, its requirements, and its current status. It also serves as reference point when planning future Information Systems needs.

ABC Company

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4 INTRODUCTION

This document, created during the Wellness Check, serves two primary purposes: first, to enable D3 Technologies to learn about your system in order to provide the best services possible; and second, to create documentation to allow your company to understand your Information Technology capabilities and assist when planning for future needs.

4.1 ABOUT ABC COMPANY

ABC Company was founded in 1998, and provides widgets to companies throughout the Ozarks. In addition to selling and supporting the widgets, ABC Company also contracts their experience and services to provide widget enhancing services. ABC Company has 1 office located in Springfield, Missouri, and its sales territories spans across the Ozarks region, with projected growth throughout the Midwestern United States.

4.2 TECHNOLOGY AND ABC COMPANY

ABC Company provides cutting-edge widgets to companies throughout the Ozarks. The software ABC Company uses to make widgets requires high-end workstations to run, and many applications require specialized hardware for their use. At ABC Company, the responsibility of maintaining the Information System is handled by the owner.

4.3 THE ABC COMPANY INFORMATION SYSTEM

The ABC Company information system is advanced compared to most companies of similar size. ABC Company relies heavily upon Microsoft® Dynamics™ CRM software to process all of their workflows. Further, the Dynamics CRM software has been integrated into the Microsoft Windows® Small Business Server 2003 domain, along with Microsoft Exchange and Internet Information Services. Microsoft Dynamics CRM relies upon Microsoft SQL Server® to manage the database behind the application.

ABC Company utilizes ID360, a marketing and web development company, to manage the company website and to provide external email services. ABC Company uses the Microsoft POP3 Connector to link their Exchange server with their email provider's POP3 server. The employees of ABC Company also have cell phones that connect with Exchange to enable the employees to manage their email while out of the office.

To facilitate communication between the offices, ABC Company requires a number of communication methods for their use. As previously mentioned, ABC Company provides key employees with a cell phone with the capability to access the company's Exchange server. In addition to email communication, ABC Company has implemented an IP Phone system. This phone system connects all the offices and a few employees' homes into the Springfield office's phone lines. The IP Phone system offers the ability to forward calls to a cell phone and to send voicemail messages to the recipient in an email. Finally, ABC Company also utilizes AOL Instant Messenger® to provide instant messaging capabilities between all employees.

Since ABC Company provides widgets and support for their customers, the information system must also support this aspect of the company. Although the technical support aspect of the Information System is hosted by third-party companies, many of the daily employee operations are based upon these support systems. The

systems used include a live-chat feature on the company website and associated client applications on the employees' machines. In addition to the live chat, a number of phone numbers are forwarded into the IP Phone system, and employees providing technical support are required to log into the appropriate IP Phone group to receive calls. To provide remote widget training on their customer's computers, ABC Company utilizes Citrix GoToAssist®, Citrix GoToTraining®, and Citrix GoToMeeting®. The software support process is managed through Dynamics CRM, and all employees involved in support use both email and FTP services to exchange data with customers.

5 WIDE AREA NETWORK

ABC Company faces the challenge of connecting their office and employees who work from home or who frequently travel in order to efficiently use the Information System. To provide this connectivity, ABC Company relies upon local Internet Services Providers. Table 5-1, below, lists the office's Internet Service Provider, the type of service provided, and the service provider's support number.

Office Location	Internet Services Provider	Connection Type	Phone Number Service is On	Service PIN (After Acct #)	Contact Information
Springfield, Missouri	Springnet (City Utilities)	Fiber Optic			(417) 874-8000

Table 5-1, List of Wide Area Network Service Providers

5.1 TOPOLOGY

Since ABC Company currently has only a single office, this section does not apply.

5.2 SECURITY

ABC Company provides highly specialized widgets in the Ozarks region, and their Information System contains proprietary, sensitive, and confidential data. The protection of this data is critical to the daily operation of the company. To protect this data from external entities, the office employs a hardware firewall to filter Internet traffic. The Springfield office also employs "tiered" hardware firewalls, with the first firewall filtering all traffic not bound to ABC Company's public networks. Every firewall has been configured to block all incoming traffic through the WAN, and exceptions have only been created for essential services. The VPN connection between remote employees and the Springfield office provides encryption and tunneling of data exchanged between internal resources.

In addition to threats from outside their networks, ABC Company must also protect their data from internal threats and visitors. To protect the ABC Company network from threats from visitors, select offices have created an additional LAN for the visitors to use, and have configured the gateway to be a DMZ port on the Zywall security appliance. This effectively removes all traffic from the ABC Company VPN and LAN connections, yet still provides visitors with access to the Internet.

The Zywall security appliances are the bridge between the remote employees' LANs and the network resources available at the Springfield office. Because of this critical role in the daily operations of ABC Company, the Zywalls have been configured to log critical information, and then to forward the logs to a server at the Springfield office. This logging and transportation is provided through the Zywall syslog facilities and a daemon running on UTILITY_SERVER. These logs are then stored in a MySQL database for auditing purposes.

6 LOCAL AREA NETWORKS

The ABC Company Local Area Networks are based on a Class C private IP addressing scheme. Each office is placed on a separate subnet, and connections are maintained between the subnets through VPN connections.

6.1 SPRINGFIELD, MISSOURI OFFICE

The Springfield, Missouri, office serves as the hub of the ABC Company network. It is on this LAN that the Information Technology is concentrated, and all the other offices rely upon this office for inter-office communication. However, there are 4 distinct LANs at the Springfield office and following tables and charts contain the topology and configuration information pertaining to those networks. ABC Company is only responsible for the configuration of their office LAN and the Training LAN.

Local Area Network	Network ID	Subnet Mask	Default Gateway	DNS Addresses	WINS Addresses
ABC Office LAN	192.168.1.0	255.255.255.0	192.168.1.1	123.123.13.13 123.13.123.12	192.168.1.254
ABC Visitor LAN	192.168.2.0	255.255.255.0	192.168.2.1		

Table 6-1, Springfield LAN Network Information

6.1.1 OFFICE CABLE PLANT

The Springfield Office cable plant is concentrated in the South middle of the building. It consists of a single electrical closet housing the utility demarcation points, and an adjacent server closet. There is a second network closet housed in a cabinet in the large training room to service the Training LAN.

6.1.2 NETWORK PRINTERS

Printer Name	Manufacturer	Model	Serial	IP Address	Server	Function(s)
Color-Springfield Office	Hewlett-Packard	Color LaserJet 2840 PS	XXXXXXXXXX	192.168.1.231	SBS_SERVER, UTILITY_SERVER	Print, Scan, Copy, Fax
B&W at Main Desk	Hewlett-Packard	LaserJet 4000n Series PLC 5e	XXXXXXXXXX	192.168.1.54	SBS_SERVER	Print

Table 6-2, Springfield Office Printers

7 INFORMATION TECHNOLOGY SYSTEM

The ABC Company information system is critical to the businesses' daily operation. This section highlights the technology which supports the information system, roles of the technology, and the information system's dependency upon the particular system. Systems which are classified as "Critical" are a required part of D3 Technology's daily operations, and the company would cease to function if one or more of these systems were unavailable. Systems classified as "Essential" are not critical to daily operations, but the functions they perform would be difficult to operate without. Their absence, however, will not significantly affect the company's operations. Systems classified as "Non-Essential" are not necessary for daily operations, and a disruption in their service would only be an inconvenience.

7.1 SBS_SERVER

SBS_SERVER is a Microsoft Windows Small Business Server 2003 server, and, as such, is the only domain controller for ABC Company. This alone makes the system critical- without the domain controller, users will be unable to access network resources or their machines. In addition to providing Active Directory services, SBS_SERVER provides Exchange email services, which have been integrated (through Outlook) into the company's CRM workflow. Many tasks performed by this integration require the Exchange Server, as other server types will not be able to handle the data. In addition to CRM, Exchange public folders are utilized by the company to provide resources planning and schedule management for all employees.

SBS_SERVER also serves as the remote access server for ABC Company, and provides connections to an average of four users each day. This remote access function allows users to access the company resources when away from the office. Fax and printer services are provided by SBS_SERVER.

Role in the Information System: CRITICAL

System Information:

System Name	SBS_SERVER
Domain	ABC.LOCAL
Operating System	Windows Small Business Server 2003, Standard Edition Service Pack 2
Processor	Intel Celeron 2.0 GHz
RAM	4 GB
NIC	2x 1Gbps

Table 7-1, SBS_SERVER System Information

System Roles: Active Directory Domain Controller, Exchange Server, SharePoint Server, remote access server, file server, print server, fax server

Vendor Support Information:

Serial Number	Vendor	Vendor Phone	Vendor Web
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123654	Equus Nobilis	(800) 576-7929	www.d3pact.com/nobilis.php
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Table 7-2, SBS_SERVER Vendor Support Information

7.2 CRM_SERVER

CRM_SERVER is a Microsoft Windows Server 2003 Standard Edition server which hosts the company's CRM and accounting data. ABC Company requires CRM for daily operations, and this requirement has elevated this server to the single most important aspect of the Information System in the user's eyes.

Role in the Information System: CRITICAL

System Information:

System Name	CRM_SERVER
Domain	ABC.LOCAL
Operating System	Windows Server 2003 Standard Edition R2 Service Pack 2
Processor	2x Intel Xeon E5320 1.9GHz
RAM	4 GB
NIC	2x 1Gbps

Table 7-3, CRM_SERVER System Information

Vendor Support Information:

Serial Number	Vendor	Vendor Phone	Vendor Web
123456	Equus Nobilis	(800) 576-7929	www.d3pact.com/nobilis.php

Table 7-4, CRM_SERVER Vendor Support Information

7.3 UTILITY_SERVER

UTILITY_SERVER runs Windows XP Professional and primarily provides HP scanner capabilities to the Springfield office. This server is necessary to enable any scanning of documents from the server. In addition to hosting the scanner server, UTILITY_SERVER provides serves to log information from all of the office's Zywall Internet Security Appliances, providing records and statistics. Additionally, UTILITY_SERVER serves as a "security server", providing the network administrators with a platform to conduct packet sniffing, intrusion detection, and host scanning. Antivirus software management and helpdesk functions are also the responsibility of this server.

Role in the Information System: ESSENTIAL

System Information:

System Name	UTILITY_SERVER
Domain	ABC.LOCAL
Operating System	Windows XP Professional Media Center Edition, Service Pack 3
Processor	1x Intel Pentium 4 2.8GHz
RAM	3.5 GB
NIC	1x 1Gbps, 1x 100Mbps

Table 7-5, UTILITY_SERVER System Information

Vendor Support Information:

Serial Number	Vendor	Vendor Phone	Vendor Web
654321	Equus Nobilis	(800) 576-7929	www.d3pact.com/nobilis.php

Table 7-6, UTILITY_SERVER Vendor Support Information

7.4 IP_SERVER

IP_SERVER is ABC Company' IP Phone server. This server's operation is critical to ABC Company' internal and external communication. The server is not part of the domain, and has its own public IP address. All the IP Phones connect to it through the external address, and utilize its internal IP address for TFTP functions.

Role in the Information System: CRITICAL

System Information:

System Name	IP_SERVER
Domain	WORKGROUP
Operating System	Windows XP Professional Service Pack 2
Processor	1x Intel Celeron 1.2 GHz
RAM	1 GB
NIC	1x 100 Mbps

Table 7-7, IP_SERVER System Information

Vendor Support Information:

Serial Number	Vendor	Vendor Phone	Vendor Web
	IP Vendor	(800) 555-5555	www.d3pact.com/nobilis.php

Table 7-8, IP_SERVER Vendor Support Information

7.5 FILE_SERVER

D3SSERVER4 is ABC Company File and Vault Manufacturing Server. This system hosts the Vault Manufacturing database and filestore, which stores critical documentation, project information, and resources. Additionally, FILE_SERVER serves as the company's file server, providing users with a secure method to back up personal files, and to host a number of resources for employees.

Role in the Information System: CRITICAL

System Information:

System Name	FILE_SERVER
Domain	ABC.LOCAL
Operating System	Microsoft Windows Server 2003 Standard Edition
Processor	1x Intel Xeon 2.6 GHz
RAM	4 GB
NIC	2x 1000 Mbps

Table 7-9, FILE_SERVER System Information

Vendor Support Information:

Serial Number	Vendor	Vendor Phone	Vendor Web
456123	Equus Computer Systems	(800) 576-7929	www.d3pact.com/nobilis.php

Table 7-10, FILE_SERVER Vendor Support Information

8 DISASTER RECOVERY PLANNING

The ABC Company Information System Disaster Plan has been established, and is maintained as a separate document to this review.

9 INFORMATION SYSTEMS SECURITY

The ABC Company Information System is essential to ABC Company' business, and as such, numerous protective measures are in place. The "edge" of the network is protected by ZyXEL ZyWall Security Appliances, which filter all incoming traffic except that which is explicitly allowed. Each computer is also protected by the Windows Firewall. The domain group policy is configured to disable the Windows Firewall when the system is connected to the ABC network (a trusted network); the firewall is enabled, with no options to disable it, when a computer is not connected to the ABC network. Users are allowed to create exceptions to the firewall list to allow them to be productive while away from the office.

ABC utilizes AVG Network Security 9.5 to protect the server and client computers from malicious software. Global policies are set and controlled by the AVG Administrative console, and user actions with the software are restricted. All AVG licenses are maintained in a single agreement, which provides for simple renewal procedures.

10 FUTURE NETWORK PLANNING

As ABC Company has grown, the Information System has as well. The current infrastructure is at varying degrees of capacity.

10.1 CRITICAL BUSINESS SYSTEMS

ABC Company can add approximately 40 more Active Directory user licenses without the need for software upgrades. In regards to the Microsoft Exchange email system, ABC Company is at 80% capacity. The maximum size limit of the Microsoft Exchange Information Store has been reached in the past, and is now managed through Exchange Mailbox policies. The Altigen IP Phone Server is currently at capacity in regards to POTS lines, and will require additional hardware to expand.

10.2 NETWORK INFRASTRUCTURE

The ABC network infrastructure runs at 100Mbps, with 1Gbps connections between critical systems. The WAN connection is averaging about 60% of the paid capacity, with the ability to "burst" up to 30 times the current usage.

10.3 CLIENT OPERATING SYSTEMS

ABC Company recognizes that a number of systems are aging, and will need replacement within two years. A plan is in place for distributing new systems as they are acquired. A number of the client applications are also becoming outdated, with vendor support to end soon or having already ended. Software upgrades, such as

Microsoft Office 2010, are required to maintain current support and updates. Windows XP Professional (Service Pack 3) has already entered its Extended Support Lifecycle, and security updates will end on April 8, 2014.

11 RECOMMENDATIONS

After reviewing the ABC Company Information Systems infrastructure, we propose the following recommendations to improve the information systems' ability to serve the business.

11.1 ANTIMALWARE SOFTWARE

ABC needs to purchase additional anti-malware licenses to cover all machines. Currently, only critical systems and certain users have protection. Providing malware protection for all computer systems would further enhance the security of ABC Company' network and information system.

11.2 WINDOWS SERVER SOFTWARE

As ABC Company' network grows, options such as the Microsoft Transition Pack, which provides a low-cost upgrade from Windows Small Business Server 2003 to the full-edition offerings of the software needs to be explored. This would improve system performance, availability, and increase the current networks capacity for additional users and systems.

11.3 WINDOWS CLIENT OPERATING SYSTEMS AND SOFTWARE

A number of client systems that ABC uses have entered Microsoft's Extended Support Phase, which means that free technical support is no longer available and only critical security updates will be issued. Additionally, a number of the client software applications have been replaced by future versions, and are also in the Extended Support Phase. Microsoft has newer versions of both the Windows Client and Office Suites, which will increase employee productivity, provide more reliability, and ensure that required updates can be obtained. Further, these systems would be eligible for no-cost support calls to Microsoft. It is also recommended that system lifecycles be taken into account, and that current warranties are maintained for all systems.