

# Software for your Storage

NAS-R3

ENTERPRISE  
SMB  
SOHO

open-e



## Open-E NAS-R3

**Network Attached Storage (NAS)** systems are computing storage devices that can be accessed over the network. NAS enables multiple users to share the same storage space simultaneously, and often minimizes overhead by managing hard disks centrally. In terms of design, a NAS server is simply a file server optimized for file system services.

The Open-E NAS-R3 software provides the best combination of ease of management, scalability, reliability, availability, and performance for NAS systems. The Open-E NAS-R3 software is an optimized and tuned operating system, which turns a computer system into a NAS storage server in about 10 minutes. Pre-installation of the OS on the USB-DOM ensures minimum downtime and the protection of the OS against viruses. File servers based

on the Open-E NAS-R3 software deliver significant performance and an ease of use that enable organizations to automate and simplify their data management.

The Open-E NAS-R3 offers an integrated software RAID 0, 1, 5 and 6, providing even more flexibility and in the same time decreasing the implementation cost NAS Storage Solution. It makes the Open-E NAS-R3 attractive to the SOHO and small business market. Open-E NAS-R3 servers can also be designed with greater redundancy, as the software RAID can enable the mirroring of two hardware RAID-5 arrays to reduce the probability of failure. Additional functionalities like E-mail notification makes the Open-E NAS-R3 a very reliable solution, suitable for high-availability environments as well.

### Optimized OS for dedicated and enterprise network environments.

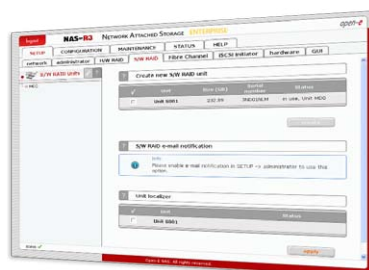
Independent tests have shown that Open-E NAS-R3 is offering one of the best data throughput and performance. Together with the perfect integration of Windows ADS, NIS or LDAP makes Open-E suitable for large storage devices in network environments with over 30.000 clients. Open-E NAS-R3 Enterprise has new back-up capabilities and improved scalability, thanks to the support of the SAS technology.



## BENEFITS

- High Data Throughput**  
 Optimized Storage Software, 10 GbE, TOE-, Intel® I/O AT, Fibre Channel and Multi-CPU Support
- High Security**  
 Data Synchronization (Cross), Software RAID 0, 1, 5, and 6, Snapshot with Scheduling, integrated Anti-Virus, Dynamic Disk, Local Backup Scheduling, built-in Agents for Backup-Software, OS on USB-DOM to minimize Downtime, Network UPS Support, Shadow copy of OS
- High Flexibility**  
 Support for all leading SCSI, Serial SCSI, IDE and Serial ATA Controllers, NICs and Networking Chipsets, built-in iSCSI Initiator, support for Online Capacity Expansion

- Easy Management**  
 Web-based GUI, Password-Quota, Windows Active Directory Support, ACL, LDAP, Support for Network Information Service (NIS), ADS & NIS User-/Group ID (NIS), ADS & SNMP Support, Online Logical Volume Expansion, USB Storage Support



### Open-E NAS-R3 ENTERPRISE

for maximum data throughput, security and flexibility. It offers high availability features like Fibre Channel HBA support, an integrated iSCSI initiator, cross synchronization and dynamic unit.

### Open-E NAS-R3 SMB

is a comprehensive software that provides cost-effective storage for small and medium businesses. It includes anti-virus software and supports hardware RAID controllers for optimal protection of valuable data.

### Open-E NAS-R3 SOHO

is the perfect software to turn your Personal Computer into a file server for centrally sharing data, video files, photos, music files, etc. at home. This software contains all the key functions for sharing data in heterogeneous networks.

	SOHO	SMB	ENTERPRISE
<b>ADMINISTRATION</b>			
Web-based Graphical User Interface	✓	✓	✓
Secured Administration Access	✓	✓	✓
Console Tools	✓	✓	✓
Tuning Tools			✓
Remote Access for Console	✓	✓	✓
Multiple Management Levels			✓
Automated Updating of OS	✓	✓	✓
Rollback to previous OS	✓	✓	✓
Task Manager	✓	✓	✓
Schedule Manager	✓	✓	✓
<b>NETWORK MANAGEMENT</b>			
DHCP Client	✓	✓	✓
Multiple Network Interface Card Support	✓	✓	✓
Teaming/Bonding (including Adapter Fault Tolerance)			✓
10 Gb Ethernet Support		✓	✓
Infiniband Support			✓
Proxy settings	✓	✓	✓
Jumbo Frames Support			✓
<b>STORAGE MANAGEMENT</b>			
Hardware and Software iSCSI Initiator			✓
Software iSCSI Initiator		✓	✓
Software RAID 0, 1, 5 with E-Mail Notification	✓	✓	✓
Degraded Mode for Software RAID 1, 5	✓	✓	✓
Software RAID 6 with Degraded Mode and E-Mail Notification			✓
S.M.A.R.T. with E-Mail Notification	✓	✓	✓
Multiple Hardware RAID Controller Support		✓	✓
Multiple FibreChannel HBA Support			✓
Support for over 2TB Physical and Logical Volumes	✓	✓	✓
Support for over 16TB Logical Volumes			✓
Multiple Snapshot (one active for one LV at a time)		✓	✓
Multiple Snapshot (multiple active snapshots per one LV at a time)			✓
Multiple Logical Volume & Groups	✓	✓	✓
Online Logical Volume Expansion	✓	✓	✓
Support for Online Capacity Expansion		✓	✓
<b>MONITORING</b>			
Hardware Monitoring			✓
SNMP v2, v3		✓	✓
E-Mail Notification	✓	✓	✓
Log Function	✓	✓	✓
<b>HARDWARE SUPPORT</b>			
Up to 2 CPU Support		✓	✓
Multiple CPU Support (32x)			✓
UPS and Network UPS Support		✓	✓
<b>SPECIFIC NAS FUNCTIONALITY</b>			
Windows Active Directory / Primary Domain Controller	✓	✓	✓
Support for Network Information Service (NIS)	✓	✓	✓
Internal and External LDAP	✓	✓	✓
ADS & NIS User / Group ID Synchronization			✓
File System with Journaling Support	✓	✓	✓
User and Group Quota Control			✓
Antivirus (server's shares scanning)	✓	✓	✓
Antivirus (online scanning for SMB protocol)			✓
USB Storage Support for Dynamic Disk			✓
Backup-Agent (Verites, EMC Dantz, CA BrightStor)			✓
<b>SUPPORTED NETWORK CLIENTS</b>			
Microsoft Windows, Linux, Unix, Mac OS 8.0, 9.0, X, 10.4	✓	✓	✓
<b>SUPPORTED NETWORK FILE PROTOCOL</b>			
SMB/CIFS, FTP, Secure FTP, Apple Talk, NFS v3, v4	✓	✓	✓
<b>BACKUP UTILITY</b>			
Local Backup			✓
Integrated Backup System			✓
NAS Data Replication		✓	✓
Virtual Tapes			✓
Support for Tape Libraries, Autoloader			✓
Tape Retention Time			✓
<b>OTHER</b>			
USB-DOM Interface for 30% faster booting and improved hardware compatibility	✓	✓	✓
Support for SWAP	✓	✓	✓
Help with search and index	✓	✓	✓
Extended save & restore settings	✓	✓	✓
Initially Supported Storage Capacity (TB)*	4	8	16

\*Storage Capacity can be extended by additional licenses

## Heterogeneous Support

Open-E NAS-R3 includes heterogeneous support for protocols such as

SMB/CIFS, NFS, AppleTalk, FTP and Secure FTP, allowing data to be shared among different platforms.

## Data Synchronization

Open-E NAS-R3 can synchronize files and directories from one NAS server to another. The data transfer is block-based in order to minimize network traffic. Synchronization can be used for disaster recovery or Disk-to-Disk backup purposes. The Enterprise version can synchronize data in both directions: the NAS server can be the source and destination of files at the same time, allowing to cross-backup data on several servers.

## User Authentication

Open-E NAS-R3 supports Windows Active Directory (ADS), PDC, NIS, LDAP and ADS & NIS User-/Group ID Synchronization to leverage information about users, groups, systems and other resources stored in the Active Directory. Open-E supports Access Control List (ACL), this notifies the system which access rights each user has to a particular directory or file.

## Network Data Throughput & Reliability

The Open-E NAS-R3 Enterprise supports, Multiple NIC, 10Gb Ethernet cards with TOE, Intel® I/O AT and FC HBAs for maximum data throughput, high bandwidth, best latency and performance. The support of Adapter Fault Tolerance (AFT) assures greater reliability by providing a secondary network adapter which automatically takes over if the primary network adapter fails.

## Local Backup on Virtual Tape

In the Enterprise version a local HDD or a USB drive can be defined as a Dynamic Unit. On this Unit you can backup the NAS server and store the backup separately. The Dynamic Unit can be removed without shutting down the server and acts like a virtual tape.

## Antivirus

Open-E NAS-R3 has an integrated Antivirus software tool for scanning shares on viruses at predefined points in time. The Virus Definition Database can be updated and is stored on the NAS device. The Enterprise version also supports Online Scanning of files transferred via the SMB protocol.

## Snapshot

Snapshot is an immediate point-in-time image of the logical volume (LV). The snapshot image can be used for both consistent and temporary backup, while users still have unin-

errupted and complete access to the LV. Also, if a user accidentally deletes or incorrectly modifies a file, that file can be recovered from a previous snapshot image. Open-E NAS-R3 Enterprise supports "Multiple Snapshot with Scheduling" to create snapshots at predefined points in time (e.g. automatically every hour).

## Monitoring

The Open-E NAS-R3 supports the SNMP protocol to monitor e.g. the data throughput, CPU, RAM usage of the NAS storage system. It also includes S.M.A.R.T. for detecting and reporting the status of the HDDs to anticipate on failures.

## Hardware and Software RAID

Open-E NAS-R3 supports SCSI, Serial SCSI, Serial ATA and IDE controllers of all leading hardware RAID controller manufacturers. The integrated software RAID 0, 1, 5 and 6 provides more flexibility and cost savings while creating NAS storage solutions. By mirroring two hardware RAID arrays, the probability of failure can be reduced. The Open-E NAS-R3 offers highest flexibility in redundancy, performance, costs and storage volume.

## Supported Network Clients

Open-E NAS-R3 supports the file based protocols CIFS/SMB, NFS, FTP, Secure FTP and Apple Talk enabling Windows, Linux, Unix and Macintosh clients to share data on the same NAS server.

## iSCSI Initiator

Open-E NAS-R3 Enterprise supports hardware iSCSI Initiators and has a software iSCSI Initiator for easily expanding the storage capacity of the NAS system. New units and logical volumes can be added by connecting an iSCSI storage system to the NAS.

## Advanced Backup Utilities

Open-E NAS-R3 integrates new and improved backup and recovery applications. Integrated Volume & Data Replication, Snapshots, Tasks, integrated Backup Server for backup of local and network data in existing archiving policies on physical tape libraries, auto loaders and local virtual tapes.

## Secured Updating

To optimize the updating process, USB-DOM contains a shadow copy of the OS. In case of an update failure the storage system can be switched easily to the former version of Open-E NAS-R3 software.