Cisco NSS4000 4-Bay Gigabit Network Storage System Chassis and Cisco NSS4100 4-Bay Gigabit Storage System: 1.0 TB RAID
Cisco Small Business Network Storage Systems

4-Bay Gigabit Network Storage System Chassis with 1.0 TB RAID

Highlights

- Driveless 4-drive-bay chassis design allows for flexible hard drive configuration (Cisco NSS4000 only)
- 4-drive-bay chassis design allows for flexible hard drive configuration - includes four 250-GB high-duty-cycle SATA hard drives (Cisco NSS4100 only)
- Advanced data protection storage features of RAID 0/1/1+spare/5/5+spare/10 and file encryption support (preconfigured RAID5)

Figure 1. Cisco NSS4000 4-Bay Gigabit Storage System

Product Overview

The intelligent chassis of the Cisco NSS4000 4-Bay Gigabit Storage System (Figure 1) gives administrators and integrators the flexibility to optimize the network storage system (NSS) for performance, capacity, and the company's storage and sharing needs. The supports up to 15 concurrent, connected Common Internet File System (CIFS) (Windows, Macintosh, Linux) users. The Cisco Small Business Network Storage Systems bring robust network attached storage (NAS) within reach of today's budget-minded workgroups and small businesses. They are ideal for storing, backing up, sharing, and archiving critical information. The feature set of these network storage systems (Figure 2) sets them apart from entry-level, desktop NAS systems, while at the same time their competitive pricing gives small businesses the opportunity to realize substantial cost savings when compared with more expensive storage systems.

Unlike other NAS systems, which need to contain operating system software on one or more hard drives, the Cisco Small Business Network Storage Systems feature a unique and intelligent chassis containing the Linux operating system that controls it. This gives the storage system added stability and reliability, as well as the flexibility to be configured without connected drives or reconfigured at any time - even hot swapping and re-sorting hard drives to different storage bays. This flexible architecture makes the Cisco Small Business Network Storage Systems ideally suited for budget-conscious companies that are constantly growing and evolving.

Figure 2. Features of the Cisco NSS4000 and NSS6000 Network Storage Systems
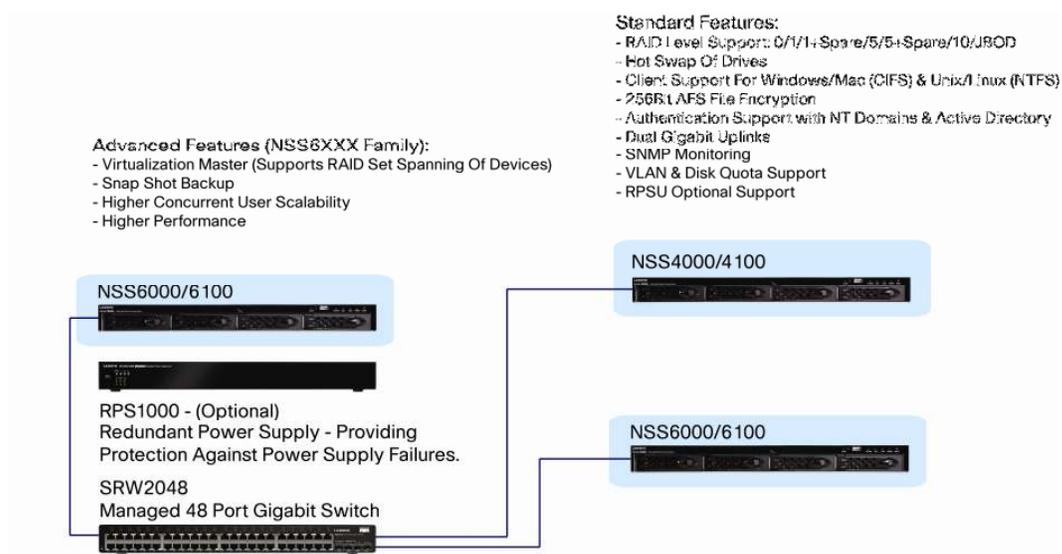
Features

- Gigabit network system chassis with support for Redundant Array of Independent Disks (RAID) 0/1/5/10 and "just a bunch of disks" (JBOD)

- Supports Mac/PC (CIFS), Linux (network fiile server [NFS]), and FTP clients

- File-based disk encryption (Advanced Encryption Standard [AES] 256)

- Virtualization/aggregation master unit (allows RAID sets to span chassis)

- Advanced storage network features - Self-Monitoring, Analysis, and Reporting Technology (SMART), journaled file system, and diskless design

- Optional redundant power supply support via the Cisco RPS1000 380W Redundant Power Supply Unit

Specifications

Table 1 gives the specifications, package contents, minimum requirements, and available accessories for the Cisco NSS4000 and Cisco NSS4100 (where indicated) 4-Bay Gigabit Storage System.

Table 1. Specifications for the Cisco NSS4000 4-Bay Gigabit Storage System: 1.0 TB RAID

Specifications	
Flash memory	512 MB internal flash memory
Encryption	AES 256
Power supply	150W, 12V internal AC power
SATA drive bays	Support for up to 4 internal SATA drives with hot swap capability
SATA drives	Four 250-GB (unformatted capacity) 7200-rpm high-duty-cycle SATA drives (Cisco NSS4100 only)
LAN ports	Two 10/100/1000 Mbps auto medium dependent interface (MDI) and MDI crossover (MDI-X)
Ports	• 2 auxiliary ports (supports USB flash disk for configuration back only) • 1 UPS-USB port (APC Smart-UPS Only) and 1redundant power supply unit connector
Temperature sensor with fan control	Internal thermal temperature sensors for auto fan control

Buttons	System Reset/Factory Network Reset
LEDs	Unit Power, Hard Activity, and LAN Link/Activity
Operating System	Linux 2.6
Mean time between failures (MTBF)	Calculated 130,000+ hours
Power consumption	53W with four 250-GB SATA hard drives (will vary depending on hard drives)
Form factor	1U 19-in. rack-mount design
NAS Features	
4 SATA drive bays	Support for up to 4 internal SATA drives
Supported RAID levels	RAID0 (striping), RAID1 (mirroring), RAID1 (mirroring + spare), RAID5 (striped set with parity), RAID5 (striped set with parity + spare), and RAID10 (stripe of mirrors)
JBOD	Independent disk linear concatenation
Intelligent drive spin-up	Intelligent SATA HDD spin-up/spin-down with built in hysteresis to avoid HDD power up/down "flapping"
File and Storage System Support	
Server Message Block (SMB)/CIFS	File sharing for Microsoft Windows, Mac OS X, and Unix (using Samba client) systems using SMB or CIFS
NFS	File sharing for Unix/Linux system via NFS
FTP/Secure FTP (FTPS)	File sharing via FTP; secure sessions are supported via FTPS
Journaled file system	XFS
Unified file locking	Helps to prevent possible file corruption by providing a common file locking mechanism to allow simultaneous, multiprotocol access to common shares by Windows/Mac (CIFS), Unix/Linux (NFS), and FTP
Virtualization	Supports virtualization of RAID sets across multiple boxes (requires at least one Cisco NSS6000/6100 on the network)
Distributed file system (DFS)	Use multiple NAS systems as a single system via DFS
Security Features	
On-disk file encryption	AES 256
VLANs	Port and 802.1q/p
Access control lists (ACLs)	Windows-like ACLs (user, group, access, and filters)
Network filtering	MAC/IP address filtering
High Availability Features	
Optional external redundant power supply	Support for Cisco RPS1000 380W Redundant Power Supply Unit
NAS-to-NAS backup	Backup of NAS RAID set to another NAS system across the network
Hot RAID spare	A spare hard drive can be designated as a hot spare in the event of a disk failure in the RAID set to provide maximum data protection
Redundant LAN connections	Dual Gigabit Ethernet links
LAN Networking Features	
VLANs	Port-based, 802.1q/p, 802.1q trunk groups
Quality of service	802.1p
Jumbo frame support	Up to 9 KB jumbo frames
Management Features	
Web management	HTTP/HTTPS
Simple Network Management Protocol (SNMP) monitoring	SNMPv3 (monitoring-traps)
Alarm	Alarm support for system alerts and/or system health notifications
Quota management	Support for "hard" and "soft" storage quotas for users, groups, and/or shares
Active Directory services	Support for participation in Activity Directory services to simplify user/group authentication and management

NTv4 domain services	Support for participation in NTv4 domains to simplify user/group authentication and management
Other management	Secure Sockets Layer (SSL), Trivial File Transfer Protocol (TFTP) (upgrade), and Dynamic Host Configuration Protocol (DHCP) client
Power management	Support for (optional third-party) USB-attached UPS (APC Smart-UPS Only), optional redundant power supply (Cisco RPS1000), staggered HDD spin-up to reduce boot power "spike," power supply monitoring, and variable-speed temperature fan control
IT/user alarms/alerts	Support for system alerts, alarms, system health notifications, and hard drive locate capability
Graceful shutdown and startup	System support for graceful shutdown and startup of system
Cable diagnostics	Integrated cable diagnostics on LAN interfaces
SMART monitoring	Integrated SMART monitoring for predictive hard drive failure notification
Environmental	
Dimensions W x H x D	17.32 x 1.73 x 16.54 in. (440 x 44 x 420 mm)
Unit weight	24.25 lb (11 kg)
Power	150W power supply
Certification	FCC Class A
Operating temperature	32º to 113ºF (0º to 45ºC)
Storage temperature	-4º to 158ºF (-20º to 70ºC)
Operating humidity	10% to 90% relative humidity, noncondensing
Storage humidity	10% to 95% relative humidity, noncondensing

Package Contents

- Cisco NSS4000 4-Bay Gigabit Storage System Chassis
- Four 3.5-in. SATA drive carrier trays (with 250-GB SATA hard disks in Cisco NSS4100 only)
- AC power cord
- Documentation CD-ROM
- Drive carrier screws and optional rubber desktop mounting feet
- Standard 19-in. rack-mounting kit with screws

Minimum Requirements

- Compatible Internet browser for configuration
- Compatible 3.5-in. SATA hard drives (see approved vendor list)

Accessories

The following accessories are available for Cisco Small Business Network Storage Systems

Part Number	Description
HDT0000	Spare NAS drive tray (no hard drive)
HDT0004	Spare NAS drive tray - 4 pack (no hard drive)
HDT0250	Spare NAS drive tray (with 250-GB 7200-rpm hard disk)
HDT0500	Spare NAS drive tray (with 500-GB 7200-rpm hard disk)

Product Warranty

3-year limited hardware warranty with return to factory replacement and 90-day limited software warranty

Cisco Limited Warranty for Cisco Small Business Series Products

This Cisco Small Business product comes with 3-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to: http://www.cisco.com/go/smallbiz.

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Printed in USA

C78-500892-01   03/09