ITEC 495 V1WW (SU10)

Team 1
Michael Wilson
Craig Irwin
Randy Haines
Casey Jensen

Assignment 1-3-6: Project Write Up

Professor Wayne Smith

July 22, 2010

Final Project Report

for

Windows 2008/2008R2 Active Directory Implementation

Version 1.0 approved

Prepared by Michael Wilson, Craig Irwin, Casey Jensen, Randy Haines

MCRC Consulting

July 22, 2010

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
Michael Wilson	7-21-10	Initial Document Draft	1.0
Casey Jensen	7-22-10	Incorporated all section inputs	1.1
Group	7-22-10	Multiple changes on all sections	1.2
Michael Wilson	7-23-10	Added charts to cost section	1.3
Group	7-28-10	Multiple changes on all sections	1.4
Casey Jensen	7-29-10	Updated appendix and document cleanup	1.5
Craig Irwin	7-29-10	Added workstation recommendations, updated bibliography.	1.6
Randy Haines	7-31-2010	Added additional annotated bibliography	1.7

Group Members

Name	Role	Responsibilities
Michael Wilson	Project Manager	Oversee detailed implementation plan. Defines high-level requirements, communicates change requests, and reports status of project to all.
Craig Irwin	Documentation Specialist	Develop end user and administrative documentation. Records meeting minutes. Reports change request, which may require change of project scope.
Casey Jensen	Validation Specialist	Provide test cases, approves test cases, and conduct testing.
Randy Haines	Technical Engineer	Provide architecture design of project. Provides important information to help determine all requirements are included in proposed solution.

1. Final Project Summary

1.1. Content Summary

The scope of the project included the design of the Windows 2008/2008R2 Active Directory infrastructure. While building it for the demands today, the solution will also support future functionality for the Utility Company. MCRC Consulting will provide the following:

- Comprehensive Active Directory structure design, which will include
    - Scalability
    - Control user access
    - Widely supported ease of administration
    - Restoration needs
    - Centralized Security
- Diagrams of the proposed Active Directory structure
- Documentation
    - Function Specification
    - Technical Specification

These are only recommendations for a design. Implementation will be addressed in the future.

The schedule of the project is listed below. Everything was completed by the final completion date, but some events went over their initial allotted time. Items that went past due are marked in red.

Task	Start Date	End Date
Customer Visit	5/24/2010	5/28/2010
Vision and Scope	5/24/2010	5/30/2010
Project Charter	5/24/2010	6/13/2010
Functional Specification	5/24/2010	6/13/2010
Current State Diagram	5/24/2010	6/13/2010
Statement of Work	6/21/2010	7/3/2010
Future State Diagram	6/21/2010	7/10/2010
Technical Specification	6/21/2010	7/10/2010
Test Cases	7/10/2010	7/17/2010
Closure Agreement	7/17/2010	7/24/2010

Cost

Cost is measured by a rate of $165.00 an hour. A cost summary is provided below.

Life Cycle Activity	Project to Date (labor-hours)	
	Planned Effort	Actual Effort
Customer site visit	8	8
Risk Analysis	4	4
In depth discussion with customer on business requirements (Current State Capture, Project Charter)	24	24
Functional Specification Document	16	14
Technical Specification	16	17
Statement of Work	14	14
Future State Diagram	16	17
Test Cases	16	14
Closing Meeting	2	2

Totals   116   114

Life Cycle Activity	Planned Amount	Actual Amount
Customer site visit	$1,320	$1,320
Risk Analysis	$660	$660
In depth discussion with customer on business requirements (Project, Charter, Current State Capture)	$1980	$1980
Functional Specification Document	$3960	$3960
Technical Specification	$2640	$2805
Statement of Work	$2310	$2310
Future State Diagram	$2640	$2805
Test Cases	$2640	$2310
Closing Meeting	$330	$330
Totals	$18,480	$18,150

Project closed at $18,150 and was $330 below budget.

All Travel Expenses are considered pre-sales will be documented at a later time.

Risks in the project included the following:

✓ Some departments are spread across the two buildings and some are only located in one.
- Departments that are spread across the two buildings, Organizational Units will be created for each building for the same department. This will ensure the users at each building are setup with the proper security settings in Active Directory and through Group Policy.
- Securing Finance department data
- Permissions will be set so only Finance department personal and Executives have access to the sensitive financial data.

✓ Productivity slowdown as employees learn to use Active Directory
- To minimize this risk Utility Company technical staff will receive training on how to administer the Active Directory structure that is put in place.

✓ End user impact

✓ MCRC Consulting will work closely with each department to ensure that the correct security settings are in place for all data in the network, ensuring only the correct users have access to specific data and resources.

Communication Strategies
The team has used a variety of communication tools including:
- ❑ Google site
- ❑ FranklinLive
- ❑ Email

IT Strategies
MCRC will employ the power of Active Directory to make the Utility Company operate in a more secure and efficient manor. Active Directory will simplify administration tasks, and allow the IT support staff better overall of secure access for network resources. MCRC also used a risk-based approach to look at the current business environment, and validated the proposed solution would be able to meet compliance standards and function well once deployed.

Project Change Requirements
All MCRC Consulting projects shall fall within the provided scope of work and the customer must approve the work completed before invoicing. Any changes that are outside the scope of work will require a change notice, which will need to be approved by the Project Manager and the customer. This may require additional funds to complete.

Project Assumptions
Before a Windows 2008 R2 Active Directory can be implemented Utility Company is expected to have machines that meet the following specifications:

Microsoft Server Recommendations.
☐ 1.4 GHZ processor
☐ 512 MB Ram
☐ 32 GB of free hard drive space
☐ (800 x 600) Super VGA or better monitor

☐ Keyboard, mouse, DVD drive
☐ Internet Access (Microsoft 2008).

In order to have a solid running system, it is recommended that these minimum requirements be exceeded. MCRC recommends the following specifications for a company with more than one location, and that will support roughly 500 people.

MCRC Server Recommendations
- ❑ 2.0 GHZ or greater Pentium processor
- ❑ 4 GB of Ram
- ❑ 100 GB of hard drive space

These increased specifications will allow the network to work in a more efficient manor (Microsoft 2008).

MCRC Workstation Recommendations:
- ❑ 2.0 GHz dual core processor
- ❑ 4 GB of ram,
- ❑ 100 GB hard drive,
- ❑ Windows 7 operating system

1.2. Lessons Learned

- • Why was this particular information technology problem chosen?

MCRC consulting chose this particular project, Windows 2008/2008R2 Active Directory because Windows Active Directory is one of the hottest technologies available today, so taking on this problem as the team capstone project would better prepare MCRC team members for the latest "real world" information technology practices and technology.

- • What decisions were made when developing the project proposal and draft?

When developing the project proposal MCRC gathered as a team and first determined what the Utility Company's true needs were. It was decided that the company and its two cites would greatly benefit from centralized management which would save the customer on administrative costs and reduce support on system. MCRC also felt that while putting the proposal together, it was important to effectively communicate in a clear concise written manor that would be at the technical level of understanding to the customer.

- • What were the major challenges faced during the project and how were they resolved?

Health, family, and time issues played a role in the overall project. The project lead has some health issues at the beginning of the project, and the project engineer had some family obligations. Both of these challenges were faced, and overcome by the team.

- • What revisions were made (if any) in response to the business practitioner and/or professor?

  Upon business practitioners review of Vision and Scope and project status reports MCRC followed the following advice of revising our format using numbering and bullets to give our reports easier to

read along documents. Before the practitioners review most of our reporting and responses were packed into paragraph structure making it harder to see important steps and details. In the practitioners words "*some of your sections should provide easy to recognize points that can be measured at the end. Clear concise communication. Too many words, confuses people and will not be read.*"
Per the advice of the professor, MCRC has set up a Google site for better team collaboration and sharing of team documents. In conjunction with Franklin Live and email correspondence the Google team site has provided useful as a team resource sharing tool.

- If advice was ignored, explain the rationale for those decisions.

During the creation of the vision and scope document, the team did not provide ample time for the practitioner to review and comment on the document before it was submitted for grading. Once change recommendations were received, MCRC edited the document and incorporated the appropriate changes.

- What further improvements should be made to your project if more time were available? In other words, what lessons were learned through the course of the project?

Throughout the Active Directory infrastructure project, MCRC consulting has shown it can provide a professional level of teamwork that with combined efforts creates the necessary technical and managerial skills to develop an Active Directory solution. The following list of lessons learned summarizes some of the new skills and corrective measures MCRC consulting has acquired during this project that will strengthen the skills and actions of each team member as new projects present themselves.

- Within the 15-week course time management was the key element and lessons our group takes away from this project. MCRC set earlier due dates on each component of the project so there would be appropriate time to review with team practitioner, then revise and submit each phase with ample time to spare.
- As part of the lessons learned, MCRC now has a better understanding of the concept of Information Technology and the people, machines, programs, management practices, procedures and industries that are the sum of its parts.

1.3. Learning Outcomes Summary

As MCRC consulting teams Active Directory infrastructure project comes to closure the team has fulfilled many of the outcomes of the information technology program.   Each team member will take with them the following skills and abilities from the project:
- Ability to work and function as a team – Work with others as a team on a "real world" Information Technology project providing input, asking questions, researching, planning, and meeting project goal in a timely manner.
- Communicate effectively and clearly throughout the project as we did when planning, designing and presenting our Active Directory.
- Ability to identify and analyze risks and vulnerabilities that may arise from a project.
- Apply Logical thinking and Critical Analysis to business problem.

- Ability to produce quality documentation pertaining to a large scale project such as, vision and scope, project status report, project whitepapers, and diagramming.
- Have a better understanding of the concept of Information Technology.

1.3.1   Communications

The team has kept in touch using a Google site, FranklinLive, and email. Meetings typically took place on Thursday, but occurred whenever necessary. Meeting minutes were taken and posted to the Google site for group review. Daily emails helped to keep everyone on the same page and gave everyone in the group an ability to feel connected to the team.

1.3.2   Critical Thinking

Each team member was able to provide a different aspect involving critical thinking. This project involved many different aspects, which included project leadership skills, risk analysis, technical knowledge of Active Directory requirements, and knowledge of many different forms of technical documentation.

- ❑ Current Network and Layout Analysis
- ❑ MCRC followed a Risk-Based approach to Architecture design
- ❑ Testing was conducted to make sure design would be requirements
- ❑ Cost constraints were monitored to keep overall budget in perspective
- ❑ Time management principles were used to keep project on schedule
- ❑ Future expansion is a possibility with design

1.3.3   Network Design

The Network design consists of a Microsoft environment used for client/server authentication and control. The current state of the network infrastructure consists of two locations with local area network (LAN) access. The workstations consist of workgroup configurations, which create challenges such as file sharing, printer management, client management, and security controls. The infrastructure that was proposed provides a consolidation of the two LANs to one wide area network (WAN). The WAN centralizes the workstation management utilizing Microsoft Windows Server 2008 Active Directory. Each LAN will host a server with Domain Controllers to allow replication between sites for redundancy. The clients will logon to the Domain controllers for centralized security, management, and resources access.

A Microsoft solution was the choice for the network workstation management and includes the following features which meet the scenario requirements:

- Centralized User management
- Workstation Security
- Ease of administration
- Resource management
- Policy enforcement

Figure 1.0 - Future State
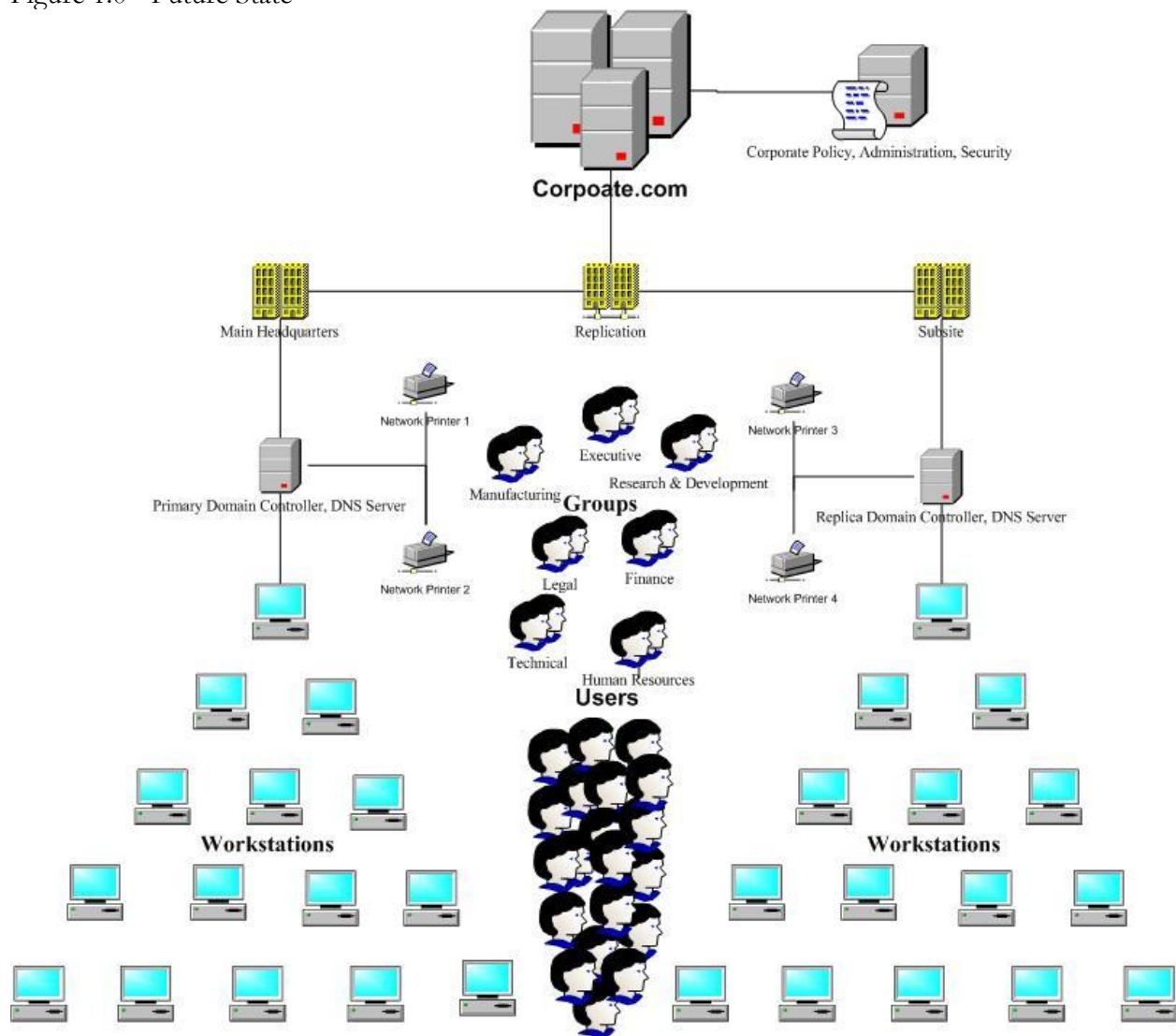
1.3.4   Management Information Systems

The proposed Windows 2008/2008R2 Active Directory structure was developed to fit the unique needs of the Utility Company. By interviewing key stakeholders, and department heads they were able to better understand the organizational structure and related processes involved. In addition to gathering necessary data through interviews a walkthrough of the current network layout of both Utility Company buildings was required to ensure the best Active Directory structure was defined to meet the company's needs and environment. The statement of work will help the current administration to better understand the Windows 2008 R2 setup.

1.3.5   Systems Administration and Scripting

Microsoft domain environments allow administrators to create scripts to perform tasks such as creating shares, installing software, and installing printers. The scripts that were provided in the

statement of work include printer shares and network shares. The customer will define the shares for the scripts to be used during the implementation. According to the Statement of work during the implementation only one script will provided for defined printers and defined network shares. Any scripts that need to be designed further will be outside the scope of work and will require a change notice.

1.3.6   Security

Microsoft provides out the box security controls, which force an end user to meet password complexity requirements. The out of box configuration will not be changed during implementation unless the client administration designates in writing the policy that is required. Other security controls can be implemented utilizing Microsoft Active Directory such as limitations to non-business functions of the operating environment of the workstation. Microsoft Windows Server 2008 also offers network access protection (NAP), which enables client security to be validated before network access is granted to a workstation. NAP is only documented as a feature to the implementation of this project and is outside the scope of work for this project. The implementation of an Active Directory environment does also provide some other out of the box security controls such as:

- Resource Security
- Application Security
- Workstation Security
- User and Group Security

1.3.7   Employability

The scope of the project lists what MCRC will achieve by adapting the current network of the Utility Company and producing plans to convert it to a more efficient and easier to mange Windows 2008 R2 Active Directory implementation. MCRC consulting provides a quality architecture that focuses on meeting the customer needs without impacting the business with excessive downtime.

2. Future directions

While MCRC consulting team was satisfied with their project goals and project outcome of creating an active directory solution that allowed the Utility company controls on file systems from a centralized location, provide data redundancy, and provide windows update services to clients. The team realizes it can build on what it has already created to provide additional benefits to their client.

2.1 Disaster Recovery plan

The customer could benefit greatly from an Active directory disaster recovery plan that would assign various roles and responsibilities to individuals when a disaster situation has occurred. These plans would take the company into an Active directory recovery role to get back up and running in the event of a disaster situation. Plans would also list proper contacts for various response situations such as fire dept., police department, insurance companies, various intercompany personnel such as CEO, accounting (in the event of claims), and company lawyer. Procedures to bring servers back up, reload and restore backup data, and provide temporary department relocation if necessary. Additionally if a major disaster strikes the company, a continuity plan would be added to the disaster recovery effort.

2.2 Power Shell Scripts

With this new Active directory design MCRC could go back in after installation and startup of Active Directory system and set up automated Power Shell scripts that would take much time away from administrator allowing him/her to focus on other tasks. Power Shell scripts could include automations of deploying software updates, adding new user profiles, creating new OU's and scripted backups.

3. Annotated Bibliography

Laudon, K.C. , Laudon, J.P. (2007) Essentials of Business Information systems seventh edition.

Pearson Prentice Hall.

This book was used as a general reference into Business Information systems management

for our team project.

Savill, J. (2009). *The complete guide to Windows Server 2008*. Boston: Addison-Wesley. ISBN: 9780321502728.

This book was used to reference the multiple features of Windows Server 2008, particularly the implementation and use of the Active Directory services.

Luhn, R. (2002). Strategies for Foolproof Backup. *PC World*, *20*(8), 89. Retrieved from Computers & Applied Sciences Complete database.

This article was use to look at options and procedures to consider when implementing a server backup system.

Microsoft. (2008). Windows server 2008 R2: System requirements. Retrieved 7/4/2010, 2010, from http://www.microsoft.com/windowsserver2008/en/us/system-requirements.aspx

(1983). Taking 'disaster' out of computer disaster recovery. *ABA Banking Journal*, *75*(4), 50.

Retrieved from Business Source Complete database.

This article provided out team with a general outline of items to address when planning for disaster recovery. The article outlines steps, procedures and tasks which make the process more simplified.

Whitman, M., & Mattord, H. (2009). *Principles of information security (3rd ed.).* Boston: Thomson Course Technology, Inc.

This book was used to help with security planning and disaster recovery planning of our project. The book offered many security strategies using firewall, policies, and setting up documented plans and procedures in the event of a disaster.

Olson, D. (2006). Back-Up Against the Wall. *Sum News*, *17*(3), 30-31. Retrieved from Business Source Complete database.

This article was used to research different methods for both onsite and offsite backups. The article weight pros and cons for each method which aided in our selection.

(2006). Avoiding Failure. *Best's Review*, *107*(3), 70. Retrieved from Business Source Complete database.

This article was used as a guideline for our team as to the pitfalls of project management. The article discusses procedures that should be used to avoid project failure in information technology projects.

Shimonski, R., & Conrow, C. (2005). 15 Ways to Optimize Microsoft Exchange. *Certification Magazine*, *7*(3), 80-84. Retrieved from Computers & Applied Sciences Complete database.

This article was used to aid in the best methods to use in the planning of the Microsoft exchange mail server. The techniques in the article are based on real world application and offer the some of the best optimization and performance out of Microsoft Exchange when implemented.

ISPE. (2005). *"Gamp Good Practice Guide: IT Infrastructure Control and Compliance,"* 22. Retrieved May 15, 2010.

This book was used to provide some of the implementation controls required for the project. ISPE provides a guideline for system compliance approach.

ISPE. (2008). *"Gamp 5: A Risk-Based Approach to Compliant Gxp Computerized Systems."*

163-222. Retrieved May 15, 2010.

The book provides a more detailed approach to developing requirements for a project. ISPE helps provide a guideline for compliance in a risk based approach computerized systems.

Grimes, B. (2009). Guidelines to achieve centralized management. *NetworkWorld Asia*,
    5(1), 16-17. Retrieved from Business Source Complete database.

    This article was used when looking into centralized management possibilities for out project
as well as used in our whitepaper.

Tomsho, G. (2004). Guide to networking essentials. 4th ed. : Course Materials.
    (2003). Microsoft Solution for Windows based Hosting. WhitePaper. Retrieved from:
    www.microsoft.com

This article was a great resource looking at all aspects of centralized management in networking.
Particularly using windows Active Directory .

4. Appendix A: Vision and Scope - team

Vision and Scope Document

for

Utility Company

Windows 2008/2008R2 Active Directory Implementation

Prepared by MCRC Consulting

May 23, 2010

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
Craig Irwin	6-9-10	Revised section 7.	1.1
Michael Wilson	6-10-10	Revised sections1-4	1.2
Randy Haines	6-10-10	Revised sections 5-6	1.3
Casey Jensen	6-12-10	Revised sections 3-4	1.4

5. Business Requirements

A 500-person utility company with 2 locations requires a secure and efficient directory infrastructure to support the authentication and security needs of the company's users and resources. MCRC will be designing an Active Directory plan that includes security, availability, scalability, and backup capabilities are needed. The design will include Forest, Domains, OU's, Groups, Computers, Users, Security Policies, Group Policy, DNS, and Directory Replication. MS Windows Server 2008 R2 will be used in this environment. MCRC will be completing a design to provide the implementation team hired by the utility company with detailed plans on how to setup the designed Active Directory infrastructure to meet customer needs.

5.1. Background

A 500-person company with two locations definitely requires a secure network capable of centralized email, and active directory services. The company currently has a hosted email environment, with workgroup computers, that share a file storage location with no locked down permissions. This company is rapidly growing and adding additional departments as human resources, finance, legal, Research and Design, manufacturing, and sales. The company's departments will require file systems to be separated and secured.

5.2. Business Opportunity

Windows 2008 R2 Active directory setup is recommended, providing a directory structure, security, and future growth for a backup, and restore solution. The present environment is difficult to update, manage, lacks appropriate security, and can be very susceptible to data loss.   Implementing the recommended Windows Active directory environment will provide a stable, secure and scalable solution for present requirements and future growth.

5.3. Business Objectives and Success Criteria

Business Objectives;
> A) Secure Network
> B) Ease of support
> C) Reduced cost of ownership
> D) Disaster Recovery
> E) Centralized Management

Success Criteria;
> A) Security testing and meets requirements
> B) Demonstrated support reduction
> C) Reduce cost of ownership
> D) Provide scalability for disaster recovery
> E) Reduced administration cost

5.4. Customer or Market Needs

1. Centralized Management
2. Cut down downtime
3. Provide scalability for disaster recovery
4. Provide proper documentation for future troubleshooting
5. Provide scalable management of Active Directory resources

5.5. Business Risks

Potential Business Risks:

> A) Downtime during implementation
> B) Customer does not have appropriate network infrastructure in place
> C) Adoption

6. Vision of the Solution

MCRC Consulting will provide a Windows 2008 R2 Active Directory design. This will include diagramming a layout, and documentation for setting up an Active Directory environment. Our solution of an active directory will allow controls on file systems from a centralized location, provide data redundancy, future scalable backup features, and provide windows update services to clients. This reduces business overhead, increases security, provides better communication, and is scalable supporting future growth.

6.1. Vision Statement

This new and improved Active Directory design will provide a Windows environment that is easier to manage, quicker to operate, and will provide enhanced safety and reliability. A centralized storage and account management system will make data available from anywhere within the organization. It will also allow the employees to get their computer and network related issues taken care of in a more timely fashion.

6.2. Major Features

1. Must be able to support workers in two locations
2. Minimal downtime is expected
3. Easier to manage control of updates patches, and file permissions
4. Data redundancy
5. Future scalable Backup and Restore capabilities
6. Centralized Management

6.3. Assumptions and Dependencies

The current network will be able to support the new design. Both locations have Cat 5 network cabling, routers, and switches. The existing network has been in place for roughly 2 years. The hardware currently in place will also be able to run the desired solution. The company leases all of their equipment for three years, and the new lease started only 3 months ago. All pc's have a minimum of 4 GB of ram, 2.0 GHz dual core processor, 250 GB hard drive, and runs on a windows 7 operating system. The only items that will need to be accounted for will be the new servers. The current servers are not able to support the current project.

7. Scope and Limitations

The scope of the project will be the design of the Windows 2008/2008R2 Active Directory infrastructure that is best suited to meet the current needs and any future needs of the Utility Company. MCRC Consulting will provide the Utility Company with comprehensive Active Directory structure design, and diagrams of the Active Directory structure will be provided.

The project will only address the MCRC Consulting recommend Windows 2008/2008R2 Active Directory structure for the Utility Company. Implementation of recommended Active Directory structure will be addressed in a future project with the Utility Company.

7.1. Scope of Initial Release

The initial release of the Active Directory structure design provided by MCRC Consulting will mirror the current company structure and have the ability to easily grow as needed. The proposed Active Directory structure will consist of two sites, building 1 (main headquarters) and building 2. Each site will contain organizational units for each department physically housed in each building, which will then be broken down into additional organizational units for computers, printers, and users. See below for the organizational structure.

- Building 1
    - Exec
    - Finance
    - Human Resources
    - Legal
    - Sales
    - Technicians
- Building 2
    - Manufacturing
    - Research & Development
    - Technicians

7.2. Scope of Subsequent Releases

Envisioned features for Utility Company include:
- Implementation of Active Directory Structure

- Software Distribution through Group Policy
- Distribution of Windows Updates
- Implementation of Additional Sites
- Active Directory Upgrade to Future Windows Server Releases

7.3. Limitations and Exclusions

- The project is entirely focused on designing an Active Directory infrastructure that meets the Utility Company's current needs for a secure and efficient directory infrastructure and will allow for company growth.
- Implementation of Active Directory infrastructure will not be implemented in this release.

8. Business Context

The Utility Company's current organizational structure consists of Executive, Human Resources, Legal, Finance, Sales, Research & Development, Manufacturing, and Technician departments, which are divided between the two sites. Each department has specific users and computers that require access to the necessary server data to perform their job functions.

MCRC Consulting will need to know all specifications of current network configuration at both of the Utility Company sites and current company structure of departments, organizational structure, and future growth needs in order to provide the best Active Directory infrastructure that will address all current and future needs of Utility Company.

MCRC Consulting will need to interview management to gain a full understanding of all the business processes within the company. Information gathered about the business processes will be used to determine which shared resources users need access to and what the permission level will be.

Throughout the project MCRC Consulting will work closing with the Utility Company's IT department to gain the required knowledge of the Utility Company network and all hardware within the network.

8.1. Stakeholder Profiles

Stakeholder	Major Value	Attitudes	Major Interests	Constraints
Executives	Increased productivity	Highly receptive, and expect high usability	Security and efficiency	Maximum budget = $80,000
IT Staff	Less Administrative overhead	Highly receptive	Security and replication	Must work with current workstations
Users	Quick access to data	System slow	Able to access required resources quickly	Minimal changes requiring training

8.2. Project Priorities

Dimension	Driver (state objective)	Constraint (state limits)	Degree of Freedom (state allowable range)
Schedule	Active Directory infrastructure design completed August 7.	Implementation period undefined	Two weeks to accept Active Directory design
Features	Windows Server 2008 R2 Active Directory structure with Exchange 2010	Documented design only	90% of high priority features must be included in release 1.0
Quality	Address current and future needs		When design is accepted implementation project must be established
Staff	Commencement of Installation	maximum team size is 4+ Utility Company IT Staff	Train IT Staff during implementation process
Cost	Efficient system at reasonable cost	Budget up to $80,000 including training of staff	budget overrun up to 10% acceptable without executive review

8.3. Operating Environment

The Utility Company has 500 users spread between two sites physically located in different regions within the same time zone, one of the sites being the main location. Both sites have shared resources within the site and accessing resources at the other location is difficult. Due to limited connectivity between the two sites users are emailing documents back and forth in order to share them.

The Utility Company network currently contains Windows 7 workstations, two Windows Server 2003 servers (one at each location), Cisco switches and routers for network connectivity, and HP printers. The devices are connected via workgroups for each department.

There is no policies currently in place for system access and access is granted on a need basis. Currently users have access to systems all day long. All users except executives should only have eight to five access to computer systems. Centralized authentication and authorization of users and computers is necessary for the security of the data throughout the network.

Data is generated at both sites which are physically located thirty miles apart. The data generated at both sites needs to be accessed by both branch locations to ensure they have the most current data. Minimal service interruptions will be tolerated for continued business operation.

9. Human Resources

The project requires MCRC Consulting team be identified to provide roles and responsibilities. Each member of the MCRC Consulting team plays an important role in meeting the deadlines of the project. The MCRC Consulting shall resolve conflicts by a group vote. If an agreement cannot be made by terms of a team vote the project manager shall reserve the final decision. MCRC Consulting strategic initiatives shall focus on providing the best approach to the project. MCRC Consulting goals include providing a scalable solution without interruption of business continuity. Changes to the scope of the project must be communicated to all members of the team. The MCRC Consulting team will organize it approach with a project manager, documentation specialist, validation specialist, and technical engineer. The following team strategy will ensure that all areas of the project are covered. Any organizational changes will be immediately notified to any affected parties.

9.1. Team Charter

MCRC Consulting team will consist of a project manager, documentation specialist, validation specialist, and technical engineer. The project manager will work directly with the stakeholders to define requirements to meet the business goals. The project manager will define best approach for mapping process to meet out of the box solution. The project manager will also be responsible for making a final decision when the team cannot reach a common agreement. The documentation specialist for managing all documentation related to the project. The documentation specialist will also be responsible for ensuring that documentation meets compliance standards for the project. The validation specialist will be responsible for testing of the solution put in place. The validation specialist will define solution testing, testing approach, and final approval of testing results. The technical engineer will be responsible for providing technical solution to meet customer requirements. The technical engineer will provide detail technical process to other team members. Technical engineer will also be responsible for carrying out the implementation phase of the project. Decisions regarding the project must be approved by a team vote; if the team cannot reach an agreement the project manager has the final authority decision. Conflicts between team members will only be declared acceptable if they affect the project. Any personal conflict will not be tolerated and any personnel participating in personal conflict will removed with approval votes from team. Removal of a team member requires a majority vote from other team members.

9.2. Technical Skills and Attributes

Name	Skills	Attributes
Michael Wilson	Project Management, management of personnel, and infrastructure concepts.	Strong leadership and dedication
Craig Irwin	Document Management	Dedicated and strong clarification skills
Casey Jensen	Validation Specialist	Strong communication skills and critical thinker

Randy Haines	Technical Engineer	Critical thinking skills and field experience

9.3. Roles and Responsibilities

Name	Role	Responsibilities
Michael Wilson	Project Manager	Oversee detailed implementation plan. Defines high-level requirements, communicates change requests, and reports status of project to all.
Craig Irwin	Documentation Specialist	Develop end user and administrative documentation. Records meeting minutes. Reports change request, which may require change of project scope.
Casey Jensen	Validation Specialist	Provide test cases, approves test cases, and conduct testing.
Randy Haines	Technical Engineer	Provide architecture design of project. Provides important information to help determine all requirements are included in proposed solution.

9.4. Communication Strategies

MCRC Consulting will use Franklin's email service for the main communication point. MCRC Consulting will meet weekly on a needed basis. Documentation and project management tasks will be communicated utilizing MCRC Consulting Google site. Documents and all revisions will be stored on the site. The weekly meeting will not be held on a dedicated day but will be communicated utilizing Franklin's email service. MCRC Consulting meeting will be held utilizing Franklin Live's meeting software. MCRC Consulting team is expected to check email at once every 24 hours and should provide at least 48-hour response time on all inquiries. Proper email etiquette practices apply.

10. Project Management

MCRC Consulting will use a business impact based approach to the project. The project will focus on implementing the solution to meet the requirements of the business. The project management will focus on implementing the solution with no business interruption to ensure business continuity during peak hours. The project schedule will provide a guideline to ensure that the tasks are executed in a timely manner. The project schedule dates may deviate if a milestone requires more or less time allowed. If a milestone is overdue the team will meet and document reasons while target times were not met.

10.1. Deliverables

MCRC Consulting will provide the following deliverables to the customer as the project progresses. The pre-implementation deliverables include; risk analysis, project charter, functional specification, current state diagram, statement of work, future state diagram, and technical specification. This project plan will include test cases, and closure agreement but will be included during the actual implementation of the designed system. Response from the customer is necessary to allow the project to progress with the timeline. The documentation will be shared utilizing Google Documents web application. All documents will be controlled by file title which will follow; filename-4digityear-Month-Dayversionx.
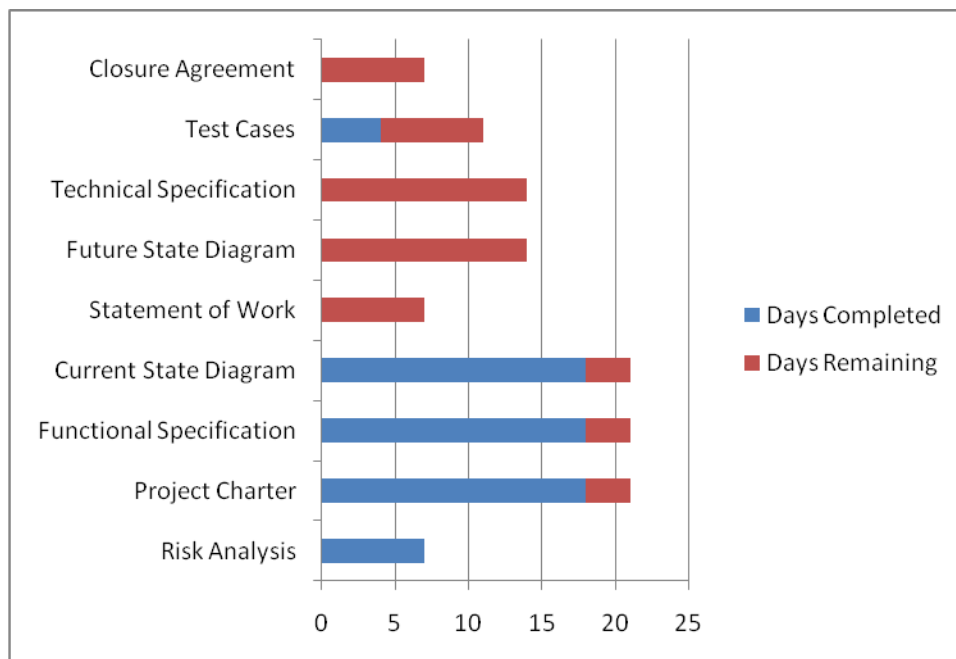
10.2. Dependencies

The dependencies included are subject but not limited to the following;
- Customer Visit
- Project Team Charter (includes Customer participation)
- Business requirements
- Compliance requirements
- Security policies of business
- Also solution architecture will be a dependency to statement of work.

10.3. Schedule

Project Name:	Active Directory Deployment			
Company Name:	MCRC Consulting			
Project Manager:	Michael Wilson			
Date of Report:	6/10/2010			
Task	Start Date	End Date	Days Completed	Days Remaining
Customer Visit	5/24/2010	5/28/2010	4	0
Risk Analysis	5/24/2010	5/30/2010	7	0
Project Charter	5/24/2010	6/13/2010	18	3
Functional Specification	5/24/2010	6/13/2010	18	3
Current State Diagram	5/24/2010	6/13/2010	18	3
Statement of Work	6/21/2010	7/3/2010	0	7
Future State Diagram	6/21/2010	7/10/2010	0	14
Technical Specification	6/21/2010	7/10/2010	0	14
Test Cases	7/10/2010	7/17/2010	4	7
Closure Agreement	7/17/2010	7/24/2010	0	7

11. Educational/Program Outcomes

The end result of this project will allow the utility company to better utilize a secure and efficient Active Directory infrastructure between their two locations allowing them to maintain one main location for network administration, storage for application data and utilize synchronization of directory updates.

  The end result of this project for MCRC consulting team members will be fulfilling their educational requirements in the Information Technology curriculum. Additionally, each member will take with them the following skills and abilities from the project:

- Ability to work and function as a team – Work with others as a team on a "real world" Information Technology project providing input, asking questions, researching, planning, and meeting project goal in a timely manner.
- Communicate effectively and clearly throughout the project as we plan, design and present our Active Directory.
- Ability to identify and analyze risks and vulnerabilities that may arise from project.
- Apply Logical thinking and Critical Analysis to business problem.
- Ability to produce quality documentation pertaining to a large scale project such as, vision and scope, project status report, project whitepapers, and diagramming.
- Have a better understanding of the concept of Information Technology.

11.1. General Education

The project proposal presented by MCRC consulting will satisfy each of the general education outcomes and measure success by:

- Effectively communicating the scope and vision of this project involving Management, infrastructure, centralized management, and security.
- Analytical and critical thinking skills used to resolve given project requirements to research, develop, and document a professional active directory solution for its client.
- Accurate evaluation of potential future growth and skill level of the customer will be a measure of success as we plan and build an Active Directory solution.

As part of the Active Directory project, team members will evaluate each component of the business requirement and research the best active directory solution to meet the requirements. Active Directory solutions will be shared and discussed among team members in weekly meetings that will take place until every aspect of the project from beginning to end is completed. As all solutions are selected the project manager will break down solution components, assign them to all members to start work towards their development. Successful team communications as to the planning, designing and implementation will be a key success as well as continued interaction as a team throughout the project.

Another key point of success will be placed on efficiently proposing the plan in terms the customers will understand at their skill level.

11.2. Information Technology

This project requires the planning, design, development, documentation, and implementation of an Active Directory structure. Doing this will require knowledge of project management, networking components such as servers, clients, NOS (network operating systems) and network administration. Other areas also include knowledge of network security practices and guidelines.

Implementing the solution will require a new active directory with the proper forest, trees, domain, OU, group, computer, and users between the two locations of the company. A key point of success of project will also include setting up a means to maintain one main location for network administration and storage for application data.

Developing a strong security policy within the organization for safekeeping of data will be another key role in the project's success.

12.   Annotated Bibliography

Laudon, K.C. , Laudon, J.P. (2007) Essentials of Business Information systems seventh edition.

Pearson Prentice Hall.

This book was used as a general reference into Business Information systems management

for our team project.

Savill, J. (2009). *The complete guide to Windows Server 2008*. Boston: Addison-Wesley.
ISBN: 9780321502728.

This book was used to reference the multiple features of Windows Server 2008, particularly
the implementation and use of the Active Directory services.

Luhn, R. (2002). Strategies for Foolproof Backup. *PC World*, *20*(8), 89. Retrieved from
Computers & Applied Sciences Complete database.

This article was use to look at options and procedures to consider when implementing a
server backup system.

(1983). Taking 'disaster' out of computer disaster recovery. *ABA Banking Journal*, *75*(4), 50.
Retrieved from Business Source Complete database.

This article provided out team with a general outline of items to address when planning for
disaster recovery. The article outlines steps, procedures and tasks which make the process
more simplified.

Whitman, M., & Mattord, H. (2009). *Principles of information security (3rd ed.).*
Boston: Thomson Course Technology, Inc.

This book was used to help with security planning and disaster recovery planning of our
project. The book offered many security strategies using firewall, policies, and setting up
documented plans and procedures in the event of a disaster.

Olson, D. (2006). Back-Up Against the Wall. *Sum News*, *17*(3), 30-31. Retrieved from Business
Source Complete database.

This article was used to research different methods for both onsite and offsite backups.
The article weight pros and cons for each method which aided in our selection.

(2006). Avoiding Failure. *Best's Review*, *107*(3), 70. Retrieved from Business Source Complete
database.

This article was used as a guideline for our team as to the pitfalls of project management.
The article discusses procedures that should be used to avoid project failure in information
technology projects.

Shimonski, R., & Conrow, C. (2005). 15 Ways to Optimize Microsoft Exchange. *Certification Magazine*, *7*(3), 80-84. Retrieved from Computers & Applied Sciences Complete database.

This article was used to aid in the best methods to use in the planning of the Microsoft exchange mail server. The techniques in the article are based on real world application and offer the some of the best optimization and performance out of Microsoft Exchange when implemented.

ISPE. (2005). *"Gamp Good Practice Guide: IT Infrastructure Control and Compliance,"* 22. Retrieved May 15, 2010.

This book was used to provide some of the implementation controls required for the project. ISPE provides a guideline for system compliance approach.

ISPE. (2008). *"Gamp 5: A Risk-Based Approach to Compliant Gxp Computerized Systems."*

163-222. Retrieved May 15, 2010.

The book provides a more detailed approach to developing requirements for a project. ISPE helps provide a guideline for compliance in a risk based approach computerized systems.

13. Appendix B: Status Report 1 - team

Project Status Report for Windows 2008/2008R2 Active Directory Implementation

Project Name: *Windows 2008/2008R2 Active Directory Implementation*
Project Manager: *Michael Wilson*
Team Members: *Craig Irwin, Casey Jensen, Randy Haines*
Report Date: *6/20/2010*
Reporting Period: *5/4/10 to 6/20/10*

14. Table of Contents

15. Management Summary

The project is on course to be completed on schedule. There have been two issues that have come up that will need to be addressed. One deals with the locations of departments between buildings, and the other deals with email conversion.

Significant Tasks Completed
- ✓ Team members have defined roles for the project
- ✓ Vision and Scope document has been created and revised
- ✓ Preliminary Inventory was completed for current business network structure
- ✓ Visio drawings of current structure have been completed
- ✓ Initial evaluation of inventory and improvements have been discussed by the team

Risk Avoidance
- ✓ **Network assessment shows that current network will meet the specifications of the project**

New Risk Identified
- ✓ Some departments are spread across the two buildings and some are only located in one.
- ✓ Staff have large amount of email that will need to be transferred from current email server that is the property of the hosting company. Email conversion may be difficult.

Defined milestones completed:	3 of 3 (100%)
Defined tasks completed:	5 of 9 (55.5%) of child tasks in work breakdown structure
Total estimated project hours used:	24 of 82 (29.2%)
Ahead of (or Behind) schedule by:	17 labor-hours, 2 days behind schedule
Known defects:	*2 open of 2 found*
Contingency hours remaining:	70.8% of 58 hours

16. Key Milestones Table

ID	Title	Planned Completion Date	Previous Forecast Completion Date	Current Forecast Completion Date	Actual Completion Date
1	*Vision and Scope*	5/23/2010	5/23/2010	6/14/2010	6/14/2010
2	*Project Charter*	6/13/2010	6/13/2010	6/13/2010	6/13/2010
3	*Current State Diagram*	6/20/2010	6/20/2010	6/12/2010	6/12/2010

17. Schedule

Project Name:	Active Directory Deployment			
Company Name:	MCRC Consulting			
Project Manager:	Michael Wilson			
Date of Report:	6/20/2010			
Task	**Start Date**	**End Date**	**Days Completed**	**Days Remaining**
Customer Visit	5/24/2010	5/28/2010	4	0
Vision and Scope	5/24/2010	5/30/2010	7	0
Project Charter	5/24/2010	6/13/2010	18	0
Functional Specification	5/24/2010	6/21/2010	25	-1
Current State Diagram	5/24/2010	6/13/2010	18	0
Statement of Work	6/18/2010	6/21/2010	25	-1
Future State Diagram	6/21/2010	7/10/2010	0	14
Technical Specification	6/21/2010	7/10/2010	0	14
Test Cases	7/10/2010	7/17/2010	4	7
Closure Agreement	7/17/2010	7/24/2010	0	7
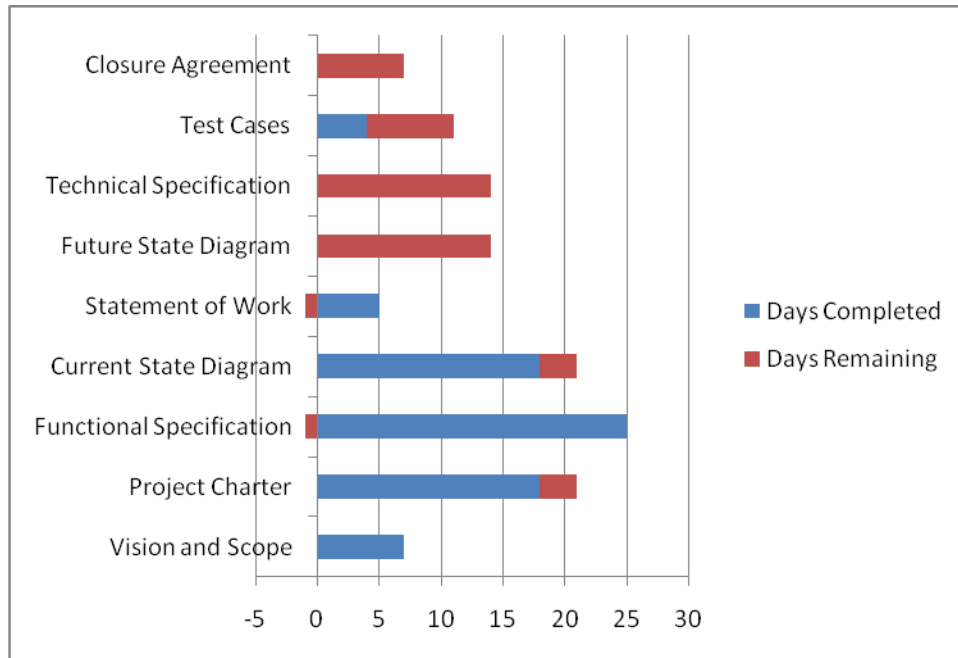
18. Effort

The MCRC Consulting has dedicated the following hours to produce a successful project plan with minimal business impact. The hours reflect the amount of time spent completing

documentation tasks required for the final project. The estimated effort spent on this reporting period provides a baseline to ensure the project is on time.

Project timeline:

Life Cycle Activity	This Reporting Period (labor-hours)		Project to Date (labor-hours)	
	Planned Effort	Actual Effort	Planned Effort	Actual Effort
Customer site visit	8	8	8	8
Risk Analysis	4	4	4	4
In depth discussion with customer on business requirements (Current State Capture, Project Charter)	24	12	12	12
Functional Specification Document	16	8	0	0
Technical Specification	8	0	0	0
Statement of Work	14	5	0	0
Future State Diagram	8	0	0	0
Test Cases	16	0	0	0
Closing Meeting	2	0	0	0

19. Cost

Cost is measure by a rate of $165.00 an hour and with a cost $600.00 projected for travel and expenses. This allows our consulting group to retrieve a strong requirements gathering from our customer along with marketing our group's strengths and weaknesses. All travel expenses our approved by the project manager. Customer is not required for accommodating this cost as this is considered pre-sales consulting. MCRC consulting provides complete project management approach to build customer relations and confidence.

Project Cost:

Life Cycle Activity	This Reporting Period		Project to Date	
	Planned Cost	Actual Cost	Planned Cost	Actual Cost
Customer site visit	$1,920	$1,920	$1,920	$1,920
Vision and Scope	$660	$660	$660	$660
In depth discussion with customer on business requirements (Project, Charter, Current State Capture)	$4,560	$2,580	$2,580	$2,580
Functional Specification Document	2,640	$1,320	0	0

Technical Specification	*$1,320*	0	0	0
Statement of Work	$2,310	0	0	0
Future State Diagram	$1,320	0	0	0
Test Cases	$2,640	0	0	0
Closing Meeting	$930	0	0	0

20. Requirements Status

Business Requirements <Summarize the status of the various requirements specifications for the project, including:

Functional Requirements - Approved

- Provide solution to accommodate company growth
- Allow centralized user management
- Provide infrastructure to centralize company information
- Allow centralized management of file shares
- Provide centralized security controls
- Accommodate future growth for technical infrastructure

Technical Requirements – Under review

- Windows based environment for easier administration
- Develop security groups for business functions.
- Propose benefits of using logon scripts

21. Communications summary

- Feedback from instructor on Vision and Scope document
    - Section 1: adjust section so it isn't copied from the proposal – **Corrected**
    - Section 1-1: industry/regulatory requirements for security – **No Adjustments Made**
    - Section 1-2: add pertinent detail based on template content – **Corrected**
    - Section 1-3: quantifiable/measurable success criteria need to be identified – **Corrected**
    - Section 1-4: address current hardware/software environment – **Corrected**
    - Section 1-5: address level necessary to adequately manage risks – **Corrected**
    - Section 2: high-level view of project scope and solution, content mentioned here that was not included in scope – **Corrected**
    - Section 2-1: mention of security missing in vision statement – **Corrected**
    - Section 2-2: missing features related specifically to AD – **Corrected**
    - Section 3: update section based on changes made in section 2 – **Corrected**
    - Section 3.1: be more specific in terms of architecture – **Corrected**
    - Section 3.2: AD specific enhancements and additions – **Corrected**
    - Section 4: address current organizational structure – **Corrected**

- o <u>Section 4.3</u>: describe current IT environment and address all requirements of the template – **Corrected**
  - o <u>Section 5-4</u>: setup way to efficiently share and collaborate on team resources – **Google Site created**
  - o <u>Section 6-2</u>: update the dependencies that will be needed for a successful project – **Corrected**
  - o <u>Section 6-3</u>: update to reflect items added in previous section(s) – **Corrected**
  - o <u>Section 7</u>: provide more detail on addressing required educational and program level outcomes – **Corrected**

- Feedback from business practitioner on Vision and Scope document
  - o <u>Section 1 and all parts</u>: suggestions on wording and structuring of the sections – **Incorporated in some sections**
  - o <u>Section 2 and all parts</u>: vision statement needing more clarity – **Corrected**
  - o <u>Section 5 and all parts</u>: recommendation of using bullet points – **No Adjustments Made**
- Team-based communications issues
  - o Even though the team is physically miles apart there are no major issues in communication. Weekly meetings, emails, and the team's Google Site keeps the group informed and through these means the group is able to work together effectively. Early due dates are assigned by the group to ensure all work is done in a timely manner allowing for ample amount of time to receive business practitioner feedback and the incorporation of that feedback as necessary.

22. Top Five Risks

- Some departments are spread across the two buildings and some are only located in one.
  - o Departments that are spread across the two buildings, Organizational Units will be created for each building for the same department. This will ensure the users at each building are setup with the proper security settings in Active Directory and through Group Policy.
- Securing Finance department data
  - o Permissions will be set so only Finance department personal and Executives have access to the sensitive financial data.
- Productivity slowdown as employees learn to use Active Directory
  - o To minimize this risk Utility Company technical staff will receive training on how to administer the Active Directory structure that is put in place.
- End user impact
  - o The implementation phase will include a cutover during non-working hours to minimize interruptions to the users during normal business hours.
- Security settings must meet guidelines during implementation
  - o MCRC Consulting will work closely with each department to ensure that the correct security settings are in place for all data in the network, ensuring only the correct users have access to specific data and resources.

23. Open Issues

The open issues to date are the same as the top risks addressed in section 9.

- ***Departments spread across both sites***
  - o Addressed in proposed Active Directory structure.
- Securing Finance department data
  - o Proper security settings will be configured based on Utility Company requirements in the implementation phase in the next release of the project.
- Productivity slowdown as employees learn to use Active Directory
  - o Training of Utility Company technical staffs, during the last week of the implementation phase in the next release of the project.
- End user impact
  - o Cutover to the new Active Directory structure will be done during off hours during the last two weeks of the implementation phase in the next release of the project.
- Security settings must meet guidelines during implementation
  - o Proper security settings will be configured based on Utility Company requirements in the implementation phase in the next release of the project.

24. Action Items

The following action Items have been completed as of this reporting period:
- Customer visit, Utility Company current infrastructure has been reviewed & assessed.
- Current state diagram completed.
- Project Team Charter (including customer participation) completed.
- Functional Specification created, Active Directory upgrade plan determined.
- Potential business risks identified

The following action items are scheduled to be completed by next scheduled reporting period:
- The Completion of future state diagram
- The Completion of Statement of Work
- Finish Technical specifications
- Test cases complete

25. Lessons Learned

Throughout the Active Directory infrastructure project, MCRC consulting has shown it can provide a professional level of teamwork that with combined efforts creates the necessary technical and managerial skills to develop an Active Directory solution. The following list of lessons learned summarizes some of the new skills and corrective measures MCRC consulting has acquired during this project that will strengthen the skills and actions of each team member as new projects present themselves.

- Effective and clearly established communications were invoked, as our team worked to determine our objectives and goals for this project. Each member communicated their particular skill sets which allowed the team to better utilize each team member in a project role and also communicated the best available times to collaborate so that all members could do so on an equally convenient schedule.

- Time management was a key lesson learned as we set earlier due dates on each component of our project so that we would have appropriate time to review with our practitioner, then revise and submit each phase with ample time to spare. This practice worked well in keeping our project on schedule.

- The use of collaboration tools, particularly "Franklin Live" was beneficial considering all MCRC team members were unable to physically meet in the same place. Franklin live allowed synchronous voice and text capability as well as the ability to post documents (PowerPoint, Visio diagrams, excel, word) and review them together. In addition, a company website allowed team members to keep track of project schedule, post most current project documents, and further collaborate as a team.

- Fill in a role when a team member cannot be utilized. When MCRC team leader Michael Wilson had an unexpected appendix surgery, the other team members learned to step up and fill in for their leader in his days of absence. The remaining team members divided up the remaining tasks involved in the particular phase and Randy Haines assumed leadership role.

26. Educational/Program Outcomes

The end result of this project will allow the utility company to better utilize a secure and efficient Active Directory infrastructure between their two locations allowing them to maintain one main location for network administration, storage for application data and utilize synchronization of directory updates.

The end result of this project for MCRC consulting team members will be fulfilling their educational requirements in the Information Technology curriculum. Additionally, each member will take with them the following skills and abilities from the project:

- Ability to work and function as a team – Work with others as a team on a "real world" Information Technology project providing input, asking questions, researching, planning, and meeting project goal in a timely manner.
- Communicate effectively and clearly throughout the project as we plan, design and present our Active Directory.
- Ability to identify and analyze risks and vulnerabilities that may arise from project.
- Apply Logical thinking and Critical Analysis to business problem.
- Ability to produce quality documentation pertaining to a large scale project such as, vision and scope, project status report, project whitepapers, and diagramming.
- Have a better understanding of the concept of Information Technology.

26.1. General Education

The project proposal presented by MCRC consulting will satisfy each of the general education outcomes and measure success by:

- Effectively communicating the scope and vision of this project involving Management, infrastructure, security, backup, recovery, and training.
- Analytical and critical thinking skills used to resolve given project requirements to research, develop, and document a professional active directory solution for its client.
- Accurate evaluation of potential future growth and skill level of the customer will be a measure of success as we plan and build an Active Directory solution.

As part of the Active Directory project, team members will evaluate each component of the business requirement and research the best active directory solution to meet the requirements. Active Directory solutions will be shared and discussed among team members in weekly meetings that will take place until every aspect of the project from beginning to end is completed. As all solutions are selected the project manager will break down solution components, assign them to all members to start work towards their development. Successful team communications as to the planning,

designing and implementation will be a key success as well as continued interaction as a team throughout the project.

Another key point of success will be placed on efficiently proposing the plan in terms the customers will understand at their skill level.

26.2. Information Technology

This project requires the planning, design, development, documentation, and implementation of an Active Directory structure. Doing this will required knowledge of project management, networking components such as servers, clients, NOS (network operating systems) and network administration. Other areas also include network security, system backup and disaster recovery.

Implementing the solution will require a new active directory with the proper forest, trees, domain, OU, group, computer, and users between the two locations of the company. A key point of success of project will also include setting up a means to maintain one main location for network administration and storage for application data.

Developing a strong security policy within the organization along with offsite backup for safekeeping of data will be another key role in the project's success.

27. Appendices

Documents in the Project Artifacts folder include:

Original Vision and Scope – 2010-06-22VisionAndScopeversion_1.4.doc

Proposed sites and services – 2010-06-24ADSitesandServices.pdf

Proposed AD Structure –2010-06-24ADUsersandComputers.pdf

Diagram, Building 1 Current Status –2010-06-24Building 1.pdf

Diagram, Building 2 Current Status –2010-06-24Building 2.pdf

Project Charter –-2010-06-10 projectcharter -version1.pdf

28. Appendix D: Presentation Slides

Team 1 MCRC Consulting Introduction

‣ **M**ichael Wilson – Project Manager
‣ **C**raig Irwin – Document Specialist
‣ **R**andy Haines – Technical Engineer
‣ **C**asey Jensen – Validation Specialist

‣ William Macek –
Team 1 MCRC Business Practitioner

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

MCRC Consulting's commitment

▸ Risk based approach
▸ Minimal Downtime to end users
▸ Defined Project scope
▸ Customized scope
▸ Compliance Documentation
▸ Scalable Solution
▸ Administration training

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

MCRC Client Business Requirments

- A 500-person utility company with 2 locations requires a secure and efficient directory infrastructure to support the authentication and security needs of the company's users and resources.

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Team MCRC Buisness Objectives

▸ Scalable solution

▸ Ease of administration

▸ Reduced cost of administration

▸ Central Data Center

▸ Centralized Management

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Utility Companies Current System
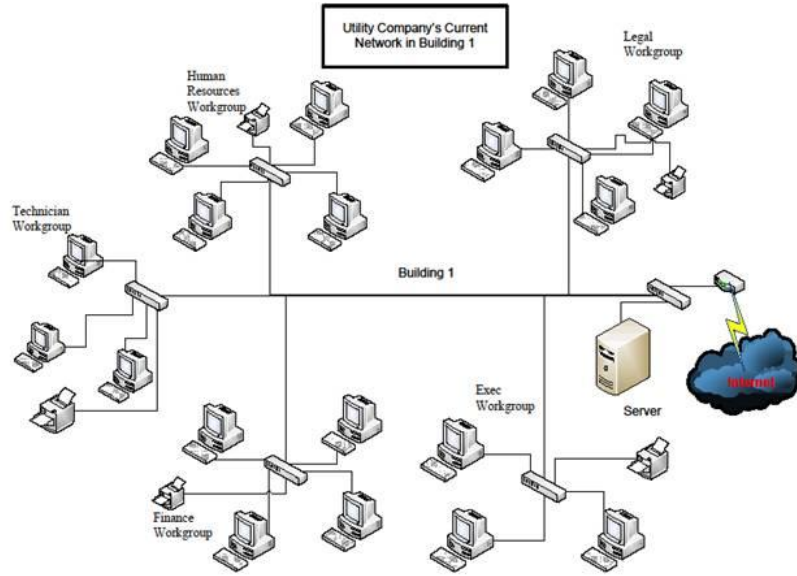
Windows 2008/2008R2 Active
Directory Implementation

Current System Continued

Utility Company's Current Network in Building 2

Manufacturing Workgroup

Techinicans Workgroup

Building 2

Research & Development Workgroup

Server

Internet

Windows 2008/2008R2 Active Directory Implementation

MCRC Consulting
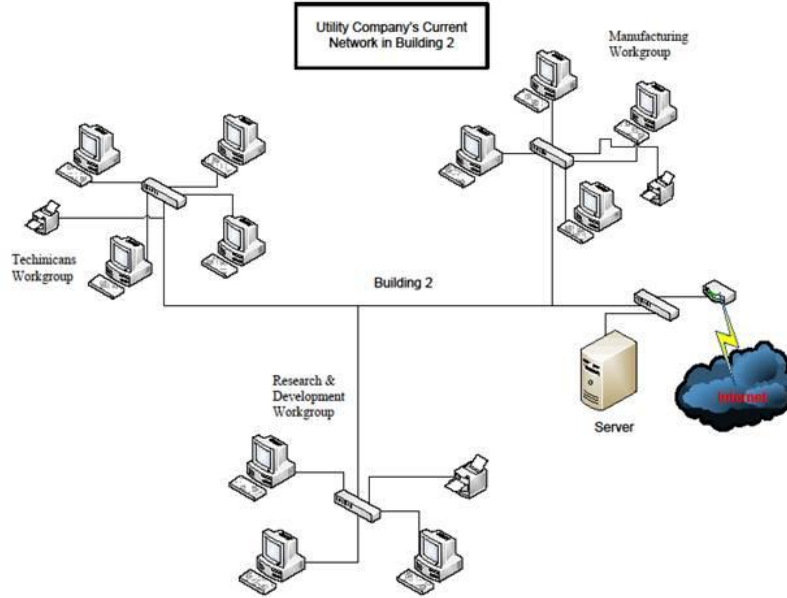
Reason Current State Unacceptable

▸ No centralized system

▸ Workstation security risks

▸ More administration needed

▸ Administration Complexity

▸ Multiple Data Points

▸ Complex resource management

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Microsoft – Active Directory

‣ Scalable workstation management

‣ Security policy – secure passwords and centralized authentication

‣ Multiple site management – replication of forest scheme

‣ Group Policy – workstation controls, software deployment, and software control

‣ Domain Names Service (DNS) – scalability for internal web services and file shares

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Implementation Tasks

Phase 1
▸ Define implementation tasks
▸ Verify all perquisites are met
▸ Install and configure Building 1 server
▸ Configure Building 1 workstations

Phase 2
▸ Install and configure Building 2 as replication partner
▸ Configure Building 2 workstations

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Implementation Tasks – Cont.

Phase 3

▸ Define administration tasks
▸ Create logon scripts
▸ Configure Software deployment and Publish
▸ Configure file and printer share
▸ Complete administration Training

Windows 2008/2008R2 Active
Directory Implementation

Microsoft Server Recommendations

▸ 1.4 GHZ processor
▸ 512 MB Ram
▸ 32 GB of free hard drive space
▸ (800 x 600) Super VGA or better monitor
▸ Keyboard, mouse, DVD drive
▸ Internet Access (Microsoft 2008).

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Microsoft Server Recommendations

- 1.4 GHZ processor
- 512 MB Ram
- 32 GB of free hard drive space
- (800 x 600) Super VGA or better monitor
- Keyboard, mouse, DVD drive
- Internet Access (Microsoft 2008).

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

MCRC Server Requirements

- 2.0 GHZ Dual Core or greater Pentium processor
- 4 GB of Ram or greater
- 100 GB of hard drive space or greater
- (800 x 600) Super VGA or better monitor
- Keyboard, mouse, DVD drive
- Internet Access (Microsoft 2008).

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Workstation Requirements

▸ Windows XP SP3 or Higher

▸ Windows 7 preferred

▸ 2.0 GHz dual core processor preferred

▸ 4 GB of ram preferred

▸ 100 GB hard drive preferred

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting
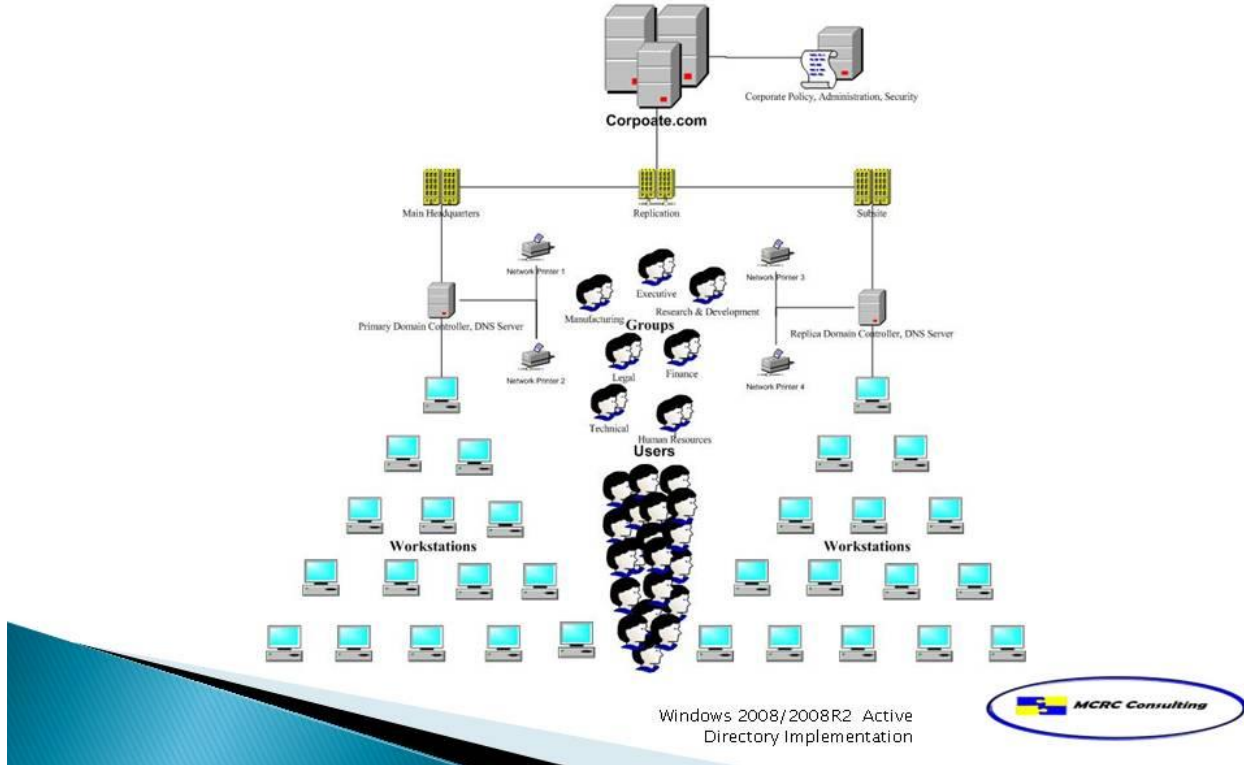
Implementation Closure

▸ All work will be completed from statement of work!

▸ Service and Support

▸ Customer Sign off will be required before invoicing takes place

▸ Follow up visit

Windows 2008/2008R2 Active
Directory Implementation

Validation

▸ Risk based approach – Gamp 5 Standards

▸ Test Scripts provide necessary validation for FDA, ISO, Hippa, and SOX Compliance

▸ Auditable System

▸ End users perform validation – MCRC Test Scripts

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Training Administration

- ▸ MCRC uses a hands on approach

- ▸ For every technical function perform MCRC Consulting Technicians will provide a basic administration guide

- ▸ Recommended practices and procedures

- ▸ Remote management

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

MCRC Learning Outcomes

▸ Ability to work and function as a team
▸ Communicate effectively and clearly
▸ Ability to identify and analyze risks and vulnerabilities
▸ Apply Logical thinking and Critical Analysis to business problem
▸ Ability to produce quality documentation pertaining to a large scale project
▸ Have a better understanding of the concept of Information Technology

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Team Importance

▸ Project Manager – Michael Wilson

▸ Validation Specialist – Casey Jensen

▸ Documentation Specialist – Craig Irwin

▸ Technical Engineer – Randy Haines

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Team Importance

▸ Project Manager – Michael Wilson

▸ Validation Specialist – Casey Jensen

▸ Documentation Specialist – Craig Irwin

▸ Technical Engineer – Randy Haines

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

Questions??

Windows 2008/2008R2 Active
Directory Implementation

MCRC Consulting

References

Laudon, K.C. , Laudon, J.P. (2007) Essentials of Business Information systems seventh edition. Pearson Prentice Hall.

Savill, J. (2009). The complete guide to Windows Server 2008. Boston: Addison-Wesley. ISBN: 9780321502728.

Luhn, R. (2002). Strategies for Foolproof Backup. PC World, 20(8), 89. Retrieved from Computers & Applied Sciences Complete database.

(1983). Taking 'disaster' out of computer disaster recovery. ABA Banking Journal, 75(4), 50. Retrieved from Business Source Complete database.

Whitman, M., & Mattord, H. (2009). Principles of information security (3rd ed.). Boston: Thomson Course Technology, Inc.

Olson, D. (2006). Back-Up Against the Wall. Sum News, 17(3), 30-31. Retrieved from Business Source Complete database.

(2006). Avoiding Failure. Best's Review, 107(3), 70. Retrieved from Business Source Complete database.

References Cont.

Shimonski, R., & Conrow, C. (2005). 15 Ways to Optimize Microsoft Exchange. Certification

　　Magazine, 7(3), 80-84. Retrieved from Computers & Applied Sciences Complete

　　database.

ISPE. (2005). "Gamp Good Practice Guide: IT Infrastructure Control and Compliance," 22.

　　Retrieved May 15, 2010.

ISPE. (2008). "Gamp 5: A Risk-Based Approach to Compliant Gxp Computerized Systems."

　　163-222. Retrieved May 15, 2010.

29. Appendix E: Other Deliverables/Artifacts

Diagrams

Name	Artifact File Name
Current Building 1 Layout	Building 1.pdf
Current Building 2 Layout	Building 2.pdf
Proposed Active Directory Sites & Services	AD Sites & Services.pdf
Proposed Active Directory Users & Computers	AD Users & Computers.pdf

Meeting Minutes

Date	Artifact File Name
May 4	MeetingMinutes-2010-05-04.pdf
June 3	MeetingMinutes-2010-06-03.pdf
June 14	MeetingMinutes-2010-06-14.pdf
June 17	MeetingMinutes-2010-06-17.pdf
July 8	MeetingMinutes-2010-07-08.pdf
July 12	MeetingMinutes-2010-07-12.pdf
July 22	MeetingMinutes-2010-07-22.pdf
July 24	MeetingMinutes-2010-07022.pdf

Project Documents

Name	Artifact File Name
Project Charter	Projectcharter-2010-06-10-version1.pdf
Functional Specification	Functionalspecification_2010_07_01revision1.pdf
Statement of Work	Statementofwork_2010_07_01version1.pdf
Future Diagram	Future_state.jpg
Technical Specification	Technicalspecification_2010_07_10revision1.pdf
Test Cases	Testscrip_2010_07_18version1.pdf
Closure Agreement	Closure agreement_2010_07_01version1.pdf
Vision and Scope	2010-06-22VisionAndScopeversion_1.4.pdf
Status Report 1	Statusreport-2010-06-20revision1.6.pdf
Status Report 2	Statusreport-2010-07-29revision1.1.pdf

White Papers

Name	Artifact File Name
Centralized Management	Craig Irwin Assignment 1-3-5_2010-7-4.pdf
DNS Scavenging Best Practices	CaseyJensen-ITEC495-V1WW-Assignment 1-3-5.pdf
Guide to centralized management of workstations utilizing Microsoft Server 2008 R2 Group Policy	Randy Haines, ITEC495-V1WW, Assignment 1-3-5.pdf
General Requirements, and design summary for Windows 2008R2 Active Directory Implementation	MichaelWilsonITEC495V1WWAssignment1-3-5.pdf

Annotated Biblography

Laudon, K.C. , Laudon, J.P. (2007) Essentials of Business Information systems seventh edition.

Pearson Prentice Hall.

This book was used as a general reference into Business Information systems

management for our team project.

Savill, J. (2009). *The complete guide to Windows Server 2008*. Boston: Addison-Wesley.
    ISBN: 9780321502728.

This book was used to reference the multiple features of Windows Server 2008,
    particularly the implementation and use of the Active Directory services.

Luhn, R. (2002). Strategies for Foolproof Backup. *PC World*, *20*(8), 89. Retrieved from
    Computers & Applied Sciences Complete database.

This article was use to look at options and procedures to consider when implementing a
    server backup system.

(1983). Taking 'disaster' out of computer disaster recovery. *ABA Banking Journal*, *75*(4), 50.
    Retrieved from Business Source Complete database.

This article provided out team with a general outline of items to address when planning
    for disaster recovery. The article outlines steps, procedures and tasks which make the
    process more simplified.

Whitman, M., & Mattord, H. (2009). *Principles of information security (3rd ed.)*.
    Boston: Thomson Course Technology, Inc.

This book was used to help with security planning and disaster recovery planning of our
    project. The book offered many security strategies using firewall, policies, and setting up
    documented plans and procedures in the event of a disaster.

Olson, D. (2006). Back-Up Against the Wall. *Sum News*, *17*(3), 30-31. Retrieved from Business
    Source Complete database.

This article was used to research different methods for both onsite and offsite backups.
     The article weight pros and cons for each method which aided in our selection.

(2006). Avoiding Failure. *Best's Review*, *107*(3), 70. Retrieved from Business Source Complete
    database.

This article was used as a guideline for our team as to the pitfalls of project management. The article discusses procedures that should be used to avoid project failure in information technology projects.

Shimonski, R., & Conrow, C. (2005). 15 Ways to Optimize Microsoft Exchange. *Certification Magazine*, *7*(3), 80-84. Retrieved from Computers & Applied Sciences Complete database.

This article was used to aid in the best methods to use in the planning of the Microsoft exchange mail server. The techniques in the article are based on real world application and offer the some of the best optimization and performance out of Microsoft Exchange when implemented.

ISPE. (2005). *"Gamp Good Practice Guide: IT Infrastructure Control and Compliance,"* 22. Retrieved May 15, 2010.

This book was used to provide some of the implementation controls required for the project. ISPE provides a guideline for system compliance approach.

ISPE. (2008). *"Gamp 5: A Risk-Based Approach to Compliant Gxp Computerized Systems."*

163-222. Retrieved May 15, 2010.

The book provides a more detailed approach to developing requirements for a project. ISPE helps provide a guideline for compliance in a risk based approach computerized systems.