



LevelOne

FNS-7000A

4-bay Tower NAS w/2 Gigabit Ethernet

User`s Manual

CUSTOMER SERVICE

For the contact details of customer service and technical support, please refer to the registration card.

LIMITED WARRANTY

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CAUTION

1. Back up your system periodically to avoid any potential data loss.
2. Should you return any components of FNS-7000A package for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

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Chapter 1 Overview of LevelOne FNS-7000A

1.1 Introduction

Thank you for choosing FNS-7000A as your Network Attached Storage (NAS).

This product has the following key features:

- Desktop design
- VIA Eden 733 MHz/ 256MB DDR RAM
- Supports 4 x 3.5" IDE HDD
- Maximum capacity up to 1.2TB
- Supports RAID 0, 1, 5 and JBOD storage management
- 2 x 10/100/1000 Mbps fast Ethernet port
- Supports UPS management via USB port

1.2 Package Contents

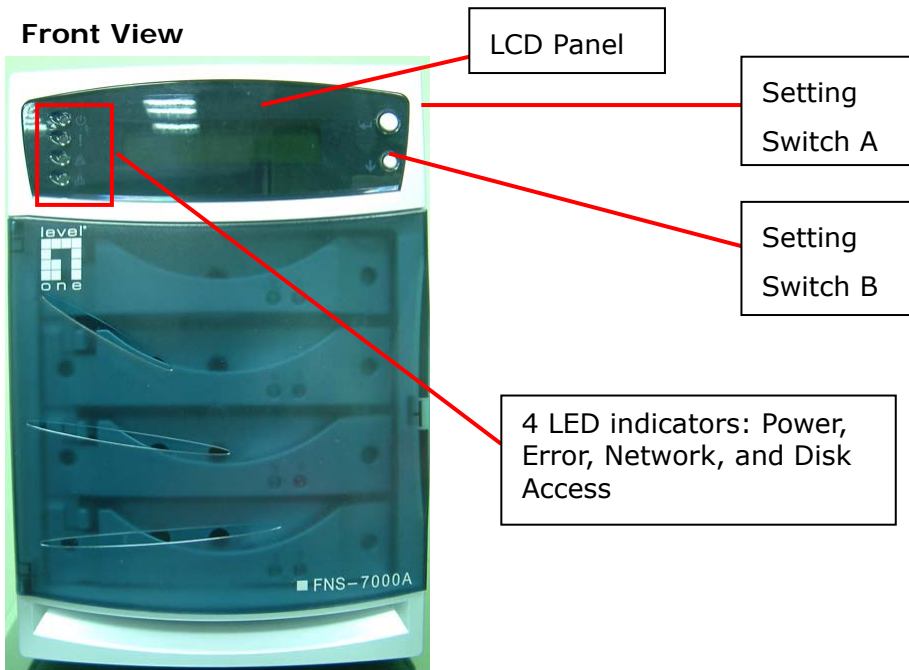
The package contains:

- FNS-7000A
- Power cable
- CAT-5 Ethernet cable
- Companion CD (user manual, Quick Install Wizard and software inclusive)

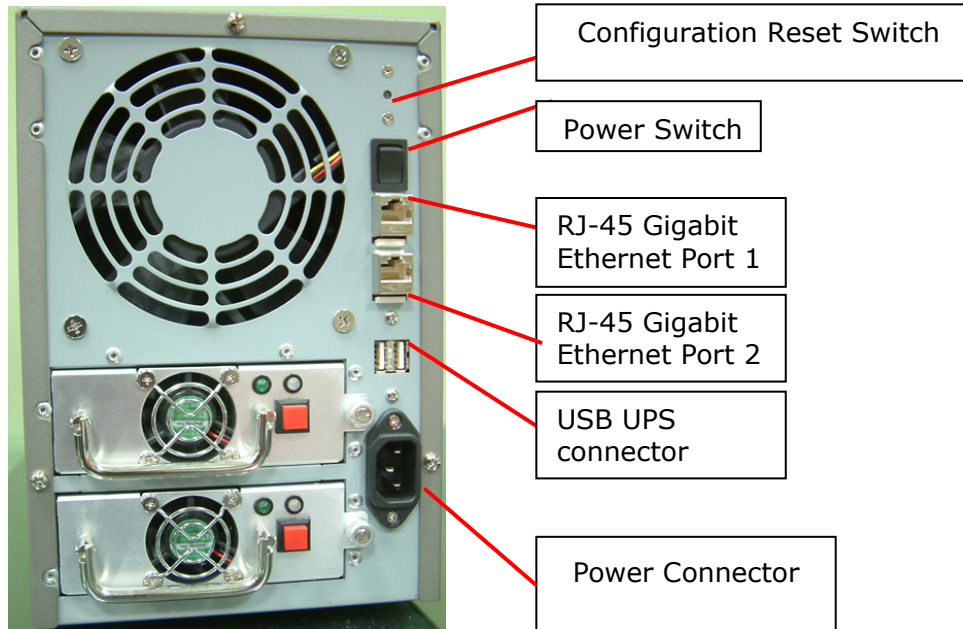
Important Notice: Please back up your disk data periodically to avoid data loss due to improper operation or disk failure of FNS-7000A.

1.3 System Overview

Front View



Rear View



Chapter 2 Installation of FNS-7000A

2.1 Network Configuration

By factory default, FNS-7000A will search the network via DHCP (Dynamic Host Configuration Protocol) to detect IP address settings automatically. If your network does not support DHCP protocol, FNS-7000A will use the default settings as below:

IP Address: **192.168.0.1**

Subnet Mask: **255.255.255.0**

When FNS-7000A completes its boot-up process, the LCD panel will display current IP address settings.

If your network does not support DHCP protocol, you must configure your FNS-7000A to proper LAN settings before using it for the first time. (If you are not sure about the LAN settings, please contact your network administrator).

You can change the network settings of FNS-7000A by the following ways:

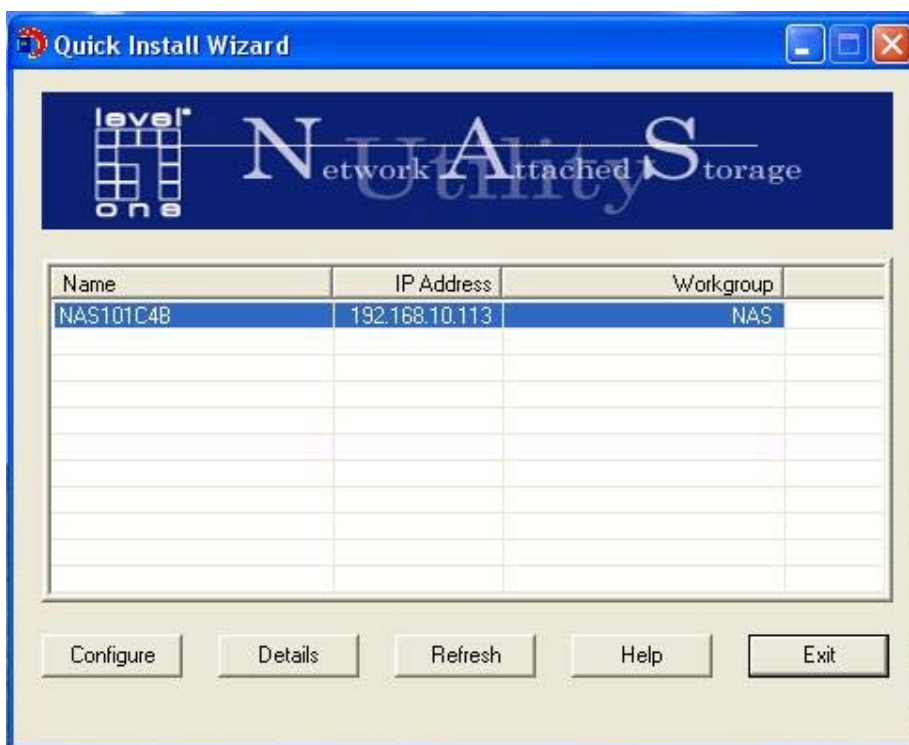
1. Use the LCD panel to change the network settings. For more information, please refer to Appendix A.
2. Use Quick Install Wizard in the companion CD to change the network settings. For more information, please refer to Appendix C.

Chapter 3 Administration of FNS-7000A

When you have installed FNS-7000A and connected it to the network, you can manage the server via web browser. FNS-7000A supports Microsoft Internet Explorer 5.0 or later, and Netscape Navigator 4.5 or later. Microsoft Internet Explorer 5.5 is recommended.

3.1 Accessing Administration Page

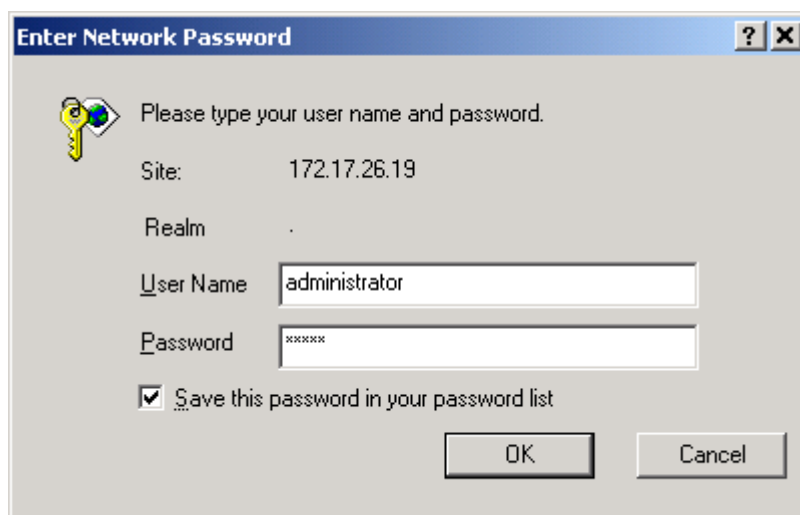
1. Launch the web browser. Enter the IP address of FNS-7000A to access the administration page. The IP address can also be obtained on the LCD display of FNS-7000A (see Appendix A).
2. Run Quick Installation Wizard (see Appendix C) and double-click on an entry on the list.



3. Click **Administration** on the main page.



4. Enter the user name and password.



The default administrator name and password are:

User name: **administrator**

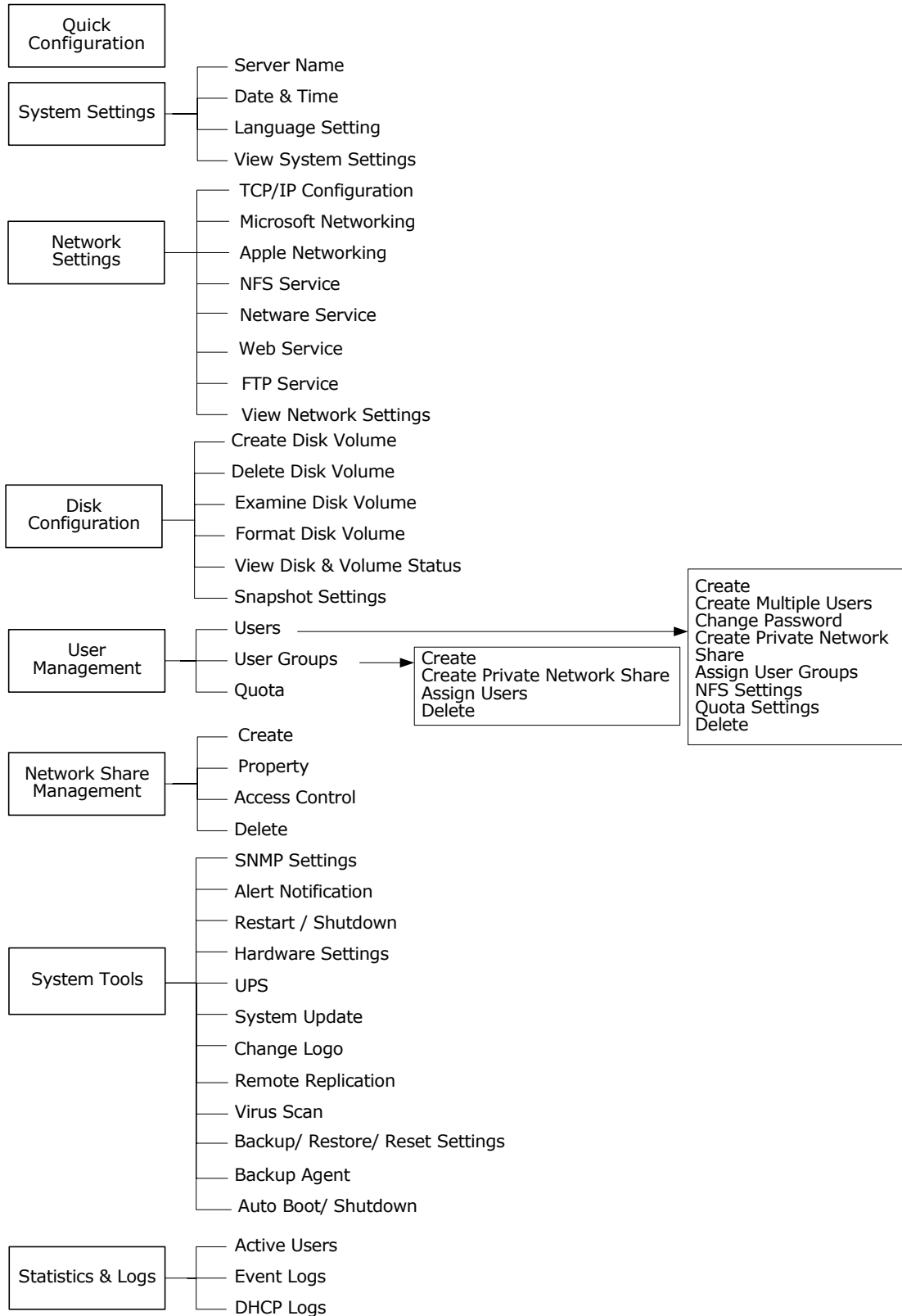
Password: **admin**

The first time you login FNS-7000A, Quick Configuration page will be shown.

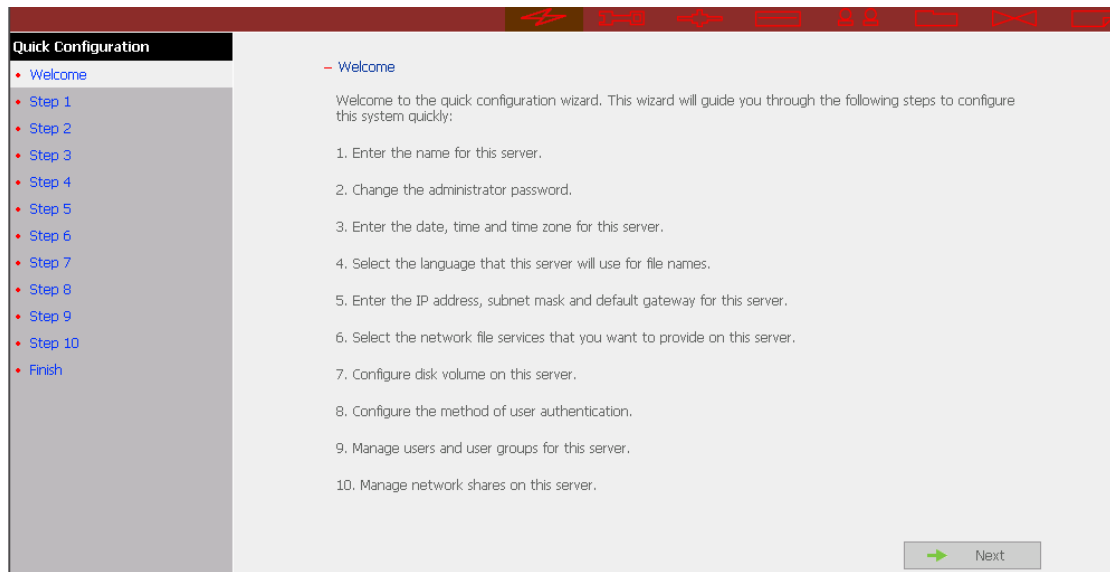
Please refer to the Quick Configuration section for more details.

3.2 Server Administration

There are eight main sections in server administration, which are listed below:



3.3 Quick Configuration



You can configure FNS-7000A step by step in Quick Configuration section.

1. Enter the server name.

The screenshot shows the first step of the configuration wizard. It features a text input field for 'Server Name' containing 'NAS0E0054'. Below the input field are 'Back' and 'Next' navigation buttons.

– 1. Enter the name for this server.

Server Name :

Back Next

2. Change the administrator password or select to use the original password.

The screenshot shows the second step of the configuration wizard. It includes two password input fields: 'Password' (containing '*****') and 'Verify Password'. There is a checkbox labeled 'Use the original password' which is currently unchecked. A note at the bottom explains the effect of this checkbox. 'Back' and 'Next' navigation buttons are at the bottom.

– 2. Change the administrator password.

Password :

Verify Password :

Use the original password

Note: If you select "Use the original password", the administrator password will not be changed.

Back Next

3. Enter the date, time and select the time zone for the server.

- 3. Enter the date, time and time zone for this server.

Time Zone : (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London

Current date and time: 2004 / 9 / 9 AM 10 : 04 : 12

Change the server's time and date as below:

Date: January , (mm dd, yyyy)

Time: : : AM (hh:mm:ss)

Back Next

4. Select the language the server uses for file names.

- 4. Select the language that this server will use for file names.

Language: English

Chinese-Simplified
Chinese-Traditional
Cyrillic
Greek
Icelandic
Japanese
Korean
Slavic/Latin 2
English
Western Europe/Latin 1

Back Next

5. Enter the IP address, subnet mask and default gateway for the server.

- 5. Enter the IP address, subnet mask and default gateway for this server.

Obtain TCP/IP settings automatically via DHCP

Use the following settings

IP Address: 192 . 168 . 0 . 1

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 0 . 0 . 0 . 0

Configuration of Network Interfaces Fail Over Load Balance

Note: If you don't need a default gateway for this server, please enter "0.0.0.0".

Back Next

6. Select the network file services to provide on the server.

6. Select the network file services you want to provide on this server.


- Enable File Service for Microsoft Networking
- Enable AppleTalk File Service for Apple Networking
- Enable NFS Service
- Enable NetWare Service
- Enable Web File Manager
- Enable FTP Service

7. Configure disk volume on this server.


7. Configure disk volume on this server.

You can click on the disk volume you want to configure on the **New Disk Volume Configuration** list. The **Current Disk Volume Configuration** list shows the current disk volume configuration of this server.

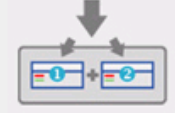
New Disk Volume Configuration



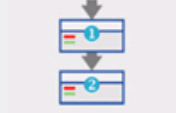
Single Disk Volume
Create single disk volume(s).



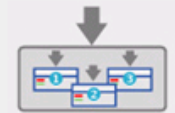
RAID 1 Mirroring Disk Volume
Create mirroring disk volume(s).



RAID 0 Striping Disk Volume
Create one striping disk volume.



Linear Disk Volume
Create one linear disk volume.



RAID 5 Disk Volume
Create one RAID 5 disk volume.

Current Disk Volume Configuration

Volume	Total Size	Free Size	Status
Single Disk: Drive 1	--	--	Initializing...
Single Disk: Drive 2	--	--	Initializing...
Single Disk: Drive 3	--	--	Initializing...
Single Disk: Drive 4	--	--	Initializing...

8. Configure the method of user authentication.

- 8. Configure the method of user authentication.

Enable file service for Microsoft networking

Standalone Server

NT Domain Member

AD Domain Member

Server Description

Workgroup

Domain Name

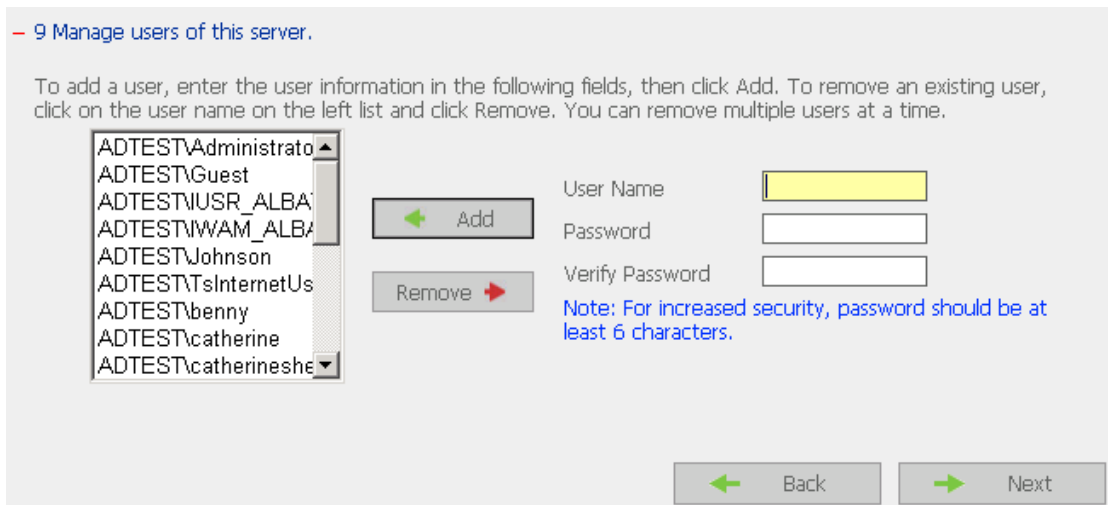
Domain Username

Password

9. Manage users and user groups of this server.

– 9 Manage users of this server.

To add a user, enter the user information in the following fields, then click Add. To remove an existing user, click on the user name on the left list and click Remove. You can remove multiple users at a time.



ADTEST\Administrato
ADTEST\Guest
ADTEST\USR_ALBA
ADTEST\WAM_ALBA
ADTEST\Johnson
ADTEST\TslnternetUs
ADTEST\benny
ADTEST\catherine
ADTEST\catherineshe

← Add

Remove →

User Name

Password

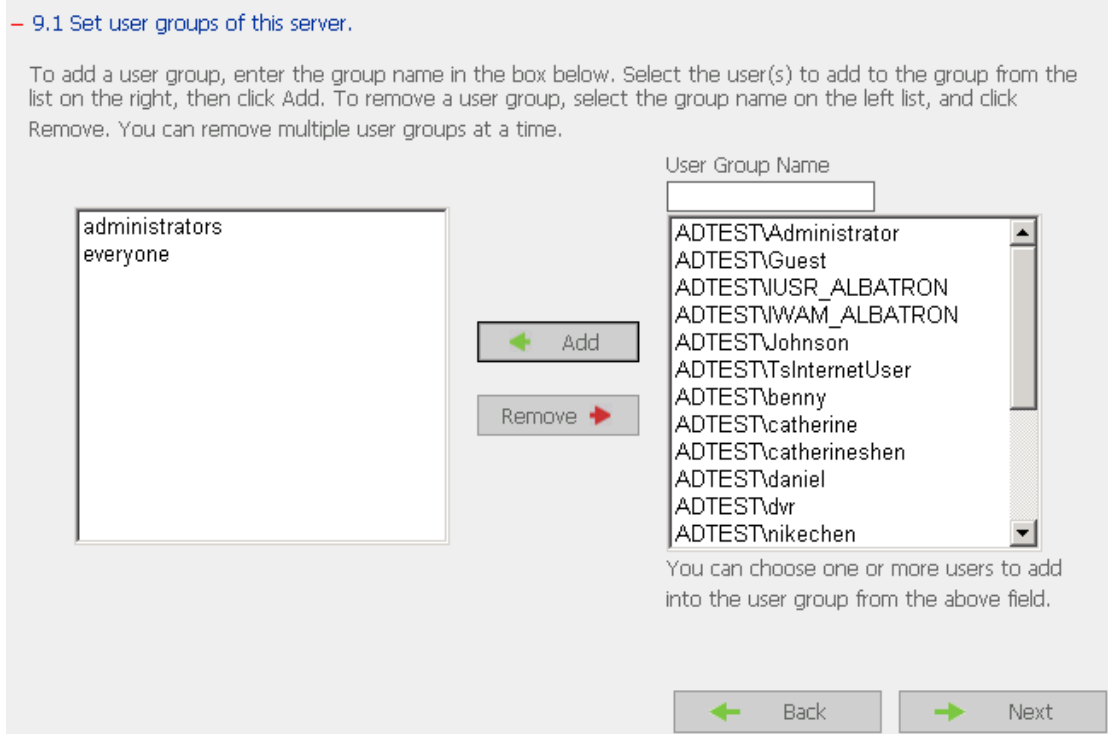
Verify Password

Note: For increased security, password should be at least 6 characters.

← Back → Next

– 9.1 Set user groups of this server.

To add a user group, enter the group name in the box below. Select the user(s) to add to the group from the list on the right, then click Add. To remove a user group, select the group name on the left list, and click Remove. You can remove multiple user groups at a time.



administrators
everyone

← Add

Remove →

User Group Name

ADTEST\Administrator
ADTEST\Guest
ADTEST\USR_ALBATRON
ADTEST\WAM_ALBATRON
ADTEST\Johnson
ADTEST\TslnternetUser
ADTEST\benny
ADTEST\catherine
ADTEST\catherineshen
ADTEST\daniel
ADTEST\dvr
ADTEST\nikechen

You can choose one or more users to add into the user group from the above field.

← Back → Next

10. Manage network shares on this server.

- 10. Manage network shares on this server.

To add a network share, enter the network share information in the fields on the right below, then click Add.
To remove an existing network share, select the network share on the left list, and click Remove.

public		Network Share Name	<input type="text"/>
	<input type="button" value="← Add"/>	Volume	<input type="text" value="Mirroring Disk Volume: Drive12"/>
	<input type="button" value="Remove →"/>	Comment	<input type="text"/>

11. Finish.

- Finish

Congratulations. You have finished all the steps for Quick Configuration.

To start using the server, click Finish. Or you can click Back to make more changes to the settings.

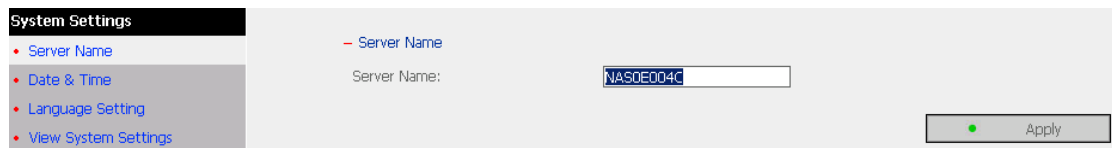
It may take several to tens of minutes to complete Quick Configuration, depending on your system settings.

3.4 System Settings

Basic system settings include the server name, date, time, language settings, and view system settings.

- **Server Name**

Enter the name of FNS-7000A. The server name can be 14 characters long at maximum, which can contain alphabets, numbers and hyphens (-). The server does not accept names containing empty characters, period (.), or names with only numbers.



The screenshot shows a web-based configuration interface. On the left, there is a vertical menu titled "System Settings" with four items: "Server Name", "Date & Time", "Language Setting", and "View System Settings". The "Server Name" item is selected and highlighted. The main content area on the right is titled "Server Name" and contains a label "Server Name:" followed by a text input field containing the value "NAS0E004C". To the right of the input field is an "Apply" button with a green indicator light.

- **Date & Time**

Set the date, time, and time zone according to your location. If the settings are incorrect, the following problems may occur:

- ✓ When using a web browser to access or save a file, the display time of the action will be incorrect.
- ✓ The system event log time will be incorrect compared to the actual time when an action occurs.

- Adjust the date, time and time zone of this server

Time Zone: (GMT+08:00) Taipei

Current date and time: 2004 / 9 / 9 AM 10 : 21 : 34

Change date and time manually

Date: January , (mm dd, yyyy)

Time: : : AM (hh:mm:ss)

Configure NTP server or client setting

Use the specified NTP server

IP Address of NTP Server [] Test (Status: --)

Time Interval: 1 minute(s)

Enable NTP server

NTP Server #1 [] Test (Status: --)

NTP Server #2 [] Test (Status: --)

NTP Server #3 [] Test (Status: --)

Apply

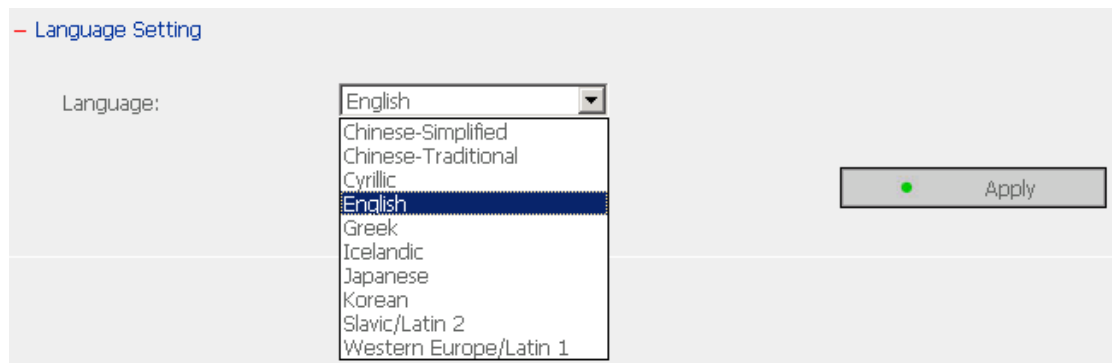
- **NTP Server**

You can enable or use specified NTP server to update the date and time of the system automatically. When there is no specified IP address for the NTP server, the system will refer to internal clock for date and time settings.

- **Language Setting**

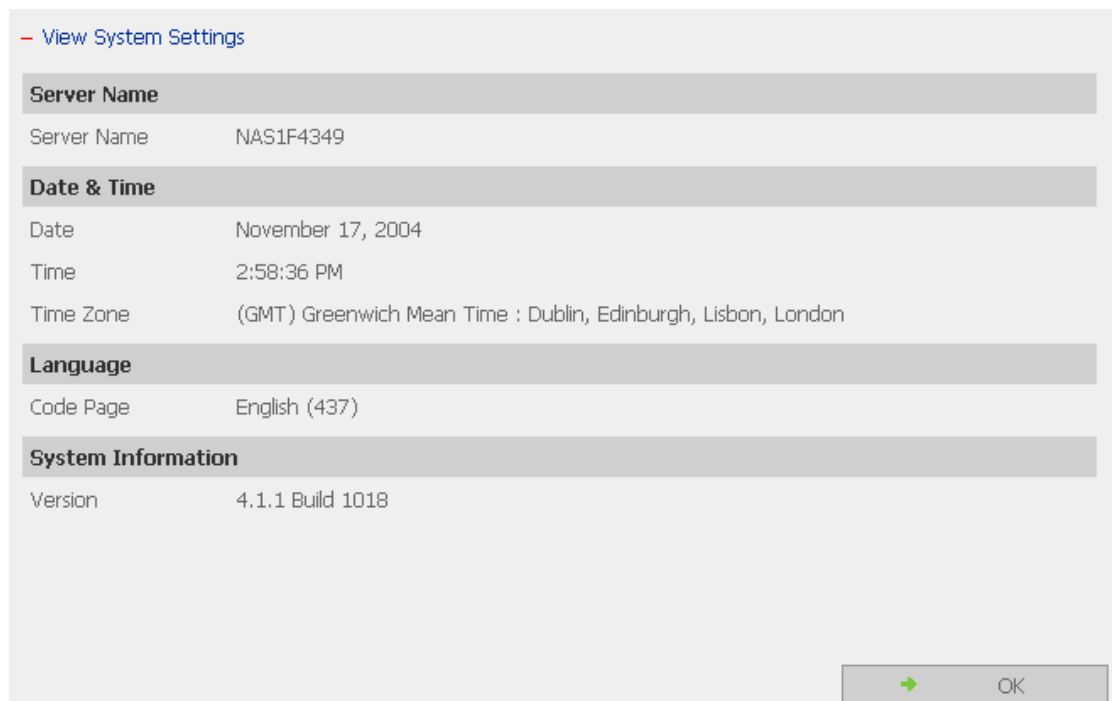
FNS-7000A will use the language specified in this section to create and display files and directories. Select the correct language to avoid the following problems:

- i. Unable to create files or directories in special characters.
- ii. Unable to display file or directory name in special characters.



- **View System Settings**

You can view all current system settings, e.g. server name, on this page.



3.5 Network Settings

1. TCP/IP Configuration

The screenshot displays the 'Network Settings' window with the 'TCP/IP Configuration' tab selected. The interface is divided into two main sections: 'TCP/IP Configuration' and 'Configuration of Network Interfaces'. In the 'TCP/IP Configuration' section, the 'Obtain IP address settings automatically via DHCP' option is selected. Below this, there are fields for 'Fixed IP Address' (192.168.0.1), 'Subnet Mask' (255.255.255.0), and 'Default Gateway' (0.0.0.0). There are also fields for 'Primary DNS Server' and 'Secondary DNS Server', both set to 0.0.0.0. The 'Enable DHCP Server' checkbox is unchecked. Below this, there are fields for 'Start IP Address' (192.168.0.100), 'End IP Address' (192.168.0.200), 'Lease Time' (1 Day(s) 0 Hour(s)), 'Primary DNS Server', and 'Secondary DNS Server'. In the 'Configuration of Network Interfaces' section, the 'Load Balance' option is selected, and the 'Network Speed' is set to 'auto-negotiate'. An 'Apply' button is located at the bottom right of the window.

- **Obtain IP address settings automatically via DHCP**

If your network supports DHCP, FNS-7000A will automatically use DHCP protocol to retrieve the IP address and related information.

- **Use static IP address**

To use fixed IP address for network connection, enter the following information:

- ✓ **Fixed IP Address**

IP address is a 32-bit digit used to differentiate each single entity on a network. IP address is divided into four groups of eight bits separated by dots, e.g. 192.168.0.1.

- ✓ **Subnet Mask**

Subnet mask defines computers within the same local network. It is a 32-bit digit, e.g. 255.xxx.xxx.xxx.

- ✓ **Default Gateway**

Gateway is generally referred to an interchange point that connects two networks, such as LAN and WAN.

- ✓ **DNS Server**

DNS (domain name server) maps a server name to a particular IP address. If you do not use a DNS server, enter '0.0.0.0' as server IP.

You can also configure the following settings:

- ✓ Enable DHCP server
If there is no DHCP server on your network, you can enable this option to provide IP address settings to the clients.
- ✓ Start IP address
The first IP address to be dynamically allocated for DHCP service.
- ✓ End IP address
The last IP address to be dynamically allocated for DHCP service.
- ✓ Lease time
Define the lease time for the dynamic IP address.
- ✓ Primary DNS server
When the system allocates an IP address to your computer, the primary DNS server address is also specified to it.
- ✓ Secondary DNS Server
When the system allocates an IP address to your computer, the secondary DNS server address is also specified to it.

Configuration of Network Interfaces

✓ Fail Over

The system supports the configuration of multiple network interfaces, which enables you to perform Fail Over or Load Balance functions. Fail over ensures server availability to the network. If the primary port is disconnected due to a hardware or cable problem, the secondary port will replace its network identity. If the failed port resumes the network connection, it will also resume the role as the primary interface.

✓ Load Balance

In load balance mode, the transmission load is distributed among aggregated network ports. An intelligent software adaptive agent will repeatedly analyze the traffic flow from the server and distribute the packets based on the destination address. Load balance can only occur on Layer 3 routing protocols (IP or NCP IPX). Multicast/Broadcast and non-routing protocols, such as NetBEUI and Microsoft IPX, are transmitted over the primary port.

Network Speed

Network speed settings provide an advanced option for configuring network speed. You can select auto-negotiation to determine network speed automatically. It is recommended to use the default setting.



2. Microsoft Networking

Enable file service for Microsoft networking: For users using Microsoft Windows, enable this service to access the files on network share folders. Assign a workgroup name. The name can be 15 characters long at maximum but must not include the following:

" + = [] , ; / \ : | * ? < > . "

Note: The first character cannot be a period (.).

✓ **Standalone Server**

Use local users for user authentication.

✓ **NT Domain Member**

Use Microsoft NT domain for user authentication.

✓ **AD Domain Member**

Use Microsoft AD domain for user authentication.

- **Server Description:** Describe FNS-7000A, e.g. administrator name, department, or location of the server, for users to identify the server. Users using FNS-7000A on the Microsoft Windows operating systems must enable Microsoft Network Services.
- **Workgroup:** Specify the workgroup FNS-7000A belongs to. The workgroup is a computer group unit in Microsoft Windows network for network sharing.
- **Domain Name:** Microsoft domain name. Enter the domain name when you select NT domain or AD domain.

The screenshot shows the Windows Network Settings window for Microsoft Networking. On the left, a sidebar lists network settings: TCP/IP Configuration, Microsoft Networking (selected), Apple Networking, NFS Service, NetWare Service, Web Service, FTP Service, and View Network Settings. The main area is titled 'Microsoft Networking' and contains the following options:

- Enable file service for Microsoft networking
 - Standalone Server
 - NT Domain Member
 - AD Domain Member
- Server Description:
- Workgroup:
- Domain Name:
- Domain Username:
- Password:
- WINS server IP address:

At the bottom right, there is an 'Apply' button with a green dot icon.

If the local network has a WINS server installed, specify the IP address. FNS-7000A will automatically register its name and IP address with WINS service. If you do not want to enable WINS server support, or you do not have a WINS server on your network, enter 0.0.0.0 in the field for WINS server IP address.

Enable WINS server

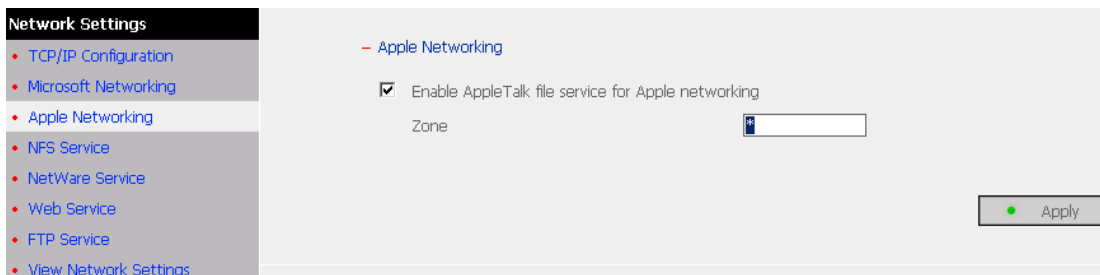
Use the specified WINS server

WINS server IP address

3. Apple Network

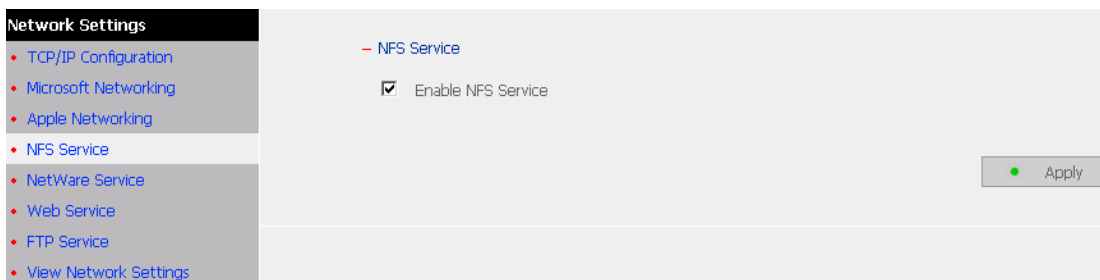
To use FNS-7000A on Apple MAC operating system, enable AppleTalk network support.

If your AppleTalk network uses extended networks, and is assigned with multiple zones, assign a zone name to FNS-7000A. If you do not want to assign a network zone, enter an asterisk (*) to use the default setting.



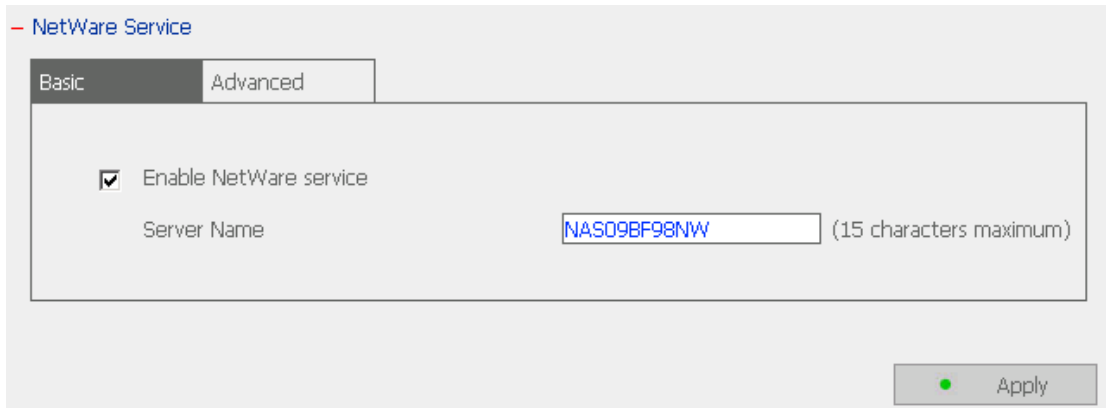
4. NFS Service

To use FNS-7000A on Unix/ Linux operating system computer or server, enable NFS service. FNS-7000A supports NFS version 2.0 and 3.0. To correctly use NFS service, assign a user's UID and IP address. Go to NFS Settings in Users of User Management for setup. When you have completed the configuration, login the system as root and use mount command to connect to the network. You can then login with other identities and access FNS-7000A using previous NFS settings.



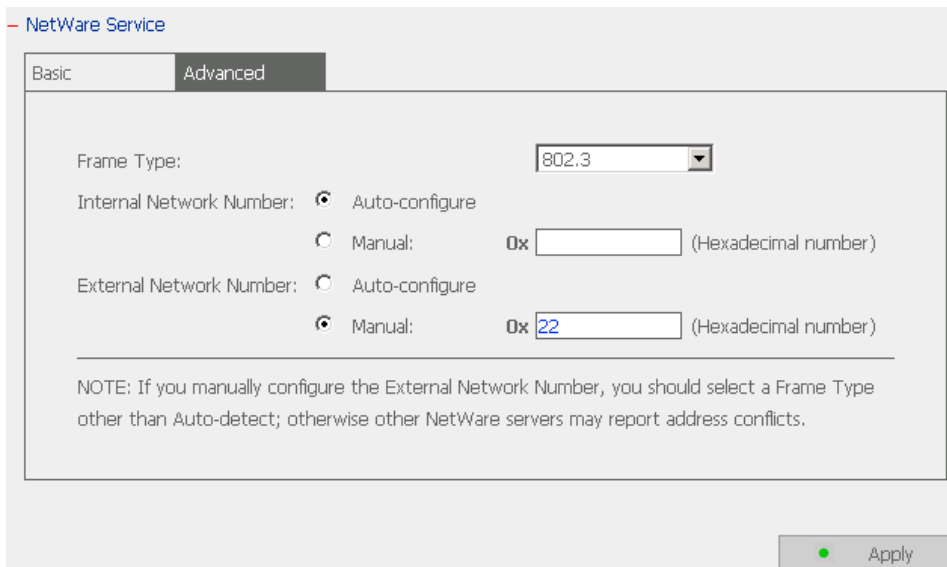
5. NetWare Service

To use Novell Netware service, enable this option and enter the server name for Netware network. The server will then operate in a manner similar to a Novell NetWare 3.12 file server.



The screenshot shows the 'NetWare Service' configuration window with the 'Basic' tab selected. The 'Enable NetWare service' checkbox is checked. The 'Server Name' field contains the text 'NAS09BF98NW' and is followed by the text '(15 characters maximum)'. An 'Apply' button is visible at the bottom right.

To configure more options for Netware service, enable Netware service and click **Advanced**.

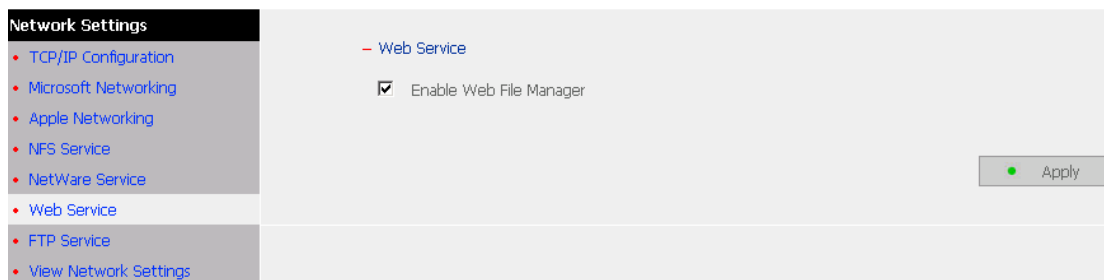


The screenshot shows the 'NetWare Service' configuration window with the 'Advanced' tab selected. The 'Frame Type' dropdown menu is set to '802.3'. The 'Internal Network Number' section has 'Auto-configure' selected. The 'External Network Number' section has 'Manual' selected, with the value '22' entered in the '0x' field. A note at the bottom states: 'NOTE: If you manually configure the External Network Number, you should select a Frame Type other than Auto-detect; otherwise other NetWare servers may report address conflicts.' An 'Apply' button is visible at the bottom right.

- **Frame Type:** If you have a Novell server on your local network, select the same frame type as the server's.
- **Internal Network Number:** This is a unique number to identify the server on a network. The system will set it to the IP address if Auto-configure option is selected. Or you may enter a unique internal network number manually.
- **External Network Number:** This number identifies a logical network segment on a network. The system can configure it automatically, or you can set the external network number manually.

6. Web Service

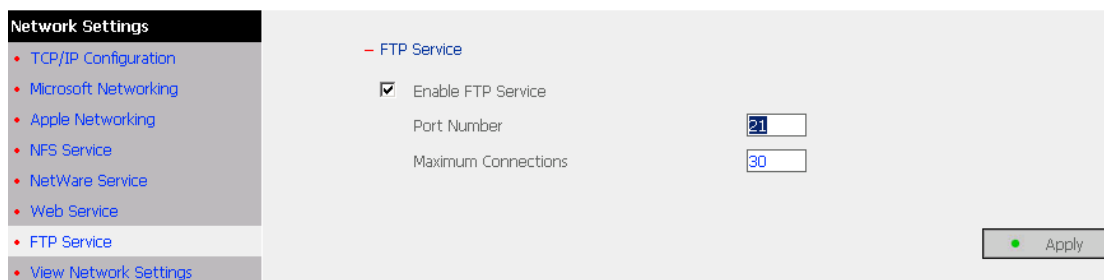
To access files on FNS-7000A via web browser, enable Web File Manager. If FNS-7000A is connected to the Internet and uses a valid IP address, you can access files on the server by web browser from anywhere.



The screenshot shows the 'Network Settings' menu on the left with 'Web Service' selected. The main area is titled '- Web Service' and contains a checked checkbox for 'Enable Web File Manager'. An 'Apply' button is located in the bottom right corner.

7. FTP Service

To download files from or upload files to FNS-7000A by using file transfer protocol (FTP), activate FTP service.



The screenshot shows the 'Network Settings' menu on the left with 'FTP Service' selected. The main area is titled '- FTP Service' and contains a checked checkbox for 'Enable FTP Service'. Below this are two input fields: 'Port Number' with the value '21' and 'Maximum Connections' with the value '30'. An 'Apply' button is located in the bottom right corner.

8. View Network Settings

You can view current network settings and status in this section.

The screenshot shows a 'View Network Settings' dialog box with a sidebar on the left containing a list of network-related options. The main area displays configuration details for the 'Network' tab, including connection type, IP address, subnet mask, gateway, MAC address, and DHCP service status.

Network	
Connection Type	
Connection Type	DHCP
IP Address	172.17.26.52
Subnet Mask	255.255.254.0
Default Gateway	172.17.26.1
MAC Address	00:08:9B:1F:43:49
Connection Status	Ready
Configuration of Network Interfaces	Load Balance
DHCP Service	
Enabled	No
Address Range	192.168.0.100 - 192.168.0.200
Lease Time	1 Day(s) 0 Hour(s)

The screenshot shows the 'View Network Settings' dialog box with the 'Network' tab selected. It displays the status of various network services, including Microsoft Networking, Apple Networking, Unix/Linux NFS, Web File Manager, FTP Service, and NetWare Service.

Network	
Microsoft Networking	
Enabled	Yes
Server Type	Standalone Server
Workgroup	NAS
WINS server Enabled	No
Apple Networking	
Enabled	Yes
Apple Zone Name	*
Unix/Linux NFS	
Enabled	Yes
Web File Manager	
Enabled	Yes
FTP Service	
Enabled	Yes
Port Number	21
Max Connections	30
NetWare Service	
Enabled	No

3.6 Disk Configuration

Your FNS-7000A can accommodate four disks at maximum. You can set the disk volume to the following configurations:

1. Single Disk Volume

You can select to use a standalone disk. In case of disk crash, all data will be lost.

2. RAID 5 Disk Volume

Three or more hard disks can be teamed up to form a large-capacity RAID 5 disk group. This system will distribute and store data among its various member disks as it is received. At the same time it uses an amount of space roughly equivalent to a whole disk to store reference numbers with the same elements. Should one of the disks in the group suffer some kind of damage, you can shut down the computer and install a new disk, and the system will restore the data on the new disk using the reference number. In addition, if you have a system with four disks but use only three in your RAID 5 group, the fourth will serve as a backup disk. If one of the three disks is damaged the system will automatically start using the spare disk without powering down and changing the affected disk. Generally speaking, the capacity of a RAID 5 disk group is one disk's worth of space less than the total rated capacity of the group.



Note: RAID 5 may be used only with equipment that has three or more disks.

3. RAID 1 Mirroring Disk Volume

Mirroring Disk protects your data by automatically backing up the contents of one disk onto the second disk of a mirrored pair. This protects your data if one of the disks fails. However, the storing capacity is equal to a single disk, as the second disk is used to automatically back up the first one. Mirroring disk volume is suitable for personal or corporate use to store important data.

4. RAID 0 Striping Disk Volume

Striping disk combines two or more disks into one larger disk. It offers the fastest disk access but it does not have any protection of your data if the striped array fails. The disk capacity equals the number of disks in the array times the size of the smallest disk. Striping disk is usually used to maximize your disk capacity or for fast disk access but not for storing important data.

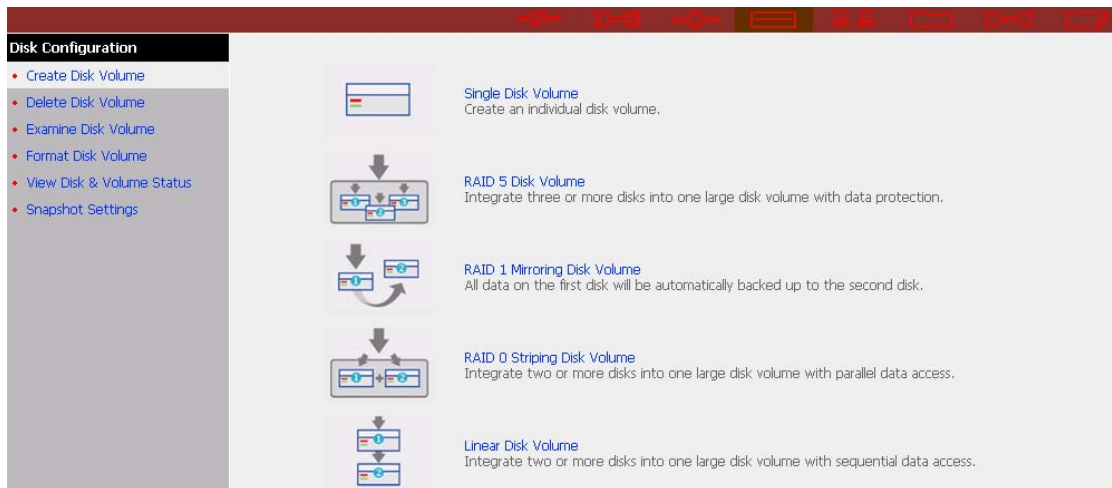
5. Linear Disk Volume

You can combine two or more disks into one larger disk. During file saving, the file will be saved on physical disks sequentially but does not have a disk failure file protection function. The overall capacity of linear disk is the sum of all disks. Linear disk is generally used for storing large data and is not appropriate to use for file protection of sensitive data.

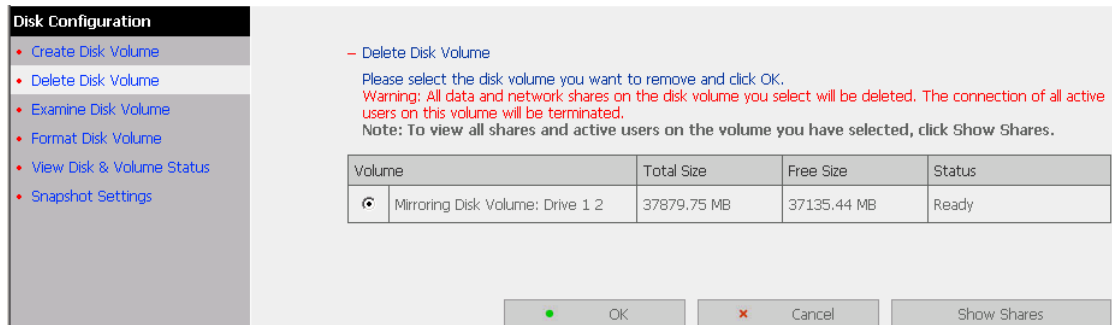
By factory default, FNS-7000A is preset to one large RAID 0 disk (applicable for servers with two or more disk volumes). To use other disk configurations, the settings can be changed during the first Quick Configuration access.

You can also administer your disk volume in the following ways:

i. Create Disk Volume



ii. Delete Disk Volume



iii. Examine Disk Volume

The screenshot shows a 'Disk Configuration' sidebar on the left with options: Create Disk Volume, Delete Disk Volume, Examine Disk Volume (selected), Format Disk Volume, View Disk & Volume Status, and Snapshot Settings. The main area is titled '- Examine Disk Volume' and contains the following text: 'Please select the disk volume you want to examine and click OK. You can check the Fix errors option to resolve errors automatically. Warning: All active users on this disk volume will be terminated. Note: To view all shares and active users on the volume you have selected, click Show Shares.'

Volume	Total Size	Free Size	Status
<input checked="" type="radio"/> Mirroring Disk Volume: Drive 1 2	37879.75 MB	37135.44 MB	Ready

Fix errors

Buttons: OK, Cancel, Show Shares

✓ Disk Volume Operation Report

This page shows the current status and information of disk volume operation.

The screenshot shows a 'Disk Volume Operation Report' dialog box with the following table:

Operation Type	Format Disk Volume
Source Disk Volume	Mirroring Disk Volume: Drive 1 2
Target Disk Volume	--
Snapshot Settings	Disabled
Status	Formatting...
Result	--
Comment	This operation may take several minutes to hours, depending on the disk capacity.

Note: This page will automatically refresh every 5 seconds. Click Close to exit this page. You can choose to view the operation result later on the View Disk & Volume Status page.

Close

iv. Format Disk Volume

Disk Configuration

- Create Disk Volume
- Delete Disk Volume
- Examine Disk Volume
- **Format Disk Volume**
- View Disk & Volume Status
- Snapshot Settings

– Format Disk Volume

Please select the disk volume you want to format and click OK.
Warning: All data and network shares on the disk volume you select will be deleted. The connection of all active users on this volume will be terminated.
Note: To view all shares and active users on the volume you have selected, click Show Shares.

Volume	Total Size	Free Size	Status
<input checked="" type="radio"/> Mirroring Disk Volume: Drive 1 2	37879.75 MB	37135.44 MB	Ready

v. View Disk & Volume Status

Disk Configuration

- Create Disk Volume
- Delete Disk Volume
- Examine Disk Volume
- Format Disk Volume
- **View Disk & Volume Status**
- Snapshot Settings

– Physical Disks

Disk	Model	Capacity	Status
Drive 1	WDC WD400EB-00CPF0	38166.68MB	Ready
Drive 2	WDC WD400EB-00CPF0	38166.68MB	Ready

– Logical Volumes

Volume	Total Size	Free Size	Status
Mirroring Disk Volume: Drive 1 2	37879.75 MB	37135.44 MB	Ready

vi. Snapshot Settings

Snapshot enables users to create a copy of disk volume as backup source. The creation of snapshot will not modify the disk volume while any changes made to the disk volume will not affect any formerly taken snapshots.

- **Basic Snapshot Settings**

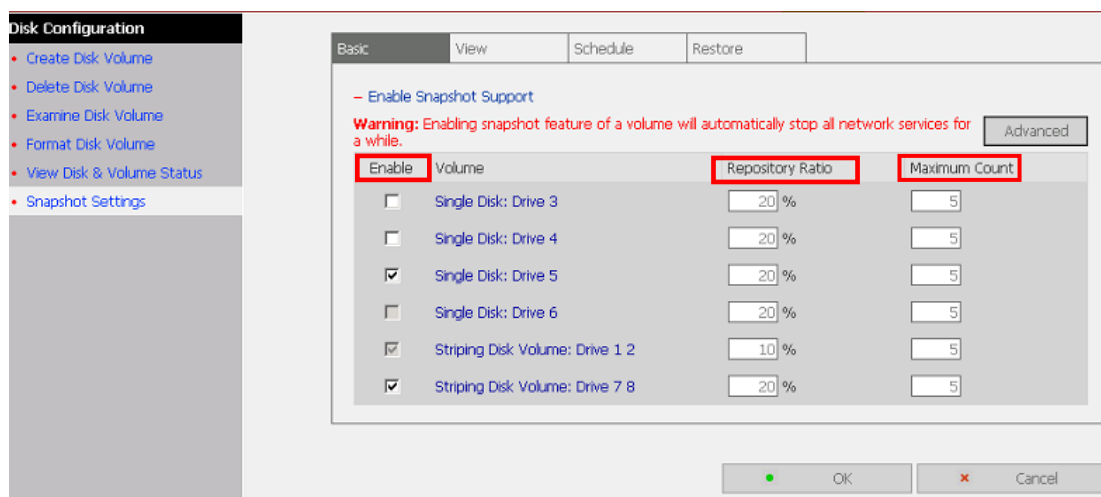
To activate or disable a snapshot, go to Snapshot Settings of Disk Configuration and click **Basic**. Enable snapshot support of the disk volume before creating a snapshot.

To enable snapshot support for one or more volumes, select the item(s), assign Repository Ratio and Maximum Count values and then click OK.

To disable snapshot support, unselect the item(s) and click OK. To undo the changes, click Cancel and refresh the page.

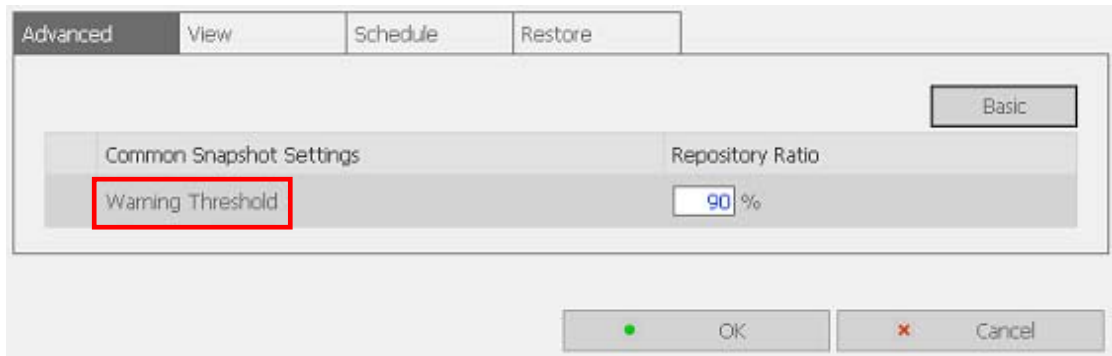
Note:

1. To change Repository Ratio or Maximum Count of volume, disable its snapshot support, click OK, and enable it again.
2. Disabling the snapshot support will automatically remove all snapshots on the volume.



- **Advanced Snapshot Settings**

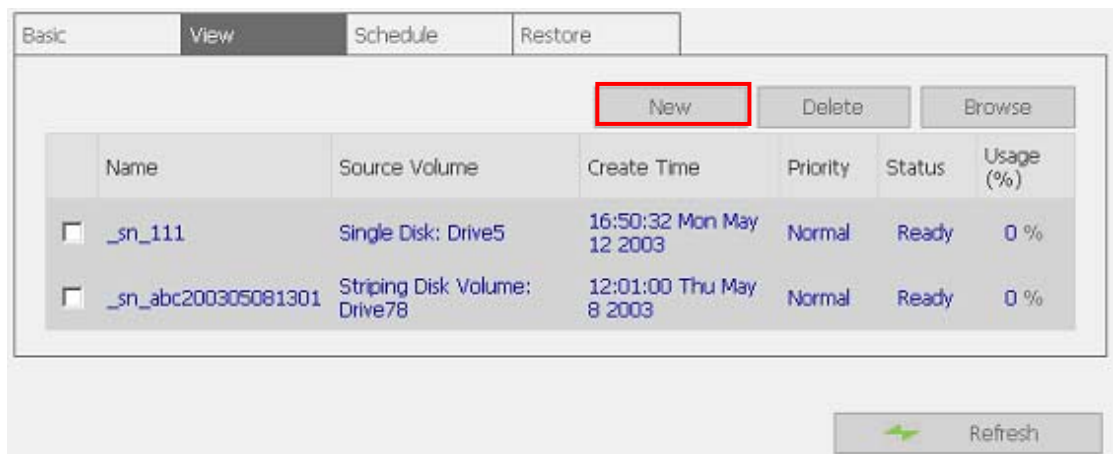
To set up when to warn about every snapshot's use status, set the Snapshot Warning Threshold value and click OK. The default threshold to log a warning message is when a snapshot is 90% full. Click **Basic** or Cancel to return to the Basic Snapshot Settings page.



- ✓ **Create a Snapshot or a Schedule**

In Snapshot Settings page, click **Schedule** to create, edit or delete a snapshot schedule. Users can schedule an hourly, weekly or monthly snapshot of the disk volume.

To create a snapshot schedule, click **New**.



Select Create Now or define the time interval, i.e. repeat hourly, weekly or monthly for the snapshot schedule.

Basic View **Schedule** Restore

Name:

Source Volume:

Priority:

Schedule Type

Create Now

Repeat Every:

Daily

Weekly:

Start Time: Hour : Minute

Maximum Instances:

To modify a current schedule, check the appropriate box and click **Edit**. To remove it, click **Delete**. To view the updated status of the schedule, click **Refresh**.

Basic View **Schedule** Restore

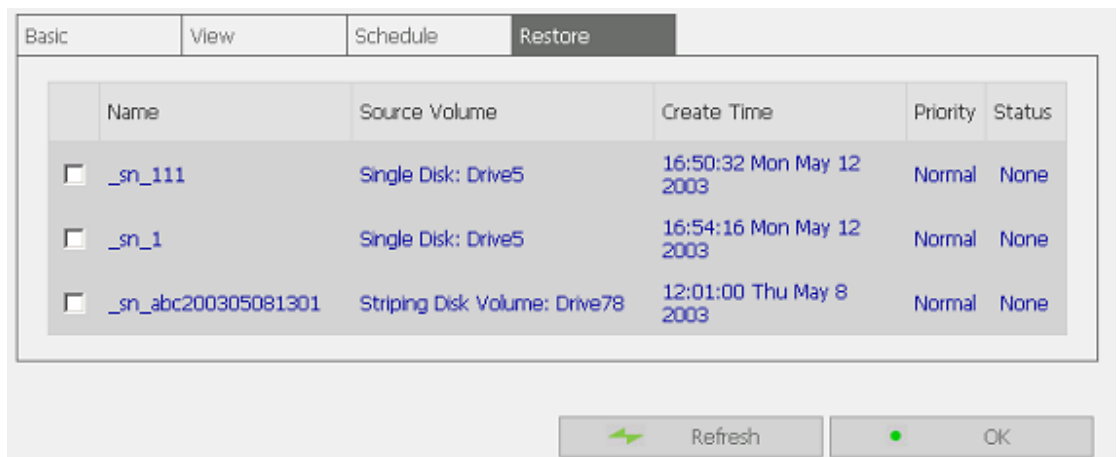
Name	Source Volume	Schedule	Current Instances / Maximum Instances
<input type="checkbox"/> _sn_aaa	Striping Disk Volume: Drive78	0:00 - Weekly:Monday	0 / 4

✓ **Restoring data from snapshots**

To restore the disk volume to the status of a particular point of time, go to Restore of Snapshot Settings. Check the box of the snapshot to which the disk volume will be restored and click OK. To view the updated restoring status, click **Refresh**.

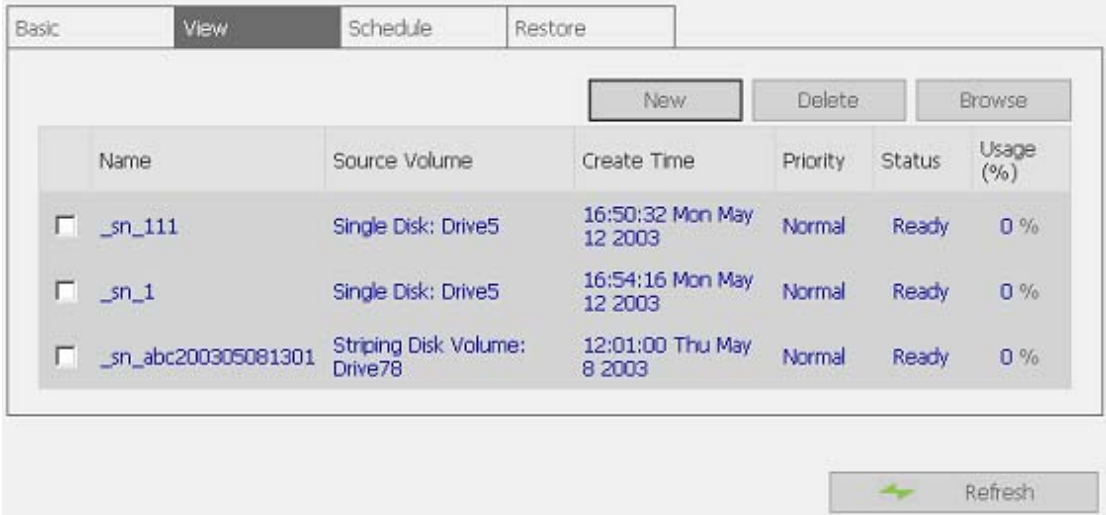
The description of the items for restoring status is as below:

Restoring Status	Description
Restoring	The disk volume is being restored
Completed	The disk volume has been restored successfully.
Failed	The disk volume cannot be restored successfully.



✓ Viewing Snapshot Status

To view the list of snapshots created for a disk volume and their status, click **View** in the Snapshot Settings section.



The screenshot shows a software interface with four tabs: 'Basic', 'View', 'Schedule', and 'Restore'. The 'View' tab is active. Below the tabs are three buttons: 'New', 'Delete', and 'Browse'. A table lists three snapshots with columns for Name, Source Volume, Create Time, Priority, Status, and Usage (%). A 'Refresh' button is located at the bottom right.

Name	Source Volume	Create Time	Priority	Status	Usage (%)
<input type="checkbox"/> _sn_111	Single Disk: Drive5	16:50:32 Mon May 12 2003	Normal	Ready	0 %
<input type="checkbox"/> _sn_1	Single Disk: Drive5	16:54:16 Mon May 12 2003	Normal	Ready	0 %
<input type="checkbox"/> _sn_abc200305081301	Striping Disk Volume: Drive78	12:01:00 Thu May 8 2003	Normal	Ready	0 %

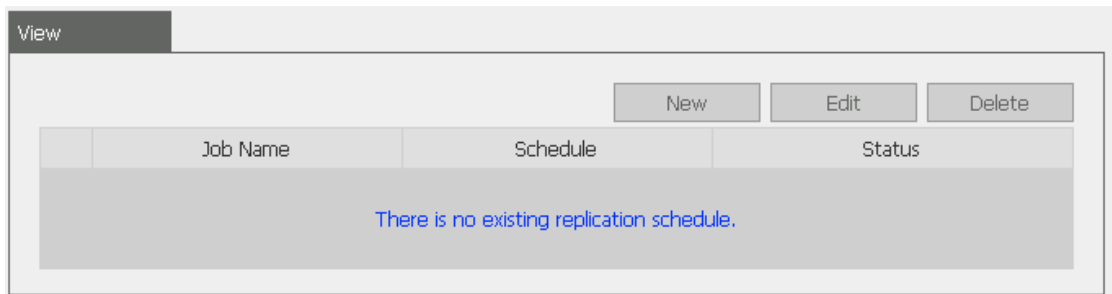
Other functions:

- To create a snapshot, click **New** to add a new snapshot.
- To remove a snapshot, select an entry and click **Delete**.
- To view the details of a snapshot, select an entry and click **Browse**.
- To view the updated status of the snapshots, click **Refresh**.

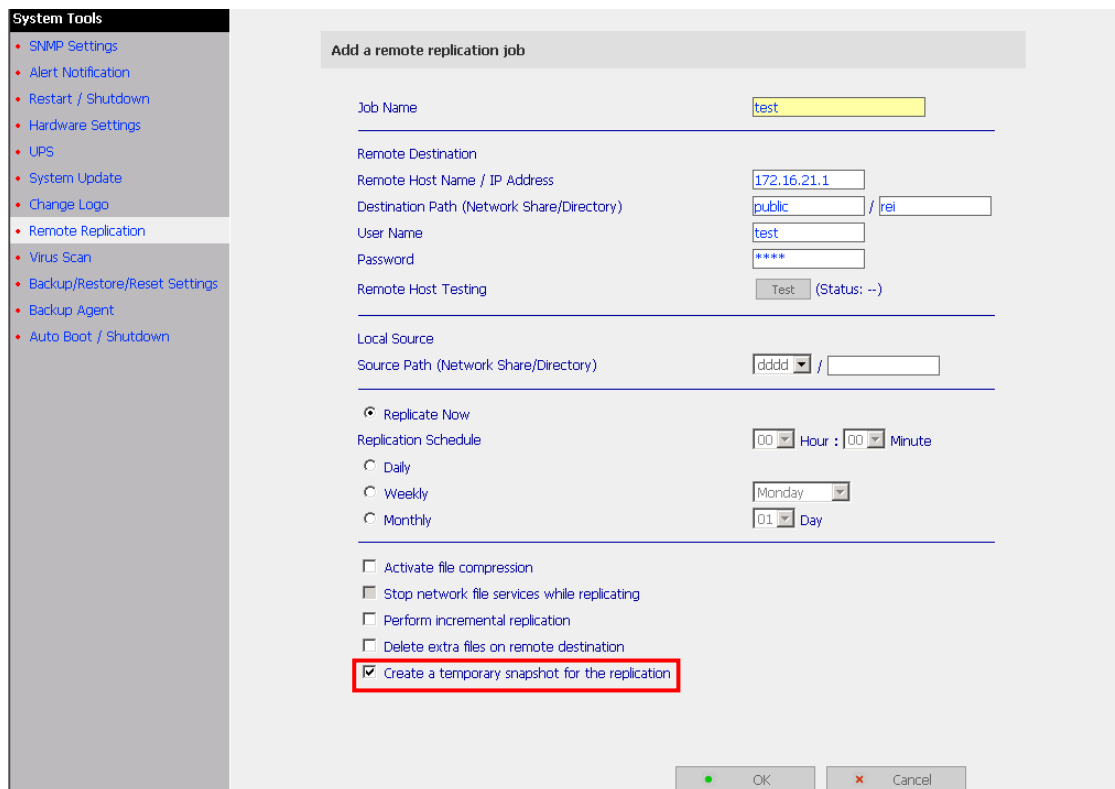
✓ Using Snapshot with Remote Replication

To ensure the completeness and continuity of the backup data, check the box "Take a snapshot before performing the backup job". When this option is selected, a snapshot of the disk volume will be taken automatically for tape backup or remote replication.

In Remote Replication of System Tools, click **New**.

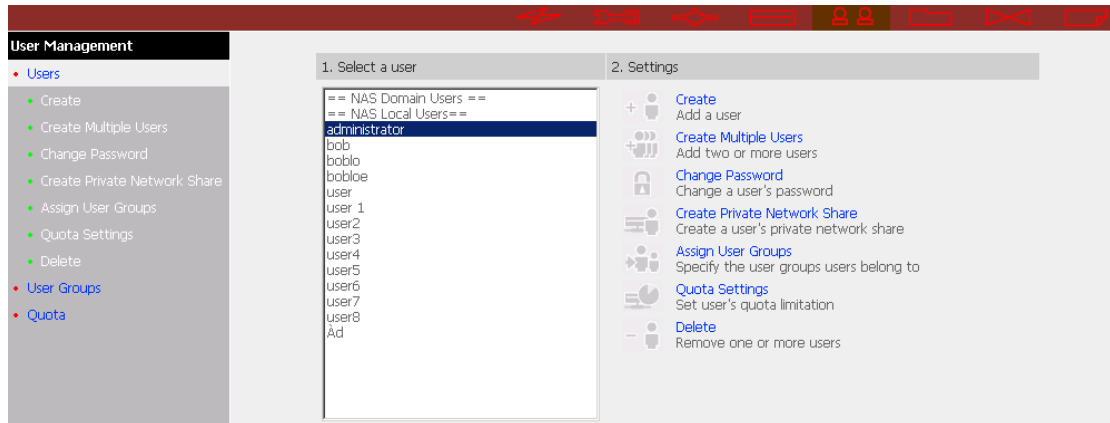


Check the box "Create a temporary snapshot for the replication" as shown below:



3.7 User Management

The files on FNS-7000A can be shared among multiple users. For easier management and better control of users' access right, you have to organize users, user groups and their access right control.



- **Users**

The system has created the following users by default:

Administrator

By default, administrator is a member of the administrator group and has access to system administration. You cannot delete administrator.

Guest

When you use a non-registered user name to login, the server will recognize the user as a Guest and will allow limited access. A guest does not belong to any user group. You cannot delete the user Guest or create a password.

Anonymous

When you connect to the server by FTP service, you can use the name to login as a guest. You cannot delete this user or change its password.

You can create a new user according to your needs. The following information is required to create a new user:

✓ **User name**

The user name must not exceed 32 characters. It is case-insensitive and can contain double-byte characters, such as Chinese, Japanese, and Korean except:

" / \ [] : ; | = , + * ? < > ` '

✓ **Password**

The password must be 6~16 characters long. Avoid using codes that are easily decipherable.

You can perform the following settings for users:

- i. Create
- ii. Create Multiple Users
- iii. Change Password
- iv. Create Private Network Share
- v. Assign User Groups
- vi. NFS Settings
- vii. Quota Settings
- viii. Delete

- **User Groups**

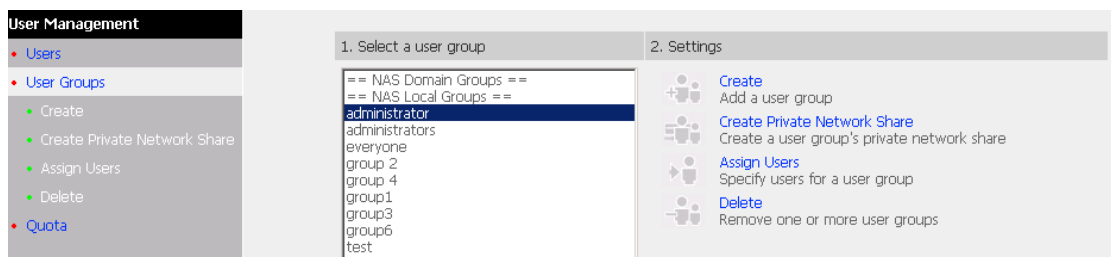
User group is a collection of users with the same access right to files or folders. FNS-7000A has created the following user groups by default:

- ✓ **Administrators**

All members of administrators group have the right to perform system management. You cannot delete this group.

- ✓ **Everyone**

All registered users belong to everyone group. You cannot delete this group.



You can manage user groups with the following options:

- i. Create
- ii. Create Private Network Share
- iii. Assign Users
- iv. Delete

User groups name must not exceed 256 characters. It is case-insensitive and can contain double-byte characters, such as Chinese, Japanese, and Korean, except the following ones:

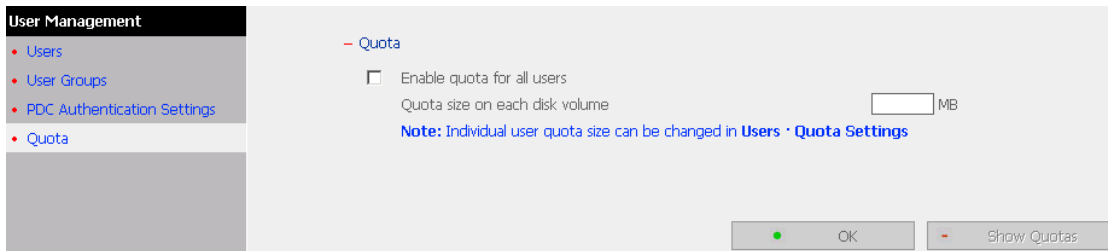
" / \ [] : ; | = , + * ? < > ` '

To properly manage security, it is very important to manage users and user groups. You may set the share access parameters of each user or user group accordingly.

- **Quota**

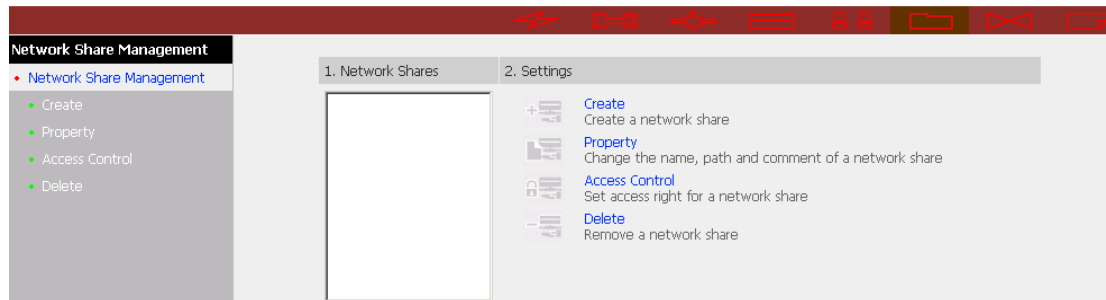
To allocate disk volume efficiently, you can specify the quota that can be used by each user. When quota is set, users are not allowed to further use disk space once they have reached their quota limit. By default, no limitations are set for users. You can modify the following two options:

- Enable quota for all users
- Quota size on each disk volume



3.8 Network Share Management

The primary purpose of network storage is file sharing. In a standard operation environment, you can create different network share folders for various types of files, or provide different file access rights to users or user groups. By factory default, a "public" share folder is created, which allows full access from all users or guests.



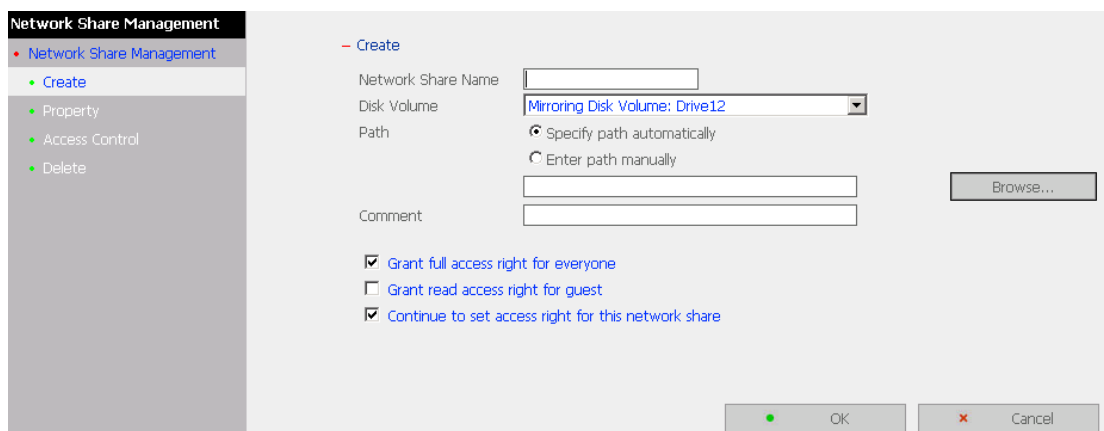
There are four options in Network Share Management:

- i. Create a network share
- ii. Change the name, path and comment of a network share
- iii. Set access right for a network share
- iv. Remove a network share

- **Create**

To create a network share, enter the following information:

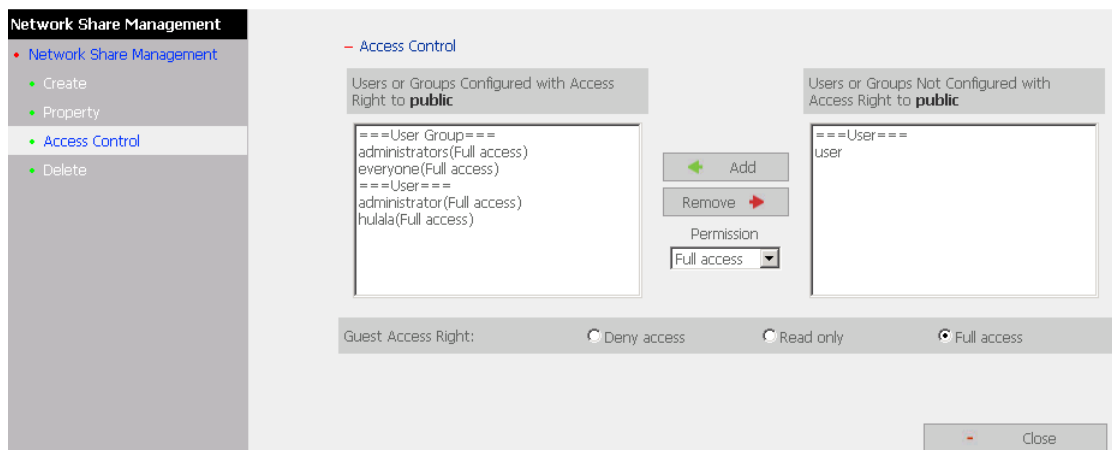
- ✓ **Network share name**
The share name must not exceed 12 characters and cannot contain the following characters:
" . + = / \ : | * ? < > ; [] %
- ✓ **Disk volume**
This area shows the disk volume status.
- ✓ **Path**
All data are stored under the assigned path onto the disk volume. You can select "Specify path automatically" to allow the server to automatically create a new path on the disk volume to store the network share files. Or you can assign a specific path for the share folder. The path cannot exceed 256 characters and cannot contain the characters below:
- ✓ **Comment**
Enter a brief description for the share folder. The comment cannot exceed 128 characters.



- **Access Control**

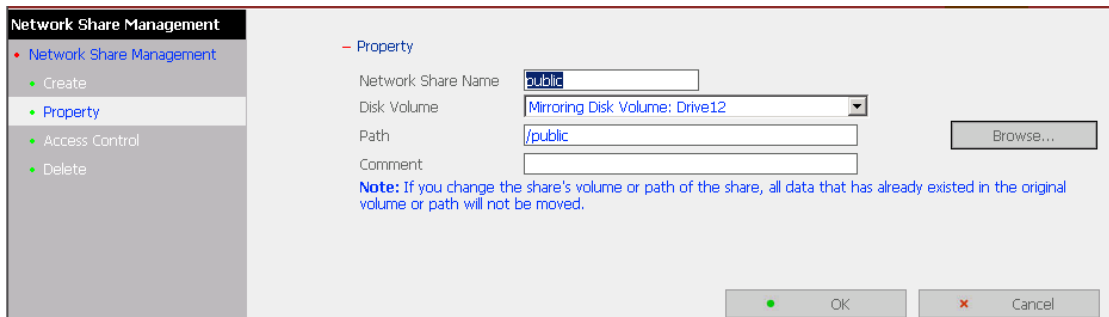
Once the network share is created, you can assign access rights to users or user groups:

- ✓ Deny access
Access to the network share will be denied when this option is selected.
- ✓ Read only
Users can read the files only on the network share when read only is assigned.
- ✓ Full access
Users with full access are allowed to read, write, create, or delete files and folders on the network share.

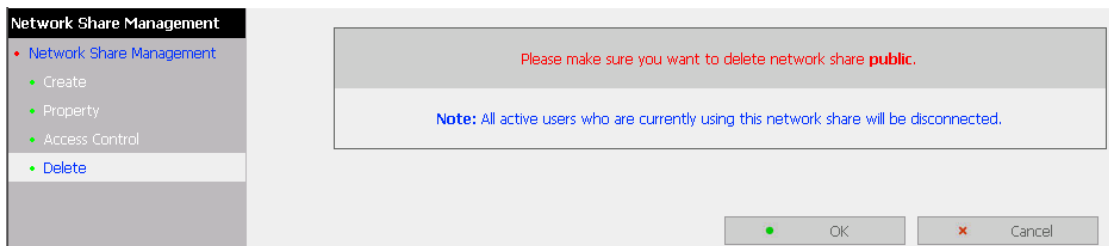


- **Property and Delete**

To edit the property of an existing network share, select a share and click **Property**. You can then edit the content of that share.



You can also select to delete an existing network share. Click OK to confirm the deletion or **Cancel** to abort.

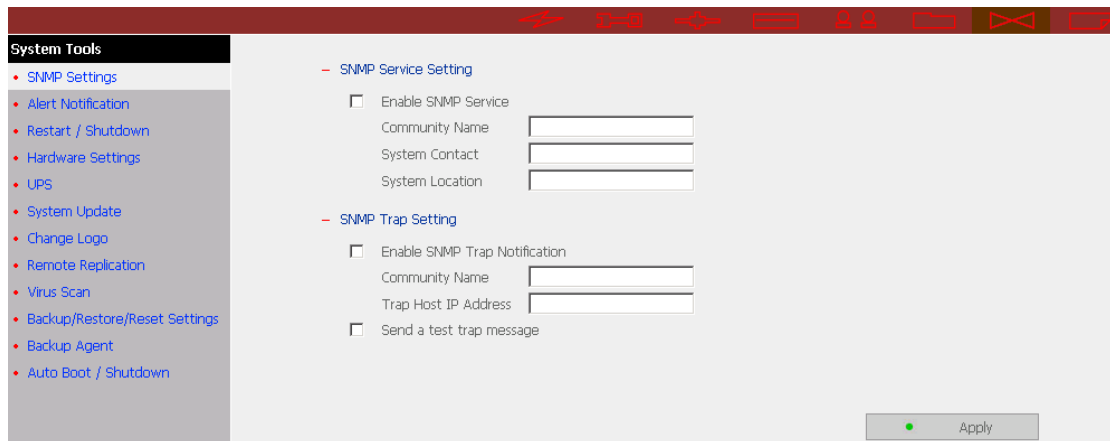


3.9 System Tools

System Tools enable you to optimize the maintenance and management of FNS-7000A.

3.9.1 SNMP Settings

Enable SNMP (Simple Network Management Protocol) service and complete all necessary settings to manage network components of the server by SNMP. When enabling SNMP Trap Notification, a message will be sent to a specified trap host when an error occurs.



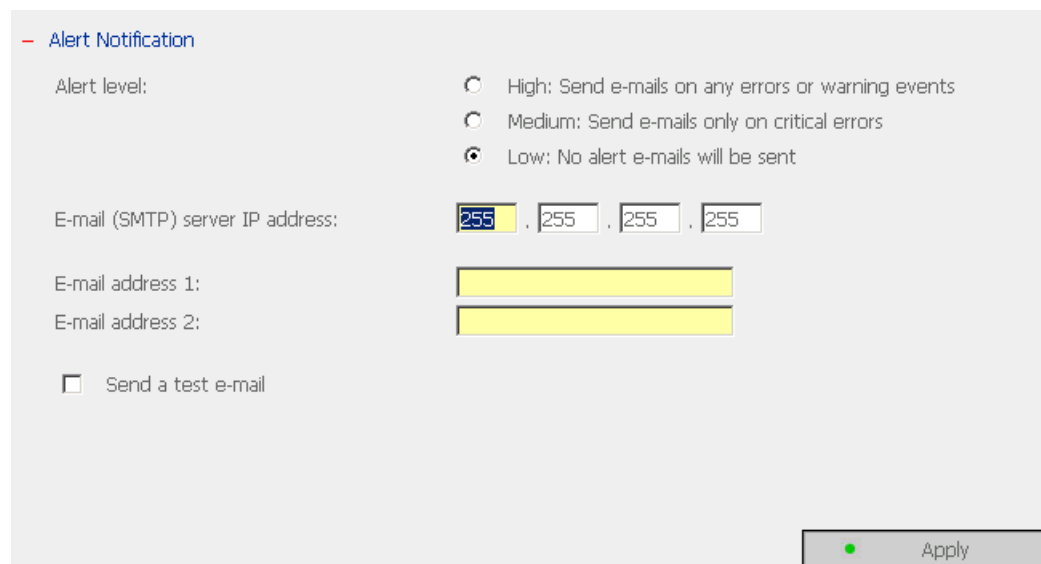
The screenshot displays the 'System Tools' configuration window. On the left is a sidebar menu with the following items: SNMP Settings (selected), Alert Notification, Restart / Shutdown, Hardware Settings, UPS, System Update, Change Logo, Remote Replication, Virus Scan, Backup/Restore/Reset Settings, Backup Agent, and Auto Boot / Shutdown. The main area is titled 'SNMP Settings' and is divided into two sections:

- SNMP Service Setting**
 - Enable SNMP Service
 - Community Name:
 - System Contact:
 - System Location:
- SNMP Trap Setting**
 - Enable SNMP Trap Notification
 - Community Name:
 - Trap Host IP Address:
 - Send a test trap message

An 'Apply' button with a green status indicator is located at the bottom right of the main configuration area.

3.9.2 Alert Notification

Enter the e-mail address of administrator and SMTP server IP address. In case of warning or malfunction, an email will be sent to the administrator automatically.



The screenshot shows a configuration panel titled "Alert Notification". It includes the following elements:

- Alert level:** Three radio button options: "High: Send e-mails on any errors or warning events", "Medium: Send e-mails only on critical errors", and "Low: No alert e-mails will be sent". The "Low" option is selected.
- E-mail (SMTP) server IP address:** Four input fields containing the IP address "255.255.255.255".
- E-mail address 1:** A single-line text input field.
- E-mail address 2:** A single-line text input field.
- Send a test e-mail:** A checkbox that is currently unchecked.
- Apply:** A button with a green dot icon and the text "Apply".

3.9.3 Restart/ Shutdown

Select to restart or shut down FNS-7000A.



The screenshot shows a panel titled "Restart / Shutdown". It contains the following elements:

- Restart / Shutdown:** The panel title.
- Instructions:** Two lines of text: "To restart the server, click Restart." and "To shut down the server, click Shut Down."
- Restart:** A button with a green dot icon and the text "Restart".
- Shut Down:** A button with a green dot icon and the text "Shut Down".

3.9.4 Hardware Settings

You can enable or disable the hardware functions of FNS-7000A.

i. Enable LCD panel setting function

To enable users to configure TCP/IP settings via the LCD panel.

ii. Enable configuration reset switch

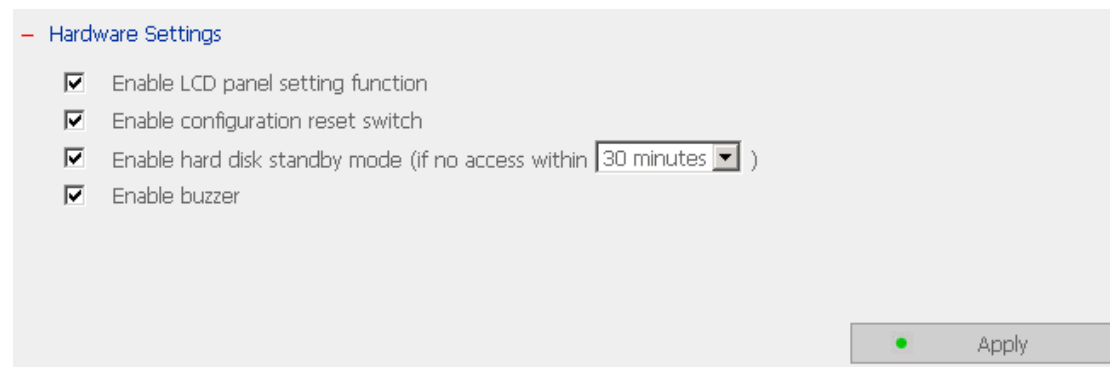
By enabling this option, you can press the reset button for a few seconds to reset the administrator password and system settings to default.

iii. Enable hard disk standby mode

Set the minutes when there is no access to the server and the hard disk will go to standby mode.

iv. Enable buzzer

When buzzer is enabled, an alert sound will be played in case of system error.



3.9.5 UPS

If your UPS device provides USB interface, you can enable UPS (uninterruptible power supply) support to protect your system from abnormal system shutdown caused by power outage. In case of utility power failure, the system will shut down automatically by probing the power status of the connected UPS unit.

✓ Enable UPS support

To activate the UPS support, you can select this option. You can set the shutdown timer to turn off the system automatically after the system detects the AC power is abnormal. In general, the UPS can keep supplying the power for the system for about 5 to 10 minutes. But this depends on the maximum load of the UPS and the number of the loads connected to it.

UPS Model

Select the UPS model from the list. If the UPS model you are using is not available on the list, please contact our technical support.

UPS IP

If you have selected APC UPS with SNMP for UPS model, enter the IP address of the UPS.

- UPS

Enable UPS Support

The system will be shut down in minute(s) when the AC power status is abnormal.

UPS Model

IP Address of UPS

UPS Model AC Power Status: --
Battery Power Status: --

After selecting the UPS model, click Test to make sure selection is correct.

Note: When UPS support is not enabled, the Test button will not function.

3.9.6 System Update

To update the firmware version of FNS-7000A, make sure you have obtained the correct version of image file. It is suggested to back up all existing data on FNS-7000A before updating the image. The current settings will remain unchanged after the system is upgraded.

– System Update

To update the system, please obtain a new image. Click Browse to specify the location of the image, then click Update System to proceed with the update.

Current system version: 4.1.1 Build 1026

Note: Make sure you have chosen the correct image file before clicking Update System.

Browse...

Update System



level[®]
one

FNS-7000A

4-Bay Tower Nas Configuration

One_World_
One_Brand_
One_Level_

English Change Password Administration Web File Manager

A reliable and high capacity network attached storage server

- Share your storage over Microsoft, Unix and Apple network.
- Protect your data via RAID technology and management.
- Easy administration through simple web interface.
- Redundant power supplies for high system availability.

Version 4.1.0 build 1001

3.9.7 Change Logo

You can choose a personal picture to display on the login page of FNS-7000A. The size of the picture cannot exceed 20K bytes.

Change Logo

Please select an image from the **To be displayed** pull-down menu. Then click **Apply** to confirm the change.







To upload your own image, click **Browse** to select the image. Then click **Upload** to upload the image.

To replace an image, select an appropriate image from the **To be replaced to** pull-down menu and click **Apply**.

Uploaded image:

To be replaced to:

To be displayed:

 Image 1	 Image 2	 Uploaded Image
 Image 3	 Image 4	 Current Logo Image

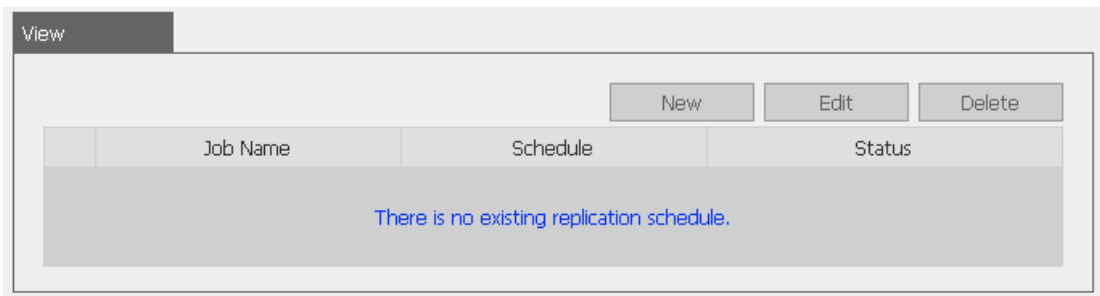
Note: For the best image effect, the recommended size for the image is 100 x 100 pixels.

3.9.8 Remote Replication

Remote Replication enables you to replicate local files to remote folders on another server. The files will be compressed before the replication process in order to save time for data transfer.

Using Remote Replication

Login FNS-7000A, go to Remote Replication in System Tools.



i. **New**

a. Click **New** to enter the following page.

System Tools

- SNMP Settings
- Alert Notification
- Restart / Shutdown
- Hardware Settings
- UPS
- System Update
- Change Logo
- Remote Replication
- Virus Scan
- Backup/Restore/Reset Settings
- Backup Agent
- Auto Boot / Shutdown

Add a remote replication job

Job Name

Remote Destination

Remote Host Name / IP Address

Destination Path (Network Share/Directory) /

User Name

Password

Remote Host Testing (Status: --)

Local Source

Source Path (Network Share/Directory) /

Replicate Now

Replication Schedule

Daily Hour : Minute

Weekly Day

Monthly Day

Activate file compression

Stop network file services while replicating

Perform incremental replication

Delete extra files on remote destination

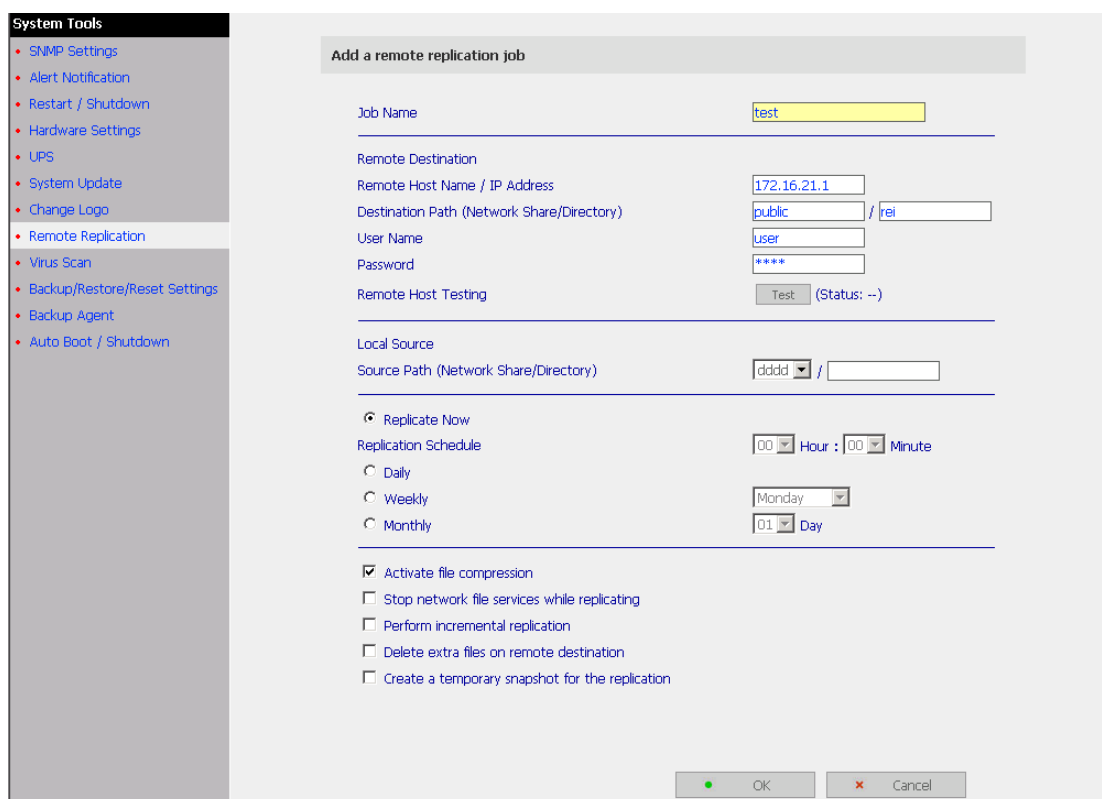
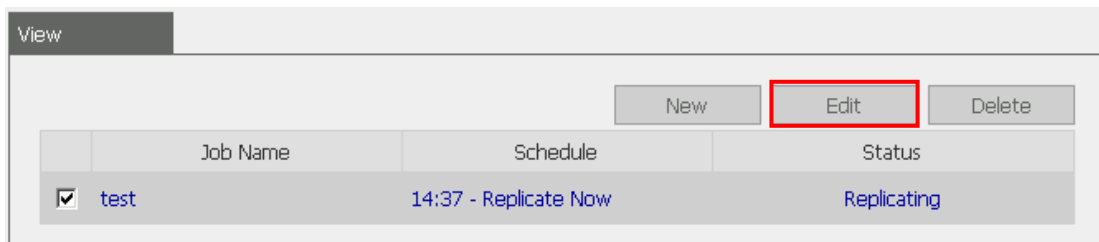
Create a temporary snapshot for the replication

b. Complete all settings and click OK to save or Cancel to quit

Note: To use remote replication, enable Microsoft Networking service, make sure the destination network share and directory have been created, and the user name and password are valid to login the destination folder.

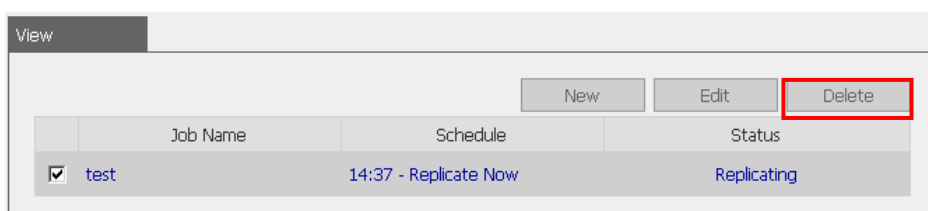
ii. Edit

- Select the job to be edited.
- Click **Edit**.
- Modify the settings.
- Click OK to save or **Cancel** to quit.



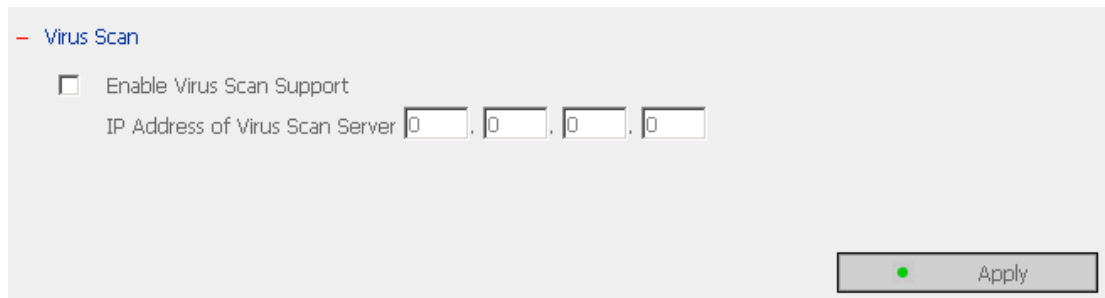
iii. Delete

- Select the job to be deleted.
- Click **Delete**.



3.9.9 Virus Scan

Virus scanning agent helps protect your system from being infected by viruses. You need to operate Windows NT or Windows 2000 server with virus-scanning software installed to perform real-time virus scanning. To enable virus scan support, specify the IP address of network share, the administrator ID and password.

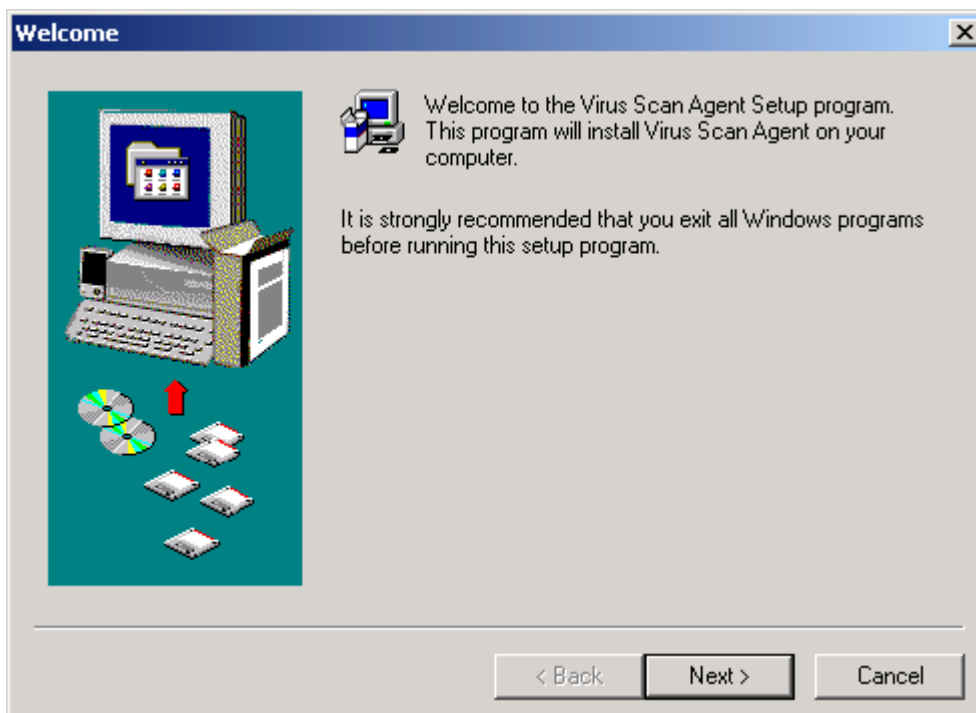


Installing Virus Scan Agent

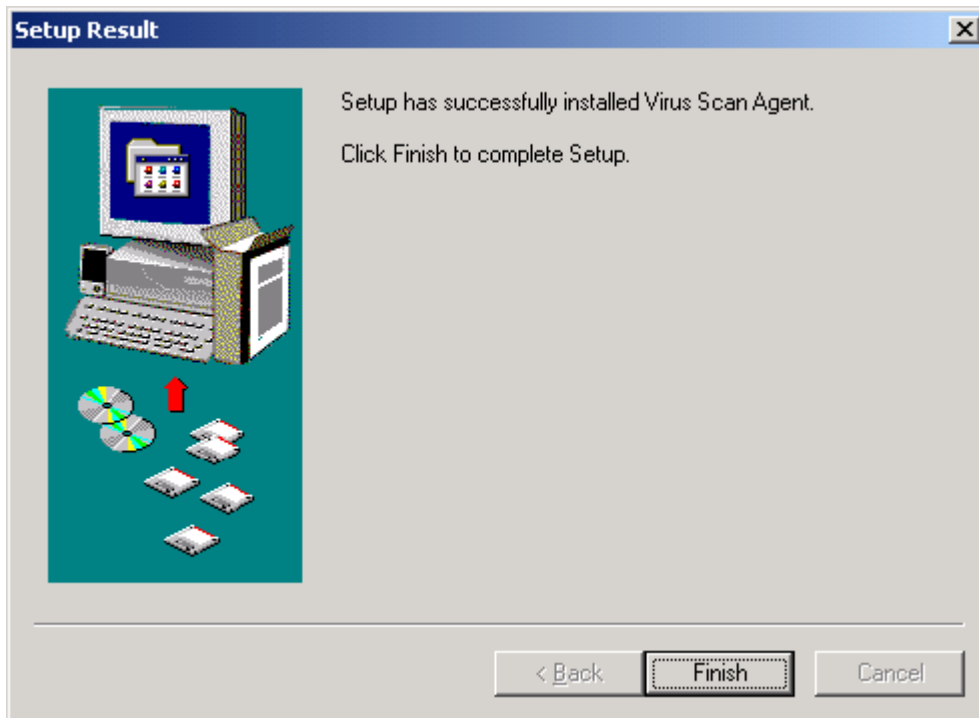
Make sure virus scan agent and software are installed on the same computer which performs virus scanning before activating the agent.

Follow the steps below to install Virus Scan Agent:

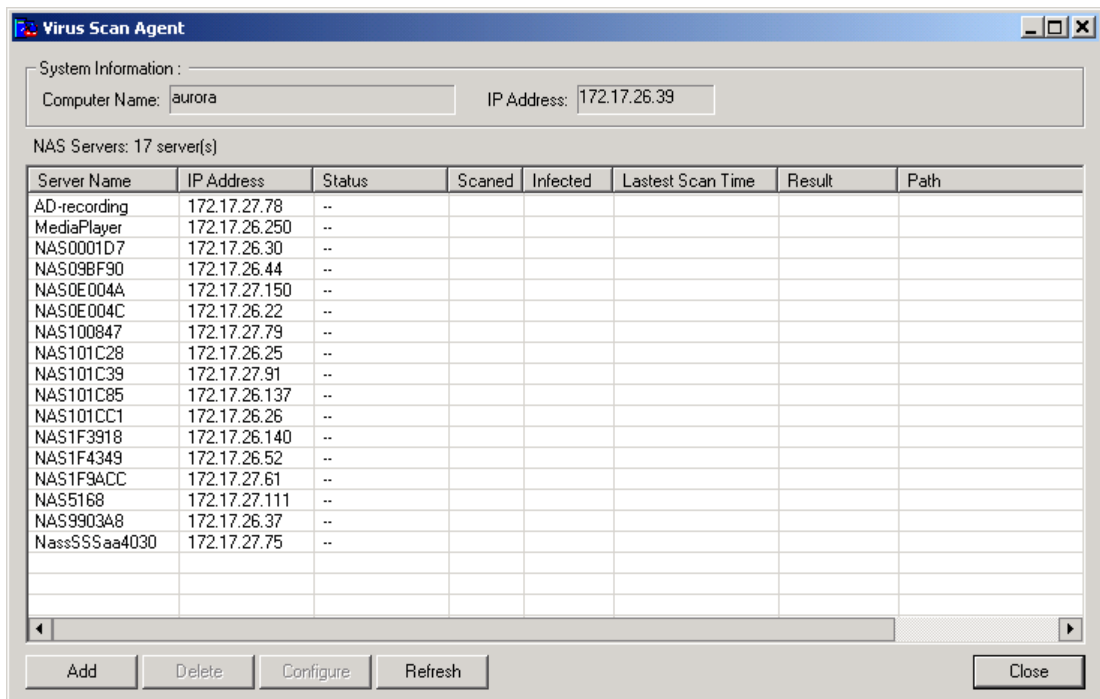
1. Run Install Virus Scan Agent in FNS-7000A companion CD.
2. Click **Next** to continue Virus Scan Agent Setup.



3. Click **Finish** to complete.



4. A screen will pop up to show the system information the first time you have successfully installed the virus scan agent.

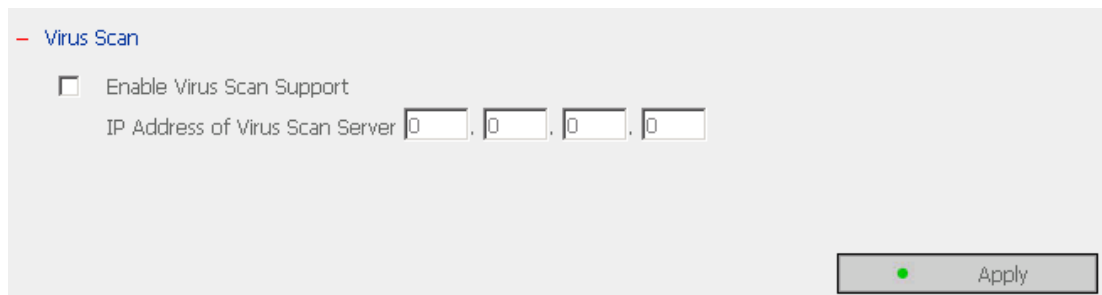


The description of the fields is as below:

Fields	Description
Server Name	Name of the network share under the protection of virus scan agent
IP Address	The IP address of the network share
Status	Connection status of the host network share with the virus scan agent: <ul style="list-style-type: none"> • <i>Disconnect</i>: Not connected to the network • <i>Idle</i>: Connection has been enabled but there is no file transfer for three minutes or more. • <i>Ready</i>: Connection has been enabled and ready to be scanned • <i>--</i>: User name and password have not been set up
Infected	Number of infected files
Last Scan Time	Date and time of the most recent virus scanning job
Result	Scanning result: OK: No files are infected <ul style="list-style-type: none"> • <i>Virus Found</i>: Virus is found. The name of the infected file(s) may not be displayed due to the scanning of other files. Go to administration page to view the name and location of the infected file(s). • <i>Access Denied</i>: Access to the server is denied. <i>Authentication Failed</i> : The login user ID is not authorized to access the folder of the network share.
Path	The file location on the network share

Enabling Virus Scan Support

Go to Virus Scan of System Tools. To enable virus scan support, check the box Enable Virus Scan Support. Enter the IP address of the virus scan server and click **Apply**.



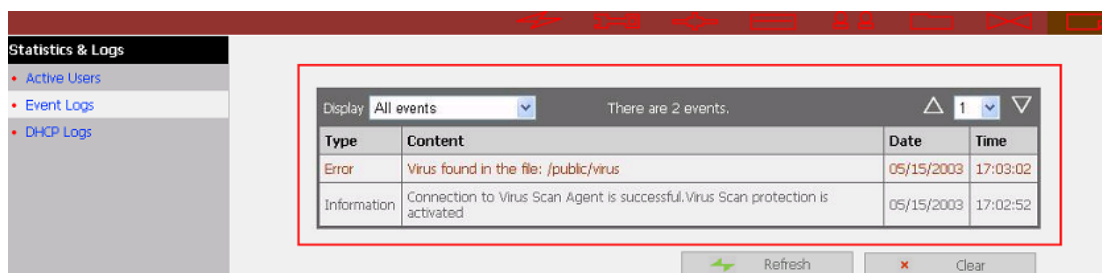
Virus Scan

Enable Virus Scan Support

IP Address of Virus Scan Server , , ,

Viewing Details of Infected Files

To view the details of infected files of the network share, go to Event Logs of Statistics & Logs. A warning message will be shown in the table.



Statistics & Logs

- Active Users
- Event Logs
- DHCP Logs

Display: All events (dropdown) | There are 2 events. | Page: 1 (dropdown)

Type	Content	Date	Time
Error	Virus found in the file: /public/virus	05/15/2003	17:03:02
Information	Connection to Virus Scan Agent is successful.Virus Scan protection is activated	05/15/2003	17:02:52

3.9.10 Backup/ Restore/ Reset Settings

To backup the setting(s), select the appropriate option(s) and click **Backup**. To restore a backup settings file, click **Browse** to select the file and click **Restore**. To reset the setting(s) to factory default(s), select the appropriate option and click **Reset**.

- Backup/Restore/Reset Settings

- To restore a backup settings file, click Browse to choose the backup settings file. Then click Restore.
- To back up the setting(s), select the appropriate option(s) and click Backup.
- To reset the setting(s) to factory default(s), select the appropriate option and click Reset.

User / User Group Settings
 Disk Configuration
 Share Volume Settings
 Hardware Settings
 System Settings
 Network Configuration
 All Settings

3.9.11 Backup Agent

Backup agent enables FNS-7000A to support particular backup programs. In addition to being compatible with more tape drives and tape library, backup agent also supports backup and restoration among multiple servers on different OS.

- Backup Agent

To install Backup Agent, click '**Browse...**' to specify the location of the image file. Then, click '**Install Agent**' to install it. To remove Backup Agent, click '**Remove**'.

<input type="text"/>	<input type="button" value="Browse..."/>	<input type="button" value="Install Agent"/>
Installed Backup Agent : Not installed		<input type="button" value="Remove Agent"/>

Enable Backup Agent

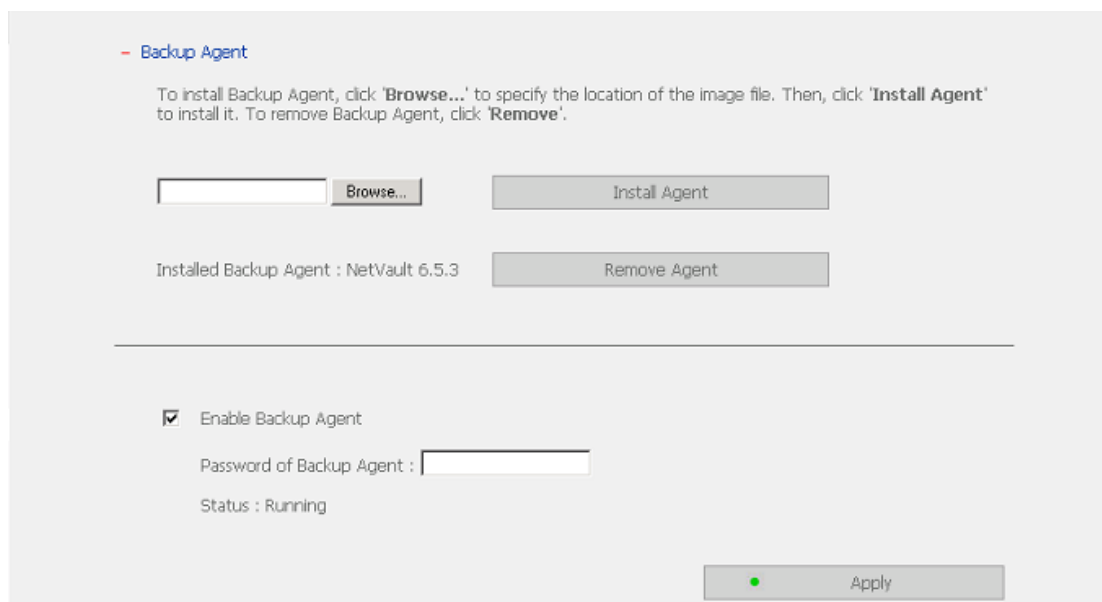
Password of Backup Agent :

Status : Not installed

Installation of Backup Agent

Follow the steps below to install Backup Agent:

1. Download Backup Agent program to local disk
 - a. Install Back Agent.
Contact technical support for information of backup agent program.
2. Install Backup Agent
 - a. Enter FNS-7000A administration page. Go to System Tools and select Backup Agent.
 - b. Click **Browse** to select Backup Agent program.
 - c. Click **Install Agent**. When the installation is completed, the name of backup agent will be displayed, e.g. NetVault 6.5.3:



The screenshot shows a web-based configuration interface for the Backup Agent. At the top, there is a title bar with a minus sign and the text "Backup Agent". Below the title bar, there is a paragraph of instructions: "To install Backup Agent, click 'Browse...' to specify the location of the image file. Then, click 'Install Agent' to install it. To remove Backup Agent, click 'Remove'." Below the instructions, there are two rows of controls. The first row contains an empty text input field followed by a "Browse..." button and an "Install Agent" button. The second row contains the text "Installed Backup Agent : NetVault 6.5.3" followed by a "Remove Agent" button. A horizontal line separates this section from the next. Below the line, there is a checked checkbox labeled "Enable Backup Agent". Below the checkbox, there is a label "Password of Backup Agent :" followed by an empty text input field. Below the password field, there is a label "Status : Running". At the bottom right of the interface, there is an "Apply" button with a green dot to its left.

3. Configure and enable Backup Agent
 - a. Click **Enable Backup Agent**.
 - b. Enter the password for Backup Agent.
 - c. Click **Apply**. The status will be shown as Running.

- Backup Agent

To install Backup Agent, click 'Browse...' to specify the location of the image file. Then, click 'Install Agent' to install it. To remove Backup Agent, click 'Remove'.

Installed Backup Agent : NetVault 6.5.3

Enable Backup Agent

Password of Backup Agent :

Status : Running

Auto Boot/ Shutdown

This function enables FNS-7000A to specify the schedule when the system will boot and shut down automatically. Note that after changing the settings, it will take a minute to take effect. It is recommended not to set the schedules too close to avoid unexpected result.

Automatically Boot / Shutdown Configuration

To boot or shutdown automatically at certain time, please check the checkboxes and set the proper time. After that, press the 'Apply' button.

Warning: All settings take 1 minute to be activated. Setting the times too close may cause unexpected results.

Enable automatically boot up at specified time

	New schedule	Current schedule
Boot schedule	00 Hour : 00 Minute	00 : 00
<input checked="" type="radio"/> Daily		Daily
<input type="radio"/> Weekly	Sunday	
<input type="radio"/> Monthly	01 Day	

Enable automatically shutdown at specified time

	New schedule	Current schedule
Shutdown schedule	00 Hour : 00 Minute	00 : 00
<input checked="" type="radio"/> Daily		Daily
<input type="radio"/> Weekly	Sunday	
<input type="radio"/> Monthly	01 Day	

3.10 Statistics & Logs

You can view the event logs of all currently online users on FNS-7000A for system monitoring.

- **Active Users**

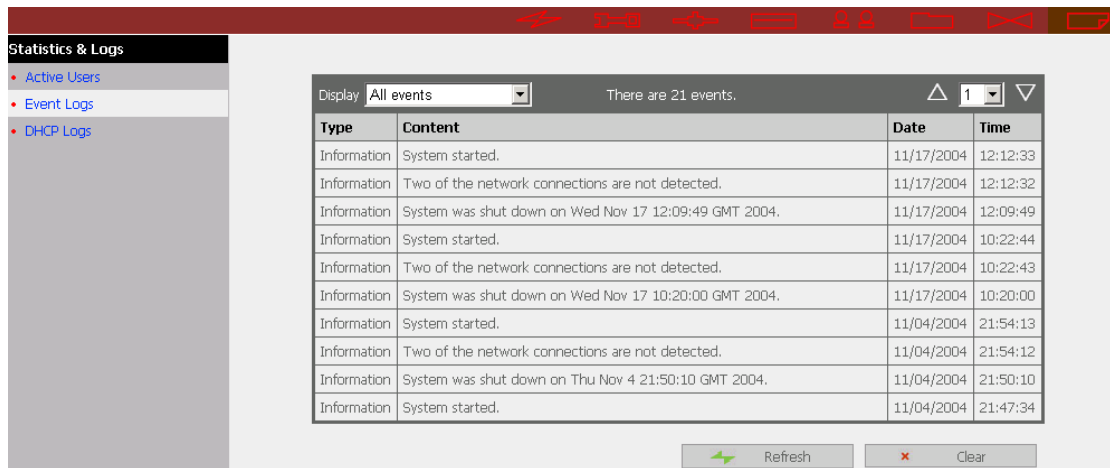
This page shows all users that are currently logged on to the system.

- **Event Logs**

FNS-7000A can store thousands of recent event logs, including warning, error and information messages. In case of system malfunction, the event logs can be retrieved to help analyze the system problem.

- **DHCP Logs**

If DHCP server function is activated, you can use it to monitor all of the assigned dynamic addresses, client MAC addresses and other information.



The screenshot displays the 'Statistics & Logs' section of the FNS-7000A interface. On the left, there is a navigation menu with three items: 'Active Users', 'Event Logs', and 'DHCP Logs'. The 'Event Logs' item is currently selected. The main area shows a table of event logs. At the top of the table, there is a 'Display' dropdown menu set to 'All events' and a status indicator 'There are 21 events.' Below the table, there are two buttons: 'Refresh' and 'Clear'.

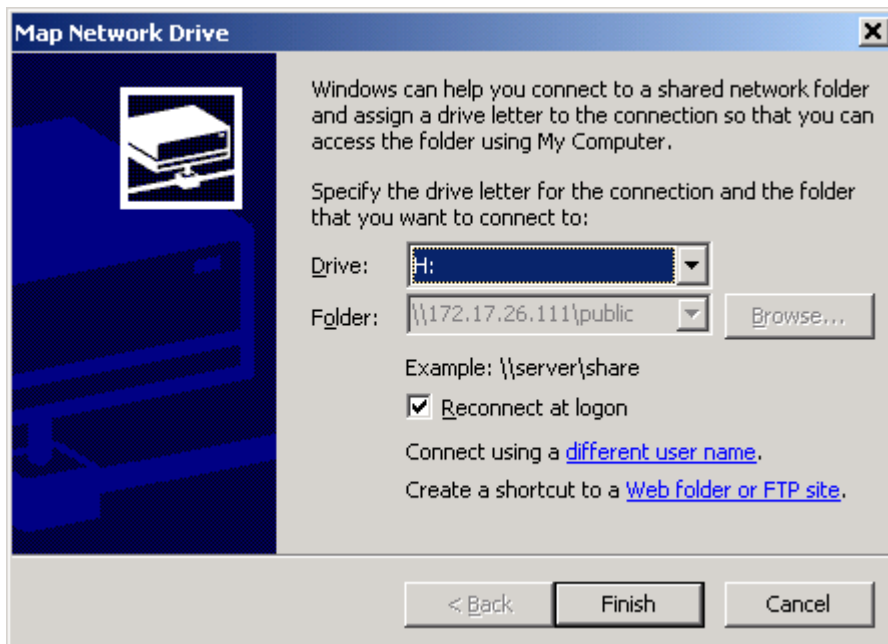
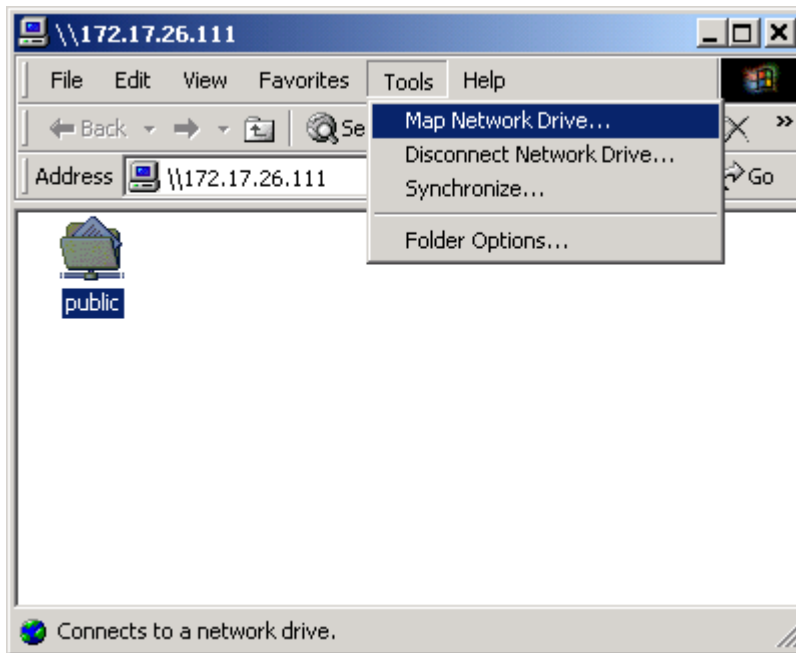
Type	Content	Date	Time
Information	System started.	11/17/2004	12:12:33
Information	Two of the network connections are not detected.	11/17/2004	12:12:32
Information	System was shut down on Wed Nov 17 12:09:49 GMT 2004.	11/17/2004	12:09:49
Information	System started.	11/17/2004	10:22:44
Information	Two of the network connections are not detected.	11/17/2004	10:22:43
Information	System was shut down on Wed Nov 17 10:20:00 GMT 2004.	11/17/2004	10:20:00
Information	System started.	11/04/2004	21:54:13
Information	Two of the network connections are not detected.	11/04/2004	21:54:12
Information	System was shut down on Thu Nov 4 21:50:10 GMT 2004.	11/04/2004	21:50:10
Information	System started.	11/04/2004	21:47:34

Chapter 4 Accessing FNS-7000A

4.1 Using Microsoft Windows

1. You can access FNS-7000A in Windows OS by the following ways:
 - By Quick Install Wizard. For further information, please refer to Appendix C.
 - You may also search for FNS-7000A within the Network Neighborhood. Locate the workgroup and find the name of your FNS-7000A. When the server is found, double-click on the server name to connect.
 - You may also use "Search for Computers" function to look for your FNS-7000A in Windows. Under Windows ME or Windows 2000, please follow these steps:
 - i. Open "My Network Places".
 - ii. Under the tool bar, click **Search**.
 - iii. Enter the name of FNS-7000A in Computer Name field.
 - iv. Click **Search**.When FNS-7000A is found, double click the item to access the server.

2. Once the connection to FNS-7000A is successful, all listing on your available network share will be displayed. Select an appropriate network share folder and select **Map Network Drive** by right clicking on the item. To make the share folder available for your next start-up, check the **Reconnect at logon** box on the popup window and click OK to map the folder as your network drive.

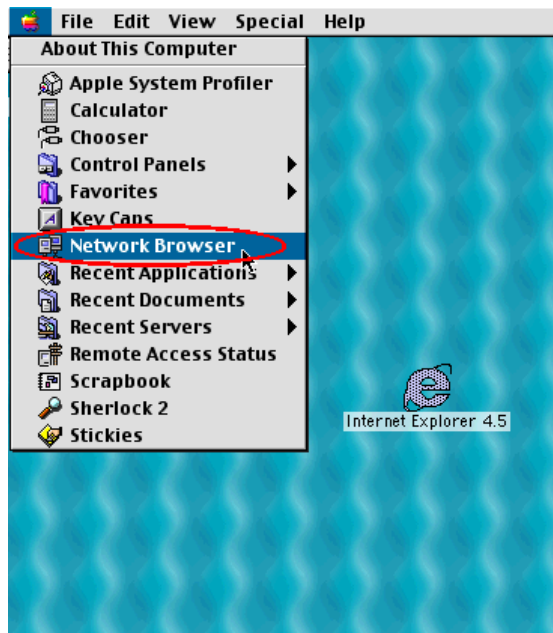


4.2 Using Apple MAC OS

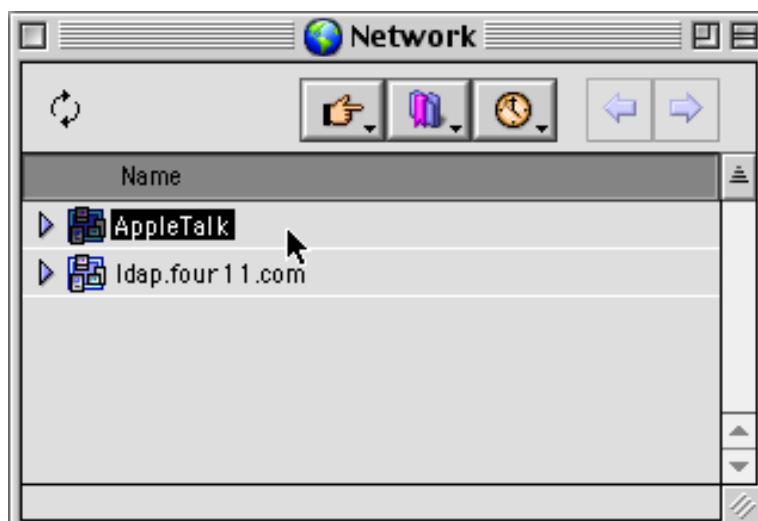
If you are an Apple MAC user, you can access FNS-7000A by the following ways:

1. Using Network Browser

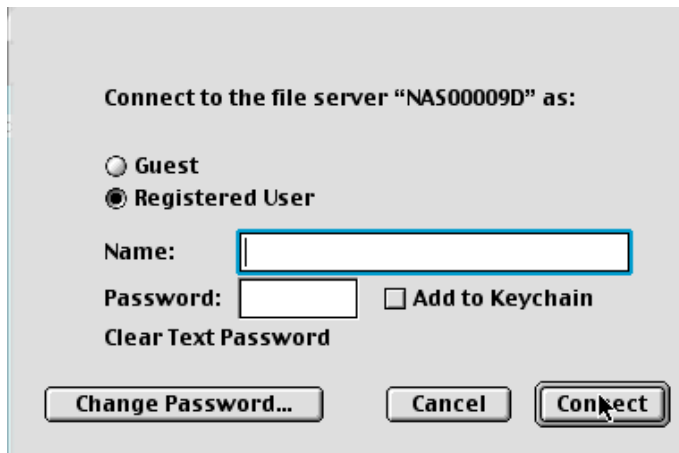
- a. Choose "Network Browser" in Apple menu.



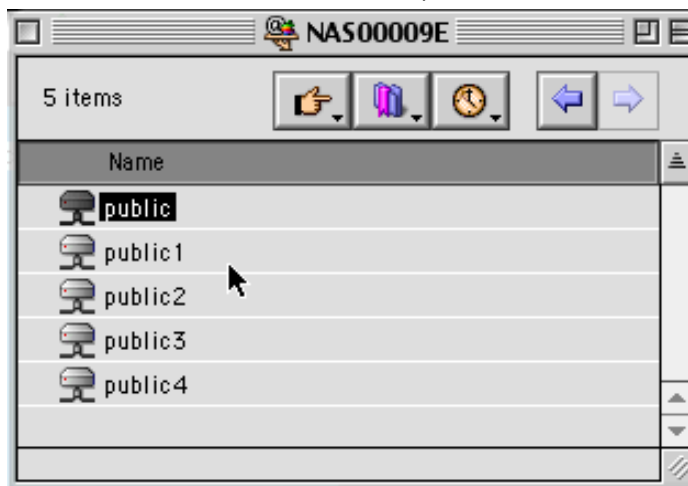
- b. In "Network Browser", choose AppleTalk. A list of computers on the AppleTalk network will appear. Select FNS-7000A.



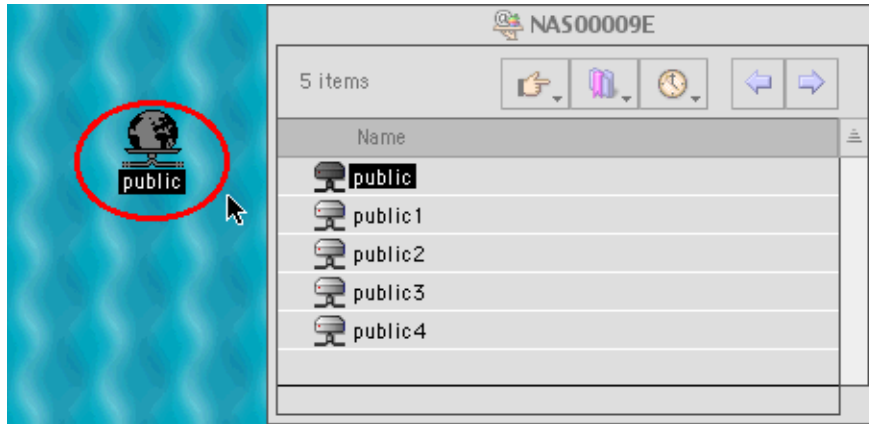
- c. Enter the login name and password, or use "Guest" to enter. Click **Connect**.



- d. When FNS-7000A is connected, all network shares will be shown.

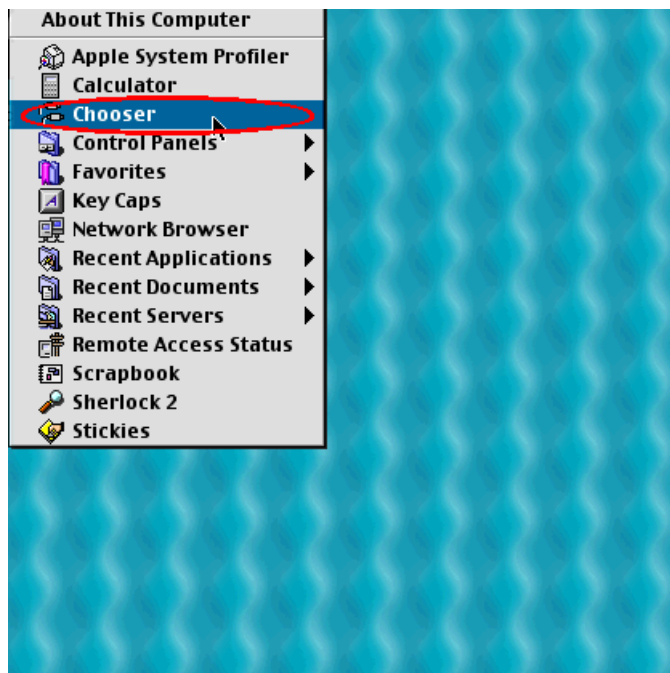


- e. Choose a network share to connect. The network share will appear on the desktop.

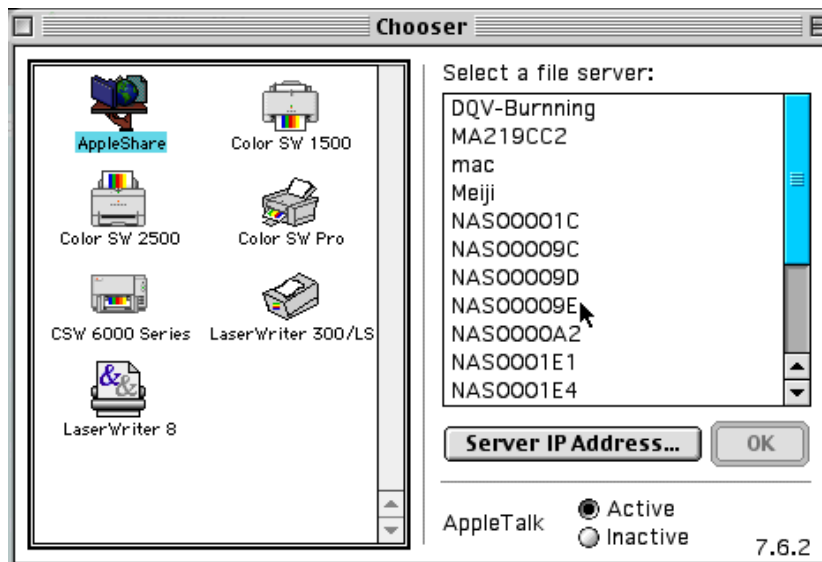


2. Using Chooser

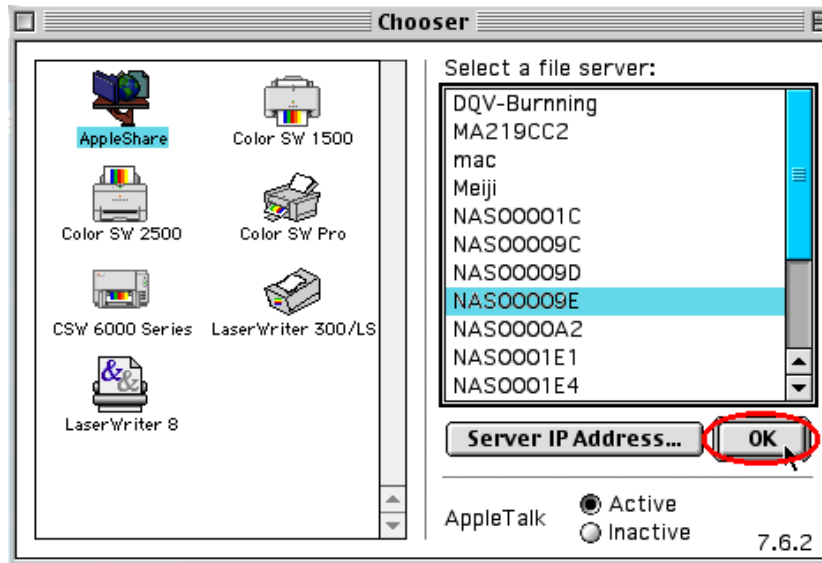
- a. Select **Chooser** on Apple menu bar.



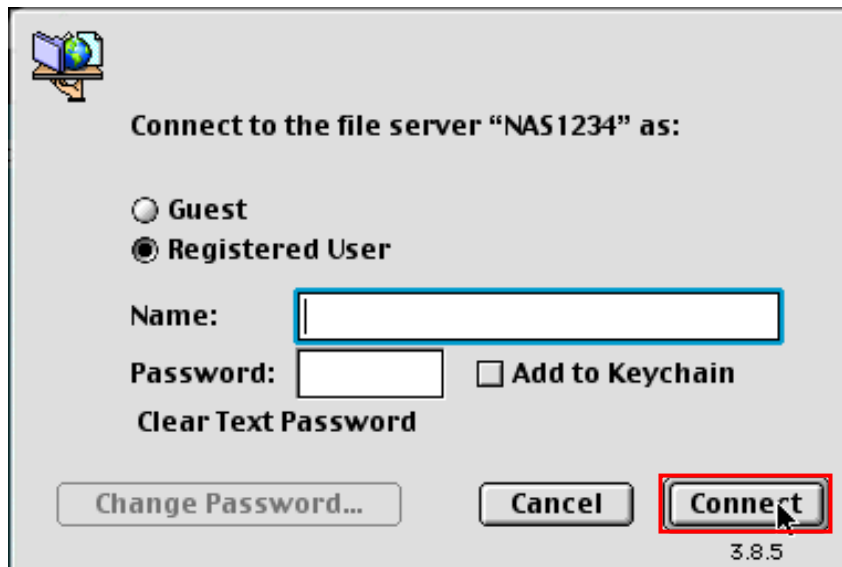
- b. Click on **AppleShare**. The name of FNS-7000A will appear on the right side of the window.



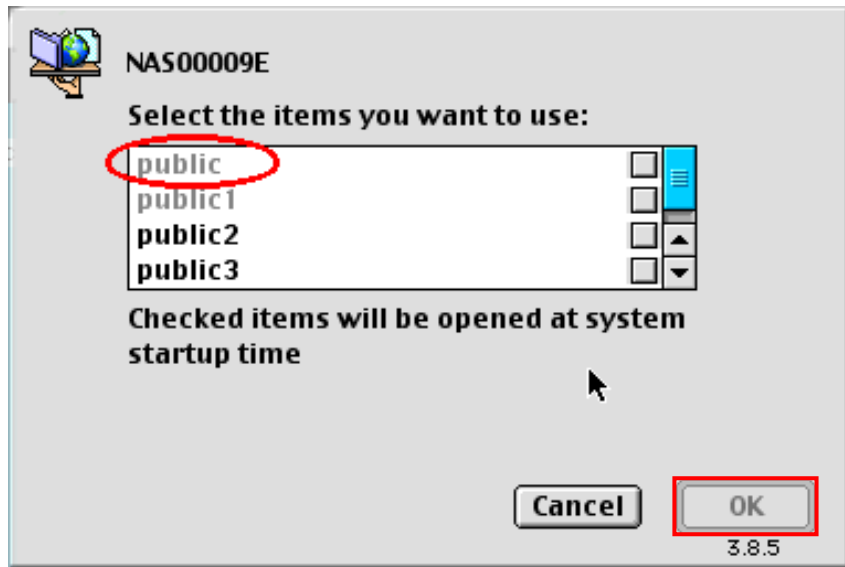
- c. Use the mouse to highlight FNS-7000A and click OK.



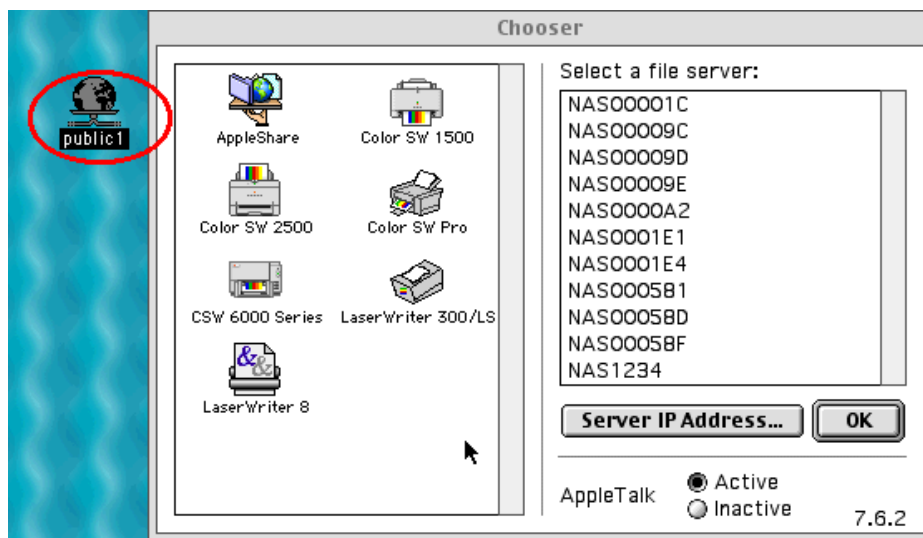
- d. Enter the correct login name and password or use "Guest" to login, and then click **Connect**.



- e. All available network shares will be listed. Select a network share and click OK.



- f. Close the Chooser program. Double click on the icon on the desktop to access the files.



4.3 Using Unix/ Linux OS

In addition to Microsoft and MAC OS, FNS-7000A also supports Unix-based systems such as IBM AIX, HP-UX, Sun Solaris, Linux, Free BSD, etc. through the NFS service:

Note: Configure NFS settings in User Management page for users who use this feature before proceeding to the steps below.

1. On Unix, run the command:

```
mount -t nfs <FNS-7000A IP address>:/<Network Share Name>  
<Directory to Mount>
```

For example, if your FNS-7000A's IP address is 192.168.0.1 and you want to link the network share folder "public" under the /mnt/pub directory, use the following command.

```
mount -t nfs 192.168.0.1:/public /mnt/pub
```

Note: You must login as "root" user to initiate the above command.

2. Login as the user id that you define, you can use the mounted directory to access your network share files.

4.4 Netware Service

To use Novell Netware service, enable this option and enter the server name for Netware network. The server will then operate in a manner similar to a Novell NetWare 3.12 file server.

4.5 Using Web Browser

Other than OS support, your FNS-7000A also provides a convenient web file management interface that allows using a standard web browser to access your data. If you link FNS-7000A to the Internet and use a public IP address, you can access the files on the server anywhere. For more information, please refer to Appendix B.

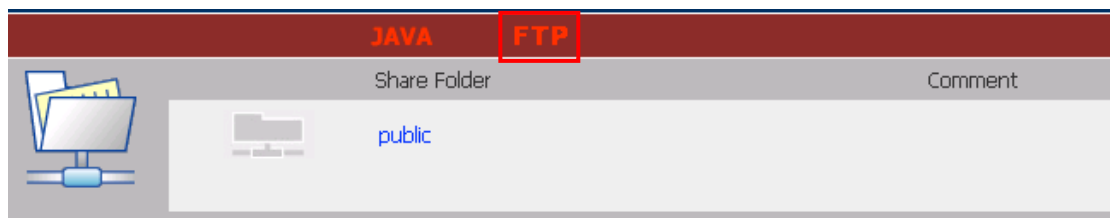
4.6 Using File Transfer Protocol (FTP)

In addition to working with multiple operating systems, FNS-7000A also supports connection via FTP. Enter the correct user name and password to connect the server or access the public share folders as guest.

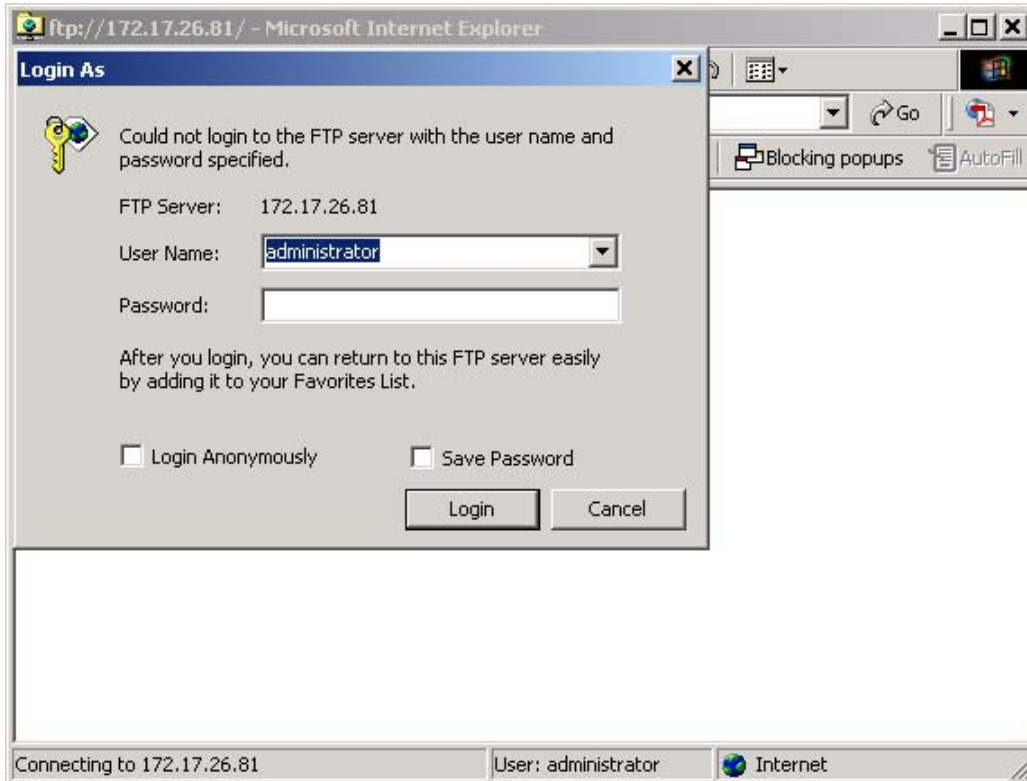
1. Follow the steps below to use FTP service (based on Windows 2000 as example):



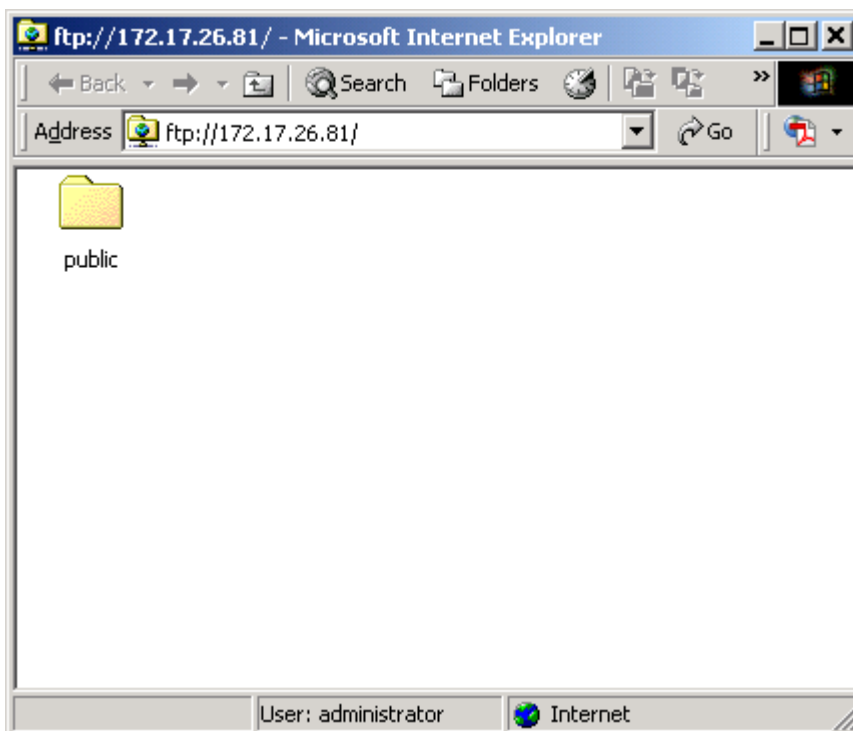
2. Click **FTP**.



3. Enter user name and password.



4. The share folder will be shown. You can then manage the folder by dragging and dropping files to it, as well as rename or delete the files.



Chapter 5 FNS-7000A-Maintenance

FNS-7000A is specially designed to run 24 x 7 and be ready at all times against system crash caused by power outage. This section provides a general overview on system maintenance.

5.1 Restart/ Shut down Server

Follow the steps below to restart or shut down FNS-7000A.

1. Ask all active users of NAS to save their files and disconnect from the server.
2. Enter the administration page and select Restart/ Shutdown in System Tools.
3. Click **Restart** to reboot the server or **Shut Down** to turn off the server. You can perform these actions by the LCD panel.



5.2 Reset Administrator Password and Network Settings

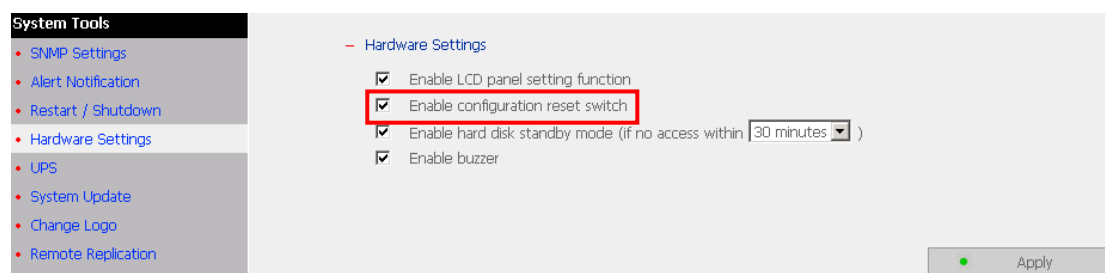
To reset the administrator password and network settings of FNS-7000A,

1. Press the reset button of FNS-7000A for a few seconds. A beep sound will be heard.
2. Login FNS-7000A with the default user name and password:

User name: **administrator**

Password: **admin**

Note: To reset the system by the reset button, the option "Enable configuration reset switch" in Hardware Settings must be activated.



5.3 Disk Failure or Malfunction

When you encounter disk malfunction or failure, please do the following:

1. Record the malfunction status or error messages.
2. Stop using the failed FNS-7000A and turn off the server.
3. Contact customer service for technical support.

Note: Your FNS-7000A must be repaired by professional technicians, please do not try to repair the server yourself.

Please back up any important files or folders to avoid potential data loss due to disk crash.

5.4 Power Outage or Abnormal Shutdown

In case of power outage or improper shutdown of FNS-7000A, the system will resume to the state before it is shut down. If your server does not function properly after restart, please do the following:

1. If the system configuration is lost, configure the system again.
2. In the event of abnormal operation of the server, contact customer service for technical support.

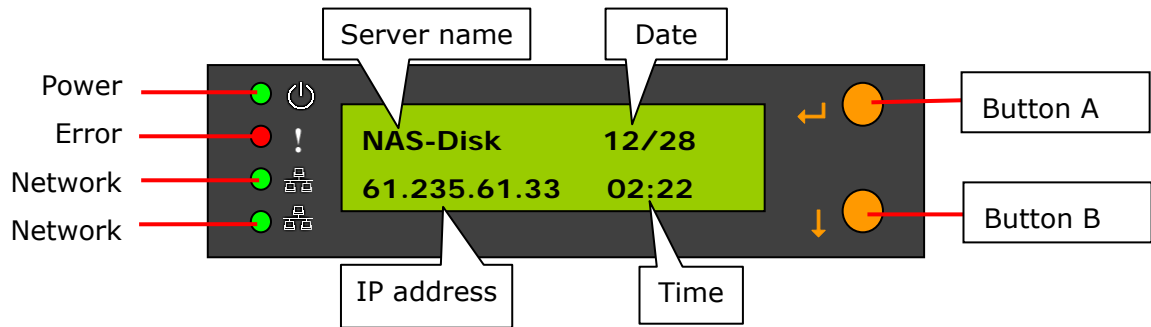
To avoid the above situations, please back up your data periodically and make sure you have done the following:

1. Follow the instructions described in Chapter 5.1 to restart or shut down the server.
2. If there is an anticipated power outage, back up all important data and turn off the server properly until power supply is resumed.

Appendix A LCD Panel

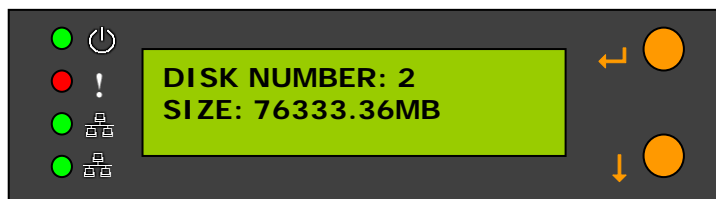
Displayed Information

When FNS-7000A is turned on, the server name, IP address, date, and time will be shown.

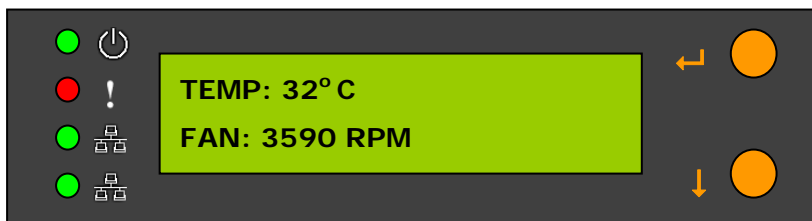


Check disk information and firmware version

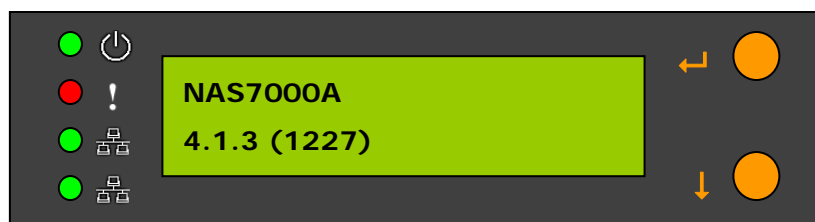
1. Press button B to view disk information, i.e. number of disks and disk size.



2. Press button B again to view the server model and firmware version.

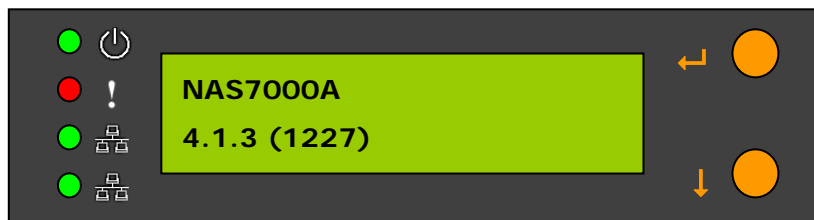


3. Press button B again to view model number and version information.

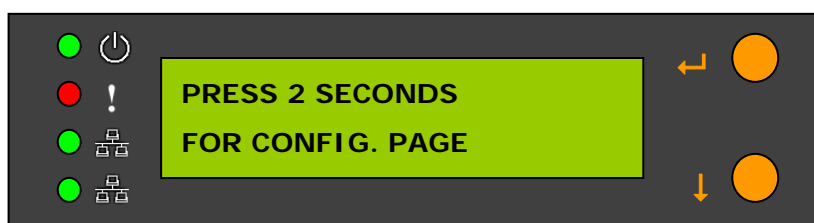


System Setting Function

1. Press button A for two seconds to enter configuration page.



2. Press button B to select an item: NETWORK SETTINGS, POWER DOWN, REBOOT SYSTEM, and EXIT.



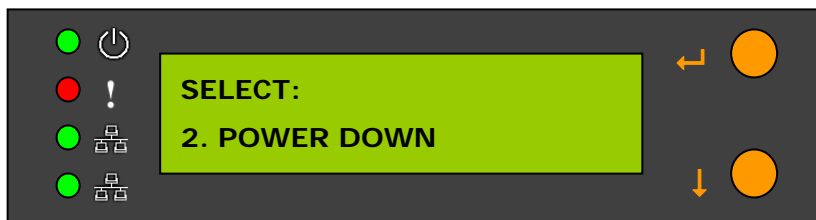
Network Settings

Enter NETWORK SETTINGS configuration page and press button B to select one of the following options. The one marked with * means it is being used for connection.

- DHCP
DHCP will obtain IP address automatically.
- STATIC IP
Press button A to select STATIC IP. Then configure the IP address.
 - i. SET STATIC IP
Press button B to enter 0~255 and press button A to set the next number for the IP address.
 - ii. SET NETMASK
Follow the above procedure to set the netmask address.
 - iii. SET GATEWAY
Follow the above procedure to set the gateway address.
 - iv. SELECT STATIC IP
Press button B to select YES or NO. When YES is selected, you will be asked to restart the system.
- EXIT
To return to the previous menu.

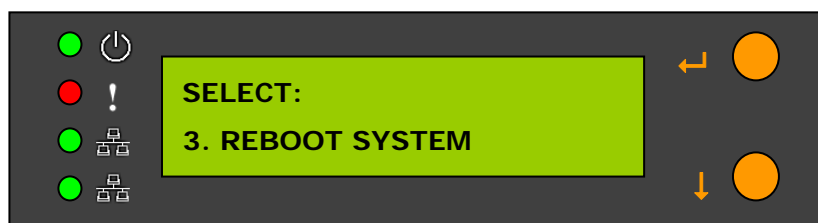
POWER DOWN

Press button B to select POWER DOWN and press button A to confirm shutting down FNS-7000A.



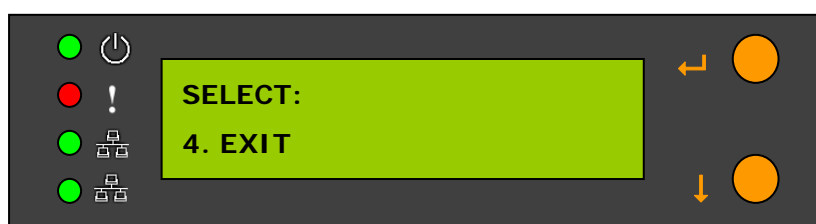
REBOOT SYSTEM

Press button B to select REBOOT SYSTEM and press button A to confirm restarting the system.



Exit Configuration Page-EXIT

Press button A and select EXIT, then press the button again to confirm exiting the configuration page.



Appendix B Web File Manager

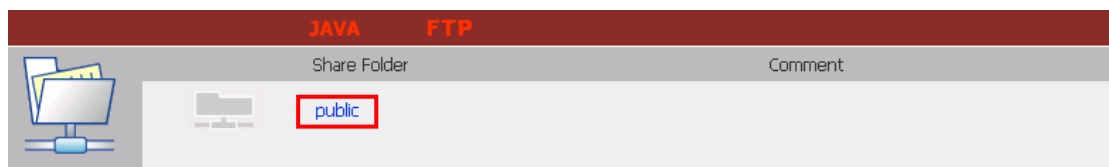
Using Web File Manager

Launch the web browser and go to FNS-7000A home page. Select **Web File Manager** and enter the correct login name and password. You may also enter "guest" in the login name field with no password to access the network shares on FNS-7000As as an anonymous guest.

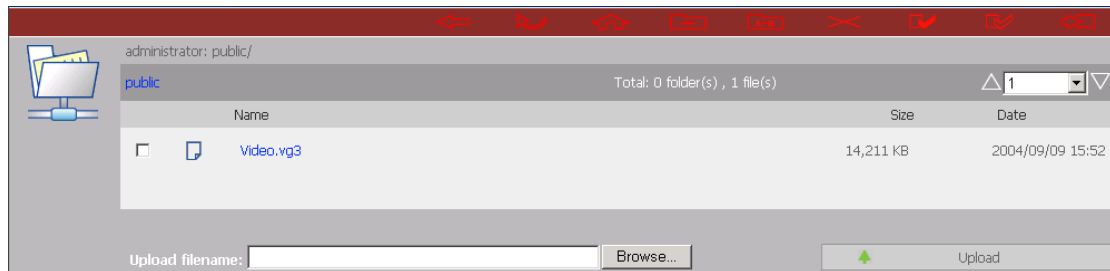
Note: Make sure a network share has been created before using Web File Manager.



Select an existing network share for management.




You can organize network share folders of FNS-7000A. With Web File Manager, you can upload, rename, or delete files and folders in the network shares.




- **View files online**

Click on a file displayed on the web page. The information of the file will be displayed. If your browser does not support the file format, the download window pops up automatically. Once the file is downloaded, you can open it on your computer.


- **Create folder**

- Select a network share or folder in which you want to create a new folder.
- Click  (Create Folder) on the toolbar.
- Enter the name of the new folder and click OK.

- **Rename file or folder**

- Select a file or folder to rename.
- Click  (Rename) on the toolbar.
- Enter the new file or folder name and click OK.

- **Delete file or folder**


- Select a file or folder to delete.
- Click  (Delete) on the toolbar.
- Confirm to delete the file or folder.

To delete all files and folders, click  (Select All) and then  (Delete).

- **Upload file**
 - i. Open the folder to upload file to.
 - ii. Click **Browse** to select the file.
 - iii. Click **Upload**.

- **Download file**
 - i. Select a file to download.
 - ii. Right click the mouse and select "Save As" to save the file.

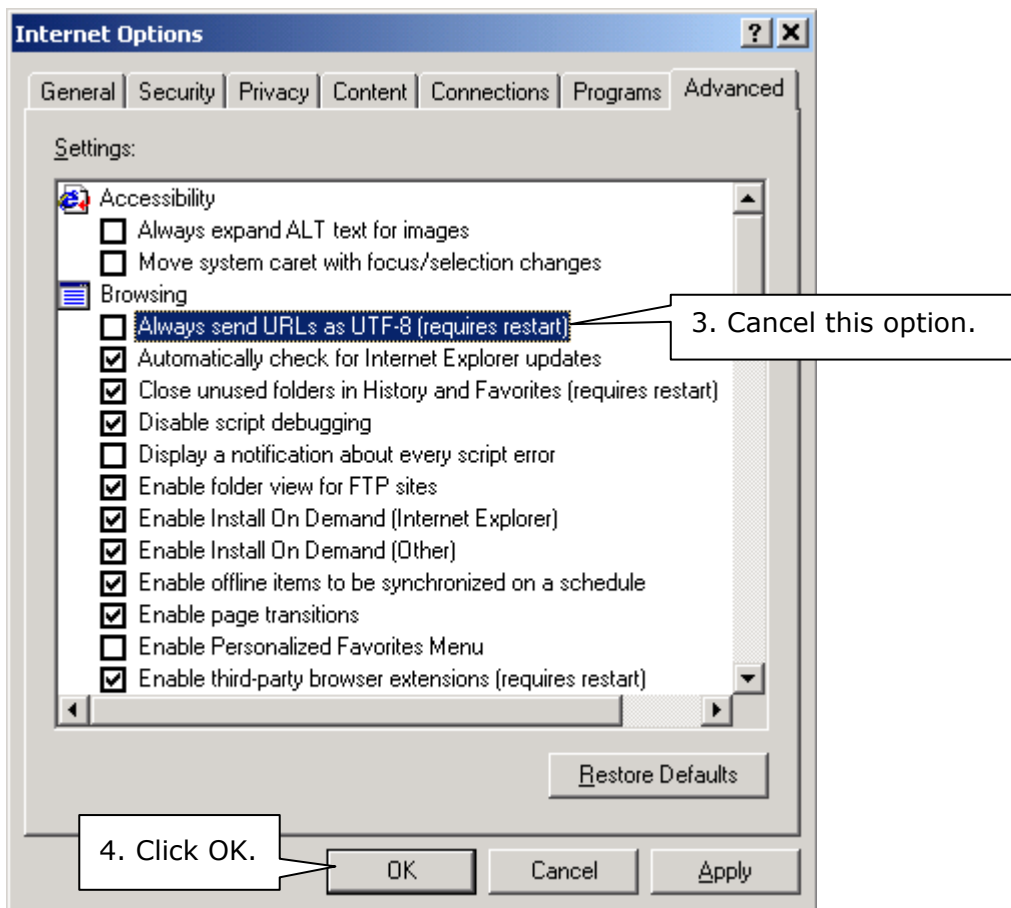
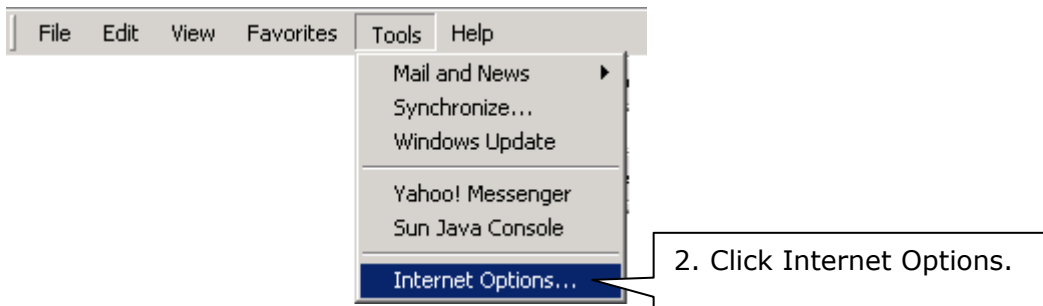
- **Logout**

To exit Web File Manager, click  (Logout).

- **Viewing Files Named in Chinese**












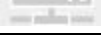
To view files named in Chinese, you may have to configure the browser settings. Take Internet Explorer as an example, follow the steps below to configure the settings.

1. Click on **Tools** in IE browser.



5. Restart the browser.

Web File Manager Icons

Icon	Description
	Up-return to the parent folder
	Refresh-reload the current page
	Home-return to network share list home page
	Create folder
	Rename file or folder
	Delete file or folder
	Select all
	Cancel selection
	Logout
	Full access network share folder
	Read-only network share folder
	Malfunction network share folder

Appendix C Quick Install Wizard

Quick Install Wizard enables you to search for all available FNS-7000As within the local network, and view the server name, IP address, and workgroup etc. You can also configure the disk name, date and time, etc. via Quick Install Wizard.

Screenshot

The screenshot shows the 'Quick Install Wizard' window. At the top, it features the 'level one' logo and the text 'Network Attached Storage'. Below this is a table with the following data:

Name	IP Address	Workgroup
NAS101C4B	192.168.10.113	NAS

At the bottom of the window are five buttons: 'Configure', 'Details', 'Refresh', 'Help', and 'Exit'. The interface is annotated with several callout boxes:

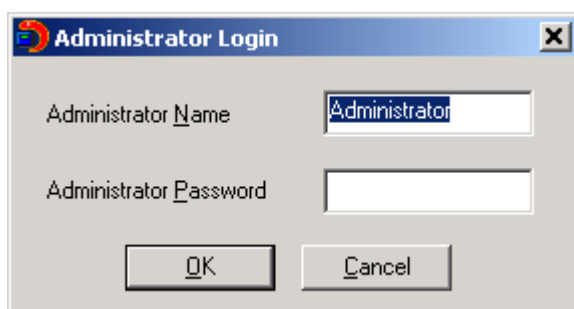
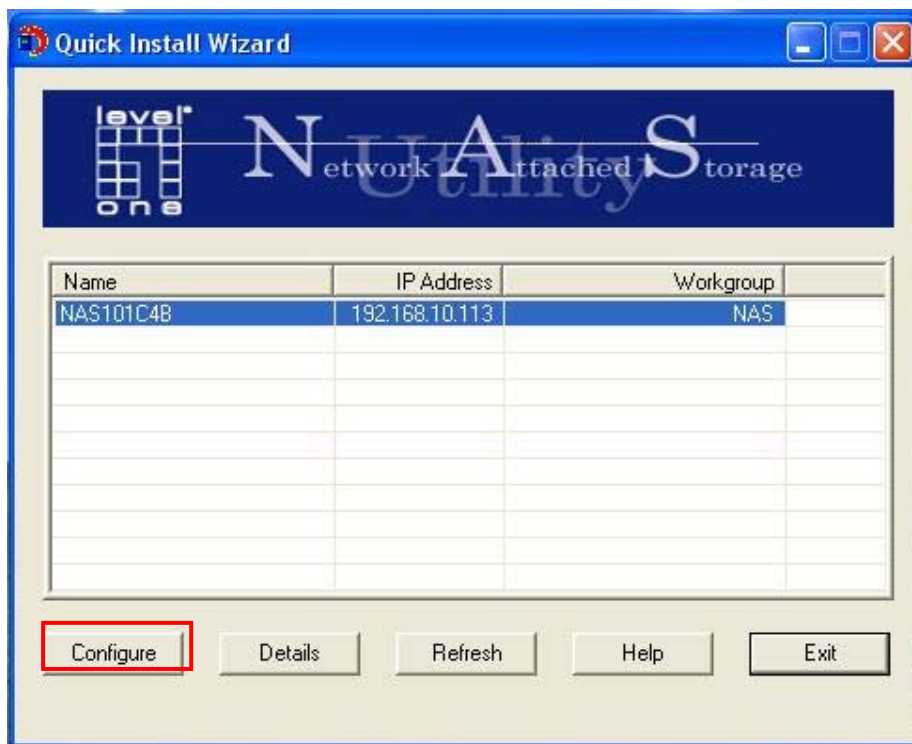
- All NAS can be identified using a unique server name.** (Points to the 'Name' column header)
- Indicates the IP address of the server.** (Points to the 'IP Address' column header)
- Windows workgroup joined by NAS.** (Points to the 'Workgroup' column header)
- Set up Server Name, Date, Time and basic network configurations.** (Points to the 'Configure' button)
- View detailed information about the selected server.** (Points to the 'Details' button)
- Re-search for Disk On-line Servers in the network zone.** (Points to the 'Refresh' button)
- Display operating** (Points to the 'Help' button)
- Close this program.** (Points to the 'Exit' button)

Operation

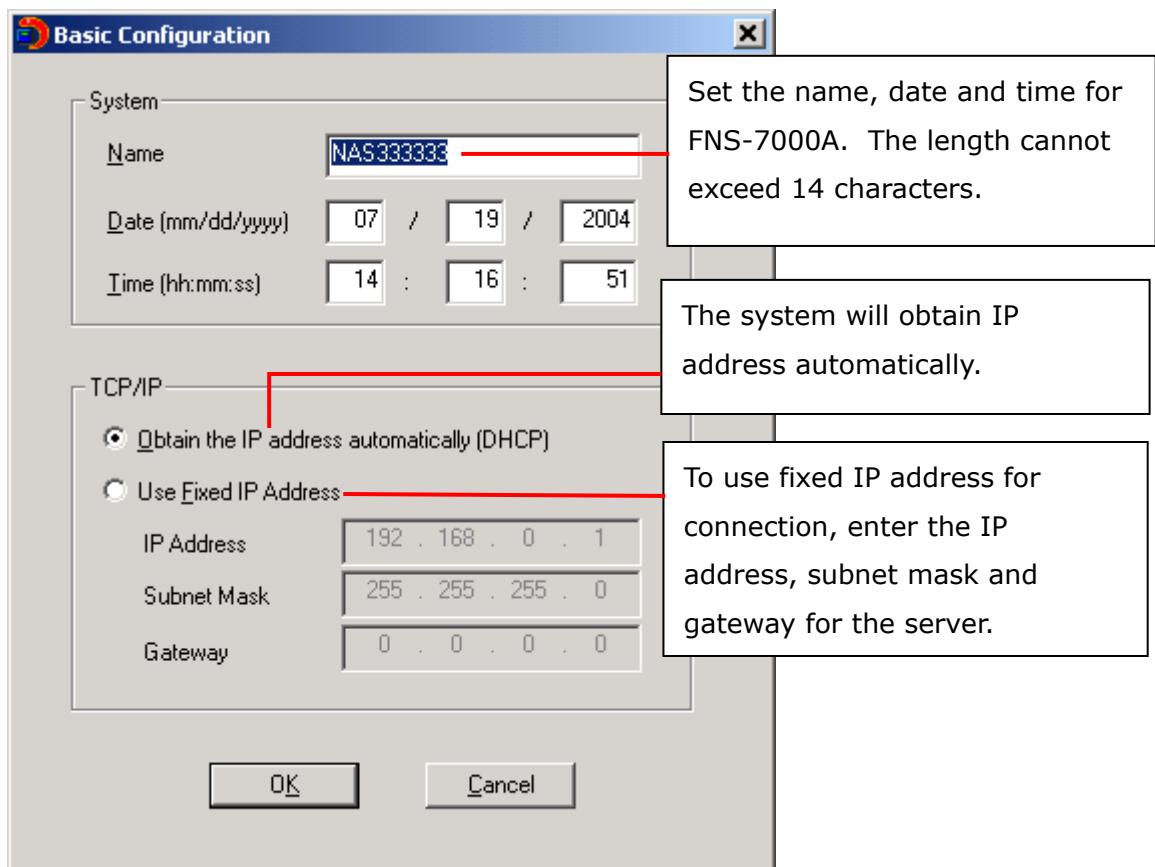
1. Configure FNS-7000A

Select a FNS-7000A displayed on Quick Install Wizard and click **Configure**.

Enter the administrator password.



Upon successful login, the following screen will appear. Enter the configuration values and click OK.

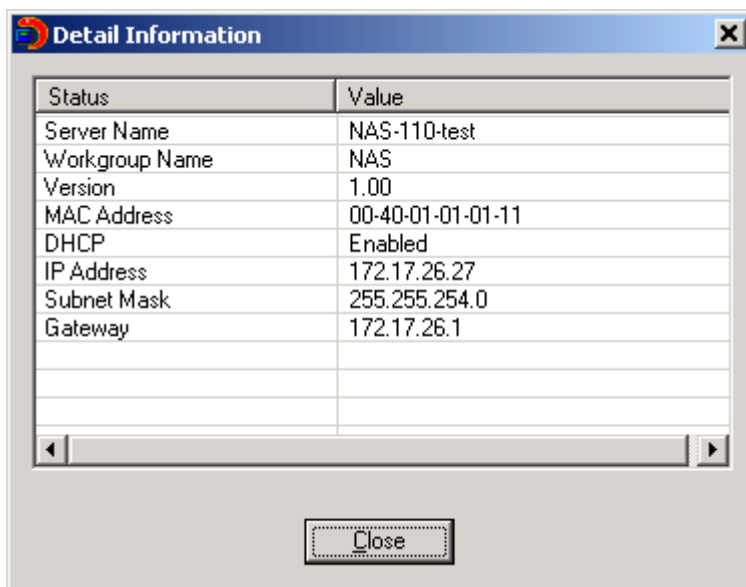
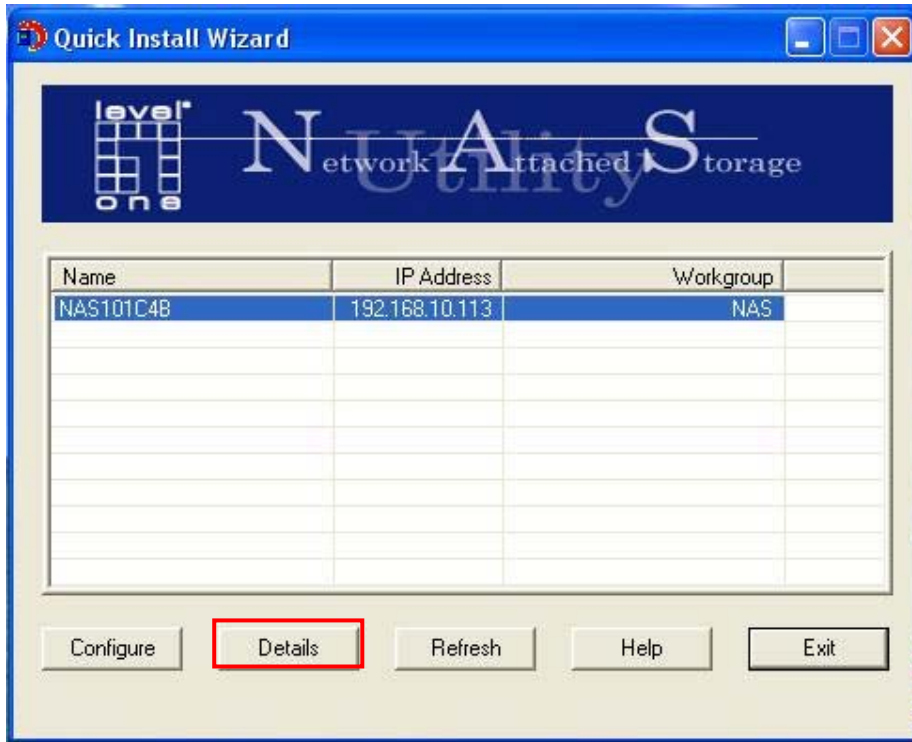


For further configuration of the system, please login the administration page of FNS-7000A via web browser.

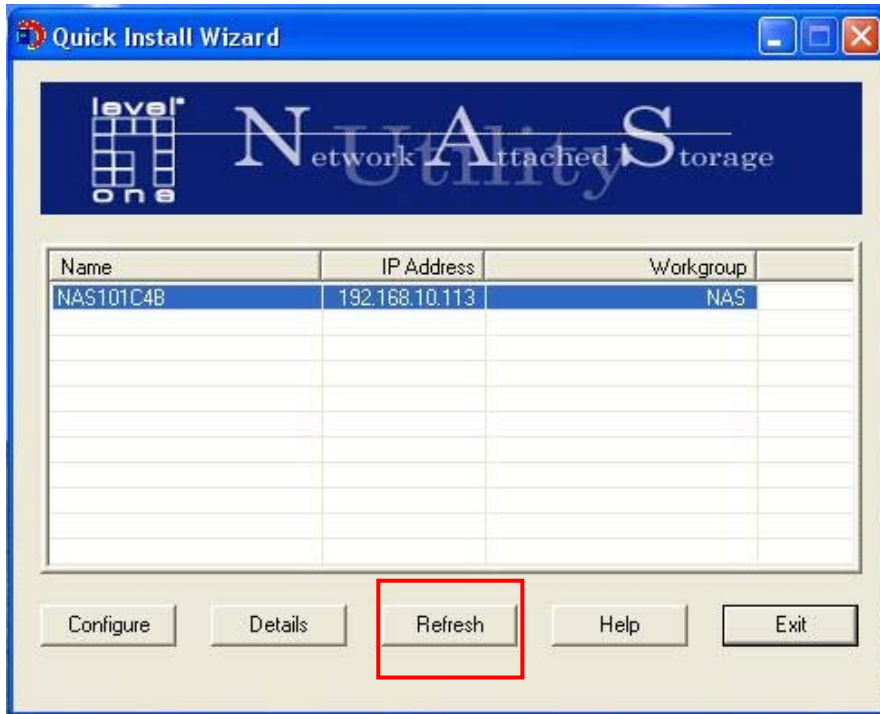
Note: You may have to restart FNS-7000A after changing the network configuration.

2. View FNS-7000A details

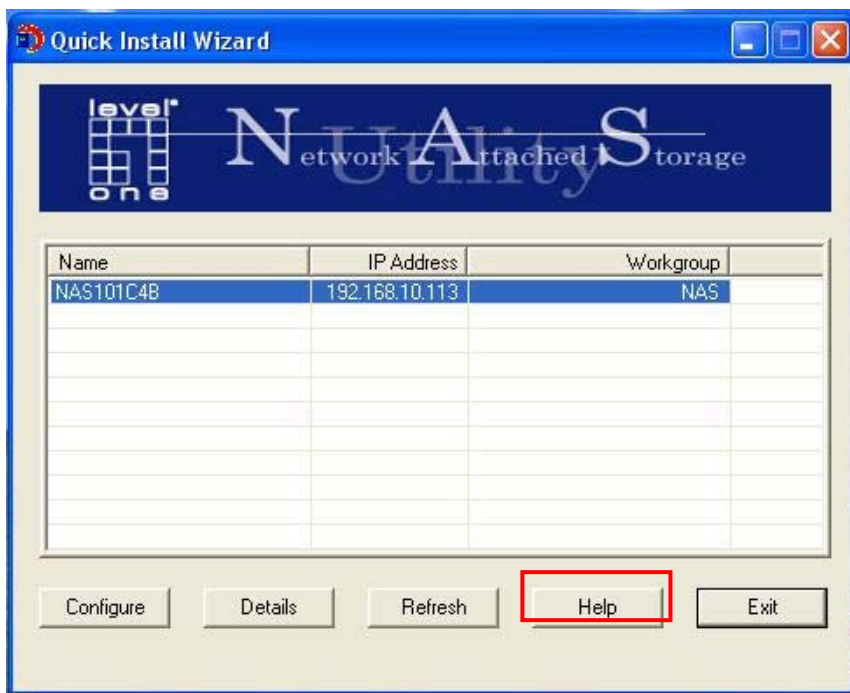
Select a FNS-7000A available on Quick Install Wizard and click **Details**. The following screen will be shown:



3. Search for all available FNS-7000A again
To refresh the search results, click **Refresh** to display all available servers within the network.



4. Help
Click **Help** to view the instructions of Quick Install Wizard.



5. Enter the home page of FNS-7000A

Double click on FNS-7000A to enter the administration page.



Appendix D NetBak Replicator

NetBak Replicator is a program installed in user's system (Windows only) for data backup. You can upload any files or folders to server and back up the data.

Main Functions

1. Backup

- File Filter

You can select particular file types to be excluded from backup. The system will filter all files belonging to these file types when backing up data.

- Schedule

You can specify a schedule for backing up data with this option, e.g. 12:00 every day or 05:00 every Saturday.

- Monitor

When this option is enabled, the system will upload all files or folders to the server instantly for backup when the files or folders are modified.

2. Restore

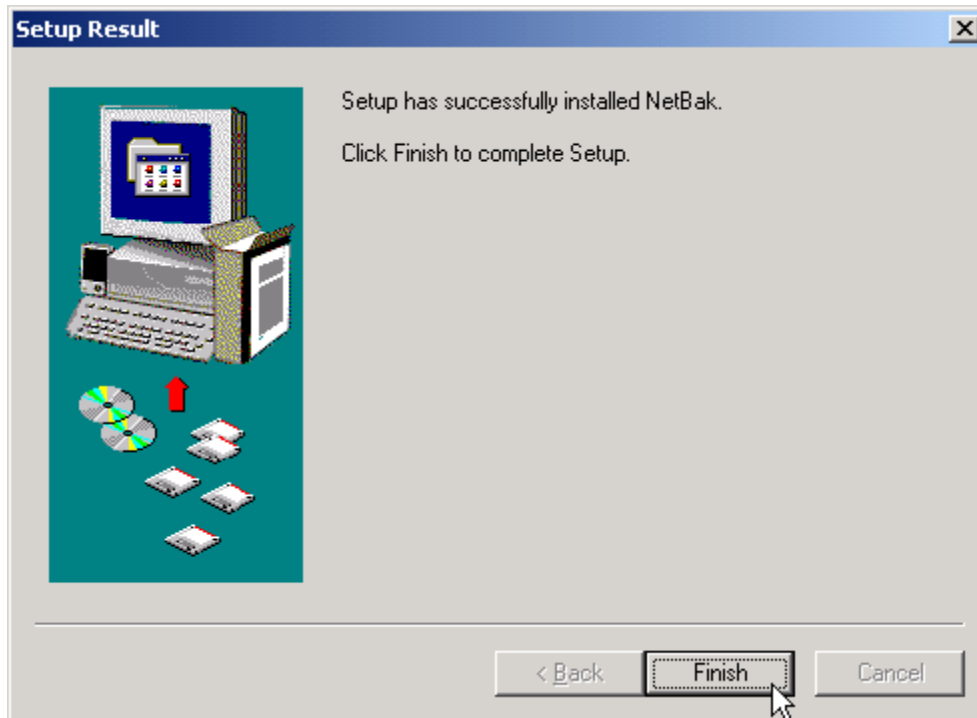
Select this option to restore backed up data to the original location of the file or to a new directory.


3. Log

Enable this option to record events of NetBak Replicator, e.g. the time when NetBak Replicator starts and terminates, Restore and Monitor, backup time and original location of all files, etc.

Installing Netbak Replicator

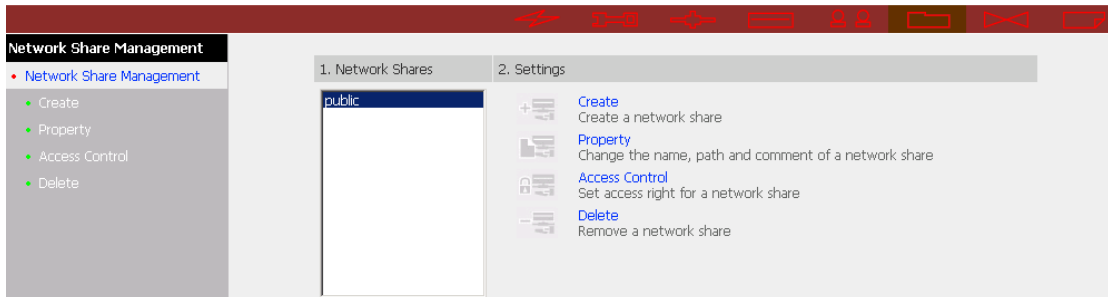
1. Run **Install NetBak Replicator** in the companion CD.
2. Follow the steps to install NetBak Replicator. Then click **Finish**.




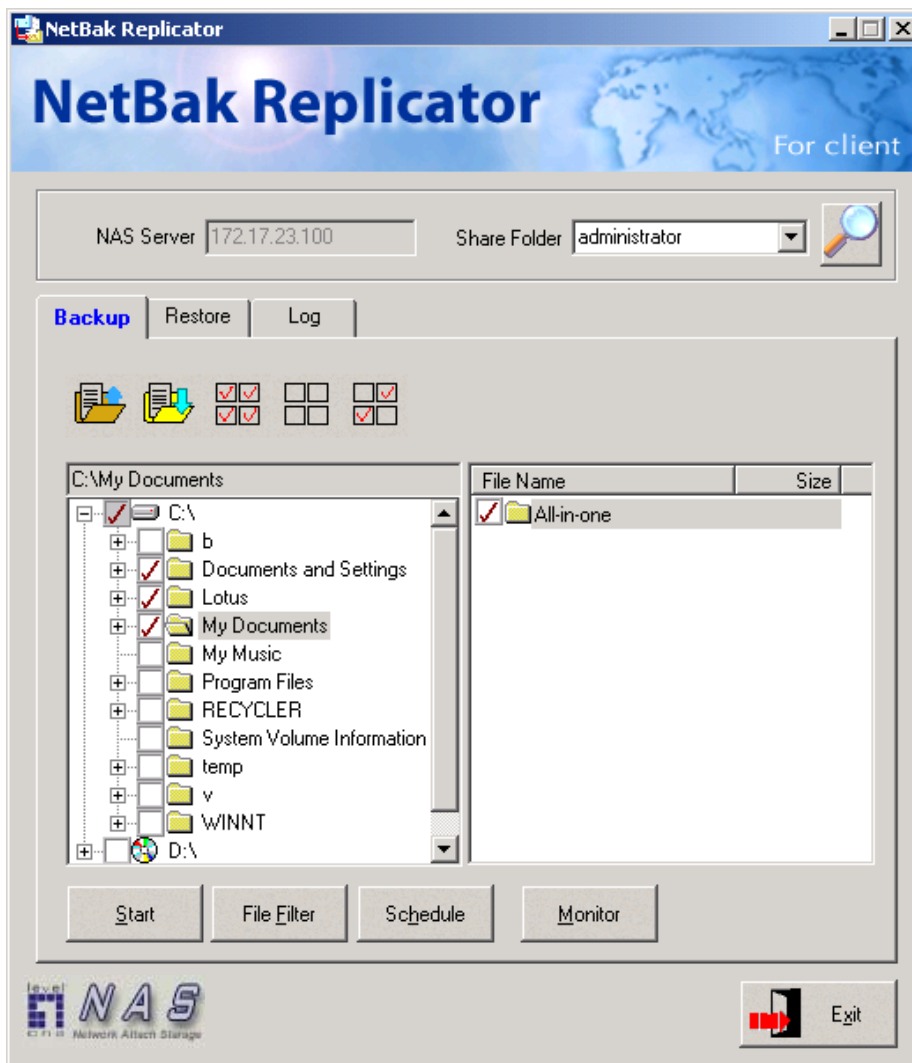
3. Upon successful installation, a shortcut icon  will be shown on the Desktop.

Using NetBak Replicator

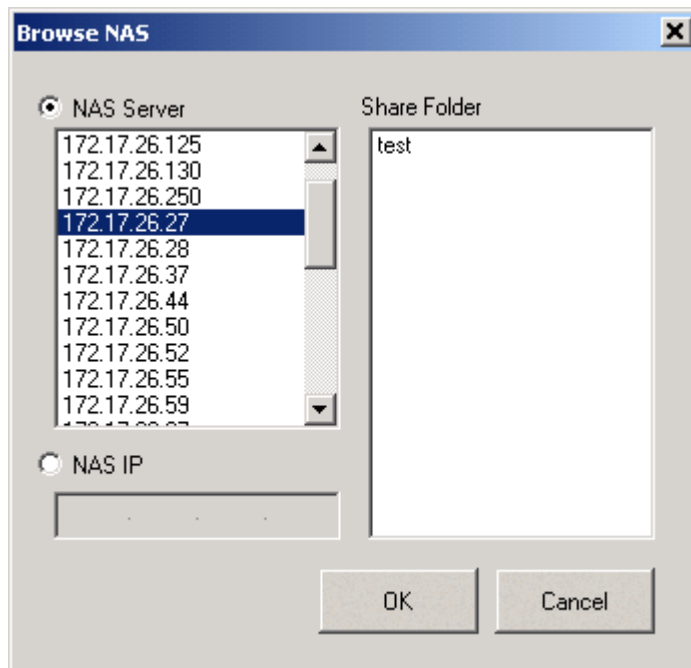
1. Create a share folder for backup in NAS.



2. Run NetBak Replicator. Click . All NAS and their share folders within the network will be displayed.



3. Select the server and share folder, or enter the IP address of NAS for data backup. Then click OK.

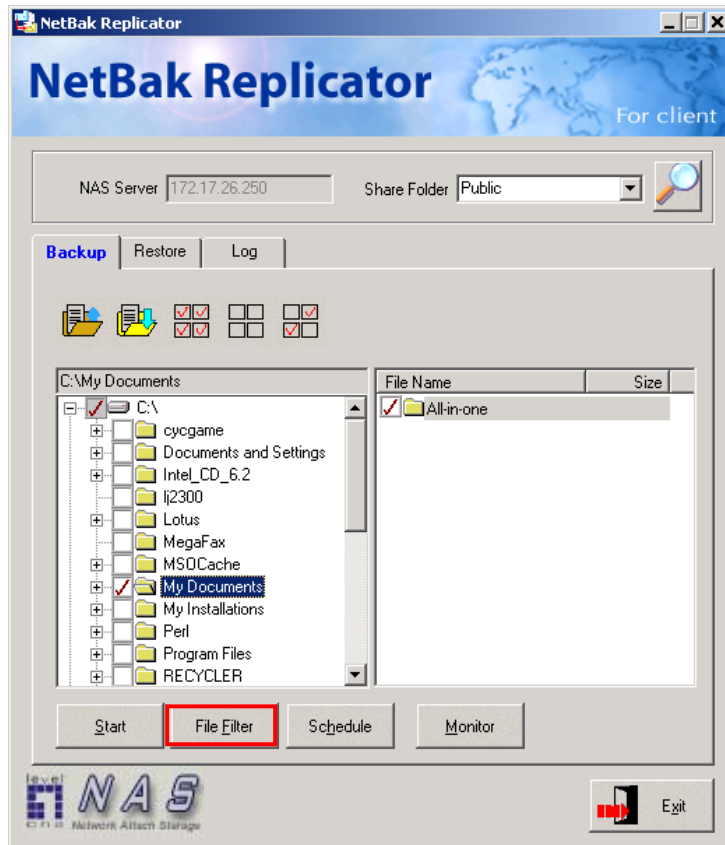


Note: Only authorized users can access the share folders. Double click the folder. The system will prompt for user name and password to authenticate the access privilege of the users.

4. You can start the backup procedure upon successful connection to the NAS.

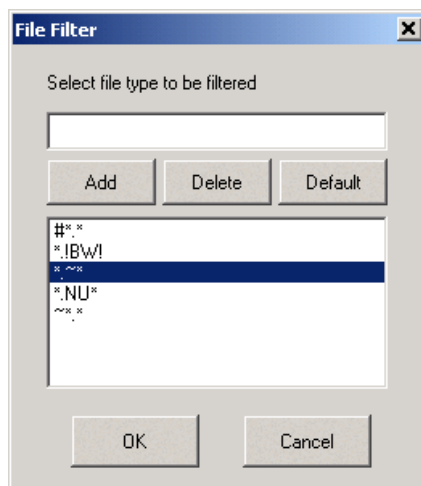
- **Backup**

Select files and folders for backup.



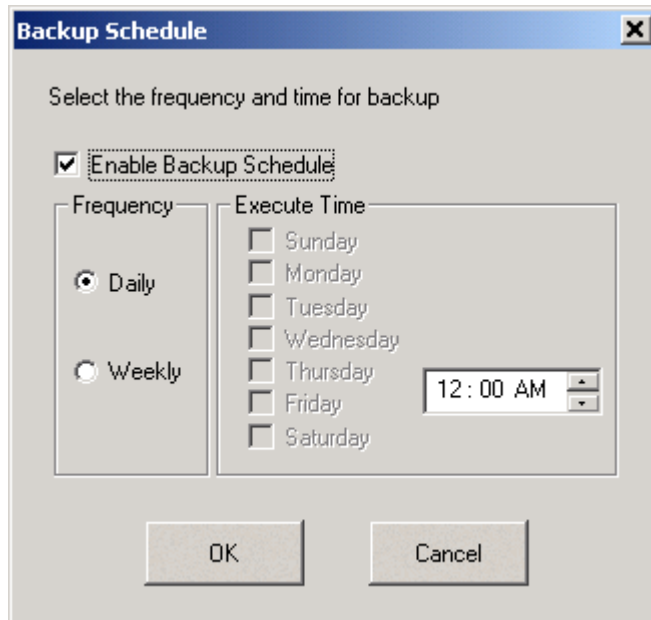
- ✓ **File Filter**

Click **File Filter** to select file format to be skipped from backup. Then click OK.



✓ Schedule

Click **Schedule** on NetBak Replicator main page. Then check the box "Enable Backup Schedule" and select the frequency and time for backup. Click OK to confirm.




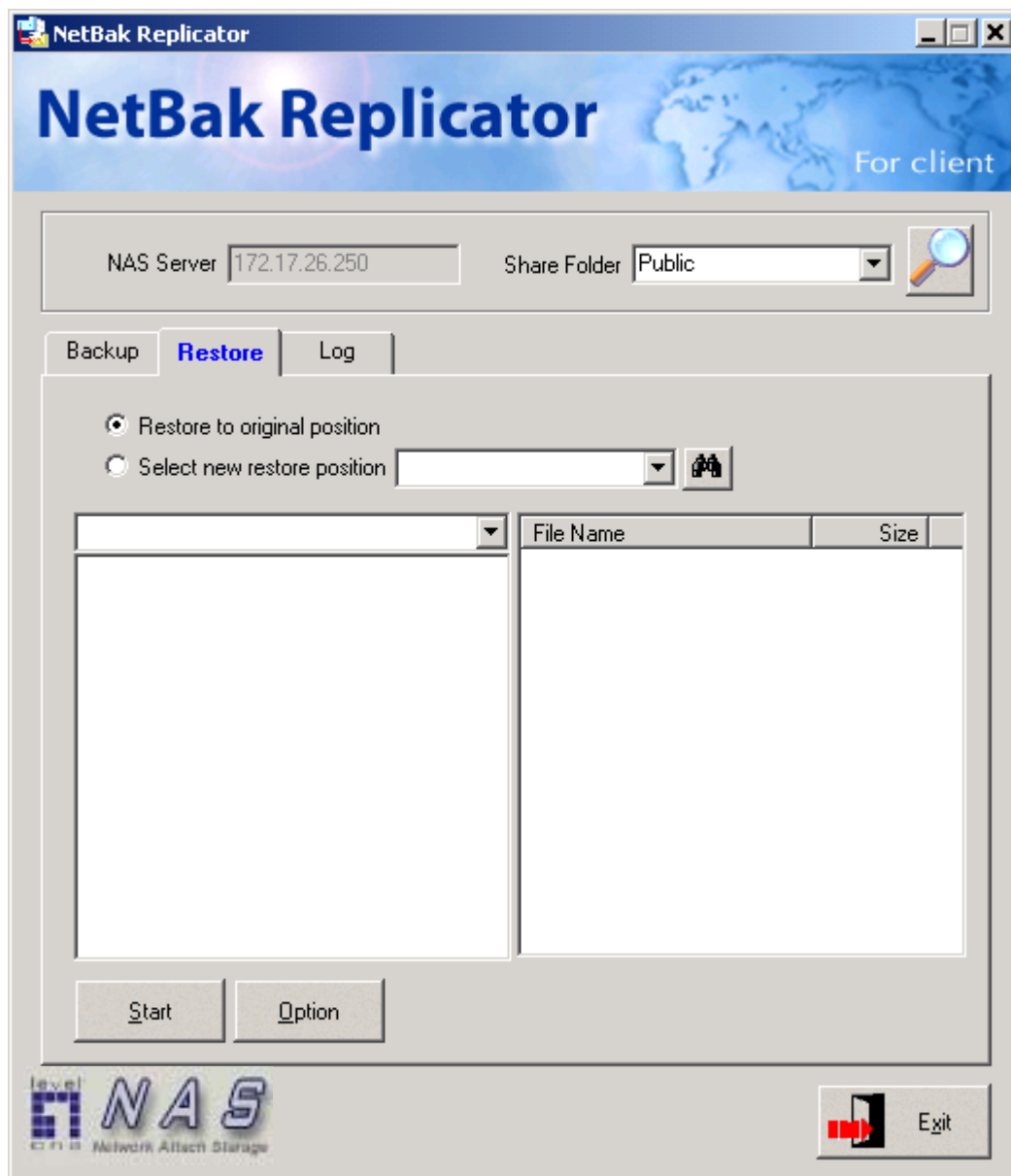
✓ Monitor

Select the files and folders for monitoring. Then click **Monitor**.

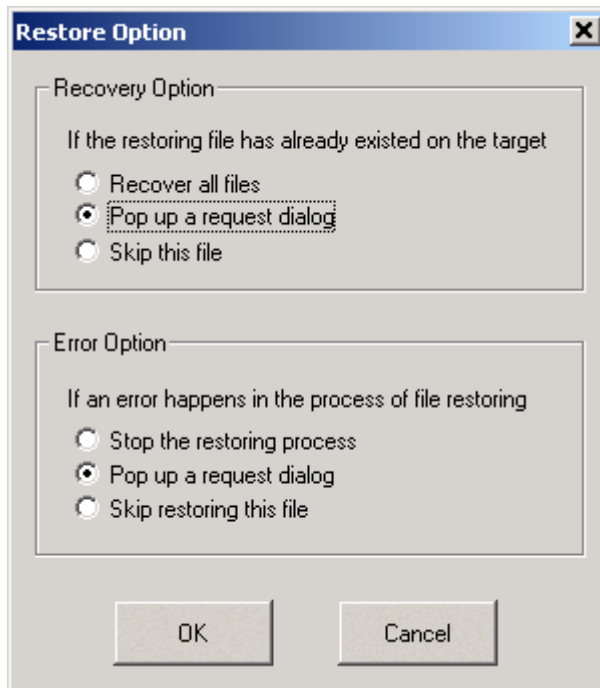


- **Restore**

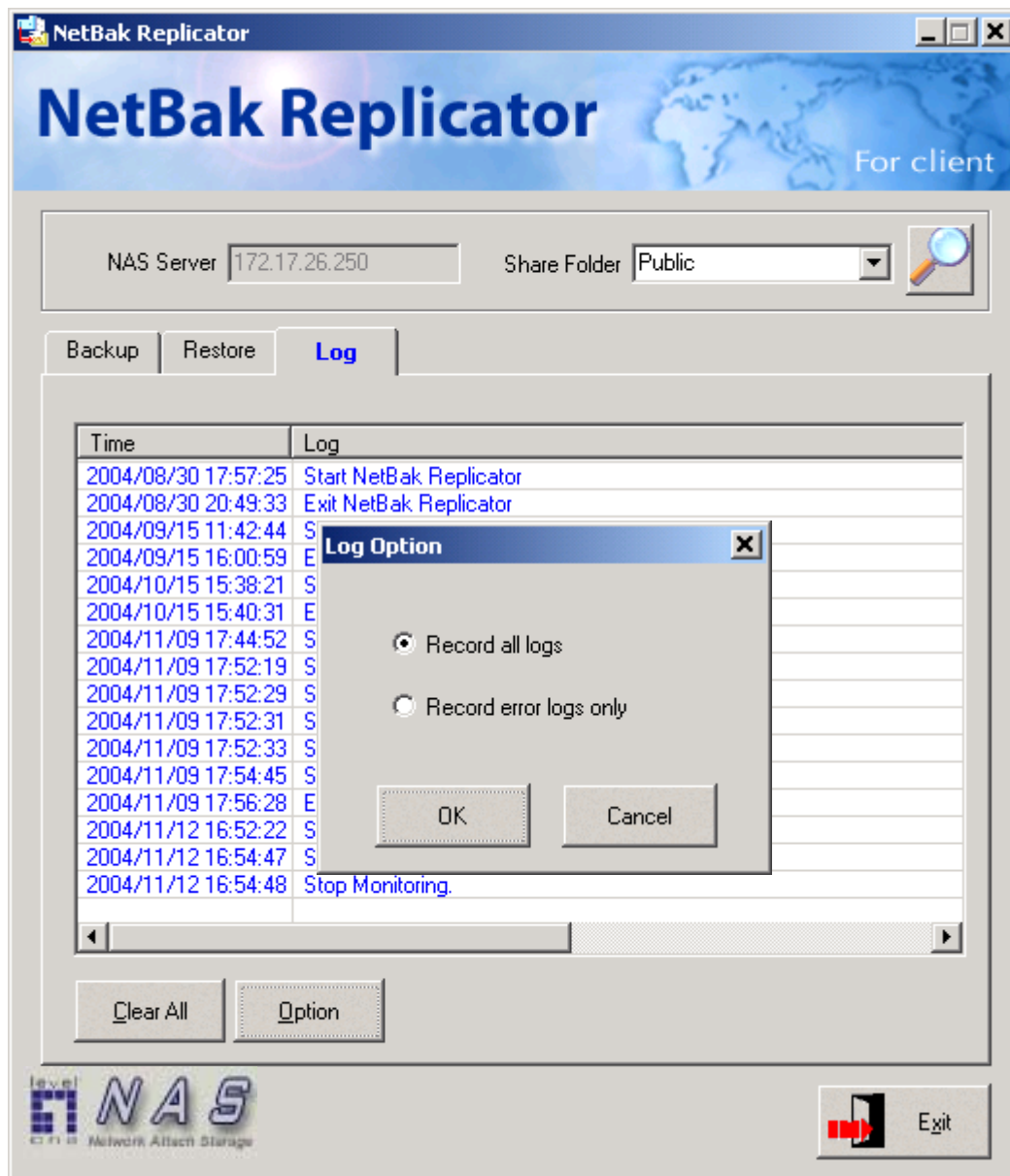
- a. Restore to original position: Select the location that the data will be restored to.
- b. Select new restore position: Click  to select the directory to restore data to or select a previously chosen location from the drop-down menu.
- c. Start: Select the folder(s) and sub-folder(s) for restoring data.



d. Option: Select recovery option and error option.



- **Log**
 - a. Clear All: Click this button to clear all logs.
 - b. Option: Select the type of logs to be recorded— “Record all logs” or “Record error logs only”.



Appendix E Configuring AD Authentication

Adding NAS to Windows Server 2003 Active Directory Domain

1. Go to TCP/IP Configuration in Network Settings. Enter the IP address of Windows server 2003 as the primary DNS server of NAS, e.g. 172.17.27.80.

The screenshot shows the 'TCP/IP Configuration' dialog box in Windows. The 'Use static IP address' option is selected. The IP address is set to 172.17.27.50, the subnet mask to 255.255.254.0, and the default gateway to 172.17.26.1. The primary DNS server is set to 172.17.27.80, and the secondary DNS server is set to 0.0.0.0. The 'Enable DHCP Server' checkbox is unchecked. The DHCP server settings are also visible, with a start IP of 172.17.0.100, end IP of 172.17.0.200, and a lease time of 1 day. The 'Configuration of Network Interfaces' section shows 'Load Balance' selected. The 'Network Speed' is set to 'auto-negotiate'. An 'Apply' button is visible at the bottom right.

TCP/IP Configuration

Obtain IP address settings automatically via DHCP

Use static IP address

Fixed IP Address: 172 . 17 . 27 . 50

Subnet Mask: 255 . 255 . 254 . 0

Default Gateway: 172 . 17 . 26 . 1

Primary DNS Server: 172 . 17 . 27 . 80

Secondary DNS Server: 0 . 0 . 0 . 0

Enable DHCP Server

Start IP Address: 172 . 17 . 0 . 100

End IP Address: 172 . 17 . 0 . 200

Lease Time: 1 Day(s) 0 Hour(s)

Primary DNS Server: 0 . 0 . 0 . 0

Secondary DNS Server: 0 . 0 . 0 . 0

Configuration of Network Interfaces: Fail Over Load Balance

Network Speed: auto-negotiate

Apply

2. Go to Microsoft Networking of Network Settings. Enable AD Domain Member, and enter the domain name and the user name with administrator access right to that domain.

- Microsoft Networking

Enable file service for Microsoft networking

Standalone Server

NT Domain Member

AD Domain Member

Server Description

Workgroup

Domain Name

Domain Username

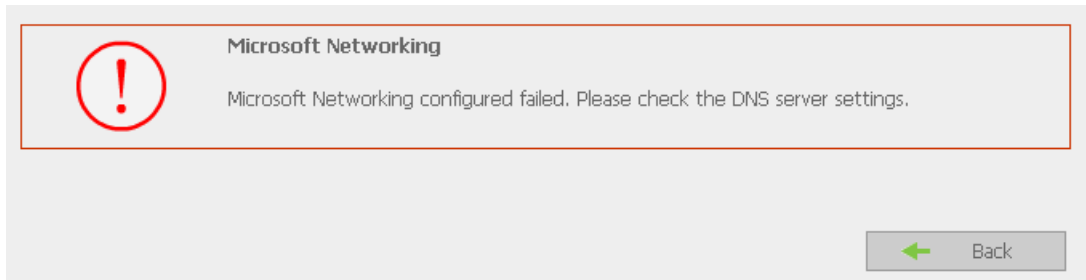
Password

Enable WINS server

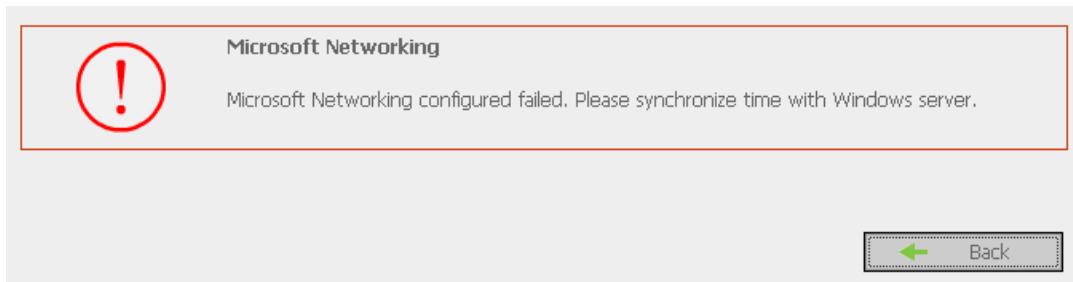
Use the specified WINS server

WINS server IP address . . .

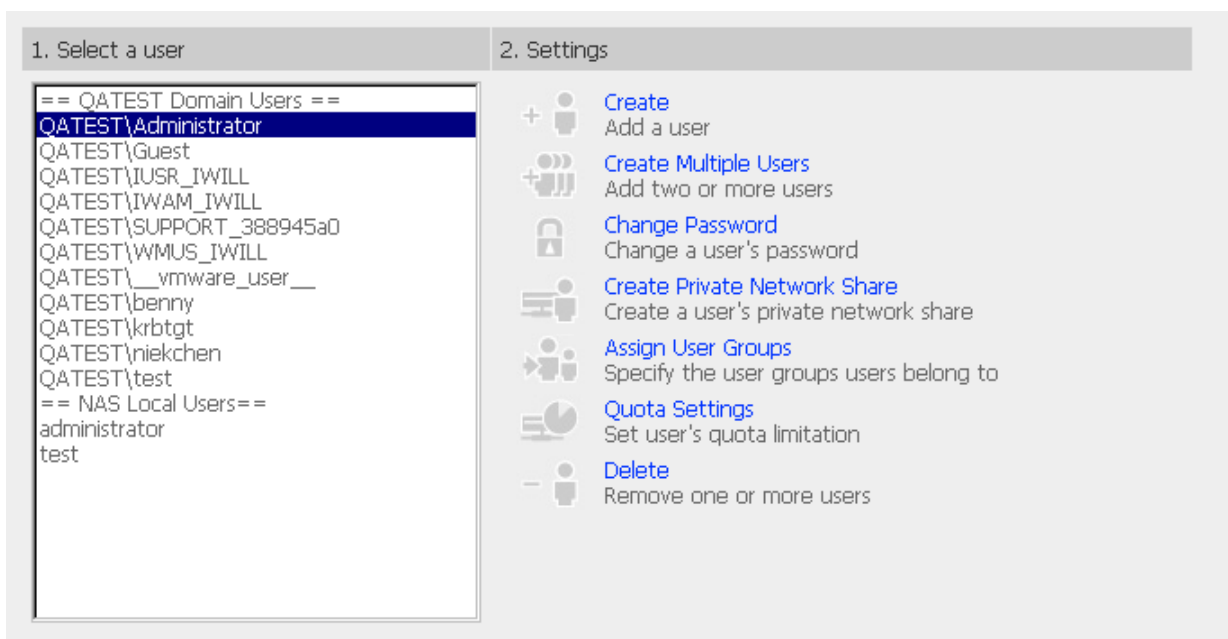
- When the following message appears after applying the settings in step 2, check the DNS IP, domain name, domain user name, and the password.



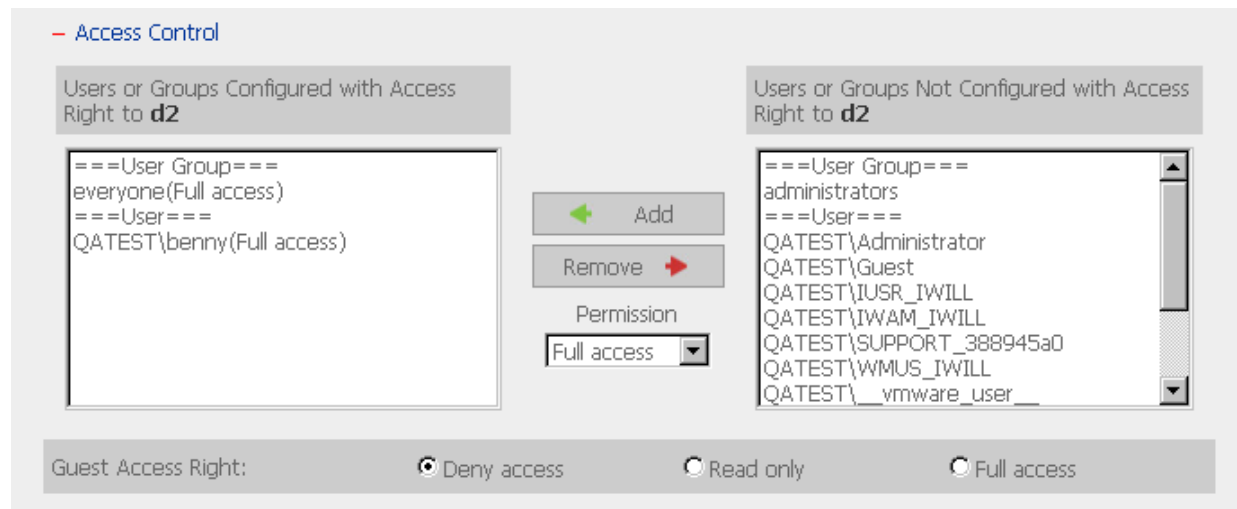
When the following message appears after applying the settings in step 2, check the time zone settings. Make sure the difference of your time and that of AD server is less than 5 minutes. If the time difference is larger than 5 minutes, you will not be able to add the domain member.



- Upon successful adding of domain member, you can view the list for domain users and local users in User Management.

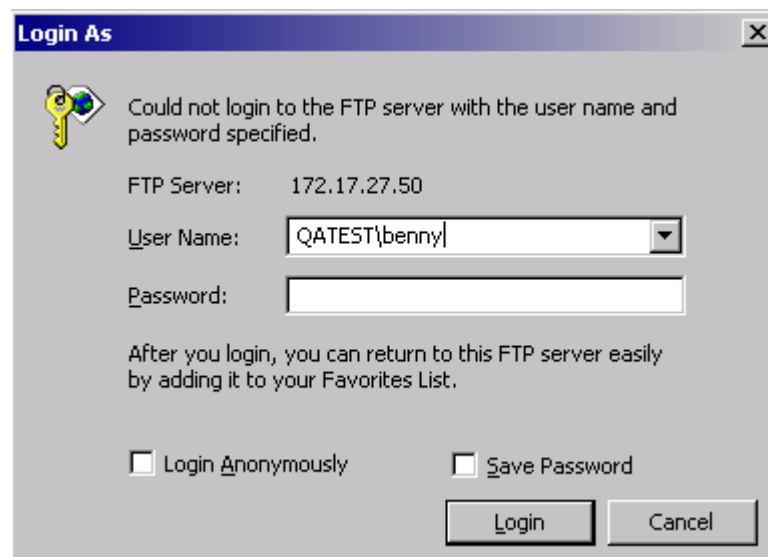


Go to Access Control in Network Share Management to configure the access control right of AD users for all available network shares.



Using AD users to access services

To access services like FTP, Network Neighborhood, Apple Talk with an AD user account, add **DomainName** before the user name when logging in.



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