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IBM System Storage N3700 Single Node Setup

In this IBM® Redpaper, we discuss the hardware setup and initial configuration of the IBM System Storage™ N series after delivery and unpacking. This paper contains information about the cabling and setup procedure for the single node system, IBM System Storage N3700 Model 2863-A10. We also describe disk characteristics and basic disk addressing used in the Data ONTAP® operating system.

Our primary focus are the steps for the initial setup.

This paper covers the following topics:

- ▶ Planning the implementation, including System Storage N series disk handling basics
- ▶ Hardware setup
- ▶ Installation and initial configuration

Planning the implementation

To achieve the greatest benefit from the System Storage N series systems, preinstallation planning and sizing must include several important steps. The steps ensure that the appliances are configured for the best possible performance, reliability, and ease of management for the needs of your environment. Proper installation and configuration planning helps to minimize the duration of your installation and configuration.

For information regarding the physical planning, refer to *IBM System Storage N series N3700 Hardware and Service Guide, GA32-0515*. We do not discuss physical planning in this paper.

System Storage N series disk handling basics

The System Storage N3700 (appliance or EXN2000 expansion) shelf can hold up to 14 disks. The disks are formatted with 520 bytes per sector. Before we step into the disk handling of the IBM N series systems, there are some details you need to understand. We explain the hardware and *logical disk layout* of the storage systems in this section.

Prior to installing and attaching disk shelves to the System Storage N series appliances, you need to understand the following characteristics:

- ▶ Disk shelf numbering
- ▶ Loop IDs, device IDs, and disk addressing in Data ONTAP

Disk shelf numbering

Each disk shelf in a loop must have a unique ID. A valid *shelf ID* is from 1 through 6, with disk shelf 1 connected to the storage appliance. The default for an invalid shelf ID is 7.

If you install a second or third loop of disk shelves (not available with N3700 A10 or A20), the disk shelf IDs in each loop must start at 1. The ID of a single disk shelf must be 1.

Each disk shelf is shipped with its assigned ID set on its back panel. You must ensure that the disk shelf has the correct ID number on the label. The ID label is on the right side of the disk shelf. Relabel the shelf if there is no ID label or a wrong ID label.

Figure 1 shows the shelf IDs and the ID label on each shelf.

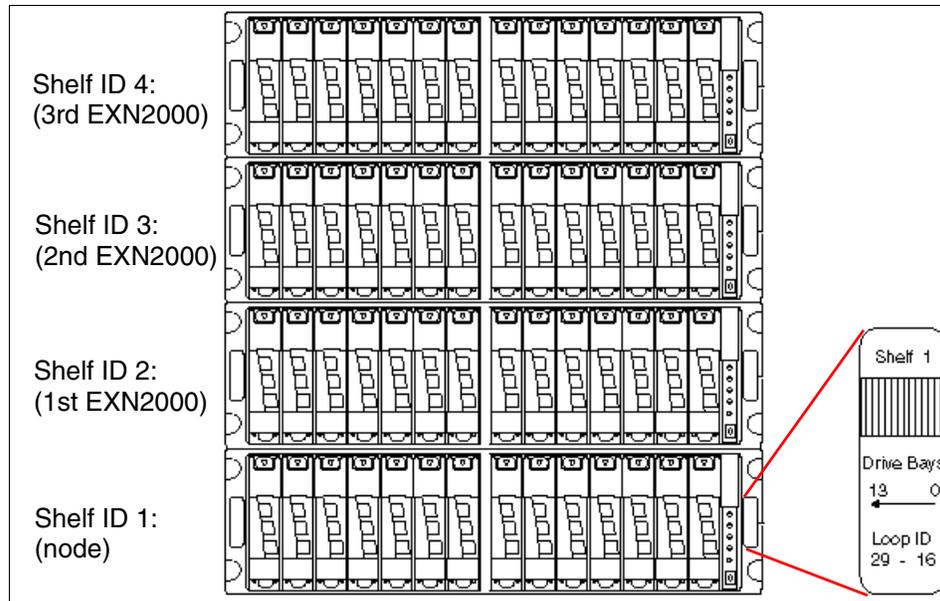


Figure 1 Sample configuration with four labeled shelves

Note: If you enter a shelf ID that is not from 1 through 7, the drive addresses default to those of a shelf with the ID switch set to 7 even though the shelf ID indicator in the front operation panel displays a dash (-).

The disks in the N3700 appliance or EXN2000 are mounted in so-called bays. Each shelf can hold up to 14 disks. The physical bay numbering starts from the right side to the left side (0, 1,...13). See Figure 2 for the bay numbering of a shelf.



Figure 2 Drive addressing and bay numbers

Loop IDs

In addition to identifying the disk shelf ID and the direction of the drive bays, the ID label on the right side of the disk shelf includes the *loop ID*. The loop ID identifies the disks in the disk shelf.

Device IDs

The *device ID* refers to the loop ID number of the disk and is determined by the shelf number and the bay in which the device is installed.

Drive addressing

The drive addressing in Data ONTAP is done by the *device ID* (`device_id`) and the associated path (`path_id`). `Device_id` is an integer between 0 and 126 (FC-AL addressing), and `path_id` stands for the host adapter or FC-port to which the disk shelf is attached.

The following format is used:

```
path_id.device_id
```

`Path_id` refers to the host adapter number to which the disks are associated. In a N3700 configuration, this is "0b".

Device_id is the associated number for the drive in a shelf. Table 1 shows the seven disk shelf IDs and the device IDs of each disk in the shelves. The drive bay number represents the location of a disk in each shelf.

Table 1 Shelf IDs and associated device IDs

	Drive bay number													
	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Shelf ID ^{a, b}	Device ID/Loop ID													
7	125	124	123	122	121	120	119	118	117	116	115	114	113	112
6	109	108	107	106	105	104	103	102	101	100	99	98	97	96
5	93	92	91	90	89	88	87	86	85	84	83	82	81	80
4	77	76	75	74	73	72	71	70	69	68	67	66	65	64
3	61	60	59	58	57	56	55	54	53	52	51	50	49	48
2	45	44	43	42	41	40	39	38	37	36	35	34	33	32
1	29	28	27	26	25	24	23	22	21	20	19	18	17	16
-	125	124	123	122	121	120	119	118	117	116	115	114	113	112

a. The following IDs are reserved: 0 - 15, 30 - 31, 46 - 47, 62 - 63, 78 - 79, 94 - 95, 110 - 111

b. Shelf ID settings 0, 8, and 9 are displayed as a dash (-) in the OPS panel.

For example, in a N3700 environment, the disk drive located in bay 0 (drive bay number 0) of the first shelf (base unit, shelf ID 1) has the device ID 16. Because the N3700 uses 1 loop, the device is identified by Data ONTAP as 0b.16.

See Figure 3 for details about identifying drives.

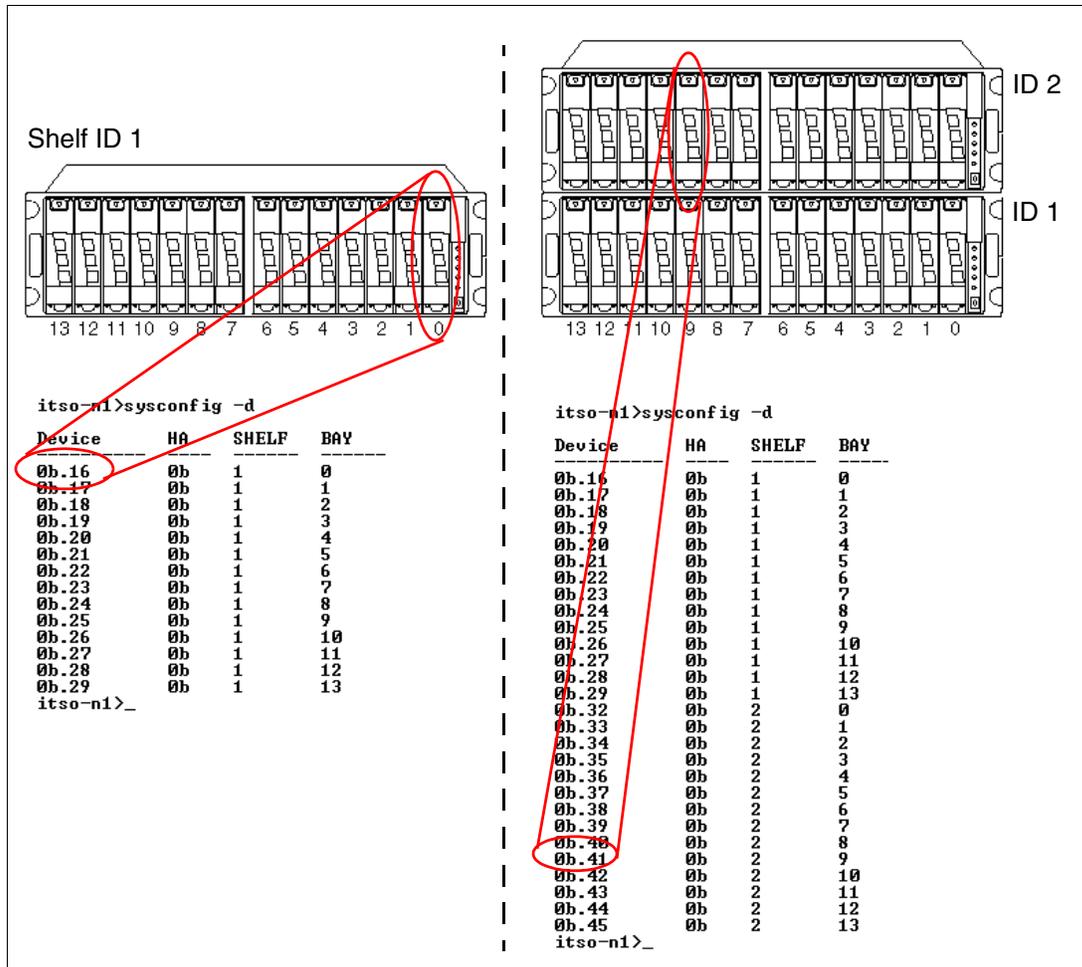


Figure 3 Sample device ID identification

In a single node configuration such as the N3700 Model A10, the filer owns all disks.

SES disks

The *SCSI Enclosure Services* (SES) program monitors the disk shelf. The associated drives are called *SES drives*, and the bays where these drives reside are called SES bays. Bays 0 and 1 of each shelf are designated SES bays. These bays must be filled with disks for enclosure monitoring to work (Figure 4).

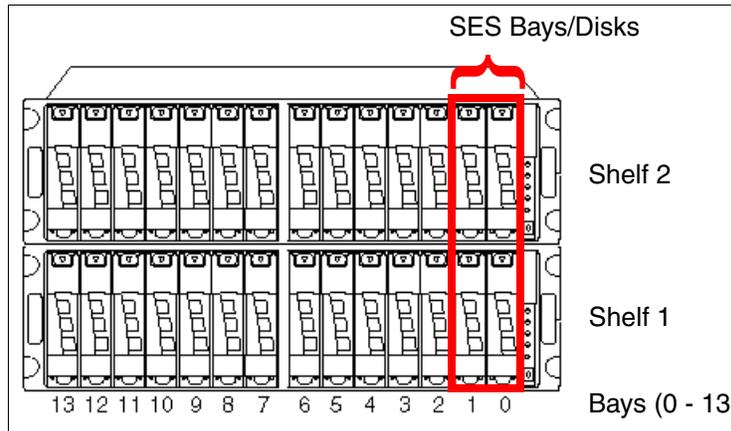


Figure 4 SES disks

Disk types

Each hard disk is known to the operating system. Depending on their usage, the type can be:

- ▶ spare
The disks are unused.
- ▶ data
The disk is used as a data disk.
- ▶ parity
The disk is used as a RAID 4 parity disk.
- ▶ dparity
The disk is used as a RAID-DP disk (diagonal, double parity).
- ▶ partner
The disk is assigned to another node (cluster configuration).
- ▶ broken
The disk is broken (failed, removed logically from system).
- ▶ reconstructing (temporary)

Aggregates and RAID groups

Several disks with type data, parity (RAID 4 and RAID-DP) and dparity (in a RAID-DP configuration) build a RAID group. The minimum number of disks in a RAID group for an N3700 is two for a RAID 4, and three for a RAID-DP configuration. The maximum number of disks in a N3700 for RAID-DP is 26 data, and two parity disks, and for RAID4 is 13 data disks plus one parity disk.

An aggregate is organized by one or more RAID groups and is used as a container for flexible volumes. The default RAID type for an aggregate is RAID-DP but can be changed to RAID 4. See Figure 5 for details about aggregates and RAID groups.

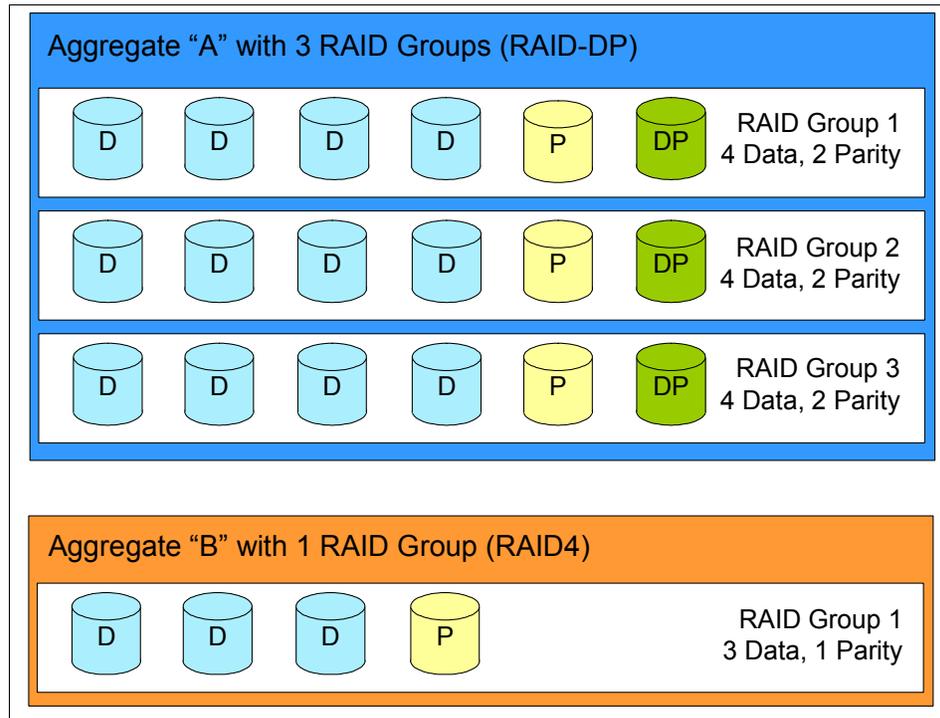


Figure 5 Aggregates: Example RAID-DP and RAID 4

Additional disks can be added after creating aggregates.

Note: RAID groups can be reorganized after a disk failure. Spare disks become data disks and new disks become spares. This means that a RAID group can consist of disks from different bays compared to the layout you initially created.

Hardware setup

Now we describe the installation and setup of the System Storage N3700 Model A10, a single node base unit and the attachment of up to four System Storage EXN2000 expansion units.

Before you begin

Before starting the setup of the N3700, it is a useful practice to create a plan. This the plan needs to include writing down important details about the configuration.

Note: Check the interoperability matrix for supported configurations.

Attention: The N3700 and EXN2000 use sensitive electronic components. To avoid damage, put on an antistatic wrist strap and grounding leash for the installation.

Tools and equipment

The 2863 Model A10 shipment package includes the N3700 base unit, including the power supplies, power cords, console cable (RJ45 - DB9) for a serial console, a fibre channel terminator, publications, setup kit, and software licenses.

Before you install the hardware, make sure that you have the appropriate tools and equipment assembled that you will need to use (client-supplied items):

- ▶ Flathead screwdriver and both #1 and #2 Phillips head screwdrivers
- ▶ Pointed tool (used for setting termination switches)
- ▶ ASCII terminal, console (for example, a notebook computer or PC with serial port)
- ▶ Null modem cable (to connect to the console serial port)
- ▶ Ethernet local area network (LAN) cables required for file serving network
- ▶ Fibre channel cables for EXN2000 or tape connection (cables to EXN2000 included)

Note: The N3700 provides a DB-9 to RJ-45 console adapter. You can use this connection to connect a console to the filer. Keep in mind that you need to use a a null modem cable.

Refer to *IBM System Storage N series N3700 Hardware and Service Guide*, GA32-0515, and *Installation and Setup Instructions for an System Storage N3700 and an EXN2000 Expansion Unit*, GA32-0517, for more information while mounting and installing the N3700 filer.

The N3700 A10

We describe the hardware installation of the single-node N3700 (model A10) filer. First, we explain the components of the system.

Customer-replaceable units

The base unit has various customer-replaceable units (CRUs), which are designated as either Tier 1 or Tier 2.

Installation of Tier 1 CRUs is a client responsibility. The following parts have been designated as Tier 1 CRUs:

- ▶ AC power cord
- ▶ AC power supply
- ▶ Disk drive
- ▶ Cables
- ▶ Memory modules
- ▶ Wrap plug
- ▶ Operator panel

Tier 2 CRUs can be installed by either client or IBM. See *Announcement letter 105-265* for more details about Tier 1 and Tier 2 CRUs.

Components

The N3700 storage systems shipped with two power supplies (PSU1 and PSU2), located on the back on the rightmost and leftmost sides the N3700 filer. Each power supply has its own ac power cord.

Note: We recommend that you use independent, separate, and grounded power sources.

The CPU module is in the middle on the bottom of the back side (Figure 6).

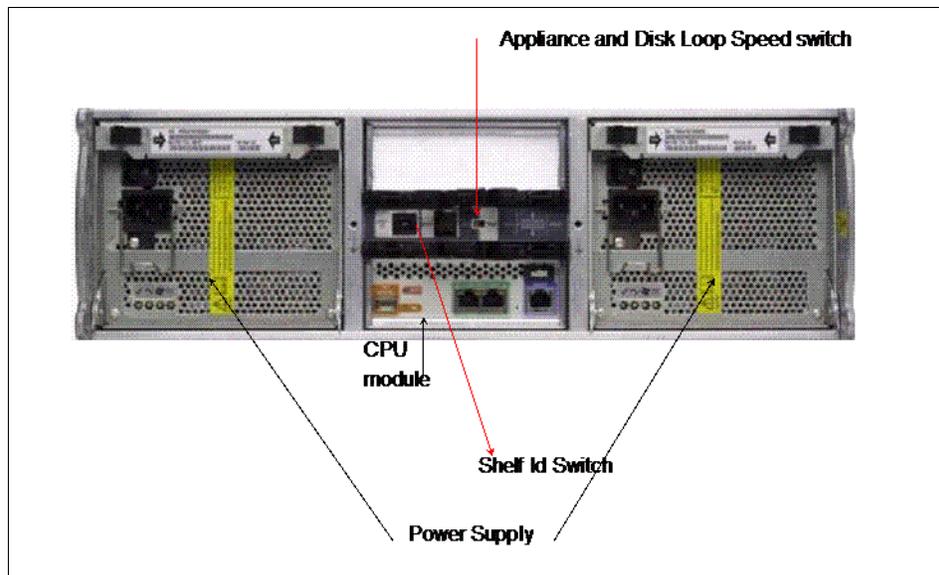


Figure 6 N3700 Model A10 back side

The CPU module hosts several LEDs and ports. The ports are:

- ▶ Two Ethernet ports (green)
- ▶ Console port (purple)
- ▶ Two fibre channel ports:
 - Fibre channel port 1 (optical, orange) is used for third-party devices (such as tape for backup).
 - Fibre channel port 2 (copper, blue) is used for connections to EXN2000 expansion modules.

The N3700 head unit provides two independent fibre channel ports identified internally as port 0b and 0c. Port 0b (copper) communicates with disks (EXN2000). Port 0c is an external (optical) port that can be configured in two modes:

- ▶ Initiator mode to communicate with tape backup devices such as in a tape SAN backup configuration
- ▶ Target mode to communicate with SAN hosts or a front-end SAN switch

Fibre channel port 0c does not support mixed initiator/target mode. The default mode for port 0c is initiator mode. If you have not licensed the FCP service and you want to use port 0c in initiator mode, you do not need to configure the port.

System Storage N series cluster configurations must be cabled to switches that support public loop topology. To connect a System Storage N series cluster to a fabric topology that includes switches that only support point-to-point topology, such as McDATA Director class switches, you must connect the cluster to an edge switch and use this switch as a bridge to the fabric. *Check with IBM Support for target mode setup.*

The shelf ID switch and appliance and disk shelf loop switch are above the CPU module.

Connections and cabling

The illustration in Figure 7 shows the CPU module ports.



Figure 7 N3700 CPU module

The following procedure describes the tasks to set up the hardware of the N3700 Model A10.

After unpacking and mounting of the N3700 in the rack, perform the following steps:

1. Make sure the N3700 system is turned off.

2. Set the shelf ID to 1, as shown in Figure 8.

Important: The power to N3700 must be off before changing the shelf ID.

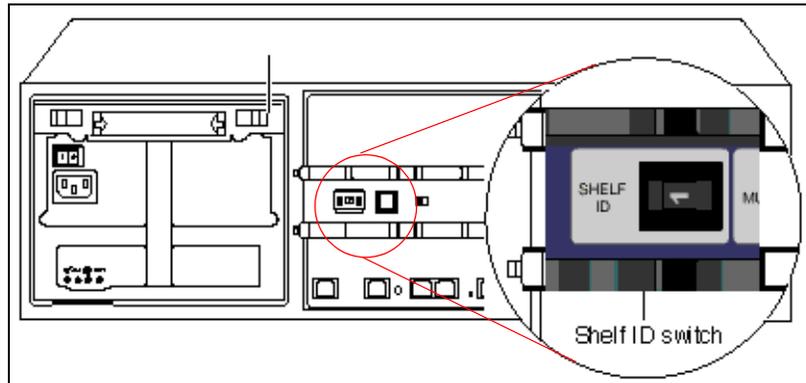


Figure 8 Setting the Shelf ID

3. Set the 1Gb/2Gb switch to the 1Gb position (Figure 9).

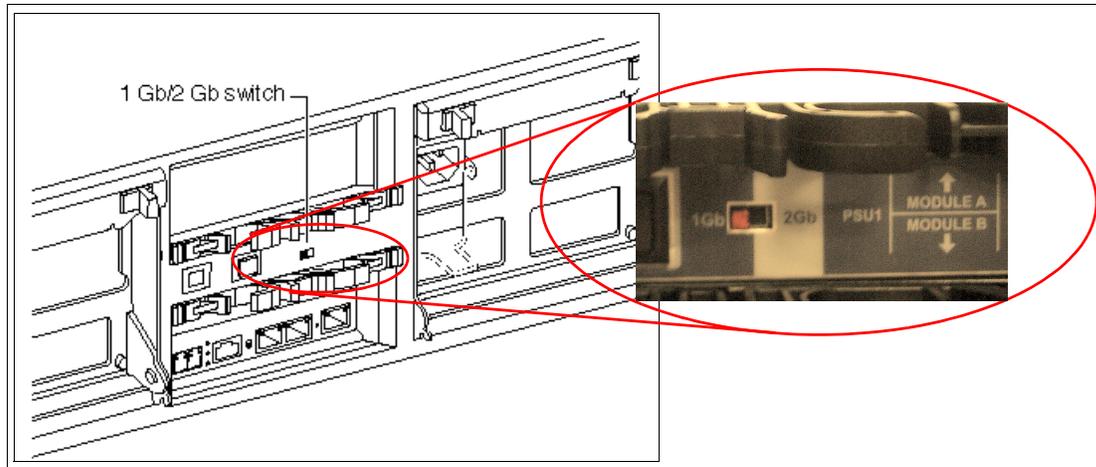


Figure 9 Setting the 1Gb/2Gb switch

4. Connect the Ethernet cable to the (left, green) Ethernet port in the middle of the controller module (Figure 7 on page 12).

5. Connect the console cable (DB9-RJ45 converter) to the console port (purple) on the back of the base unit (Figure 10). If you are attaching a third-party device, such as a tape backup or a fibre channel switch, leave the fibre channel port (orange port) un-terminated. Refer to *Connecting to third-party devices* in the *IBM System Storage N series N3700 Hardware and Service Guide*, GA32-0515, for details.

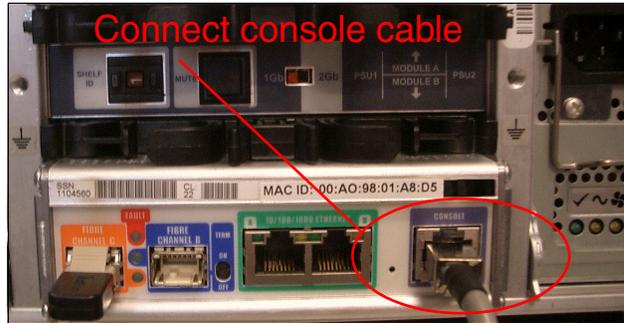


Figure 10 Connect console cable

6. If no third-party device will be attached to the fibre channel port (orange port), insert the fibre channel terminator or loopback terminator into the fibre channel port (orange port) at the far left of the CPU module (Figure 11).

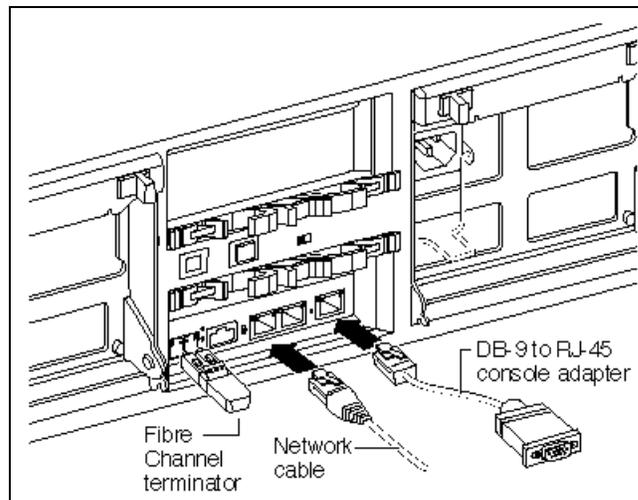


Figure 11 Connecting Ethernet, console cable, and fibre channel terminator

7. If no EXN2000 disk shelf will be attached, set the terminate switch on the CPU module to ON (Figure 12).

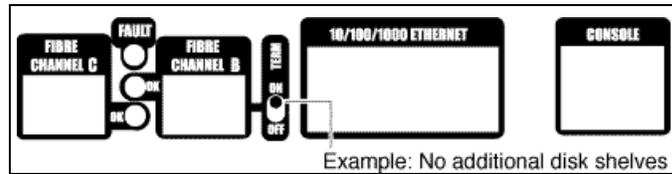


Figure 12 No EXN2000 attached

- If an EXP will not be attached, proceed as follows (system is still off):
- a. Plug in the power cord to the left and right power supplies.
 - b. Fasten the power cords with the hold-down clamps.
 - c. Plug the other ends of the power cords into the grounded power source.
8. If you are connecting one or more EXN2000 disk shelves, set the terminate switch on the CPU module to OFF (Figure 13).

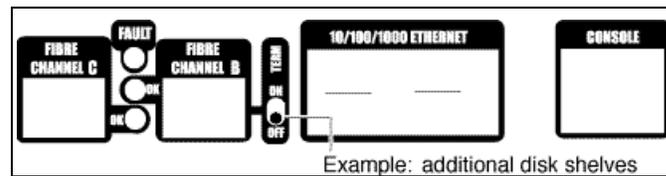


Figure 13 EXP 600 attached

9. Proceed if you are connecting additional EXN2000 disk shelves.

Note: The N3700 supports hot plugging a disk shelf. Refer to *IBM System Storage N series N3700 Hardware and Service Guide*, GA32-0515, for details and restrictions.

Attention: The N3700 and the EXN2000 shelves use sensitive electronic components. To avoid damage, put on an antistatic wrist strap and grounding leash for the installation.

If one or more EXN2000s will be attached, proceed as follows (the system is still turned off):

- a. Confirm that the shelf ID of the base unit is set to 1.

- b. Connect the fibre channel (CPU module, blue port) to the first EXN2000 disk shelf (ESH2 module B port = In port). See Figure 14.
- c. Attach the grounding cable (EXN2000, base shelf).

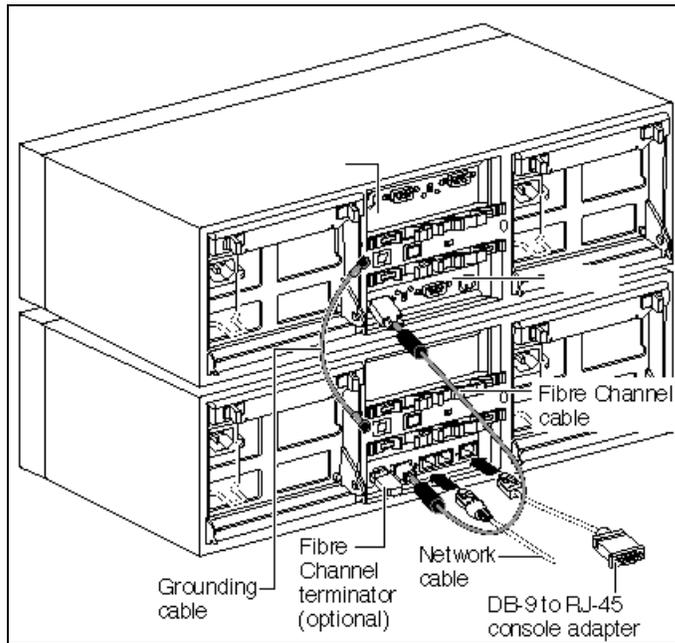


Figure 14 Connecting EXN2000 shelves

- d. Set the EXN2000 shelf ID to 2 and set the disk shelf loop speed to 1Gb.
- e. If you attach only one EXN2000, plug in the power cord to the left and right power supplies, fasten the power cords with the hold-down clamps, and plug the other ends of the power cords into the grounded ac power source. Skip adding a second EXN2000 and proceed with the initial configuration.

- f. If you are adding a second EXN2000 disk shelf, connect fibre channel ESH B module port (Out port) of the first EXN2000 (ID 2) to the ESH2 B module In port of the second EXN2000 module (ID 3) (Figure 15).

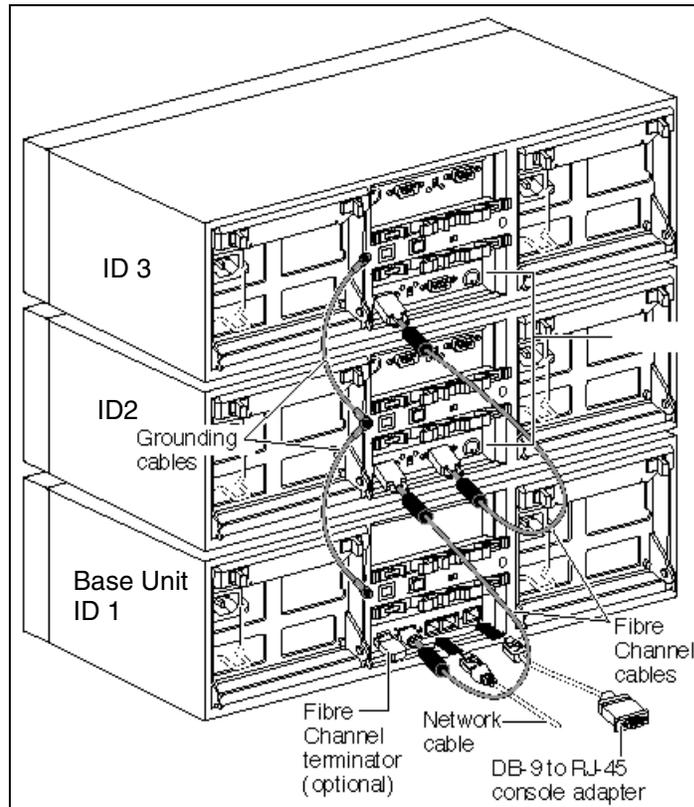


Figure 15 Connecting additional EXN2000 shelves

- g. Attach the grounding cable (EXN2000 #1 and #2).
- h. Set the EXN2000 shelf ID (second EXN2000) to 3 and set the disk shelf loop speed to 1 Gb.
- i. Repeat the previous steps if a third EXN2000 (ID 4) will be attached.
- j. Plug in the power cord to the left and right power supplies, fasten the power cords with the hold-down clamps, and plug the other ends of the power cords into the grounded power source. Skip adding a second EXN2000 and proceed with setup and configuration.

Installation and initial configuration

This section describes the initial configuration after booting the System Storage N series filer for the first time. After turning on your system for the first time, run diagnostics to make sure that it is functioning properly and to diagnose any hardware problems.

N3700 initial setup

Ensure that the hardware setup of the N3700 is complete. Refer to “Hardware setup” on page 9 for details about the hardware setup: shelf IDs, speed settings, grounding, termination, and cabling.

The System Storage N series filer is shipped with a complete version of the System Storage N series software. During the setup procedure, several files are updated with the information provided during the configuration procedure.

These files are:

- ▶ /etc/rc
- ▶ /etc/exports
- ▶ /etc/hosts
- ▶ /etc/hosts.equiv
- ▶ /etc/dgateways
- ▶ /etc/nsswitch.conf
- ▶ /etc/resolv.conf

Setup method

You can set up the system using various interfaces. You can use the serial connection with a console PC for the very first configuration steps.

Console PC

Use the null modem cable to connect the console adapter cable of the N3700 node to the serial port of the console PC or notebook computer. The console adapter cable must be plugged into the console port (purple) of the CPU module of the filer (Figure 7 on page 12). Note the following console settings:

- ▶ Baud: 9600
- ▶ Data bit: 8
- ▶ Parity: None
- ▶ Stop Bits: 1
- ▶ Flow control: None

Web browser

If DHCP is enabled, you can use a Telnet client for the setup. To keep the installation simple, we skip this and continue with the console setup.

Turn on the N3700

Turn on the N3700 system in the following order:

1. EXN2000 (expansion disk shelves)
2. Appliance (base unit)

Tip: The default spin-up time for all disks in the appliance is 60 seconds. Reduce this spin-up time to 20 seconds by turning on the switches of both power supplies within five seconds of each other.

Setup and configuration

After the system is connected properly and powered on for the first time, the initial setup starts with basic filer settings. Enter the settings according to your planning worksheets. Proceed with the following steps:

1. Enter your new host name: `its0-n1`

See the screens shown in Figure 16 on page 20, Figure 17 on page 21, and Figure 18 on page 22 for more details.

Note: During the setup, you are asked to continue the configuration using the Web interface. If you select No, the setup continues using the command line interface. If you select Yes, you can use the Web interface through the IP address that previously displayed.

You can leave the default time zone settings and then configure the time zone after the initial configuration.

The initial setup starts automatically when the system is turned on for the first time. The basic configuration depends on which licenses are installed on your system by factory.

The following screen captures might vary from your environment, depending on which licenses are installed, the Data ONTAP software level, and the hardware you are using. For example, if you did not obtain a CIFS license, the CIFS setup does not appear during the initial configuration.

```

Please enter the new hostname []: itso-n1
Do you want to configure virtual network interfaces? [n]:
Please enter the IP address for Network Interface ns0 [9.1.37.82]:
Please enter the netmask for Network Interface ns0 [255.255.255.192]:
Please enter the IP address for Network Interface ns1 []:
Would you like to continue setup through the web interface? [n]:
Please enter the name or IP address of the default gateway [9.1.37.65]:
    The administration host is given root access to the filer's
    /etc files for system administration. To allow /etc root access
    to all NFS clients enter RETURN below.
Please enter the name or IP address of the administration host:
Please enter timezone [GMT]: US/Pacific
Where is the filer located? []: ITSO Almaden
What language will be used for multi-protocol files (Type ? for list)??:
language not set
Do you want to run DNS resolver? [n]:
Do you want to run NIS client? [n]:
    The initial aggregate currently contains 2 disks; you may add more
    disks to it later using the "aggr add" command.
Setting the administrative (root) password for itso-n1 ...
New password:
Retype new password:
Tue Aug 23 13:45:48 PDT [passwd.changed:info]: passwd for user 'root' changed.
Tue Aug 23 13:45:48 PDT [dfu.firmwareUpToDate:info]: Firmware is up-to-date on a
ll disk drives
Tue Aug 23 13:45:48 PDT [sfu.firmwareUpToDate:info]: Firmware is up-to-date on a
ll disk shelves.

```

Figure 16 Initial setup: Host and network definitions

```

Tue Aug 23 13:45:49 PDT [mgr.boot.disk_done:info]: Data ONTAP Release 7.1X17 boot
complete. Last disk update written at Tue Aug 9 16:23:07 PDT 2005
Tue Aug 23 13:45:49 PDT [mgr.boot.reason_ok:notice]: System rebooted after a hal
t command.
This process will enable CIFS access to the filer from a Windows(R) system.
Use "?" for help at any prompt and Ctrl-C to exit without committing changes.

    Your filer is currently visible to all systems using WINS. The WINS
    name server currently configured is: [ 9.1.38.12 ].

(1) Keep the current WINS configuration
(2) Change the current WINS name server address(es)
(3) Disable WINS

Selection (1-3)? [1]: 1
    A filer can be configured for multiprotocol access, or as an NTFS-only
    filer. Since multiple protocols are currently licensed on this filer,
    we recommend that you configure this filer as a multiprotocol filer

(1) Multiprotocol filer
(2) NTFS-only filer

Selection (1-2)? [1]: 1
    CIFS requires local /etc/passwd and /etc/group files and default files
    will be created. The default passwd file contains entries for 'root',
    'pcuser', and 'nobody'.
Enter the password for the root user []:
Retype the password:
    The default name for this CIFS server is 'ITSO-N1'.
Would you like to change this name? [n]: n
    Data ONTAP CIFS services support four styles of user authentication.
    Choose the one from the list below that best suits your situation.

```

Figure 17 Initial setup: WINS, CIFS, and filer settings

```
Choose the one from the list below that best suits your situation.

(1) Active Directory domain authentication (Active Directory domains only)
(2) Windows NT 4 domain authentication (Windows NT or Active Directory domains)
(3) Windows Workgroup authentication using the filer's local user accounts
(4) /etc/passwd and/or NIS/LDAP authentication

Selection (1-4)? [1]: 3
What is the name of the Workgroup? [WORKGROUP]:
CIFS - Starting SMB protocol...
    It is recommended that you create the local administrator account
    (ITSO-N1\administrator) for this filer.
Do you want to create the ITSO-N1\administrator account? [y]: y
Enter the new password for ITSO-N1\administrator:
Retype the password: Tue Aug 23 13:47:51 PDT [nbt.nbns.registrationComplete:info
]: NBT: All CIFS name registrations have completed for the local server.

Welcome to the WORKGROUP Windows(R) workgroup

CIFS local server is running.

Data ONTAP (itso-n1.almaden.ibm.com)
login: root
Password:
itso-n1>
itso-n1> █
```

Figure 18 Initial setup: Active Directory®, domain controller, and workgroup settings

2. After completing the initial setup procedure, we log on to the appliance:
login: root
password: <password_you_selected_during_setup>
3. Now, we can assign all the disks to the N3700 Controller, because the Model A10 is a single-controller appliance. Use the following command to do so:
disk assign all

4. Verify that all the disks are assigned correctly:

disk show -v (or sysconfig -r)

The **sysconfig -d** command gives the vital product disk information and the device, shelf, channel and bay IDs. Figure 19 shows the output of the **sysconfig -d** command.

```
itsosj-n1> sysconfig -d
Device      HA      SHELF BAY  CHAN
-----
0b.16      0b      1      0      FC:A
0b.17      0b      1      1      FC:A
0b.18      0b      1      2      FC:A
0b.19      0b      1      3      FC:A
0b.20      0b      1      4      FC:A
0b.21      0b      1      5      FC:A
0b.22      0b      1      6      FC:A
0b.23      0b      1      7      FC:A
0b.24      0b      1      8      FC:A
0b.25      0b      1      9      FC:A
0b.26      0b      1     10      FC:A
0b.27      0b      1     11      FC:A
0b.28      0b      1     12      FC:A
0b.29      0b      1     13      FC:A
0b.32      0b      2      0      FC:A
0b.33      0b      2      1      FC:A
0b.34      0b      2      2      FC:A
0b.35      0b      2      3      FC:A
0b.36      0b      2      4      FC:A
0b.37      0b      2      5      FC:A
0b.38      0b      2      6      FC:A
0b.39      0b      2      7      FC:A
0b.40      0b      2      8      FC:A
0b.41      0b      2      9      FC:A
0b.42      0b      2     10      FC:A
0b.43      0b      2     11      FC:A
0b.44      0b      2     12      FC:A
0b.45      0b      2     13      FC:A
itsosj-n1>
```

Figure 19 CLI output: Sysconfig -d

5. Verify the license settings and add missing or additional obtained licenses. All licenses you bought with the hardware should already be installed on the filer. Use the following commands to show license information and add additional licenses to your system:

```
license
license add wwxxyyzz
```

6. Finally, reboot the system:

```
reboot
```

Pre-creating a filer domain account

If the N3700 filer needs to join an Active Directory domain, use the overview steps in this section. This assumes that you have a valid CIFS license.

When you use the N3700 **cifs setup** command to create the filer domain account, you must assign certain permissions (listed later in this section) on the filer container.

Permissions for adding a storage system to an Active Directory domain are the same as permissions required to add any Microsoft® Windows® server. The storage system administrator account must have those permissions for the Active Directory container in which you are installing your storage device.

Note: The following procedure describes Microsoft Windows 2000 Server tasks. Details of this procedure might vary on other Windows server versions.

To pre-create and configure a domain account for the filer, perform the following steps:

1. In the Active Directory Users and Computers View menu, ensure that the **Advanced Features** menu item is selected.
2. In the Active Directory tree, locate the OU for your filer, right-click, and select **New → Computer**.
3. Enter the filer (domain account) name.
Note the filer name to make sure that you enter it precisely when you run the `cifs setup` command later.
4. Specify the name of the filer administrator account to be allowed to **Add this computer to the domain**.
5. Right-click the computer account you just created and select **Properties** from the pop-up menu.
6. Click the **Security** tab.
7. Select the user or group that will add the filer to the domain.
8. In the Permissions list, ensure that the **Change Password** and **Write Public Information** options are enabled.
9. Run the `cifs setup` command. At the prompt to enter the new host name, enter the filer name you specified in step 3.

Using a Web browser to complete the configuration

After completing the setup successfully, you can log on to the N3700 system through your Web browser. Do this setup when you select **Continue with Web Setup** during the initial configuration or if you want to change the networking settings of your filer.

Note: There might be restrictions for the Web administration of the storage systems regarding browsers and Java™ versions. Currently, they are:

- ▶ Netscape Navigator 4.51 or later.
- ▶ Microsoft Internet Explorer® 4.0 or later.
- ▶ Java and JavaScript™ must be enabled.
- ▶ Other browsers with Java/JavaScript might also work.

In addition to Microsoft Internet Explorer 6.0, we used the Mozilla Firefox browser (Version 1.0.1).

Use the Setup Wizard for additional configuration tasks. The following step-by-step procedure describes this approach:

1. Click **FilerView**. Log on to the filer using the host name or IP address (Figure 16 on page 20). Use the user “root” and password. You can use the information from your worksheets. See Figure 20 and Figure 21 on page 26 for details.

Use the following URL:

`http://your_filename/na_admin/`

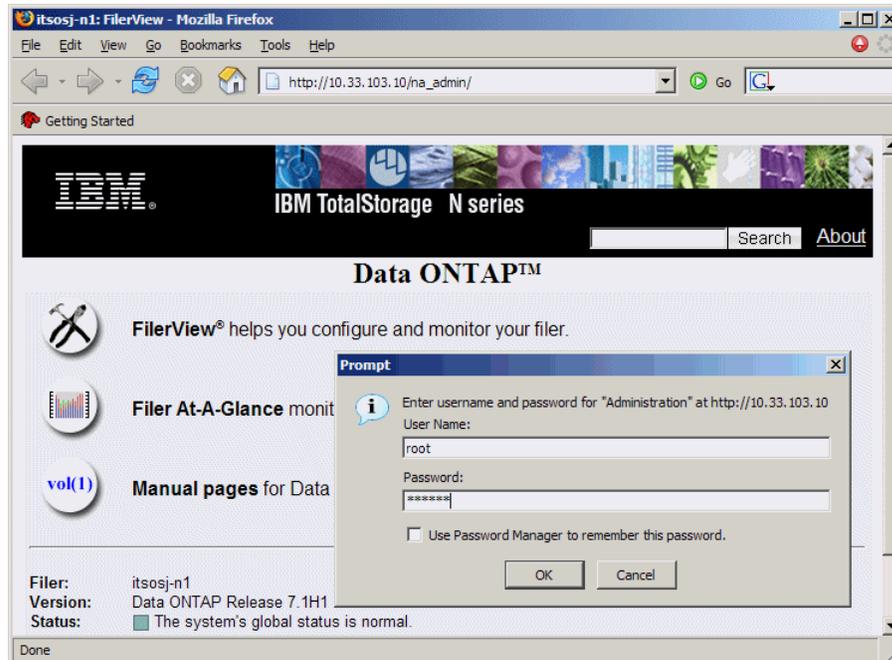


Figure 20 System Storage N series Web logon process

Figure 21 shows the Web interface.

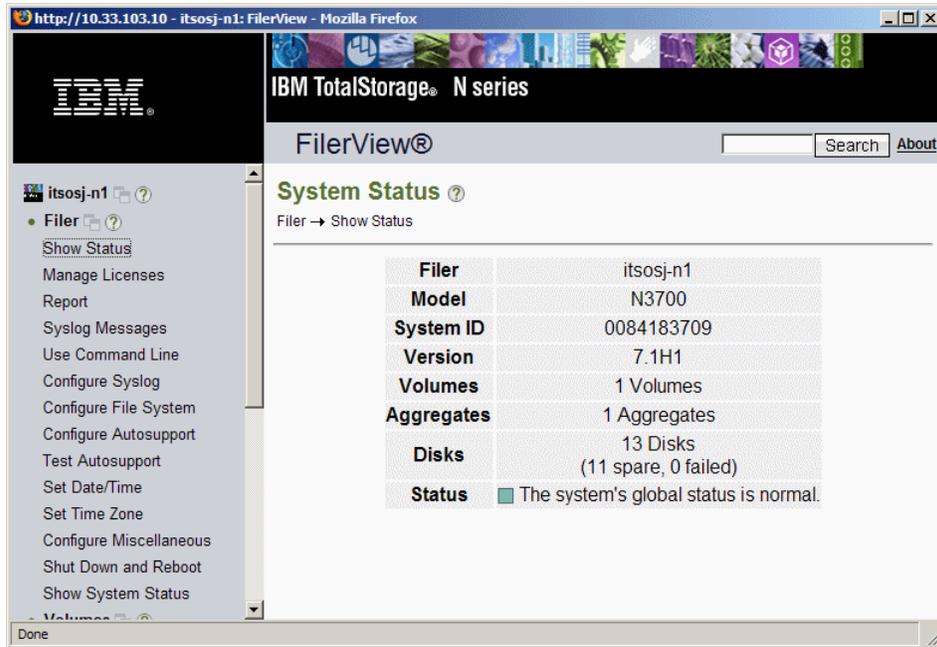


Figure 21 System Storage N series Web interface

2. Select **Wizards** (left bottom of FilerView) and then **Setup Wizard** (Figure 22).

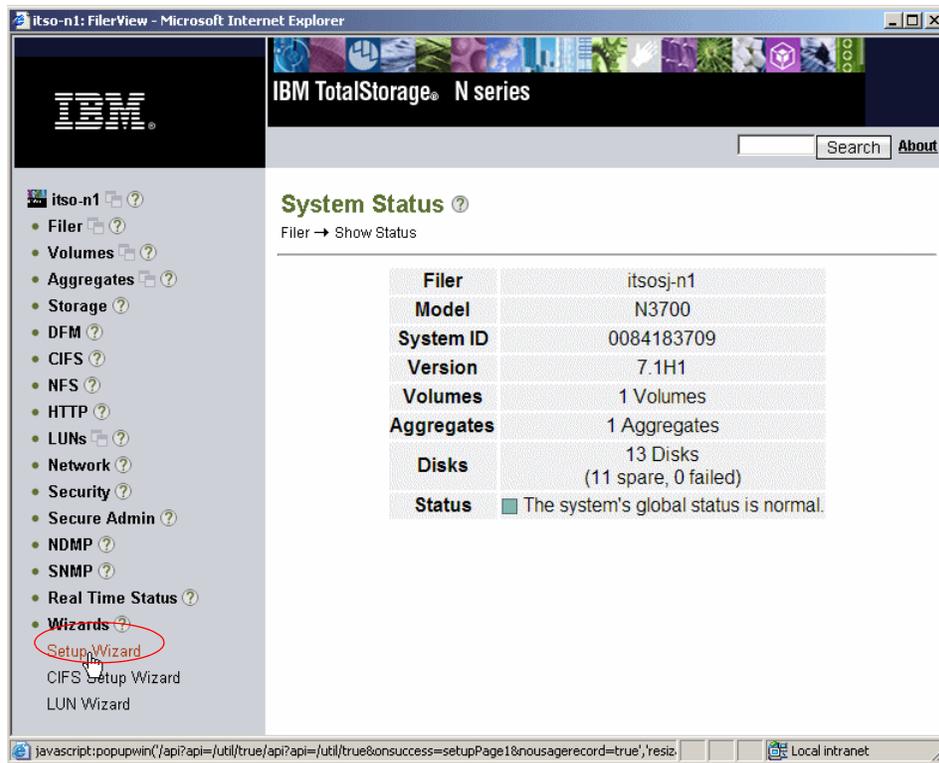


Figure 22 Starting the Setup Wizard

3. The following figure contains settings from the initial setup (Figure 23). Verify these settings and make changes when needed.

Tip: You can use the shortcut: `http://your_filename/api`

Filer Setup Wizard Page 1 of 6

Welcome to filer Setup Wizard. This program leads you through the five steps necessary to get your filer up and running.

Filer Name:
Enter the name by which the filer is known on the network.

Administrative Password:
Enter and reenter the password you want to use for managing the filer.
Note: if the connection is not secure (HTTPS), the password will be sent to the filer un-encrypted.

Time Zone:
Choose the time zone the filer should use for formatting date strings.

Language:
Choose the language the filer should use for system names, file names, and so on.

Licenses:
Choose the protocols and optional features the filer should use.

NFS license code: Already licensed.
CIFS license code: Already licensed.
HTTP license code:

Cancel Next -->

Figure 23 Setup Wizard: Basic settings

4. Provide an Email Address, Location of the Filer (data center, branch office, and so on), and the Administrative Host name (Figure 24).

The screenshot shows a web browser window titled "Filer Setup Wizard - Microsoft Internet Explorer". The page content is titled "Filer Setup Wizard" and is labeled "Page 2 of 6". The form contains three sections:

- Email Address:** "Enter the email address of the filer administrator." The input field contains the placeholder text "your.name@your.domain.com".
- Location:** "Enter the location of the filer." The input field contains the placeholder text "ITSO Almaden".
- Administrative Host:** "If you want to manage your filer from another computer, enter the name or IP address of the other computer." The input field is currently empty.

At the bottom of the form, there are three buttons: "Cancel", "<-- Back", and "Next -->". A mouse cursor is pointing at the "Next -->" button.

Figure 24 Setup Wizard: Email Address, Location, and Administrative Host

5. The Filer Setup Wizard - Network Services window enables DNS and NIS services and gateway settings (Figure 25).

Filer Setup Wizard - Network Services Page 3 of 6

DNS Domain:
If your site uses Domain Name Service (DNS), enter the domain name. If your site does not use DNS, leave this field blank.

DNS Servers:
If your site uses DNS, enter the IP address for one or two DNS servers that the filer should use for host name lookups. If your site does not use DNS, leave these fields blank.

NIS Domain:
If your site uses Network Information Service (NIS), enter the NIS domain name. If your site does not use NIS, leave this field blank.

NIS Servers:
If your site uses NIS and you want to specify which NIS slave server or servers the filer should bind to, enter the IP address of the server or servers here (separated by commas). If your site does not use NIS, or if you want NIS to broadcast to find a server, set the value to *.

Routing Gateway:
Enter the name or IP address of the primary gateway to use for routing outbound network traffic. If the filer does not need routing to reach its clients, leave this field blank.

Email Gateway:
Enter the name or IP address of a computer running the Simple Mail Transport Protocol (SMTP) that the filer can use for sending mail about problems it encounters.

Cancel <-- Back Next -->

Figure 25 Setup Wizard: DNS, NIS, Gateway settings

6. In the Setup Wizard - Network Addresses window, provide information about the network configuration, such as IP addresses, network masks, network type, and WINS settings.

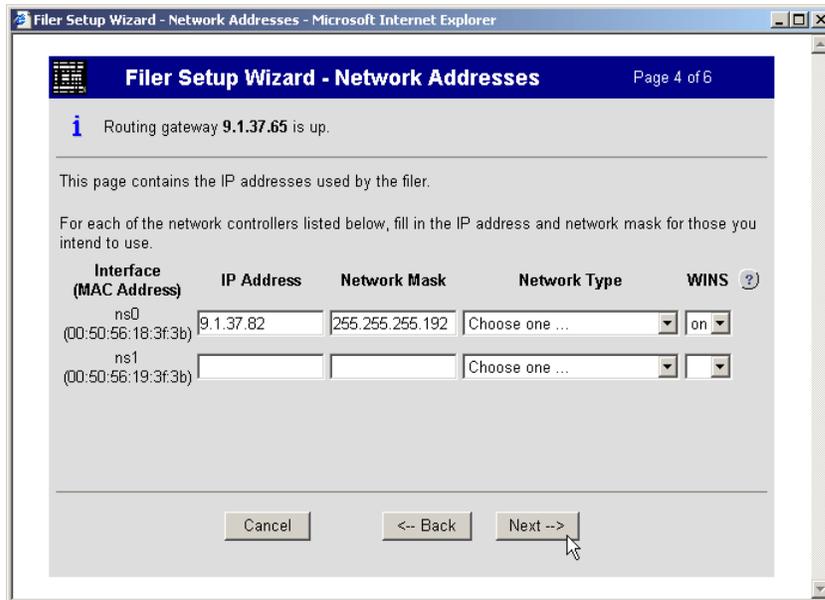


Figure 26 Setup Wizard: IP configuration, MAC addresses

7. In the Setup Wizard - Protocol Configuration window (Windows 2000), change the Windows domain, Windows administrator, Windows password, WINS servers, and NFS settings.

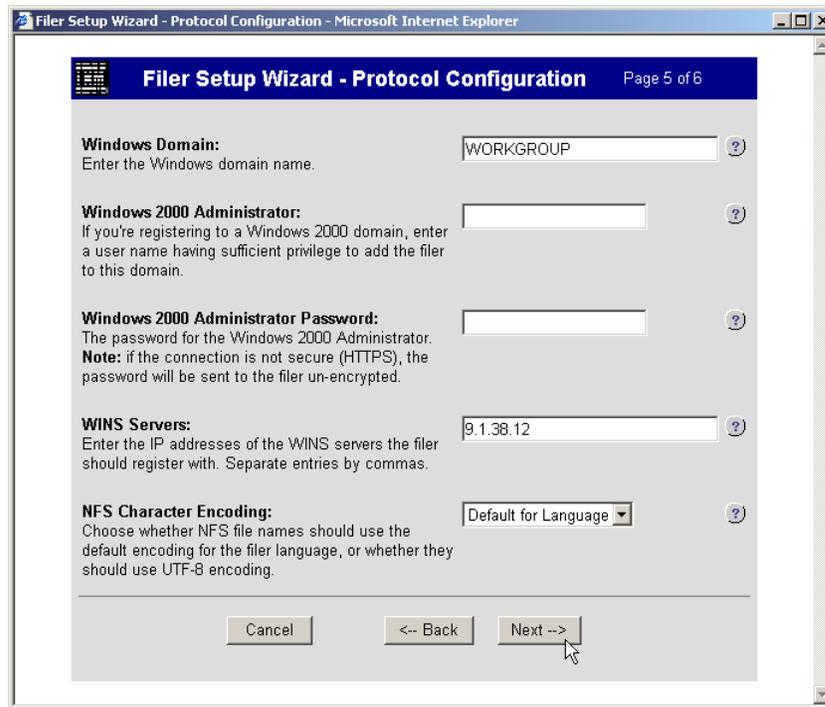


Figure 27 Setup Wizard: Protocol Configuration (Windows 2000)

8. Verify the settings in the Confirmation window and proceed with the Setup Wizard by clicking **Finish** (Figure 28).

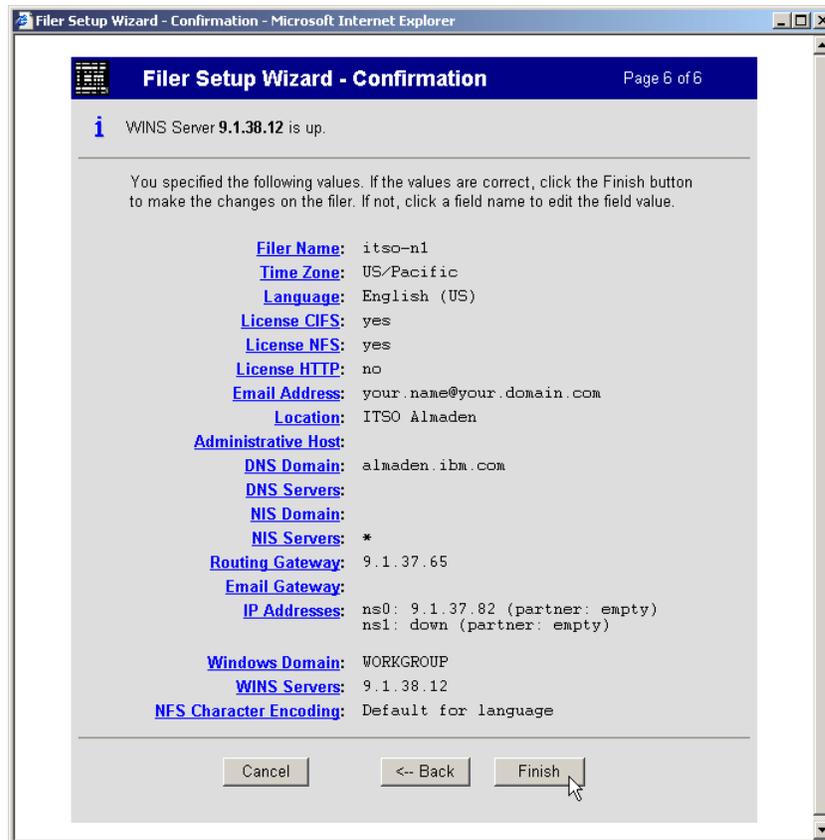


Figure 28 Setup Wizard: Confirmation

The Setup Wizard finishes, and you receive a “successfully submitted” message (Figure 29 on page 34) stating that the configuration settings completed. Wait a couple of minutes while the filer is updated with the new settings.

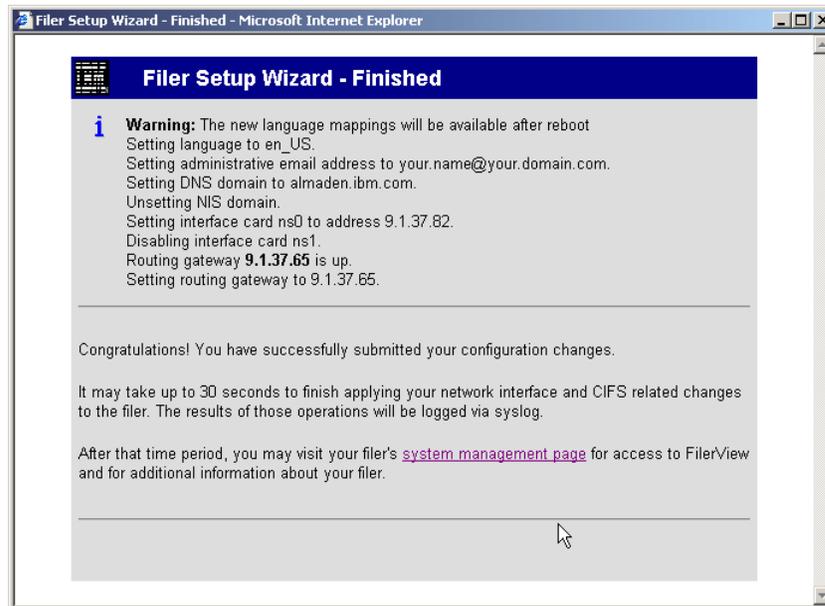


Figure 29 Setup Wizard: Status Message

The team that wrote this Redpaper

This Redpaper was produced by a team of specialists from around the world working at the International Technical Support Organization.

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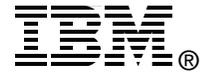
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