

IBM TotalStorage NAS 100, 200, 300, and 300G



Planning Guide

IBM TotalStorage NAS 100, 200, 300, and 300G



Planning Guide

Note

Before using this information and the product it supports, be sure to read the general information in “Notices” on page 87.

Second Edition (August 2002)

| This guide applies to the IBM TotalStorage™ NAS 100 Model R12, NAS 200 Model 201 and Model 226, NAS 300
| Model 326, and NAS 300G Model G01 and Model G26.

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About this guide

This guide describes the requirements to consider when planning the installation of the following IBM TotalStorage Network Attached Storage (NAS) appliances:

- NAS 100 Model R12
- NAS 200 Model 201 and Model 226 (*NAS 200*)
- NAS 300 Model 326 (*NAS 300*)
- NAS 300G Model G01 and Model G26 (*NAS 300G*)

Who should read this guide

This guide is intended for anyone responsible for planning the setup of the NAS 100, NAS 200, NAS 300, or NAS 300G.

Notices used in this guide

The notice definitions are as follows:

Notes	These notices provide important tips, guidance, or advice.
Attention	These notices indicate possible damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.
Caution	These notices indicate situations that can be potentially hazardous to you. A caution notice is placed just before the description of a potentially hazardous procedure step or situation.
Danger	These notices indicate situations that can be potentially lethal or extremely hazardous to you. A danger notice is placed just before a description of a potentially lethal or extremely hazardous procedure step or situation.

Publications

This section provides a list of shipped publications, related publications, an accessibility statement, and a list of Web sites where additional information about storage products is found.

Hardcopy publications shipped with the appliances

The following publications are shipped in hardcopy with the NAS 100, and are also provided in www.ibm.com/storage/support/:

- *IBM TotalStorage NAS 100 Installation Guide*

This publication provides procedures for setting up, cabling, and replacing components of the NAS 100.

- *IBM TotalStorage NAS 100 Release Notes*

This publication provides last-minute updates to the documentation that are not included in the other publications.

The following publications are shipped in hardcopy with the NAS 200, and are also provided in softcopy form at www.ibm.com/storage/support/:

- *IBM TotalStorage NAS 200 Model 201 and 226 Installation Guide*

This publication provides procedures for setting up, cabling, and replacing components of the NAS 200.

- *IBM TotalStorage NAS 200 Model 201 and Model 226 Release Notes*

This publication provides last-minute updates to the documentation that are not included in the other publications.

The following publications are shipped in hardcopy with the NAS 300, and are also provided in softcopy form at www.ibm.com/storage/support/:

- *IBM TotalStorage NAS 300 Model 326 Installation Guide*

This publication provides procedures for setting up, cabling, and replacing components of the NAS 300.

- *IBM TotalStorage NAS 300 Model 326 Release Notes*

This publication provides last-minute updates to the documentation that are not included in the other publications.

The following publications are shipped in hardcopy with the NAS 300G, and are also provided in softcopy form at www.ibm.com/storage/support/:

- *IBM TotalStorage NAS 300G Model G01 and Model G26 Installation Guide*

This publication provides procedures for setting up, cabling, and replacing components of the NAS 300G.

- *IBM TotalStorage NAS 300G Model G01 and Model G26 Release Notes*

This publication provides last-minute updates to the documentation that are not included in the other publications.

Related publications

The related publications are provided in softcopy form at www.ibm.com/storage/support/.

The following publications contain additional information about the NAS 200:

- *IBM TotalStorage NAS 200 Model 201 and Model 226 User's Reference*

This document provides information on configuring the software of the NAS 200.

- *IBM TotalStorage NAS 200 Model 201 and Model 226 Service Guide*

This guide provides procedures intended for service personnel to troubleshoot and repair the NAS 200.

The following publications contain additional information about the NAS 300:

- *IBM TotalStorage NAS 300 Model 326 User's Reference*

This document provides information on configuring the software of the NAS 300.

- *IBM TotalStorage NAS 300 Model 326 Service Guide*

This guide provides procedures intended for service personnel to troubleshoot and repair the NAS 300.

The following publications contain additional information about the NAS 300G:

- *IBM TotalStorage NAS 300G Model G01 and Model G26 User's Reference*

This document provides information on configuring the software of the NAS 300G.

- *IBM TotalStorage NAS 300G Model G01 and Model G26 Service Guide*

This guide provides procedures intended for service personnel to troubleshoot and repair the NAS 300G.

Accessibility

The softcopy version of this guide and the other related publications are accessibility-enabled for the IBM Home Page Reader.

Web sites

This section lists the Web sites where additional technical information is found.

Getting help online

Be sure to visit the support page that is specific to your hardware, complete with FAQs, parts information, technical hints and tips, technical publications, and downloadable files, if applicable. This page is at www.ibm.com/storage/support/.

Other helpful sites

www.ibm.com

www.ibm.com/storage

Main IBM home page

IBM Storage home page

Chapter 1. Planning overview

Planning for NAS appliances consists of these tasks:

1. Understand the features and functions of the NAS appliance that you are installing. Refer to the information provided in Chapter 2, “Introduction” on page 3.
2. Plan for the physical environment where the machines operate. See Chapter 3, “Site planning” on page 17. This planning step includes planning for physical space, power, and understanding the allowable operating temperatures and humidity for which the NAS appliances are designed.
3. For NAS 200 and 300, plan for optional adapters such as Ethernet and ServeRAID™ controllers. See Chapter 2, “Introduction” on page 3 and Chapter 5, “Optional adapters” on page 41.
4. Plan for network attachments and network addresses. See Chapter 4, “Configuration” on page 27.
5. For a NAS 300 and NAS 300G Model G26, plan for clustering. See “Cluster setup requirements” on page 40.

Chapter 2. Introduction

This chapter describes the features and functions of NAS 100, 200, NAS 300, NAS 300G appliances.

NAS 100

The NAS 100 is a high performance network-attached storage appliance designed as a small workgroup file server. The NAS 100 is 1U high and installs in a rack.

NAS 200

The NAS 200 is a storage appliance that consists of three machines, along with associated optional features:

- The Model 201 is a tower-based appliance that provides hard-disk-drive storage. It requires only power and network connections for setup. A conversion kit is available to convert this model for rack mounting.
- The Model 226 is a rack-mounted appliance that provides hard-disk-drive storage. It can be mounted in a 5U rack drawer.
- Up to three 5194 Storage Expansion Units can be attached to the Model 226 to extend storage capacity, for a total rack requirement of 14U.

The NAS 200 is already configured; aside from the initial configuration that determines the IP address, you do not need to configure hardware or install features for the base model configurations.

NAS 300

The NAS 300 is a rack-mounted storage server. The minimum configuration consists of the following components:

Rack One 5186 36U rack.

Engines

Two NAS 300 5187 engines Model 6RZ. The 10/100 Mbps integrated Ethernet controller on each engine is used for engine to engine communication.

Fibre Channel hubs

Two IBM 3534 Fibre Channel Hubs Model 1RU. These devices connect the engines to the storage controller.

RAID storage controller

The IBM 5191 RAID Storage Controller Model 0RU. This device delivers fast, high-volume data transfer, data retrieval, and data storage functions across multiple drives, to multiple hosts. Optionally, a second storage controller can be added to the NAS 300 to increase the number of available hard drives.

Storage units

The IBM 5192 NAS Storage Unit Model 0RU. Optionally, these 10-drive expansion units can add additional Fibre Channel (FC) disk storage. Up to seven can be added.

NAS 300G

The NAS 300G is a rack-mounted storage server that connects LAN servers and clients to a storage area network (SAN) and allocates storage on approved SAN appliances.

The Model G01 has a **single** appliance engine. The Model G26 has **two** appliance engines, which are connected with a 10-ft. crossover cable to provide engine-to-engine communication for redundancy.

IBM TotalStorage NAS family comparison guide

Use the following table to determine which IBM TotalStorage NAS family appliance is best suited for your needs.

Table 1. IBM TotalStorage NAS family comparison guide

NAS Product	Description
IBM TotalStorage NAS 100	The NAS 100 is designed to meet these requirements: <ul style="list-style-type: none">• Data storage requirements of up to 480 gigabytes of storage.• Windows® networking or Novell environments• Windows centered management environments• Workgroup environments• Users with minimal IT skills
IBM TotalStorage NAS 200	The NAS 200 is designed to meet these requirements: <ul style="list-style-type: none">• Data storage requirements of up to 3.5 terabytes (TB) of storage• Windows® networking or Novell environments• Windows centered management environments• Workgroup and departmental environments• Users with minimal IT skills
IBM TotalStorage NAS 300	The NAS 300 is designed to meet these requirements: <ul style="list-style-type: none">• Users requiring up to 6.5 TB of storage• Windows networking, NFS and Novell environments• Windows-centered management environments• Clustered failover for mission-critical applications• Large departments and data center environments• Clustered failover for mission-critical applications• Users with limited IT skills
IBM TotalStorage™ NAS 300G	The NAS 300G is designed to meet these requirements: <ul style="list-style-type: none">• Users requiring up to 6.5 TB of SAN-attached storage• Windows networking, NFS and Novell environments• Windows centered management environments• Clustered failover for mission-critical applications• Large departments and data center environments• Users with moderate IT skills• SAN-based storage for application servers

NAS 100 Features

The NAS 100 has the following features:

- Single 1.26 GHz, Pentium III processor
- 512 MB 133 MHz, ECC, SDRAM memory
- Four 120 Gigabyte, 7200 rpm, Ultra-ATA, hot swap, hard disk drives
- Two integrated 10/100/1000 BASE-T Ethernet ports
- One 9-pin serial port
- One PCI slot that accepts a SCSI adapter for attachment of a tape backup device. NAS 100 supports only the IBM PCI SCSI Adapter, part number 55P4040. See “IBM PCI SCSI Adapter (NAS 100 Only)” on page 13 for a description of the adapter.
- One 162 watt power supply.

NAS 200 Features

Table 2 lists the standard features of the Models 201 and 226.

Table 3 on page 6 lists the optional features of the Models 201 and 226.

Note: On the Model 226, the same optional features must be applied to both engines in the cluster.

Table 2. Standard features of the NAS 200 Models 201 and 226

Hardware	Model 201	Model 226
System	<ul style="list-style-type: none">• One 1.133-GHz processor• 512-KB Level-2 cache• Integrated 10/100 Ethernet• Advanced System Management (ASM) support• Five PCI expansion slots	<ul style="list-style-type: none">• Dual 1.133-GHz processors• 512-KB Level-2 cache per processor• Integrated 10/100 Ethernet• Advanced System Management support• Five PCI expansion slots
Memory	<ul style="list-style-type: none">• 512 MB• Type: 133-MHz, ECC, SDRAM, registered DIMMs• Upgradable to a maximum of 2.5 GB	<ul style="list-style-type: none">• 1 GB• Type: 133-MHz, ECC, SDRAM, registered DIMMs• Upgradable to a maximum of 3 GB
Expansion bays	<ul style="list-style-type: none">• Hot-swap: six slim-high• Non-hot-swap: two 5.25-in	<ul style="list-style-type: none">• Hot-swap: six slim-high• Non-hot-swap: two 5.25-in
Hot-swap hard disk drives (HDDs)	Three Ultra160, 10 000 rpm 36.4 GB or 73 GB Total: 109 GB or 219 GB	Three Ultra160, 10 000 rpm 36.4 GB or 73 GB Total: 109 GB or 219 GB
RAID controller	ServeRAID-4Lx 32-MB cache	ServeRAID™-4H 128-MB cache
Power supplies	Three 250 W (115 - 230 V)	Three 250 W (115 - 230 V)

Table 3. Optional Features of a Model 201 and 226

Feature type	Feature	Model 201	Model 226
Adapters	Single-port IBM 10/100 Ethernet Server adapter	Add up to four	Add up to four
	IBM® Gigabit Ethernet SX Server adapters	Add up to two*	Add up to two*
	PRO/1000 XT Server Adapter by Intel®	Add up to two	Add up to two
	One-port IBM FASTT Host adapter	N/A	Add up to one
	10/100 Quad-Port Ethernet Adapter	Add up to one	Add up to one
	PCI Ultra160 SCSI adapter	Add up to one	Add up to one
	PCI Fast/Wide Ultra SCSI adapter	Add up to one	Add up to one
	SCSI HVD 3570 adapter	Add up to one	Add up to one
Conversion kit	Tower-to-Rack Kit	Option	Rack mountable (standard)
Memory (must be installed in pairs)	512 MB	Standard	N/A
	1 GB	Option	Standard
	2 GB	N/A	Option
	2.5 GB	Option	N/A
	3 GB	N/A	Option
Processor upgrade	1.133 GHz	Option	Standard
RAID controller	ServeRAID-4Mx 64-MB cache	Option	N/A
Storage	5194-EXP storage unit	Option to add one 5194-EXP storage unit with the optional ServeRAID-4Mx controller	Option to add up to three storage units with 3 to 14 36.4-GB or 73-GB drives
	36 GB or 73 GB 10 000 RPM Ultra160 SCSI hot-swap SL hard disk drive (do not mix drive sizes)	Option to add up to three additional units	Option to add up to three additional units
	IBM Netfinity® 3-Pack Ultra160 Hot-Swap Expansion Kit with 36-GB or 73-GB hard disk drives	Option	N/A

Note: * You can install a maximum of two IBM Gigabit Ethernet SX Server adapters, two PRO/1000 XT Server Adapters, or one of each. You cannot install two IBM Gigabit Ethernet SX server adapters **and** two PRO/1000 XT Server Adapters

NAS 300 Features

This section lists the features of the NAS 300 and its components.

The NAS 300 offers the optional, factory-installed 2-port Fibre Channel (FC) adapter to provide a second port in support of FC tape backup. This option uses an alternate wiring scheme to increase the reliability of data retrieval on the NAS 300.

Rack

The rack has the following optional features:

- Three phase power supply.
This option allows the NAS 300 to be powered by three phase power.
- Single phase power supply
This option allows the NAS 300 to be powered by single phase power rather than three-phase power.
- Earthquake kit
This option contains the hardware required to bolt the rack to a concrete floor and add support to the rack with an inner brace.

Engines

Each engine has the following standard features:

- Dual 1.133-GHz processors
- 1-GB memory
- A one-port Fibre Channel adapter
- One, integrated, 10BASE-T/100BASE-TX Ethernet controller
- 18.2-GB hard disk drive
- Dual 270-W redundant power supplies

You can add the following options to each of the NAS 300 engines:

- Adapters
 - Single-port IBM 10/100 Ethernet Server adapter
 - IBM Gigabit Ethernet SX Server adapter
 - 10/100 Quad-Port Ethernet adapter
 - PRO/1000 XT Server Adapter
 - IBM PCI Ultra160 SCSI adapter
 - IBM PCI Fast/Wide Ultra SCSI adapter
 - SCSI HVD 3570 adapter
 - Remote Supervisor Adapter
 - ServeRAID-4Lx with an 18-GB hard disk drive
 - IBM FASTt Host adapter (one-port or two-port Fibre Channel)
- Memory
An additional 1 GB of memory installed in the factory or ordered as an upgrade.
- Hard disk drive
An additional hard disk drive is available if ordered with a ServeRAID-4Lx adapter.

3534 Fibre Channel Hub

The 3534 Fibre Channel Hub is an eight-port device that includes seven, fixed, short-wave optic ports and an operating system for building and managing a switched-loop architecture.

The 3534 Fibre Channel Hub has a serial port, which is used to set the IP address when setting up, reinitializing the 3534 Fibre Channel Hub, or running diagnostics. The serial-port connection is not used during normal operation.

The Ethernet port allows you to attach the 3534 Fibre Channel Hub to an existing 10/100 BASE-T Ethernet LAN. This Ethernet port provides the following functions:

- Access to the internal Simple Network Management Protocol (SNMP) agent of the 3534 Fibre Channel Hub.
- Remote Telnet and Web access for remote monitoring and testing.

Note: The Ethernet port is for Telnet, SNMP-agent, and Web-based server access only. It cannot be used for an operational network connection.

5191 RAID Storage Controller

The 5191 RAID Storage Controller has two RAID controllers, two power supplies, and two cooling units. It provides dual, redundant controllers, redundant cooling, redundant power, and battery backup of the RAID controller cache.

The 5191 RAID Storage Controller supports *Fibre Channel*. Fibre Channel is similar to a high-speed network and allows you to connect large amounts of disk storage to a controller or cluster of controllers.

Each 5191 RAID Storage Controller has the following features:

- Dual RAID controllers
- Dual power supplies and dual, modular, cooling fan assemblies
- Support for RAID levels 0, 1, 3, 5, and 10
- For each 5191 RAID Storage Controller in your configuration, you must specify a minimum of three and a maximum of ten:
 - 36.4-GB drives, or
 - 73-GB drives

5192 Storage Unit

The 5192 Storage Unit is a compact unit that provides high-capacity, FC disk storage. It delivers fast, high-volume data transfer, data retrieval, and storage functions across multiple drives to multiple hosts. The expansion enclosure is designed for continuous, reliable service; the modular, redundant disk drives, power supplies, environmental services monitor (ESM) boards, and fans use hot-swap technology for easy replacement without shutting down the system.

The 5192 Storage Unit supports redundant, dual-loop configurations. Optional external FC cables and Gigabit Interface Converters (GBICs) connect the 5191 RAID Storage Controller to the 5192 Storage Unit.

By adding a second 5191 RAID Storage Controller, you can add up to seven 10-drive 5192 Storage Units to your NAS 300.

Each 5192 Storage Unit includes the following standard features:

- Dual ESM boards. The ESM boards contain the controls, switches, and LEDs. Each ESM board has two GBIC ports for attaching the 5192 Storage Unit to the 5191 RAID Storage Controller.
- Dual power supplies and dual, modular, cooling-fan assemblies.
- Each 5192 Storage Unit contains either:

- Three to ten 36.4 GB FC drives, or
- Three to ten 73 GB FC drives

NAS 300G features

Table 4 shows the standard features of the NAS 300G Models G01 and G26. Table 5 shows the optional adapters and features.

Table 4. Standard features of the NAS 300G Models G01 and G26

Hardware	Model G01	Model G26
System	<ul style="list-style-type: none"> • One 5187 Model 6RY engine with dual 1.133-GHz processors • Integrated 10/100 Ethernet • Advanced System Management support • Five PCI expansion slots 	<ul style="list-style-type: none"> • Two 5187 Model 6RY engines with dual 1.133-GHz processors • Integrated 10/100 Ethernet per engine • Advanced System Management support • Five PCI expansion slots per engine
Memory	• 1 GB	• 1 GB per engine
Hard disk drives (HDDs)	One 18 GB	One 18 GB per engine
Power supplies	Dual 270 W auto-ranging	Dual 270 W auto-ranging per engine

Table 5. Optional features of a NAS 300G Models G01 and G26

Feature type	Feature	Model G01	Model G26
Adapters	Single-port IBM 10/100 Ethernet Server adapter	Add up to three	Add up to three per engine
	IBM Gigabit Ethernet SX Server adapters	Add up to two	Add up to two per engine
	PRO/1000 XT Server Adapter	Add up to two	Add up to two per engine
	One-port Fibre Channel Adapter	Add up to three.	Add up to three per engine.
	Two-port Fibre Channel Adapter	Add up to one.	Add up to one per engine.
	10/100 Quad-Port Ethernet Adapter	Add up to one	Add up to one per engine
	PCI Ultra160 SCSI adapter	Add up to one	Add up to one per engine
	PCI Ultra SCSI adapter	Add up to one	Add up to one per engine
	SCSI HVD 3570 adapter	Add up to one	Add up to one
	Remote Supervisor adapter	Add up to one	Add up to one per engine
Memory	1 GB	Optional	Optional per engine
RAID controller	ServeRAID-4Lx	Add up to one	Add up to one per engine

Table 5. Optional features of a NAS 300G Models G01 and G26 (continued)

Feature type	Feature	Model G01	Model G26
Hard Disk Drive	18 GB	Add up to one for OS mirroring	Add up to one per engine for OS mirroring

PCI adapters

This section describes the optional PCI adapters available for a NAS 200, NAS 300, or NAS 300G.

The NAS 100 supports only the following adapter to provide attachment of a tape device. See “IBM PCI SCSI Adapter (NAS 100 Only)” on page 13.

Ethernet adapters

This section describes the integrated Ethernet controller and the optional Ethernet adapters that are available.

IBM 10/100 Ethernet controller

An integrated Ethernet controller is provided. This controller provides an interface for connecting to 10BASE-T Ethernet networks or 100BASE-TX FAST Ethernet networks and provides full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the Ethernet LAN.

When you connect your engine to the network, the Ethernet controller automatically detects the data-transfer rate (10 Mbps or 100 Mbps) on the network and then sets the controller to operate at the appropriate rate. That is, the Ethernet controller will adjust to the network data rate, whether the data rate is standard Ethernet (10BASE-T), Fast Ethernet (100BASE-TX), half duplex (HDX), or full duplex (FDX). The controller supports half-duplex (HDX) and full-duplex (FDX) modes at both speeds.

The Ethernet controller is a PCI Plug and Play device. You do not need to set any jumpers or configure the controller for your operating system before you use the Ethernet controller.

IBM 10/100 Ethernet Server adapter

Optionally, you can add up to four IBM 10/100 Ethernet adapters.

Key features:

- 66-MHz, 64/32-bit PCI Ethernet adapter
- Provides both 10BASE-T and 100BASE-TX connectivity over twisted-pair cabling

Requirements:

- For 10BASE-T networks, you can use a Category 3, 4, or 5 unshielded twisted-pair (UTP) cable with RJ-45 connectors.
- For 100BASE-TX Fast Ethernet networks, you must use Category 5 or higher.

10/100 Quad-Port Ethernet Adapter

The 10/100 Quad-Port Ethernet Adapter offers hardware acceleration over TCP/IP. This adapter supports User Datagram Protocol (UDP) without acceleration.

Key features:

- Offers four 10BASE-T or four 100BASE-TX ports.
- Offloads TCP/IP processing from host CPU to the adapter, which accelerates your network performance, and reduces server overhead and network latency.
- Fully interoperable with industry-standard hubs, routers, and switches.
- Port aggregation software delivers fault tolerance and higher throughput.

Requirements:

The 10/100 Quad-Port Ethernet Adapter provides connectivity between the engines and your Ethernet or Fast Ethernet network using TCP/IP. The network should have the following characteristics:

- 10BASE-T Ethernet (10 Mbps) using Category 3, 4, or 5 UTP or 100BASE-TX Fast Ethernet (100 Mbps) using Category 5 UTP with RJ-45 connectors
- TCP/IP protocol

IBM Gigabit Ethernet SX Server adapter

Optionally, you can add an IBM Gigabit Ethernet SX Server adapter to connect to high-speed (1 Gb) networks. The gigabit adapter provides full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the gigabit LAN.

Key features:

- 66-MHz, 64-bit PCI Gigabit Ethernet adapter
- Can be paired with another Gigabit Ethernet SX adapter to achieve a high level of communication integrity
- Fully compliant with the IEEE 802.3z Gigabit Ethernet standard
- Supports optional jumbo frames

Gigabit adapters must be installed in 64-bit PCI slots (slots 2 - 5).

Requirements:

- Optical multimode cable with an single connector SX style (SC -style) duplex connector that meets 62.5/125 micron or 50/125 micron multimode specifications
- A gigabit switch that is compliant with IEEE 802.3z or 802.3ab, or a buffered repeater

PRO/1000 XT Server Adapter

You can add up to two PRO/1000 XT Server Adapters to connect high-speed (1 Gb) networks. This adapter provides automatic speed configuration to 10, 100, or 1000 Mbps.

Key features:

- Uses the Intel PROSet utility for easy setup
- Shares a common driver set with the IBM 10/100 Ethernet Server Adapter, IBM Gigabit Ethernet SX adapter, and the integrated Ethernet controller
- Has LEDs for visual indication of network speed and link status
- Is totally software configurable, with no jumpers or switches
- Supports 1000-Mbps throughput over four pairs of standard Category 5 cable
- Supports 10/100-Mbps throughput over two pairs of standard Category 3 or Category 5 cable
- Can operate in 10/100/1000BASE-T modes
- Supports 66-MHz or 33-MHz, 64-bit or 32-bit PCI slots

- Is compliant with 802.3z, 802.3ab, 802.3u, 802.3, 802.1Q, 802.3ac, 802.1p, 802.3ad, 802.3p, 802.3x, and PCI 2.2

Remote Supervisor Adapter

You can optionally install a Remote Supervisor Adapter, which allows you to manage NAS appliances anytime from virtually anywhere.

Key features:

- Continuous monitoring and control
- Advanced Predictive Failure Analysis[®] (PFA)
- Configurable notification and alerts
- Event logs that are timestamped and saved by battery backup, and can be attached to e-mail alerts
- LAN, serial, and ASM interconnect remote access
- Independent power, which enables around-the-clock access even when engine power is off

Requirements:

- The Remote Supervisor Adapter should be installed in PCI slot 1.

IBM FAStT Host Adapter (Fibre Channel)

Each engine in a NAS 300 comes with an IBM FAStT Host Adapter to connect to your SAN. Optionally, you can install:

- An additional single-port IBM FAStT Host Adapter to connect to a backup tape drive or other fiber-channel device
- An additional dual-port IBM FAStT Host Adapter or two single-port IBM FAStT Host Adapters to provide redundancy for your SAN attachment

Key features:

- 66-MHz, 64-bit, PCI host adapter
- High performance, allowing up to 100-MBps data transfers
- Compliance with Third generation Fibre Channel Physical and Signaling (Interface-3 FC-PH-3), revision 9.2
- Compliance with Fibre Channel Arbitrated Loop (FC-AL-2) standard
- Supports bus-master DMA
- Supports Fibre Channel SCSI (FCP-SCSI) and internet protocol (IP) protocol
- Supports point-to-point fabric connection (F-PORT FABRIC LOGIN)
- Supports Fibre Channel Service (Classes 2 and 3)

Requirements:

- Use optical multimode cable with an SC-style duplex connector that meets 62.5/125-micron or 50/125-micron multimode specifications.

IBM PCI Fast/Wide Ultra SCSI adapter

Optionally, you can add an IBM PCI Fast/Wide Ultra SCSI adapter to connect to a backup tape drive or other device. This adapter provides SCSI/SE connectivity and is compatible and fully compliant with SCSI, SCSI-2, and SCSI-3 protocols.

Key features:

- Direct memory access (DMA) allows the adapter to control the transfer of data from the peripherals to the system memory, relieving the system processor of this time consuming burden.
- The SCSISelect configuration utility that resides in the adapter's BIOS allows simple, on-screen configuration of the adapter and eliminates the need to manipulate jumpers or terminators during the installation.
- 40-MBps sustained synchronous data transfer rate.
- 133-MBps host bus transfer rate using a 32-bit PCI bus.
- Ability to handle any combination of 8-bit and 16-bit drives.

Requirements:

The total length of cabling on the SCSI bus cannot exceed the maximum lengths listed in Table 6.

Table 6. Maximum cable lengths for the IBM PCI Fast/Wide Ultra SCSI Adapter

Data transfer rate	Maximum cable length
5 MBps (SCSI)	6 m
10 MBps (Fast)	3 m
20 MBps (Fast/Wide)	3 m
20 MBps (Ultra)	1.5 m
40 MBps (Wide Ultra)	1.5 m

IBM PCI SCSI Adapter (NAS 100 Only)

Optionally, you can add an IBM PCI SCSI Adapter (IBM P/N:55P4040) to connect to a backup tape drive. The adapter provides SCSI LVD/SE connectivity and is compatible and fully compliant with SCSI, SCSI-2, and SCSI-3 protocols.

Key features:

- DMA allows the adapter to control the transfer of data from the peripherals to the system memory, relieving the system processor of this time consuming burden.
- 80-MBps sustained synchronous data transfer rate.
- 266-MBps host bus transfer rate using a 64-bit PCI bus.
- Ability to handle any combination of 8-bit and 16-bit drives.

Requirements:

The total length of cabling on the SCSI bus cannot exceed the maximum lengths listed in Table 7).

Table 7. Maximum cable lengths for the IBM PCI SCSI Adapter (IBM P/N:55P4040)

Data transfer rate	Maximum cable length
5 MBps (SCSI)	6 m
10 MBps (Fast)	3 m
20 MBps (Fast/Wide)	3 m
20 MBps (Ultra)	1.5 m
40 MBps (Wide Ultra)	1.5 m
40 MBps (Ultra2) (LVD)	12 m

Table 7. Maximum cable lengths for the IBM PCI SCSI Adapter (IBM P/N:55P4040) (continued)

Data transfer rate	Maximum cable length
80 MBps (Fast/Wide Ultra2) (LVD)	12 m

IBM PCI Ultra160 SCSI adapter

Optionally, you can add an IBM PCI Ultra160 SCSI adapter to connect to a backup tape drive or other device. The adapter provides SCSI LVD/SE connectivity and is compatible and fully compliant with SCSI, SCSI-2, and SCSI-3 protocols.

Key features:

- DMA allows the adapter to control the transfer of data from the peripherals to the system memory, relieving the system processor of this time-consuming burden.
- The SCSISelect configuration utility that resides in the adapter's BIOS allows simple, on-screen configuration of the adapter and eliminates the need to manipulate jumpers or terminators during the installation.
- 160-MBps sustained synchronous data transfer rate.
- 133-MBps host bus transfer rate using a 32-bit PCI bus.
- Ability to handle any combination of 8-bit and 16-bit drives.

Requirements:

The total length of cabling on the SCSI bus cannot exceed the maximum lengths listed in Table 8.

Table 8. Maximum cable lengths for the IBM PCI Ultra160 SCSI Adapter

Data transfer rate	Maximum cable length
5 MBps (SCSI)	6 m
10 MBps (Fast)	3 m
20 MBps (Fast/Wide)	3 m
20 MBps (Ultra)	1.5 m
40 MBps (Wide Ultra)	1.5 m
40 MBps (Ultra2) (LVD/SE)	12 m
80 MBps (Fast/Wide Ultra2) (LVD/SE)	12 m

SCSI HVD 3570 adapter

Optionally, you can add an HVD SCSI 3570 adapter to connect to a backup tape drive or other device. The adapter provides SCSI HVD/SE connectivity and is compatible and fully compliant with SCSI, SCSI-2, and SCSI-3 protocols.

Key features:

- DMA allows the adapter to control the transfer of data from the peripherals to the system memory, relieving the system processor of this time-consuming burden.
- The SCSISelect configuration utility that resides in the adapter's BIOS allows simple, on-screen configuration of the adapter and eliminates the need to manipulate jumpers or terminators during the installation.
- 40-MBps sustained synchronous data transfer rate.
- Ability to handle any combination of 8-bit and 16-bit drives.

Requirements:

The total length of cabling on the SCSI bus cannot exceed the maximum lengths listed in Table 9.

Table 9. Maximum cable lengths for the SCSI HVD 3570 Adapter

Data transfer rate	Maximum cable length
10 MBps (Fast)	25 m
20 MBps (Fast/Wide)	25 m
20 MBps (Ultra) (HVD)	25 m
40 MBps (Wide Ultra) (HVD)	25 m

ServeRAID-4Mx Ultra160 SCSI controller

The ServeRAID-4Mx controller is an option available for the Model 201. It can replace the standard ServeRAID-4Lx controller in the Model 201 to enable the attachment of a Storage Expansion Unit with 73-GB hard disk drives.

Key features:

- Allows connection of a 5194-EXP Storage Expansion Unit to the Model 201
- Contains a battery-backup cache
- Controls up to 30 hard disk drives
- Controls up to 8 logical drives
- SCSI transfer speed of 160 MBps
- Supports RAID levels 0, 1, 5, Enhanced-1 (1E), and Enhanced-5 (E5), 00, 10, 1E0, 50
- 40-MBps sustained synchronous data transfer rate
- 160-MBps maximum SCSI transfer speed
- Ability to handle any combination of 8-bit and 16-bit drives

NAS software

Each NAS appliance ships with preloaded software that is based on the Windows Powered OS operating system. The preloaded software includes these capabilities:

Microsoft® Windows 2000 for NAS

Enables remote administration of the appliance using a Web-based graphical user interface (GUI).

Microsoft Windows Terminal Services

Enables remote administration of the appliance using its Windows desktop.

Microsoft Services for UNIX®

Provides file access to UNIX and UNIX based clients and servers using the Network File System (NFS) protocol.

IBM Director Agent and Universal Manageability Server Extensions

Provides system management support based on industry standards (in conjunction with the IBM Director console application as well as other management software).

IBM Advanced Appliance Configuration Utility agent

Supports management through the IBM Advanced Appliance Configuration Utility console application (supports aggregate Web-based management of all of your IBM appliances).

ServeRAID Manager RAID Configuration and Monitoring

Provides configuration tools and RAID management of the ServeRAID-4x adapter.

Intel PROSet II

Provides diagnostics for the Intel Ethernet adapters.

Alacritech SLIC

Provides diagnostics for the Alacritech Quad-port Ethernet adapter.

Columbia Data Products Persistent Storage Manager (PSM)

Provides 250 persistent images of customer data and enables full online backup of system with Microsofts backup applications.

Tivoli® Storage Manager Client

Provides data backup and archive support (in conjunction with Tivoli Storage Manager Server).

Chapter 3. Site planning

This chapter contains information on site planning for the installation of the NAS 100, NAS 200, NAS 300, or NAS 300G.

Whether you are installing preassembled racks or performing your own installation, you must keep in mind certain environmental factors. When you are planning your installation of the NAS 100, NAS 200, NAS 300, or NAS 300G, give careful consideration to the following environmental factors:

- Power requirements (See “Power requirements” for more information.)
- Uninterruptible power supply (UPS) (See “Uninterruptible power supply (UPS)” on page 20 for more information.)
- Weight (See “Weight” on page 20 for more information.)
- Site planning (See “Site planning” on page 21 for more information.)
- Floor planning (See “Floor planning” on page 21 for more information.)
- Moving the appliance (See “Moving a NAS appliance” on page 24 for more information.)

Power requirements

This section describes these aspects of power for NAS appliances:

- Voltages
- Single-phase and three-phase power
- Power plugs and power outlets
- Uninterruptible power supplies
- Thermal considerations

Table 10. Power required for setting up the appliance

	NAS 100	NAS 200 Model 201	NAS 200 Model 226	NAS 300 Model 326	NAS 300G
High voltage	200 - 240 V ac, 47 - 63 Hz			200 - 240 V ac, 50 - 60 Hz	<ul style="list-style-type: none"> • 200 - 240 V ac; 50 - 60 Hz; 30 A, 3-phase (NEMA L21-30P) or • 380 - 415 V ac; 50 - 60 Hz; 32 A, 3-phase (IEC 309-3P+N+Gnd)
Low voltage	100 - 127V ac, 47- 63 Hz	100 - 240 V ac, 50 - 60 Hz	100 - 240 V ac, 50 - 60 Hz	100 - 127 V ac, 50 - 60 Hz	
Power consumption	3 - 1.5 Amps	4.3 - 2.1 Amps	8.6 - 4.2 Amps	0.08 - 0.52 kVA	

Important:

1. Before you install the appliance, you must make sure that its proposed location meets the power requirements. If necessary, consult an electrician to determine if your electrical infrastructure can support the NAS appliances that you are installing.
2. Consider security when planning your power requirements. (For example, your power mains should be kept in a secure area.) See “Security” on page 22 for more information.

Single-phase and three-phase power

Depending on the configuration, you might require three-phase power.

When planning to install a NAS 300, follow these steps:

1. Determine if you have three-phase or single-phase power.

Notes:

- a. Consult an electrician if you are unsure which phase you use or if you want to change phases.
 - b. Three-phase power must be wye power. It cannot be delta power.
2. Determine whether you have separate power sources. Optimal redundancy requires two power mains. If you do not have two power mains, use one power main with separate circuits.

Types of plugs

The NAS 300 has four different types of plugs. Two plugs are NEMA types and two plugs are IEC types.

Figure 1 shows a NEMA L6-30P single-phase plug.

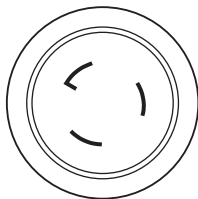


Figure 1. NEMA L6-30P plug

Figure 2 shows a NEMA L21-30P three-phase plug.

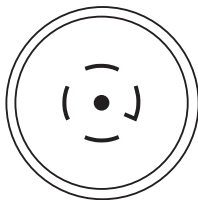


Figure 2. NEMA L21-30P plug

Figure 3 on page 19 shows an IEC 309 2P+Gnd single-phase plug.

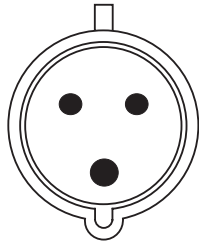


Figure 3. IEC 309 2P+Gnd 32A/220-240 V plug

Figure 4 shows an IEC 309 3P+N+Gnd three-phase plug.

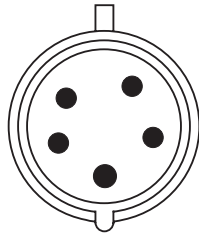


Figure 4. IEC 309 3P+N+Gnd 32A 220-415 V plug

Table 11 shows the type of power plug required for single-phase or three-phase power.

Table 11. Input connections for single-phase or three-phase power.

Input circuit			Wall plug
Voltage (Vac)	Current (A)	Phases	
200 - 240	30	3	NEMA L21-30P
380 - 415	32	3	IEC 309-3P+N+Gnd
200 - 240	30	1	NEMA L6-30P
200 - 240	32	1	IEC 309-2P+Gnd

Power outlets

This section describes the power outlets required for the NAS appliances. Table 12 outlines the number of outlets required for the NAS appliances.

Note: IBM recommends that any power cord used for redundant power (the second cord attached to an engine) be plugged in to an outlet on a different circuit and main. This increases the effectiveness of the redundancy because both plugs will not fail if the single circuit or main fails.

Table 12. Mains required for setting up the appliance

Outlet type	NAS 300G Model G01	NAS 300G Model G26	NAS 200	NAS 300	NAS 100
High voltage	Two (2 different mains or circuits, if possible)	Four (2 different mains or circuits, if possible)	Three (3 different mains or circuits, if possible)	Two (2 different mains or circuits, if possible)	One main or circuit.

Uninterruptible power supply (UPS)

You might decide to purchase an uninterruptible power supply (UPS) for your appliance. A UPS will keep your appliance running for several minutes in case of a power outage. Use a 5000 VA (3750 Watt) UPS with a 208 V input and a 208 V output.

Weight

A fully configured NAS appliance can weigh up to 662.2 kg (1460 lbs). You must ensure that your facility meets the proper floor-load requirements.

Table 13 specifies the weights of the NAS 100, NAS 200, NAS 300, and NAS 300G. You must ensure that your facility meets the proper floor-load requirements when you are planning an installation. See “Floor-loading specifications” on page 21 for more information.

Table 13. Weight of the appliances

		NAS 300G Model G01	NAS 300G Model G26	NAS 200 Model 201	NAS 200 Model 226	NAS 300 (including rack)	NAS 100
Maximum configuration		28.1 kg (62.1 lb)	56.2 kg (124.2 lb)	37.5 kg (82.7 lb)	36.2 kg (79.8 lb)	662.2 kg (1460 lb)	9.3 kg (20.5 lb)
Minimum configuration		20 kg (44 lb)	40 kg (88 lb)	26.6 kg (58.6 lb)	25.2 kg (55.7 lb)		
Component	Engine (each)	20 kg (44 lb) - 28.1 kg (62.1 lb)	20 kg (44 lb) - 28.1 kg (62.1 lb)	26.6 kg (58.6 lb) - 37.5 kg (82.7 lb)	25.2 kg (55.7 lb) - 36.2 kg (79.8 lb)	24 kg (53 lb)	
	3534 Fibre Channel Hub					4.1 kg (9 lb)	
	5192 Storage Unit (fully configured)					35.4 kg (78 lb)	
	5191 RAID Storage Controller (fully configured)					34.0 (75 lb)	
	36U rack with doors (empty)					221.8 kg (489 lb)	
	Hardware and cabling					75.3 kg (166 lb)	
	5194-EXP Storage Unit				22.5 kg (49.5 lb) - 36.1 kg (79.4 lb)		

Site planning

You must ensure that the location in which you want to install equipment has correct clearances and adequate space available around the racks to permit easy access to the equipment and for cooling purposes. Site planning involves planning the space requirements.

Before you order the NAS 100, NAS 200, NAS 300, or NAS 300G be sure that you:

- Understand the appliance specifications and requirements
- Know the service and operating clearance specifications
- Prepare a layout for the appliance or group of appliances
- Prepare the floor plan (see “Floor planning”)

Note: See “Temperature” on page 24 for information on the ambient temperature of the room containing your NAS 100, NAS 200, NAS 300, or NAS 300G.

Site planning includes determining these requirements:

- Security required
- Floor area required by the equipment
- Floor-loading capacity
- Space for future expansion
- Location of columns or other unmovable building structures
- Power and environmental requirements

Create a floor plan to check for clearance problems. (See “Floor planning” for more information.)

Remember to provide space for storage cabinets, desks, communication facilities, daily storage of tapes, and other supplies.

The appliances require operational clearances to ensure correct ventilation and access to open the front and rear doors of the rack. An extended service clearance also provides easier access so that you can install and service optional devices.

Floor-loading specifications

See the *IBM TotalStorage Enterprise Storage Server Introduction and Planning Guide 2105 Models E10, E20, F10 and F20* for floor-loading specifications. Consult with an engineer to determine your floor-loading specifications. See “Weight” on page 20 for information on appliance and component weights.

Floor planning

It is important to create a floor plan before installing a NAS 100, a NAS 200, a NAS 300, or a NAS 300G. This section discusses floor planning considerations and how to create a floor plan. It also discusses security measures to keep in mind when doing your floor planning.

Attention: Raised floor tiles with a zinc-electroplated passivation coating have the potential to grow zinc whiskers. IBM believes that zinc whiskers cause intermittent operational problems.

Floor plan considerations

Before you create your floor plan, consider these variables:

- Flow of work and personnel within the area.
- If the placement will be on a raised floor, decide between these choices:
 - Position the appliance over a cutout in the floor
 - Leave the bottom of the appliance open to enhance cooling
- If the placement will not be on a raised floor, decide how to include cable guards or other items to protect equipment and personnel.
- Maximum cable lengths.
- Location of any planned safety equipment.
- Future expansion.

Creating a floor plan

Note: You might need to prepare and analyze several plans before choosing a final one. If you install more than one appliance in more than one installation stage, prepare a separate plan for each installation stage.

Begin with an accurate drawing of the installation area (blueprints and floor plans are appropriate). Include the following items in your floor plan:

- Service and operational clearances.
- If the appliance will be on a raised floor, consider any objects that might obstruct cable routing and the height of the raised floor.
- If the appliance will not be on a raised floor, consider these factors:
 - The placement of cables to minimize obstruction
 - The amount of additional cable required if the cable is indirectly routed between appliances (for example, along the walls or suspended from the ceiling)
- Location of:
 - Power receptacles
 - Air conditioning equipment and controls
 - File cabinets, desks, and other office equipment
 - Room emergency power-off controls
 - All entrances, exits, windows, columns, and pillars
- LAN and telephone connections.

When you finish the floor plan, review it to make sure all cables to be connected to the appliances are long enough. Also ensure that the appliances have enough clearance.

Security

In forming your floor plan, you should consider ways to keep your appliance secure. For security purposes, use these precautions:

- Choose a trusted administrator.
- Place any equipment that may disrupt operations (for example, power supplies) in a secure location.
- Keep rack cabinet keys in a secure location.

The 5186 36U rack cabinet

The 5186 36U rack cabinet has the following characteristics:

- 572.7 kg (1260 lb) maximum load for non-earthquake zones
- 490.9 kg (1080 lb) maximum load for earthquake zone (strengthening kit is available)
- 197.7 kg (435 lb) empty rack weight plus 13.6 kg (30 lb) per cover (two covers)
- Perforated doors for ventilation

Table 14 describes the dimensions of a 36U rack.

Note: The top of the 36U rack contains two preinstalled filler panels. Do **not** remove the panels and place engines or other components in this space. Doing so might overbalance the appliance and cause it to tip over when moved.

Table 14. Dimensions of a 36U rack

Height	2080 mm (81.5 in.)
Front	600 mm (23.5 in.)
Side	880 mm (34.5 in.)
Weight (empty)	225 kg (495 lb) including covers
Maximum load in earthquake zone	490.9 kg (1080 lb)
Maximum load in non-earthquake zone	572.7 kg (1260 lb)

Rack cabinet electrical requirements

The rack cabinet does not require electricity; however, the engines and optional devices installed in a rack cabinet require connection to correctly wired and grounded electrical outlets. Power cords must match electrical outlets at the location where you install your rack cabinet.

Attention: The base of the rack has a connection for a grounding wire. This customer-supplied grounding wire must be installed prior to connecting power cords.

Note: You might need an electrician to assist you in planning for electrical requirements.

Use the following additional guidelines in planning for your rack cabinet:

- Plug rack power cords into electrical outlets that are located near the rack and are easily accessible.

Note: The cord on a 36U rack extends 178 cm (70 in.) from the back of the rack. You should tape the cord to the floor to avoid a tripping hazard.

- Connect all devices installed in a rack to power devices installed in the same rack. Do not plug the power cord from a device installed in one rack into a power device installed in a different rack.

Filler panels

Filler panels must be installed on the front of the rack. Filler panels prevent the engines from overheating. Filler panels are offered in several sizes and with and without perforations.

Note: You must use solid filler panels in any empty spaces in the rack.

Moving a NAS appliance

The fully populated NAS 100, NAS 200, NAS 300, and NAS 300G meet UL-1950, CSA-950, and IEC-950 stability test standards. Because these standards apply only to an appliance in an installed location, IBM enforces additional standards to ensure stability when rolling the appliance on its casters.

When planning to move your appliance, consider these factors:

- Width of door and elevator openings
 - Floor-loading specifications along your route
 - Elevator loading capacity
 - Ramp tilt (tilt must be no more than 14°)
-

Batteries

Each engine contains a 3-volt lithium manganese dioxide battery. It maintains power to the real-time clock circuitry and configuration memory when ac power is gone. You must dispose of the batteries properly.

Temperature

Table 15 shows the correct ambient temperature ranges for the NAS appliances.

Table 15. Temperature operating environment

Elevation	Ambient temperature
0 - 914 m (0 - 3000 ft)	<ul style="list-style-type: none">• NAS 100, On: 16° to 32° C (60.8° to 89.6° F)• NAS 200, NAS 300 and 300G, On: 10° to 35° C (50° to 95° F)• Off: 10° to 43° C (50° to 109.4° F)
914 - 2133 m (3000 - 7000 ft)	<ul style="list-style-type: none">• NAS 100, On: 16° to 32° C (60.8° to 89.6° F)• NAS 200, NAS 300, and NAS 300G, On: 10° to 32° C (50° to 89.6° F)• Off: 10° to 43° C (50° to 109.4° F)

Humidity

The NAS appliances must operate in 8% - 80% (noncondensing) relative humidity.

Heat output

Table 16 describes the heat output in British thermal units (Btu) per hour.

Table 16. Heat output

	NAS 300G	NAS 300	NAS 200	NAS 100
Minimum configuration	<ul style="list-style-type: none"> • Model G01 375 Btu (110 W) • Model G26 minimum 375 Btu (110 W) 	375 Btu (110 W) per engine	683 Btu (200 W)	552.13 Btu (162 W)
Maximum configuration	<ul style="list-style-type: none"> • Model G01 1300 Btu (380 W) • Model G26 1280 Btu (375 W) 	1280 Btu (375 W)	2048 Btu (600 W)	553.13 Btu (162 W)

Dimensions

Table 17 describes the physical dimensions of the appliances.

Table 17. Physical dimensions of the appliances

	NAS 300G Model G01	NAS 300G Model G26	NAS 200 Model 201	NAS 200 Model 226	NAS 300 (including rack)	NAS 100
Width	414 mm (16.3 in.)	414 mm (16.3 in.)	217 mm (8.5 in.)	440 mm (17.3 in.)	648 mm (25.5 in.)	425 mm (16.73 in.)
Depth	660.4 mm (26 in.)	660.4 mm (26 in.)	700 mm (27.5 in.)	688 mm (27.1 in.)	1068 mm (42 in.)	468 mm (18.42 in.)
Height	133.4 mm (5.25 in.)	266.8 mm (10.5 in.)	440 mm (17.3 in.)	217 mm (8.5 in.)	1800 mm (71.0 in.)	42 mm (1.65 in.)

Chapter 4. Configuration

This chapter describes the configuration that must be defined to enable network communication for a NAS 100, NAS 200, NAS 300, or NAS 300G.

NAS 100 Configuration

This section provides worksheets for recording configuration information for 5190 NAS 100 Model R12.

The following worksheet is provided to help plan for the NAS 100 network configuration.

Machine Name: _____
 Serial Number: 5190 Model R12- _____

- Record the number of disk drives and the total GB of storage.

Table 18. Model R12 disks

Number of disk drives (4)	Size 120 GB	Total GB

- Is the optional PCI adapter for tape backup installed? _____
- For each Ethernet port record the applicable IP address information.

Table 19. NAS 100 Ethernet network adapter worksheet

LAN	Adapter IP address	Gateway IP address	DNS IP address	WINS IP address
1				
2				

- Appliance Administrator account and password with administrator privileges in the domain. Administrator ID: _____ Password: _____
- Which of the following clients do you want to have share the data partition?
 - Windows 2000 - _____
 - Windows NT 4.0 - _____
 - AIX - _____
 - HP-UX - _____
 - Sun Solaris - _____
 - Other - _____
- Complete the data partition sharing table (sample below).

Table 20. NAS 100 Data partition sharing

Computer/client name	Share folder name	Folder size

| *Table 20. NAS 100 Data partition sharing (continued)*

| For Alert Standard Format support, record the following information:

- | ASF Enabled LAN port (1 or 2) _____
- | Enable all PETS (Yes or No) _____
- | TCP/IP Management Console IP Address _____
- | ASF NIC IP Address (NAS 100) _____
- | Gateway IP Address _____
- | Subnet Mask _____
- | Enable heartbeat (yes or no) _____
- | Heartbeat Frequency (in seconds) _____

NAS 200 Configuration

This section provides worksheets for recording configuration information for 5194 NAS 200 Model 201 and 5194 NAS 200 Model 226.

5194 NAS 200 Model 201

The following worksheet is provided to help plan for the NAS 200 network configuration.

Machine Name: _____
 Serial Number: 5194 Model 201 - _____

- Record the number of disk drives and the total GB of storage.

Table 21. Model 201 disks

Number of disk drives (3 to 6)	Size (36.4 GB or 73.4GB)	Total GB

- Up to 4 optional adapters can be installed. PCI Slot 3 contains the ServeRAID controller. How many optional adapters do you plan to install ? _____
- Depending on the number of optional adapters, refer to one of the following tables to determine the location of each network adapter:
 - For one adapter, see Table 37 on page 41.
 - For two adapters, see Table 38 on page 42.
 - For three adapters, see Table 39 on page 42.
 - For four adapters, see Table 40 on page 43.
- For each adapter, record the type of adapter and the applicable IP address information. For the 10/100 Quad-Port Ethernet adapter you will need to record information for each Ethernet subnet.

Table 22. Model 201 network adapter worksheet

Slot	Adapter IP address	Gateway IP address	DNS IP address	WINS IP address
1				
2				
3	ServeRAID	N/A	N/A	N/A
4				
5				

- Appliance Administrator account and password with administrator privileges in the domain. Administrator ID: _____ Password: _____
- Which of the following clients do you want to have share the data partition?
 - Windows 2000 - _____
 - Windows NT 4.0 - _____
 - AIX - _____
 - HP-UX - _____
 - Sun Solaris - _____
 - Other - _____
- Complete the data partition sharing table (sample below).

Table 23. Model 201 Data partition sharing

Computer/client name	Share folder name	Folder size

Table 23. Model 201 Data partition sharing (continued)

5194 NAS 200 Model 226

The following worksheet is provided to help plan for the NAS 200 network configuration.

Machine Name: _____
 Serial Number: 5194 Model 226 - _____
 Storage Expansion Units 5194 Model EXP - _____
 5194 Model EXP - _____
 5194 Model EXP - _____

- Record the number of disk drives and the total GB of storage.

Table 24. Model 226 and EXP disks

Number of disk drives per Model 226 (3 to 6)	Size (36.4 GB or 73.4GB)	Total GB
Number of disk drives per Model EXP (3 to 14)	Size (36.4 GB or 73.4GB)	Total GB

- Up to 4 optional adapters can be installed per 5194 NAS 200 Model 226. PCI Slot 3 contains the ServeRAID controller. How many optional adapters do you plan to install in each Model 226? _____
- Depending on the number of optional adapters, refer to one the following tables to determine the location of each network adapter:
 - For one adapter, see Table 37 on page 41.
 - For two adapters, see Table 38 on page 42.
 - For three adapters, see Table 39 on page 42.
 - For four adapters, see Table 40 on page 43.
- For each adapter, record the type of adapter and the applicable IP address information. For the 10/100 Quad-Port Ethernet adapter you will need to record information for each Ethernet subnet.

Table 25. Model 226 network adapter worksheet

Slot	Adapter IP address	Gateway IP address	DNS IP address	WINS IP address
1				
2				
3	ServeRAID	N/A	N/A	N/A
4				
5				

- Appliance Administrator account and password with administrator privileges in the domain. Administrator ID: _____ Password: _____
- Which of the following clients do you want to have share the data partition?
 - Windows 2000 - _____
 - Windows NT 4.0 - _____
 - AIX - _____
 - HP-UX - _____
 - Sun Solaris - _____
 - Other - _____

7. Complete the data partition sharing table (sample below).

Table 26. Model 226 data partition sharing

Computer name	Share folder name	Folder size

NAS 300 Configuration

The following worksheet is provided to help plan for the NAS 300 configuration.

Machine Name: _____
 Serial Number: 5187 Model 6RZ engine - _____
 5187 Model 6RZ engine - _____
 Fibre Hub 3534 Model 1RU - _____
 Fibre Hub 3534 Model 1RU - _____
 RAID Controller 5191 Model ORU - _____
 Storage Expansion Units 5192 Model EXP - _____
 5192 Model EXP - _____
 5192 Model EXP - _____
 5192 Model EXP - _____
 RAID Controller 5191 Model ORU - _____
 5192 Model EXP - _____
 5192 Model EXP - _____
 5192 Model EXP - _____

- Record the number of disk drives and the total GB of storage.

Table 27. 5191 and 5192 disks

Number of disk drives per 5191 (3 to 10)	Size (36.4 GB or 73.4GB)	Total GB
Number of disk drives per 5192 (3 to 10)	Size (36.4 GB or 73.4GB)	Total GB

- Up to 4 optional adapters can be installed per 5187 engine. PCI Slot 5 contains either a 1-port or 2-port Fibre Channel adapter. How many optional network adapters do you plan to install in each engine? _____
- Depending on the number of optional network adapters, refer to one of the following tables to determine the location of each network adapter:
 - For one adapter, see Table 41 on page 45.
 - For two adapters, see Table 42 on page 45.
 - For three adapters, see Table 43 on page 46.
 - For four adapters, see Table 44 on page 48.
 - For five adapters, see Table 45 on page 53.
- For each adapter, record the type of adapter and the applicable IP address information. For the 10/100 Quad-Port Ethernet adapter you will need to record information for each Ethernet subnet.

Table 28. Model 326 network adapter worksheet engine 1 (first node)

Slot	Adapter IP address	Gateway IP address	DNS IP address	WINS IP address
1				
2				
3				
4				
5	FC1 or FC2			

Table 29. Model 326 network adapter worksheet engine 2 (second node)

Slot	Adapter IP address	Gateway IP address	DNS IP address	WINS IP address
1				

Table 29. Model 326 network adapter worksheet engine 2 (second node) (continued)

2				
3				
4				
5	FC1 or FC2			

5. Appliance Administrator account and password with administrator privileges in the domain. Administrator ID: _____ Password: _____
6. Which of the following clients do you want to share the data partition?
 - Windows 2000 - _____
 - Windows NT 4.0 - _____
 - AIX - _____
 - HP-UX - _____
 - Sun Solaris - _____
 - Other - _____
7. Create and complete the networking information worksheet. See “Cluster setup requirements” on page 40 for additional information.

Table 30. Networking information worksheet for the public connection

Cluster component	Information needed
Cluster	<p>Cluster name:</p> <p>IP address:</p> <p>Subnet:</p>
First node	<p>Computer name (example: IBM 5196-23H1234):</p> <p>IP address:</p> <p>Subnet:</p> <p>Gateway:</p> <p>Preferred DNS:</p> <p>WINS server (optional):</p>

Table 30. Networking information worksheet for the public connection (continued)

Cluster component	Information needed
Joining node	Computer name: IP address: Subnet: Gateway: Preferred DNS: WINS server (optional):
Domain to join	Domain name:
Fibre Channel hub, switch, or controller	Model: Type: Point of attachment:

8. Complete the data partition sharing table (sample below).

Table 31. NAS 300 data partition sharing

Computer name	Share folder name	Folder size

NAS 300G Configuration

The following worksheet is provided to help plan for the NAS 300G configuration.

Machine Name: _____

Machine Information: 5196 - G26 / G01 - _____

1. How many network adapters do you plan to install in each engine? _____

These notes apply to the mix and number of optional adapters per engine that can be installed in a NAS 300G:

- a. A minimum of one optional Fibre Channel adapter installed per engine for connection to the SAN is required, either a 1-port or 2-port adapter.
 - b. The 1-port 10/100 Ethernet adapter and 4-port Ethernet adapter are mutually exclusive.
 - c. The maximum number of adapters per engine is five.
 - d. The maximum number of the combination of Ultra SCSI SE adapter, 2-port Fibre Channel adapter, 4-port 10/100 Ethernet adapter, and the Remote Supervisor adapter cannot exceed three.
 - e. The maximum number of the combination of the 1-port Fibre Channel adapter, 2-port Fibre Channel adapter, 4-port 10/100 Ethernet adapter, Gigabit SX Ethernet adapter, and ServeRAID-4Lx adapter cannot exceed four.
 - f. The Ultra SCSI SE adapter and SCSI LVD/SE adapter are mutually exclusive. If the Ultra SCSI SE adapter is specified, then the maximum quantity of SCSI LVD/SE adapters is reduced from 1 to 0. If the SCSI LVD/SE adapter is specified, then the maximum quantity of Ultra SCSI SE adapters is reduced from one to zero.
 - g. If the Ultra SCSI SE adapter or SCSI LVD/SE adapter is specified, then the maximum quantity of 1-port Fibre Channel adapters is reduced from three to two.
2. Depending on the number of optional network adapters, refer to one of the following tables to determine the location of each network adapter:
- For one adapter, see Table 46 on page 66.
 - For two adapters, see Table 47 on page 66.
 - For three adapters, see Table 48 on page 67.
 - For four adapters, see Table 49 on page 69.
 - For five adapters, see Table 50 on page 74.
3. For each adapter, record the type of adapter and the applicable IP address information. For the 10/100 Quad-Port Ethernet adapter you will need to record information for each Ethernet subnet.

Table 32. Network adapters for engine 1 (first node)

	FC/PCI slot	Adapter type	IP address	Gateway	DNS	WINS
1	PCI 1					
2	PCI 2					
3	PCI 3					
4	PCI 4					
5	FC (SAN)	FC	N/A	N/A	N/A	N/A

Table 33. Network adapters for engine 2 (second node)

	FC/PCI slot	Adapter type	IP address	Gateway	DNS	WINS
1	PCI 1					
2	PCI 2					
3	PCI 3					
4	PCI 4					
5	FC (SAN)	FC	N/A	N/A	N/A	N/A

4. NAS 300G Appliance Administrator account and password with administrator privileges in the domain. Administrator ID: _____ Password: _____
5. Which of the following clients do you want to share the data partition (one Windows client or one UNIX client may be configured)?
 - Windows 2000 - _____
 - Windows NT 4.0 - _____
 - AIX - _____
 - HP-UX - _____
 - Sun Solaris - _____
 - Other - _____

6. Create and complete the data partition sharing table.

Table 34. NAS 300G data partition sharing

Computer name	Share folder name	Folder size

7. Create and complete the networking information worksheet. See “Cluster setup requirements” on page 40 for additional information.

Table 35. Networking information worksheet for the public connection

Cluster component	Information needed (for a two-node system only)
Cluster	<p>Cluster name:</p> <p>IP address:</p> <p>Subnet:</p>
First node	<p>Computer name (example: IBM 5196–23H1234):</p> <p>IP address:</p> <p>Subnet:</p> <p>Gateway:</p> <p>Preferred DNS:</p> <p>WINS server (optional):</p>

Table 35. Networking information worksheet for the public connection (continued)

Cluster component	Information needed (for a two-node system only)
Joining node	Computer name: IP address: Subnet: Gateway: Preferred DNS: WINS server (optional):
Domain to join	Domain name:
Fibre Channel hub, switch, or controller	Model: Type: Point of attachment:

List tape devices to be used for backup: _____

Is switch zoning in use? _____

- Hard or soft? _____
- What ports are a zone? _____

Is LUN masking used on SAN storage device? _____

- What partitions are available? _____

Is SANergy™ in use? _____

List information on the cluster group. This information is required only for a two-node system.

Table 36. Cluster group information (only for a two-node system)

Cluster name	
Cluster IP address	
Quorum disk	
Preferred owner quorum disk	
Failover and failback options	

What backup tools are in use?

Cluster setup requirements

Before you configure NAS appliance nodes for clustering, ensure that the following requirements are met:

Network requirements

- A unique NetBIOS cluster name is defined.
- At least three unique, static IP addresses for the public network are defined: one for each node (engine) (for client access through the PCI NIC adapter) and one for the cluster itself (the administration IP address)
- Two static IP addresses for the cluster interconnect on a private network or crossover, through the integrated Ethernet adapter. The default IP addresses for the private network adapters are 10.1.1.1 for the first node in the cluster and 10.1.1.2 for the node that joins the cluster. The top engine is considered the first node and the bottom engine is considered the joining node.

Notes:

1. One additional static IP address is required to create each clustered group.
2. Each node (engine) in a cluster must join the same domain and be able to access the primary domain controller (PDC) and DNS server, but it is not required that the nodes log into the domain.
3. Each node in the cluster must have at least two network adapters: one for the public network and the other for the private interconnect.

Shared disk requirements

- All shared disk arrays and devices, including the quorum disk, must be physically attached to a shared storage bus.
- All shared disks must be configured as basic (not dynamic) disks.
- All shared disks must have the same drive letter on each node.
- All partitions on these disks must be formatted with NTFS.
- All partitions on these disks must also be Primary Partitions.
- Compression must not be enabled.

Chapter 5. Optional adapters

This chapter provides tables that show the locations of optional adapters that can be installed in a NAS 200, NAS 300, and NAS 300G appliance. The location of a particular adapter depends on these factors:

- The specific NAS model
- The type of adapter
- The number of adapters

The NAS 100 has one 64-bit, 33MHz, PCI slot for an optional adapter. The IBM SCSI Adapter (part number 55P4040) can be installed in this slot.

NAS 200 adapter placement

These tables explain where PCI adapters are installed according to your configuration.

Legend

Tape Either a SCSI/SE adapter, a SCSI LVD/SE adapter, a SCSI HVD/SE or a Fibre Channel adapter.

RSA Remote Supervisor Adapter

Quad 10/100 Quad-Port Ethernet Adapter

ServeRAID

ServeRAID controller (ServeRAID-4Lx Ultra160 SCSI controller standard, or ServeRAID-4Mx Ultra160 SCSI optional in the Model 201; ServeRAID-4H Ultra160 SCSI controller standard in Model 226.

Ethernet

10/100 Ethernet adapter

Gigabit

IBM Gigabit Ethernet SX Server Adapter

PRO/1000

PRO/1000 XT Server Adapter

Note: You can install a maximum of two IBM Gigabit Ethernet SX Server adapters, two PRO/1000 XT Server adapters, or one of each. You cannot install two IBM Gigabit Ethernet SX Server adapters and two PRO/1000 XT Server adapters.

Table 37. NAS 200 none or one-adapter configuration

Configuration (See "Legend" on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
(None)			ServeRAID		
Gigabit			ServeRAID		Gigabit
PRO/1000			ServeRAID		PRO/1000
Quad			ServeRAID		Quad
Tape		Tape	ServeRAID		
Ethernet	Ethernet		ServeRAID		

Table 37. NAS 200 none or one-adapter configuration (continued)

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA	RSA		ServeRAID		

Table 38. NAS 200 two-adapter configuration

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Gigabit			ServeRAID	Gigabit	Gigabit
Gigabit, PRO/1000			ServeRAID	PRO/1000	Gigabit
Gigabit, Tape		Tape	ServeRAID		Gigabit
Gigabit, Quad			ServeRAID	Quad	Gigabit
Gigabit, Ethernet	Ethernet		ServeRAID		Gigabit
Gigabit, RSA	RSA		ServeRAID		Gigabit
PRO/1000, Tape		Tape	ServeRAID		PRO/1000
PRO/1000, Quad			ServeRAID	Quad	PRO/1000
PRO/1000, Ethernet	Ethernet		ServeRAID		PRO/1000
PRO/1000, RSA	RSA		ServeRAID		PRO/1000
PRO/1000, PRO/1000			ServeRAID	PRO/1000	PRO/1000
Tape, Quad		Tape	ServeRAID		Quad
Tape, Ethernet	Ethernet	Tape	ServeRAID		
Tape, RSA	RSA	Tape	ServeRAID		
Quad, Ethernet	Ethernet		ServeRAID		Quad
Quad, RSA	RSA		ServeRAID		Quad
Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID		
Ethernet, RSA	RSA	Ethernet	ServeRAID		

Table 39. NAS 200 three-adapter configuration

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Gigabit, Tape		Tape	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Quad		Quad	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Ethernet	Ethernet		ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, RSA	RSA		ServeRAID	Gigabit	Gigabit
Gigabit, PRO/1000, Tape		Tape	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Quad		Quad	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Ethernet	Ethernet		ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, RSA	RSA		ServeRAID	PRO/1000	Gigabit
Gigabit, Tape, Quad		Tape	ServeRAID	Quad	Gigabit
Gigabit, Tape, Ethernet	Ethernet	Tape	ServeRAID		Gigabit
Gigabit, Tape, RSA	RSA	Tape	ServeRAID		Gigabit

Table 39. NAS 200 three-adapter configuration (continued)

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Quad, Ethernet	Ethernet		ServeRAID	Quad	Gigabit
Gigabit, Quad, RSA	RSA		ServeRAID	Quad	Gigabit
Gigabit, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID		Gigabit
Gigabit, Ethernet, RSA	RSA	Ethernet	ServeRAID		Gigabit
PRO/1000, PRO/1000, Tape		Tape	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Quad		Quad	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Ethernet	Ethernet		ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, RSA	RSA		ServeRAID	PRO/1000	PRO/1000
PRO/1000, Tape, Quad		Tape	ServeRAID	Quad	PRO/1000
PRO/1000, Tape, Ethernet	Ethernet	Tape	ServeRAID		PRO/1000
PRO/1000, Tape, RSA	RSA	Tape	ServeRAID		PRO/1000
PRO/1000, Quad, Ethernet	Ethernet		ServeRAID	Quad	PRO/1000
PRO/1000, Quad, RSA	RSA		ServeRAID	Quad	PRO/1000
PRO/1000, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID		PRO/1000
PRO/1000, Ethernet, RSA	RSA	Ethernet	ServeRAID		PRO/1000
Tape, Quad, Ethernet	Ethernet	Tape	ServeRAID		Quad
Tape, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Tape	
Tape, Ethernet, RSA	RSA	Ethernet	ServeRAID	Tape	
Quad, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID		Quad
Quad, Ethernet, RSA	RSA	Ethernet	ServeRAID		Quad
Ethernet, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Ethernet	
Ethernet, Ethernet, RSA	RSA	Ethernet	ServeRAID	Ethernet	

Table 40. NAS 200 four-adapter configuration

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Gigabit, Tape, Quad	Tape	Quad	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Tape, Ethernet	Ethernet	Tape	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Tape, RSA	RSA	Tape	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Quad, Ethernet	Ethernet	Quad	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Quad, RSA	RSA	Quad	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Gigabit	Gigabit
Gigabit, Gigabit, Ethernet, RSA	RSA	Ethernet	ServeRAID	Gigabit	Gigabit
Gigabit, PRO/1000, Tape, Quad	Tape	Quad	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Tape, Ethernet	Ethernet	Tape	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Tape, RSA	RSA	Tape	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Quad, Ethernet	Ethernet	Quad	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Quad, RSA	RSA	Quad	ServeRAID	PRO/1000	Gigabit

Table 40. NAS 200 four-adapter configuration (continued)

Configuration (See “Legend” on page 41)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, PRO/1000, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	PRO/1000	Gigabit
Gigabit, PRO/1000, Ethernet, RSA	RSA	Ethernet	ServeRAID	PRO/1000	Gigabit
Gigabit, Tape, Quad, Ethernet	Ethernet	Tape	ServeRAID	Quad	Gigabit
Gigabit, Tape, Quad, RSA	RSA	Tape	ServeRAID	Quad	Gigabit
Gigabit, Tape, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Tape	Gigabit
Gigabit, Tape, Ethernet, RSA	RSA	Ethernet	ServeRAID	Tape	Gigabit
Gigabit, Ethernet, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Ethernet	Gigabit
Gigabit, Ethernet, Ethernet, RSA	RSA	Ethernet	ServeRAID	Ethernet	Gigabit
Gigabit, Quad, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Quad	Gigabit
Gigabit, Quad, Ethernet, RSA	RSA	Ethernet	ServeRAID	Quad	Gigabit
PRO/1000, PRO/1000, Tape, Quad	Tape	Quad	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Tape, Ethernet	Ethernet	Tape	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Tape, RSA	RSA	Tape	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Quad, Ethernet	Ethernet	Quad	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Quad, RSA	RSA	Quad	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	PRO/1000	PRO/1000
PRO/1000, PRO/1000, Ethernet, RSA	RSA	Ethernet	ServeRAID	PRO/1000	PRO/1000
PRO/1000, Tape, Quad, Ethernet	Ethernet	Tape	ServeRAID	Quad	PRO/1000
PRO/1000, Tape, Quad, RSA	RSA	Tape	ServeRAID	Quad	PRO/1000
PRO/1000, Tape, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Tape	PRO/1000
PRO/1000, Tape, Ethernet, RSA	RSA	Ethernet	ServeRAID	Tape	PRO/1000
PRO/1000, Quad, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Quad	PRO/1000
PRO/1000, Quad, Ethernet, RSA	RSA	Ethernet	ServeRAID	Quad	PRO/1000
Tape, Quad, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Tape	Quad
Tape, Quad, Ethernet, RSA	RSA	Ethernet	ServeRAID	Tape	Quad
Ethernet, Ethernet, Ethernet, Ethernet	Ethernet	Ethernet	ServeRAID	Ethernet	Ethernet
Ethernet, Ethernet, Ethernet, RSA	RSA	Ethernet	ServeRAID	Ethernet	Ethernet
Ethernet, Ethernet, Ethernet, Quad	Ethernet	Ethernet	ServeRAID	Ethernet	Quad
Ethernet, Ethernet, QUAD, RSA	RSA	Ethernet	ServeRAID	Ethernet	Quad

NAS 300 PCI adapter placement

Each NAS 300 engine contains five PCI adapter slots. Table 41 on page 45 through Table 45 on page 53 show where the PCI adapters are installed. The location of a particular adapter depends on how many adapters are installed and the types of other adapters that are installed. To use the tables, look in the left column (Configuration) to locate the row that contains the list of adapters installed in your engine. This row then shows where the adapters should be installed.

Example 1: If you have a single IBM Gigabit Ethernet SX Server adapter (in addition to the standard Fibre Channel installed in slot 5), that adapter should be installed in slot 2.

Example 2: If you have four additional adapters—two IBM 10/100 Ethernet Server adapters, one Remote Supervisor Adapter, and one IBM Gigabit Ethernet SX Server adapter – they should be installed in the following PCI slots:

- Slot 1 — Remote Supervisor Adapter
- Slot 2 — IBM Gigabit Ethernet SX Server adapter
- Slot 3 — IBM 10/100 Ethernet Server adapter
- Slot 4 — IBM 10/100 Ethernet Server adapter
- Slot 5 — Fibre Channel (standard)

Legend

- Ethernet - IBM 10/100 Ethernet Server adapter
- Gigabit - IBM Gigabit Ethernet SX adapter
- PRO/1000 - PRO/1000 XT Server adapter
- RSA - Remote Supervisor Adapter
- SCSI SE - IBM PCI Fast/Wide Ultra SCSI adapter
- SCSI LVD/SE - IBM PCI Ultra160 SCSI adapter
- SCSI HVD - SCSI HVD 3570 adapter
- Quad - 10/100 Quad-Port Ethernet adapter
- ServeRAID - ServeRAID-4Lx Adapter
- FC1 - Fibre Channel (1-port)
- FC2 - Fibre Channel (2-port)

Table 41. NAS 300 one-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
FC1					FC1
FC2					FC2

Table 42. NAS 300 two-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, FC2	RSA				FC2
RSA, FC1	RSA				FC1
Quad, FC2				Quad	FC2
Quad, FC1				Quad	FC1
Ethernet, FC2	Ethernet				FC2
Ethernet, FC1	Ethernet				FC1
SCSI SE, FC2	SCSI SE				FC2
SCSI SE, FC1	SCSI SE				FC1
Gigabit, FC2				Gigabit	FC2
PRO/1000, FC2				PRO/1000	FC2

Table 42. NAS 300 two-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, FC1				Gigabit	FC1
PRO/1000, FC1				PRO/1000	FC1
SCSI LVD/SE, FC2				SCSI LVD/SE	FC2
SCSI HVD, FC2	SCSI HVD				FC2
SCSI LVD/SE, FC1				SCSI LVD/SE	FC1
SCSI HVD, FC1	SCSI HVD				FC1
ServeRAID, FC2				ServeRAID	FC2
ServeRAID, FC1				ServeRAID	FC1
FC2, FC1				FC1	FC2
FC1, FC1				FC1	FC1

Table 43. NAS 300 three-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, FC2	RSA			Quad	FC2
RSA, Quad, FC1	RSA			Quad	FC1
RSA, Ethernet, FC2	RSA	Ethernet			FC2
RSA, Ethernet, FC1	RSA	Ethernet			FC1
RSA, SCSI SE, FC2	RSA	SCSI SE			FC2
RSA, SCSI SE, FC1	RSA	SCSI SE			FC1
RSA, Gigabit, FC2	RSA			Gigabit	FC2
RSA, PRO/1000, FC2	RSA			PRO/1000	FC2
RSA, Gigabit, FC1	RSA			Gigabit	FC1
RSA, SCSI LVD/SE, FC2	RSA			SCSI LVD/SE	FC2
RSA, PRO/1000, FC1	RSA			PRO/1000	FC1
RSA, SCSI HVD, FC2	RSA	SCSI HVD			FC2
RSA, SCSI LVD/SE, FC1	RSA			SCSI LVD/SE	FC1
RSA, SCSI HVD, FC1	RSA	SCSI HVD			FC1
RSA, ServeRAID, FC2	RSA			ServeRAID	FC2
RSA, ServeRAID, FC1	RSA			ServeRAID	FC1
RSA, FC2, FC1	RSA			FC1	FC2
RSA, FC1, FC1	RSA			FC1	FC1
Quad, SCSI SE, FC2	SCSI SE			Quad	FC2
Quad, SCSI SE, FC1	SCSI SE			Quad	FC1
Quad, Gigabit, FC2		Quad		Gigabit	FC2
Quad, PRO/1000, FC2		Quad		PRO/1000	FC2
Quad, Gigabit, FC1		Quad		Gigabit	FC1

Table 43. NAS 300 three-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, PRO/1000, FC1		Quad		PRO/1000	FC1
Quad, SCSI LVD/SE, FC2		SCSI LVD/SE		Quad	FC2
Quad, SCSI HVD, FC2		SCSI HVD		Quad	FC2
Quad, SCSI LVD/SE, FC1		SCSI LVD/SE		Quad	FC1
Quad, SCSI HVD, FC1		SCSI HVD		Quad	FC1
Quad, ServeRAID, FC2		ServeRAID		Quad	FC2
Quad, ServeRAID, FC1		ServeRAID		Quad	FC1
Quad, FC2, FC1		Quad		FC1	FC2
Quad, FC1, FC1		Quad		FC1	FC1
Ethernet, Ethernet, FC2	Ethernet	Ethernet			FC2
Ethernet, Ethernet, FC1	Ethernet	Ethernet			FC1
Ethernet, SCSI SE, FC2	Ethernet	SCSI SE			FC2
Ethernet, SCSI SE, FC1	Ethernet	SCSI SE			FC1
Ethernet, Gigabit, FC2	Ethernet			Gigabit	FC2
Ethernet, PRO/1000, FC2	Ethernet			PRO/1000	FC2
Ethernet, Gigabit, FC1	Ethernet			Gigabit	FC1
Ethernet, PRO/1000, FC1	Ethernet			PRO/1000	FC1
Ethernet, SCSI LVD/SE, FC2	Ethernet			SCSI LVD/SE	FC2
Ethernet, SCSI HVD, FC2	Ethernet	SCSI HVD			FC2
Ethernet, SCSI LVD/SE, FC1	Ethernet			SCSI LVD/SE	FC1
Ethernet, SCSI HVD, FC1	Ethernet	SCSI HVD			FC1
Ethernet, ServeRAID, FC2	Ethernet			ServeRAID	FC2
Ethernet, ServeRAID, FC1	Ethernet			ServeRAID	FC1
Ethernet, FC2, FC1	Ethernet			FC1	FC2
Ethernet, FC1, FC1	Ethernet			FC1	FC1
SCSI SE, Gigabit, FC2	SCSI SE			Gigabit	FC2
SCSI SE, PRO/1000, FC2	SCSI SE			PRO/1000	FC2
SCSI SE, Gigabit, FC1	SCSI SE			Gigabit	FC1
SCSI SE, PRO/1000, FC1	SCSI SE			PRO/1000	FC1
SCSI SE, ServeRAID, FC2	SCSI SE			ServeRAID	FC2
SCSI SE, ServeRAID, FC1	SCSI SE			ServeRAID	FC1
SCSI SE, FC1, FC1	SCSI SE			FC1	FC1
Gigabit, Gigabit, FC2			Gigabit	Gigabit	FC2
Gigabit, PRO/1000, FC2			PRO/1000	Gigabit	FC2
PRO/1000, PRO/1000, FC2			PRO/1000	PRO/1000	FC2
Gigabit, Gigabit, FC1			Gigabit	Gigabit	FC1

Table 43. NAS 300 three-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, PRO/1000, FC1			PRO/1000	Gigabit	FC1
PRO/1000, PRO/1000, FC1			PRO/1000	PRO/1000	FC1
Gigabit, SCSI LVD/SE, FC2			SCSI LVD/SE	Gigabit	FC2
Gigabit, SCSI HVD, FC2	SCSI HVD			Gigabit	FC2
PRO/1000, SCSI LVD/SE, FC2			SCSI LVD/SE	PRO/1000	FC2
PRO/1000, SCSI HVD, FC2	SCSI HVD			PRO/1000	FC2
Gigabit, SCSI LVD/SE, FC1			SCSI LVD/SE	Gigabit	FC1
Gigabit, SCSI HVD, FC1	SCSI HVD			Gigabit	FC1
PRO/1000, SCSI LVD/SE, FC1			SCSI LVD/SE	PRO/1000	FC1
PRO/1000, SCSI HVD, FC1	SCSI HVD			PRO/1000	FC1
Gigabit, ServeRAID, FC2			ServeRAID	Gigabit	FC2
Gigabit, ServeRAID, FC1			ServeRAID	Gigabit	FC1
PRO/1000, ServeRAID, FC1			ServeRAID	PRO/1000	FC1
Gigabit, FC2, FC1			Gigabit	FC1	FC2
PRO/1000, FC2, FC1			PRO/1000	FC1	FC2
Gigabit, FC1, FC1			Gigabit	FC1	FC1
PRO/1000, FC1, FC1			PRO/1000	FC1	FC1
SCSI LVD/SE, ServeRAID, FC2			SCSI LVD/SE	ServeRAID	FC2
SCSI HVD, ServeRAID, FC2	SCSI HVD			ServeRAID	FC2
SCSI LVD/SE, ServeRAID, FC1			SCSI LVD/SE	ServeRAID	FC1
SCSI HVD, ServeRAID, FC1	SCSI HVD			ServeRAID	FC1
SCSI LVD/SE, FC1, FC1			SCSI LVD/SE	FC1	FC1
SCSI HVD, FC1, FC1	SCSI HVD			FC1	FC1
ServeRAID, FC2, FC1			ServeRAID	FC1	FC2
ServeRAID, FC1, FC1			ServeRAID	FC1	FC1
FC1, FC1, FC1			FC1	FC1	FC1

Table 44. NAS 300 four-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, Gigabit, FC2	RSA		Quad	Gigabit	FC2
RSA, Quad, PRO/1000, FC2	RSA		Quad	PRO/1000	FC2
RSA, Quad, Gigabit, FC1	RSA		Quad	Gigabit	FC1

Table 44. NAS 300 four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, PRO/1000, FC1	RSA		Quad	PRO/1000	FC1
RSA, Ethernet, Ethernet, FC2	RSA	Ethernet	Ethernet		FC2
RSA, Ethernet, Ethernet, FC1	RSA	Ethernet	Ethernet		FC1
RSA, Ethernet, SCSI SE, FC2	RSA	Ethernet	SCSI SE		FC2
RSA, Ethernet, SCSI SE, FC1	RSA	Ethernet	SCSI SE		FC1
RSA, Ethernet, Gigabit, FC2	RSA	Ethernet		Gigabit	FC2
RSA, Ethernet, PRO/1000, FC2	RSA	Ethernet		PRO/1000	FC2
RSA, Ethernet, Gigabit, FC1	RSA	Ethernet		Gigabit	FC1
RSA, Ethernet, PRO/1000, FC1	RSA	Ethernet		PRO/1000	FC1
RSA, SCSI SE, Gigabit, FC2	RSA	SCSI SE		Gigabit	FC2
RSA, SCSI SE, PRO/1000, FC2	RSA	SCSI SE		PRO/1000	FC2
RSA, SCSI SE, Gigabit, FC1	RSA	SCSI SE		Gigabit	FC1
RSA, SCSI SE, PRO/1000, FC1	RSA	SCSI SE		PRO/1000	FC1
RSA, Gigabit, Gigabit, FC2	RSA		Gigabit	Gigabit	FC2
RSA, Gigabit, PRO/1000, FC2	RSA		PRO/1000	Gigabit	FC2
RSA, PRO/1000, PRO/1000, FC2	RSA		PRO/1000	PRO/1000	FC2
RSA, Gigabit, Gigabit, FC1	RSA		Gigabit	Gigabit	FC1
RSA, Gigabit, PRO/1000, FC1	RSA		PRO/1000	Gigabit	FC1
RSA, PRO/1000, PRO/1000, FC1	RSA		PRO/1000	PRO/1000	FC1
RSA, Gigabit, SCSI LVD/SE, FC2	RSA		SCSI LVD/SE	Gigabit	FC2
RSA, Gigabit, SCSI HVD, FC2	RSA		SCSI HVD	Gigabit	FC2
RSA, PRO/1000, SCSI LVD/SE, FC2	RSA		SCSI LVD/SE	PRO/1000	FC2
RSA, PRO/1000, SCSI HVD, FC2	RSA		SCSI HVD	PRO/1000	FC2
RSA, Gigabit, SCSI LVD/SE, FC1	RSA		SCSI LVD/SE	Gigabit	FC1
RSA, Gigabit, SCSI HVD, FC1	RSA		SCSI HVD	Gigabit	FC1
RSA, PRO/1000, SCSI LVD/SE, FC1	RSA		SCSI LVD/SE	PRO/1000	FC1
RSA, PRO/1000, SCSI HVD, FC1	RSA		SCSI HVD	PRO/1000	FC1
RSA, SCSI LVD/SE, ServeRAID, FC2	RSA		SCSI LVD/SE	ServeRAID	FC2
RSA, SCSI HVD, ServeRAID, FC2	RSA		SCSI HVD	ServeRAID	FC2
RSA, SCSI LVD/SE, ServeRAID, FC1	RSA		SCSI LVD/SE	ServeRAID	FC1
RSA, SCSI HVD, ServeRAID, FC1	RSA		SCSI HVD	ServeRAID	FC1
RSA, ServeRAID, FC2, FC1	RSA		ServeRAID	FC1	FC2
RSA, FC1, FC1, FC1	RSA		FC1	FC1	FC1
Quad, SCSI SE, Gigabit, FC2	SCSI SE		Quad	Gigabit	FC2

Table 44. NAS 300 four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, SCSI SE, PRO/1000, FC2	SCSI SE		Quad	PRO/1000	FC2
Quad, SCSI SE, Gigabit, FC1	SCSI SE		Quad	Gigabit	FC1
Quad, SCSI SE, PRO/1000, FC1	SCSI SE		Quad	PRO/1000	FC1
Quad, Gigabit, SCSI LVD/SE, FC2		SCSI LVD/SE	Quad	Gigabit	FC2
Quad, Gigabit, SCSI HVD, FC2	SCSI HVD		Quad	Gigabit	FC2
Quad, PRO/1000, SCSI LVD/SE, FC2		SCSI LVD/SE	Quad	PRO/1000	FC2
Quad, PRO/1000, SCSI HVD, FC2	SCSI HVD		Quad	PRO/1000	FC2
Quad, Gigabit, SCSI LVD/SE, FC1		SCSI LVD/SE	Quad	Gigabit	FC1
Quad, Gigabit, SCSI HVD, FC1	SCSI HVD		Quad	Gigabit	FC1
Quad, PRO/1000, SCSI LVD/SE, FC1		SCSI LVD/SE	Quad	PRO/1000	FC1
Quad, PRO/1000, SCSI HVD, FC1	SCSI HVD		Quad	PRO/1000	FC1
Quad, SCSI LVD/SE, ServeRAID, FC2		SCSI LVD/SE	ServeRAID	Quad	FC2
Quad, SCSI HVD, ServeRAID, FC2	SCSI HVD		ServeRAID	Quad	FC2
Quad, ServeRAID, FC2, Gigabit		ServeRAID	Quad	Gigabit	FC2
Quad, ServeRAID, FC2, PRO/1000		ServeRAID	Quad	PRO/1000	FC2
Quad, SCSI LVD/SE, ServeRAID, FC1		SCSI LVD/SE	ServeRAID	Quad	FC1
Quad, ServeRAID, FC2, FC1		ServeRAID	Quad	FC1	FC2
Quad, ServeRAID, FC1, FC1		ServeRAID	Quad	FC1	FC1
Quad, FC1, FC1, FC1		Quad	FC1	FC1	FC1
Ethernet, Ethernet, Ethernet, FC2	Ethernet	Ethernet	Ethernet		FC2
Ethernet, Ethernet, Ethernet, FC1	Ethernet	Ethernet	Ethernet		FC1
Ethernet, Ethernet, Gigabit, FC2	Ethernet	Ethernet		Gigabit	FC2
Ethernet, Ethernet, PRO/1000, FC2	Ethernet	Ethernet		PRO/1000	FC2
Ethernet, Ethernet, Gigabit, FC1	Ethernet	Ethernet		Gigabit	FC1
Ethernet, Ethernet, PRO/1000, FC1	Ethernet	Ethernet		PRO/1000	FC1
Ethernet, Ethernet, SCSI LVD/SE, FC2	Ethernet	Ethernet		SCSI LVD/SE	FC2
Ethernet, Ethernet, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD		FC2
Ethernet, Ethernet, SCSI LVD/SE, FC1	Ethernet	Ethernet		SCSI LVD/SE	FC1
Ethernet, Ethernet, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD		FC1
Ethernet, Ethernet, ServeRAID, FC2	Ethernet	Ethernet		ServeRAID	FC2
Ethernet, Ethernet, ServeRAID, FC1	Ethernet	Ethernet		ServeRAID	FC1
Ethernet, Ethernet, FC2, FC1	Ethernet	Ethernet		FC1	FC2
Ethernet, Ethernet, FC1, FC1	Ethernet	Ethernet		FC1	FC1

Table 44. NAS 300 four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, SCSI SE, Gigabit, FC2	Ethernet	SCSI SE		Gigabit	FC2
Ethernet, SCSI SE, PRO/1000, FC2	Ethernet	SCSI SE		PRO/1000	FC2
Ethernet, SCSI SE, Gigabit, FC1	Ethernet	SCSI SE		Gigabit	FC1
Ethernet, SCSI SE, PRO/1000, FC1	Ethernet	SCSI SE		PRO/1000	FC1
Ethernet, SCSI SE, ServeRAID, FC2	Ethernet	SCSI SE		ServeRAID	FC2
Ethernet, SCSI SE, ServeRAID, FC1	Ethernet	SCSI SE		ServeRAID	FC1
Ethernet, Gigabit, SCSI LVD/SE, FC2	Ethernet		SCSI LVD/SE	Gigabit	FC2
Ethernet, Gigabit, SCSI HVD, FC2	Ethernet		SCSI HVD	Gigabit	FC2
Ethernet, PRO/1000, SCSI LVD/SE, FC2	Ethernet		SCSI LVD/SE	PRO/1000	FC2
Ethernet, PRO/1000, SCSI HVD, FC2	Ethernet		SCSI HVD	PRO/1000	FC2
Ethernet, Gigabit, SCSI LVD/SE, FC1	Ethernet		SCSI LVD/SE	Gigabit	FC1
Ethernet, Gigabit, SCSI HVD, FC1	Ethernet		SCSI HVD	Gigabit	FC1
Ethernet, PRO/1000, SCSI LVD/SE, FC1	Ethernet		SCSI LVD/SE	PRO/1000	FC1
Ethernet, PRO/1000, SCSI HVD, FC1	Ethernet		SCSI HVD	PRO/1000	FC1
Ethernet, SCSI LVD/SE, ServeRAID, FC2	Ethernet		SCSI LVD/SE	ServeRAID	FC2
Ethernet, SCSI HVD, ServeRAID, FC2	Ethernet	SCSI HVD		ServeRAID	FC2
Ethernet, SCSI LVD/SE, ServeRAID, FC1	Ethernet		SCSI LVD/SE	ServeRAID	FC1
Ethernet, SCSI HVD, ServeRAID, FC1	Ethernet	SCSI HVD		ServeRAID	FC1
Ethernet, ServeRAID, FC2, FC1	Ethernet		ServeRAID	FC1	FC2
Ethernet, ServeRAID, FC1, FC1	Ethernet		ServeRAID	FC1	FC1
Ethernet, FC1, FC1, FC1	Ethernet		FC1	FC1	FC1
SCSI SE, Gigabit, Gigabit, FC2	SCSI SE		Gigabit	Gigabit	FC2
SCSI SE, Gigabit, PRO/1000, FC2	SCSI SE		PRO/1000	Gigabit	FC2
SCSI SE, PRO/1000, PRO/1000, FC2	SCSI SE		PRO/1000	PRO/1000	FC2
SCSI SE, Gigabit, Gigabit, FC1	SCSI SE		Gigabit	Gigabit	FC1
SCSI SE, Gigabit, PRO/1000, FC1	SCSI SE		PRO/1000	Gigabit	FC1
SCSI SE, PRO/1000, PRO/1000, FC1	SCSI SE		PRO/1000	PRO/1000	FC1
SCSI SE, Gigabit, ServeRAID, FC2	SCSI SE		ServeRAID	Gigabit	FC2
SCSI SE, PRO/1000, ServeRAID, FC2	SCSI SE		ServeRAID	PRO/1000	FC2
SCSI SE, Gigabit, ServeRAID, FC1	SCSI SE		ServeRAID	Gigabit	FC1
SCSI SE, PRO/1000, ServeRAID, FC1	SCSI SE		ServeRAID	PRO/1000	FC1
SCSI SE, Gigabit, FC1, FC1	SCSI SE		Gigabit	FC1	FC1
SCSI SE, PRO/1000, FC1, FC1	SCSI SE		PRO/1000	FC1	FC1
SCSI SE, ServeRAID, FC1, FC1	SCSI SE		ServeRAID	FC1	FC1

Table 44. NAS 300 four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Gigabit, SCSI LVD/SE, FC2		SCSI LVD/SE	Gigabit	Gigabit	FC2
Gigabit, Gigabit, SCSI HVD, FC2	SCSI HVD		Gigabit	Gigabit	FC2
Gigabit, PRO/1000, SCSI LVD/SE, FC2		SCSI LVD/SE	PRO/1000	Gigabit	FC2
Gigabit, PRO/1000, SCSI HVD, FC2	SCSI HVD		PRO/1000	Gigabit	FC2
PRO/1000, PRO/1000, SCSI LVD/SE, FC2		SCSI LVD/SE	PRO/1000	PRO/1000	FC2
Gigabit, Gigabit, SCSI LVD/SE, FC1		SCSI LVD/SE	Gigabit	Gigabit	FC1
Gigabit, Gigabit, SCSI HVD, FC1	SCSI HVD		Gigabit	Gigabit	FC1
Gigabit, PRO/1000, SCSI LVD/SE, FC1		SCSI LVD/SE	PRO/1000	Gigabit	FC1
Gigabit, PRO/1000, SCSI HVD, FC1	SCSI HVD		PRO/1000	Gigabit	FC1
PRO/1000, PRO/1000, SCSI LVD/SE, FC1		SCSI LVD/SE	PRO/1000	PRO/1000	FC1
PRO/1000, PRO/1000, SCSI HVD, FC1	SCSI HVD		PRO/1000	PRO/1000	FC1
Gigabit, Gigabit, ServeRAID, FC2		ServeRAID	Gigabit	Gigabit	FC2
Gigabit, PRO/1000, ServeRAID, FC2		ServeRAID	PRO/1000	Gigabit	FC2
PRO/1000, PRO/1000, ServeRAID, FC2		ServeRAID	PRO/1000	PRO/1000	FC2
Gigabit, Gigabit, ServeRAID, FC1		ServeRAID	Gigabit	Gigabit	FC1
Gigabit, PRO/1000, ServeRAID, FC1		ServeRAID	PRO/1000	Gigabit	FC1
PRO/1000, PRO/1000, ServeRAID, FC1		ServeRAID	PRO/1000	PRO/1000	FC1
Gigabit, Gigabit, FC2, FC1		Gigabit	Gigabit	FC1	FC2
Gigabit, PRO/1000, FC2, FC1		PRO/1000	Gigabit	FC1	FC2
PRO/1000, PRO/1000, FC2, FC1		PRO/1000	PRO/1000	FC1	FC2
Gigabit, Gigabit, FC1, FC1		Gigabit	Gigabit	FC1	FC1
Gigabit, PRO/1000, FC1, FC1		PRO/1000	Gigabit	FC1	FC1
PRO/1000, PRO/1000, FC1, FC1		PRO/1000	PRO/1000	FC1	FC1
Gigabit, SCSI LVD/SE, ServeRAID, FC2		SCSI LVD/SE	ServeRAID	Gigabit	FC2
Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD		ServeRAID	Gigabit	FC2
PRO/1000, SCSI LVD/SE, ServeRAID, FC2		SCSI LVD/SE	ServeRAID	PRO/1000	FC2
PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD		ServeRAID	PRO/1000	FC2
Gigabit, SCSI LVD/SE, ServeRAID, FC1		SCSI LVD/SE	ServeRAID	Gigabit	FC1
Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD		ServeRAID	Gigabit	FC1
PRO/1000, SCSI LVD/SE, ServeRAID, FC1		SCSI LVD/SE	ServeRAID	PRO/1000	FC1
PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD		ServeRAID	PRO/1000	FC1

Table 44. NAS 300 four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, ServeRAID, FC2, FC1		ServeRAID	Gigabit	FC1	FC2
PRO/1000, ServeRAID, FC2, FC1		ServeRAID	PRO/1000	FC1	FC2
Gigabit, ServeRAID, FC1, FC1		ServeRAID	Gigabit	FC1	FC1
SCSI LVD/SE, PRO/1000, FC1, FC1		SCSI LVD/SE	PRO/1000	FC1	FC1
Gigabit, FC1, FC1, FC1		Gigabit	FC1	FC1	FC1
PRO/1000, FC1, FC1, FC1		PRO/1000	FC1	FC1	FC1
SCSI LVD/SE, ServeRAID, FC1, FC1		SCSI LVD/SE	ServeRAID	FC1	FC1
ServeRAID, FC1, FC1, FC1		ServeRAID	FC1	FC1	FC1

Table 45. NAS 300 five-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, SCSI SE, Gigabit, FC2	RSA	SCSI SE	Quad	Gigabit	FC2
RSA, Quad, SCSI SE, PRO/1000, FC2	RSA	SCSI SE	Quad	PRO/1000	FC2
RSA, Quad, SCSI SE, Gigabit, FC1	RSA	SCSI SE	Quad	Gigabit	FC1
RSA, Quad, SCSI SE, PRO/1000, FC1	RSA	SCSI SE	Quad	PRO/1000	FC1
RSA, Quad, Gigabit, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Quad	Gigabit	FC2
RSA, Quad, PRO/1000, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Quad	PRO/1000	FC2
RSA, Quad, PRO/1000, SCSI HVD, FC2	RSA	SCSI HVD	Quad	PRO/1000	FC2
RSA, Quad, Gigabit, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Quad	Gigabit	FC1
RSA, Quad, Gigabit, SCSI HVD, FC1	RSA	SCSI HVD	Quad	Gigabit	FC1
RSA, Quad, PRO/1000, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Quad	PRO/1000	FC1
RSA, Quad, PRO/1000, SCSI HVD, FC1	RSA	SCSI HVD	Quad	PRO/1000	FC1
RSA, Quad, Gigabit, ServeRAID, FC2	RSA	ServeRAID	Quad	Gigabit	FC2
RSA, Quad, PRO/1000, ServeRAID, FC2	RSA	ServeRAID	Quad	PRO/1000	FC2
RSA, Quad, Gigabit, ServeRAID, FC1	RSA	ServeRAID	Quad	Gigabit	FC1
RSA, Quad, PRO/1000, ServeRAID, FC1	RSA	ServeRAID	Quad	PRO/1000	FC1
RSA, Quad, Gigabit, FC2, FC1	RSA	Quad	Gigabit	FC1	FC2
RSA, Quad, PRO/1000, FC2, FC1	RSA	Quad	PRO/1000	FC1	FC2
RSA, Quad, Gigabit, FC1, FC1	RSA	Quad	Gigabit	FC1	FC1
RSA, Quad, PRO/1000, FC1, FC1	RSA	Quad	PRO/1000	FC1	FC1
RSA, Quad, SCSI SE, ServeRAID, FC2	RSA	ServeRAID	SCSI SE	Quad	FC2
RSA, Quad, SCSI SE, ServeRAID, FC1	RSA	ServeRAID	SCSI SE	Quad	FC1
RSA, Quad, SCSI SE, FC1, FC1	RSA	SCSI SE	Quad	FC1	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, Gigabit, Gigabit, FC2	RSA	Quad	Gigabit	Gigabit	FC2
RSA, Quad, Gigabit, PRO/1000, FC2	RSA	Quad	PRO/1000	Gigabit	FC2
RSA, Quad, PRO/1000, PRO/1000, FC2	RSA	Quad	PRO/1000	PRO/1000	FC2
RSA, Quad, Gigabit, Gigabit, FC1	RSA	Quad	Gigabit	Gigabit	FC1
RSA, Quad, Gigabit, PRO/1000, FC1	RSA	Quad	PRO/1000	Gigabit	FC1
RSA, Quad, PRO/1000, PRO/1000, FC1	RSA	Quad	PRO/1000	PRO/1000	FC1
RSA, Quad, Gigabit, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Quad	Gigabit	FC2
RSA, Quad, Gigabit, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Quad	Gigabit	FC1
RSA, Quad, Gigabit, ServeRAID, FC2	RSA	ServeRAID	Quad	Gigabit	FC2
RSA, Quad, Gigabit, ServeRAID, FC1	RSA	ServeRAID	Quad	Gigabit	FC1
RSA, Quad, Gigabit, FC2, FC1	RSA	Quad	Gigabit	FC1	FC2
RSA, Quad, Gigabit, FC1, FC1	RSA	Quad	Gigabit	FC1	FC1
RSA, Quad, SCSI LVD/SE, ServeRAID, FC2	RSA	SCSI LVD/SE	ServeRAID	Quad	FC2
RSA, Quad, SCSI HVD, ServeRAID, FC2	RSA	SCSI HVD	ServeRAID	Quad	FC2
RSA, Quad, SCSI LVD/SE, ServeRAID, FC1	RSA	SCSI LVD/SE	ServeRAID	Quad	FC1
RSA, Quad, SCSI LVD/SE, FC1, FC1	RSA	SCSI LVD/SE	Quad	FC1	FC1
RSA, Quad, SCSI HVD, FC1, FC1	RSA	SCSI HVD	Quad	FC1	FC1
RSA, Quad, ServeRAID, FC2, FC1	RSA	ServeRAID	Quad	FC1	FC2
RSA, Quad, ServeRAID, FC1, FC1	RSA	ServeRAID	Quad	FC1	FC1
RSA, Quad, FC1, FC1, FC1	RSA	Quad	FC1	FC1	FC1
RSA, Ethernet, Ethernet, Gigabit, FC2	RSA	Ethernet	Ethernet	Gigabit	FC2
RSA, Ethernet, Ethernet, PRO/1000, FC2	RSA	Ethernet	Ethernet	PRO/1000	FC2
RSA, Ethernet, Ethernet, Gigabit, FC1	RSA	Ethernet	Ethernet	Gigabit	FC1
RSA, Ethernet, Ethernet, PRO/1000, FC1	RSA	Ethernet	Ethernet	PRO/1000	FC1
RSA, Ethernet, Ethernet, SCSI LVD/SE, FC2	RSA	Ethernet	Ethernet	SCSI LVD/SE	FC2
RSA, Ethernet, Ethernet, SCSI LVD/SE, FC1	RSA	Ethernet	Ethernet	SCSI LVD/SE	FC1
RSA, Ethernet, Ethernet, ServeRAID, FC2	RSA	Ethernet	Ethernet	ServeRAID	FC2
RSA, Ethernet, Ethernet, ServeRAID, FC1	RSA	Ethernet	Ethernet	ServeRAID	FC1
RSA, Ethernet, Ethernet, FC2, FC1	RSA	Ethernet	Ethernet	FC1	FC2
RSA, Ethernet, Ethernet, FC1, FC1	RSA	Ethernet	Ethernet	FC1	FC1
RSA, Ethernet, SCSI SE, Gigabit, FC2	RSA	SCSI SE	Ethernet	Gigabit	FC2
RSA, Ethernet, SCSI SE, Gigabit, FC1	RSA	SCSI SE	Ethernet	Gigabit	FC1
RSA, Ethernet, SCSI SE, ServeRAID, FC2	RSA	SCSI SE	Ethernet	ServeRAID	FC2

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Ethernet, SCSI SE, PRO/1000, FC2	RSA	SCSI SE	Ethernet	PRO/1000	FC2
RSA, Ethernet, SCSI SE, ServeRAID, FC1	RSA	SCSI SE	Ethernet	ServeRAID	FC1
RSA, Ethernet, SCSI SE, PRO/1000, FC1	RSA	SCSI SE	Ethernet	PRO/1000	FC1
RSA, Ethernet, SCSI SE, FC1, FC1	RSA	SCSI SE	Ethernet	FC1	FC1
RSA, Ethernet, Gigabit, Gigabit, FC2	RSA	Ethernet	Gigabit	Gigabit	FC2
RSA, Ethernet, Gigabit, PRO/1000, FC2	RSA	Ethernet	PRO/1000	Gigabit	FC2
RSA, Ethernet, PRO/1000, PRO/1000, FC2	RSA	Ethernet	PRO/1000	PRO/1000	FC2
RSA, Ethernet, Gigabit, Gigabit, FC1	RSA	Ethernet	Gigabit	Gigabit	FC1
RSA, Ethernet, Gigabit, PRO/1000, FC1	RSA	Ethernet	PRO/1000	Gigabit	FC1
RSA, Ethernet, PRO/1000, PRO/1000, FC1	RSA	Ethernet	PRO/1000	PRO/1000	FC1
RSA, Ethernet, Gigabit, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Ethernet	Gigabit	FC2
RSA, Ethernet, Gigabit, SCSI HVD, FC2	RSA	SCSI HVD	Ethernet	Gigabit	FC2
RSA, Ethernet, PRO/1000, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Ethernet	PRO/1000	FC2
RSA, Ethernet, PRO/1000, SCSI HVD, FC2	RSA	SCSI HVD	Ethernet	PRO/1000	FC2
RSA, Ethernet, Gigabit, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Ethernet	Gigabit	FC1
RSA, Ethernet, Gigabit, SCSI HVD, FC1	RSA	SCSI HVD	Ethernet	Gigabit	FC1
RSA, Ethernet, PRO/1000, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Ethernet	PRO/1000	FC1
RSA, Ethernet, PRO/1000, SCSI HVD, FC1	RSA	SCSI HVD	Ethernet	PRO/1000	FC1
RSA, Ethernet, Gigabit, ServeRAID, FC2	RSA	ServeRAID	Ethernet	Gigabit	FC2
RSA, Ethernet, PRO/1000, ServeRAID, FC2	RSA	ServeRAID	Ethernet	PRO/1000	FC2
RSA, Ethernet, Gigabit, ServeRAID, FC1	RSA	ServeRAID	Ethernet	Gigabit	FC1
RSA, Ethernet, PRO/1000, ServeRAID, FC1	RSA	ServeRAID	Ethernet	PRO/1000	FC1
RSA, Ethernet, Gigabit, FC2, FC1	RSA	Ethernet	Gigabit	FC1	FC2
RSA, Ethernet, PRO/1000, FC2, FC1	RSA	Ethernet	PRO/1000	FC1	FC2
RSA, Ethernet, Gigabit, FC1, FC1	RSA	Ethernet	Gigabit	FC1	FC1
RSA, Ethernet, PRO/1000, FC1, FC1	RSA	Ethernet	PRO/1000	FC1	FC1
RSA, Ethernet, SCSI LVD/SE, ServeRAID, FC2	RSA	SCSI LVD/SE	Ethernet	ServeRAID	FC2
RSA, Ethernet, SCSI HVD, ServeRAID, FC2	RSA	SCSI HVD	Ethernet	ServeRAID	FC2
RSA, Ethernet, SCSI LVD/SE, ServeRAID, FC1	RSA	SCSI LVD/SE	Ethernet	ServeRAID	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Ethernet, SCSI HVD, ServeRAID, FC1	RSA	SCSI HVD	Ethernet	ServeRAID	FC1
RSA, Ethernet, SCSI LVD/SE, FC1, FC1	RSA	SCSI LVD/SE	Ethernet	FC1	FC1
RSA, Ethernet, SCSI HVD, FC1, FC1	RSA	SCSI HVD	Ethernet	FC1	FC1
RSA, Ethernet, ServeRAID, FC2, FC1	RSA	ServeRAID	Ethernet	FC1	FC2
RSA, Ethernet, ServeRAID, FC1, FC1	RSA	ServeRAID	Ethernet	FC1	FC1
RSA, Ethernet, FC1, FC1, FC1	RSA	Ethernet	FC1	FC1	FC1
RSA, SCSI SE, Gigabit, Gigabit, FC2	RSA	SCSI SE	Gigabit	Gigabit	FC2
RSA, SCSI SE, Gigabit, PRO/1000, FC2	RSA	SCSI SE	PRO/1000	Gigabit	FC2
RSA, SCSI SE, PRO/1000, PRO/1000, FC2	RSA	SCSI SE	PRO/1000	PRO/1000	FC2
RSA, SCSI SE, Gigabit, Gigabit, FC1	RSA	SCSI SE	Gigabit	Gigabit	FC1
RSA, SCSI SE, Gigabit, PRO/1000, FC1	RSA	SCSI SE	PRO/1000	Gigabit	FC1
RSA, SCSI SE, PRO/1000, PRO/1000, FC1	RSA	SCSI SE	PRO/1000	PRO/1000	FC1
RSA, SCSI SE, Gigabit, ServeRAID, FC2	RSA	ServeRAID	SCSI SE	Gigabit	FC2
RSA, SCSI SE, PRO/1000, ServeRAID, FC2	RSA	ServeRAID	SCSI SE	PRO/1000	FC2
RSA, SCSI SE, Gigabit, ServeRAID, FC1	RSA	ServeRAID	SCSI SE	Gigabit	FC1
RSA, SCSI SE, PRO/1000, ServeRAID, FC1	RSA	ServeRAID	SCSI SE	PRO/1000	FC1
RSA, SCSI SE, Gigabit, FC1, FC1	RSA	SCSI SE	Gigabit	FC1	FC1
RSA, SCSI SE, PRO/1000, FC1, FC1	RSA	SCSI SE	PRO/1000	FC1	FC1
RSA, SCSI SE, ServeRAID, FC1, FC1	RSA	ServeRAID	SCSI SE	FC1	FC1
RSA, SCSI SE, FC1, FC1, FC1	RSA	SCSI SE	FC1	FC1	FC1
RSA, Gigabit, Gigabit, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	Gigabit	Gigabit	FC2
RSA, Gigabit, Gigabit, SCSI HVD, FC2	RSA	SCSI HVD	Gigabit	Gigabit	FC2
RSA, Gigabit, PRO/1000, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	PRO/1000	Gigabit	FC2
RSA, Gigabit, PRO/1000, SCSI HVD, FC2	RSA	SCSI HVD	PRO/1000	Gigabit	FC2
RSA, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE	PRO/1000	PRO/1000	FC2
RSA, PRO/1000, PRO/1000, SCSI HVD, FC2	RSA	SCSI HVD	PRO/1000	PRO/1000	FC2
RSA, Gigabit, Gigabit, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	Gigabit	Gigabit	FC1
RSA, Gigabit, Gigabit, SCSI HVD, FC1	RSA	SCSI HVD	Gigabit	Gigabit	FC1
RSA, Gigabit, PRO/1000, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	PRO/1000	Gigabit	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Gigabit, PRO/1000, SCSI HVD, FC1	RSA	SCSI HVD	PRO/1000	Gigabit	FC1
RSA, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE	PRO/1000	PRO/1000	FC1
RSA, PRO/1000, PRO/1000, SCSI HVD, FC1	RSA	SCSI HVD	PRO/1000	PRO/1000	FC1
RSA, Gigabit, Gigabit, ServeRAID, FC2	RSA	ServeRAID	Gigabit	Gigabit	FC2
RSA, Gigabit, PRO/1000, ServeRAID, FC2	RSA	ServeRAID	PRO/1000	Gigabit	FC2
RSA, PRO/1000, PRO/1000, ServeRAID, FC2	RSA	ServeRAID	PRO/1000	PRO/1000	FC2
RSA, Gigabit, Gigabit, ServeRAID, FC1	RSA	ServeRAID	Gigabit	Gigabit	FC1
RSA, Gigabit, PRO/1000, ServeRAID, FC1	RSA	ServeRAID	PRO/1000	Gigabit	FC1
RSA, PRO/1000, PRO/1000, ServeRAID, FC1	RSA	ServeRAID	PRO/1000	PRO/1000	FC1
RSA, Gigabit, Gigabit, FC2, FC1	RSA	Gigabit	Gigabit	FC1	FC2
RSA, Gigabit, PRO/1000, FC2, FC1	RSA	PRO/1000	Gigabit	FC1	FC2
RSA, PRO/1000, PRO/1000, FC2, FC1	RSA	PRO/1000	PRO/1000	FC1	FC2
RSA, Gigabit, Gigabit, FC1, FC1	RSA	Gigabit	Gigabit	FC1	FC1
RSA, Gigabit, PRO/1000, FC1, FC1	RSA	PRO/1000	Gigabit	FC1	FC1
RSA, PRO/1000, PRO/1000, FC1, FC1	RSA	PRO/1000	PRO/1000	FC1	FC1
RSA, Gigabit, SCSI LVD/SE, ServeRAID, FC2	RSA	SCSI LVD/SE	ServeRAID	Gigabit	FC2
RSA, Gigabit, SCSI HVD, ServeRAID, FC2	RSA	SCSI HVD	ServeRAID	Gigabit	FC2
RSA, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	RSA	SCSI LVD/SE	ServeRAID	PRO/1000	FC2
RSA, PRO/1000, SCSI HVD, ServeRAID, FC2	RSA	SCSI HVD	ServeRAID	PRO/1000	FC2
RSA, Gigabit, SCSI LVD/SE, ServeRAID, FC1	RSA	SCSI LVD/SE	ServeRAID	Gigabit	FC1
RSA, Gigabit, SCSI HVD, ServeRAID, FC1	RSA	SCSI HVD	ServeRAID	Gigabit	FC1
RSA, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	RSA	SCSI LVD/SE	ServeRAID	PRO/1000	FC1
RSA, PRO/1000, SCSI HVD, ServeRAID, FC1	RSA	SCSI HVD	ServeRAID	PRO/1000	FC1
RSA, Gigabit, SCSI LVD/SE, FC1, FC1	RSA	SCSI LVD/SE	Gigabit	FC1	FC1
RSA, Gigabit, SCSI HVD, FC1, FC1	RSA	SCSI HVD	Gigabit	FC1	FC1
RSA, PRO/1000, SCSI LVD/SE, FC1, FC1	RSA	SCSI LVD/SE	PRO/1000	FC1	FC1
RSA, PRO/1000, SCSI HVD, FC1, FC1	RSA	SCSI HVD	PRO/1000	FC1	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Gigabit, ServeRAID, FC2, FC1	RSA	ServeRAID	Gigabit	FC1	FC2
RSA, PRO/1000, ServeRAID, FC2, FC1	RSA	ServeRAID	PRO/1000	FC1	FC2
RSA, Gigabit, ServeRAID, FC1, FC1	RSA	ServeRAID	Gigabit	FC1	FC1
RSA, PRO/1000, ServeRAID, FC1, FC1	RSA	ServeRAID	PRO/1000	FC1	FC1
RSA, Gigabit, FC1, FC1, FC1	RSA	FC1	FC1	FC1	Gigabit
RSA, PRO/1000, FC1, FC1, FC1	RSA	FC1	FC1	FC1	PRO/1000
RSA, SCSI LVD/SE, ServeRAID, FC1, FC1	RSA	SCSI LVD/SE	ServeRAID	FC1	FC1
RSA, SCSI HVD, ServeRAID, FC1, FC1	RSA	SCSI HVD	ServeRAID	FC1	FC1
RSA, ServeRAID, FC1, FC1, FC1	RSA	ServeRAID	FC1	FC1	FC1
Quad, SCSI SE, Gigabit, Gigabit, FC2	SCSI SE	Quad	Gigabit	Gigabit	FC2
Quad, SCSI SE, Gigabit, PRO/1000, FC2	SCSI SE	Quad	PRO/1000	Gigabit	FC2
Quad, SCSI SE, PRO/1000, PRO/1000, FC2	SCSI SE	Quad	PRO/1000	PRO/1000	FC2
Quad, SCSI SE, Gigabit, Gigabit, FC1	SCSI SE	Quad	Gigabit	Gigabit	FC1
Quad, SCSI SE, Gigabit, PRO/1000, FC1	SCSI SE	Quad	PRO/1000	Gigabit	FC1
Quad, SCSI SE, PRO/1000, PRO/1000, FC1	SCSI SE	Quad	PRO/1000	PRO/1000	FC1
Quad, SCSI SE, Gigabit, ServeRAID, FC2	SCSI SE	ServeRAID	Quad	Gigabit	FC2
Quad, SCSI SE, PRO/1000, ServeRAID, FC2	SCSI SE	ServeRAID	Quad	PRO/1000	FC2
Quad, SCSI SE, Gigabit, ServeRAID, FC1	SCSI SE	ServeRAID	Quad	Gigabit	FC1
Quad, SCSI SE, PRO/1000, ServeRAID, FC1	SCSI SE	ServeRAID	Quad	PRO/1000	FC1
Quad, SCSI SE, Gigabit, FC1, FC1	SCSI SE	Quad	Gigabit	FC1	FC1
Quad, SCSI SE, PRO/1000, FC1, FC1	SCSI SE	Quad	PRO/1000	FC1	FC1
Quad, SCSI SE, ServeRAID, FC1, FC1	SCSI SE	ServeRAID	Quad	FC1	FC1
Quad, Gigabit, Gigabit, SCSI LVD/SE, FC2	SCSI LVD/SE	Quad	Gigabit	Gigabit	FC2
Quad, Gigabit, Gigabit, SCSI HVD, FC2	SCSI HVD	Quad	Gigabit	Gigabit	FC2
Quad, Gigabit, PRO/1000, SCSI LVD/SE, FC2	SCSI LVD/SE	Quad	PRO/1000	Gigabit	FC2
Quad, Gigabit, PRO/1000, SCSI HVD, FC2	SCSI HVD	Quad	PRO/1000	Gigabit	FC2
Quad, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	SCSI LVD/SE	Quad	PRO/1000	PRO/1000	FC2
Quad, PRO/1000, PRO/1000, SCSI HVD, FC2	SCSI HVD	Quad	PRO/1000	PRO/1000	FC2
Quad, Gigabit, Gigabit, SCSI LVD/SE, FC1	SCSI LVD/SE	Quad	Gigabit	Gigabit	FC1
Quad, Gigabit, Gigabit, SCSI HVD, FC1	SCSI HVD	Quad	Gigabit	Gigabit	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, Gigabit, PRO/1000, SCSI LVD/SE, FC1	SCSI LVD/SE	Quad	PRO/1000	Gigabit	FC1
Quad, Gigabit, PRO/1000, SCSI HVD, FC1	SCSI HVD	Quad	PRO/1000	Gigabit	FC1
Quad, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	SCSI LVD/SE	Quad	PRO/1000	PRO/1000	FC1
Quad, PRO/1000, PRO/1000, SCSI HVD, FC1	SCSI HVD	Quad	PRO/1000	PRO/1000	FC1
Quad, Gigabit, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	ServeRAID	Quad	Gigabit	FC2
Quad, Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID	Quad	Gigabit	FC2
Quad, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	ServeRAID	Quad	PRO/1000	FC2
Quad, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID	Quad	PRO/1000	FC2
Quad, Gigabit, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	ServeRAID	Quad	Gigabit	FC1
Quad, Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID	Quad	Gigabit	FC1
Quad, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	ServeRAID	Quad	PRO/1000	FC1
Quad, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID	Quad	PRO/1000	FC1
Quad, Gigabit, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Quad	Gigabit	FC1	FC1
Quad, Gigabit, SCSI HVD, FC1, FC1	SCSI HVD	Quad	Gigabit	FC1	FC1
Quad, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Quad	PRO/1000	FC1	FC1
Quad, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	Quad	PRO/1000	FC1	FC1
Quad, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	ServeRAID	Quad	FC1	FC1
Quad, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	ServeRAID	Quad	FC1	FC1
Ethernet, Ethernet, Ethernet, Gigabit, FC2	Ethernet	Ethernet	Ethernet	Gigabit	FC2
Ethernet, Ethernet, Ethernet, PRO/1000, FC2	Ethernet	Ethernet	Ethernet	PRO/1000	FC2
Ethernet, Ethernet, Ethernet, Gigabit, FC1	Ethernet	Ethernet	Ethernet	Gigabit	FC1
Ethernet, Ethernet, Ethernet, PRO/1000, FC1	Ethernet	Ethernet	Ethernet	PRO/1000	FC1
Ethernet, Ethernet, Ethernet, SCSI LVD/SE, FC2	Ethernet	Ethernet	Ethernet	SCSI LVD/SE	FC2
Ethernet, Ethernet, Ethernet, SCSI LVD/SE, FC1	Ethernet	Ethernet	Ethernet	SCSI LVD/SE	FC1
Ethernet, Ethernet, Ethernet, ServeRAID, FC2	Ethernet	Ethernet	Ethernet	ServeRAID	FC2

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Ethernet, Ethernet, ServeRAID, FC1	Ethernet	Ethernet	Ethernet	ServeRAID	FC1
Ethernet, Ethernet, Ethernet, FC2, FC1	Ethernet	Ethernet	Ethernet	FC1	FC2
Ethernet, Ethernet, Ethernet, FC1, FC1	Ethernet	Ethernet	Ethernet	FC1	FC1
Ethernet, Ethernet, SCSI SE, Gigabit, FC2	Ethernet	SCSI SE	Ethernet	Gigabit	FC2
Ethernet, Ethernet, SCSI SE, PRO/1000, FC2	Ethernet	SCSI SE	Ethernet	PRO/1000	FC2
Ethernet, Ethernet, SCSI SE, Gigabit, FC1	Ethernet	SCSI SE	Ethernet	Gigabit	FC1
Ethernet, Ethernet, SCSI SE, PRO/1000, FC1	Ethernet	SCSI SE	Ethernet	PRO/1000	FC1
Ethernet, Ethernet, SCSI SE, ServeRAID, FC2	Ethernet	SCSI SE	Ethernet	ServeRAID	FC2
Ethernet, Ethernet, SCSI SE, ServeRAID, FC1	Ethernet	SCSI SE	Ethernet	ServeRAID	FC1
Ethernet, Ethernet, SCSI SE, FC2, FC1	Ethernet	SCSI SE	Ethernet	FC1	FC2
Ethernet, Ethernet, SCSI SE, FC1, FC1	Ethernet	SCSI SE	Ethernet	FC1	FC1
Ethernet, Ethernet, Gigabit, Gigabit, FC2	Ethernet	Ethernet	Gigabit	Gigabit	FC2
Ethernet, Ethernet, Gigabit, PRO/1000, FC2	Ethernet	Ethernet	PRO/1000	Gigabit	FC2
Ethernet, Ethernet, PRO/1000, PRO/1000, FC2	Ethernet	Ethernet	PRO/1000	PRO/1000	FC2
Ethernet, Ethernet, Gigabit, Gigabit, FC1	Ethernet	Ethernet	Gigabit	Gigabit	FC2
Ethernet, Ethernet, Gigabit, PRO/1000, FC1	Ethernet	Ethernet	PRO/1000	Gigabit	FC1
Ethernet, Ethernet, PRO/1000, PRO/1000, FC1	Ethernet	Ethernet	PRO/1000	PRO/1000	FC1
Ethernet, Ethernet, Gigabit, SCSI LVD/SE, FC2	Ethernet	Ethernet	SCSI LVD/SE	Gigabit	FC2
Ethernet, Ethernet, Gigabit, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD	Gigabit	FC2
Ethernet, Ethernet, PRO/1000, SCSI LVD/SE, FC2	Ethernet	Ethernet	SCSI LVD/SE	PRO/1000	FC2
Ethernet, Ethernet, PRO/1000, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD	PRO/1000	FC2
Ethernet, Ethernet, Gigabit, SCSI LVD/SE, FC1	Ethernet	Ethernet	SCSI LVD/SE	Gigabit	FC1
Ethernet, Ethernet, Gigabit, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD	Gigabit	FC1
Ethernet, Ethernet, PRO/1000, SCSI LVD/SE, FC1	Ethernet	Ethernet	SCSI LVD/SE	PRO/1000	FC1
Ethernet, Ethernet, PRO/1000, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD	PRO/1000	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Ethernet, Gigabit, ServeRAID, FC2	Ethernet	Ethernet	ServeRAID	Gigabit	FC2
Ethernet, Ethernet, PRO/1000, ServeRAID, FC2	Ethernet	Ethernet	ServeRAID	PRO/1000	FC2
Ethernet, Ethernet, Gigabit, ServeRAID, FC1	Ethernet	Ethernet	ServeRAID	Gigabit	FC1
Ethernet, Ethernet, PRO/1000, ServeRAID, FC1	Ethernet	Ethernet	ServeRAID	PRO/1000	FC1
Ethernet, Ethernet, Gigabit, FC2, FC1	Ethernet	Ethernet	Gigabit	FC1	FC2
Ethernet, Ethernet, PRO/1000, FC2, FC1	Ethernet	PRO/1000	Ethernet	FC1	FC2
Ethernet, Ethernet, Gigabit, FC1, FC1	Ethernet	Ethernet	Gigabit	FC1	FC1
Ethernet, Ethernet, PRO/1000, FC1, FC1	Ethernet	Ethernet	PRO/1000	FC1	FC1
Ethernet, Ethernet, SCSI LVD/SE, ServeRAID, FC2	Ethernet	SCSI LVD/SE	Ethernet	ServeRAID	FC2
Ethernet, Ethernet, SCSI HVD, ServeRAID, FC2	Ethernet	SCSI HVD	Ethernet	ServeRAID	FC2
Ethernet, Ethernet, SCSI LVD/SE, ServeRAID, FC1	Ethernet	SCSI LVD/SE	Ethernet	ServeRAID	FC1
Ethernet, Ethernet, SCSI HVD, ServeRAID, FC1	Ethernet	SCSI HVD	Ethernet	ServeRAID	FC1
Ethernet, Ethernet, SCSI LVD/SE, FC1, FC1	Ethernet	SCSI LVD/SE	Ethernet	FC1	FC1
Ethernet, Ethernet, SCSI HVD, FC1, FC1	Ethernet	SCSI HVD	Ethernet	FC1	FC1
Ethernet, Ethernet, ServeRAID, FC2, FC1	Ethernet	ServeRAID	Ethernet	FC1	FC2
Ethernet, Ethernet, ServeRAID, FC1, FC1	Ethernet	ServeRAID	Ethernet	FC1	FC1
Ethernet, Ethernet, FC1, FC1, FC1	Ethernet	Ethernet	FC1	FC1	FC1
Ethernet, SCSI SE, Gigabit, Gigabit, FC2	Ethernet	SCSI SE	Gigabit	Gigabit	FC2
Ethernet, SCSI SE, Gigabit, PRO/1000, FC2	Ethernet	SCSI SE	PRO/1000	Gigabit	FC2
Ethernet, SCSI SE, PRO/1000, PRO/1000, FC2	Ethernet	SCSI SE	PRO/1000	PRO/1000	FC2
Ethernet, SCSI SE, Gigabit, Gigabit, FC1	Ethernet	SCSI SE	Gigabit	Gigabit	FC1
Ethernet, SCSI SE, Gigabit, PRO/1000, FC1	Ethernet	SCSI SE	Gigabit	PRO/1000	FC1
Ethernet, SCSI SE, PRO/1000, PRO/1000, FC1	Ethernet	SCSI SE	PRO/1000	PRO/1000	FC1
Ethernet, SCSI SE, Gigabit, ServeRAID, FC2	Ethernet	ServeRAID	SCSI SE	Gigabit	FC2
Ethernet, SCSI SE, PRO/1000, ServeRAID, FC2	Ethernet	ServeRAID	SCSI SE	PRO/1000	FC2
Ethernet, SCSI SE, Gigabit, ServeRAID, FC1	Ethernet	ServeRAID	SCSI SE	Gigabit	FC1
Ethernet, SCSI SE, PRO/1000, ServeRAID, FC1	Ethernet	ServeRAID	SCSI SE	PRO/1000	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, SCSI SE, Gigabit, FC1, FC1	Ethernet	SCSI SE	Gigabit	FC1	FC1
Ethernet, SCSI SE, PRO/1000, FC1, FC1	Ethernet	SCSI SE	PRO/1000	FC1	FC1
Ethernet, SCSI SE, ServeRAID, FC1, FC1	Ethernet	ServeRAID	SCSI SE	FC1	FC1
Ethernet, Gigabit, Gigabit, SCSI LVD/SE, FC2	Ethernet	SCSI LVD/SE	Gigabit	Gigabit	FC2
Ethernet, Gigabit, Gigabit, SCSI HVD, FC2	Ethernet	SCSI HVD	Gigabit	Gigabit	FC2
Ethernet, Gigabit, PRO/1000, SCSI LVD/SE, FC2	Ethernet	SCSI LVD/SE	PRO/1000	Gigabit	FC2
Ethernet, Gigabit, PRO/1000, SCSI HVD, FC2	Ethernet	SCSI HVD	PRO/1000	Gigabit	FC2
Ethernet, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	Ethernet	SCSI LVD/SE	PRO/1000	PRO/1000	FC2
Ethernet, PRO/1000, PRO/1000, SCSI HVD, FC2	Ethernet	SCSI HVD	PRO/1000	PRO/1000	FC2
Ethernet, Gigabit, Gigabit, SCSI LVD/SE, FC1	Ethernet	SCSI LVD/SE	Gigabit	Gigabit	FC1
Ethernet, Gigabit, Gigabit, SCSI HVD, FC1	Ethernet	SCSI HVD	Gigabit	Gigabit	FC1
Ethernet, Gigabit, PRO/1000, SCSI LVD/SE, FC1	Ethernet	SCSI LVD/SE	PRO/1000	Gigabit	FC1
Ethernet, Gigabit, PRO/1000, SCSI HVD, FC1	Ethernet	SCSI HVD	PRO/1000	Gigabit	FC1
Ethernet, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	Ethernet	SCSI LVD/SE	PRO/1000	PRO/1000	FC1
Ethernet, PRO/1000, PRO/1000, SCSI HVD, FC1	Ethernet	SCSI HVD	PRO/1000	PRO/1000	FC1
Ethernet, Gigabit, Gigabit, ServeRAID, FC2	Ethernet	ServeRAID	Gigabit	Gigabit	FC2
Ethernet, Gigabit, PRO/1000, ServeRAID, FC2	Ethernet	ServeRAID	PRO/1000	Gigabit	FC2
Ethernet, PRO/1000, PRO/1000, ServeRAID, FC2	Ethernet	ServeRAID	PRO/1000	PRO/1000	FC2
Ethernet, Gigabit, Gigabit, ServeRAID, FC1	Ethernet	ServeRAID	Gigabit	Gigabit	FC1
Ethernet, Gigabit, PRO/1000, ServeRAID, FC1	Ethernet	ServeRAID	PRO/1000	Gigabit	FC1
Ethernet, PRO/1000, PRO/1000, ServeRAID, FC1	Ethernet	ServeRAID	PRO/1000	PRO/1000	FC1
Ethernet, Gigabit, Gigabit, FC2, FC1	Ethernet	Gigabit	Gigabit	FC1	FC2
Ethernet, Gigabit, PRO/1000, FC2, FC1	Ethernet	PRO/1000	Gigabit	FC1	FC2
Ethernet, PRO/1000, PRO/1000, FC2, FC1	Ethernet	PRO/1000	PRO/1000	FC1	FC2
Ethernet, Gigabit, Gigabit, FC1, FC1	Ethernet	Gigabit	Gigabit	FC1	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Gigabit, PRO/1000, FC1, FC1	Ethernet	PRO/1000	Gigabit	FC1	FC1
Ethernet, PRO/1000, PRO/1000, FC1, FC1	Ethernet	PRO/1000	PRO/1000	FC1	FC1
Ethernet, Gigabit, SCSI LVD/SE, ServeRAID, FC2	Ethernet	SCSI LVD/SE	ServeRAID	Gigabit	FC2
Ethernet, Gigabit, SCSI HVD, ServeRAID, FC2	Ethernet	SCSI HVD	ServeRAID	Gigabit	FC2
Ethernet, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	Ethernet	SCSI LVD/SE	ServeRAID	PRO/1000	FC2
Ethernet, PRO/1000, SCSI HVD, ServeRAID, FC2	Ethernet	SCSI HVD	ServeRAID	PRO/1000	FC2
Ethernet, Gigabit, SCSI LVD/SE, ServeRAID, FC1	Ethernet	ServeRAID	SCSI LVD/SE	Gigabit	FC1
Ethernet, Gigabit, SCSI HVD, ServeRAID, FC1	Ethernet	SCSI HVD	ServeRAID	Gigabit	FC1
Ethernet, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	Ethernet	SCSI LVD/SE	ServeRAID	PRO/1000	FC1
Ethernet, PRO/1000, SCSI HVD, ServeRAID, FC1	Ethernet	SCSI HVD	ServeRAID	PRO/1000	FC1
Ethernet, Gigabit, SCSI LVD/SE, FC1, FC1	Ethernet	SCSI LVD/SE	Gigabit	FC1	FC1
Ethernet, Gigabit, SCSI HVD, FC1, FC1	Ethernet	SCSI HVD	Gigabit	FC1	FC1
Ethernet, PRO/1000, SCSI LVD/SE, FC1, FC1	Ethernet	SCSI LVD/SE	PRO/1000	FC1	FC1
Ethernet, PRO/1000, SCSI HVD, FC1, FC1	Ethernet	SCSI HVD	PRO/1000	FC1	FC1
Ethernet, Gigabit, ServeRAID, FC2, FC1	Ethernet	ServeRAID	Gigabit	FC1	FC2
Ethernet, PRO/1000, ServeRAID, FC2, FC1	Ethernet	ServeRAID	PRO/1000	FC1	FC2
Ethernet, Gigabit, ServeRAID, FC1, FC1	Ethernet	ServeRAID	Gigabit	FC1	FC1
Ethernet, PRO/1000, ServeRAID, FC1, FC1	Ethernet	ServeRAID	PRO/1000	FC1	FC1
Ethernet, Gigabit, FC1, FC1, FC1	Ethernet	Gigabit	FC1	FC1	FC1
Ethernet, PRO/1000, FC1, FC1, FC1	Ethernet	PRO/1000	FC1	FC1	FC1
Ethernet, SCSI LVD/SE, ServeRAID, FC1, FC1	Ethernet	SCSI LVD/SE	ServeRAID	FC1	FC1
Ethernet, SCSI HVD, ServeRAID, FC1, FC1	Ethernet	SCSI HVD	ServeRAID	FC1	FC1
Ethernet, ServeRAID, FC1, FC1, FC1	Ethernet	ServeRAID	FC1	FC1	FC1
SCSI SE, Gigabit, Gigabit, ServeRAID, FC2	SCSI SE	ServeRAID	Gigabit	Gigabit	FC2
SCSI SE, Gigabit, PRO/1000, ServeRAID, FC2	SCSI SE	ServeRAID	PRO/1000	Gigabit	FC2

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
SCSI SE, PRO/1000, PRO/1000, ServeRAID, FC2	SCSI SE	ServeRAID	PRO/1000	PRO/1000	FC2
SCSI SE, Gigabit, Gigabit, ServeRAID, FC1	SCSI SE	ServeRAID	Gigabit	Gigabit	FC1
SCSI SE, Gigabit, PRO/1000, ServeRAID, FC1	SCSI SE	ServeRAID	PRO/1000	Gigabit	FC1
SCSI SE, PRO/1000, PRO/1000, ServeRAID, FC1	SCSI SE	ServeRAID	PRO/1000	PRO/1000	FC1
SCSI SE, Gigabit, Gigabit, FC1, FC1	SCSI SE	Gigabit	Gigabit	FC1	FC1
SCSI SE, Gigabit, PRO/1000, FC1, FC1	SCSI SE	PRO/1000	Gigabit	FC1	FC1
SCSI SE, PRO/1000, PRO/1000, FC1, FC1	SCSI SE	PRO/1000	PRO/1000	FC1	FC1
SCSI SE, Gigabit, ServeRAID, FC1, FC1	SCSI SE	ServeRAID	Gigabit	FC1	FC1
SCSI SE, PRO/1000, ServeRAID, FC1, FC1	SCSI SE	ServeRAID	PRO/1000	FC1	FC1
Gigabit, Gigabit, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	ServeRAID	Gigabit	Gigabit	FC2
Gigabit, Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID	Gigabit	Gigabit	FC2
Gigabit, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	ServeRAID	PRO/1000	Gigabit	FC2
Gigabit, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID	PRO/1000	Gigabit	FC2
PRO/1000, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	ServeRAID	PRO/1000	PRO/1000	FC2
PRO/1000, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID	PRO/1000	PRO/1000	FC2
Gigabit, Gigabit, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	ServeRAID	Gigabit	Gigabit	FC1
Gigabit, Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID	Gigabit	Gigabit	FC1
Gigabit, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	ServeRAID	PRO/1000	Gigabit	FC1
Gigabit, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID	PRO/1000	Gigabit	FC1
PRO/1000, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	ServeRAID	PRO/1000	PRO/1000	FC1
PRO/1000, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID	PRO/1000	PRO/1000	FC1
Gigabit, Gigabit, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Gigabit	Gigabit	FC1	FC1
Gigabit, Gigabit, SCSI HVD, FC1, FC1	SCSI HVD	Gigabit	Gigabit	FC1	FC1
Gigabit, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	PRO/1000	Gigabit	FC1	FC1
Gigabit, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	PRO/1000	Gigabit	FC1	FC1

Table 45. NAS 300 five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
PRO/1000, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	PRO/1000	PRO/1000	FC1	FC1
PRO/1000, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	PRO/1000	PRO/1000	FC1	FC1
Gigabit, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	ServeRAID	Gigabit	FC1	FC1
Gigabit, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	ServeRAID	Gigabit	FC1	FC1
PRO/1000, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	ServeRAID	PRO/1000	FC1	FC1
PRO/1000, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	ServeRAID	PRO/1000	FC1	FC1

NAS 300G PCI Adapter Placement

Table 46 on page 66 through Table 50 on page 74 show you where the PCI adapters are installed. To use the tables, look in the left column (Configuration) to locate the row that contains the list of adapters installed (or to be installed) in your NAS 300. This row will then show where the adapters can be located.

Example 1: If you have a single IBM Gigabit Ethernet SX adapter (in addition to the standard Fibre Channel installed in slot 4), install that adapter in slot 5.

Example 2: If you have five adapters — one Fibre Channel, two 10/100 Ethernet adapters, one Remote Supervisor Adapter, and one IBM Gigabit Ethernet SX adapter, install them in the following PCI slots:

- Slot 1 - Remote Supervisor Adapter
- Slot 2 - 10/100 Ethernet
- Slot 3 - 10/100 Ethernet
- Slot 4 - Fibre Channel
- Slot 5 - Gigabit Ethernet

Legend

FC1 One-port IBM FASTT Host adapter (Fibre Channel)

FC2 Two-port IBM FASTT Host adapter (Fibre Channel)

RSA Remote Supervisor Adapter

Quad 10/100 Quad-Port Ethernet Adapter

SCSI SE

IBM PCI Fast/Wide Ultra SCSI adapter

SCSI LVD/SE

IBM PCI Ultra160 SCSI adapter

SCSI HVD

SCSI HVD 3570 adapter

ServeRAID

IBM ServeRAID-4Lx Ultra160 SCSI controller

Ethernet

IBM 10/100 Ethernet Server adapter

Gigabit

IBM Gigabit Ethernet SX Server adapter

PRO/1000

PRO/1000 XT Server adapter

Table 46. NAS 300G one-adapter configuration

Configuration (See "Legend" on page 66)	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
FC1				FC1	
FC2				FC2	

Table 47. NAS 300G two-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, FC2	RSA			FC2	
RSA, FC1	RSA			FC1	
Quad, FC2				FC2	Quad
Quad, FC1				FC1	Quad
Ethernet, FC2	Ethernet			FC2	
Ethernet, FC1	Ethernet			FC1	
SCSI SE, FC2	SCSI SE			FC2	
SCSI SE, FC1	SCSI SE			FC1	
Gigabit, FC2				FC2	Gigabit
PRO/1000, FC2				FC2	PRO/1000
Gigabit, FC1				FC1	Gigabit
PRO/1000, FC1				FC1	PRO/1000
SCSI LVD/SE, FC2				FC2	SCSI LVD/SE

Table 47. NAS 300G two-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
SCSI HVD, FC2	SCSI HVD			FC2	
SCSI LVD/SE, FC1				FC1	SCSI LVD/SE
SCSI HVD, FC1	SCSI HVD			FC1	
ServeRAID, FC2				FC2	ServeRAID
ServeRAID, FC1				FC1	ServeRAID
FC2, FC1				FC2	FC1
FC1, FC1				FC1	FC1

Table 48. NAS 300G three-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, FC2	RSA			FC2	Quad
RSA, Quad, FC1	RSA			FC1	Quad
RSA, Ethernet, FC2	RSA	Ethernet		FC2	
RSA, Ethernet, FC1	RSA	Ethernet		FC1	
RSA, SCSI SE, FC2	RSA	SCSI SE		FC2	
RSA, SCSI SE, FC1	RSA	SCSI SE		FC1	
RSA, Gigabit, FC2	RSA			FC2	Gigabit
RSA, PRO/1000, FC2	RSA			FC2	PRO/1000
RSA, Gigabit, FC1	RSA			FC1	Gigabit
RSA, SCSI LVD/SE, FC2	RSA			FC2	SCSI LVD/SE
RSA, PRO/1000, FC1	RSA			FC1	PRO/1000
RSA, SCSI HVD, FC2	RSA	SCSI HVD		FC2	
RSA, SCSI LVD/SE, FC1	RSA			FC1	SCSI LVD/SE
RSA, SCSI HVD, FC1	RSA	SCSI HVD		FC1	
RSA, ServeRAID, FC2	RSA			FC2	ServeRAID
RSA, ServeRAID, FC1	RSA			FC1	ServeRAID
RSA, FC2, FC1	RSA			FC2	FC1
RSA, FC1, FC1	RSA			FC1	FC1
Quad, SCSI SE, FC2	SCSI SE			FC2	Quad
Quad, SCSI SE, FC1	SCSI SE			FC1	Quad
Quad, Gigabit, FC2		Quad		FC2	Gigabit
Quad, PRO/1000, FC2		Quad		FC2	PRO/1000
Quad, Gigabit, FC1		Quad		FC1	Gigabit
Quad, PRO/1000, FC1		Quad		FC1	PRO/1000

Table 48. NAS 300G three-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, SCSI LVD/SE, FC2		SCSI LVD/SE		FC2	Quad
Quad, SCSI HVD, FC2	SCSI HVD			FC2	Quad
Quad, SCSI LVD/SE, FC1		SCSI LVD/SE		FC1	Quad
Quad, SCSI HVD, FC1	SCSI HVD			FC1	Quad
Quad, ServeRAID, FC2		ServeRAID		FC2	Quad
Quad, ServeRAID, FC1		ServeRAID		FC1	Quad
Quad, FC2, FC1		Quad		FC2	FC1
Quad, FC1, FC1		Quad		FC1	FC1
Ethernet, Ethernet, FC2	Ethernet	Ethernet		FC2	
Ethernet, Ethernet, FC1	Ethernet	Ethernet		FC1	
Ethernet, SCSI SE, FC2	Ethernet	SCSI SE		FC2	
Ethernet, SCSI SE, FC1	Ethernet	SCSI SE		FC1	
Ethernet, Gigabit, FC2	Ethernet			FC2	Gigabit
Ethernet, PRO/1000, FC2	Ethernet			FC2	PRO/1000
Ethernet, Gigabit, FC1	Ethernet			FC1	Gigabit
Ethernet, PRO/1000, FC1	Ethernet			FC1	PRO/1000
Ethernet, SCSI LVD/SE, FC2	Ethernet			FC2	SCSI LVD/SE
Ethernet, SCSI HVD, FC2	Ethernet	SCSI HVD		FC2	
Ethernet, SCSI LVD/SE, FC1	Ethernet			FC1	SCSI LVD/SE
Ethernet, SCSI HVD, FC1	Ethernet	SCSI HVD		FC1	
Ethernet, ServeRAID, FC2	Ethernet			FC2	ServeRAID
Ethernet, ServeRAID, FC1	Ethernet			FC1	ServeRAID
Ethernet, FC2, FC1	Ethernet			FC2	FC1
Ethernet, FC1, FC1	Ethernet			FC1	FC1
SCSI SE, Gigabit, FC2	SCSI SE			FC2	Gigabit
SCSI SE, PRO/1000, FC2	SCSI SE			FC2	PRO/1000
SCSI SE, Gigabit, FC1	SCSI SE			FC1	Gigabit
SCSI SE, PRO/1000, FC1	SCSI SE			FC1	PRO/1000
SCSI SE, ServeRAID, FC2	SCSI SE			FC2	ServeRAID
SCSI SE, ServeRAID, FC1	SCSI SE			FC1	ServeRAID
SCSI SE, FC1, FC1	SCSI SE			FC1	FC1
Gigabit, Gigabit, FC2		Gigabit		FC2	Gigabit
Gigabit, PRO/1000, FC2		PRO/1000		FC2	Gigabit
PRO/1000, PRO/1000, FC2		PRO/1000		FC2	PRO/1000
Gigabit, Gigabit, FC1		Gigabit		FC1	Gigabit
Gigabit, PRO/1000, FC1		PRO/1000		FC1	Gigabit

Table 48. NAS 300G three-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
PRO/1000, PRO/1000, FC1		PRO/1000		FC1	PRO/1000
Gigabit, SCSI LVD/SE, FC2		SCSI LVD/SE		FC2	Gigabit
Gigabit, SCSI HVD, FC2	SCSI HVD			FC2	Gigabit
PRO/1000, SCSI LVD/SE, FC2		SCSI LVD/SE		FC2	PRO/1000
PRO/1000, SCSI HVD, FC2	SCSI HVD			FC2	PRO/1000
Gigabit, SCSI LVD/SE, FC1		SCSI LVD/SE		FC1	Gigabit
Gigabit, SCSI HVD, FC1	SCSI HVD			FC1	Gigabit
PRO/1000, SCSI LVD/SE, FC1		SCSI LVD/SE		FC1	PRO/1000
PRO/1000, SCSI HVD, FC1	SCSI HVD			FC1	PRO/1000
Gigabit, ServeRAID, FC2		ServeRAID		FC2	Gigabit
Gigabit, ServeRAID, FC1		ServeRAID		FC1	Gigabit
PRO/1000, ServeRAID, FC1		ServeRAID		FC1	PRO/1000
Gigabit, FC2, FC1		Gigabit		FC2	FC1
PRO/1000, FC2, FC1		PRO/1000		FC2	FC1
Gigabit, FC1, FC1		Gigabit		FC1	FC1
PRO/1000, FC1, FC1		PRO/1000		FC1	FC1
SCSI LVD/SE, ServeRAID, FC2		SCSI LVD/SE		FC2	ServeRAID
SCSI HVD, ServeRAID, FC2	SCSI HVD			FC2	ServeRAID
SCSI LVD/SE, ServeRAID, FC1		SCSI LVD/SE		FC1	ServeRAID
SCSI HVD, ServeRAID, FC1	SCSI HVD			FC1	ServeRAID
SCSI LVD/SE, FC1, FC1		SCSI LVD/SE		FC1	FC1
SCSI HVD, FC1, FC1	SCSI HVD			FC1	FC1
ServeRAID, FC2, FC1		ServeRAID		FC2	FC1
ServeRAID, FC1, FC1		ServeRAID		FC1	FC1
FC1, FC1, FC1		FC1		FC1	FC1

Table 49. NAS 300G four-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, Gigabit, FC2	RSA	Quad		FC2	Gigabit
RSA, Quad, PRO/1000, FC2	RSA	Quad		FC2	PRO/1000
RSA, Quad, Gigabit, FC1	RSA	Quad		FC1	Gigabit
RSA, Quad, PRO/1000, FC1	RSA	Quad		FC1	PRO/1000

Table 49. NAS 300G four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Ethernet, Ethernet, FC2	RSA	Ethernet	Ethernet	FC2	
RSA, Ethernet, Ethernet, FC1	RSA	Ethernet	Ethernet	FC1	
RSA, Ethernet, SCSI SE, FC2	RSA	Ethernet	SCSI SE	FC2	
RSA, Ethernet, SCSI SE, FC1	RSA	Ethernet	SCSI SE	FC1	
RSA, Ethernet, Gigabit, FC2	RSA	Ethernet		FC2	Gigabit
RSA, Ethernet, PRO/1000, FC2	RSA	Ethernet		FC2	PRO/1000
RSA, Ethernet, Gigabit, FC1	RSA	Ethernet		FC1	Gigabit
RSA, Ethernet, PRO/1000, FC1	RSA	Ethernet		FC1	PRO/1000
RSA, SCSI SE, Gigabit, FC2	RSA	SCSI SE		FC2	Gigabit
RSA, SCSI SE, PRO/1000, FC2	RSA	SCSI SE		FC2	PRO/1000
RSA, SCSI SE, Gigabit, FC1	RSA	SCSI SE		FC1	Gigabit
RSA, SCSI SE, PRO/1000, FC1	RSA	SCSI SE		FC1	PRO/1000
RSA, Gigabit, Gigabit, FC2	RSA	Gigabit		FC2	Gigabit
RSA, Gigabit, PRO/1000, FC2	RSA	PRO/1000		FC2	Gigabit
RSA, PRO/1000, PRO/1000, FC2	RSA	PRO/1000		FC2	PRO/1000
RSA, Gigabit, Gigabit, FC1	RSA	Gigabit		FC1	Gigabit
RSA, Gigabit, PRO/1000, FC1	RSA	PRO/1000		FC1	Gigabit
RSA, PRO/1000, PRO/1000, FC1	RSA	PRO/1000		FC1	PRO/1000
RSA, Gigabit, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE		FC2	Gigabit
RSA, Gigabit, SCSI HVD, FC2	RSA	SCSI HVD		FC2	Gigabit
RSA, PRO/1000, SCSI LVD/SE, FC2	RSA	SCSI LVD/SE		FC2	PRO/1000
RSA, PRO/1000, SCSI HVD, FC2	RSA	SCSI HVD		FC2	PRO/1000
RSA, Gigabit, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE		FC1	Gigabit
RSA, Gigabit, SCSI HVD, FC1	RSA	SCSI HVD		FC1	Gigabit
RSA, PRO/1000, SCSI LVD/SE, FC1	RSA	SCSI LVD/SE		FC1	PRO/1000
RSA, PRO/1000, SCSI HVD, FC1	RSA	SCSI HVD		FC1	PRO/1000
RSA, SCSI LVD/SE, ServeRAID, FC2	RSA	SCSI LVD/SE		FC2	ServeRAID
RSA, SCSI HVD, ServeRAID, FC2	RSA	SCSI HVD		FC2	ServeRAID
RSA, SCSI LVD/SE, ServeRAID, FC1	RSA	SCSI LVD/SE		FC1	ServeRAID
RSA, SCSI HVD, ServeRAID, FC1	RSA	SCSI HVD		FC1	ServeRAID
RSA, ServeRAID, FC2, FC1	RSA	ServeRAID		FC2	FC1
RSA, FC1, FC1, FC1	RSA	FC1		FC1	FC1
Quad, SCSI SE, Gigabit, FC2	SCSI SE	Quad		FC2	Gigabit
Quad, SCSI SE, PRO/1000, FC2	SCSI SE	Quad		FC2	PRO/1000

Table 49. NAS 300G four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, SCSI SE, Gigabit, FC1	SCSI SE	Quad		FC1	Gigabit
Quad, SCSI SE, PRO/1000, FC1	SCSI SE	Quad		FC1	PRO/1000
Quad, Gigabit, SCSI LVD/SE, FC2		Quad	SCSI LVD/SE	FC2	Gigabit
Quad, Gigabit, SCSI HVD, FC2	SCSI HVD	Quad		FC2	Gigabit
Quad, PRO/1000, SCSI LVD/SE, FC2		Quad	SCSI LVD/SE	FC2	PRO/1000
Quad, PRO/1000, SCSI HVD, FC2	SCSI HVD	Quad		FC2	PRO/1000
Quad, Gigabit, SCSI LVD/SE, FC1		Quad	SCSI LVD/SE	FC1	Gigabit
Quad, Gigabit, SCSI HVD, FC1	SCSI HVD	Quad		FC1	Gigabit
Quad, PRO/1000, SCSI LVD/SE, FC1		Quad	SCSI LVD/SE	FC1	PRO/1000
Quad, PRO/1000, SCSI HVD, FC1	SCSI HVD	Quad		FC1	PRO/1000
Quad, SCSI LVD/SE, ServeRAID, FC2		ServeRAID	SCSI LVD/SE	FC2	Quad
Quad, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID		FC2	Quad
Quad, ServeRAID, FC2, Gigabit		Quad	ServeRAID	FC2	Gigabit
Quad, ServeRAID, FC2, PRO/1000		Quad	ServeRAID	FC2	PRO/1000
Quad, SCSI LVD/SE, ServeRAID, FC1		ServeRAID	SCSI LVD/SE	FC1	Quad
Quad, ServeRAID, FC2, FC1		Quad	ServeRAID	FC2	FC1
Quad, ServeRAID, FC1, FC1		Quad	ServeRAID	FC1	FC1
Quad, FC1, FC1, FC1		FC1	Quad	FC1	FC1
Ethernet, Ethernet, Ethernet, FC2	Ethernet	Ethernet	Ethernet	FC2	
Ethernet, Ethernet, Ethernet, FC1	Ethernet	Ethernet	Ethernet	FC1	
Ethernet, Ethernet, Gigabit, FC2	Ethernet	Ethernet		FC2	Gigabit
Ethernet, Ethernet, PRO/1000, FC2	Ethernet	Ethernet		FC2	PRO/1000
Ethernet, Ethernet, Gigabit, FC1	Ethernet	Ethernet		FC1	Gigabit
Ethernet, Ethernet, PRO/1000, FC1	Ethernet	Ethernet		FC1	PRO/1000
Ethernet, Ethernet, SCSI LVD/SE, FC2	Ethernet	Ethernet		FC2	SCSI LVD/SE
Ethernet, Ethernet, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD	FC2	
Ethernet, Ethernet, SCSI LVD/SE, FC1	Ethernet	Ethernet		FC1	SCSI LVD/SE
Ethernet, Ethernet, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD	FC1	
Ethernet, Ethernet, ServeRAID, FC2	Ethernet	Ethernet		FC2	ServeRAID
Ethernet, Ethernet, ServeRAID, FC1	Ethernet	Ethernet		FC1	ServeRAID
Ethernet, Ethernet, FC2, FC1	Ethernet	Ethernet		FC2	FC1
Ethernet, Ethernet, FC1, FC1	Ethernet	Ethernet		FC1	FC1
Ethernet, SCSI SE, Gigabit, FC2	Ethernet	SCSI SE		FC2	Gigabit

Table 49. NAS 300G four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, SCSI SE, PRO/1000, FC2	Ethernet	SCSI SE		FC2	PRO/1000
Ethernet, SCSI SE, Gigabit, FC1	Ethernet	SCSI SE		FC1	Gigabit
Ethernet, SCSI SE, PRO/1000, FC1	Ethernet	SCSI SE		FC1	PRO/1000
Ethernet, SCSI SE, ServeRAID, FC2	Ethernet	SCSI SE		FC2	ServeRAID
Ethernet, SCSI SE, ServeRAID, FC1	Ethernet	SCSI SE		FC1	ServeRAID
Ethernet, Gigabit, SCSI LVD/SE, FC2	Ethernet	SCSI LVD/SE		FC2	Gigabit
Ethernet, Gigabit, SCSI HVD, FC2	Ethernet	SCSI HVD		FC2	Gigabit
Ethernet, PRO/1000, SCSI LVD/SE, FC2	Ethernet	SCSI LVD/SE		FC2	PRO/1000
Ethernet, PRO/1000, SCSI HVD, FC2	Ethernet	SCSI HVD		FC2	PRO/1000
Ethernet, Gigabit, SCSI LVD/SE, FC1	Ethernet	SCSI LVD/SE		FC1	Gigabit
Ethernet, Gigabit, SCSI HVD, FC1	Ethernet	SCSI HVD		FC1	Gigabit
Ethernet, PRO/1000, SCSI LVD/SE, FC1	Ethernet	SCSI LVD/SE		FC1	PRO/1000
Ethernet, PRO/1000, SCSI HVD, FC1	Ethernet	SCSI HVD		FC1	PRO/1000
Ethernet, SCSI LVD/SE, ServeRAID, FC2	Ethernet	SCSI LVD/SE		FC2	ServeRAID
Ethernet, SCSI HVD, ServeRAID, FC2	Ethernet	SCSI HVD		FC2	ServeRAID
Ethernet, SCSI LVD/SE, ServeRAID, FC1	Ethernet	SCSI LVD/SE		FC1	ServeRAID
Ethernet, SCSI HVD, ServeRAID, FC1	Ethernet	SCSI HVD		FC1	ServeRAID
Ethernet, ServeRAID, FC2, FC1	Ethernet	ServeRAID		FC2	FC1
Ethernet, ServeRAID, FC1, FC1	Ethernet	ServeRAID		FC1	FC1
Ethernet, FC1, FC1, FC1	Ethernet	FC1		FC1	FC1
SCSI SE, Gigabit, Gigabit, FC2	SCSI SE	Gigabit		FC2	Gigabit
SCSI SE, Gigabit, PRO/1000, FC2	SCSI SE	PRO/1000		FC2	Gigabit
SCSI SE, PRO/1000, PRO/1000, FC2	SCSI SE	PRO/1000		FC2	PRO/1000
SCSI SE, Gigabit, Gigabit, FC1	SCSI SE	Gigabit		FC1	Gigabit
SCSI SE, Gigabit, PRO/1000, FC1	SCSI SE	PRO/1000		FC1	Gigabit
SCSI SE, PRO/1000, PRO/1000, FC1	SCSI SE	PRO/1000		FC1	PRO/1000
SCSI SE, Gigabit, ServeRAID, FC2	SCSI SE	ServeRAID		FC2	Gigabit
SCSI SE, PRO/1000, ServeRAID, FC2	SCSI SE	ServeRAID		FC2	PRO/1000
SCSI SE, Gigabit, ServeRAID, FC1	SCSI SE	ServeRAID		FC1	Gigabit
SCSI SE, PRO/1000, ServeRAID, FC1	SCSI SE	ServeRAID		FC1	PRO/1000
SCSI SE, Gigabit, FC1, FC1	SCSI SE	Gigabit		FC1	FC1
SCSI SE, PRO/1000, FC1, FC1	SCSI SE	PRO/1000		FC1	FC1
SCSI SE, ServeRAID, FC1, FC1	SCSI SE	ServeRAID		FC1	FC1
Gigabit, Gigabit, SCSI LVD/SE, FC2		Gigabit	SCSI LVD/SE	FC2	Gigabit

Table 49. NAS 300G four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, Gigabit, SCSI HVD, FC2	SCSI HVD	Gigabit		FC2	Gigabit
Gigabit, PRO/1000, SCSI LVD/SE, FC2		PRO/1000	SCSI LVD/SE	FC2	Gigabit
Gigabit, PRO/1000, SCSI HVD, FC2	SCSI HVD	PRO/1000		FC2	Gigabit
PRO/1000, PRO/1000, SCSI LVD/SE, FC2		PRO/1000	SCSI LVD/SE	FC2	PRO/1000
Gigabit, Gigabit, SCSI LVD/SE, FC1		Gigabit	SCSI LVD/SE	FC1	Gigabit
Gigabit, Gigabit, SCSI HVD, FC1	SCSI HVD	Gigabit		FC1	Gigabit
Gigabit, PRO/1000, SCSI LVD/SE, FC1		PRO/1000	SCSI LVD/SE	FC1	Gigabit
Gigabit, PRO/1000, SCSI HVD, FC1	SCSI HVD	PRO/1000		FC1	Gigabit
PRO/1000, PRO/1000, SCSI LVD/SE, FC1		PRO/1000	SCSI LVD/SE	FC1	PRO/1000
PRO/1000, PRO/1000, SCSI HVD, FC1	SCSI HVD	PRO/1000		FC1	PRO/1000
Gigabit, Gigabit, ServeRAID, FC2		Gigabit	ServeRAID	FC2	Gigabit
Gigabit, PRO/1000, ServeRAID, FC2		PRO/1000	ServeRAID	FC2	Gigabit
PRO/1000, PRO/1000, ServeRAID, FC2		PRO/1000	ServeRAID	FC2	PRO/1000
Gigabit, Gigabit, ServeRAID, FC1		Gigabit	ServeRAID	FC1	Gigabit
Gigabit, PRO/1000, ServeRAID, FC1		PRO/1000	ServeRAID	FC1	Gigabit
PRO/1000, PRO/1000, ServeRAID, FC1		PRO/1000	ServeRAID	FC1	PRO/1000
Gigabit, Gigabit, FC2, FC1		Gigabit	Gigabit	FC2	FC1
Gigabit, PRO/1000, FC2, FC1		Gigabit	PRO/1000	FC2	FC1
PRO/1000, PRO/1000, FC2, FC1		PRO/1000	PRO/1000	FC2	FC1
Gigabit, Gigabit, FC1, FC1		Gigabit	Gigabit	FC1	FC1
Gigabit, PRO/1000, FC1, FC1		Gigabit	PRO/1000	FC1	FC1
PRO/1000, PRO/1000, FC1, FC1		PRO/1000	PRO/1000	FC1	FC1
Gigabit, SCSI LVD/SE, ServeRAID, FC2		ServeRAID	SCSI LVD/SE	FC2	Gigabit
Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID		FC2	Gigabit
PRO/1000, SCSI LVD/SE, ServeRAID, FC2		ServeRAID	SCSI LVD/SE	FC2	PRO/1000
PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	ServeRAID		FC2	PRO/1000
Gigabit, SCSI LVD/SE, ServeRAID, FC1		ServeRAID	SCSI LVD/SE	FC1	Gigabit
Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID		FC1	Gigabit
PRO/1000, SCSI LVD/SE, ServeRAID, FC1		ServeRAID	SCSI LVD/SE	FC1	PRO/1000
PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	ServeRAID		FC1	PRO/1000
Gigabit, ServeRAID, FC2, FC1		Gigabit	ServeRAID	FC2	FC1
PRO/1000, ServeRAID, FC2, FC1		PRO/1000	ServeRAID	FC2	FC1

Table 49. NAS 300G four-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Gigabit, ServeRAID, FC1, FC1		Gigabit	ServeRAID	FC1	FC1
ServeRAID, PRO/1000, FC1, FC1		PRO/1000	ServeRAID	FC1	FC1
Gigabit, FC1, FC1, FC1		FC1	Gigabit	FC1	FC1
PRO/1000, FC1, FC1, FC1		FC1	PRO/1000	FC1	FC1
SCSI LVD/SE, ServeRAID, FC1, FC1		ServeRAID	SCSI LVD/SE	FC1	FC1
ServeRAID, FC1, FC1, FC1		FC1	ServeRAID	FC1	FC1

Table 50. NAS 300G five-adapter configuration

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, SCSI SE, Gigabit, FC2	RSA	Quad	SCSI SE	FC2	Gigabit
RSA, Quad, SCSI SE, PRO/1000, FC2	RSA	Quad	SCSI SE	FC2	PRO/1000
RSA, Quad, SCSI SE, Gigabit, FC1	RSA	Quad	SCSI SE	FC1	Gigabit
RSA, Quad, SCSI SE, PRO/1000, FC1	RSA	Quad	SCSI SE	FC1	PRO/1000
RSA, Quad, Gigabit, SCSI LVD/SE, FC2	RSA	Quad	SCSI LVD/SE	FC2	Gigabit
RSA, Quad, PRO/1000, SCSI LVD/SE, FC2	RSA	Quad	SCSI LVD/SE	FC2	PRO/1000
RSA, Quad, PRO/1000, SCSI HVD, FC2	RSA	Quad	SCSI HVD	FC2	PRO/1000
RSA, Quad, Gigabit, SCSI LVD/SE, FC1	RSA	Quad	SCSI LVD/SE	FC1	Gigabit
RSA, Quad, Gigabit, SCSI HVD, FC1	RSA	Quad	SCSI HVD	FC1	Gigabit
RSA, Quad, PRO/1000, SCSI LVD/SE, FC1	RSA	Quad	SCSI LVD/SE	FC1	PRO/1000
RSA, Quad, PRO/1000, SCSI HVD, FC1	RSA	Quad	SCSI HVD	FC1	PRO/1000
RSA, Quad, Gigabit, ServeRAID, FC2	RSA	Quad	ServeRAID	FC2	Gigabit
RSA, Quad, PRO/1000, ServeRAID, FC2	RSA	Quad	ServeRAID	FC2	PRO/1000
RSA, Quad, Gigabit, ServeRAID, FC1	RSA	Quad	ServeRAID	FC1	Gigabit
RSA, Quad, PRO/1000, ServeRAID, FC1	RSA	Quad	ServeRAID	FC1	PRO/1000
RSA, Quad, Gigabit, FC2, FC1	RSA	Gigabit	Quad	FC2	FC1
RSA, Quad, PRO/1000, FC2, FC1	RSA	PRO/1000	Quad	FC2	FC1
RSA, Quad, Gigabit, FC1, FC1	RSA	Gigabit	Quad	FC1	FC1
RSA, Quad, PRO/1000, FC1, FC1	RSA	PRO/1000	Quad	FC1	FC1
RSA, Quad, SCSI SE, ServeRAID, FC2	RSA	SCSI SE	ServeRAID	FC2	Quad
RSA, Quad, SCSI SE, ServeRAID, FC1	RSA	SCSI SE	ServeRAID	FC1	Quad
RSA, Quad, SCSI SE, FC1, FC1	RSA	Quad	SCSI SE	FC1	FC1
RSA, Quad, Gigabit, Gigabit, FC2	RSA	Gigabit	Quad	FC2	Gigabit
RSA, Quad, Gigabit, PRO/1000, FC2	RSA	PRO/1000	Quad	FC2	Gigabit
RSA, Quad, PRO/1000, PRO/1000, FC2	RSA	PRO/1000	Quad	FC2	PRO/1000

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Quad, Gigabit, Gigabit, FC1	RSA	Gigabit	Quad	FC1	Gigabit
RSA, Quad, Gigabit, PRO/1000, FC1	RSA	PRO/1000	Quad	FC1	Gigabit
RSA, Quad, PRO/1000, PRO/1000, FC1	RSA	PRO/1000	Quad	FC1	PRO/1000
RSA, Quad, SCSI LVD/SE, ServeRAID, FC2	RSA	ServeRAID	SCSI LVD/SE	FC2	Quad
RSA, Quad, SCSI HVD, ServeRAID, FC2	RSA	ServeRAID	SCSI HVD	FC2	Quad
RSA, Quad, SCSI LVD/SE, ServeRAID, FC1	RSA	ServeRAID	SCSI LVD/SE	FC1	Quad
RSA, Quad, SCSI LVD/SE, FC1, FC1	RSA	Quad	SCSI LVD/SE	FC1	FC1
RSA, Quad, SCSI HVD, FC1, FC1	RSA	Quad	SCSI HVD	FC1	FC1
RSA, Quad, ServeRAID, FC2, FC1	RSA	Quad	ServeRAID	FC2	FC1
RSA, Quad, ServeRAID, FC1, FC1	RSA	Quad	ServeRAID	FC1	FC1
RSA, Quad, FC1, FC1, FC1	RSA	FC1	Quad	FC1	FC1
RSA, Ethernet, Ethernet, Gigabit, FC2	RSA	Ethernet	Ethernet	FC2	Gigabit
RSA, Ethernet, Ethernet, PRO/1000, FC2	RSA	Ethernet	Ethernet	FC2	PRO/1000
RSA, Ethernet, Ethernet, Gigabit, FC1	RSA	Ethernet	Ethernet	FC1	Gigabit
RSA, Ethernet, Ethernet, PRO/1000, FC1	RSA	Ethernet	Ethernet	FC1	PRO/1000
RSA, Ethernet, Ethernet, SCSI LVD/SE, FC2	RSA	Ethernet	Ethernet	FC2	SCSI LVD/SE
RSA, Ethernet, Ethernet, SCSI LVD/SE, FC1	RSA	Ethernet	Ethernet	FC1	SCSI LVD/SE
RSA, Ethernet, Ethernet, ServeRAID, FC2	RSA	Ethernet	Ethernet	FC2	ServeRAID
RSA, Ethernet, Ethernet, ServeRAID, FC1	RSA	Ethernet	Ethernet	FC1	ServeRAID
RSA, Ethernet, Ethernet, FC2, FC1	RSA	Ethernet	Ethernet	FC2	FC1
RSA, Ethernet, Ethernet, FC1, FC1	RSA	Ethernet	Ethernet	FC1	FC1
RSA, Ethernet, SCSI SE, Gigabit, FC2	RSA	Ethernet	SCSI SE	FC2	Gigabit
RSA, Ethernet, SCSI SE, Gigabit, FC1	RSA	Ethernet	SCSI SE	FC1	Gigabit
RSA, Ethernet, SCSI SE, ServeRAID, FC2	RSA	Ethernet	SCSI SE	FC2	ServeRAID
RSA, Ethernet, SCSI SE, PRO/1000, FC2	RSA	Ethernet	SCSI SE	FC2	PRO/1000
RSA, Ethernet, SCSI SE, ServeRAID, FC1	RSA	Ethernet	SCSI SE	FC1	ServeRAID
RSA, Ethernet, SCSI SE, PRO/1000, FC1	RSA	Ethernet	SCSI SE	FC1	PRO/1000
RSA, Ethernet, SCSI SE, FC1, FC1	RSA	Ethernet	SCSI SE	FC1	FC1
RSA, Ethernet, Gigabit, Gigabit, FC2	RSA	Gigabit	Ethernet	FC2	Gigabit
RSA, Ethernet, Gigabit, PRO/1000, FC2	RSA	PRO/1000	Ethernet	FC2	Gigabit
RSA, Ethernet, PRO/1000, PRO/1000, FC2	RSA	PRO/1000	Ethernet	FC2	PRO/1000
RSA, Ethernet, Gigabit, Gigabit, FC1	RSA	Gigabit	Ethernet	FC1	Gigabit
RSA, Ethernet, Gigabit, PRO/1000, FC1	RSA	PRO/1000	Ethernet	FC1	Gigabit

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Ethernet, PRO/1000, PRO/1000, FC1	RSA	PRO/1000	Ethernet	FC1	PRO/1000
RSA, Ethernet, Gigabit, SCSI LVD/SE, FC2	RSA	Ethernet	SCSI LVD/SE	FC2	Gigabit
RSA, Ethernet, Gigabit, SCSI HVD, FC2	RSA	Ethernet	SCSI HVD	FC2	Gigabit
RSA, Ethernet, PRO/1000, SCSI LVD/SE, FC2	RSA	Ethernet	SCSI LVD/SE	FC2	PRO/1000
RSA, Ethernet, PRO/1000, SCSI HVD, FC2	RSA	Ethernet	SCSI HVD	FC2	PRO/1000
RSA, Ethernet, Gigabit, SCSI LVD/SE, FC1	RSA	Ethernet	SCSI LVD/SE	FC1	Gigabit
RSA, Ethernet, Gigabit, SCSI HVD, FC1	RSA	Ethernet	SCSI HVD	FC1	Gigabit
RSA, Ethernet, PRO/1000, SCSI LVD/SE, FC1	RSA	Ethernet	SCSI LVD/SE	FC1	PRO/1000
RSA, Ethernet, PRO/1000, SCSI HVD, FC1	RSA	Ethernet	SCSI HVD	FC1	PRO/1000
RSA, Ethernet, Gigabit, ServeRAID, FC2	RSA	Ethernet	ServeRAID	FC2	Gigabit
RSA, Ethernet, PRO/1000, ServeRAID, FC2	RSA	Ethernet	ServeRAID	FC2	PRO/1000
RSA, Ethernet, Gigabit, ServeRAID, FC1	RSA	Ethernet	ServeRAID	FC1	Gigabit
RSA, Ethernet, PRO/1000, ServeRAID, FC1	RSA	Ethernet	ServeRAID	FC1	PRO/1000
RSA, Ethernet, Gigabit, FC2, FC1	RSA	Gigabit	Ethernet	FC2	FC1
RSA, Ethernet, PRO/1000, FC2, FC1	RSA	PRO/1000	Ethernet	FC2	FC1
RSA, Ethernet, Gigabit, FC1, FC1	RSA	Gigabit	Ethernet	FC1	FC1
RSA, Ethernet, PRO/1000, FC1, FC1	RSA	PRO/1000	Ethernet	FC1	FC1
RSA, Ethernet, SCSI LVD/SE, ServeRAID, FC2	RSA	Ethernet	SCSI LVD/SE	FC2	ServeRAID
RSA, Ethernet, SCSI HVD, ServeRAID, FC2	RSA	Ethernet	SCSI HVD	FC2	ServeRAID
RSA, Ethernet, SCSI LVD/SE, ServeRAID, FC1	RSA	Ethernet	SCSI LVD/SE	FC1	ServeRAID
RSA, Ethernet, SCSI HVD, ServeRAID, FC1	RSA	Ethernet	SCSI HVD	FC1	ServeRAID
RSA, Ethernet, SCSI LVD/SE, FC1, FC1	RSA	Ethernet	SCSI LVD/SE	FC1	FC1
RSA, Ethernet, SCSI HVD, FC1, FC1	RSA	Ethernet	SCSI HVD	FC1	FC1
RSA, Ethernet, ServeRAID, FC2, FC1	RSA	Ethernet	ServeRAID	FC2	FC1
RSA, Ethernet, ServeRAID, FC1, FC1	RSA	Ethernet	ServeRAID	FC1	FC1
RSA, Ethernet, FC1, FC1, FC1	RSA	FC1	Ethernet	FC1	FC1
RSA, SCSI SE, Gigabit, Gigabit, FC2	RSA	Gigabit	SCSI SE	FC2	Gigabit
RSA, SCSI SE, Gigabit, PRO/1000, FC2	RSA	PRO/1000	SCSI SE	FC2	Gigabit

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, SCSI SE, PRO/1000, PRO/1000, FC2	RSA	PRO/1000	SCSI SE	FC2	PRO/1000
RSA, SCSI SE, Gigabit, Gigabit, FC1	RSA	Gigabit	SCSI SE	FC1	Gigabit
RSA, SCSI SE, Gigabit, PRO/1000, FC1	RSA	PRO/1000	SCSI SE	FC1	Gigabit
RSA, SCSI SE, PRO/1000, PRO/1000, FC1	RSA	PRO/1000	SCSI SE	FC1	PRO/1000
RSA, SCSI SE, Gigabit, ServeRAID, FC2	RSA	SCSI SE	ServeRAID	FC2	Gigabit
RSA, SCSI SE, PRO/1000, ServeRAID, FC2	RSA	SCSI SE	ServeRAID	FC2	PRO/1000
RSA, SCSI SE, Gigabit, ServeRAID, FC1	RSA	SCSI SE	ServeRAID	FC1	Gigabit
RSA, SCSI SE, PRO/1000, ServeRAID, FC1	RSA	SCSI SE	ServeRAID	FC1	PRO/1000
RSA, SCSI SE, Gigabit, FC1, FC1	RSA	Gigabit	SCSI SE	FC1	FC1
RSA, SCSI SE, PRO/1000, FC1, FC1	RSA	PRO/1000	SCSI SE	FC1	FC1
RSA, SCSI SE, ServeRAID, FC1, FC1	RSA	SCSI SE	ServeRAID	FC1	FC1
RSA, SCSI SE, FC1, FC1, FC1	RSA	FC1	SCSI SE	FC1	FC1
RSA, Gigabit, Gigabit, SCSI LVD/SE, FC2	RSA	Gigabit	SCSI LVD/SE	FC2	Gigabit
RSA, Gigabit, Gigabit, SCSI HVD, FC2	RSA	Gigabit	SCSI HVD	FC2	Gigabit
RSA, Gigabit, PRO/1000, SCSI LVD/SE, FC2	RSA	PRO/1000	SCSI LVD/SE	FC2	Gigabit
RSA, Gigabit, PRO/1000, SCSI HVD, FC2	RSA	PRO/1000	SCSI HVD	FC2	Gigabit
RSA, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	RSA	PRO/1000	SCSI LVD/SE	FC2	PRO/1000
RSA, PRO/1000, PRO/1000, SCSI HVD, FC2	RSA	PRO/1000	SCSI HVD	FC2	PRO/1000
RSA, Gigabit, Gigabit, SCSI LVD/SE, FC1	RSA	Gigabit	SCSI LVD/SE	FC1	Gigabit
RSA, Gigabit, Gigabit, SCSI HVD, FC1	RSA	Gigabit	SCSI HVD	FC1	Gigabit
RSA, Gigabit, PRO/1000, SCSI LVD/SE, FC1	RSA	PRO/1000	SCSI LVD/SE	FC1	Gigabit
RSA, Gigabit, PRO/1000, SCSI HVD, FC1	RSA	PRO/1000	SCSI HVD	FC1	Gigabit
RSA, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	RSA	PRO/1000	SCSI LVD/SE	FC1	PRO/1000
RSA, PRO/1000, PRO/1000, SCSI HVD, FC1	RSA	PRO/1000	SCSI HVD	FC1	PRO/1000
RSA, Gigabit, Gigabit, ServeRAID, FC2	RSA	Gigabit	ServeRAID	FC2	Gigabit
RSA, Gigabit, PRO/1000, ServeRAID, FC2	RSA	PRO/1000	ServeRAID	FC2	Gigabit
RSA, PRO/1000, PRO/1000, ServeRAID, FC2	RSA	PRO/1000	ServeRAID	FC2	PRO/1000

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, Gigabit, Gigabit, ServeRAID, FC1	RSA	Gigabit	ServeRAID	FC1	Gigabit
RSA, Gigabit, PRO/1000, ServeRAID, FC1	RSA	PRO/1000	ServeRAID	FC1	Gigabit
RSA, PRO/1000, PRO/1000, ServeRAID, FC1	RSA	PRO/1000	ServeRAID	FC1	PRO/1000
RSA, Gigabit, Gigabit, FC2, FC1	RSA	Gigabit	Gigabit	FC2	FC1
RSA, Gigabit, PRO/1000, FC2, FC1	RSA	Gigabit	PRO/1000	FC2	FC1
RSA, PRO/1000, PRO/1000, FC2, FC1	RSA	PRO/1000	PRO/1000	FC2	FC1
RSA, Gigabit, Gigabit, FC1, FC1	RSA	Gigabit	Gigabit	FC1	FC1
RSA, Gigabit, PRO/1000, FC1, FC1	RSA	Gigabit	PRO/1000	FC1	FC1
RSA, PRO/1000, PRO/1000, FC1, FC1	RSA	PRO/1000	PRO/1000	FC1	FC1
RSA, Gigabit, SCSI LVD/SE, ServeRAID, FC2	RSA	ServeRAID	SCSI LVD/SE	FC2	Gigabit
RSA, Gigabit, SCSI HVD, ServeRAID, FC2	RSA	ServeRAID	SCSI HVD	FC2	Gigabit
RSA, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	RSA	ServeRAID	SCSI LVD/SE	FC2	PRO/1000
RSA, PRO/1000, SCSI HVD, ServeRAID, FC2	RSA	ServeRAID	SCSI HVD	FC2	PRO/1000
RSA, Gigabit, SCSI LVD/SE, ServeRAID, FC1	RSA	ServeRAID	SCSI LVD/SE	FC1	Gigabit
RSA, Gigabit, SCSI HVD, ServeRAID, FC1	RSA	ServeRAID	SCSI HVD	FC1	Gigabit
RSA, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	RSA	ServeRAID	SCSI LVD/SE	FC1	PRO/1000
RSA, PRO/1000, SCSI HVD, ServeRAID, FC1	RSA	ServeRAID	SCSI HVD	FC1	PRO/1000
RSA, Gigabit, SCSI LVD/SE, FC1, FC1	RSA	Gigabit	SCSI LVD/SE	FC1	FC1
RSA, Gigabit, SCSI HVD, FC1, FC1	RSA	Gigabit	SCSI HVD	FC1	FC1
RSA, PRO/1000, SCSI LVD/SE, FC1, FC1	RSA	PRO/1000	SCSI LVD/SE	FC1	FC1
RSA, PRO/1000, SCSI HVD, FC1, FC1	RSA	PRO/1000	SCSI HVD	FC1	FC1
RSA, Gigabit, ServeRAID, FC2, FC1	RSA	Gigabit	ServeRAID	FC2	FC1
RSA, PRO/1000, ServeRAID, FC2, FC1	RSA	PRO/1000	ServeRAID	FC2	FC1
RSA, Gigabit, ServeRAID, FC1, FC1	RSA	Gigabit	ServeRAID	FC1	FC1
RSA, PRO/1000, ServeRAID, FC1, FC1	RSA	PRO/1000	ServeRAID	FC1	FC1
RSA, Gigabit, FC1, FC1, FC1	RSA	FC1	FC1	Gigabit	FC1
RSA, PRO/1000, FC1, FC1, FC1	RSA	FC1	FC1	PRO/1000	FC1
RSA, SCSI LVD/SE, ServeRAID, FC1, FC1	RSA	ServeRAID	SCSI LVD/SE	FC1	FC1
RSA, SCSI HVD, ServeRAID, FC1, FC1	RSA	ServeRAID	SCSI HVD	FC1	FC1

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
RSA, ServeRAID, FC1, FC1, FC1	RSA	FC1	ServeRAID	FC1	FC1
Quad, SCSI SE, Gigabit, Gigabit, FC2	SCSI SE	Gigabit	Quad	FC2	Gigabit
Quad, SCSI SE, Gigabit, PRO/1000, FC2	SCSI SE	PRO/1000	Quad	FC2	Gigabit
Quad, SCSI SE, PRO/1000, PRO/1000, FC2	SCSI SE	PRO/1000	Quad	FC2	PRO/1000
Quad, SCSI SE, Gigabit, Gigabit, FC1	SCSI SE	Gigabit	Quad	FC1	Gigabit
Quad, SCSI SE, Gigabit, PRO/1000, FC1	SCSI SE	PRO/1000	Quad	FC1	Gigabit
Quad, SCSI SE, PRO/1000, PRO/1000, FC1	SCSI SE	PRO/1000	Quad	FC1	PRO/1000
Quad, SCSI SE, Gigabit, ServeRAID, FC2	SCSI SE	Quad	ServeRAID	FC2	Gigabit
Quad, SCSI SE, PRO/1000, ServeRAID, FC2	SCSI SE	Quad	ServeRAID	FC2	PRO/1000
Quad, SCSI SE, Gigabit, ServeRAID, FC1	SCSI SE	Quad	ServeRAID	FC1	Gigabit
Quad, SCSI SE, PRO/1000, ServeRAID, FC1	SCSI SE	Quad	ServeRAID	FC1	PRO/1000
Quad, SCSI SE, Gigabit, FC1, FC1	SCSI SE	Gigabit	Quad	FC1	FC1
Quad, SCSI SE, PRO/1000, FC1, FC1	SCSI SE	PRO/1000	Quad	FC1	FC1
Quad, SCSI SE, ServeRAID, FC1, FC1	SCSI SE	Quad	ServeRAID	FC1	FC1
Quad, Gigabit, Gigabit, SCSI LVD/SE, FC2	SCSI LVD/SE	Gigabit	Quad	FC2	Gigabit
Quad, Gigabit, Gigabit, SCSI HVD, FC2	SCSI HVD	Gigabit	Quad	FC2	Gigabit
Quad, Gigabit, PRO/1000, SCSI LVD/SE, FC2	SCSI LVD/SE	PRO/1000	Quad	FC2	Gigabit
Quad, Gigabit, PRO/1000, SCSI HVD, FC2	SCSI HVD	PRO/1000	Quad	FC2	Gigabit
Quad, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	SCSI LVD/SE	PRO/1000	Quad	FC2	PRO/1000
Quad, PRO/1000, PRO/1000, SCSI HVD, FC2	SCSI HVD	PRO/1000	Quad	FC2	PRO/1000
Quad, Gigabit, Gigabit, SCSI LVD/SE, FC1	SCSI LVD/SE	Gigabit	Quad	FC1	Gigabit
Quad, Gigabit, Gigabit, SCSI HVD, FC1	SCSI HVD	Gigabit	Quad	FC1	Gigabit
Quad, Gigabit, PRO/1000, SCSI LVD/SE, FC1	SCSI LVD/SE	PRO/1000	Quad	FC1	Gigabit
Quad, Gigabit, PRO/1000, SCSI HVD, FC1	SCSI HVD	PRO/1000	Quad	FC1	Gigabit
Quad, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	SCSI LVD/SE	PRO/1000	Quad	FC1	PRO/1000
Quad, PRO/1000, PRO/1000, SCSI HVD, FC1	SCSI HVD	PRO/1000	Quad	FC1	PRO/1000
Quad, Gigabit, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	Quad	ServeRAID	FC2	Gigabit

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Quad, Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD	Quad	ServeRAID	FC2	Gigabit
Quad, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	Quad	ServeRAID	FC2	PRO/1000
Quad, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	Quad	ServeRAID	FC2	PRO/1000
Quad, Gigabit, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	Quad	ServeRAID	FC1	Gigabit
Quad, Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD	Quad	ServeRAID	FC1	Gigabit
Quad, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	Quad	ServeRAID	FC1	PRO/1000
Quad, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	Quad	ServeRAID	FC1	PRO/1000
Quad, Gigabit, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Gigabit	Quad	FC1	FC1
Quad, Gigabit, SCSI HVD, FC1, FC1	SCSI HVD	Gigabit	Quad	FC1	FC1
Quad, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	PRO/1000	Quad	FC1	FC1
Quad, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	PRO/1000	Quad	FC1	FC1
Quad, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	Quad	ServeRAID	FC1	FC1
Quad, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	Quad	ServeRAID	FC1	FC1
Ethernet, Ethernet, Ethernet, Gigabit, FC2	Ethernet	Ethernet	Ethernet	FC2	Gigabit
Ethernet, Ethernet, Ethernet, PRO/1000, FC2	Ethernet	Ethernet	Ethernet	FC2	PRO/1000
Ethernet, Ethernet, Ethernet, Gigabit, FC1	Ethernet	Ethernet	Ethernet	FC1	Gigabit
Ethernet, Ethernet, Ethernet, PRO/1000, FC1	Ethernet	Ethernet	Ethernet	FC1	PRO/1000
Ethernet, Ethernet, Ethernet, SCSI LVD/SE, FC2	Ethernet	Ethernet	Ethernet	FC2	SCSI LVD/SE
Ethernet, Ethernet, Ethernet, SCSI LVD/SE, FC1	Ethernet	Ethernet	Ethernet	FC1	SCSI LVD/SE
Ethernet, Ethernet, Ethernet, ServeRAID, FC2	Ethernet	Ethernet	Ethernet	FC2	ServeRAID
Ethernet, Ethernet, Ethernet, ServeRAID, FC1	Ethernet	Ethernet	Ethernet	FC1	ServeRAID
Ethernet, Ethernet, Ethernet, FC2, FC1	Ethernet	Ethernet	Ethernet	FC2	FC1
Ethernet, Ethernet, Ethernet, FC1, FC1	Ethernet	Ethernet	Ethernet	FC1	FC1
Ethernet, Ethernet, SCSI SE, Gigabit, FC2	Ethernet	Ethernet	SCSI SE	FC2	Gigabit
Ethernet, Ethernet, SCSI SE, PRO/1000, FC2	Ethernet	Ethernet	SCSI SE	FC2	PRO/1000

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Ethernet, SCSI SE, Gigabit, FC1	Ethernet	Ethernet	SCSI SE	FC1	Gigabit
Ethernet, Ethernet, SCSI SE, PRO/1000, FC1	Ethernet	Ethernet	SCSI SE	FC1	PRO/1000
Ethernet, Ethernet, SCSI SE, ServeRAID, FC2	Ethernet	Ethernet	SCSI SE	FC2	ServeRAID
Ethernet, Ethernet, SCSI SE, ServeRAID, FC1	Ethernet	Ethernet	SCSI SE	FC1	ServeRAID
Ethernet, Ethernet, SCSI SE, FC2, FC1	Ethernet	Ethernet	SCSI SE	FC2	FC1
Ethernet, Ethernet, SCSI SE, FC1, FC1	Ethernet	Ethernet	SCSI SE	FC1	FC1
Ethernet, Ethernet, Gigabit, Gigabit, FC2	Ethernet	Gigabit	Ethernet	FC2	Gigabit
Ethernet, Ethernet, Gigabit, PRO/1000, FC2	Ethernet	PRO/1000	Ethernet	FC2	Gigabit
Ethernet, Ethernet, PRO/1000, PRO/1000, FC2	Ethernet	PRO/1000	Ethernet	FC2	PRO/1000
Ethernet, Ethernet, Gigabit, Gigabit, FC1	Ethernet	Gigabit	Ethernet	FC2	Gigabit
Ethernet, Ethernet, Gigabit, PRO/1000, FC1	Ethernet	PRO/1000	Ethernet	FC1	Gigabit
Ethernet, Ethernet, PRO/1000, PRO/1000, FC1	Ethernet	PRO/1000	Ethernet	FC1	PRO/1000
Ethernet, Ethernet, Gigabit, SCSI LVD/SE, FC2	Ethernet	Ethernet	SCSI LVD/SE	FC2	Gigabit
Ethernet, Ethernet, Gigabit, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD	FC2	Gigabit
Ethernet, Ethernet, PRO/1000, SCSI LVD/SE, FC2	Ethernet	Ethernet	SCSI LVD/SE	FC2	PRO/1000
Ethernet, Ethernet, PRO/1000, SCSI HVD, FC2	Ethernet	Ethernet	SCSI HVD	FC2	PRO/1000
Ethernet, Ethernet, Gigabit, SCSI LVD/SE, FC1	Ethernet	Ethernet	SCSI LVD/SE	FC1	Gigabit
Ethernet, Ethernet, Gigabit, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD	FC1	Gigabit
Ethernet, Ethernet, PRO/1000, SCSI LVD/SE, FC1	Ethernet	Ethernet	SCSI LVD/SE	FC1	PRO/1000
Ethernet, Ethernet, PRO/1000, SCSI HVD, FC1	Ethernet	Ethernet	SCSI HVD	FC1	PRO/1000
Ethernet, Ethernet, Gigabit, ServeRAID, FC2	Ethernet	Ethernet	ServeRAID	FC2	Gigabit
Ethernet, Ethernet, PRO/1000, ServeRAID, FC2	Ethernet	Ethernet	ServeRAID	FC2	PRO/1000
Ethernet, Ethernet, Gigabit, ServeRAID, FC1	Ethernet	Ethernet	ServeRAID	FC1	Gigabit
Ethernet, Ethernet, PRO/1000, ServeRAID, FC1	Ethernet	Ethernet	ServeRAID	FC1	PRO/1000
Ethernet, Ethernet, Gigabit, FC2, FC1	Ethernet	Gigabit	Ethernet	FC2	FC1

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Ethernet, PRO/1000, FC2, FC1	Ethernet	Ethernet	PRO/1000	FC2	FC1
Ethernet, Ethernet, Gigabit, FC1, FC1	Ethernet	Gigabit	Ethernet	FC1	FC1
Ethernet, Ethernet, PRO/1000, FC1, FC1	Ethernet	PRO/1000	Ethernet	FC1	FC1
Ethernet, Ethernet, SCSI LVD/SE, ServeRAID, FC2	Ethernet	Ethernet	SCSI LVD/SE	FC2	ServeRAID
Ethernet, Ethernet, SCSI HVD, ServeRAID, FC2	Ethernet	Ethernet	SCSI HVD	FC2	ServeRAID
Ethernet, Ethernet, SCSI LVD/SE, ServeRAID, FC1	Ethernet	Ethernet	SCSI LVD/SE	FC1	ServeRAID
Ethernet, Ethernet, SCSI HVD, ServeRAID, FC1	Ethernet	Ethernet	SCSI HVD	FC1	ServeRAID
Ethernet, Ethernet, SCSI LVD/SE, FC1, FC1	Ethernet	Ethernet	SCSI LVD/SE	FC1	FC1
Ethernet, Ethernet, SCSI HVD, FC1, FC1	Ethernet	Ethernet	SCSI HVD	FC1	FC1
Ethernet, Ethernet, ServeRAID, FC2, FC1	Ethernet	Ethernet	ServeRAID	FC2	FC1
Ethernet, Ethernet, ServeRAID, FC1, FC1	Ethernet	Ethernet	ServeRAID	FC1	FC1
Ethernet, Ethernet, FC1, FC1, FC1	Ethernet	FC1	Ethernet	FC1	FC1
Ethernet, SCSI SE, Gigabit, Gigabit, FC2	Ethernet	Gigabit	SCSI SE	FC2	Gigabit
Ethernet, SCSI SE, Gigabit, PRO/1000, FC2	Ethernet	PRO/1000	SCSI SE	FC2	Gigabit
Ethernet, SCSI SE, PRO/1000, PRO/1000, FC2	Ethernet	PRO/1000	SCSI SE	FC2	PRO/1000
Ethernet, SCSI SE, Gigabit, Gigabit, FC1	Ethernet	Gigabit	SCSI SE	FC1	Gigabit
Ethernet, SCSI SE, Gigabit, PRO/1000, FC1	Ethernet	Gigabit	SCSI SE	FC1	PRO/1000
Ethernet, SCSI SE, PRO/1000, PRO/1000, FC1	Ethernet	PRO/1000	SCSI SE	FC1	PRO/1000
Ethernet, SCSI SE, Gigabit, ServeRAID, FC2	Ethernet	SCSI SE	ServeRAID	FC2	Gigabit
Ethernet, SCSI SE, PRO/1000, ServeRAID, FC2	Ethernet	SCSI SE	ServeRAID	FC2	PRO/1000
Ethernet, SCSI SE, Gigabit, ServeRAID, FC1	Ethernet	SCSI SE	ServeRAID	FC1	Gigabit
Ethernet, SCSI SE, PRO/1000, ServeRAID, FC1	Ethernet	SCSI SE	ServeRAID	FC1	PRO/1000
Ethernet, SCSI SE, Gigabit, FC1, FC1	Ethernet	Gigabit	SCSI SE	FC1	FC1
Ethernet, SCSI SE, PRO/1000, FC1, FC1	Ethernet	PRO/1000	SCSI SE	FC1	FC1
Ethernet, SCSI SE, ServeRAID, FC1, FC1	Ethernet	SCSI SE	ServeRAID	FC1	FC1
Ethernet, Gigabit, Gigabit, SCSI LVD/SE, FC2	Ethernet	Gigabit	SCSI LVD/SE	FC2	Gigabit
Ethernet, Gigabit, Gigabit, SCSI HVD, FC2	Ethernet	Gigabit	SCSI HVD	FC2	Gigabit

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, Gigabit, PRO/1000, SCSI LVD/SE, FC2	Ethernet	PRO/1000	SCSI LVD/SE	FC2	Gigabit
Ethernet, Gigabit, PRO/1000, SCSI HVD, FC2	Ethernet	PRO/1000	SCSI HVD	FC2	Gigabit
Ethernet, PRO/1000, PRO/1000, SCSI LVD/SE, FC2	Ethernet	PRO/1000	SCSI LVD/SE	FC2	PRO/1000
Ethernet, PRO/1000, PRO/1000, SCSI HVD, FC2	Ethernet	PRO/1000	SCSI HVD	FC2	PRO/1000
Ethernet, Gigabit, Gigabit, SCSI LVD/SE, FC1	Ethernet	Gigabit	SCSI LVD/SE	FC1	Gigabit
Ethernet, Gigabit, Gigabit, SCSI HVD, FC1	Ethernet	Gigabit	SCSI HVD	FC1	Gigabit
Ethernet, Gigabit, PRO/1000, SCSI LVD/SE, FC1	Ethernet	PRO/1000	SCSI LVD/SE	FC1	Gigabit
Ethernet, Gigabit, PRO/1000, SCSI HVD, FC1	Ethernet	PRO/1000	SCSI HVD	FC1	Gigabit
Ethernet, PRO/1000, PRO/1000, SCSI LVD/SE, FC1	Ethernet	PRO/1000	SCSI LVD/SE	FC1	PRO/1000
Ethernet, PRO/1000, PRO/1000, SCSI HVD, FC1	Ethernet	PRO/1000	SCSI HVD	FC1	PRO/1000
Ethernet, Gigabit, Gigabit, ServeRAID, FC2	Ethernet	Gigabit	ServeRAID	FC2	Gigabit
Ethernet, Gigabit, PRO/1000, ServeRAID, FC2	Ethernet	PRO/1000	ServeRAID	FC2	Gigabit
Ethernet, PRO/1000, PRO/1000, ServeRAID, FC2	Ethernet	PRO/1000	ServeRAID	FC2	PRO/1000
Ethernet, Gigabit, Gigabit, ServeRAID, FC1	Ethernet	Gigabit	ServeRAID	FC1	Gigabit
Ethernet, Gigabit, PRO/1000, ServeRAID, FC1	Ethernet	PRO/1000	ServeRAID	FC1	Gigabit
Ethernet, PRO/1000, PRO/1000, ServeRAID, FC1	Ethernet	PRO/1000	ServeRAID	FC1	PRO/1000
Ethernet, Gigabit, Gigabit, FC2, FC1	Ethernet	Gigabit	Gigabit	FC2	FC1
Ethernet, Gigabit, PRO/1000, FC2, FC1	Ethernet	Gigabit	PRO/1000	FC2	FC1
Ethernet, PRO/1000, PRO/1000, FC2, FC1	Ethernet	PRO/1000	PRO/1000	FC2	FC1
Ethernet, Gigabit, Gigabit, FC1, FC1	Ethernet	Gigabit	Gigabit	FC1	FC1
Ethernet, Gigabit, PRO/1000, FC1, FC1	Ethernet	Gigabit	PRO/1000	FC1	FC1
Ethernet, PRO/1000, PRO/1000, FC1, FC1	Ethernet	PRO/1000	PRO/1000	FC1	FC1
Ethernet, Gigabit, SCSI LVD/SE, ServeRAID, FC2	Ethernet	ServeRAID	SCSI LVD/SE	FC2	Gigabit
Ethernet, Gigabit, SCSI HVD, ServeRAID, FC2	Ethernet	ServeRAID	SCSI HVD	FC2	Gigabit

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
Ethernet, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	Ethernet	ServeRAID	SCSI LVD/SE	FC2	PRO/1000
Ethernet, PRO/1000, SCSI HVD, ServeRAID, FC2	Ethernet	ServeRAID	SCSI HVD	FC2	PRO/1000
Ethernet, Gigabit, SCSI LVD/SE, ServeRAID, FC1	Ethernet	SCSI LVD/SE	ServeRAID	FC1	Gigabit
Ethernet, Gigabit, SCSI HVD, ServeRAID, FC1	Ethernet	ServeRAID	SCSI HVD	FC1	Gigabit
Ethernet, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	Ethernet	ServeRAID	SCSI LVD/SE	FC1	PRO/1000
Ethernet, PRO/1000, SCSI HVD, ServeRAID, FC1	Ethernet	ServeRAID	SCSI HVD	FC1	PRO/1000
Ethernet, Gigabit, SCSI LVD/SE, FC1, FC1	Ethernet	Gigabit	SCSI LVD/SE	FC1	FC1
Ethernet, Gigabit, SCSI HVD, FC1, FC1	Ethernet	Gigabit	SCSI HVD	FC1	FC1
Ethernet, PRO/1000, SCSI LVD/SE, FC1, FC1	Ethernet	PRO/1000	SCSI LVD/SE	FC1	FC1
Ethernet, PRO/1000, SCSI HVD, FC1, FC1	Ethernet	PRO/1000	SCSI HVD	FC1	FC1
Ethernet, Gigabit, ServeRAID, FC2, FC1	Ethernet	Gigabit	ServeRAID	FC2	FC1
Ethernet, PRO/1000, ServeRAID, FC2, FC1	Ethernet	PRO/1000	ServeRAID	FC2	FC1
Ethernet, Gigabit, ServeRAID, FC1, FC1	Ethernet	Gigabit	ServeRAID	FC1	FC1
Ethernet, PRO/1000, ServeRAID, FC1, FC1	Ethernet	PRO/1000	ServeRAID	FC1	FC1
Ethernet, Gigabit, FC1, FC1, FC1	Ethernet	FC1	Gigabit	FC1	FC1
Ethernet, PRO/1000, FC1, FC1, FC1	Ethernet	FC1	PRO/1000	FC1	FC1
Ethernet, SCSI LVD/SE, ServeRAID, FC1, FC1	Ethernet	ServeRAID	SCSI LVD/SE	FC1	FC1
Ethernet, SCSI HVD, ServeRAID, FC1, FC1	Ethernet	ServeRAID	SCSI HVD	FC1	FC1
Ethernet, ServeRAID, FC1, FC1, FC1	Ethernet	FC1	ServeRAID	FC1	FC1
SCSI SE, Gigabit, Gigabit, ServeRAID, FC2	SCSI SE	Gigabit	ServeRAID	FC2	Gigabit
SCSI SE, Gigabit, PRO/1000, ServeRAID, FC2	SCSI SE	PRO/1000	ServeRAID	FC2	Gigabit
SCSI SE, PRO/1000, PRO/1000, ServeRAID, FC2	SCSI SE	PRO/1000	ServeRAID	FC2	PRO/1000
SCSI SE, Gigabit, Gigabit, ServeRAID, FC1	SCSI SE	Gigabit	ServeRAID	FC1	Gigabit
SCSI SE, Gigabit, PRO/1000, ServeRAID, FC1	SCSI SE	PRO/1000	ServeRAID	FC1	Gigabit
SCSI SE, PRO/1000, PRO/1000, ServeRAID, FC1	SCSI SE	PRO/1000	ServeRAID	FC1	PRO/1000

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
SCSI SE, Gigabit, Gigabit, FC1, FC1	SCSI SE	Gigabit	Gigabit	FC1	FC1
SCSI SE, Gigabit, PRO/1000, FC1, FC1	SCSI SE	Gigabit	PRO/1000	FC1	FC1
SCSI SE, PRO/1000, PRO/1000, FC1, FC1	SCSI SE	PRO/1000	PRO/1000	FC1	FC1
SCSI SE, Gigabit, ServeRAID, FC1, FC1	SCSI SE	Gigabit	ServeRAID	FC1	FC1
SCSI SE, PRO/1000, ServeRAID, FC1, FC1	SCSI SE	PRO/1000	ServeRAID	FC1	FC1
Gigabit, Gigabit, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	Gigabit	ServeRAID	FC2	Gigabit
Gigabit, Gigabit, SCSI HVD, ServeRAID, FC2	SCSI HVD	Gigabit	ServeRAID	FC2	Gigabit
Gigabit, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	PRO/1000	ServeRAID	FC2	Gigabit
Gigabit, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	PRO/1000	ServeRAID	FC2	Gigabit
PRO/1000, PRO/1000, SCSI LVD/SE, ServeRAID, FC2	SCSI LVD/SE	PRO/1000	ServeRAID	FC2	PRO/1000
PRO/1000, PRO/1000, SCSI HVD, ServeRAID, FC2	SCSI HVD	PRO/1000	ServeRAID	FC2	PRO/1000
Gigabit, Gigabit, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	Gigabit	ServeRAID	FC1	Gigabit
Gigabit, Gigabit, SCSI HVD, ServeRAID, FC1	SCSI HVD	Gigabit	ServeRAID	FC1	Gigabit
Gigabit, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	PRO/1000	ServeRAID	FC1	Gigabit
Gigabit, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	PRO/1000	ServeRAID	FC1	Gigabit
PRO/1000, PRO/1000, SCSI LVD/SE, ServeRAID, FC1	SCSI LVD/SE	PRO/1000	ServeRAID	FC1	PRO/1000
PRO/1000, PRO/1000, SCSI HVD, ServeRAID, FC1	SCSI HVD	PRO/1000	ServeRAID	FC1	PRO/1000
Gigabit, Gigabit, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Gigabit	Gigabit	FC1	FC1
Gigabit, Gigabit, SCSI HVD, FC1, FC1	SCSI HVD	Gigabit	Gigabit	FC1	FC1
Gigabit, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	Gigabit	PRO/1000	FC1	FC1
Gigabit, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	Gigabit	PRO/1000	FC1	FC1
PRO/1000, PRO/1000, SCSI LVD/SE, FC1, FC1	SCSI LVD/SE	PRO/1000	PRO/1000	FC1	FC1
PRO/1000, PRO/1000, SCSI HVD, FC1, FC1	SCSI HVD	PRO/1000	PRO/1000	FC1	FC1
Gigabit, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	Gigabit	ServeRAID	FC1	FC1
Gigabit, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	Gigabit	ServeRAID	FC1	FC1

Table 50. NAS 300G five-adapter configuration (continued)

Configuration	PCI Slot-1 (32-bit, 33-MHz)	PCI Slot-2 (64-bit, 33-MHz)	PCI Slot-3 (64-bit, 33-MHz)	PCI Slot-4 (64-bit, 66-MHz)	PCI Slot-5 (64-bit, 66-MHz)
PRO/1000, SCSI LVD/SE, ServeRAID, FC1, FC1	SCSI LVD/SE	PRO/1000	ServeRAID	FC1	FC1
PRO/1000, SCSI HVD, ServeRAID, FC1, FC1	SCSI HVD	PRO/1000	ServeRAID	FC1	FC1

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Numerics

10BASE2. The IEEE 802.3 Ethernet standard that supports a transmission rate of 10 Mbps using RG 58 A/U and RG 58 C/U coaxial cable and BNC connectors. 10BASE2 is sometimes called thin Ethernet or thinnet.

10BASE5. The IEEE 802.3 Ethernet standard that supports a transmission rate of 10 Mbps using a 50-ohm coaxial cable with Type N connectors over a distance of up to 500 m (1640 ft) without using repeaters. 10BASE5 is sometimes called thick Ethernet or thicknet.

10BASE-FL. The IEEE 802.3 Ethernet standard that supports a transmission rate of 10 Mbps using optical fiber.

10BASE-T. The IEEE 802.3 Ethernet standard that supports a transmission rate of 10 Mbps using two twisted-pair wires (Category 3 telephone wiring). 10BASE-T is the most widely deployed 10-Mbps Ethernet transmission protocol in use today.

100BASE-T. The IEEE 802.3 Ethernet standard that supports a transmission rate of 100 Mbps using 2 twisted-pair wires (Category 5 telephone wiring).

1000BASE-T. The IEEE 802.3 Ethernet standard that supports a transmission rate of 1000 Mbps using 2 twisted-pair wires (Category 5+ telephone wiring).

A

access control. In computer security, the process of ensuring that the resources of a computer system can be accessed only by authorized users in authorized ways.

access control list (ACL). (1) In computer security, a collection of all access rights for one object. (2) In computer security, a list associated with an object that identifies all the subjects that can access the object and their access rights; for example, a list associated with a file that identifies users who can access the file and identifies their access rights to that file.

accessory. An IBM designation for a separately orderable part that (a) has no type number, (b) is for purchase only, and (c) does not receive normal IBM maintenance.

active-backup. A type of bond group that provides high availability. Two or more ports are combined under a logical bond group with one link active and the other link or links left idle. The idle links are ready to take over in the event that the currently active link fails. See bond group.

active dispatcher node. The engine within a load-balancing group that functions as the load balancer for that group. Because each NAS engine can have multiple physical and bonded interfaces, there can be more than one load-balancing engine per set of engines. Each load-balancing engine acts as an active backup for another load-balancing engine within that set. Alternatively, there can be only one active load-balancing engine per set of engines and one passive backup (standby) load-balancing engine.

actual data transfer rate. The average number of bits, characters, or blocks per unit of time transferred from a data source and received by a data sink.

adapter address. The hexadecimal digits that identify an adapter.

adaptive cut-through switching. A mode of operation for LAN switches in which they will automatically alternate between cut-through switching and store-and-forward switching depending on user-configurable, per port, error-rate thresholds.

advertise. To pass routing reachability information along from one router to another.

all-routes broadcast frame. A frame that has bits in the routing information field set to indicate that the frame is to be sent to all LAN segments in the network (across all bridges, even if multiple paths allow multiple copies of the frame to arrive at some LAN segments). The destination address is not examined and plays no role in bridge routing.

all-stations broadcast frame. A frame whose destination address bits are set to all ones. All stations on any LAN segment on which the frame appears will copy it. The routing information, not the destination address, determines which LAN segments the frame appears on. All-stations broadcasting is independent of all-routes broadcasting; the two can be done simultaneously or one at a time.

alternate adapter. In a personal computer that is used on a LAN and that supports installation of two network adapters, the adapter that uses alternate (not standard or default) mapping between adapter-shared RAM, adapter ROM, and designated computer memory segments. The alternate adapter is usually designated as adapter 1 in configuration parameters. Contrast with primary adapter.

alternate memory mapping. The mapping between adapter-shared RAM, adapter ROM, and the designated computer memory segments for an alternate network adapter.

assigned disk. A disk that is mapped to a logical drive.

asynchronous. A class of data transmission service whereby all requests for service contend for a pool of dynamically allocated ring bandwidth and response time.

asynchronous data transfer. A physical transfer of data to or from a device that occurs without a regular or predictable time relationship following execution of an I/O request. Contrast with synchronous data transfer.

asynchronous transfer mode (ATM). A transfer mode in which the information is organized into cells; it is asynchronous in the sense that the recurrence of cells containing information from an individual user is not necessarily periodic. ATM is specified in international standards such as ATM Forum UNI 3.1.

asynchronous transmission. A method of transmission in which the time intervals between characters do not have to be equal. Start and stop bits are added to coordinate the transfer of characters.

ATM (see asynchronous transfer mode).

attach. To make a device a part of a network logically. Not to be confused with connect, which implies physically connecting a device to a network. Contrast with connect.

attachment. A port or a pair of ports, optionally including an associated optical bypass, that are managed as a functional unit. A dual attachment includes two ports: a port A, and a port B. A single attachment includes a Port S.

attachment feature. (1) The circuitry by which some host processors or controllers are connected to a LAN access unit or connection point. (2) A feature that can be added to enhance the capability, storage capacity, or performance of a product, but is not essential for its basic work; for example, an adapter that allows a device to attach to a network.

attachment unit interface (AUI). Also known as thick Ethernet, thicknet or 10BASE5. This type of Ethernet connector has a 15-pin D type connector.

attention (ATTN). An occurrence external to an operation that could cause an interruption of the operation.

AUI (see attachment unit interface).

authentication. In computer security, verification of the identity of a user or the user's eligibility to access an object.

auto-removal. The removal of a device from data-passing activity without human intervention. This action is accomplished by the adapter in the device, and can be initiated by a network management program.

B

balun. A transformer used to connect balanced cables, such as twisted-pair cables, to unbalanced cables, such as coaxial cables, by matching the electrical characteristics of the cables.

bandwidth aggregation. The ability to establish more than one communication channel per connection.

bandwidth augmentation. The ability to add another communication channel to an already existing communication channel.

bandwidth-distance product. The parameter specified for bulk fiber that defines the distance that a signal at a defined frequency can be transmitted with a specified loss, usually half the power at zero frequency. Use of a fiber with a bandwidth-distance product of 500 MHz-km would support 250 MHz for a distance of 2 km.

baseband LAN. A local area network in which data are encoded and transmitted without modulation of a carrier (T).

Basic Input/Output System. The personal computer code that controls basic hardware operations, such as interactions with diskette drives, hard disk drives, and the keyboard.

baud. (1) A unit of signaling speed equal to the number of discrete conditions or signal events per second; for example, one baud equals one-half dot cycle per second in Morse code, one bit per second in a train of binary signals, and one 3-bit value per second in a train of signals each of which can assume one of eight different states (A). Contrast with bits per second. (2) In asynchronous transmission, the unit of modulation rate corresponding to one unit interval per second; that is, if the duration of the unit interval is 20 milliseconds, the modulation rate is 50 baud.

BIOS (see Basic Input/Output System).

bit-time. (1) The time required to transmit 1 bit on the network. For example, the IBM PC Network bit-time equals 500 nanoseconds (ns). (2) The reciprocal of the line data rate (or network data transfer rate).

bits per second (bps). The rate at which bits are transmitted per second. Contrast with baud.

block delay time. The time delay permitted for received frames to be assembled into blocks for retransmission.

bond group. A logical collection of two or more physical ports (on a per engine basis only) that becomes one interface on the network. You can create two kinds of bond groups in the NAS appliance: aggregated links (see link aggregation) and active-backup.

bonded interface (see bond group).

bonding. The act of combining two or more physical ports to create one logical network interface with one associated IP address. Bonding can improve performance by either increasing bandwidth (see link aggregation) or providing port backup (see active-backup).

bootstrap. (1) A sequence of instructions whose execution causes additional instructions to be loaded and executed until the complete computer program is in storage (T). (2) A technique or device designed to bring itself into a desired state by means of its own action, for example, a machine routine whose first few instructions are sufficient to bring the rest of itself into the computer from an input device (A).

bps (see bits per second).

broadcast frame. A frame that is simultaneously transmitted to more than one destination. A broadcast frame is forwarded by all bridges, unless otherwise restricted.

broadcast topology. A network topology in which all attaching devices are capable of receiving a signal transmitted by any other attaching device on the network.

buffer storage. (1) A special-purpose storage or storage area allowing, through temporary storage, the data transfer between two functional units having different transfer characteristics. A buffer storage is used between non-synchronized devices, or where one is serial and the other is parallel or between those having different transfer rates. Synonymous with buffer (T). (2) In word processing, a temporary storage in which text is held for processing or communication (T).

building cable. The permanently installed cable within a building that interconnects offices to wiring closets, wiring closets to wiring closets, and wiring closets to computer rooms of building entrances.

building entrance. The entry point in a building where external communication cables are interconnected with internal building cables.

C

cache. A high-speed buffer storage that contains frequently accessed instructions and data to reduce access time.

cascade. To connect in a series or in a succession of stages so that each stage derives from or acts upon the product of the preceding stage.

catenet. A network in which hosts are connected to networks and the networks are interconnected by gateways. The Internet is an example of a catenet.

CDDI (see Copper Distributed Data Interface).

Challenge Handshake Authorization Protocol (CHAP). A password protection protocol that describes how to authenticate incoming data calls. The password is encrypted over the access line.

CHAP (see Challenge Handshake Authorization Protocol).

CIFS (see Common Internet File System).

client. A computer system or process that requests access to the data, services, or resources of a server (another computer system or process). Multiple clients may share access to a common server. Synonym for requester.

client-server model. A common way to describe network services and the model user processes (programs) of those services.

closed network. Synonym for closed path.

closed path. A network in which all of the cable paths and wiring closets are directly or indirectly connected. Synonymous with closed network.

cluster. In high-availability cluster multiprocessing (HACMP), a set of independent systems (called nodes) that are organized into a network for the purpose of sharing resources and communicating with each other. .

collision avoidance. In carrier sense multiple access with collision avoidance (CSMA/CA), the sending of a jam signal and waiting a variable time before transmitting data, to avoid two or more simultaneous transmissions.

Common Internet File System (CIFS). A protocol that enables collaboration on the Internet by defining a remote file-access protocol that is compatible with the way applications already share data on local disks and network file servers (MS).

configuration list. In a LAN, a list of all of the names and addresses of stations attached to a LAN segment.

connect. In a LAN, to physically join a cable from a station to an access unit or network connection point. Contrast with attach.

connection-oriented. The communication process that proceeds through three well-defined phases: connection establishment, data transfer, and connection release. Examples are: X.25, Internet TCP, and ordinary telephone calls.

connection-oriented network. A network which requires that a setup procedure be executed to establish an information channel between two logical nodes before they can interchange information.

control port. An alternate port that you can use to access the configuration when the data ports are not available.

control unit. A processor electronics assembly in a storage controller that exposes LUNs to the storage network and connects internally to the storage controllers disk drives. A storage controller can have 1 to n , but typically has one for each path group.

Copper Distributed Data Interface (CDDI). A proposed ANSI standard that defines a dual counter-rotating ring which operates at a rate of 100 Mbps over Category 5 copper wire.

coprocessor. A secondary processor used to speed up operations by handling some of the workload of the main CPU.

CRC (see cyclic redundancy check).

CRU (see customer-replaceable unit).

customer-replaceable unit (CRU). An assembly or part that a customer can replace in its entirety when any of its components fail. Contrast with field-replaceable unit (FRU).

cyclic redundancy check (CRC). (1) A redundancy check in which the check key is generated by a cyclic algorithm (T). (2) A system of error checking performed at both the sending and receiving station after a block-check character has been accumulated.

D

daemon. A program that runs unattended to perform a standard service. Some daemons are triggered automatically to perform their task; others operate periodically.

data port. Ethernet ports used for storage-traffic and configuration purposes.

DASD queue. A queue that resides on a direct access storage device (DASD).

data store. An abstraction for a repository where data is kept, independent of underlying implementation. Data stores can be block based (a LUN or set of LUNs); file based (a local or remote file system); or relational (a database). Since IBM TotalStorage NAS family appliances are file based, all of their datastores must be kept in file systems, directories, or files which are kept on LUNs.

data bus. A bus used to communicate data internally and externally to and from a processing unit, storage, and peripheral devices (A). (See bus.)

data integrity. (1) The condition that exists as long as accidental or intentional destruction, alteration, or loss of data does not occur (T). (2) Preservation of data for its intended use.

DDP (see distributed data processing).

default route. A route, in the routing table, that is used when no other route is specified or appropriate.

device address. (1) In data communication, the identification of any device to which data can be sent or from which data can be received. (2) The first subchannel address recognized by a channel-attached device.

device identifier (ID). An 8-bit identifier that uniquely identifies a physical I/O device.

device parity protection. A function that protects data stored on a disk unit subsystem from being lost because of the failure of a single disk unit in the disk unit subsystem. When a disk unit subsystem has device parity protection and one of the disk units in the subsystem fails, the system continues to run. The disk unit subsystem reconstructs the data after the disk unit in the subsystem is repaired or replaced. See RAID and RAID-5.

DHCP (see Dynamic Host Configuration Protocol).

diagnostic diskette. A diskette containing diagnostic modules or tests used by computer users and service personnel to diagnose hardware problems.

direct access storage device (DASD). A mass-storage medium on which a computer stores data. Contrast with random access memory (RAM).

Direct Memory Access (DMA). A technique in which an adapter bypasses a computer's CPU, and handles the transfer of data between itself and the system's memory directly.

distributed data processing (DDP). Synonym for distributed processing.

DLR (see dynamic link routine).

DMA (see Direct Memory Access).

DNS (see domain name system).

Domain Name System (DNS). In the Internet suite of protocols, the distributed database system used to map domain names to IP addresses.

drive bay. A receptacle into which you insert a disk drive module in an appliance. The bays are in storage units that can be physically located in a separate rack from the appliance.

dual inline memory module (DIMM). A small circuit board with memory-integrated circuits containing signal and power pins on both sides of the board.

Dynamic Host Configuration Protocol (DHCP). A protocol defined by the Internet Engineering Task Force (IETF) that is used for dynamically assigning IP addresses to computers in a network.

dynamic link routine (DLR). A program or routine that can be loaded by an application or as part of a program.

E

EIA (see Electronic Industries Association).

EISA (see Extended Industry Standard Architecture).

ELAN (see emulated LAN).

electromagnetic interference. A disturbance in the transmission of data on a network resulting from the magnetism created by a current of electricity.

Electronic Industries Association (EIA). An organization of electronics manufacturers that advances the technological growth of the industry, represents the views of its members, and develops industry standards.

Electronic Industries Association (EIA) unit. A unit of measure equal to 4.45 cm (1.75 in).

electrostatic discharge (ESD). An undesirable discharge of static electricity that can damage equipment and degrade electrical circuitry.

EMC. Electromagnetic compatibility.

emulate. To imitate one system with another, primarily by hardware, so that the imitating system accepts the same data, executes the same programs, and achieves the same results as the imitated system (A).

emulated LAN (ELAN). A specific implementation of a virtual LAN, as it relates to LAN Emulation in ATM networks. An ELAN consists of one or more LAN Emulation clients (LECs) that share the same LAN Emulation Server and Broadcast and Unknown Server (LES/BUS). LECs gain membership in an ELAN based on configurable policies. Like devices on traditional LANs, each ELAN member has a MAC address and can use the LES/BUS to send unicast and broadcast packets to other members based on MAC addresses.

emulation. (1) The use of a data processing system to imitate another data processing system, so that the imitating system accepts the same data, executes the same programs, and achieves the same results as the imitated system.

Emulation is usually achieved by means of hardware or firmware (T). (2) The use of programming techniques and special machine features to permit a computing system to execute programs written for another system.

engine. The unit that contains the processors that respond to requests for data from clients. This is where the operating software for the TotalStorage appliance resides.

equivalent paths. A collection of paths to the storage device. The paths have no switchover time penalty when changing from one path group to another while accessing the storage device.

error. A discrepancy between a computed, observed, or measured value or condition and the true, specified, or theoretically correct value or condition (A) (I).

ESD (see electrostatic discharge).

ESM (see environmental service monitor).

Ethernet. A standard protocol for a 10-Mbps baseband local area network (LAN) that allows multiple access and handles contention by using Carrier Sense Multiple Access with Collision Detection (CSMA/CD) as the access method.

Ethernet network. A baseband LAN with a bus topology in which messages are broadcast on a coaxial cable using a carrier sense multiple access/collision detection (CSMA/CD) transmission method.

event message. Synonym for call-progress event message.

executable statement. A statement that specifies one or more actions to be taken by a computer program at execution time; for example, instructions for calculations to be performed, conditions to be tested, flow of control to be altered (T).

expansion slot. In personal-computer systems, one of several receptacles in the rear panel of the system unit into which a user can install an adapter.

extended configuration services. Configuration services that reside outside a CP processor. Extended configuration services keeps a local cache of transmission group locations. Extended configuration services do not handle activation and deactivation. See configuration services.

Extended Industry Standard Architecture (EISA). The PC bus standard that extends the AT bus (ISA bus) to 32 bits and provides busmastering. It was announced in 1988 as a 32-bit alternative to the Micro Channel that would preserve investment in existing boards. PC and AT cards (ISA cards) can plug into an EISA bus.

F

failback. The restoration of the appliance to its initial configuration after detection and repair of a failed network or appliance component.

failover. (1) The automatic recovery of resources in the event of a network outage, or failure of the hardware or software. (2) A cluster event where the primary database server or application server switches over to a backup system due to the failure of the primary server.

failover group. A type of virtual network interface. It is a collection of physical and bonded interfaces that provide backup for each other. Each member of the failover group must have the same front-end and backend connectivity.

failure. (1) The termination of the ability of a functional unit to perform its required function. (2) An uncorrected hardware error. Failures are either recoverable or not recoverable by the software or the operator. The operator is always notified when failures occur. Contrast with error.

Fast Ethernet. An Ethernet standard that provides a data rate of 100 Mbps.

feature code. A code used by IBM to process hardware and software orders.

Federal Communications Commission (FCC). A board of commissioners appointed by the President under the Communications Act of 1934, having the power to regulate all interstate and foreign communications by wire and radio originating in the United States.

fiber optic cable (see optical cable).

Fiber Optic Inter-Repeater Link (FOIRL). An IEEE standard for fiber optic Ethernet.

FIC (see File Image Capture).

Field-replaceable unit (FRU). An assembly that is replaced in its entirety when any one of its components fails. In some cases, a field replaceable unit may contain other field replaceable units. Contrast with customer-replaceable unit (CRU).

File Image Capture (FIC). Function that takes a file system clone and a read-only copy of the certain read-write (active) file system. File Image Capture reflects the state of the file system at the time it was created.

File Image Restore. Function that allows a file system to revert to the state and contents of a previous File Image Capture. This function can be used to recover a corrupted file system.

File Transfer Protocol (FTP). In the Internet suite of protocols, an application layer protocol that uses TCP and Telnet services to transfer bulk-data files between machines or hosts.

FIR (see File Image Restore).

firewall. A logical barrier around systems in a network. A firewall consists of hardware, software, and a security policy that control the access and flow of information between secure or trusted systems and nonsecure or untrusted systems.

fixed-length record. A record having the same length as all other records with which it is logically or physically associated.

flash memory. A memory chip that holds its content without power but must be erased in fixed blocks rather than single bytes.

floating virtual connection (FVC). The ability to resume a virtual connection on a port other than the port connection on which the original virtual connection was established.

frame alignment error. An error in a frame, indicated by a frame check sequence (FCS) indicator. When excessive or missing bits occur during the reception of a frame, the frame is misaligned.

free disk. A physical disk that is not assigned as a hot-spare, as a standby hot-spare, or to a logical drive.

FRU (see field-replaceable unit).

FTP (see File Transfer Protocol).

FVC (see floating virtual connection).

G

gateway. A device that acts as a router, but occurs at the transport layer, to transfer packets between networks.

group definition. A list of directory numbers.

group definition ID. The identifier of a group definition.

group SAP. A single address assigned to a group of service access points (SAPs).

group separator (GS) character. The information separator intended to identify a logical boundary between groups.

H

hard failure. An error condition on a network that requires that the network be reconfigured or that the source of the error be removed before the network can resume reliable operation. Synonym for hard error.

hertz (Hz). A unit of frequency equal to one cycle per second.

Note: In the United States, line frequency is 60 Hz or a change in voltage polarity 120 times per second; in Europe, line frequency is 50 Hz or a change in voltage polarity 100 times per second.

higher level. In the hierarchical structure of a data station, the conceptual level of control or processing logic, above the data link level that determines the performance of data link level functions such as device control, buffer allocation, and station management.

host. (1) In TCP/IP, any system that has at least one internet address associated with it. A host with multiple network interfaces may have multiple internet addresses associated with it. The host can be (a) a client, (b) a server, or (c) both a client and a server simultaneously. (2) In Fibre Channel, any system that has at least one worldwide name associated with it. A host with multiple network interfaces may have multiple worldwide names associated with it.

host application program. An application program processed in the host computer.

host attachment. A mode of SNA communication in which the processor acts as a secondary SNA device.

host computer. (1) In a computer network, a computer that usually performs network control functions and provides end users with services such as computation and database access (T). (2) The primary or controlling computer in a multiple computer installation or network. (3) A computer used to prepare programs for use on another computer or on another data processing system; for example, a computer used to compile, link edit, or test programs to be used on another system. (4) Synonym for host processor.

hot-spare disk. A physical disk that is automatically mapped to a logical drive if one of the logical drive's disks goes offline.

HTTP (see Hypertext Transfer Protocol).

Hypertext Transfer Protocol. In the Internet suite of protocols, the protocol that is used to transfer and display hypertext documents.

I

IBM Disk Operating System (DOS). A disk operating system based on MS-DOS that operates with all IBM-compatible personal computers.

IETF (see Internet Engineering Task Force).

iLUN. iSCSI client logical-unit number.

initial microcode load (IML). The action of loading the operational microcode.

initialize. In a LAN, to prepare the adapter (and adapter support code, if used) for use by an application program.

inoperative. The condition of a resource that has been active, but is no longer active. The resource could have failed or could have been suspended while a reactivate command was being processed.

interference. (1) The prevention of clear reception of broadcast signals. (2) The distorted portion of a received signal. (3) In optics, the interaction of two or more beams of coherent or partially coherent light.

Internet Engineering Task Force (IETF). The task force of the Internet Architecture Board (IAB) that is responsible for solving the short-term engineering needs of the Internet. The IETF consists of numerous working groups, each focused on a particular problem. Internet standards are typically developed or reviewed by individual working groups before they can become standards.

Internet Protocol (IP). A protocol that routes data through a network or interconnected networks. IP acts as an intermediary between the higher protocol layers and the physical network.

Internetwork Packet Exchange (IPX). The routing protocol used to connect Novell's servers or any workstation or router that implements IPX with other workstations. Although similar to TCP/IP, it uses different packet formats and terminology.

interrupt level. The means of identifying the source of an interrupt, the function requested by an interrupt, or the code or feature that provides a function or service.

IOPS. Input/output operations.

IP (see Internet Protocol).

IPX. Internetwork Packet Exchange

IRQ. Interrupt request.

iSCSI. A technology that enables the SCSI transport protocol over an IP network by connecting clients (initiators) and servers to storage.

iSCSI client. A device that creates and sends SCSI commands to the target IBM IP Storage appliance.

iSCSI client logical-unit number (iLUN). A unique number that is assigned to each VLUN. The iLUN for a single client starts at zero and increments sequentially.

J

jumper. A connector between two pins on a network adapter that enables or disables an adapter option, feature, or parameter value.

jumper cable. Synonym for patch cable.

K

Kerberos. Pertaining to the security system of the Massachusetts Institute of Technology's Project Athena. It uses symmetric key cryptography to provide security services to users in a network.

L

LAN (see local area network).

local area network. A network in which a set of devices are connected to one another for communication and that can be connected to a larger network.

LAN emulation client (LEC). A LAN emulation component that represents users of the emulated LAN.

LAN emulation configuration server (LECS). A LAN emulation service component that centralizes and disseminates configuration data.

LAN multicast. Sending of a transmission frame that is intended to be accepted by a group of selected data stations on the same local area network.

LAN Segment Number. The identifier that uniquely distinguishes a LAN segment in a multi-segment LAN.

LAN-to-LAN. An access mode for connecting remote LAN sites.

large-scale integration (LSI). The process of integrating large numbers of circuits on a single chip of semiconductor material.

LBG (see load-balancing group).

LDAP (see Lightweight Directory Access Protocol).

Lightweight Directory Access Protocol. In TCP/IP, a protocol that enables users to locate people, organizations, and other resources in an Internet directory or intranet directory.

limited broadcast. Synonym for single-route broadcast.

link aggregation. A type of bond group that combines the bandwidth of two or more ports to serve as one IP address. The bond group distributes data across the bonded ports by using an algorithm. See bond group.

LIP. Loop initialization process

load-balancing group (LBG). A type of virtual network interface that comprises a set of physical and bonded interfaces. A set of nodes within a virtual server that has layer-2 front-end connectivity can be collectively identified by a unique IP address and grouped into a load-balancing group (LBG). The intent of such a grouping is to enable all

nodes in the LGB to share the file serving load. A unique IP address and DNS host name combination identify each load-balancing group. Depending on the front-end connectivity, you can configure a node to be a member of more than one load-balancing group.

locally administered address. In a local area network, an adapter address that the user can assign to override the universally administered address. Contrast with universally administered address.

logical connection. In a network, devices that can communicate or work with one another because they share the same protocol.

logical drive. A unit of virtual storage that is made available to the network through VLUNs and iLUNs. It is made up of one or more physical disks that are combined using RAID 0, 1, 1E, 5, or 5E technology.

logical node. Logical nodes exist and operate in the physical context of the primary devices. There are different types of logical nodes and each is associated with a specific protocol stack.

loop. A closed unidirectional signal path connecting input/output devices to a system.

Low-smoke fire-retardant zero halogen. Describes materials that are not flammable and do not emit large amounts of smoke or toxic gasses when burnt.

Low-smoke zero halogen. Describes materials that do not emit large amounts of smoke or toxic gasses when burnt.

LSFR0H (see Low-smoke fire-retardant zero halogen).

LS0H (see Low-smoke zero halogen).

M

macro. An instruction that causes the execution of a predefined sequence of instructions in the same source language.

main storage. Program-addressable storage from which instructions and other data can be loaded directly into registers for subsequent execution or processing (A) (I).

management information base (MIB). SNMP units of managed information that specifically describe an aspect of a system, such as the system name, hardware number, or communications configuration. A collection of related MIB objects is defined as a MIB.

megahertz (MHz). A unit of measure of frequency. One megahertz = 1 000 000 hertz.

MES (see miscellaneous equipment specification).

MIB. Management information base.

MIB browser. In the Simple Network Management Protocol (SNMP), a small PC or workstation application that can load MIB definitions, query or set data items in a managed node, and decode returned values and results in an easily readable form.

microinstruction. An instruction for operations at a level lower than machine instructions (T).

microprogram. A sequence of microinstructions. Microprograms are mainly used to implement machine instructions (T).

migrate. To move to a changed operating environment, usually to a new release or version of a program, system, or device.

miscellaneous equipment specification (MES). Any equipment that is added after the time of the initial order.

mode field diameter. A measure of the width of the guided optical power's intensity distribution in the core and the cladding of a single-mode fiber.

modulation. (1) The process by which a characteristic of a carrier is varied in accordance with a characteristic of an information-bearing signal (T). (2) The process by which a message signal is impressed upon a carrier signal so that the carrier is altered to represent the message signal.

multicast address (see LAN multicast).

multimode optical fiber. (1) A graded-index or step-index optical fiber that allows more than one bound mode to propagate (E). Contrast with single-mode optical fiber. (2) In FDDI, an optical fiber waveguide usually characterized by a core diameter of 50 to 100 micron that will allow a large number of modes to propagate.

multiplexing. In data transmission, a function that permits two or more data sources to share a common transmission medium so that each data source has its own channel (A) (I).

N

N (see Newton).

nanosecond (ns). One thousand millionth of a second.

NAS. Network-attached storage.

NDMP (see network data management protocol).

network-attached storage (NAS). A task-optimized storage device directly attached to a network that works independent of the general-purpose file servers.

network data management protocol (NDMP). An open standard protocol for enterprise-wide network-based backup for network attached storage.

network file system (NFS). A protocol, developed by Sun Microsystems, Incorporated, that allows any host in a network to mount another host's file directories. After a file directory is mounted, the it appears to reside on the local host.

network information services (NIS). A set of UNIX network services (for example, a distributed service for retrieving information about the users, groups, network addresses, and gateways in a network) that resolve naming and addressing differences among computers in a network.

network interface.

newton (N). The force that when applied to a body having a mass of one kilogram gives it an acceleration of one meter per second per second (1 m/s²).

NFS (see network file system).

NI (see network interface).

NIS (see network information services).

non-broadcast frame. A frame containing a specific destination address and that can contain routing information specifying which bridges are to forward it. A bridge will forward a non-broadcast frame only if that bridge is included in the frame's routing information.

non-canonical. In this form, the most significant bit of an octet is transmitted first.

ns (see nanosecond).

O

ODI (see Open Data-Link Interface).

Open Data-Link Interface (ODI). A common interface for network drivers developed by Novell. It allows multiple transport protocols to run on one network adapter.

optical cable. A fiber, multiple fibers, or a fiber bundle in a structure built to meet optical, mechanical, and environmental specifications (E).

optical fiber. Any filament made of dielectric materials that guides light, regardless of its ability to send signals.

optical fiber coupler. (1) A device whose purpose is to distribute optical power among two or more ports (A). (2) A device whose purpose is to couple power between a fiber and a source or detector (A).

P

packet internet groper (PING). In Internet communications, a program used in TCP/IP networks to test the ability to reach destinations by sending the destinations an Internet Control Message Protocol (ICMP) echo request and waiting for a reply.

parity check. (1) A redundancy check by which a recalculated parity bit is compared to the pre-given parity bit (T). (2) A check that tests whether the number of ones (or zeros) in an array of binary digits is odd or even (A).

passive hub. A hub that adds nothing to the data being transmitted through it.

path. The connection between a storage port and the WWN (World Wide Name): target : LUN of a storage device.

path group. A collection of equivalent paths. Storage devices may have one, two or n path groups.

PCI (see Peripheral Component Interconnect).

PCNFS (see personal-computer network file system).

PCNFSD (see personal-computer NFS daemon).

PCMCIA (see Personal Computer Memory Card International Association).

PDC (see primary domain controller).

PDU. Power distribution unit.

Peripheral Component Interconnect (PCI). A local bus for PCs from Intel that provides a high-speed data path between the CPU and up to 10 peripherals (video, disk, network, and so on). The PCI bus coexists in the PC with the ISA or EISA bus. ISA and EISA boards still plug into an ISA or EISA slot, while high-speed PCI controllers plug into a PCI slot.

Persistent Storage Manager (PSM). Columbia Data Products software that creates multiple point-in-time persistent True Image data views of any or all system and data volumes residing on the NAS. All persistent images survive system a power loss or a planned or unplanned reboot. Each instance of PSM seamlessly handles 250 concurrent images of up to 255 independent volumes for a total of 63,750 independent data images.*

personal-computer NFS daemon (PCNFSD). A daemon that manages user authentication and print spooling.

Personal Computer Memory Card International Association (PCMCIA). An organization that standardizes credit-card size memory and I/O adapters for personal computers.

PING (see packet internet groper).

pinout. Information that specifies which signal, signal line, or cable wire maps to each pin on a module, card, or cable connector. A module is usually keyed to allow for pin number identification.

PPS (see per port switching).

primary adapter. In a personal computer that is used on a LAN and that supports installation of two network adapters, the adapter that uses standard (or default) mapping between adapter-shared RAM, adapter ROM, and designated computer memory segments. The primary adapter is usually designated as adapter 0 in configuration parameters. Contrast with alternate adapter.

promiscuous mode. In a local area network (LAN), a method of processing and monitoring LAN frames that does not discriminate based on address.

PSM (see Persistent Storage Manager).

Q

QoS. Quality of service.

R

RAID (see redundant array of independent disks).

RAID-5. The RAID method used by the high-performance models of the IBM 9337 Disk Array Subsystem. See redundant array of independent disks and device parity protection.

RAM (see random access memory).

random access memory (RAM). A temporary storage location in which the central processing unit (CPU) stores and executes its processes. Contrast with direct access storage device.

redundant array of independent disks (RAID). A method of protecting data loss due to disk failure based on the Redundant Array of Independent Disks specification published by the University of California in 1987. See device parity protection and RAID-5.

remote procedure call (RPC). A facility that a client uses to request the execution of a procedure call from a server. This facility includes a library of procedures and an external data representation.

S

Samba. A UNIX implementation of CIFS that enables Windows networking-file-system protocol to communicate with UNIX operating systems.

SAN. Storage Area Network.

SCSI (see small computer system interface).

shared LAN. A LAN in which the total bandwidth is shared among all nodes attached to the LAN segment.

shared RAM. Shared memory provided by an adapter with onboard memory and requiring use of system CPU.

shielded twisted pair (STP). A cable medium consisting of a telephone wire wrapped in a metal sheath to eliminate external interference.

Simple Mail Transfer Protocol (SMTP). In the Internet suite of protocols, an application protocol for transferring mail among users in the Internet environment. SMTP specifies the mail exchange sequences and message format. It assumes that the Transmission Control Protocol (TCP) is the underlying protocol.

Simple Network Management Protocol (SNMP). In the Internet suite of protocols, a network management protocol that is used to monitor routers and attached networks. SNMP is an application layer protocol. Information on devices managed is defined and stored in the application's Management Information Base (MIB).

single system image (SSI). A system architecture in which a cluster of engines provides an external view of the system such that it appears as a single entity in terms of administration, client-side attachment or both.

single-mode optical fiber. An optical fiber in which only the lowest-order bound mode (which can consist of a pair of orthogonally polarized fields) can propagate at the wavelength of interest. Contrast with multimode optical fiber.

single-route broadcast. The forwarding of specially designated broadcast frames only by bridges which have single-route broadcast enabled. If the network is configured correctly, a single-route broadcast frame will have exactly one copy delivered to every LAN segment in the network. Synonym for limited broadcast.

small computer system interface (SCSI). A standard hardware interface that enables a variety of peripheral devices to communicate with one another.

SMTP (see Simple Mail Transfer Protocol).

SNMP (see Simple Network Management Protocol).

splitter. In a local area network (LAN), a passive device used at a node to connect two or more branches (T).

standby hot-spare disk. A physical disk that is automatically mapped to a logical drive when no suitable hot-spare disk is available.

Storage Area Network (SAN). A dedicated storage network tailored to a specific environment, combining servers, storage products, networking products, software, and services.

storage controller. A device (such as a RAID Controller) that creates and manages other storage devices.

storage device. A LUN that terminates a collection of ports on the storage network.

storage network. Provides shared access to a set of LUNs across one to n storage client networks.

storage network device. A type of hub, switch, director or router on the Fibre Channel fabric that is directly connected to the storage client network. A storage network device is part of the fabric infrastructure, but does not directly provide LUNs.

storage client network. A classic interconnected Fibre Channel fabric with a single Fibre Channel fabric name.

storage port. A engine's connection point to a storage client network. A storage port is a member of a single fabric.

storage unit. Hardware that contains one or more drive bays, power supplies, and network interface. Some storage units contain RAID controllers; their storage unit is accessed by the appliance.

store-and-forward. A mode of operation for a LAN switch in which it completely checks every frame before forwarding, so customers can use the switch to isolate erroneous frames generated on one segment so they do not traverse the switch onto another segment.

STP (see shielded twisted pair).

SVN (see switched virtual network).

switched LAN. A LAN that has a dedicated connection for each user whereby the full bandwidth is available to the workstation.

switched virtual networks (SVN). A comprehensive approach for building and managing switched-based networks. It combines the virtues of LAN switching, bridging, routing, ATM switching and other switched services.

synchronous data transfer. A physical transfer of data to or from a device that has a predictable time relationship with the execution of an I/O request.

synchronous transmission. A method of transmission in which characters are synchronized by the transmission of initial sync characters and a common clock signal.

T

tape device. A collection of tape units that come from one model type and serial number (such as all the LUNs of a tape library).

tape unit. A tape drive or a robotics controller that is visible over a storage network. A tape unit is a member of a single storage network (of 1 to n fabrics), but can have 1 to n equivalent paths.

target. A collection of logical units that are directly addressable on the network. The target corresponds to the server in a client-server model.

TCP (see Transmission Control Protocol).

TCP/IP (see Transmission Control Protocol/Internet Protocol).

Telnet. In the Internet suite of protocols, a protocol that provides remote terminal connection service. It allows users of one host to log on to a remote host and interact as directly attached terminal users of that host.

timeout. A time interval that is allotted for certain operations to occur, for example, a response to polling or addressing before system operation is interrupted and must be restarted.

Tivoli Storage Manager (TSM). A client/server product that provides storage management and data access services in a heterogeneous environment.

Transmission Control Protocol (TCP). In TCP/IP, a host-to-host protocol that provides transmission in an internet environment. TCP assumes Internet Protocol (IP) is the underlying protocol.

Transmission Control Protocol/Internet Protocol (TCP/IP). The Transmission Control Protocol and the Internet Protocol, which together provide reliable end-to-end connections between applications over interconnected networks of different types.

True Image data view. A data view that allows the file to be restored in the event of accidental deletion. It consists of 'point-in-time' images that provide a near-instant virtual copy of an entire storage volume.

TSM (see Tivoli Storage Manager).

twinaxial cable. A three-conductor cable with the two inner conductors serving to carry the signal energy, and the outer conductor serving as ground. The three conductors are insulated from each other.

U

universal serial bus (USB). A serial interface standard for telephony and multimedia connections to personal computers.

unshielded twisted pair (UTP). A cable medium with one or more pairs of twisted insulated copper conductors bound in a single plastic sheath.

USB (see universal serial bus).

V

VLAN (see virtual local area network).

VLU. Volume logical unit.

VLUN (see virtual logical unit).

virtual connection. A connection set up between two points that appears to the user to be available as a dedicated connection. This phantom connection can be maintained indefinitely or can be ended at will. The three states of a virtual connection are up, down or suspended.

virtual local area network (VLAN). A logical association of switch ports based upon a set of rules or criteria such as MAC addresses, protocols, network address, or multicast address. This permits resegmentation of the LAN without requiring physical rearrangement.

virtual logical unit (VLUN). A subset of a logical drive.

virtual port. Logical construct that corresponds to a logical adapter for a switched network port. A virtual port organizes outgoing switched logical links by specifying incoming call acceptance criteria, by dynamically building and relating logical adapters with selected hardware adapter ports, and by specifying adapter-related data link control (DLC) profiles for use with those logical adapters.

VNI. Virtual network interface.

volume. (1) Unit of storage on disk, tape, or other data recording media. (2) A logical disk visible to the appliance over a storage network. A member of a single storage network of 1 to n fabrics. It can have 1 to n path groups of 1 to n equivalent paths.

W

Windows Internet Name Service (WINS). Program that provides a distributed database for registering and querying dynamic NetBIOS names to IP address mapping in a routed network environment.*

WINS (see Windows Internet Naming Service).

Windows networking. Networking file-system protocol for the Windows operating system.

X

Xmodem. A public-domain asynchronous data link control (DLC) protocol that provides packet numbering and checksum error control for the transfer of binary files.

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