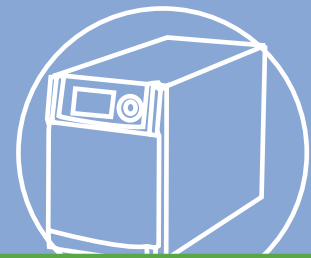


Networking Storage



Digital Surveillance



Message Communication

Company Profile

With more than three years' experience in developing embedded system, QNAP Systems, Inc. (QNAP) has been a devoted and dominant provider in designing the best solution for Internet Appliance (IA) products. QNAP was a previous IA business unit of ICP Electronics, Inc. (ICP). As a member of ICP, we have solid and successful experience in developing innovative and customized products. Our extensive expertise and product lines cover networking storage, digital surveillance and message communication. QNAP's IA products have received ISO 9001 certification, covering product design, manufacturing and supply. With the mission to be customer's best partner, QNAP is dedicated to providing top quality products in the market and offering complete solution to our customers.



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Evolving Network Storage

In this era of information explosion, countless Gigabytes of electronic data are generated every second, in form of text, image, audio and/or video, passing through the Internet or other types of communication networks. Whether for personal or business use, total data volume is increasing year on year at nearly 100%. With this huge amount of data growth, how to find an easily-managed shared storage solution that can provide adequate growth and scalability for the future has become one of the most critical challenges for all IT users, from home right up to enterprise level.

Conventional storage, usually a sub-system attached to file server, has until recently been recognized as AS (Direct Attached Storage). Available with either IDE or SCSI RAID interface, data in the disk array is accessed via file server. Until recently many enterprises have been attaching network disk volume to file servers, and sharing the data via the LAN (Local Area Network). But this left the question of how to achieve multi-platform data sharing and access control. Building several share folders in Windows NT/2000/2003 servers, and then setting up the access permission for different users is one of the most popular ways. However, this traditional structure fails to meet new storage

demands due to rapid data growth and well-established network environments. Excessive data transfer to/from file servers causes bottlenecks, decreasing the efficiency and performance of both server and network. Additionally most Windows NT/2000/2003 servers need a high level of professional IT administration, and do not fully support other operation systems, such as Unix/Linux, Mac and Novell. Also, many data backup jobs are done by tape drives or libraries, but the drawbacks to this system are that the speed is slow and capacity limited. The most troublesome is that IT personnel usually needs to change the tapes on a daily basis. Should the data be destroyed, then it takes a long amount of time to recover all data from the tapes. Severe loss may occur if the operation is interrupted and can not resume on time.

To ensure that modern-day demands for data storage are not only met, but in fact exceeded, NAS offers not only ample storage, but also fast, reliable, and easy-managed solution at affordable costs. Add to that a level of scalability that is unsurpassed in the storage segment, and you can see why many are predicting NAS to become the most influential star in the industry of storage and data backup.

NAS defined

The SNIA (Storage Network Industry Association) defines NAS (Network Attached Storage) as a storage device providing file access services through the network. By special distributed structure, NAS easily offers unlimited and expandable storage to anyone on the network. When connecting to any node on the network, computers with all kinds of operation systems can access files or documents via NAS right away.

Advantages of NAS

One of the major advantages of NAS is effectively lowering the TCO (Total Cost of Ownership) on the user's storage system:

1. Centralized Resources & Remote Access

Since NAS can be added to a network and provides additional storage at any time, other servers on the network will be able to continue services without space or performance issues. Resources on the network can therefore be centralized and shared by either local or remote clients.

2. Easy Setup & Low Administration Cost

NAS supports multiple network protocols (TCP/IP, IPX, NetBEUI and AppleTalk), which allows immense flexibility. With the ability to adapt to fixed or dynamic IP addresses, installation, operation and management of NAS are both quick and simple.

3. Cross Platform & More Purchase Options

With inter-operability over multiple Operating Systems (OS) and platforms, different departments need no longer worry about compatibility issues of different servers or workstations. Businesses have more purchase options and a better chance of acquiring high quality equipment that will meet their requirements exactly.

4. Flexible & Cost-effective Backup

Most NAS devices offer a built-in backup feature, and are usually compatible with third-party backup software. Backup jobs can be done on-line with no down time. Tremendous operational costs and system shutdown loss can therefore be easily saved.

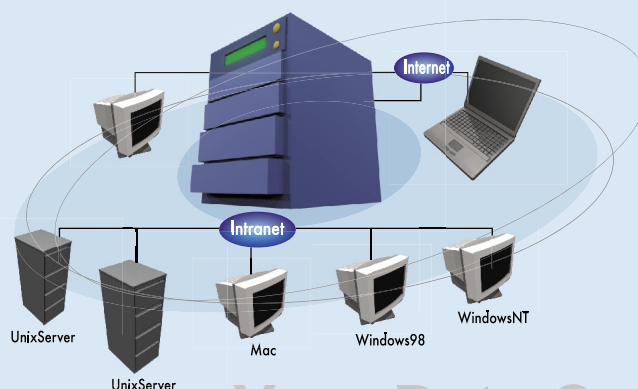
Where and how to use NAS?

QNAP NAS provides a complete series of storage solutions for Personal / SOHO, SMB (Small Medium Business), and Enterprises, as well as industrial applications. Each of them offers unbeatable levels of:

- Fast-established, Unlimited and Expandable Shared Storage
- Cross Platform Support
- Remote Replication
- Remote Data Access

Why QNAP?

- Complete Product Line: 20 models introduced within there year half
- IPC Expert: Good at customization for valued OEM/ODM clients
- Global products with 16 languages built-in all user interfaces
- Total Solution Provider:
 - Self-developed software and hardware by experienced R&D team
 - In-house system integration
 - Own production capability
 - Own testing facilities for quality assurance
- Over3-yr experience on NAS software development: Highly flexible for customizations
- More than competitive pricing strategy
- Cost-down plan by in-house designed SOC solutions



Embedded Linux

The embedded Linux kernel - developed in-house by QNAP's team of dedicated software engineers - on QNAP's NAS solutions provides an extremely stable and efficient platform. QNAP's proprietary NASWare OS is stored on flash disks rather than hard drives, thus preventing virus infection or HDD damage to the system itself. Even in the worst case of all hard drives failing simultaneously, the NASWare OS will work as usual and send out warning messages allowing the administrator the opportunity to minimize the damage.

Cross Platform

All of QNAP's storage products support different network file protocols, so whether the users are working on a Windows, Mac, Unix/Linux or Novell Netware OS environment or indeed a combination thereof - the same data storage platform can be shared.

Remote Data Access

Wherever the user is over the world, QNAP's NAS can be accessed through either web browser (HTTP) or FTP client software (FTP). This offers the user the opportunity to administrate or even access files and data remotely.

Hot-swappable Hard Disks & Data Auto-rebuild

Under the disk configuration of RAID 5 or RAID 1, users can replace a new hard disk in the event that one should fail, without shutting down the system (NAS-4000P or above). NASWare OS will then start rebuilding the data back to the new hard disk automatically.

Hot-swappable & Redundant Power Protection

QNAP also includes in some of its range industrial grade hot-swappable and redundant power supplies, which keep the system running normally should any power supply fail.

RAID Level Disk Configurations + Hot Spare

Multiple disk configurations, including JBOD, RAID 0, 1, 5 and single disk, offer the user the most complete options for data protection. Under RAID 5 configuration, QNAP also provides another option - Hot Spare: In the event of a hard drive failure, the system will start rebuilding data on to the hot spare disk without needing to first replace the faulty drive.

Data Backup & Remote Replication

Combining backup software and NAS, users can easily backup all or part of their critical data and/or files to the NAS server, and QNAP also offers some models with the option of backing up data from one QNAP NAS server to another or even to a tape drive. The user interface is simple, clear and user-friendly. The backup source can be local or remote files, whereas backup destinations can be any number of NAS servers. Furthermore, backup jobs can be scheduled for multitasking, and can be done within the intranet or through the Internet.

LCD Display Some features only available on certain models.

All of QNAP NAS devices are equipped with an LCD display, allowing the user to immediately see the status, IP address and various other important pieces of information.

Router & Firewall

QNAP has developed a series of router storages combine NAS with a Cable/DSL router which the user then connects up to the modem. Featured with routing tables, virtual servers, DMZ and NAT, these units offer true multi-functionality, whilst allowing multiple users simultaneous access to the Internet, all with firewall protection.

Built-in DNS & DDNS Support

QNAP's family of storage routers is equipped with a DNS server, which simplifies network and domain administration. With dynamic DNS (DDNS) support, users can also own a unique domain by a low-cost dynamic IP.

Web Page Management

All upgrades and administration can be completed simply via a user-friendly web browser, either locally or remotely.

User Quota

The administrator has the authority to set up user's storage limit or quota. Thus power users who require larger amounts of data storage space can be allocated additional capacity.

SNMP Management & E-mail Warning

SNMP management and E-mail warning provide updated system status and real-time monitoring to keep the administrator informed at all times as to what is happening in the unit.

WINS Server

This function maps Windows computer names to IP addresses, building a dynamic database. Not only does it increase speed for computer name resolutions, but it also effectively lessens the network traffic load.

Flexible OS

NASWare is developed by QNAP's dedicated team of software engineers in-house, and is based on open-sourced Linux. The flexibility offered by the Linux-based kernel makes it easier to keep NASWare updated with advanced or customized functions.

Backup/Restore User's Setting

User's setting can be easily backup and stored. When a new NAS needs to be set up or if the original system is damaged, user ID's, passwords and other settings can be restored in very short period.

System Upgrade

Updated versions of QNAP's NASWare OS (firmware) can be downloaded from <http://www.nasgenie.com>, and free upgrade service is available.

Journaling File System

Not only can the Journaling File System ensure the consistency but it also reduces the time to boot up/shut down. Should the system experience abnormal shutdowns or bootups, it can additionally help the system reboot itself and return to normal operation.

What's Special on NASWare Advanced Edition

1. Active Directory (AD) Support
2. Network Fail-over / Load-balancing / Multi-IP Setting
3. USB Storage Application
4. Snapshot
5. Remote Replication
6. Online Virus Scanning
7. Backup Agent
8. NetBak Replicator

*Please refer to page 6 for details

QNAP's NASWare OS was developed by a team of 30 dedicated professional software engineers. To enhance overall system performance and optimize system integration, software modules are modified to the most compact level. QNAP offers customers 3 sets of operation systems based on market segments and feature/functionality requirement levels:

1. NASWare Router Edition
2. NASWare Professional Edition
3. NASWare Advanced Edition

NASWare Version		Router Edition	Professional Edition	Advanced Edition
Model Name		NAS-101RWG, NAS-104R, NAS-2108R/RWG	NAS-110, NAS-2100, NAS-4100	NAS-3000, NAS-4030, NAS-4010, NAS-4120A/B, NAS-5100, NAS-4300/4300S, NAS-410T, NAS-1630T
Operation System		Embedded Linux		
Network Transport Protocols		TCP/IP, IPX, NetBEUI, Apple Talk		
Network File Protocols		Microsoft Networks (CIFS/SMB), Apple (AFP), UNIX (NFS), Internet (HTTP), Novell Network (NCP)* and File Transfer Protocol (FTP)		
Network Security		Microsoft Network Domain Controller (PDC) Microsoft AD Authentication (Professional Edition & Advanced Edition Only)		
Network Client Type		Microsoft Windows 95/98/ME/NT/2000/XP/2003, Macintosh system 7.5+, Linux/UNIX, Novell*		
Network Management	LAN Configuration	<ul style="list-style-type: none"> ●DHCP Dynamic IP Address Assignment, ●DNS Domain Name Service, ●One-to-One NAT, ●Static Routing, ●Support On-line Game Protocol, ●Website/Content Filtering, ●Racket Filtering Firewall, ●Virtual Server, ●DMZ Zone, ●Support DDNS 	<ul style="list-style-type: none"> ●Fixed IP Address ●Dynamic IP Address ●DHCP Service 	<ul style="list-style-type: none"> ●Fixed IP Address ●Dynamic IP Address ●DHCP Service
	WAN IP Configuration	PPPoE/PPTP/DHCP/Fixed IP Address		
	Wireless LAN	<ul style="list-style-type: none"> ●Support 64/128bit WEP (Wired Equivalent Privacy) ●Wireless Access Point IEEE802.10g AP (NAS-101RWG & NAS-2108RWG Only) 	N/A	
	Advanced Network Configuration	N/A		Load-balancing, Fail-over, Multi-IP Setting
Disk Configuration		A – Single disk B – RAID 0, 1, JBOD & Single disk C – RAID 0, 1, 5, JBOD & Single disk A: NAS-101RWG, NAS-110 B: NAS-2108R, NAS-2108RWG, NAS-2100, NAS-3000 C: NAS-104R, NAS-4030, NAS-4010, NAS-4100, NAS-4120A/B, NAS-5100, NAS-4300, 4300S, NAS-410T, NAS-1630T		
Disk Management		Hard Disk Failure Detection (S.M.A.R.T), Disk Detect/Auto Recovery, Disk Used Status Management		
File System Management		<ul style="list-style-type: none"> ●Users quota setting ●Web File Manager for Remote Access 	<ul style="list-style-type: none"> ●Over 2 GB Files Support (CIFS/SMB, FTP, NFS, AFP) ●USB Flash Disk Auto-Copy (NAS-2100, NAS-3000 & NAS-4010T Only) 	<ul style="list-style-type: none"> ●Journaling File System ●Enhanced JAVA Web File Manager ●Microsoft ACL Support ●Unicode Support ●Snapshot
System Management		<ul style="list-style-type: none"> ●Web-based administration, ●System Temperature Monitor ●LCD Panel display ●Alarm buzzer ●Support Network Time Protocol ●On-line Virus Scanning Support (Professional Edition & Advanced Edition Only) ●Schedule shutdown and boot (Professional Edition & Advanced Edition Only) 	<ul style="list-style-type: none"> ●SNMP Support ●E-mail Alerts ●LED display ●System Software upgrade ●Multi users account setting 	
System Setup and Configuration		<ul style="list-style-type: none"> ●Web-based GUI for system administration ●Save and restore configuration 	<ul style="list-style-type: none"> ●Quick Install Wizard ●LCD Panel Configuration 	<ul style="list-style-type: none"> ●Reset Button
Multi Language Support		English, Traditional Chinese, Simplified Chinese, Japanese, French, German		
UPS Support		SNMP (Simple Network Management Protocol) USB: NAS-2100, NAS-3000, NAS-4010, NAS-5100, NAS-410T and NAS-1630T Only Serial Port: NAS-4100, NAS-4120A/B, NAS-4300, NAS-4300S and NAS-5100 Only		
Additional Server Service		USB Port Support Printer Server (NAS-2100 & NAS-3000 & NAS-4010 Only) Parallel Port Support Printer Server (NAS-2108R & NAS-2108RWG Only)		
Backup Management		<ul style="list-style-type: none"> ●Support Client Backup Software NetBak Replicator ●Support Most Popular Network Backup Application ●CD/DVD Burning & Restore - Support CD-R/RW, DVD+R/ R/+RW/-RW/-R Double Layer (NAS-3000, NAS-4010 & NAS-410T Only) 	<ul style="list-style-type: none"> ●Schedule to remote replication backup 	<ul style="list-style-type: none"> ●Block Level Remote Replication ●Support BakBone NetVault Backup Agent ●Virtual Tape Library ●Built-in Tape Backup Software Function
Event Log		Display all current login users, Display system log/alert/error, Display all DHCP assignment information		

*Not available for NAS-110

»» Why Embedded Linux

Compact in Size

Based on embedded Linux, QNAP's NASWare was developed to an extremely compact size - only about 9MB. Compared to other operation systems, which are usually over 1GB and stored on the hard drives, the Linux based OS offers both better performance and stability. All QNAP NASWare can be stored on a 32MB flash ROM, ensuring that all Linux resources are efficiently utilized, and hardware overheads absolutely minimized.

Stability

When choosing a NAS device, stability is the most important thing of all. Embedded Linux Technology provides a reliable and exclusive storage platform, allowing NAS servers to conduct a uniform performance under non-stop operations.

Performance

Under the devotion of QNAP's R&D team, Embedded Linux has been intelligently developed to a compact size to improve the system performance without having to be accessed through hard drives.

Flexibility

Embedded Linux can be customized according to customers specific requirements

Cost-effectiveness

1. No need to pay extra license fee
2. Free lifetime software downloads providing free downloads of the most up-dated versions of NASWare.

System Security

Having the OS installed on the Flash ensures that the system continues running even in the event of a hard drive failure, and with warning messages sent to notify system administrators through e-mails.

The benefit of storing OS and Data in separate places:

Storing the OS and Data in different places reduces the risk of system downtime due to hard drive failures, and improves system performance. The use of OS on Flash greatly reduces repetitive data access of hard drives on the same disk area, extends the lifespan of hard drives and minimizes power consumption. Therefore, Embedded Linux is able to offer better performance and stability than other available OS.

»» Why use DDNS (Dynamic Domain Name Service)?

Only available on QNAP Router NAS

DDNS (Dynamic Domain Name Service)

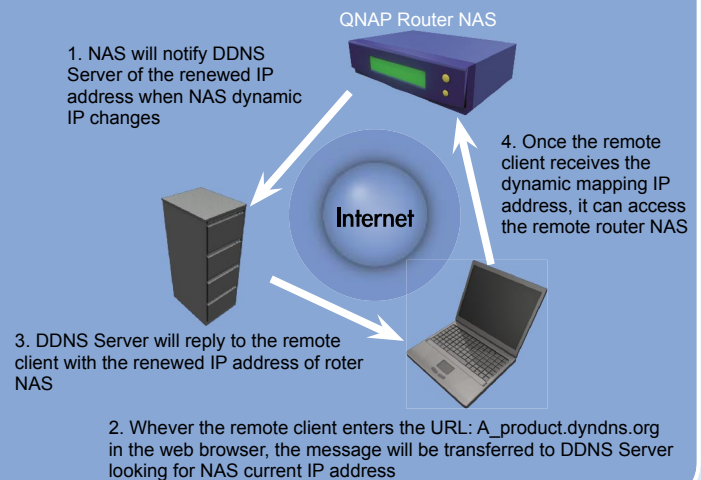
With DDNS, even without a fixed IP address and domain name, users are able to build up a personal or company website. Depending on region or territory, when using ADSL or Cable Modem to connect to the Internet, the IP address assigned by the ISP may be different every time. They are able to automatically renew an dynamic IP address, allowing authorized users on the Internet to easily access the NAS storage server via an assigned dynamic domain name.

Advantages

- Support various Internet connection services including dynamic IP ADSL or Cable modem
- Support various versions of DDNS services like www.dyndns.org, www.ods.org, www.dhs.org, www.dyns.cx and etc
- Easy to set up, no need for extra Domain knowledge
- Bundled with virtual server, it is easy to set up a website or FTP server for uploads/downloads

How does DDNS work with QNAP Router NAS?

Vendor-A, adopting a dynamic IP address, applies for a dynamic domain name `_product.dyndns.org` from the DDNS service provider in order to provide product information, catalogues, and image download services to its customers. With the registered DDNS information stored in QNAP Router NAS, all customers will be able to connect to `Http://A_product.dyndns.org//` and downloads the needed products information, catalogues, and images via the Internet anytime and anywhere.

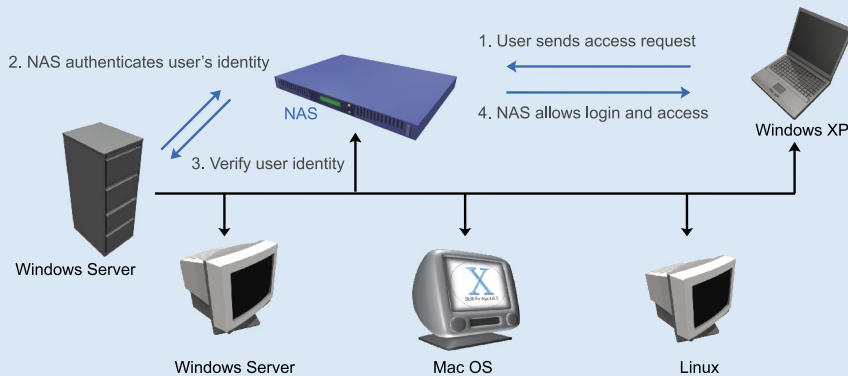


1. Active Directory (AD) Support

Active Directory is a directory service integrated to Windows 2003 Lightweight Directory Access Protocol (LDAP), featured with single management interface for managing items collectively and supports assigning different directory access privilege, which avoids excessive operation and lowers IT maintenance cost.

New generation QNAP NAS with Windows 2003 AD has the following features:

- Supports quick and direct import to an organization's internal Active Directory basic structure, and lowers software installation and management cost by automatic configuration procedure.
- Centralized user and user group safe mode to simply assigning directory access right; supports file resource access in the whole area.
- Secure access to system data.



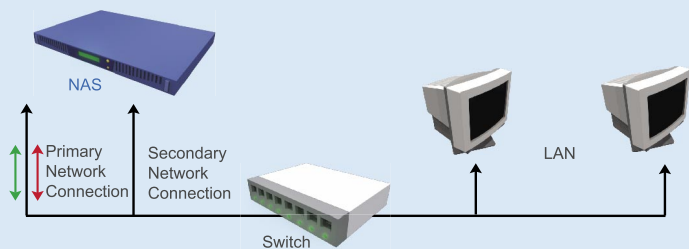
2. Network Fail-over / Load-balancing / Multi-IP Setting

With the NASWare Advanced Edition and 2 Gigabit Ethernet LAN ports, QNAP's NAS series can be set up either on Fail-over or Load-Balancing mode. Should one of the network connections comes to a halt, the other will immediately spring into action to ensure network connection and data availability. Load-balancing diverts any over-loading data flow in one network to the other in order to improve network efficiency and increase the data transfer rate. The improvement is particularly noticeable on mass data storage systems

Fail-over

The Fail-over function offers a more reliable network environment -should the main network connection fail due to hardware or network problems, then the back-up network will automatically replace the failed one. Once the network problem has been solved, the main network connection will function normally.

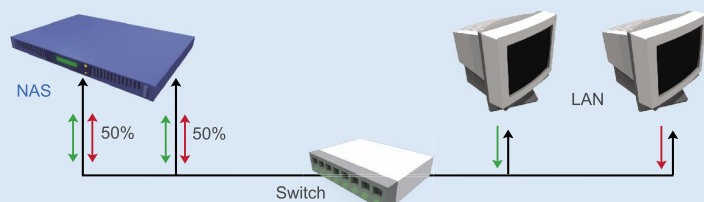
1. When the system is turned on, the Primary network interface will be used for main data transmission, while the Secondary network interface will remain on stand-by mode.



2. If, for whatever reason, the Primary network interface disconnects, the Secondary network interface will automatically connect to the Internet and the Primary network interface will be turned on to stand-by mode.

Load-balancing

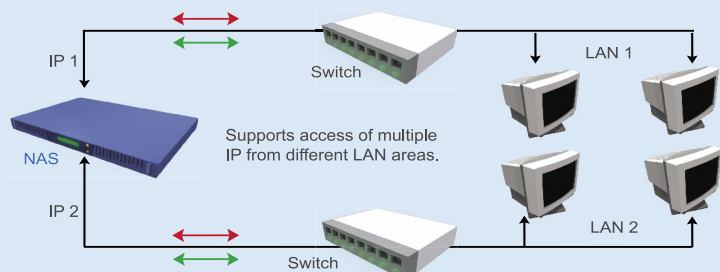
The use of Load-Balancing increases system performance. Data flow can be evenly distributed over the two network interfaces to balance network loading. If one of the network interfaces fails due to hardware or network problems, then data transmission will be automatically switched to the other normal interface.



2. Data traffic evenly distributed to balance network loading
1. Data flow from clients

Multi-IP Setting

Multi-IP Setting supports network environment of multiple IP. NAS can be shared among different LAN areas of different domains within a company, as these areas remain separate.



3. USB Storage Application

1. USB CD/DVD Backup & Restore

Provides users a backup mechanism for offline data. NAS data can be burnt to CD or DVD, and can be restored from the disks to NAS folders.

- Simple and easy-to-use web interface burning management
- Data burning backup and restoration
- Supports CD-R/RW, DVD-R/RW, DVD+R/RW Double Layer
- Supports high speed transfer rate USB 2.0 480Mbps

2. USB flash disk Auto-copy

USB flash disk is known as a widely used mini portable storage device at present time. Data in USB flash disk can be copied to specified folder automatically via USB interface of QNAP NAS for USB flash disk backup.

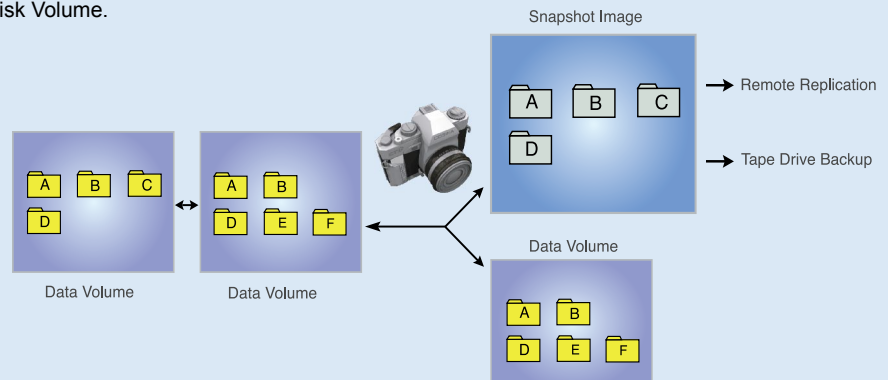


4. Snapshot

This function allows the user to take a real-time and dynamic replication of the snapshot according to the Disk Volume at a certain point of time. The data contained in the snapshot is the same as the previous copied network hard disk drives. The content in the snapshot will not be affected even when changing the content of the Disk Volume.

Key Features of QNAP's Snapshot

- Up to 32 snapshots can be created for each disk volume
- It takes only a few seconds to create a snapshot
- Snapshots can be scheduled
- Should the original data be damaged, it can be restored from the snapshot image
- Integrated with Tape Backup/ Remote Replication, there is no interruption to file access during backups or replications



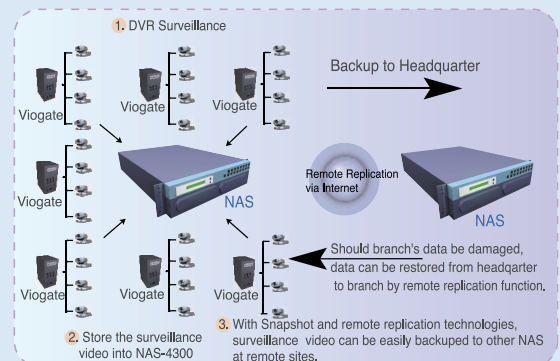
5. Remote Replication

Technology Advantages

1. Able to set up automatic data compression transmission mode, saving up to 2/3 of the transfer time.
2. Able to schedule auto file backup, ensuring ease of management
3. Able to do rapid differential backup according to the data being changed
4. Able to do Synchronization backup to ensure data consistency
5. Supports Real-time remote replication, which allows data changes to be immediately transferred to the remote site storage server

Practical Application

Remote replication can be applied to video surveillance systems for example in banks - to ensure the security of video images. Once the branch office starts recording, the images can be replicated and stored in the headquarter in case of data damage occurring in the branch office.

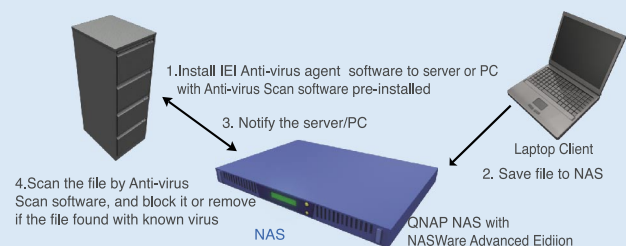


6. On-line Virus Scanning

Provides a flexible on-line virus-scanning mechanism to protect the data in the network storage server from computer virus. Users can also run on-line virus scanning on the network storage server via web-based interfaces.

1. Install IEI Anti-virus agent software on the server or PC pre-installed with Anti-virus software
2. Whenever a client tries to modify the data in the NAS server, QNAP NAS device will notify the server or PC with Anti-virus software
3. The Anti-virus Scanning server/PC starts scan the file using the pre-installed Anti-virus software
4. In the event of a file being infected with a virus, the Anti-virus software will send the warning message, and block or remove the Virus

*Various versions of Anti-virus software are supported



7. Backup Agent

Smart Agent Embedded - Most Tape Drive and Tape Library Supported

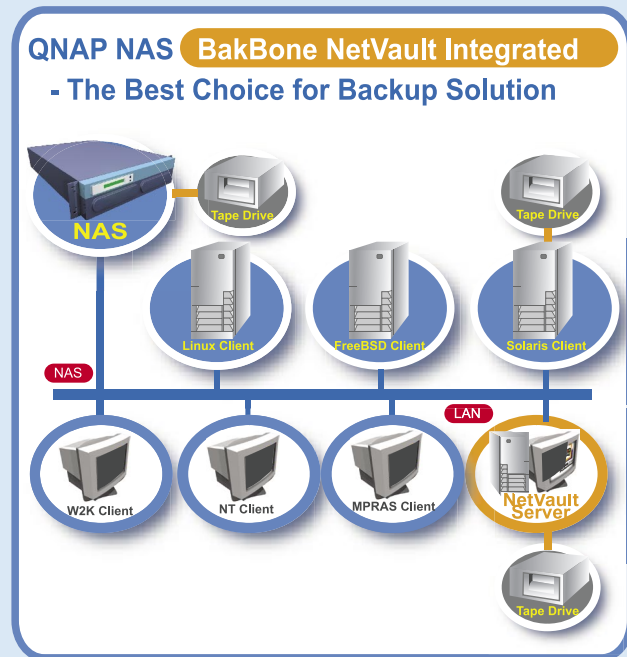
The backup agent optimizes the combination of QNAP's NAS and BakBone NetVault software to perform any backup jobs with ease. With NetVault, not only can you back up data between any two devices installed with backup agent, but also can greatly enhance the backup efficiency as well as simulate QNAP's NAS drives as ultra high-speed virtual tape library, making backups an easy job. No more worries on the tape drives for insufficient capacity and unsatisfied efficiency.

Fast and Cross Platform Backup / Restore

NetVault is scalable backup and recovery software that enables enterprises to combine powerful performance with unprecedented ease of use across a wide range of data storage topologies (from LAN to NAS and SAN) and operating systems (UNIX, NT/2000/2003, Linux). This software also supports an extensive range of standalone drives as well as multi-terabyte libraries. It is clear to see that NetVault is a powerful and scalable backup solution specially designed to fit the needs of mid-sized and large organizations with mixed networks.

VTL (Virtual Tape Library) Function

Cost Effective Excellent Performance High Capacity
Aside from the basic functions of backup and restore data, NetVault can create a VTL (virtual tape library) on disks of Disk On-line Server. Not only does VTL simplify the file backup process from disk but the administrator can also take advantage of the random access nature of disk-based devices to improve the performance of existing backup and restore jobs. This function governs all the features and operates in exactly the same manner as a real tape library.



8. NetBak Replicator

NetBak Replicator is a software installed in user system (Windows only) for data backup. Users can upload any files or folders to server and back up the data.

Main Functions

■ Backup

- File Filter

Users can select particular file types to be excluded from backup. The system will filter all files belonging to these file types when backing up the data.

- Schedule

Users can specify a schedule for backing up data with this option, e.g. 12:00 every day or 05:00 every Saturday.

- Monitor

When this option is enabled, the system will upload all files or folders to the server instantly for backup when the files or folders are modified.

■ Restore

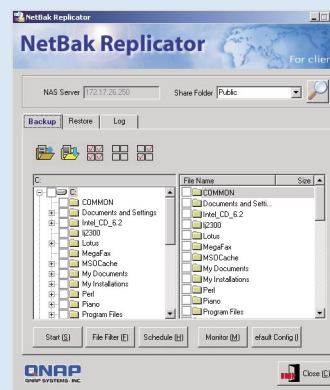
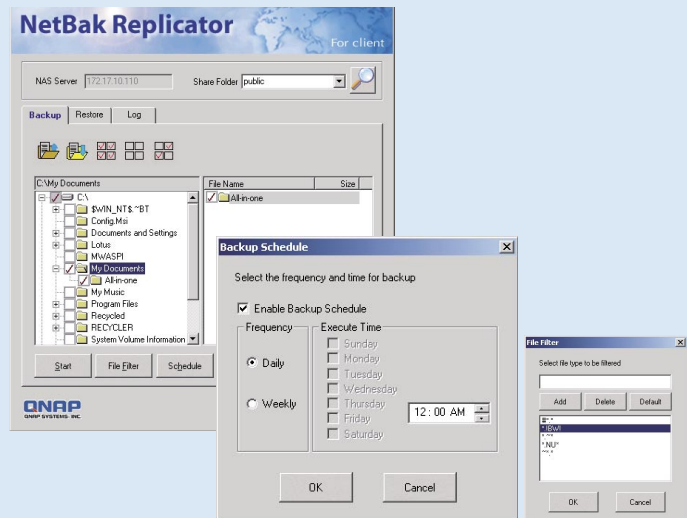
Select this option to restore backed up data to the original location of the file or to a new directory.

■ Log

Enable this option to record events of NetBak Replicator, e.g. the time when NetBak Replicator starts and terminates, Restore and Monitor, backup time and original location of all files, etc.

■ Default Config

When using this function, NetBak Replicator will record all current settings of the user, including whether or not monitor function is enabled. When the user login again, this program will load the previous recorded settings for users to manage data backup.



Enterprise



SMB



SoHo



NAS

Router NAS

*Product colors and specifications is subject to change without notice.
Please contact QNAP sales representatives for updated product information.

QNAP SOHO/Router NAS series provides home, SOHO or SMB users with easy file sharing and solutions. Not only does the series offer an Internet IP sharing platform for each client, but it also allows file sharing and effective management. Users do not need a large amount of CDs for data storage and can share files and data even when the shut down their PC or laptop.

SOHO / Router NASWare Software Features

- Cross-platform File Server/FTP Server
- Web-based administration
- Supports DHCP Dynamic IP Address Assignment
- Supports DDNS (Dynamic Domain Name Service)
- Supports Large Files up to 2GB(CIFS/ SMB, NFS)
- User Quota Setting
- Supports Multi-user On-line Game Protocol
- Packet Filtering Firewall
- Supports 64/128bit WEP (Wired Equivalent Privacy) (NAS-101RWG & NAS-2108RWG)
- Built-in Scheduling Remote Replication
- Built-in NetBak Replicator
- RAID Storage Management (NAS-104R & NAS-2108RWG)



QNAP SOHO/Router NAS Hardware Specification Table

Hardware Specification						
Model		NAS-110	NAS-104R	NAS-101RWG	NAS-2108R	NAS-2108RWG
System Specification	Processor	Intel IXP 420	NS GX1 300	NS SC2200	NS GX1 300	NS GX1 300
	Flash Memory	16MB	16MB	16MB	16MB	16MB
	DRAM	64MB	128MB	128MB	128MB	128MB
	HDD	1 x 3.5" IDE	4 x 2.5" IDE	1 x 3.5" IDE	1 x 3.5" IDE	1 x 3.5" IDE
System Information	LED Indicator	YES	YES	N/A	YES	YES
	LCD Display	N/A	YES	N/A	YES	YES
	Alarm Buzzer	N/A	YES	YES	YES	YES
Network Specification	LAN Ports	1	4	4	8	8
	WAN Ports	N/A	1	1	1	1
	Printer Server	N/A	N/A	N/A	YES	YES
	Wireless AP	N/A	N/A	YES 802.11g AP	N/A	YES 802.11g AP
Physical Specification	Form Factor	Portable Desktop	Portable Desktop	Portable Desktop	Desktop	Desktop
Power Management	Power Supply Specification	External Power Adaptor, 45W, 90~264V	ATX Power, 30W, 90~264V	External Power Adaptor, 45W, 90~264V	External Power Adaptor, 55W, 90~264V	External Power Adaptor, 55W, 90~264V

NAS-110

NAS-110 is a mini and slim design, low-priced network-attached server especially for mobile workers. The embedded program NetBak Replicator provides schedule, monitor, and filter functions which enable users to back up local data to NAS in the simplest way. The cross-platform feature allows users to access the server via different OS at great ease.



Ordering Information

NAS-110-1-HDD Capacity

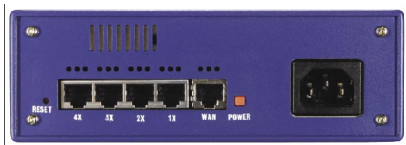
80: 1 x 80GB IDE HDD
120: 1 x 120GB IDE HDD
160: 1 x 160GB IDE HDD
200: 1 x 200GB IDE HDD
250: 1 x 250GB IDE HDD
300: 1 x 300GB IDE HDD

Product Specification

Software Version		NASWare Professional Edition
System Specification	Processor	Intel IXP 420
	Flash Memory	16MB
	DRAM	64MB
	HDD	1 x 3.5" IDE HDD
System Information	LED Indicator	Power, Network Status and HDD access
Network Specification	LAN Ports	1 x 10/100Mbps Ethernet Port
Physical Specification	Form Factor	Portable Desktop
	Dimension	230mm(D) x 145mm(W) x 55mm(H)
	Weight	Net Weight: 2Kg Gross Weight: 4Kg
Operation Environment	Temperature	0~45°C
	Humidity	0~85% R.H
Power Management	Power Supply Specification	External Power Adaptor, 45W, 90~264V

NAS-104R

NAS-104R is a delicate NAS storage server with a RAID 5 data protection feature generally only seen on high-level file servers. Integrated with a 4 LAN port 10/100Mbps Switch + 1 WAN Router + Firewall, NAS-104R is able to prevent outside intruders and hackers to ensure data security and is particularly suitable for those who requiring extra data security in a compact and price effective unit.



Product Specification

Software Version		NASWare Router Edition
System Specification	Processor	NS GX1 300
	Flash Memory	16MB
	DRAM	128MB
	HDD	4 x 2.5" IDE HDD
System Information	LED Indicator	Network: Link/Act, 10/100M System: Power, Fault, Internet and HDD access
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warning
Network Specification	Network Standards	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3p Priority Queue ANSI/IEEE 802.3 Nway Auto-negotiation
	WAN Ports	1 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
	LAN Ports	4 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
Physical Specification	Form Factor	Portable Desktop
	Dimension	262(D) x 178(W) x 60(H) mm
	Weight	Net Weight: 2Kg Gross Weight: 4Kg
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	ATX Power, 30W, 90~264V

Ordering Information

NAS-104R-4-HDD Capacity

- 80: 4 x 20GB IDE HDD
- 120: 4 x 30GB IDE HDD
- 160: 4 x 40GB IDE HDD
- 240: 4 x 60GB IDE HDD

NAS-101RWG

With an all-in-one function design and equipped with 1 WAN + 4 LAN + Firewall, NAS-101RWG is able to fulfill all requirement for multi-purpose applications, and provide a cost-effective storage device and Internet gateway for homes, SOHO and mobile offices. Integrated with state-of-the-art 802.11g AP module, NAS-101RWG provides users with flexibility for mobile data access.



Ordering Information

NAS-101RWG-CR-HDD Capacity

80: Built-in 80GB IDE HDD

120: Built-in 120GB IDE HDD

160: Built-in 160GB IDE HDD

200: Built-in 200GB IDE HDD

300: Built-in 300GB IDE HDD

RWG: Built-in IP Sharing Router & Wireless AP (802.11g)

Product Specification

Software Version		NASWare Router Edition
System Specification	Processo	NS GX1 300
	Flash Memory	16MB
	DRAM	128MB
	HDD	1 x 3.5" IDE HDD
System Information	LED Indicator	Link/Act, 10/100M
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warning
Network Specification	Network Standards	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3p Priority Queue ANSI/IEEE 802.3 Nway Auto-negotiation IEEE 802.11g
	WAN Ports	1 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
	LAN Ports	4 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
	Wireless Connection	54Mbps IEEE 802.11g Wireless Access Point
Physical Specification	Form Factor	Portable Desktop
	Dimension	230(D) x 145(W) x 55/180(H) mm (With Antenna Standing)
	Weight	Net Weight: 2Kg Gross Weight: 4Kg
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	External Power Adaptor, 45W, 90~264V

NAS-2108R/RWG

With an all-in-one function design and integrated with a Print Server + Firewall + 8 LAN + 1 WAN, NAS-2108R is able to fulfill all requirement for multi-purpose applications and provide a highly cost-effective and convenient management mechanism for SOHO, SMB, department and regional offices. Integrated with state-of-the-art 802.11g AP module, NAS-101RWG provides users with flexibility for mobile data access.



NAS-2108R



NAS-2108RWG



Product Specification

Software Version		NASWare Router Edition
System Specification	Processor	NS GX1 300
	Flash Memory	16MB
	DRAM	128MB
	HDD	2 x 3.5" IDE HDD
System Information	LED Indicator	Network: Link/Act, 10/100M System: Power, Fault, Internet and HDD access
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warning
Network Specification	Network Standards	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3p Priority Queue ANSI/IEEE 802.3 Nway Auto-negotiation IEEE 802.11g (NAS-2108RWG)
	WAN Ports	1 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
	LAN Ports	8 x 10/100Mbps Auto-Sensing Ethernet Port (RJ-45)
	Print Server	1 x DB25 Port
	Wireless Connection	54Mbps IEEE 802.11g Wireless Access Point (NAS-2108RWG)
Physical Specification	Form Factor	Desktop
	Dimension	270(D) x 234(W) x 70(H) mm
	Weight	Net Weight: 4Kg Gross Weight: 6Kg
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	External Power Adaptor, 55W, 90~264V

Ordering Information

NAS-2108R-2-HDD Capacity

NAS-2108RWG-2-HDD Capacity

160: 2x 80GB IDE HDD

240: 2x 120GB IDE HDD

320: 2x 160GB IDE HDD

400: 2x 200GB IDE HDD

500: 2x 250GB IDE HDD

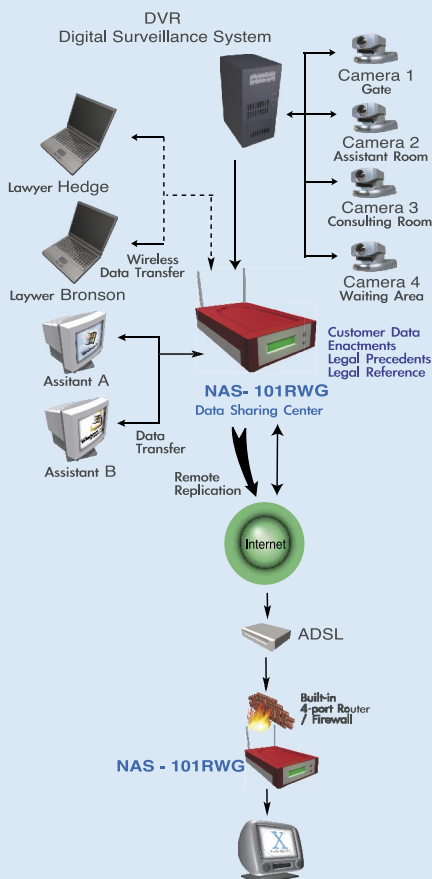
R : Built-in IP Sharing Router
WG: Wireless AP (802.11g)

Law Firm
Law Firm NAS-101RWG

A small law firm of two lawyers and two assistants work on many legal cases, but when it comes to gathering data, many cases start to pile up on the desks of the partners.

In order to efficiently administrate and swiftly refer this data, the law firm integrated a NAS-101RWG into their computer network. Customer resources, legal precedents, a database of enactments, and all kinds of references can all be effortlessly saved in network access server so that partners and assistants alike can access at all times.

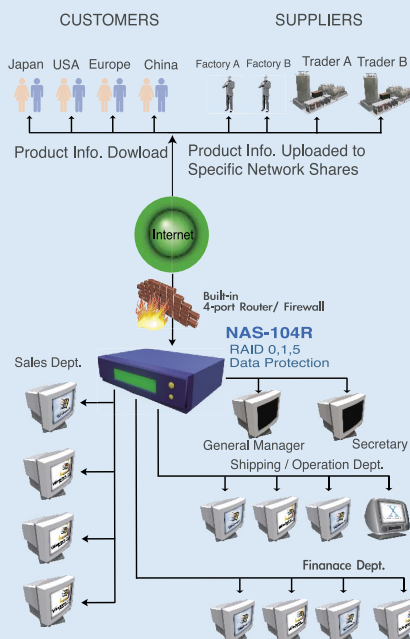
As well as offering remote replication by automatically backing up important data to another network attached storage unit at one of the partner's home, the NAS-101RWG offers four 10/100 LAN ports, an 802.11g Wireless Access Point and Cable/DSL router, so that the whole office can be connected and is able to share data and files at all times.



Trading Company
NAS-104R

An American Trading Company with twenty-two employees has been specialising in mechanical parts and chemical paint about fifteen years. Although, the company has continually adapted to new generation tools during the Internet generation, such as setting up e-mail and a company website, the company still had several issues that needed to be resolved.

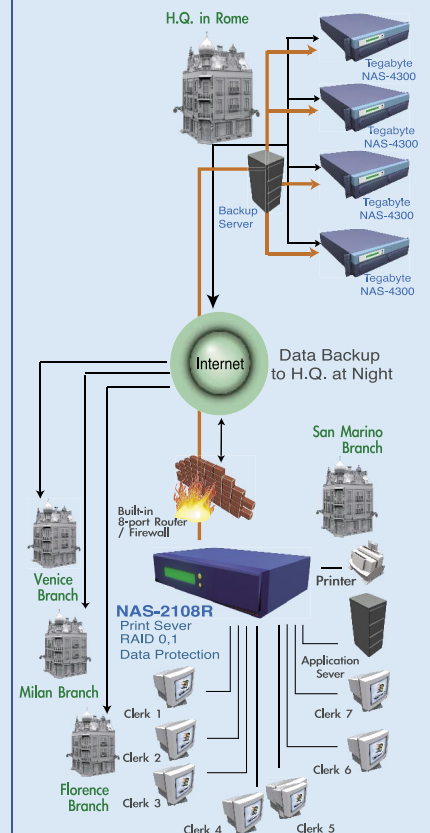
The blueprint of modern mechanical parts has become digitally computerized, but the company found that the capacity occupied by the AutoCAD files was too much; files for chemical paint are extremely meticulous, with all the technical data files taking up multiple gigabytes of space, making it impossible to directly e-mail them to customers around the world. Burning these files onto CD ROMs and then couriering them by express delivery to foreign customers took too long, and so the integration of the NAS-104R solved multiple issues! Not only did the company manage to allow their clients to upload the files remotely, no matter where they were in the world, but they were also able to back up the most critical files using RAID 5, thanks to the four 2.5 drives.



Bank
NAS-2108R

A well-known Italian bank with over one hundred branches nationwide was looking for a way to access the internet and at the same time share valuable information on service and product portfolios. With around seven or eight personnel in each branch, the bank needed a solution that was simple to manage and could effectively store files that could be shared by bank personnel.

A NAS-2108R from QNAP was installed at each branch to ensure constant online connectivity using the cable/DSL router integrated into the unit. Data protection was ensured through RAID 1 data mirroring, and Head Office could remotely back up all data each night. With its integrated firewall, print server, and eight 10/100 auto-sensing LAN ports, the NAS-2108R became a reliable all-in-one office storage router solution.



QNAP SMB NAS solutions can easily help users build up high capacity disk storage management and remote replication mechanism with one of the industry's lowest TCO's (Total Cost of Ownership), making data management both simple and efficient at the same time.

SMB NASware Software Features

- Web-based administration
- Supports Microsoft AD Authentication
- Supports Large Files up to 2GB(CIFS/ SMB, FTP, AFP, NFS)
- User Quota Setting
- On-line Virus Scanning Support
- Schedule Shutdown and Boot Support
- Built-in Scheduling Remote Replication
- Built-in NetBak Replicator
- Block Level Remote Replication
- RAID Storage Management
- Supports USB Flash Disk Auto Copy (NAS-2100 & NAS-3000 & NAS-4010)
- Supports CD/DVD Burning & Restore (NAS-3000 & NAS-4010)



QNAP SMB NAS Hardware Specification Table

Hardware Specification					
Model		NAS-2100	NAS-3000	NAS-4010	NAS-4030
System Specification	Processor	VIA Eden 400	VIA Eden 7000	VIA Eden 7000	Intel Celeron 1.7GHz
	Flash Memory	32MB	32MB	32MB	32MB
	DRAM	128MB	256MB	256MB	256MB
	HDD	2 x 3.5" IDE	2 x 3.5" IDE Hot Swap	4 x 3.5" IDE Hot Swap	4 x 3.5" IDE Hot Swap
System Information	LED Indicator	YES	YES	YES	YES
	LCD Display	YES	YES	YES	YES
	Alarm Buzzer	YES	YES	YES	YES
Network Specification	Gigabit Ethernet Port	N/A	2	2	3
	Fast Ethernet Port	1	N/A	N/A	N/A
I/O Interface	USB	2 x USB1.1	2 x USB2.0	2 x USB2.0	N/A
Physical Specification	Form Factor	Desktop	Desktop	Desktop	Desktop
Power Management	Hot Swap/Hot Spare Power Supply	N/A	N/A	2	2
	Power Supply Specification	ATX Power, 40W, 90~264V	ATX Power, 200W, 115~230V	ATX Power, 158W, 95~265V	ATX Power, 164W, 905~264V

NAS-2100

With dual form factor designs (Desktop), NAS-2100 supports RAID 0, RAID 1 and JBOD providing small-to-medium-sized business a cost-effective and reliable file server solution.



New!!

**USB 1.1 Support
Printer, Flash
Disk Auto-Copy**



Ordering Information

NAS-2100-2-HDD Capacity

160: 2x 80GB IDE HDD
240: 2x 120GB IDE HDD
320: 2x 160GB IDE HDD
400: 2x 200GB IDE HDD
500: 2x 250GB IDE HDD
800: 2x 400GB IDE HDD

Product Specification

Software Version		NASWare Professional Edition
System Specification	Processor	VIA Eden 400
	Flash Memory	32MB
	DRAM	128MB
	HDD	2 x 3.5" IDE HDD
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	LAN Ports	1 x 10/100Mbps Gigabit Ethernet Port (RJ-45)
I/O Interface	USB	2 x USB 1.1 Ports
Physical Specification	Form Factor	Desktop
	Dimension	276(D) x 343(W) x 45(H) mm
	Weight	Net Weight: 3KG Gross Weight: 5KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	ATX Power, 40W, 90~264V

NAS-3000

NAS-3000 is the first network storage server to adopt Gigabit Ethernet technology, offering exceptional solutions for users requiring a desktop storage unit.



New!!
USB 2.0 Support Printer, CD/DVD Burning/Restore, Flash Disk Auto-Copy



Product Specification

Software Version		NASWare Advanced Edition
System Specification	Processor	VIA Eden 7000
	Flash Memory	32MB Flash
	DRAM	256 MB
	Disk	2 x 3.5" IDE HDD, Support Hot Swap
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	LAN Ports	2 x 10/100/1000Mbps Gigabit Ethernet Port (RJ-45)
I/O Interface	USB	2 x USB2.0 Ports
Physical Specification	Form Factor	Desktop
	Dimension	276(D) x 343(W) x 84(H) mm
	Weight	Net Weight: 5KG Gross Weight: 7KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	ATX Power Supply, 200W, 115~230V

Ordering Information

NAS-3000-2-HDD Capacity

160: 2x 80GB IDE HDD

240: 2x 120GB IDE HDD

320: 2x 160GB IDE HDD

500: 2x 250GB IDE HDD

800: 2x 400GB IDE HDD

NAS-4010/ NAS-4030

With an incredible storage capacity, NAS-4010/NAS-4030 features data protection via RAID 0, 1, 5 and JBOD. SMB users are offered a high-reliability, cost-effective storage solution, equipped with two industry level redundant power supplies. NAS-4010/NAS-4030 also supports hot spare and hot swappable HDDs, allowing SMB's to enjoy large storage capacity and RAID 5 data protection at the same time. The use of hot spare power supply and hot swappable HDD greatly increases server reliability ensuring minimal downtime.



NAS-4030



NAS-4010

New!!

**USB 2.0 Support
Printer, CD/DVD
Burning/Restore, Flash
Disk Auto-Copy**



NAS-4030



NAS-4010

Ordering Information

NAS-4010-4-HDD Capacity

320: 4x 80GB IDE HDD
480: 4x 120GB IDE HDD
640: 4x 160GB IDE HDD
800: 4x 200GB IDE HDD
1000: 4x 250GB IDE HDD
1200: 4x 300GB IDE HDD
1600: 4x 400GB IDE HDD

NAS-4030-4-HDD Capacity

320: 4x 80GB IDE HDD
480: 4x 120GB IDE HDD
640: 4x 160GB IDE HDD
800: 4x 200GB IDE HDD
1000: 4x 250GB IDE HDD
1200: 4x 300GB IDE HDD

Product Specification

Software Version		NASWare Advanced Edition
System Specification	Processor	NAS-4010: VIA Eden 7000 NAS-4030: Intel Celeron 1.7GHz
	Flash Memory	32MB
	DRAM	256MB
	Disk	4 x 3.5" IDE HDD, Support Hot Swap
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	Gigabit Ethernet	NAS-4010: 2 x 10/100/1000 Mbps Gigabit Ethernet Ports
		NAS-4030: 3 x 10/100/1000 Mbps Gigabit Ethernet Ports
I/O Interface	USB	2 x USB2.0 Ports (NAS-4010)
Physical Specification	Form Factor	Desktop
	Dimension	380(D) x 168(W) x 240(H) mm
	Weight	Net Weight: 10KG Gross Weight: 14KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Redundant / Hot Swap Power Supply	2 x Redundant / Hot Swap Power Supply
	Power Supply Specification	NAS-4010: ATX Power, 158W, 95~265V NAS-4030: ATX Power, 164W, 905~264V

Radio Station NAS-2100

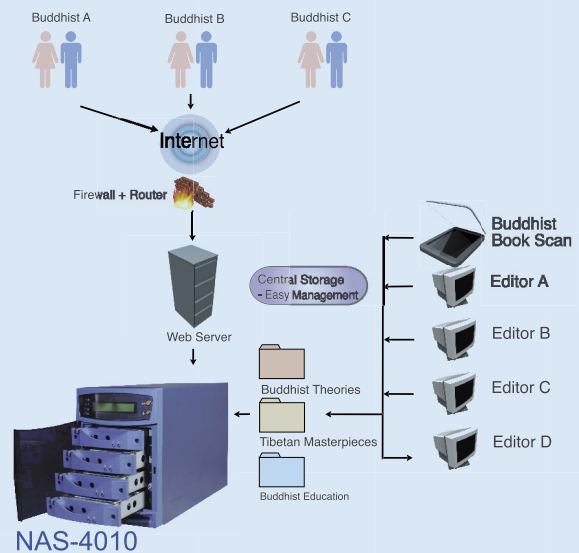
FUNKY FM104.3 is one of the most popular local radio broadcast companies. With the advanced digital music technology, company has converted all licensed music records, cassettes, or CDs into digital formats, for example, DAT. Storing all digital music into QNAP NAS-2100, saves up huge amount of time, and makes song choosing easier than ever!



Temple NAS-4010

Jingan is one of the most famous and historical Buddhist Temples in Shanghai. Dating back to the Three Nations period it has attracted visitors from around the world and has a deep history of developing Buddhist knowledge. At the present time, it devotes itself to the study of ancient Tibetan Books of Wisdom, whilst using modern technology to store digital copies of Buddhist Books. Traditional file servers are not able to perform such tasks effectively as it takes a tremendous amount of space to store and requires a powerful platform to run the applications.

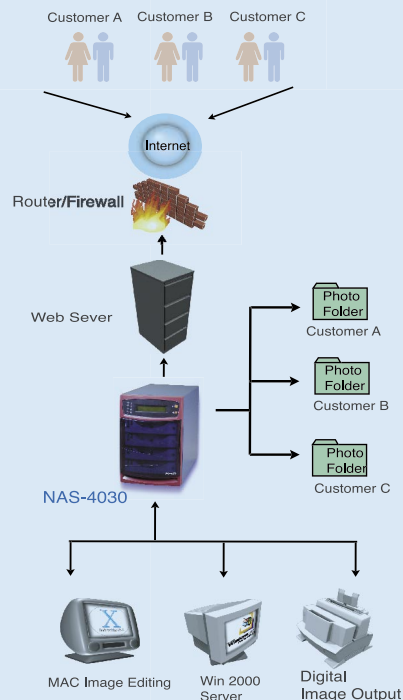
In order to break through the bottleneck caused by the digitalization of these books, Jingan Temple has adopted the QNAP NAS-4010 as storage device, providing an extreme amount of storage capacity and making data management simple, whilst at the same time protecting all the stored data by using RAID levels 0, 1 and 5. With all these features, Jingan Temple has been able to store all the digital files of these books without any loss in performance on their network.



Professional Digital Output Center NAS-4030

The increase in use of digital photography has been phenomenal over the past couple of years. One example is a traditional film development store that has had to adapt and focus on becoming a high quality and Internet digital output center by integrating FTP and Website. This transition has just made them able to catch up with the latest trend in technology and brought in a lot more business. However, they needed to integrate a lot more storage space quickly and easily, without complicated management, as they did not have a dedicated IT manager.

Luckily, the store manager knew about QNAP NAS products and bought one unit of the NAS-4030 to solve the issues. It only took him 10 minutes to install the storage device and he was soon able to successfully transfer FTP users under Windows 2000 on to the NAS-4030, instantly solving the shortage of storage capacity conditions. With Raid 0, 1 and 5 data protection, the manager no longer needs to worry about losing valuable client information any more. And the easy-to-use interface allows less experienced computer users such as himself to manage, store and locate data and file with ease.



In addition to Gigabit Ethernet and high level disk management, combined with Network Fail-over/Load-balancing / Multi-IP Setting / Remote Replication/Snapshot/On-line Virus-scanning QNAP NAS series provides users across all market segments – from enterprise to SMB to SOHO – with the most efficient and effective network storage backup solution, not only reducing capital expense but also offering a simple and easy platform for IT management.

Business / Work Group Users NASWare Software Features

- Web-based administration
- Supports Microsoft AD Authentication
- Supports Large Files up to 2GB(CIFS/ SMB, FTP, NFS, AFP)
- Network Load-balancing, Fail-over and Multi-IP Setting
- User Quota Setting
- Snapshot
- On-line Virus Scanning Support
- Schedule Shutdown and Boot Support
- Built-in Scheduling Remote Replication
- Built-in NetBak Replicator
- Block Level Remote Replication
- Support Bakkbone NetValult Backup Agent
- RAID Storage Management



QNAP Enterprise NAS Hardware Specification Table

Hardware Specification							
Model		NAS4100	NAS-4120A/ NAS-4120B	NAS-4300/NAS- 4300S	NAS-410T	NAS-1630T	NAS-5100
System Specification	Processor	Intel Celeron 850MHz	Intel Celeron 1.2GHz/PIII 1.26 GHz	Intel P4 2.4 GHz	Intel P4 2.8 GHz	Intel Xeon 2.4 GHz	Intel PIII 1 GHz
	Flash Memory	16MB	32MB	32MB	32MB	32MB	32MB
	DRAM	256MB	256MB / 512MB	512MB	512MB	2GB	1GB ECC
	HDD	4 x 3.5" IDE Hot Swap	4 x 3.5" IDE Hot Swap	8 x 3.5" IDE Hot Swap	4 x 3.5" SATA Hot Swap	16 x 3.5" SATA Hot Swap	No HDD Inside External Storage Expansion
System Information	LED Indicator	YES	YES	YES	YES	YES	YES
	LCD Display	YES	YES	YES	YES	YES	YES
	Alarm Buzzer	YES	YES	YES	YES	YES	YES
Network Specification	Gigabit Ethernet Port	1	2	2	2	4	2
	Fast Ethernet Port	N/A	N/A	16-Port Switch (NAS-4300S Only)	N/A	N/A	1
I/O Interface	SCSI Interface	Ultra 160	Ultra 160	Ultra 160	Ultra 320	Ultra 320	2 x Ultra 320 VHDCI
	RS232 Interface	YES	YES	YES	N/A	N/A	YES
	USB	N/A	N/A	N/A	2 x USB2.0	2 x USB1.1	2 x USB1.1 power
Physical Specification	Form Factor	1U Rack-mount	1U Rack-mount	3U Rack-mount	1U Rack-mount	3U Rack-mount	1U Rack-mount
Power Management	Hot Swap/Hot Spare Power Supply	2	2	3	N/A	3	N/A
	Power Supply Specification	ATX Power, 150W, 90~264V	ATX Power, 150W, 90~264V	ATX Power, 150W, 90~264V	ATX Power 300W, 100~240V	ATX Power 650W, 100~240V	ATX Power, 150W, 90~264V

NAS-4100/ NAS-4120A/B

With a 19" 1U rack-mountable chassis, and powered by an Intel Celeron or Pentium III Tualatin CPU QNAP NAS-4100/ NAS-4120 series are able to meet the requirements of increasing demand for high performance and storage capacity in the technology-sensitive business environment, whilst playing close attention to the all important issues of cost.



Product Specification

Software Version		NAS-4100: NASWare Professional Edition
		NAS-4120A/B: NASWare Advanced Edition
System Specification	Processor	NAS-4100: Intel Celeron 850GHz NAS-4120A: Intel Celeron 1.2GHz NAS-4120B: Intel PIII 1.26GHz
	Flash Memory	NAS-4100: 16MB NAS-4120A/B: 32MB
	DRAM	NAS-4100 / NAS-4120A: 256MB NAS-4120B: 512MB
	Hard Disk	4 x 3.5" IDE HDD, Support Hot Swap
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	Gigabit Ethernet	NAS-4100: 1 x 10/100/1000 Mbps Gigabit Ethernet Ports NAS-4120A/B: 2 x 10/100/1000 Mbps Gigabit Ethernet Ports
I/O Interface	SCSI Interface	Supports LVD SCSI Ultra 160 Tape Backup Drive
	RS232 Interface	Supports UPS Power Management
Physical Specification	Form Factor	1U Rack-mount
	Dimension	570(D) x 430(W) x 44(H) mm
	Weight	Net Weight: 12KG Gross Weight: 16KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	ATX Power, 150W, 90~264V

Ordering Information

NAS-4100-4-HDD Capacity

320: 4x 80GB IDE HDD
480: 4x 120GB IDE HDD
640: 4x 160GB IDE HDD
800: 4x 200GB IDE HDD
1000: 4x 250GB IDE HDD
1200: 4x 300GB IDE HDD
1600: 4x 400GB IDE HDD

NAS-4120-4-HDD Capacity

320: 4x 80GB IDE HDD
480: 4x 120GB IDE HDD
640: 4x 160GB IDE HDD
800: 4x 200GB IDE HDD
1000: 4x 250GB IDE HDD
1200: 4x 300GB IDE HDD
1600: 4x 400GB IDE HDD

NAS-4300/ NAS-4300S

With the introduction of the NAS-4300, QNAP is moving in to the high-end NAS market, combining a 16-port layer 2 switch (10/100) with dual Gigabit Ethernet LAN ports. Available in a 19", 3U rack-mountable chassis, and powered by a high-performance Intel P4 CPU, the various models in the NAS-4300 series are able to meet the requirements for the ever increasingly demanding requirements of the most technology-sensitive business environment.



NAS-4300



NAS-4300S



Ordering Information

NAS-4300-8-HDD Capacity

- 640: 8x 80GB IDE HDD
- 960: 8x120GB IDE HDD
- 1280: 8x160GB IDE HDD
- 1600: 8x200GB IDE HDD
- 2000: 8x250GB IDE HDD

NAS-4300S-8-HDD Capacity

- 640: 8x 80GB IDE HDD
- 960: 8x120GB IDE HDD1280
- 1280: 8x160GB IDE HDD
- 1600: 8x200GB IDE HDD
- 2000: 8x250GB IDE HDD

Product Specification

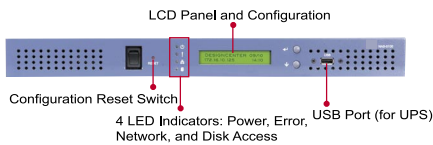
Software Version		NASWare Advanced Edition
System Specification	Processor	Intel P4 2.4 GHz
	Flash Memory	32MB
	DRAM	512MB
	HDD	8 x 3.5" IDE HDD, Support Hot Swap
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	Network Standards	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3p Priority Queue ANSI/IEEE 802.3 Nway Auto-negotiation
	Gigabit Ethernet	2 x 10/100/1000 Mbps Gigabit Ethernet Ports (RJ-45)
	LAN Ports	1 x 10/100Mbps Ethernet Ports (Only for NAS-4300)
	Built-in Switch	16-Port 10/100Mbps Auto-Sensing Switch (Only for NAS-4300S)
Other I/O	SCIS Interface	Support LVD Ultra 160 Tape Backup Drive
	RS-232 Interface	UPS Power Management Support
Physical Specification	Form Factor	3U Rack-mount
	Dimension	592(D) x 430(W) x 131(H) mm
	Weight	22KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Redundant / Hot Swap Power Supply	3 x Redundant / Hot Swap Power Supply
	Power Supply Specification	ATX Power, 150W, 90~264V

NAS-5100

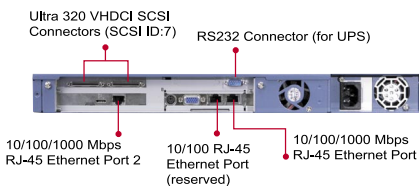
NAS-5100, QNAP's high performance 1U NAS Controller, is adopting advanced 64 bit BUS technology with 19" industrial standard chassis. Featuring Intel Pentium III Tualatin CPU, built-in 1GB ECC DRAM, dual Gigabit Ethernet for fail-over and load-balancing, two SCSI Ultra 320 VHDCI interfaces, NAS-5100 offers the extreme flexibility for external storage expansion such as SCSI hard disk drives, RAID subsystems, and tape drives, optimizing your storage resources and bringing easy-management for application in e-commerce and capability for higher level server integration in the office.



NAS-5100 Front View



NAS-5100 Rear View



Ordering Information

NAS-5100

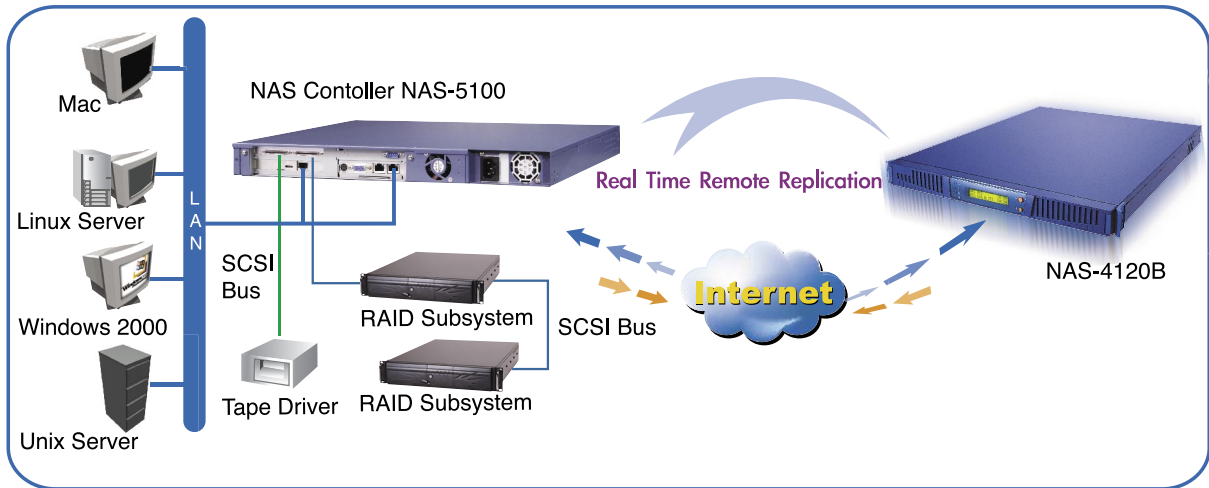
NAS Controller with Dual Ultra 320 SCSI Interface for External Storage Expansion

Product Specification

Software Version		NASWare Advanced Edition
System Specification	Processor	Intel PIII 1.0GHz
	Flash Memory	32MB
	DRAM	1GB ECC memory
	Chipset	ServerWorks LE-T (Advanced 64-bit PCI Technology)
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel Two Control Buttons for System Management
	Alarm Buzzer	System Malfunction Warnings
Network Specification	Network Standards	IEEE 802.3 10 Base-T Ethernet IEEE 802.3u 100 Base-TX Fast Ethernet IEEE 802.3x Flow Control IEEE 802.3p Priority Queue ANSI/IEEE 802.3 Nway Auto-negotiation
	Gigabit Ethernet	2 x 10/100/1000 Mbps Gigabit Ethernet Ports (RJ-45)
	LAN Ports	1 x 10/100Mbps Ethernet Ports (Only for OEM/ODM)
Other I/O	SCSI Interface	2-Channel 64-bit PCI Ultra 320 SCSI HDD/ External RAID Subsystem/ Tape Drive
	USB 1.1 Interface	UPS Power Management Support
	RS-232 Interface	UPS Power Management Support
Physical Specification	Form Factor	1U Rack-mount
	Dimension	429(L) x 430(W) x 44(H) mm
	Weight	Net Weight: 6KG Gross Weight: 9KG
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Power Supply Specification	ATX Power, 150W, 90~264V

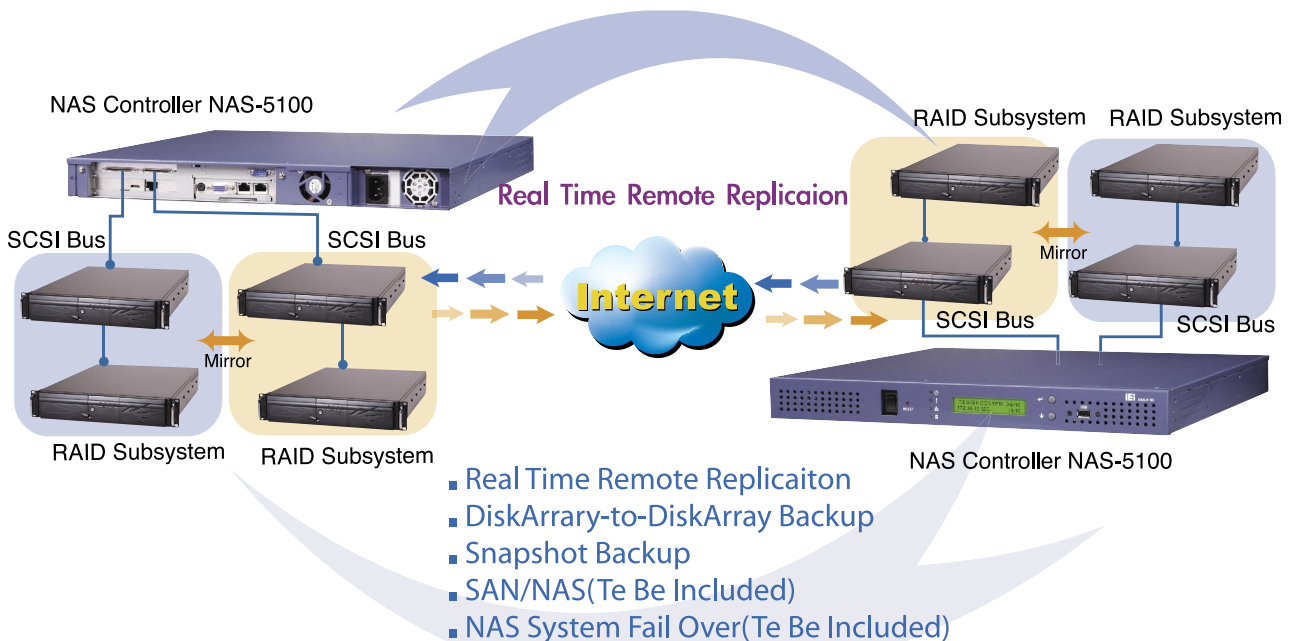
Standard Application-Multi-layer Backup Application

Intelligent NAS-5100 has two independent SCSI Ultra 320 channels supporting various types of RAID subsystems and tape drives for backups. With 2 independent SCSI ports, NAS-5100 can ensure the most efficient data transmission and it also supports real-time remote replication, maximizing your data availability.



Expanable Disaster Recovery Solution Application

With the 2 independent Ultra 320 SCSI interfaces, NAS-5100 is capable of connecting two RAID subsystems with each up to 15 SCSI RAID subsystems. By using DiskArray-to-DiskArray backup mechanism, NAS-5100 can carry out real-time remote replications, making any of your branch office another headquarter via mirroring between QNAP's NAS servers, improving the efficiency in storage and maintaining operations without downtime.



NAS-410T

NAS-410T is a 1U rack mount design NAS with 4 hot swappable SATA hard disk slots and RAID 0, 1, 5, JBOD disk volume configuration. The two built-in Gigabit network ports supports fail over, load balance, or multi-homing load balance to speed up network access efficiency and rate. Adopting NasWare Advanced version, snapshot, online virus scan, remote replication, and backup agent are all embedded in NAS-410T, which greatly increase product functions and create the best benefits for enterprise storage.



Ordering Information

NAS-410T-4-HDD Capacity

- 320: 4 x 80GB SATA HDD
- 480: 4 x 120GB SATA HDD
- 640: 4 x 160GB SATA HDD
- 800: 4 x 200GB SATA HDD
- 1000: 4 x 250GB SATA HDD
- 1200: 4 x 300GB SATA HDD
- 1600: 4 x 400GB SATA HDD

Product Specification

		Software Version	NASWare Advanced Edition
System Specification	CPU	Intel Pentium 4 3.0 GHz	
	Flash	32MB	
	DRAM	512MB	
	HDD	4 x 3.5" SATA HDD, Support Hot Swap	
System Information	LED Indicator	Power, Error, Network Status, Hard Disk	
	Alarm Buzzer	System malfunction warning	
Network Specification	LAN Ports	2 x Gigabit RJ-45 Ethernet port	
I/O Interface	SCSI	Ultra320	
	USB	2 x USB2.0	
	Serial Port	COM 1	
	PS/2	Mouse, Keyboard	
	VGA	VGA port	
Physical Specification	Form Factor	1U Rack-mount	
	Dimension	540mm(D) x 440mm(W) x 44mm(H)	
	Weight	Net Weight: 8Kg Gross Weight: 12Kg	
Operation Environment	Temperature	0~40°C	
	Humidity	20~80% R.H	
Power Management	Power Supply Spec	ATX Power, 300W, 100~240V	

NAS-1630T

NAS-1630T has 16 hot swappable SATA hard disk slots and supports RAID 0, 1, 5, and JBOD disk volume configuration. The four built-in Gigabit network bandwidth supports fail over, load balance, or multi-homing load balance to speed up network access efficiency and rate. The professional enterprise client design supports three sets of power supply to provide hot swap and hot backup mechanism, which is the best storage solution for enterprise.



New



Ordering Information

NAS-1630T-16-HDD Capacity

1280: 16 x 80GB SATA HDD
920: 16 x 120GB SATA HDD
2560: 16 x 160GB SATA HDD
3200: 16 x 200GB SATA HDD
4000: 16 x 250GB SATA HDD
4800: 16 x 300GB SATA HDD
6400: 16 x 400GB SATA HDD

Product Specification

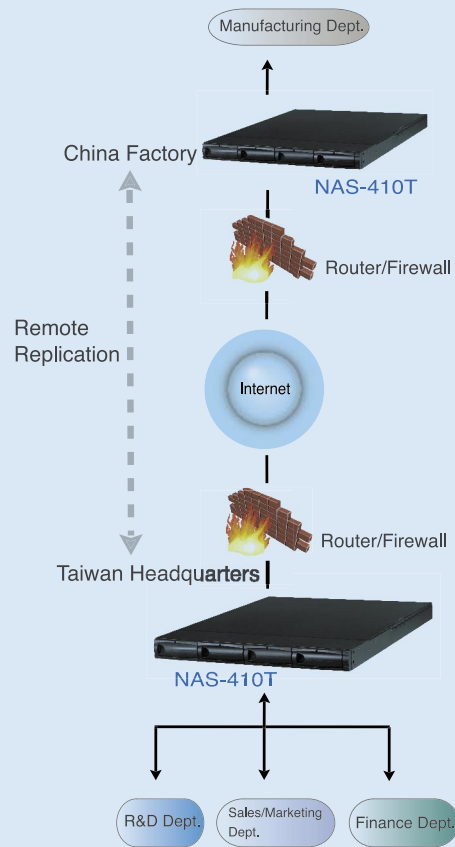
	Software	NASWare Advanced Edition
System Specification	CPU	Intel Xeon 2.4 GHz
	Flash Memory	32MB
	DRAM	2GB
	HDD	16 x 3.5" SATA HDD, Support Hot Swap
System Information	LED Indicator	Power, Error, Network Status, Hard Disk
	LCD Display	LCD Panel, Four Control Button for System Management
	Alarm Buzzer	System Malfunction Warning
Network Specification	LAN Ports	4 x Gigabit RJ-45 Ethernet Port
IO Interface	SCSI	1 x Ultra320 SCSI
	USB	2 x USB1.1
Physical Specification	Form Factor	3U Rack-mount
	Dimension	674mm(D) x 445mm(W) x 132mm(H)
	Weight	Net Weight: 16Kg Gross Weight: 20Kg
Operation Environment	Temperature	0~45°C
	Humidity	0~95% R.H
Power Management	Redundant / Hot Swap	3 x Redundant/Hot Swap Power Supply,
	Power Supply Specification	ATX Power Supply, 650W, 100~240V

Large Enterprises

NAS-410T

A motorcycle engine manufacturer with 200 employees, headquartered in Taiwan set up a manufacturing plant in Mainland China to reduce production costs. The Research and Development and Global Marketing divisions were to stay in Taiwan, so to ensure that information could be updated in real-time on both sides of the Taiwan Strait, the company decided upon a NAS-410T from QNAP.

One of the problems they had previously encountered was how to effectively transfer and update massive CAD graphics files or programs for both departments across the strait. With a professional hardware and software design, integrating dual Gigabit Ethernet ports, UPS management, RAID levels 0, 1 and 5 data protection, remote replication and tape backup, the NAS-410T was able to exceed all requirements for information integration and replication with a very low Total Cost of Ownership (TCO). And the high-powered Intel CPU and huge amount of cached RAM ensure swift, reliable data transfer, making the NAS-410T one of the most attractive storage options around.

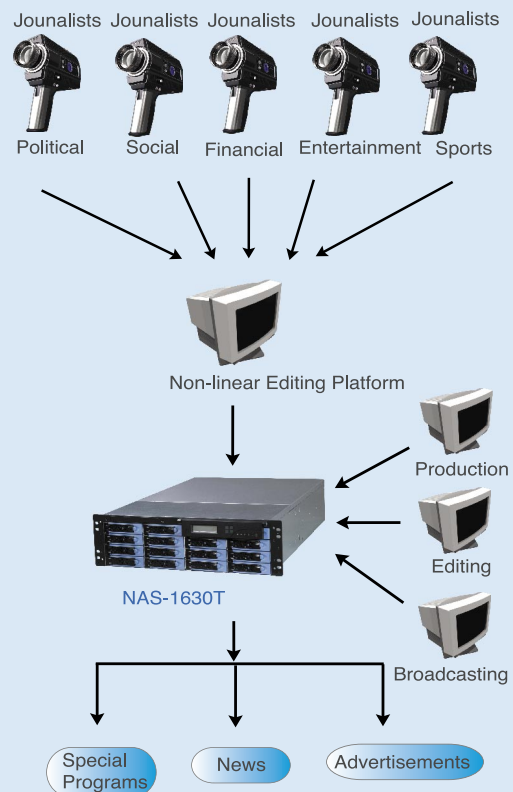


News Digital Centers

NAS-1630T

New Vision Television has 5 teams responsible for gathering information on various kinds of events such as political, social, financial, entertainment and sports news. Each journalist has to edit and compile the contents of his/her article through a non-linear editing platform and save it to digital centers either for broadcasting during the day or for using in a future program production. However, large multimedia files require extremely high levels of storage capacity. How to ensure data availability and maintain platform performance in the mean time has become a critical issue.

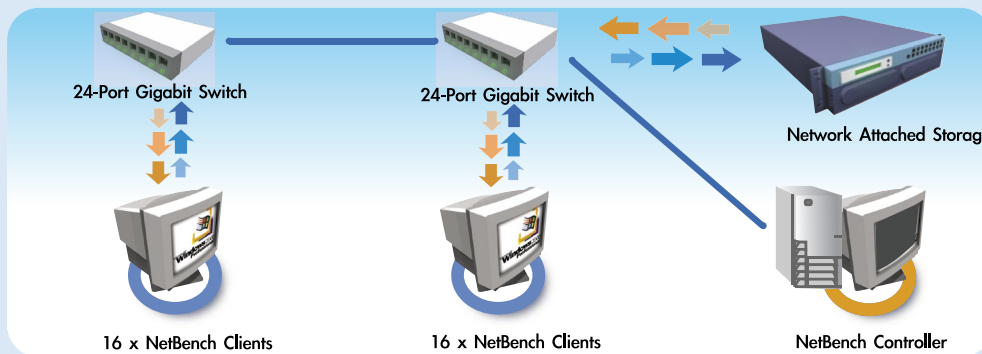
The recent installation of QNAP's NAS-1630T, equipped with a powerful Intel Xeon 2.4GHz processor and 2GB of cache RAM, as well as four Gigabit Ethernet ports and a high storage capacity of up to 6.4TB, ensured that New Vision's needs were completely covered. In addition, with remote replication, tape backup and UPS support, the NAS-1630T provides stability and performance coupled with user features that are usually only found on the most high-end (and expensive) NAS products. QNAP's NAS-1630T not only brings down the cost per GB but also serves as one of the most reliable and flexible storage solutions for New Vision Television.



Qnap NAS is designed in a way that the hardware and software is optimized to focus all of its processing power solely on the file service and file storage. Recently, our new NAS product line have been upgraded in order to support the Intel PIII /P4 CPU, Dual Gigabit Ethernet to enhance system performance.

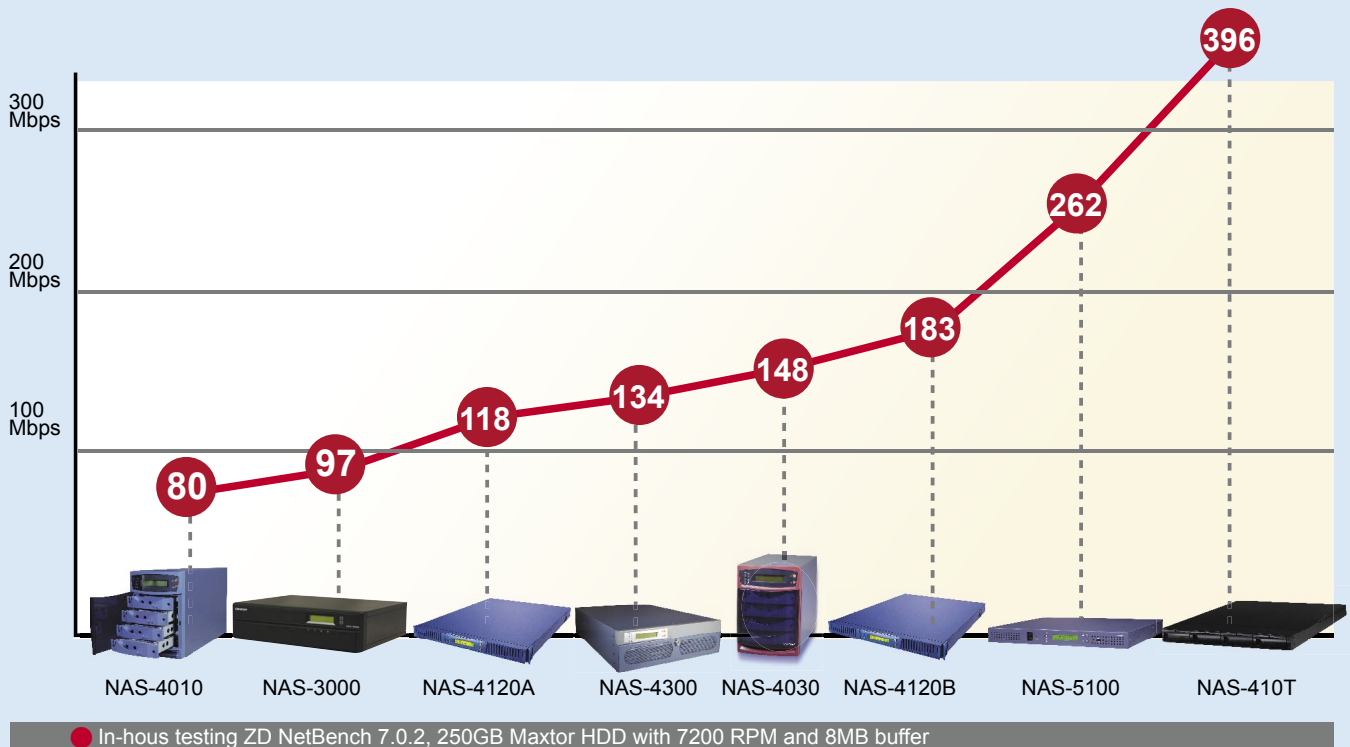
Performance Testing using NetBench

ZD NetBench of version 7.0.2 was used to test Network Attached Storage Server. NetBench is a software to test file server, and is widely recognized by numerous manufacturers and testing institutions. The NAS benchmark has been carried out by varying different parameters and compares the throughputs of the system. In-house testing Ziff Davis*NetBench 7.0.2 with the standard test suite file dm_nb702.test is used to run the simulations for the performance testing, Delay time is set to 5 seconds (default) while think time is adjusted to 0 second to stress the NAS server more with 32 client.



Netbench Results

The graph illustrates the total throughput of the NAS for the tests with QNAP NAS Series for different market needs. The Benchmark results published by QNAP are measured on specific systems or components using specific hardware and software configurations, and any differences between those configurations and your configuration may very well make those results inapplicable to your NAS System.



DDNS (Dynamic Domain Name Service)

DDNS (Dynamic DNS) service enables users from the Internet to connect to the servers on your local network by using a domain name rather than an IP address. To use this service, you must register an account from a free DDNS server. Please refer to user manual for more information.

DNS (Domain Name Service)

Domain Name Service identifies each computer as a network node on the Internet using an internet protocol address system to translate from domain names to IP numbers and vice-versa.

Domain Name: An address of a web site usually a word or group of words that are placed in the fashion of the following:192.168.1.254

DHCP IP

An address with numbers like the one in a static IP address that is assigned to your computer by your ISP's server so that other computer servers can find your computer when you are connected to the internet. This IP address changes because whatever IP address is available at the time you log on is the one that you get.

DMZ

DMZ stands for Demilitarized Zone. A DMZ is your frontline when protecting valuable information from direct exposure to an untrusted environment. SI Security defines a DMZ as, "a network added between a protected network and an external network in order to provide an additional layer of security." A DMZ is sometimes called a "Perimeter network" or a "Three-homed perimeter network." A DMZ separates an external network from directly referencing an internal network. It does this by isolating the machine that is being directly accessed from all other machines. Most of the time the external network is the Internet and what is in the DMZ is the web server .but this isn't the only possible configuration. A DMZ can be used to isolate a particular machine within a network from other machines. This might be done for a branch office that needs its own Internet access but also needs access to the corporate network. In DMZ terminology, an internal connection is generally thought of as having more secret or valuable information than an external network. An easy way to understand which is the external and internal network is to ask yourself which network am I protecting from the other.

FTP (File Transfer Protocol)

This is a method of moving files from system to system using TCP/IP with FTP application.

NAT (Network Address Translation)

A networking technology that allows a group of computers using private IP addresses to share a single public IP address to access the Internet.

NFS (Network File System)

NFS is a protocol suite developed and licensed by Sun Microsystems that allows different makes of computers running different operating systems to share files and disk storage.

PDC Authentication (Primary Domain Controller Authentication)

In Windows NT, this machine is the main machine that responds to security authentication requests, such as logging in, within its domain. The PDC may be backed by one or more backup domain controllers that can also handle security authentication.

RAID Storage Management (Redundant Array of Individual Disk)

JBOD

Sometimes referred to as "Just a Bunch of Drives." Each drive is operated independently like a normal disk controller, or drives may be spanned and seen as a single drive. This level does not provide data redundancy.

RAID 0

RAID 0 provides striping across multiple drives, yielding higher performance than is possible with individual drives. There is, however, no redundancy provision.

RAID 1

In RAID 1, all drives are paired, and then mirrored. All data is duplicated 100% on a separate drive of the equivalent size. If one drive is smaller, then the total size of storage space available will be the capacity of the smaller disk.

RAID 5

In RAID 5, data is striped across several physical drives. For data redundancy, drives are encoded with rotated XOR redundancy. Each entire block is written on a data disk; parity for blocks in the same rank is generated on Writes, recorded in a distributed location and checked on Reads. To implement RAID 5, a minimum of 3 drives is required.

Hot Spare

A physical disk drive not part of a system drive that the controller can use to automatically rebuild when a critical system drive fails. The hot spare drive must have at least as much capacity as the largest disk drive in the array or the rebuild may not start.

SATA

SATA (Serial ATA) is the next generation IDE/ATA transfer interface. The maximum transfer rate of traditional PATA (Parallel ATA) interface is 133MBytes/sec, with 40-pin transfer cable. Too many pins may lead to high temperature of the system due to difficult heat release. The newer SATA interface provides maximum transfer rate of up to 300MBytes/sec, with 7-pin transfer cable. Because of less pins, the system can release heat more easily

SMTP Notification (Simple Mail Transport Protocol Notification)

SMTP is a server-to-server protocol, so other protocols (POP3, IMAP etc.) are used to access the messages. The SMTP dialog usually happens in the background under the control of the message transport system, e.g. send-mail but it is possible to interact with an SMTP server using telnet to connect to the normal SMTP port, 25.

SMB (Server Message Block)

This is a client-server method of communication that allows a client to make requests for resources over a network. A server responds to these requests. SMB runs over most common network protocols, including NetBEUI, IPX/SPX and TCP/IP.

SNMP Notification (Small Network Management Protocol Notification)

SNMP is a simple request/response protocol that communicates management information between two types of SNMP software entities: SNMP applications (also called SNMP managers) and SNMP agents. SNMP applications run in a network management station and issue queries to gather information about the status, configuration, and performance of external network devices (called network elements in SNMP terminology). The Bay Networks Site Manager software is an example of a network management station, and the Bay Networks backbone node (BNR) router is an example of a network element.