

**The Design and Implementation of a
Local Area Network at Granite Banc, Inc.**

By Maralee A. Viox

Submitted to
The Faculty of the Information Engineering Technology Program
In Partial Fulfillment of the Requirements for
The Degree of Bachelor of Science
In Information Engineering Technology

University of Cincinnati
College of Applied Science

May 2001

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Date

Acknowledgements

Many thanks to the faculty and staff of the IET department for their continuous guidance and support throughout this project. Granite Banc, Inc. for the opportunity to complete this project. Fellow students Jason Doering, Pam Naber, and Jason Stroh for providing me with their feedback and expertise. My family, especially my husband David, for putting up with me through the rough times and his unconditional love and support.

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Abstract

This report discusses the design and implementation of a local area network at Granite Banc, Inc. The purpose of this project was to set up a computer network with reliable backup of files, Internet access, and shared resources. This project involved running the proper wiring, configuring the server, and connecting all workstations. I also set up a Web site for internal use at Granite Banc. The Web site contains information that informs users of all computer policies and procedures. Within this report are the specific elements of the project including design protocols, hardware and software requirements, and what I learned from this project.

The Design and Implementation of a Local Area Network at Granite Banc, Inc.

1. Statement of the Problem

1.1 Definition of the Need

Granite Banc Inc. is a mortgage company specializing in home loans, debt consolidation, and re-financing. The company opened in October 1998 and is located in Sharonville, Ohio. Granite Banc moved in June 2000 to an office also located in Sharonville to support an expanding sales force. Moving to a new office is what prompted this networking project for the design and implementation of a LAN.

Prior to moving, Granite Banc had several problems with its system design.

- The company operated a peer-to-peer network.
- AOL was the ISP which allowed only one user at a time, and was unreliable.
- There were no guidelines in place for downloads off the Internet or software installations.
- Only two machines could share a printer.
- Security applied to only a single resource at a time.
- There was no method for backing up files.
- The company outgrew the peer-to-peer network by adding more than ten machines (10, p. 10).

2. Review of Literature and Sources

To solve the issues of Internet access, shared resources, and back up, a server-based network was designed and implemented. The new design provides Granite Banc with the security, speed, and reliability needed to run daily business operations. “Getting wired to speed up internal processes and reach out to others electronically is an imperative,” says Catherine Arnst with BusinessWeek (2, web). In the mortgage business, having information readily available and being available to clients is paramount.

“We need to be able to obtain legal documents, get up-to-the-minute treasury bond quotes, and email business associates and clients via the Internet,” said Scott T. Brown, former President and CEO of Granite Banc (3, interview). The company had America Online to access the Internet. AOL runs slow and only allows one user to be logged on at a time. Employees used various e-mail addresses to communicate with business associates and each other over the Internet.

The prior systems design contained no back-up method for company files. “I would like to go home at night knowing that if something disastrous happened, we could recover our files and data within a reasonable amount of time,” said Mr. Brown. As the company grew, it became evident they needed more control over the system.

3. Product Description

A Dell Poweredge file server was installed with the Windows 2000 Server operating system software. (Please see page 13, Design and Development, for detailed list of budget, hardware, and software). This server contains 3, 18GB SCSI hard drives that were configured with RAID Level 5 that includes striping, error correction, and

checksum verification. This server allows users to access shared resources and have a backup of company files.

Instead of using the backup software that comes with Windows 2000 Server, we purchased the software and license for Veritas Backup Exec. Granite management wanted a product with more scheduling options and robustness than the 2000 backup had to offer. We are currently running nightly and weekly backups of the system. Granite Banc takes a tape home every night as a further safety measure.

Other system requirements address Internet access and security. Granite Banc chose Road Runner as the preferred ISP. After polling several individuals who have Zoomtown and were not completely satisfied, the company decided to go with Road Runner for its speed and reliability.

The hardware firewall is a RT311 Netgear Internet Access Gateway Router. This device shares the cable modem and was easily installed using plug-and-play. Security is also handled by setting passwords for network login and group policies. By completing this project, the issues of security, data storage, speed, and sharing resources were resolved.

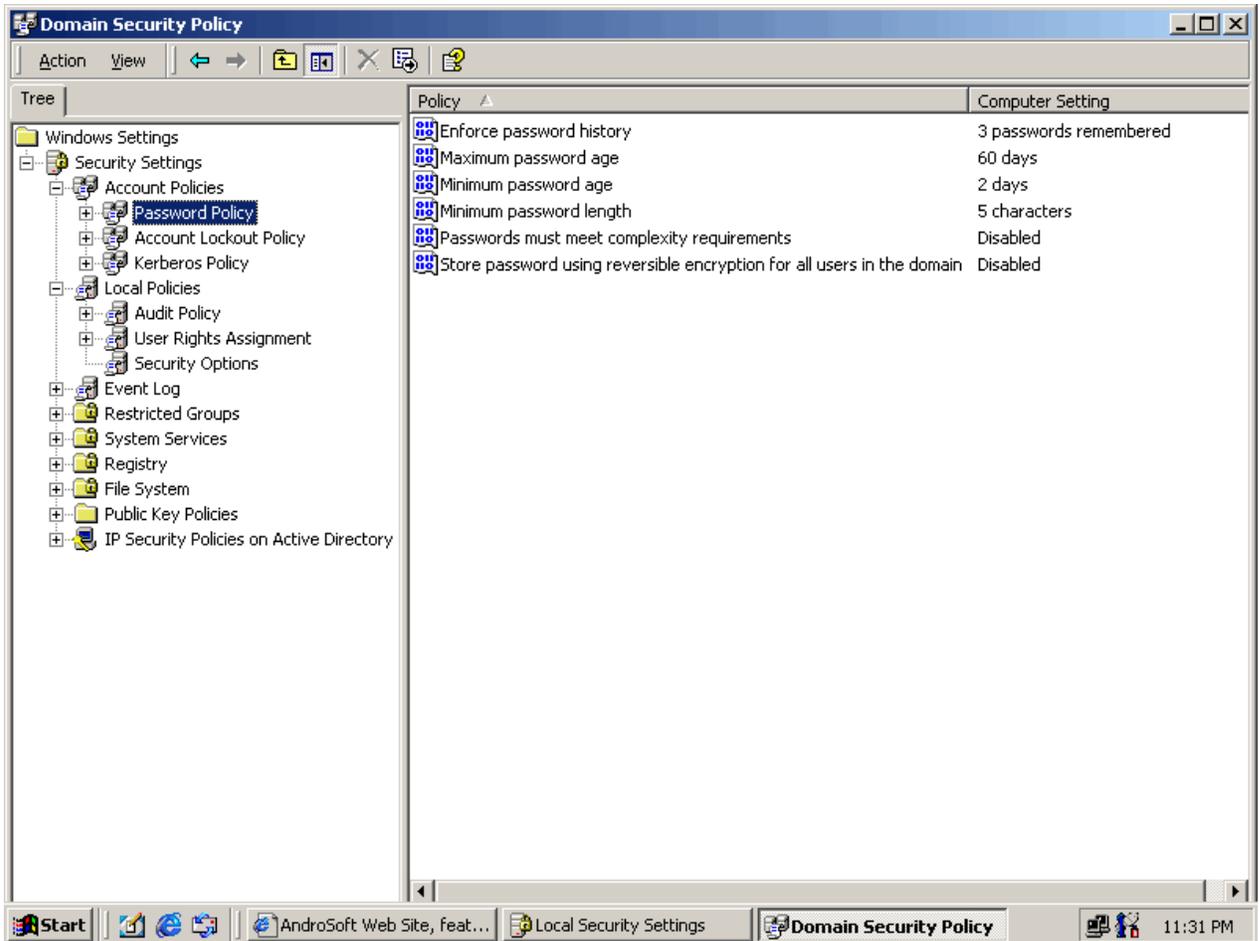


Figure 1. This shows group policies regarding passwords.

3.1 Interdev Web site

A Web site was created using Visual Interdev software that will help Granite Banc establish computer policies and procedures. This web site exists for the sole purpose of Granite Banc employees to be fully aware of all computer policies and procedures. Managers will be able to print out the pages for new employees to sign. Pages 7 – 11 provide a design freeze of the site.

3.2 Intended Users

The computer users at Granite Banc include marketing specialists, loan officers, the CEO, and upper level management. These users mainly work in MS Office applications, a database application, and the Internet. Their level of IT literacy is, on a scale from one to ten, a two. It has taken great efforts to help them gain knowledge of their new system because they are afraid and intimidated by computers. For example, before the new systems design, they saved files without knowing exactly where they were being saved.

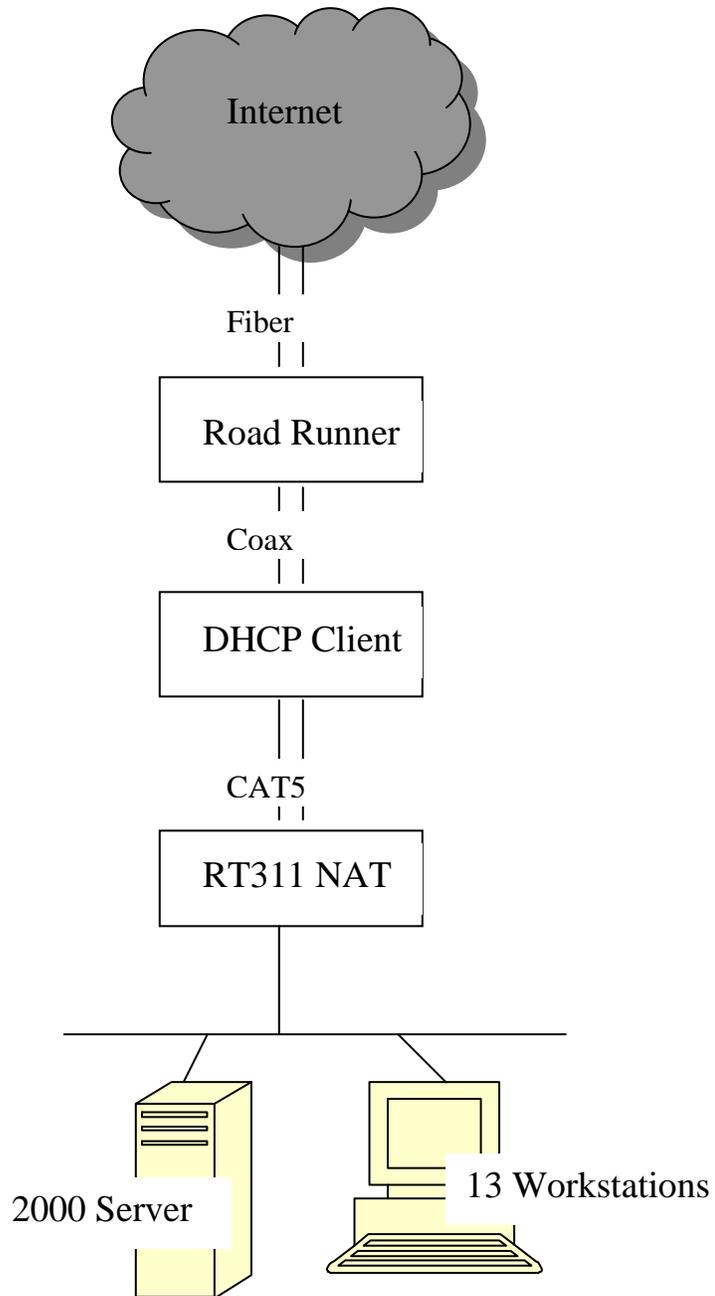


Figure 2. This shows the “big picture” of the Internet setup. The cloud is the Internet, which connects to Road Runner servers, which connect to the cable modem at Granite Banc.

3.3 Design Protocols

Navy blue is the background color of the site because that is Granite Banc's signature color. The eagle atop the rock is the company logo.

Homepage - explains the purpose of the Web site, shows graphic of Granite Banc logo and contains links to these other pages:

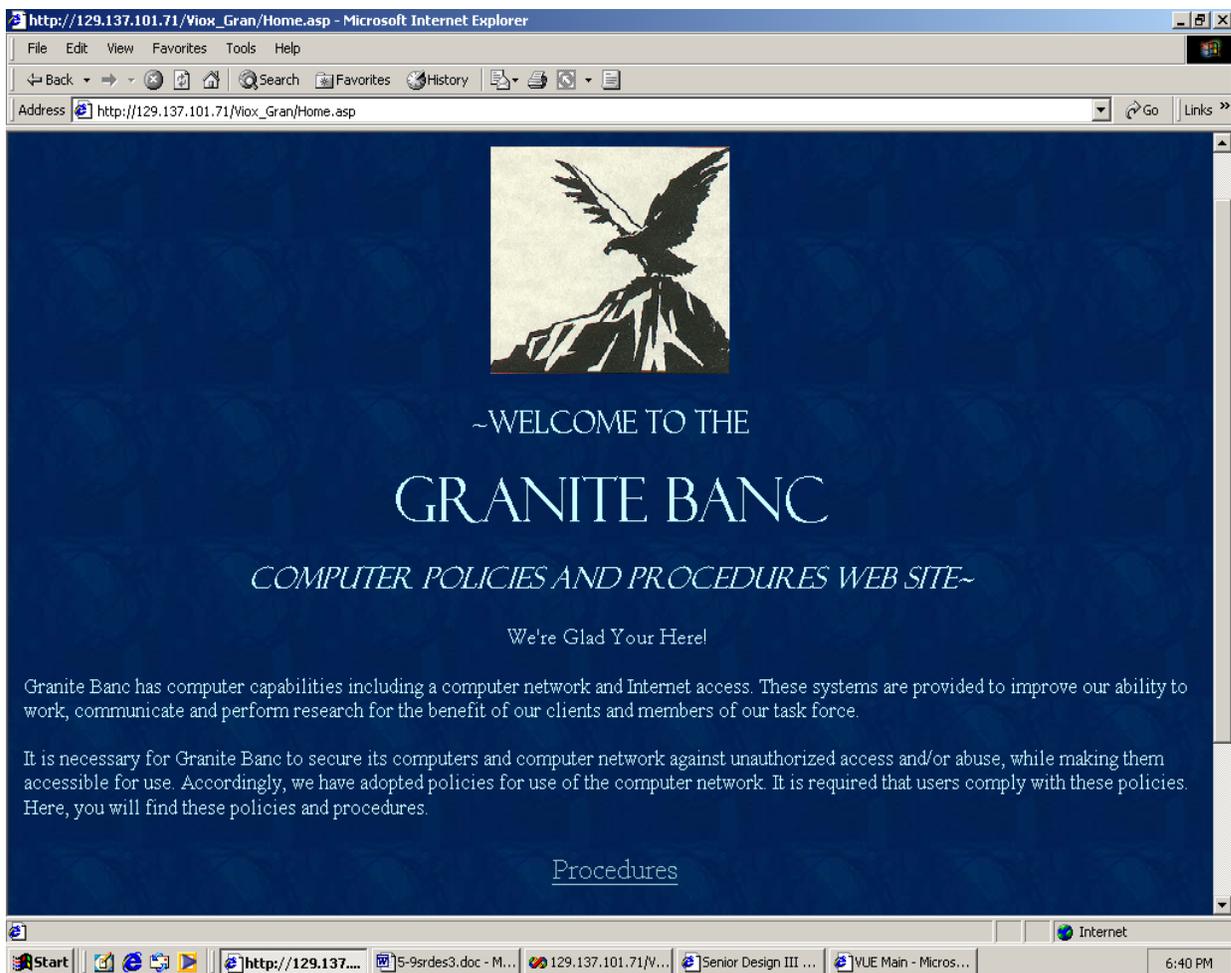


Figure 3. This shows the Granite Banc Homepage

Procedures - give users a detailed list of network procedures for logging in, saving files, and shutting down workstations on the network.

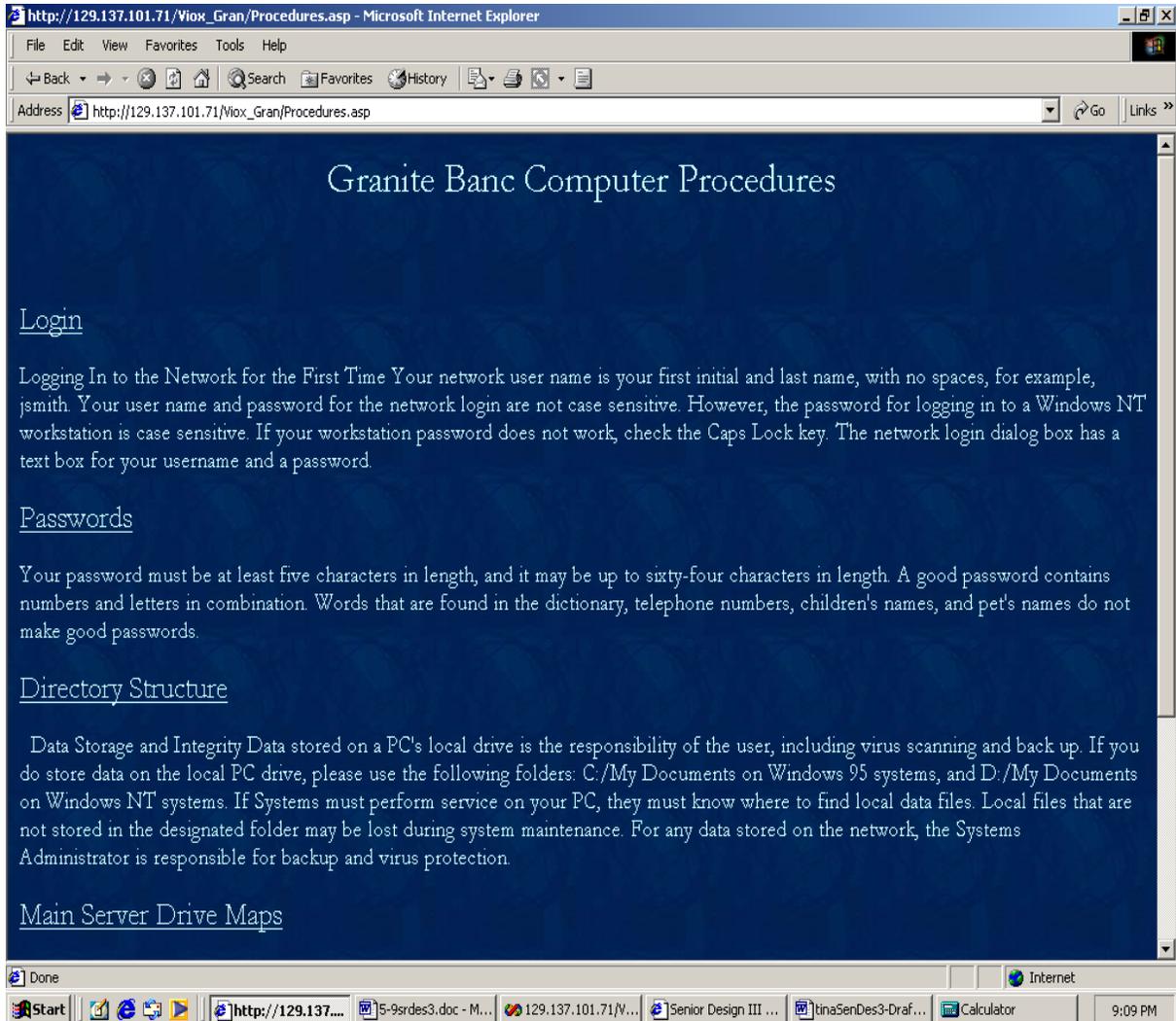


Figure 4. This page shows the Procedures page of the Web site

Policies - informs users on how to maintain the integrity of the networked computer system.

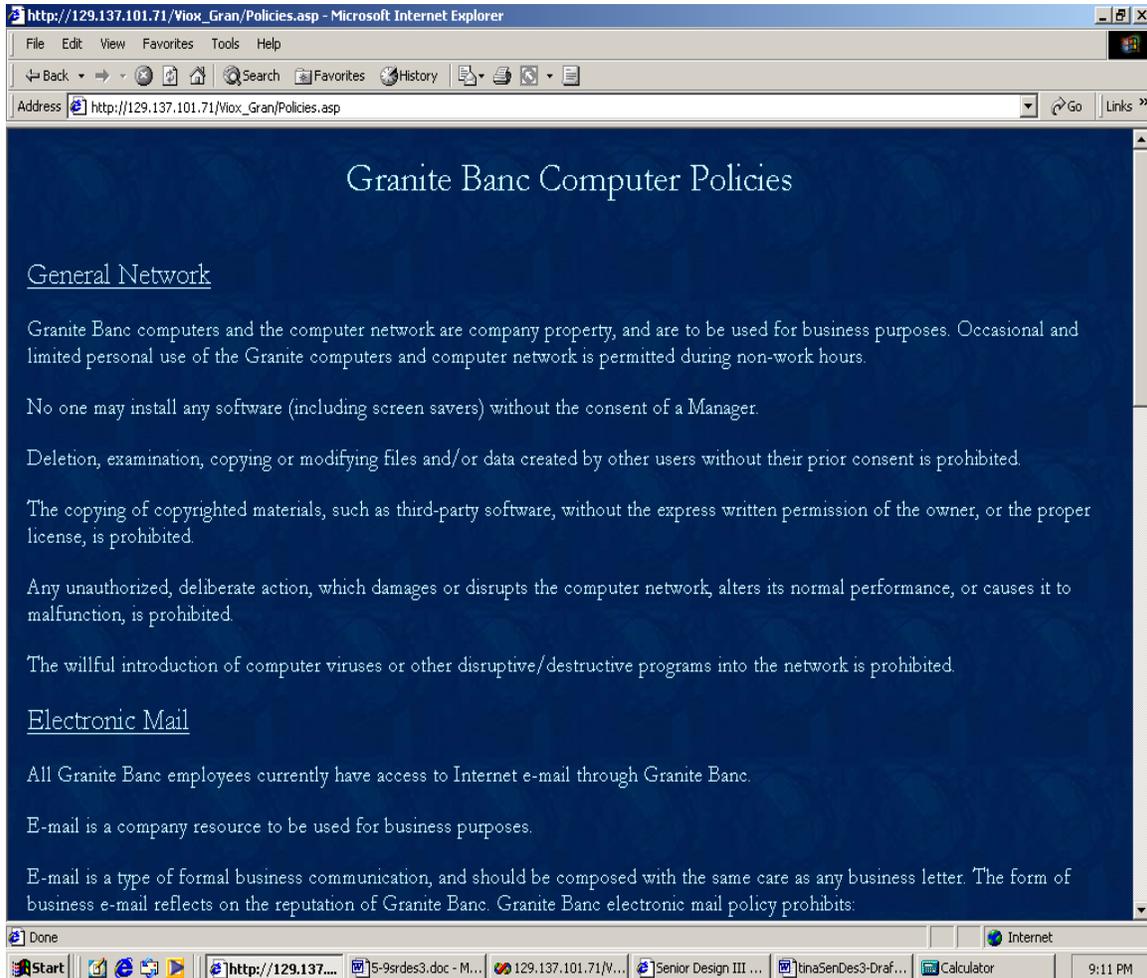


Figure 5. This shows the Policies portion of the Web site.

Internet - gives a detailed summary of all policies regarding the Internet and Internet e-mail.

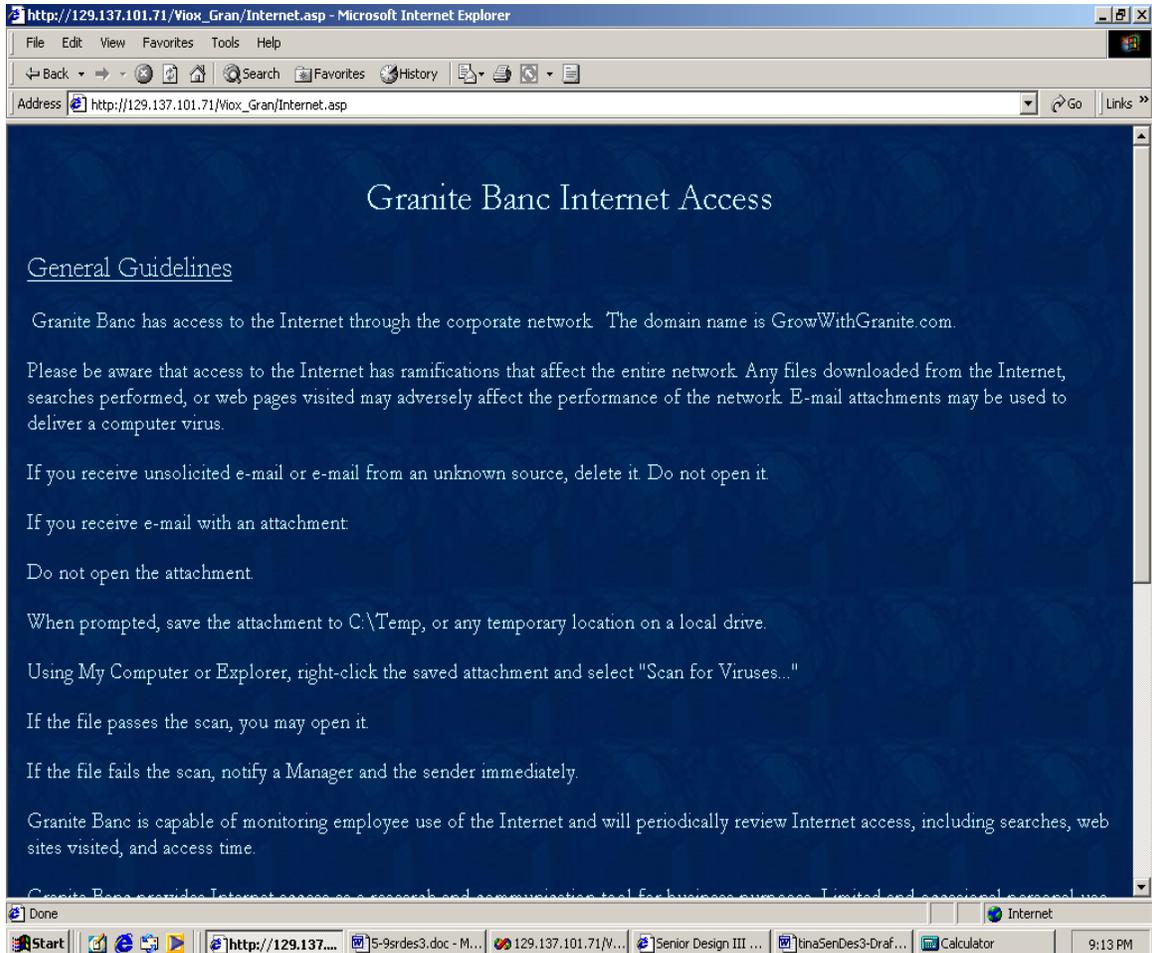


Figure 6. This figure shows the Internet Access page of the site.

Help - explains the purpose of each page and provides links to these pages.

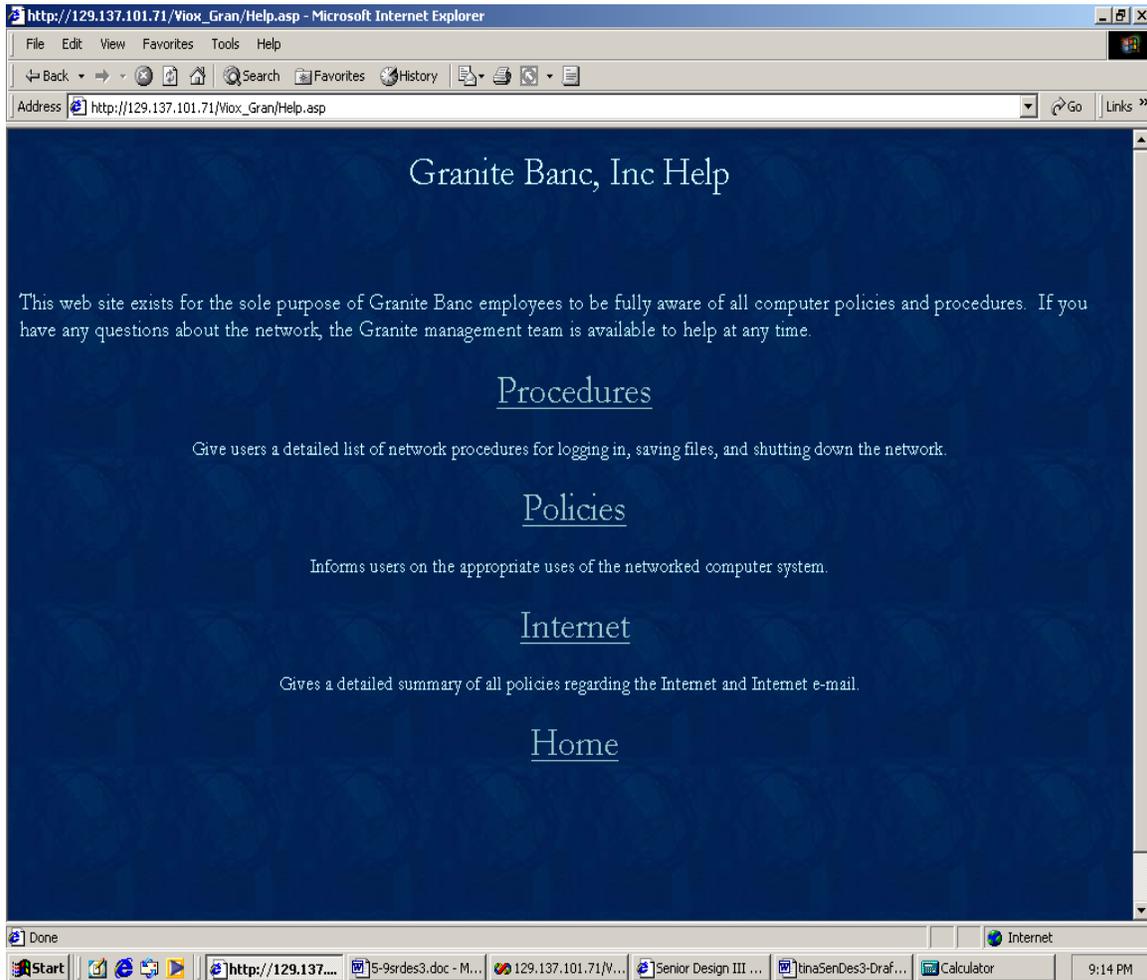


Figure 7. This is the Help page of the Web site.

4. Deliverables

Goal: This network will function as a means of centralized data storage, print and file sharing, and backup of network files.

- Design a network that provides Granite Banc with the reliability, speed, and security needed to support their growing business needs.
- Run Cat5 cable from each workstation to network hubs to provide fast and stable access to the network.
- The server will be configured to run the MS Windows 2000 operating system to support all client workstations running 98 and NT.
- The server contains three 18GB Ultra2 SCSI hard drives with Raid 5 configuration.
- TCP/IP was set up on each workstation as a gateway to the Internet. Internet service will be provided by Road Runner using a cable modem so that each user may access the Internet at any time.
- For protection, a Netgear RT311 hardware firewall exists between the cable/DSL router and the network hubs to filter out unwanted TCP/IP connections.
- Tape backup will provide Granite with a copy of all files stored on the network. This backup software will be easy to use and will be configured to run nightly and weekly backups of the system.
- All existing workstations will be set up for network access.
- Configure Notes users on server to allow each user to use Lotus Notes for messaging and calendaring.
- Provide a website that will outline all network policies, procedures, and guidelines for use of the Internet.

5. Design and Development

<u>Windows 2000 Network File Server</u>	<u>Price</u>	<u>Total</u>
Dell Poweredge 2400 Server including Pentium III 667 MHz processor 256 MB RAM Three 18 GB SCSI hard drives-configured w/RAID5 17/40X SCSI CD-ROM Internal Two 10/100 Mbps Ethernet adapters	\$ 5500	\$ 5500
<u>Network Operating System and Application Software</u>		
Microsoft Windows 2000 Server with 5 clients	1129	
Veritas Backup Exec Software for 2000	700	
RT311 Internet Access Gateway Router	300	
		2129
<u>Network Hardware and Software</u>		
DLT1 40/80 GB tape backup unit	549	
APC SmartUPS 700 battery backup	408	
		957
<u>Misc. Expenses</u>		
Cat5 Cable, DAT tapes		600
		600
<u>Project Total</u>		<u>\$ 9168</u>

*Internet Service Provided by RoadRunner \$60/month
(Not included in project total)

4.1 Timeline

Senior Design I

Weeks 1-10

Researched Dell, IBM, and Compaq servers to compare quality and price. Analyzed results and Proposed the Dell 2400 Poweredge server. Gave Senior Design I presentation.

Senior Design II

Weeks 1-7

Helped move 14 workstations to new location at Chester Rd.
Replaced flat ribbon cable with CAT5 cable.
Connected workstations using peer-to-peer configuration until server is installed.

Week 8

Made final decision on Server and software

Week 9

Ordered server s/w and h/w from Dell Computer Corporation
Purchased through Dell Business Lease

Week 10

Server arrived, Summer Quarter Ends

August 31 - September 15

Re-formatted hard drives
Reconfigured Server for Raid5 configuration
Installed Windows 2000 Server operating system
Setup a static TCP/IP address for server
DHCP for connecting workstations
Created "Team Granite" group and added all users
Installed Veritas Backup Exec software, configured, and tested
Setup network print queues for existing printers using TCP/IP
Configured workstations for network access
Loaded Windows2000 Server service patch 1

September 15 – October 15

Applied Group Policies for account lockout and passwords

Set up Point application on server
Road Runner engineer set up cable modem for Internet
Troubleshooted system problems
Worked with users to achieve standardization on each workstation

October 15 – December 31

Fine-tuned Web site for client use and for any changes that may have occurred during system integration.
Continued to support system for any problems.

Senior Design III

Complete Web site
Prepare for final presentations

May 31, 2001

Demonstrate final project
Submit final documentation

4.2 Hardware and Software

Hardware:

- Dell Poweredge Server w/3 18G SCSI Hard Drives
- Category 5 Cable
- 2 Network Hubs
- Patch Panel
- NetGear Gateway Router
- Cable Modem
- Monitor, Keyboard, mouse

Software:

- Raid 5 Configuration S/W
- Windows 2000 Server
- Veritas Backup Exec
- Point Database S/W
- Printer Driver S/W
- MS Visio
- MS Visual Interdev

6. Proof of Design

6.1 Network Setup for Speed, Reliability, and Security

Setting up a server-based network for Granite Banc has provided the company with reliable, rapid access to company resources. These resources include the Internet, shared printers, and a software application. Granite Banc chose Road Runner for accessing the Internet. The cable modem is connected to the RT311 Netgear box with Category 5 cable (See Figure 2 on Page 6 for Diagram). Road Runner has been successfully running for eight months.

There are two shared printers on the server. These printers were set up using TCP/IP printing. From each workstation, users can go to Start, Settings, Printers, and choose the Network printer option. From there, they will see a list of the printers under the Grnt_srvr printers folder and they can choose the one they need.

The software application that resides on the server is called Point. It is a database of all of the clients for whom Granite has processed a loan. It is set up so that when adding a new user, I simply add the user to the Point group. This application resides on the I: server drive along with a folder called "Executive." Only members of management can access the Executive folder.

6.2 Install Category 5 Cable to Connect Workstations and Server

The previous company who resided in the building before Granite moved in used flat ribbon cable for its network. Using this cable as a guide, we ran fifteen lines of Category 5 cable from the network hub to each workstation, and from the server to the hub. This job also entailed linking RJ45 connectors to the cable and adding the patch

panel. These lines have enabled each workstation to have a stable connection to the server since they were set up last June.

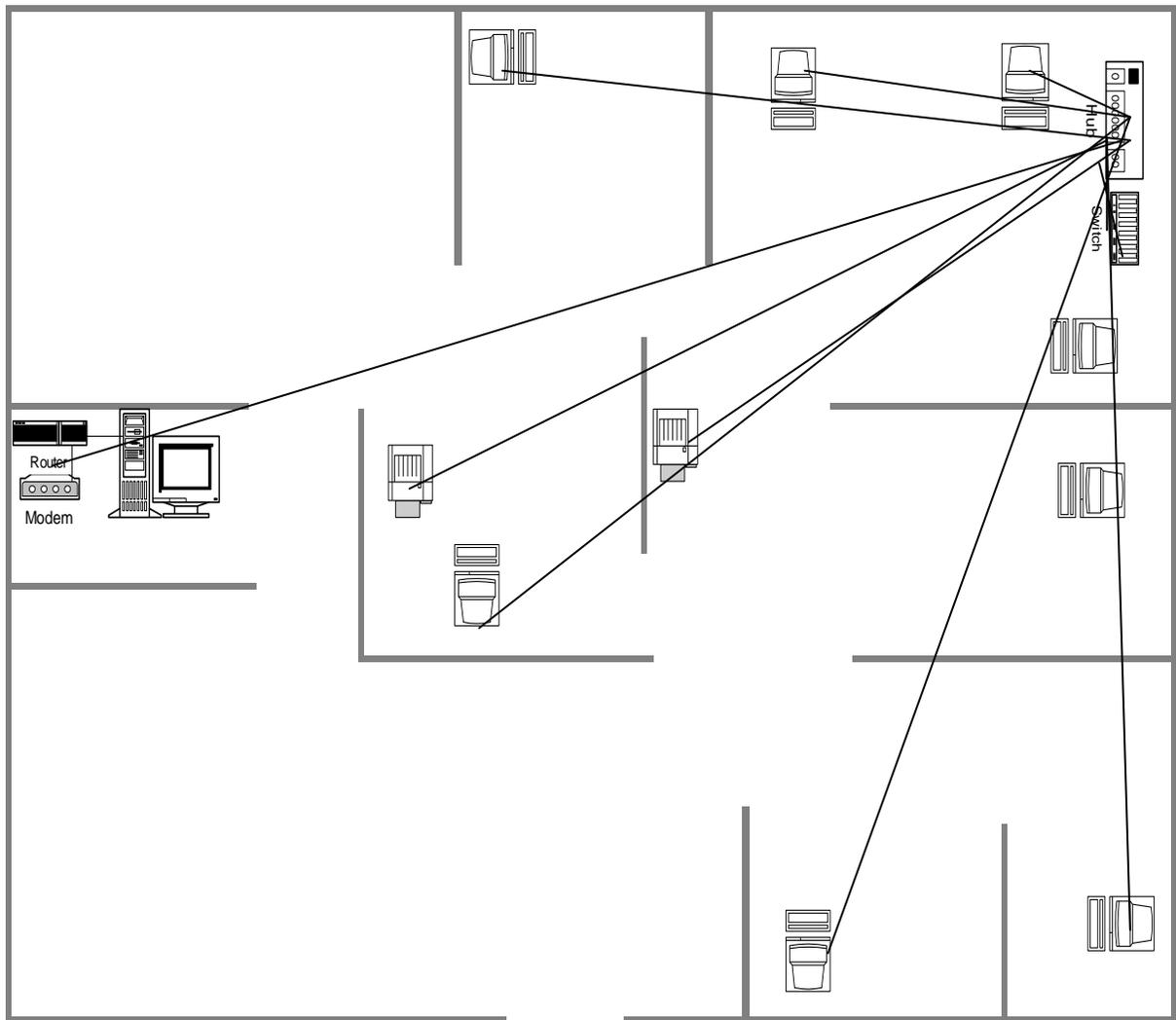


Figure 8. This shows the office layout including the server, router, and cable modem. Also, the hub, patch panel, and how they are interconnected. Please note that not all workstations are included.

6.3 Install Windows 2000 Server Operating System

Formatting the hard drive and configuring the server with Raid 5 were the first tasks accomplished in setting up the server. The Raid 5 configuration was done using the Dell Utility disks. The second step was loading the Windows 2000 Server operating system. This was done by simply following the wizard which guided me through the installation step-by-step.

6.4 Configure Hard Drives with Raid 5

Originally, to save costs, we were going to purchase only two hard drives and configure them to mirror one another. Instead of purchasing two mirrored hard drives, we purchased three, and configured them with Raid 5. One reason for this change was due to the fact that Raid 1 does not offer the same kind of fault tolerance as Raid 5. Raid 5 fault tolerance “ensures that the failure of a single drive won’t bring down the entire drive set” (9, p.254). Another reason for purchasing three hard drives vs. two is that the amount of storage space is cut in half with disk mirroring. For example, to mirror an 18GB hard drive, you need another 18GB drive. This configuration uses 32GB of space to store 18GB of information. Granite has 32GB of storage space for its data.

6.5 Configure TCP/IP and DHCP

Active Directory offered a wizard which gave me choices for configuring TCP/IP and DHCP. The static IP address on the server is 192.168.0.30. The address pool for the connecting workstations is 192.168.0.2 to 0.25. There is a check box in 2000 that states, “Check here if the connecting workstation is pre-Windows 2000.” This must be checked before the workstation is visible through the computers folder in Active Directory. After installing the operating system, I ran the wizard to set up Active Directory. Active

Directory uses the DNS to organize groups of computers into domains (9, p. 97). This is where I perform 98% of all administrative tasks including creating new accounts and setting group policies. Please see page 20 for a screen shot of setting up a new user. Active Directory can be accessed through the start menu by going to Start, Programs, Administrative Tools, Active Directory Users and Computers. Once there, right click and select New, User. The screen shot on page 20 is the first dialogue box seen once the wizard is started. The convention for the User Logon Name is first initial, last name. Page 21 contains a diagram of the DHCP console that you get to by going to Start, Programs, Administrative Tools, DHCP.

Once the Windows OS was installed and set up, the drivers for the Raid controller were loaded. Dell offers a software suite with an easy-to-use graphical interface. The wizard support agent is called the Flexible Array Storage Tool, or FAST. This software allows you to create and reconfigure containers. Using the controller management software disks, the wizard was used to install the drivers for the Raid controller.

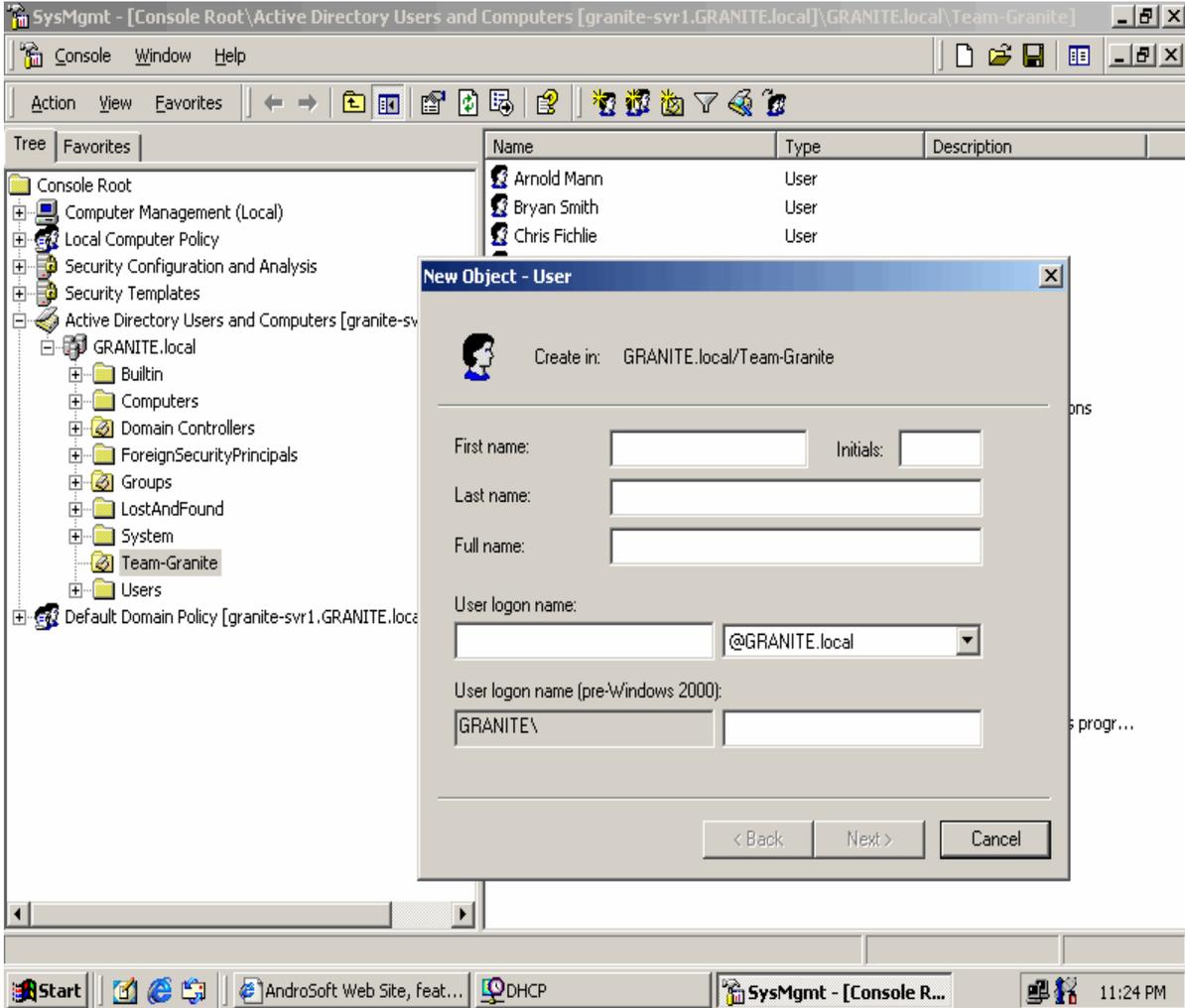


Figure 9. This shows the Active Directory Users and Computers dialogue box for setting up a new user.

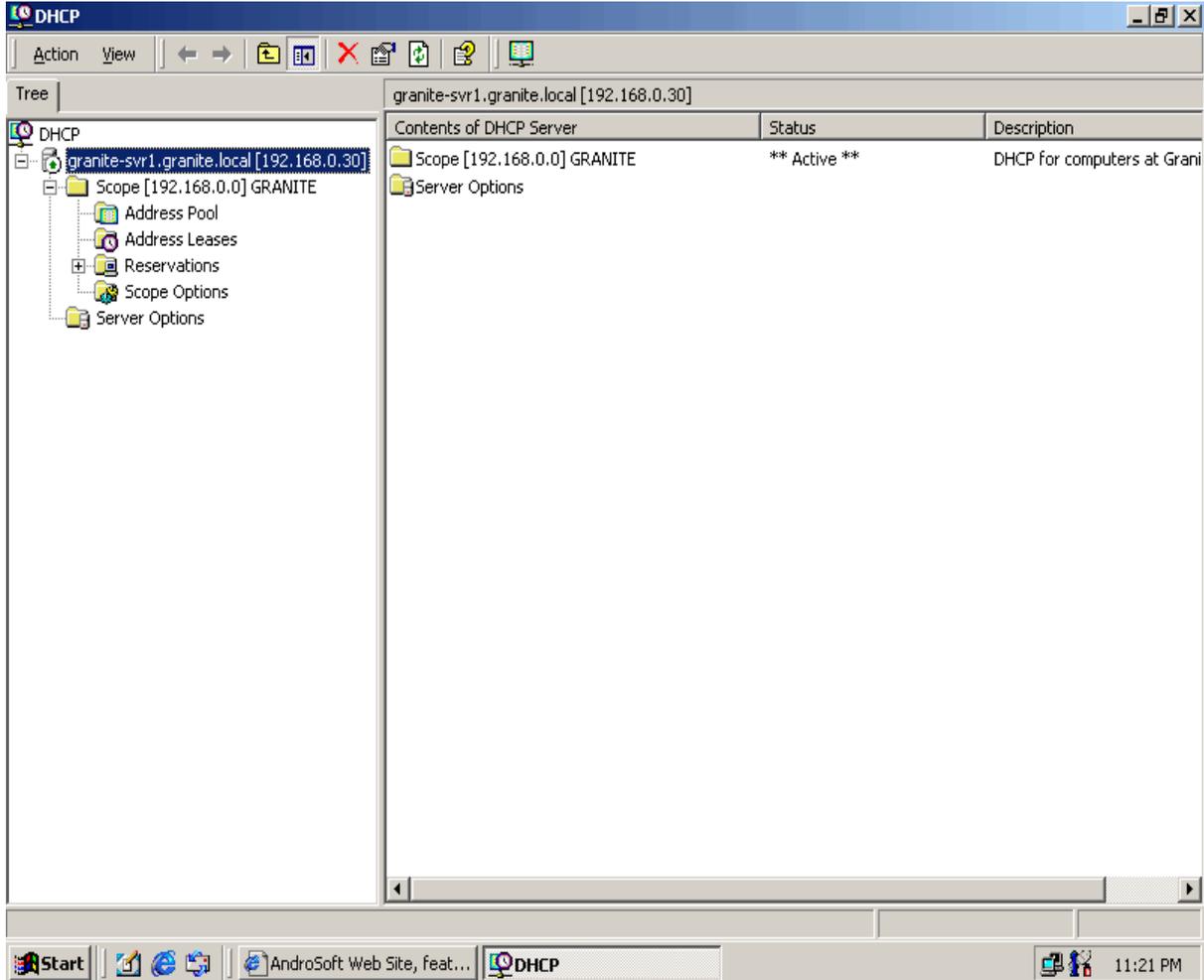


Figure 10. This shows the DHCP console under Administrative Tools.

6.6 Set up Netgear Hardware Firewall

Instead of using the WatchGuard SOHO hardware firewall, originally proposed, Granite purchased a Netgear RT311 hardware router/firewall. This device routes the IP protocol over a single-user broadband connection. The RT311 does packet filtering which supports Network Address Translation or NAT. NAT allows several PCs to share an Internet account by using the static IP address given out by Road Runners DHCP

server. This scheme offers protection because the router filters out all incoming inquiries from the Internet.

6.7 Veritas Backup

The Veritas Backup Exec software has been consistently running on the server for nine months. The company uses three DAT 20/40GB tapes to back up its data. Each night a differential backup is performed and a full back runs on Saturdays. Todd Bitter, Director of Sales, takes home a tape each evening to ensure safety in case something were to happen on-site. This is a screenshot of the back up wizard:

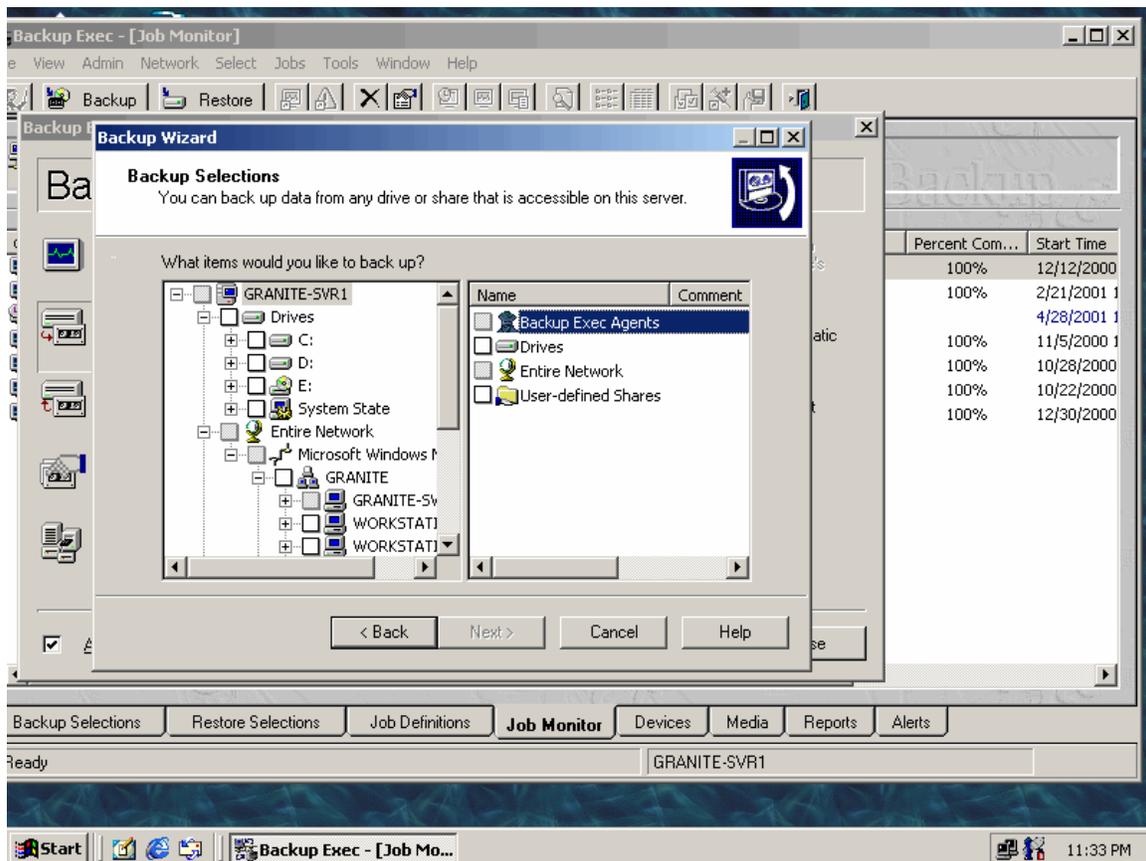


Figure 11. This shows the Veritas Backup Exec Wizard

6.8 Configure Workstations

One part of setting up all workstations for network access involved changing each workstation name. Prior to the server being installed, they had no naming scheme except by position name. Several companies use first initial, last name as a naming scheme however, due to the high turnover rate at the company, I simply used the names Workstation1, Workstation2, thru Workstation14.

6.9 Lotus Notes

Since Granite Banc is a relatively new company, its budget did not allow for the purchase of Lotus Notes software. Currently, employees at the company use e-mail accounts that Road Runner provided with its service.

6.10 Interdev Web Site

To establish guidelines for the use of the computers and computer network at Granite Banc, I set up a Web site that outlines procedures, policies, and use of the Internet. It is available at http://129.137.101.71/Viox_Gran/Home.asp

The management at Granite Banc asked me to create this site to orient new employees with the network, and to establish rules for use of its computers. It contains five pages: a homepage, procedures, policies, and Internet. It also contains a help page that describes the purpose of the Web site and the other pages. Please see Figures 3-7 on pages 7-11 for a design freeze of each page. Appendices A-C on pages 27-33 contain the exact content of the Web site beginning with the company procedures.

The following is code from the homepage:

Using MS Visual Interdev, the “Downtown” theme was chosen because it has the navy background that matches Granite Banc’s company color:

```
<LINK REL="stylesheet" TYPE="text/css" HREF="_Themes/downtown/THEME.CSS"
VI6.0THEME="Downtown">
<LINK REL="stylesheet" TYPE="text/css"
HREF="_Themes/downtown/GRAPH0.CSS" VI6.0THEME="Downtown">
<LINK REL="stylesheet" TYPE="text/css"
HREF="_Themes/downtown/COLOR0.CSS" VI6.0THEME="Downtown">
<LINK REL="stylesheet" TYPE="text/css"
HREF="_Themes/downtown/CUSTOM.CSS" VI6.0THEME="Downtown"></head>
<body>
```

Here is where the logo is inserted:

```
<P align=center><FONT face="Felix Titling" size=5>&nbsp; </FONT></P>
src="images/logo.BMP"
style="HEIGHT: 180px; WIDTH: 199px" >
```

The Title on the Homepage:

```
<P align=center><FONT face="Felix Titling" size=5>~Welcome to the Granite Banc
Computer Policies and
Procedures Web site~ </FONT></P>
<table border="0" width="100%">
  <td colspan="2" height="100" align="middle" width="100%">
    <P class=OmniPage3 align=center><FONT face="Times New Roman"><SPAN
style="FONT-SIZE: 12pt"></SPAN></FONT><FONT size=4>We're Glad Your
Here!&nbsp;</FONT> </P>
    <P class=OmniPage3 align=left><FONT size=4><FONT face="Times New
Roman"><SPAN
```

The Body:

```
style="FONT-SIZE: 13pt">Granite Banc has computer capabilities including a
computer network and Internet access. These systems are provided
to improve our ability to work, communicate and perform research for the
benefit of our clients and members of our task force.<?
"urn:schemas-microsoft-com:office:office"
/><o:p></O:P></SPAN></FONT></FONT></P>
<P align=left><FONT size=4><SPAN
style="FONT-FAMILY: 'Times New Roman'; FONT-SIZE: 13pt; mso-fareast-font-
family: 'Times New Roman'; mso-ansi-language: EN-US; mso-fareast-language: EN-US;
mso-bidi-language: AR-SA">It
```

is necessary for Granite Banc to secure its computers and computer network against unauthorized access and/or abuse, while making them accessible for use. Accordingly, we have adopted policies for use of the computer network. It is required that users comply with these policies. Here, you will find these policies and procedures. </P>

Links to the other pages:

<P> <FONT
size=5>Procedures</P>

<P> <FONT
size=5>Policies</P>

<P> <FONT
size=5>Internet</P>

<P> <FONT
size=5>Help</P>

<P> </P>

</td>

</tr>

</table>

</body>

7. Conclusions and Recommendations

Designing and implementing a network at Granite Banc was a great learning experience. Not only did it improve my technical expertise, I also gained problem solving skills and project management techniques. There were several obstacles I had to overcome throughout this project. The first challenge was running the Cat 5 cable. This took several days and was very dirty job! Secondly, the server was supposed to come with embedded Raid 5 however, at boot up, I kept getting an error that one of the hard drives was bad. Therefore, it required re-formatting all of the hard drives and starting from scratch. The rest of this project involved several different steps including:

- Connecting all workstations to the 2000 server

- Setting up network printers
- Configuring Active Directory
- Setting up users in Active Directory
- Installing Service Pack 1 for 2000 Server
- Installing Point software on Server
- Installing Veritas software for backup and configuring
- Gathering information for Web site and putting it on CAS Web server
- Setting up the Web site and testing
- Providing ongoing support by installing software, updates, and patches

Each of these steps involved at least one “surprise” during implementation that was unexpected as well.

The Senior Design course series helped me gain the confidence and skills needed to go out into the working world. Despite it being one of the biggest challenges I’ve undertaken, it has also been one of the most fulfilling. The College of Applied Science should commend itself for giving students this challenging, real-world experience.

Appendix A.

Procedures for Using the Computer Network at Granite Banc

Logging In to the Network for the First Time Your network user name is your first initial and last name, with no spaces, for example, jsmith. Your user name and password for the network login are not case sensitive. However, the password for logging in to a Windows NT workstation is case sensitive. If your workstation password does not work, check the Caps Lock key. The network login dialog box has a text box for your username and a password.

Passwords

Your password must be at least five characters in length, and it may be up to sixty-four characters in length. A good password contains numbers and letters in combination. Words that are found in the dictionary, telephone numbers, children's names, and pet's names do not make good passwords.

Directory Structure

Data Storage and Integrity Data stored on a PC's local drive is the responsibility of the user, including virus scanning and back up. If you do store data on the local PC drive, please use the following folders: C:/My Documents on Windows 98 systems, and D:/My Documents on Windows NT systems. If Systems must perform service on your PC, they must know where to find local data files. Local files that are not stored in the designated folder may be lost during system maintenance. For any data stored on the network, the Systems Administrator is responsible for backup and virus protection.

Main Server Drive Maps

The following are the drive letters you will be using on the server:

I: has mostly application software, including Point and printer drivers. Printer drivers are located on I:\Grnt_Srvr\Printers.

H: is your personal directory (it is actually a shortcut to H:\USERS\your login name). This is where you should save all data. For example, when in Microsoft Word, Excel, or PowerPoint, go to File, Save As, and go to the drop down arrow in the dialogue box. Scroll to H:\Users\your login name. Name your document and click Save. Saving to the H: drive on the server will enable the Network Administrator to recover your data in the case of hard drive failure or natural disaster.

Internet

General Guidelines

Granite Banc has access to the Internet through the corporate network. The domain name is GrowWithGranite.com.

Please be aware that access to the Internet has ramifications that affect the entire network. Any files downloaded from the Internet, searches performed, or web pages visited may adversely affect the performance of the network. E-mail attachments may be used to deliver a computer virus.

If you receive unsolicited e-mail or e-mail from an unknown source, delete it. Do not open it.

If you receive e-mail with an attachment: Do not open the attachment. When prompted, save the attachment to C:\Temp, or any temporary location on a local drive. Using My Computer or Explorer, right-click the saved attachment and select "Scan for Viruses..."

If the file passes the scan, you may open it. If the file fails the scan, notify a Manager and the sender immediately.

Granite Banc is capable of monitoring employee use of the Internet and will periodically review Internet access, including searches, web sites visited, and access time.

Granite Banc provides Internet access as a research and communication tool for business purposes. Limited and occasional personal use is permitted during non-work hours.

Do not download software, software patches, add-ons or plug-ins from the Internet unless authorized by management. Files downloaded from the Internet are a source of computer viruses, and some patches, add-ons or plug-ins may adversely affect the operation of the network.

The Granite Banc Network Computer Policy strictly forbids:

Use of the Granite Internet connection to transmit or download material that is obscene, pornographic, threatening or racially or sexually harassing.

Use of the Granite Internet connection to disseminate or print copyrighted materials, including articles and software, in violation of copyright laws.

Appendix B.

Policies of Computer Network at Granite Banc, Inc.

Granite Banc computers and the computer network are company property, and are to be used for business purposes. Occasional and limited personal use of the Granite computers and computer network is permitted during non-work hours.

No one may install any software (including screen savers) without the consent of a Manager.

Deletion, examination, copying or modifying files and/or data created by other users without their prior consent is prohibited.

The copying of copyrighted materials, such as third-party software, without the express written permission of the owner, or the proper license, is prohibited.

Any unauthorized, deliberate action, which damages or disrupts the computer network, alters its normal performance, or causes it to malfunction, is prohibited.

The willful introduction of computer viruses or other disruptive/destructive programs into the network is prohibited.

Electronic Mail

All Granite Banc employees currently have access to Internet e-mail through Granite Banc. E-mail is a company resource to be used for business purposes.

E-mail is a type of formal business communication, and should be composed with the same care as any business letter. The form of business e-mail reflects on the reputation of Granite Banc.

Granite Banc electronic mail policy prohibits:

Reading, deleting, copying, or modifying the E-mail of another user

Sending harassing, obscene and/or threatening E-mail to another user

Sending unsolicited junk mail, "for-profit" messages or chain letters.

Granite Banc has the capability to monitor e-mail messages, and reserves the right to either randomly or systematically monitor all E-mail communications for offensive words and phrases.

Granite Banc will not review e-mail without sufficient cause. Potential causes include, but are not limited to, the following:

Legal, ethical, and customer issues

Employee productivity and job performance concerns

Unusual levels of network utilization

Complaints from fellow workers or other individuals.

Appendix C.

Internet Access through the Granite Banc Network

Granite Banc provides access to the Internet through the corporate network.

Internet access is provided as a research and communication tool and should be used for business purposes. Occasional and limited personal use of Granite Internet access is permitted during work hours.

Please be aware that access to the Internet has ramifications that affect the entire network. Any files downloaded from the Internet, searches performed, or web pages visited may severely impact the performance of the network.

Software, software patches, add-ons or plug-ins must not be downloaded from the Internet unless authorized by management. Files downloaded from the Internet are very susceptible to computer viruses.

Granite Banc is capable of monitoring access to the Internet. This monitoring includes all searches performed, web pages visited and access time. Internet access will be reviewed periodically by Granite Banc management.

Granite Banc reserves the right to block and/or monitor Internet access to any sites that we deem to be offensive or undesirable.

Employees found to be visiting sites that are subsequently found offensive are subject to review and possible disciplinary action. These offensive sites include, but are not limited to, sites focusing on pornography, violence, hate groups, and similarly objectionable material of no business relevance.

The Internet must not be used to disseminate or print copyrighted materials, including articles and software, in violation of copyright laws. The users of the network are responsible for respecting and adhering to local, state, federal and international laws. Any attempt to break those laws using the computer network may result in litigation against the offender by the proper authorities. If such an event should occur, Granite Banc will fully comply with the authorities to provide any information necessary for the litigation process. Any attempt to violate the provisions of this Network Computer Policy will result in disciplinary action, possibly including termination of employment.

I have received and read my copy of the Network Computer Policy of Granite Banc. I understand and agree to comply with the provisions of this Policy.

Print Name _____

Signature _____ Date _____

These policies and procedures have allowed management to get the message across that any viewing of illegal or discriminating materials will not be tolerated.

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