

Network Solutions, Inc.

Statement of Work

Version 2.0

02/23/2012

Presented by;

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Prepared for:

Happy Haven Daycare Center

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INTRODUCTION

Network Solutions, Inc. is a networking engineering and design company specializing in mid to large sized corporation design and implementation of Local and Wide Area Networks with the goal of providing increase productivity, employee performance and improved workflow.

My name is Norm Coleman, and I am the Network Administrator assigned to the project by Network Solutions. I will be handling the design and implementation phase of the project and all pricing and fees will be handled by the sales department.

BACKGROUND

The client, Happy Haven Daycare Center is located in Flushing, Michigan. The client provides child care services for parents and guardians of children from infants to pre-adolescents. The building is a new build with no interior walls which will be built to suit the needs of the center. This will allow for a greater range of flexibility for the installation of and design of a computer data network system. The building is 6600 square feet and has only one floor. The client will be using software engineered specifically for daycare centers.

SCOPE OF WORK

The work that will be performed will include the design and installation of a fully switched star network. This includes the installation and setup of all the network devices, cabling and interfaces which may include but may not be limited to workstations, multi-function devices, servers, switches, routers, racks, and all related software as mentioned in the Requirements section on page 7.

FEASIBILITY STUDY

Project Situation

This proposal is for a data communications network to service the Happy Haven Daycare Center. Funding for the project is budgeted at twenty thousand dollars and is being provided by the daycare owners as a portion of their construction budget.

Network Scope

The proposed network is designed to serve the daycare which will consist of approximately 16 rooms in a 6600 square foot building. The building is currently a shell and will be built out to a specification which at this point is undetermined, allowing for maximum flexibility to the installation of the network being proposed.

The rooms within the buildings will be a nursery, five classrooms, a kitchen, a public restroom, a computer lab room, two administrative offices, a lobby, storage closet and an equipment room for telephone systems, servers, network components and connections.

Objectives

The network is designed to achieve several specific business and operational objectives:

1. *Secure Service*: The main objective of this network is to provide secure administrative computing service to Happy Haven Daycare. It is designed to be functionally and physically isolated from access by people not employed by Happy Haven Daycare so as to minimize the risk of unauthorized use.
2. *Integration and Update*: This is a new installation in a new building with only exterior walls. The network and equipment being installed will be new state of the art equipment designed specifically for Happy Haven Daycare.
3. *Versatile Information Processing*: The network will enable users to retrieve, process, and store data regarding the operation of the daycare, its clients, accounting, billing, tracking, and check in and check out of children being cared for at the facility.
4. *Scalability*: The network design is scalable so that more network cable equipment can be added if needed and as funding becomes available without having to redo the installed network.

Intended Users The users of the network will be the two owners/administrators, 12 full time employees and 5 part time employees.

Design Features

Equipment Room

The "Equipment Room" shall be a locked room, properly vented and air conditioned where the servers, switches, firewalls, and un-interruptible power supply will be housed along with any other electronic interfaces such as the Telephone systems, cable TV, Internet access point of entry, etc.

- Link to an Internet connection:
 - Modem
 - Firewall
- 2 – 24 port switches will allow for growth and provide adequate levels of security and speed.
- Server – Serving up data to workstations and print jobs to one of three network printers.

- Cable Management system to keep cables neat and organized.
- Un-interruptible power supply allowing for a controlled shut-down in the event of a power failure.
- Cat 6 cabling

Computer Lab

The computer lab will consist of twenty workstations for students to use for learning activities while at the center. Each workstation will consist of a computer, keyboard, mouse and monitor with speakers built in to the monitor.

- 20 workstations
- Cat 6 cabling
- 1 administrative workstation
- 1 network printer (Black & White laser)

Classrooms, Lobby & Nursery

These rooms will have only one administrative workstation per room, each as described below

- Workstation – computer, monitor, keyboard & mouse
- Cat 6 cabling

Administrative Offices

The administrative manager's offices will consist of a laptop workstation and multifunction printers which will function under a wireless environment.

- Laptop computers
- Wireless access points (two units – allowing full access throughout the building)
 - Actual location to be determined – most likely mounted to or above the ceiling in the common areas.
- Cat 6 cabling (where needed for printer)
- Printers
 - Kim Doane's office; a color laser printer
 - Dean Doane's office; a Black & White laser printer

Design Assumptions

This design assumes the following:

1. The network and all the equipment will be a new installation.

2. The building is a new construction and the interior has not been built out leaving great latitude as to the design of the network.
3. Internet service is provided by an Internet Service Provider such as Comcast.
4. Happy Haven Daycare will be providing specialized software to be installed on the network.

NETWORK NEEDS ANALYSIS

Data Types

The types of data served by the network will be reports, bulletins, accounting information, personnel profiles, industry specific daycare software and web pages. There will be some still graphics and possibly a small amount of voice and video.

Data Sources

Data will be created and used at all work stations on the network. The data will be produced by software applications in a Windows 7 environment on all workstations and Windows Server 2008 on the server. Office 2010 Professional (Word, Excel, Access, PowerPoint, and Outlook) will also be utilized. Other data sources to be supported on at least a limited basis will be Windows 7 Accessories (Paint, Notepad, etc.), NetMeeting, and Media Player. The network will be not be accessible from outside the facility

Numbers of Users and Priority Levels

The maximum estimated number of users on the network at any given time is 30. Management will be given top priorities.

Transmission Speed Requirements

The network is to be transparent to the users.

Load Variation Estimates

Based on information provided by Happy Haven Daycare Center owners, the busiest times will be Monday thru Friday between 7:00 a.m. and 9:00 a.m. and 5:00 p.m. and 7:00 p.m.

Reliability Requirements

In keeping with user expectations and industry standards, the LAN is expected to operate at 99.9% uptime and an undiscovered error rate of .001%.

Security Requirements

A firewall will be used so unauthorized use will be restricted. Part of the security will be user accounts and passwords that will give limited access. There will be different access capabilities for network managers and users.

Existing Network

There is no existing network.

Requirements

- Software
 - Microsoft Windows 7 Professional on all computer workstations (wired or wireless)
 - Microsoft Server 2008 on the server (network operating system)
 - Norton Anti-virus software on all servers and clients
 - Microsoft Office 2010
 - All updates and service packs installed
 - Daycare Software provided by Client
- Multi-function devices (print, copy, fax, scan)
- Switches
- Wireless access points
- Cabling and connectors
- All connections as needed
- Workstations
- Server
- Firewall
- Modem (provided by Internet Service Provider; Comcast or equivalent)

Note: Future growth of at least 15% is being allowed.

NETWORK DIAGRAMS AND TOPOLOGIES

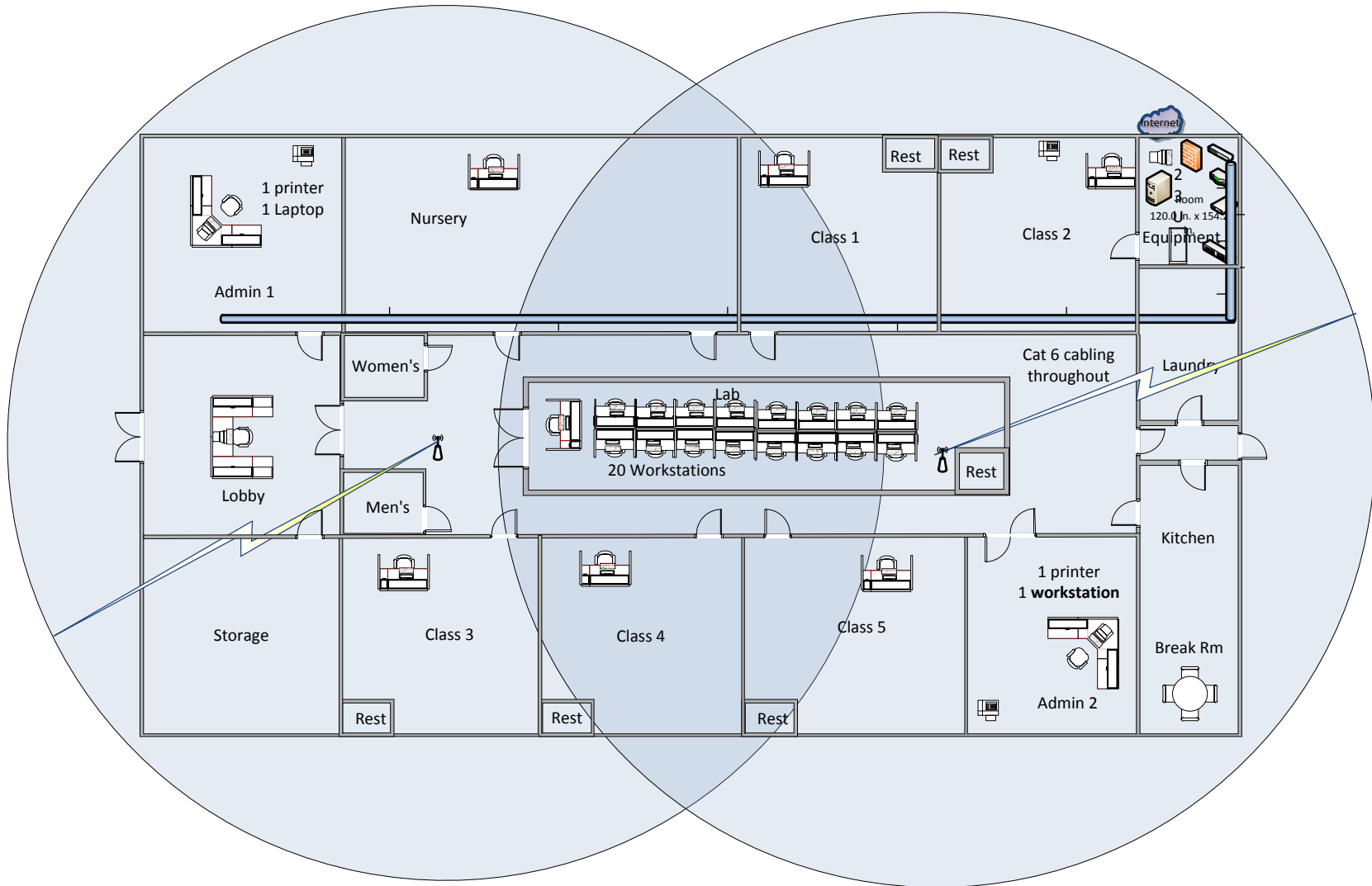


Figure 1: Happy Haven Daycare Center Network Diagram

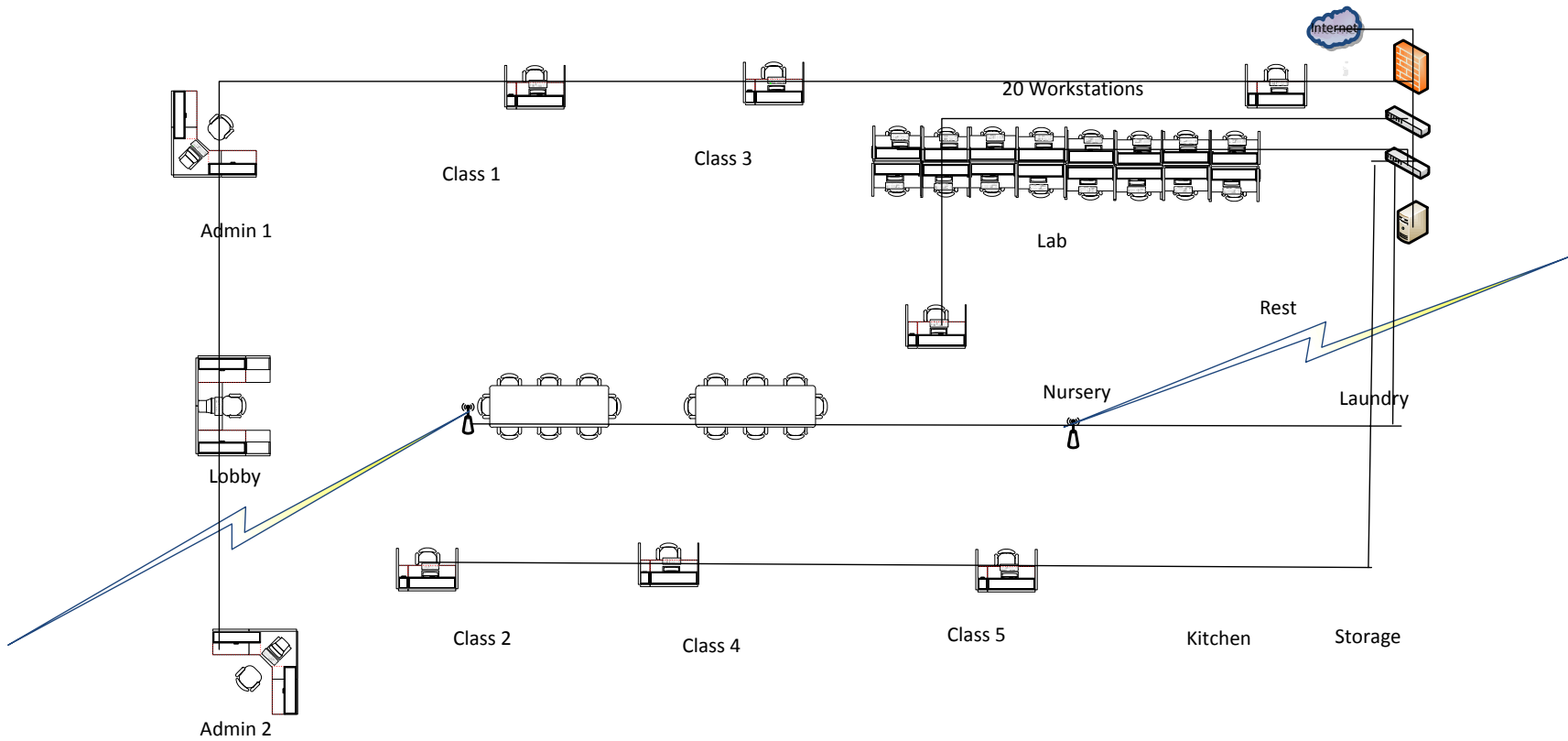


Figure 2 Happy Haven Daycare Center Topology

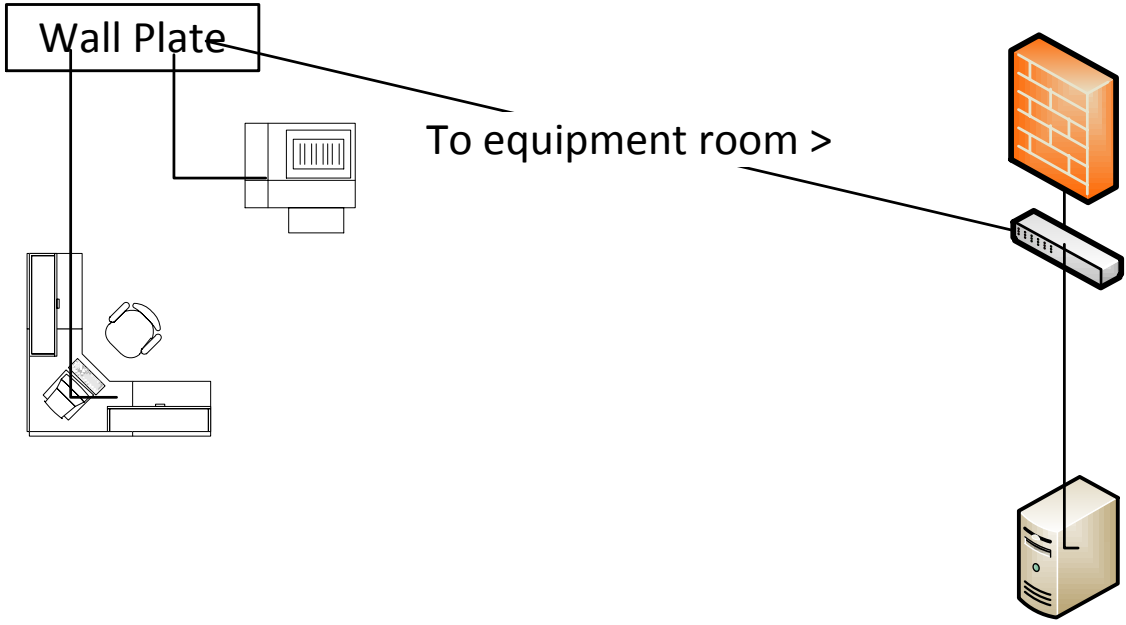


Figure 3: Admin Offices

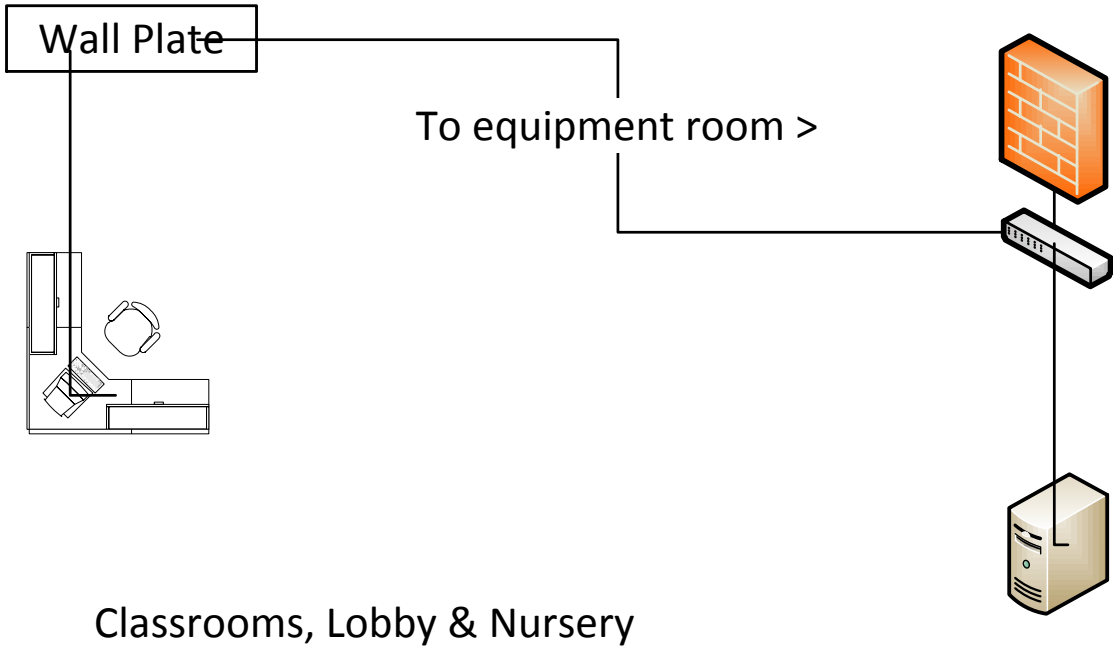


Figure 4: Classrooms, Lobby & Nursery

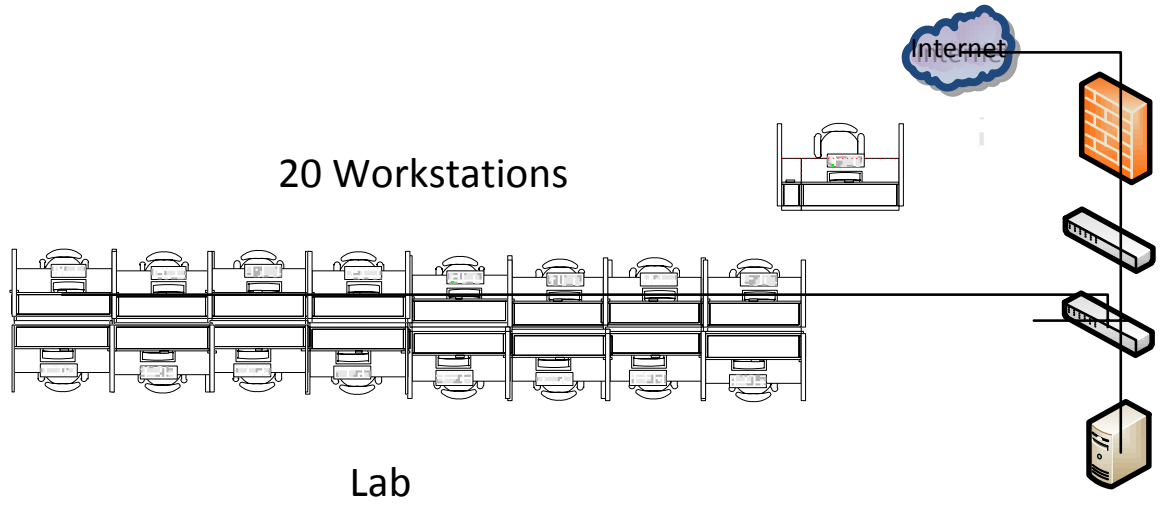


Figure 5: Computer Lab

SYSTEM COMPONENTS & STATEMENT OF WORK

Item	Units	Cost ea.	Total Cost	URL (click link to view)	Labor Est. ¹
Work Stations	27	\$370	\$9,990	Workstations	\$750
Monitors	27	\$99	\$2,673	Monitors	\$0
Laptops	1	\$580	\$580	Management Laptops	\$0
			\$0		
			\$0		
			\$0		
			\$0		
Server	1	\$3,000	\$3,000	Server	\$285
Server Rack	0		\$0	Server Rack	
Cable Management	1	\$200	\$200	Cable Management	\$0
24 port Switch	2	\$590	\$1,180	24 Port Switch	\$50
Cisco 1921 Router	1	\$696	\$696	Router	\$50
UPS	1	\$720	\$720	Un-Interruptable Power Supply	\$75
Licenses	0		\$40	Window-7 Corp Volume License	\$0
Licenses	1		\$371	Windows-Server 2008 Licenses	\$1,000
Licenses	28		\$59	Microsoft Office 2010 Academic	\$150
			\$0		
Coloer Lazer Printer	1	\$599	\$599	Color lazer printer	\$50
Copier, Printer, Scanner, Fax, Document Server	2	\$ 200	\$ 400	Multi Function Lazer Printer B&W	\$100
			\$ -		
Cat 6 Cabling 1000 ft rolls	2	\$ 320	\$ 640	Installed @ \$75/hr	\$1,125
RJ-45 connectors 100 pk	2	\$ 65	\$ 130		\$0
Firewall	1	\$2,033	\$2,033	Firewall	\$50
Wireless Access points	2	\$170	\$340	Wireless Access Point	\$100
			\$0	-	
Card Reader Door Access Control System (INS)	1	\$2,500	\$2,500	-	\$0
			\$26,151		\$3,785
¹ Labor is estimated cost if Green fixed Cost if Black. Rate = \$75/hr				Grand total>	\$29,936
if in Blue the rate is per application being installed					

Disaster Recovery Plan

- Automatic backup of data on all servers to secondary HDDs.
 - Using Windows backup service. (off site backup service is recommended)
 - Set up to run automatically every night of the week
 - Normal backup on Saturday nights
 - Incremental backups on every other night
 - Will also utilize the recovery console in Windows 7 with restore points stored twice daily.

Acceptance and Authorization

The terms and conditions of the Professional Services Agreement apply in full to the services and products provided under this Statement of Work.

IN WITNESS WHEREOF, the parties hereto each acting with proper authority have executed this Statement of Work, under seal.

Happy Haven Daycare Center, Inc.

Network Solutions, Inc.

Full name

Full name

Title

Title

Signature

Signature

Date

Date

SYSTEM SET UP DOCUMENTATION:

OPERATING SYSTEM INSTALLATION

Windows Server 2008

Windows Server 2008 Enterprise edition was installed on the server.

System Version issue resolved.

There have been some changes to the Childcare Manager software. Please disregard the e-mail that was previously sent about installing this software.

The Childcare Manager software is available in two versions: client and server. It can be downloaded from the class_shares drive in X:\2012-Winter\COMN-282-OE01\Public. In the Public folder, there is a file folder called Childcare Manager Software. This folder contains two executable files: CCM-Client_Setup (V10.0.2937).exe and CCM_Server_Setup (V10.0.2905).exe. There is also file called CCM_Multi-user_Install_Procedures.docx which is a copy of the user manual.

Please COPY these .exe files (do not execute from the class_shares drive) to a flash drive or other external storage device.

Please note the following information about this software:

You must be connected to the Internet when installing and activating the software. Once you have installed the software it will prompt you to activate. Please note that this is NOT the demo version of the software so select the option you would choose as if you had purchased this software. You will be prompted to enter an activation code.

The activation codes are as follows:

Client activation code: 01025-11638-18704-00000-31084

Server activation code: 01025-11637-27592-00000-58072

There is an additional software application that will help you restrict access rights to employees when checking in. It can be downloaded from the class_shares drive in X:\2012-Winter\COMN-282-OE01\Public. In the Public folder, there is a file folder called Childcare Manager Time Manager Software. This folder contains three files: the .exe file is the software application, the .pdf file is the User's Manual for Childcare Manager software, and the .txt file contains the license key that will be required when installing Childcare Manager Time Manager.

Again, please COPY the .exe file (do not execute from the class_shares drive) to a flash drive or other external storage device.

Childcare Manager is also offering technical support. The contact is Wendy King at (800) 553-2312 and make sure you specify that you are calling from Mott Community College as they are aware that we are utilizing their software.

A big THANK YOU to Norm Coleman for going the extra mile and obtaining this information for the class.

Active Directory Domain Services

First active directory was installed on the server and a domain named HappyHaven.com was setup.

Three groups were set up under the domain, those being:

1. Administration
2. Staff-Fulltime
3. Staff-Parttime

These groups were used for permission and policies related to the domain and the use of Network Resources.

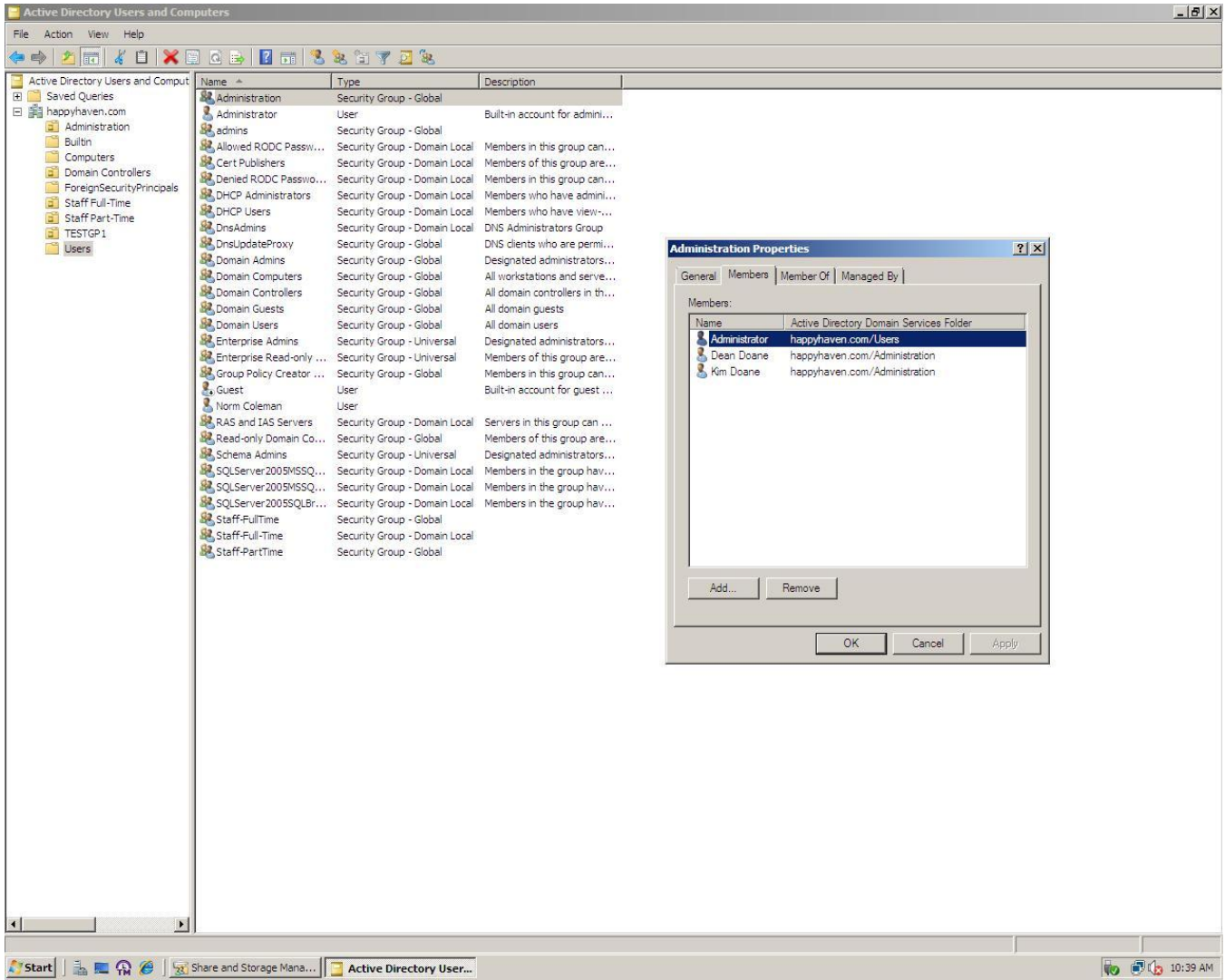


Exhibit A - depict ADDS Users and Computers screen shot.