

1. Record Nr.	UNINA9910825280503321
Titolo	The IBM TotalStorage NAS Gateway 500 integration guide // Roland Tretau ... [et al.]
Pubbl/distr/stampa	[San Jose, Calif.], : IBM, c2004
Edizione	[2nd ed.]
Descrizione fisica	xxxvi, 533 p
Collana	Redbooks
Disciplina	004.6
Soggetti	Storage area networks (Computer networks) Computer storage devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"This edition applies to the IBM TotalStorage NAS Gateway 500 Release 1.1.1 as of August 2004." "October 2004."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front cover -- Contents -- Figures -- Tables -- Examples -- Notices -- Trademarks -- Preface -- The team that wrote this redbook -- Become a published author -- Comments welcome -- Summary of changes -- October 2004, Second Edition -- Part 1 Network Attached Storage concepts and hardware -- Chapter 1. The main concept behind Network Attached Storage -- 1.1 How this book is organized -- 1.2 Local Area Networks -- 1.3 Open Systems Interconnection (OSI) model -- 1.3.1 Device driver and hardware layer -- 1.3.2 Internet Protocol layer -- 1.3.3 The transport layer -- 1.3.4 Application layer -- 1.3.5 Protocol suites -- 1.4 File systems and I/O -- 1.4.1 Network file system protocols -- 1.4.2 Understanding I/O -- 1.5 Network Attached Storage (NAS) -- 1.5.1 File servers -- 1.5.2 Designated Network Attached Storage -- 1.5.3 NAS uses File I/O -- 1.5.4 NAS benefits -- 1.5.5 Other NAS considerations -- 1.5.6 Total cost of ownership -- 1.6 Industry standards -- 1.6.1 Storage Networking Industry Association -- 1.6.2 Internet Engineering Task Force -- Chapter 2. Products overview -- 2.1 IBM TotalStorage NAS Gateway 500 -- 2.1.1 NAS Gateway 500 connectivity -- 2.1.2 IBM NAS Gateway 500 sample storage connectivity -- 2.1.3 NAS Gateway 500 features -- 2.1.4 Hardware components -- 2.1.5 Software components -- 2.1.6 NAS Gateway 500 volumes -- 2.1.7 NAS Gateway 500 file serving -- 2.1.8 Integrated data protection

-- 2.1.9 IBM Tivoli Storage Manager integration -- 2.1.10 High availability configuration using redundant storage -- 2.1.11 Extended cluster configuration with remote mirroring -- 2.1.12 More information -- 2.2 IBM Enterprise Storage Server (ESS) -- 2.2.1 Overview -- 2.2.2 Product highlights -- 2.3 IBM Fibre Array Storage Technology (FAStT) -- 2.3.1 Overview -- 2.3.2 Product highlights -- 2.4 IBM TotalStorage SAN Switch M12 -- 2.4.1 Overview. 2.4.2 Product highlights -- 2.5 IBM TotalStorage SAN Volume Controller -- 2.5.1 Overview -- 2.5.2 Product highlights -- 2.6 IBM TotalStorage SAN Integration Server -- 2.6.1 Overview -- 2.6.2 Product highlights -- Part 2 SAN storage configuration -- Chapter 3. NAS Gateway 500 storage considerations -- 3.1 Sharing SAN-based storage -- 3.2 To SAN or not to SAN -- 3.2.1 Finding the World Wide Name (WWN) -- 3.3 SAN storage considerations -- 3.3.1 Infrastructure -- 3.3.2 Storage devices -- 3.3.3 Host attachment scripts -- 3.3.4 Subsystem Device Driver -- Chapter 4. SAN zoning -- 4.1 Zoning the IBM 2109 -- Chapter 5. FAStT storage configuration -- 5.1 Creating logical drives -- 5.2 Defining hosts -- 5.3 Mapping logical drives -- Chapter 6. ESS storage configuration -- 6.1 Regarding SAN zoning -- 6.2 Setting up the ESS -- 6.2.1 Configuring ESS for open systems storage -- 6.2.2 Configuring disk groups -- 6.2.3 Configuring host adapter ports -- 6.2.4 Modifying host systems -- 6.2.5 Adding volumes -- 6.2.6 Modifying volume assignments -- Part 3 Implementation -- Chapter 7. Single node setup -- 7.1 Our environment -- 7.2 Planning for the setup -- 7.3 Service/management connections and indicators -- 7.4 Basic setup of a single node NAS Gateway 500 -- 7.4.1 Connecting and powering on the NAS Gateway 500 -- 7.4.2 Web-based System Manager Remote Client installation -- 7.4.3 Basic setup using Web-based System Manager Remote Client -- 7.4.4 Initial Configuration wizard -- 7.4.5 CIFS wizard -- 7.4.6 Volume wizard -- 7.4.7 Configuring Link Aggregation -- Chapter 8. Subsequent configuration -- 8.1 Network configuration -- 8.1.1 Network interface description -- 8.1.2 TCP/IP configuration -- 8.2 Storage configuration -- 8.2.1 General storage concepts -- 8.2.2 What are Snapshots? -- 8.2.3 Handling snapshots -- 8.2.4 Discovering storage devices -- 8.2.5 Creating a NAS volume. 8.2.6 Creating a mirror -- 8.3 OpenSSH for command line access -- 8.3.1 How to obtain OpenSSH -- 8.3.2 Installing OpenSSH -- 8.3.3 Installing OpenSSH -- 8.3.4 Using OpenSSH -- 8.3.5 How to deactivate telnet -- 8.4 System errors and notification -- 8.4.1 Service Processor -- 8.4.2 Electronic Service Agent -- 8.4.3 NAS Log -- 8.4.4 Operating system error logging -- 8.4.5 System error log -- 8.4.6 System Attention LED -- Chapter 9. Cluster configuration -- 9.1 Cluster concepts -- 9.1.1 High availability -- 9.1.2 Cluster topology -- 9.1.3 Cluster resources -- 9.2 Cluster planning -- 9.2.1 Eliminate the single point of failure -- 9.2.2 Planning cluster networks -- 9.2.3 Planning cluster disks -- 9.2.4 Planning cluster resources -- 9.3 Our cluster configuration -- 9.3.1 Our cluster topology -- 9.3.2 Our shared disks -- 9.3.3 Our resources -- 9.3.4 Recommended SAN environment -- 9.4 Cluster setup -- 9.5 Additional setup tasks -- 9.5.1 Checking the cluster status -- 9.5.2 Handling the default gateway -- 9.5.3 Creating file access users -- 9.5.4 Creating CIFS users -- 9.6 Testing the cluster -- 9.6.1 File serving testing -- 9.6.2 Cluster verification -- 9.6.3 Simulating errors -- 9.7 Cluster management -- Chapter 10. Remote Mirroring configuration -- 10.1 General HACMP/XD concepts -- 10.1.1 Business Continuity and Disaster Recovery -- 10.1.2 Node failure -- 10.1.3 Site failure -- 10.1.4 Site isolation -- 10.1.5 The position of HACMP/XD -- 10.1.6 HACMP/XD basic components -- 10.2 Planning

-- 10.2.1 Supported configurations -- 10.3 Two-node cluster configuration -- 10.3.1 Our cluster topology -- 10.3.2 Remote mirroring device -- 10.3.3 Our resources -- 10.3.4 Setting up the two-node HACMP/XD cluster -- 10.4 Four-node cluster configuration -- 10.4.1 Our cluster topology -- 10.4.2 Remote mirroring device -- 10.4.3 Our resources. 10.4.4 Setting up the four-node HACMP/XD cluster -- 10.5 Failure recovery -- 10.5.1 Local failures -- 10.5.2 Site isolation -- 10.5.3 Site failure -- 10.6 State map managing utilities -- 10.6.1 Viewing the state map status -- 10.6.2 Dumping a state map -- 10.6.3 Dirtying a state map -- 10.6.4 Cleaning a state map -- 10.6.5 Unifying state maps -- 10.7 Data divergence -- Chapter 11. Windows systems integration -- 11.1 CIFS concepts -- 11.1.1 Authentication -- 11.2 Creating a CIFS share -- 11.3 User creation on the NAS Gateway 500 -- 11.3.1 User creation -- 11.3.2 Dynamic user creation -- 11.4 Creating file system shares -- 11.5 Advanced CIFS features -- 11.6 Connecting Windows 2000 and 2003 -- 11.6.1 Connecting and mapping a Windows client -- 11.7 Setting up startup scripts for Windows -- 11.8 Disabling auto disconnect -- 11.9 Publishing shares to Active Directory -- Chapter 12. UNIX systems integration -- 12.1 NFS protocol on NAS Gateway 500 -- 12.2 Configuring NFS shares on NAS Gateway 500 -- 12.2.1 Configuring NFS shares through WebSM -- 12.2.2 Configuring NFS shares with SMIT -- 12.3 Access NAS Gateway 500 file service from AIX -- 12.3.1 Mounting an NFS file system on AIX -- 12.3.2 AIX NFS mount problem determination -- 12.3.3 Tuning AIX to improve NAS Gateway 500 NFS performance -- 12.4 Access NAS Gateway 500 file service from HP-UX -- 12.4.1 Mounting a NAS Gateway 500 NFS filesystem on HP-UX -- 12.4.2 HP-UX NFS mount problem determination -- 12.5 Access NAS Gateway 500 file service from Solaris -- 12.5.1 Mounting a NAS Gateway 500 NFS filesystem on Solaris -- 12.5.2 Solaris NFS mount problem determination -- Chapter 13. Linux systems integration -- 13.1 Red Hat Linux: Access a NAS Gateway 500 share -- 13.1.1 Mounting a NAS Gateway 500 NFS share on Red Hat Linux -- 13.1.2 Troubleshooting the NFS mount on Red Hat Linux. 13.2 SUSE LINUX: Access a NAS Gateway 500 share -- 13.2.1 Mounting a NAS Gateway 500 NFS share on SUSE LINUX -- 13.2.2 Troubleshooting the NFS mount on SUSE LINUX -- Chapter 14. Apple systems integration -- 14.1 Apple Mac OS 10.x accessing an NFS share -- Part 4 Backup and recovery -- Chapter 15. Backup and restore basics and user interfaces -- 15.1 User interfaces for backups and restores -- 15.1.1 The WebSM interface -- 15.1.2 The SMIT menu -- 15.1.3 The command line interface -- 15.2 Fundamental backup and restore techniques -- Chapter 16. Bootable backups and restores -- 16.1 Overview: bootable backup/restore -- 16.2 System backup manager (mksysb and mkcd) -- 16.2.1 Backup with the system backup manager (mksysb) -- 16.2.2 Restoring with the system backup manager -- 16.3 Recovery using the Recovery CDs -- 16.3.1 The system is powered off -- 16.3.2 The system is powered on -- 16.4 Network Install Manager (NIM) -- 16.4.1 NIM basics -- 16.4.2 NIM installation and configuration -- 16.5 SysBack for Bare Machine Recovery -- 16.5.1 SysBack introduction -- 16.5.2 Backup with SysBack -- 16.5.3 Restore with SysBack -- Chapter 17. File, file system, and volume group backup and restore -- 17.1 Basics for file and file system backup -- 17.1.1 The mknasb and restnasb commands -- 17.1.2 The backup and restore commands (full and incremental) -- 17.1.3 The restvg and savevg commands -- 17.1.4 Split mirror backup -- 17.1.5 The backsnap (JFS2 command) -- 17.1.6 The dd, cpio, tar, pax and other commands -- Chapter 18. IBM Tivoli Storage Manager integration

-- 18.1 Introduction to IBM Tivoli Storage Manager -- 18.1.1 NAS Gateway 500 and IBM Tivoli Storage Manager -- 18.1.2 IBM Tivoli Storage Manager Server configuration -- 18.1.3 IBM Tivoli Storage Manager Client configuration -- 18.1.4 Automation of backups -- 18.1.5 Clustering considerations -- Part 5 Appendixes. Appendix A. Error log information.

---

Sommario/riassunto

This IBM Redbooks publication describes how to install and configure the very latest IBM storage solution and concept, the IBM TotalStorage Network Attached Storage (NAS) Gateway 500, in heterogeneous environments. The IBM TotalStorage NAS Gateway 500 series is an innovative Network Attached Storage device that connects clients and servers on an IP network to Fibre Channel storage, efficiently bridging the gap between LAN storage needs and SAN storage capacities. The IBM TotalStorage NAS Gateway 500 is a storage solution for UNIX/AIX/Linux, Apple, and Microsoft Windows environments. In this book, we show how to integrate the IBM TotalStorage NAS Gateway 500 and explain how it can benefit your company's business needs. This book is an easy-to-follow guide which describes the market segment that the IBM TotalStorage NAS Gateway 500 is aimed at, and explains NAS installation, ease-of-use, remote management, expansion capabilities, high availability (two node clustering and up to four node remote mirroring), and backup and recovery techniques. It also explains open systems storage concepts and methodologies for common data sharing for UNIX/AIX/Linux, Apple, and Microsoft Windows environments. Please note that the additional material referenced in the text is not available from IBM.

---