

IBM TotalStorage SAN256N Director



2045-N16 Release Notes

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Note:

Before using this information and the product it supports, read the information in the *Safety Information* document.

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Contents

Contents	v
Chapter 1. Introduction	1
Release definition	1
Release compatibility	1
Feature summary for the IBM TotalStorage SAN256N director 2045-N16 1.1 release.	1
IBM TotalStorage SAN256N director 2045-N16 interoperability	3
Chapter 2. Dependencies and outstanding issues	5
Known issues and limitations	5
Important notes	5
Principal switch considerations	5
IBM TotalStorage SAN256N director 2045-N16 software dependencies	5
Outstanding issues	6
Chapter 3. Changes and additions	7
Enterprise Manager Software changes	7
Appendix A: Enterprise Manager Software system requirements	
Supported operating systems	9
Enterprise Manager Software system requirements	9
Enterprise Manager Software online help	10
Enterprise Manager Software release notes	10
Appendix B: NIC card	
Setting up NIC cards	13

Chapter 1. Introduction

This chapter provides the following information pertaining to the IBM TotalStorage SAN256N director 2045-N16 1.1 release:

- An overview of the release definition numbering scheme
- Release compatibility
- New features and enhancements for the SAN256N director 1.1 release

Release definition

The SAN256N director release numbering scheme is made up of five digits and is defined as follows:

- First Digit = Platform release
- Second Digit = Feature release
- Third Digit = Maintenance release
- Fourth Digit and Fifth Digits = Patch releases

Patch releases provide customers with temporary fixes or work arounds for critical problems on a 24 x 7 basis until a permanent solution has been developed, tested and formally released by IBM Quality Assurance. The meaning of the fourth and fifth digits are as follows:

- Fourth Digit - Indicates a deviation update or group patch build. This is a set of patches that have been verified in the CNT lab or by customer testing. They have not been incorporated into a full Quality Assurance (QA) certified release. By convention the 4th digit of the version field of a build denotes a deviation from our quality assurance processes.
- Fifth Digit - Indicates a patch build. This is an individual patch that is delivered to resolve, work around, or to gather more information about an issue for one particular customer.

Release compatibility

The SAN256N director 1.1 release is compatible with the following components:

- 1.1 is used with the 16 slot SAN256N director
- 1.1 is compatible with Enterprise Manager Software for the IBM TotalStorage SANn-type director family release 9.0 or later
- FC/9000 in fabric must be CS5.0 or later

Feature summary for the IBM TotalStorage SAN256N director 2045-N16 1.1 release

The following sections highlight the features included in the SAN256N director 1.1 release.

Packaging

- 256 Ports in 18U Chassis

Protocols

- FICON, FCP
- Protocol Intermix at the port level

Scalability

- 256 Auto-negotiable 1 Gbps and 2 Gbps ports

Switching

- Logical domain partitioning of SAN256N director into up to 4 distinct directors (Domains) with independent services
- Support for 239 FC domains
- Protocol agnostic switch core
- Speed agnostic switch core

RAS

- Hot swap of all field replaceable modules
- Non-disruptive code load and feature upgrade
- Embedded fault detection and isolation agent
- Active – active switching
- Redundant controllers, power, fans, software services
- Phone home / email home

Diagnostics

- On-board protocol trace capture (viewable with Finisar software)
- Significantly enhanced error reporting and fault isolation capabilities
- Online diagnostics (port & board level)
- Fabric level diagnostics
- Background hardware check
- Full data rate exerciser
- Mirror ports per port card for attaching external monitoring equipment
- FC ping
- Frame timestamp (allows for immediate management of error frames in hardware)
- Enhanced SFP diagnostics / status

Security

- Port, switch and fabric binding (including FICON cascade)
- Access control lists
- User specific management roles
 - 496 role-based management levels
 - Up to 8 access levels
 - Up to 62 access groups definitions
- Universal access groups across all interfaces
- Telnet, GS-3, Enterprise Manager, SNMP

- Fabric level hard and Soft Zoning

Management

- EM re-designed with enhanced graphics and functionality
 - Logical domain support
 - Fabric routing display
 - Diagnostics
 - Email home
 - Protocol trace buffer
- Enterprise Manager graphical map of fabric routing (device to device)
- FICON CUP with enhanced performance
- SNMP v2
- SWAPI
- SMI-S (CIM) proxy
- CLI via Telnet
- Advanced statistics – (Source/ Destination Profile)

Interoperability

- SAN256N director is FC standard compliant and fully interoperable with the following for release 1.1:
 - FC/9000 Version 5.0 or Greater
 - IBM TotalStorage San Switch H08, H16, and F32
 - Brocade Silkworm 3900 Fabric Switches

IBM TotalStorage SAN256N director 2045-N16 interoperability

The following section describes the interoperability of the SAN256N director with other devices.

SNAPI 2.0

SNAPI 2.0 is supported and qualification of third party applications is ongoing.

Brocade switch

The 1.1 release supports interoperability with Brocade 3850 and 3900 switches that are running Brocade's Fabric OS at code level 4.2.0a.

CNT UltraNet Edge Storage Router

The UltraNet Edge 3000 version 3.1.1.3 is compatible with the SAN256N director Fibre Channel Director.

CNT FC/9000 switch

The FC/9000 release 5.0 supports interoperability with the IBM TotalStorage SAN256N director 2045-N16.

SAN256N director codeset information

- Codeset revision: 00010100-02080000
- Codeset name: 1.1.0.2.8

– Codeset description: Codeset 1.1.0.2.8 for SAN256N director

Table 1. SAN256N director codeset information

Filename	File Rev	Origin Codeset	CRC	Length	Date	Time	Build name
btflash.brc	02110280	00010100-02080000	0000acf6	000fa0d0	08/19/2004	11:47:38	1.1.0.2.8
ptcmdyn.brc	03110280	00010100-02080000	00009887	005c5be5	08/19/2004	11:49:23	1.1.0.2.8
ptfiodyn.brc	06110280	00010100-02080000	00005c5a	004c7653	08/19/2004	11:50:52	1.1.0.2.8
ptswmono.brc	05110280	00010100-02080000	0000c072	004469ba	08/19/2004	11:53:51	1.1.0.2.8

Chapter 2. Dependencies and outstanding issues

This chapter provides general recommendations and information on the hardware dependencies, software dependencies, and outstanding issues for the IBM TotalStorage SAN256N director 2045-N16 release 1.1.

Known issues and limitations

The logical domain feature is static in this release. Any changes to the logical domain configuration should be done during system maintenance windows, until the next release when dynamic logical domains are supported.

Important notes

- Prior to removing any boards from the SAN256N director, they should be administratively set to offline via the Enterprise Manager Software.
- If a CNT UltraNet Edge 3000 is present in the fabric, the Enterprise Manager Software will display it in the topology map. However, the associated WAN link will not be visible.
- Upon system power up, the system configuration should remain static until the online LEDs for the TCM indicate online status. Online status is also indicated at the Enterprise Manager Software console.
- If you have supplied your own Enterprise Manager server, and it has an Intel Pro/100 VE or similar NIC card, see Appendix B. NIC card on page 13.
- After aborting debug backup, certain FTP commands may not be available for a period of three minutes.
- For high availability, both TCMs must have IP addresses configured using the Enterprise Manager Software.

Principal switch considerations

Domain ID Lockdown should be enabled in the Enterprise Manager Software; see *IBM TotalStorage SAN n-type Director Family (IBM 2045) Enterprise Manager Software Installation and Operation Guide* for instructions.

IBM TotalStorage SAN256N director 2045-N16 software dependencies

The software requirements for the SAN256N director release 1.1 are as follows:

- Server: Windows XP Professional®, or Windows 2000 Professional®. This version of Enterprise Manager software is designed to operate under Windows XP or Windows 2000 Professional® (service pack 2 or higher is required for Windows 2000). Enterprise Manager is not supported under *any* earlier versions of Microsoft Windows®.
- Client: Windows XP Professional®, or Windows 2000 Professional® (service pack 2 or higher is required for Windows 2000), Linux (kernel 2.2.12 and above); and Solaris SPARC 8 and above.
- Enterprise Manager Software release 9.0 or later

- Additional required software:
 - CNTFTPd 1.1; included in SAN256N director CDs
 - HyperTerminal; supplied with Windows XP and Microsoft Windows 2000
 - JAVA Runtime Environment software version 1.4.2; included in SAN256N director CDs
 - Microsoft Internet Explorer® 6.x, as supplied with Windows XP or Microsoft Windows 2000®, or Netscape® 6.x browser
 - Adobe Acrobat Reader, version 5.x or greater; included in SAN256N director CDs

Outstanding issues

The following table provides information on the outstanding issues for the SAN256N director 1.1 release. These issues will be addressed in a future release or remain documented as known issues.

Table 2. Outstanding issues

Affected Customer Application	Affected CNT Feature	Description	Customer Impact
General	Management User Security	The “Operator” & “Viewer” user levels have access to functionality that they should not possess.	Delete the Viewer and Operator levels at the User Security module. See the IBM TotalStorage SAN n-type Director Family (IBM 2045) Enterprise Manager Software Installation and Operation Guide for instructions.
General	Fault Isolation	ISL Failure LED indication may not persist	

Chapter 3. Changes and additions

This chapter provides information on the changes and additions that are part of the SAN256N director 1.1 release. These include changes and additions to the user documentation set, the addition of new traps for software support, and changes related to I/O protocol implementation.

Enterprise Manager Software changes

Tree changes

- Does not display ports and boards in the tree.
- There is a separate physical and logical view for switches mainly due to logical domains in SAN256N director.
- Boards displayed being moved to physical view.
- Port properties can be accessed from the port table and right-click the port.

Panel changes

- Reduced number of right hand side panels.
- Consistent way of showing properties by right-click property.

Table changes (available in most of the tables)

- Can customize what columns to show
- Can customize order of columns
- Can freeze up to 3 columns
- Can search based upon a specific column or whole table
- Can specify filter to show only specific rows.

Tool bar changes

- Better icons to improve look and feel
- Can customize order of toolbar buttons
- Can hide or show toolbar buttons

Events changes

- Automatic refresh of event screen

Appendix A. Enterprise Manager Software system requirements

This appendix lists the supported Microsoft Windows® operating systems for the Enterprise Manager Software 9.0, the compatible versions, provides information on how to change the default software version, and gives a summary of the information contained in the *Online Help* for the Enterprise Manager.

Supported operating systems

Enterprise Manager Software is supported on Windows XP Professional®, or Windows 2000 Professional® (service pack 2 or higher is required for Windows 2000).

Enterprise Manager Software system requirements

A designated Enterprise Manager Software Intel platform is not a physical part of the SAN256N director, but is an integral part of the SAN256N director operation. This Intel platform is where the Enterprise Manager Software is installed and run by the operator.

IBM supports Enterprise Manager Software platforms that adhere to the following requirements:

- The platform must be listed as one of the SERVER solutions on Microsoft's certified solutions web page <http://www.microsoft.com/whdc/hcl/default.mspx>)
- It must have the ("Designed For Windows XP, 2003 or 2000") or ("Certified for Windows XP, 2003 or 2000") stamps of approval
- Mainstream O/S support has not been retired by Microsoft (<http://support.microsoft.com/default.aspx?scid=fh;EN-US;LifeWin>)

The platform must meet the basic resource requirements, as identified below:

Operating system:	Windows XP Professional, or Windows 2000 Professional (service pack 2 or higher is required for Windows 2000)
Processor:	One Intel Pentium 4 (1.8 GHz +)
Memory:	<ul style="list-style-type: none">• 256 MB SDRAM supports up to 4 port blocks• 512 MB SDRAM supports up to 12 port blocks• 1024MB - 2048 MB SDRAM supports up to 28 port blocks Note: Memory requirement <i>must be</i> based upon the number of port blocks, and not based upon the number of ports.

Other:

- 4 MB Video RAM
- One 40 GB hard drive
- One 1.44 MB diskette drive
- One CD-ROM
- One parallel port
- Two Ethernet 10Base-T/100 Base-TX
- One IBM or equivalent mouse
- Two external serial com ports (debug serial cable, external modem)
- One internal com port (internal modem)
- One 17-inch 1280 x 1024 x 256 SVGA monitor;
- Internal and External modem compatibility; analog, protocol support: V.90 5 6kbps ITU Standard,
- 3Com/US Robotic/Multi-Tech (international) hardware compatible modems recommended (do not use Winmodem® software controlled modems).

Maintenance of customer supplied Enterprise Manager Software Intel platforms and the Windows XP Professional and 2000 Professional Operating System is a customer responsibility.

Enterprise Manager Software online help

Refer to the Enterprise Manager 1.1 help files in the Enterprise Manager Software, or the *IBM TotalStorage SAN n-type Director Family (IBM 2045) Enterprise Manager Software Installation and Operation Guide*.

Enterprise Manager Software release notes

Important notes

- JVM/JRE 1.4.2 is required to run this version. Upgrade your JVM/JRE by running the j2re-1_4_2_04-windows-i586-p.exe application available on the Release Media (CD). Uninstalling previous versions of JVM and Java Webstart is recommended.
- Use the **Copy Codeset** function in Enterprise Manager for copying codesets. Do not manually copy codeset into c:\ftproot.
- Events are no longer stored in fcnms.mdb. A separate database file Eventlog.mdb is used for events storing. Events are no longer backed up in text files; they are backed up in mdb files. There is one current file (EventlogHistory.mdb) and 10 backup files (with .bak as extension). Open any of these files in Microsoft Access® to view the events. Alternatively, a utility is included in Enterprise Manager Software installation directory to access event history:
 - EventHistoryToCsv.exe converts any event mdb file to csv file. Current limitation requires that we shutdown Enterprise Manager server and run this utility from Enterprise Manager Software installation directory. In our next patch release, this utility may be launched from the Enterprise Manager server menu.
- Licensing requirement:
 - For the SAN256N director, a license key is required for CUP, Fabric Security and SAN Services. Use the **Director - License** menu option for license key. Separate license keys are required for each director.

- Enterprise Manager 9.0 supports enabling a SAN256N director to inband, using the server menu item **Maintenance - Inband SAN256N director management**. The SAN256N director inband management is disabled by default and will only change if you take the steps to enable the inband setting.

Known issues / limitations:

- You must delete the **Operator** and **Viewer** user levels in the **Enterprise Manager Software User Security** module. There are some issues with the functionality of those user levels and they must be deleted. Refer to the *IBM TotalStorage SAN n-type Director Family (IBM 2045) Enterprise Manager Software Installation and Operation Guide* for instructions.
- For Windows XP users, there is an issue with a blank browser page being displayed when you are trying to launch the **Enterprise Manager Client URL** desktop shortcut (the shortcut is installed by the Enterprise Manager Installer). As a work around, type **http://localhost** in your browser Address bar to launch the Enterprise Manager Software client (after the Enterprise Manager Software server is up and running).
- You must point Enterprise Manager to the correct database files in order to use the restore options. You can do this by launching the Enterprise Manager DB Restore (installed as part of the Enterprise Manager Software installation), which is installed in the user's HOME directory. Use this Enterprise Manager DB Restore window to navigate to the Enterprise Manager Software directory and point to the database files EM uses as restore sources.

Appendix B. NIC card

This appendix describes how to optimize the listed NIC cards; how to set-up a NIC card for FTP issues Intel Pro/100 VE or similar Intel NIC card.

Setting up NIC cards

If you have Intel Pro/100 VE or similar NIC card, you may experience code load problem or slow code load performance. Use the following steps to set-up this type of NIC card to resolve this issue.

1. From the **Start** menu, select **Settings | Control Panel**.
2. Double-click the **Network and Dial-up Connections** folder.
3. Double-click the Network connection for the **INTEL NIC Card**.
4. Click **Configure**.
5. Click **Advance**.
6. Look for the **TCP Segmentation Option** and disable it, by clicking **Off** or clearing the checkbox.



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