TS-410U Turbo NAS

All-in-one NAS Server with iSCSI

for SMB and SOHO Users

4-Bay • Hot-swappable
RAID 0/ 1/ 5 / 6/ 5 + Hot Spare/ JBOD

- Online RAID Capacity Expansion & Online RAID Level Migration
- Built-in iSCSI Target Service & Virtual Disk for Storage Expansion
- Dual Gigabit LAN: Failover, Load-Balancing & Multiple IP Setting
- 2.5" & 3.5" HDD Dual Support for Higher Flexibility
- Most Advanced Backup Solution (Auto-Sync/ Instant/ Schedule Backup)
- Superior Performance for Cross-platform Data Sharing

Brand NEW
800MHz CPU
512MB DDRII Memory

2.5" & 3.5" HDD dual support

eSATA x2

Unleash the NAS Power with GUI V3
Simply the best user experience with Ajax technology

- Multi-browser Support
- Step-by-step Wizard
- 3 theme colors
- Fast user/ group/ share search
- Instant Language Switch
- QNAP RSS Feed
- And more...

Abundant SMB & SOHO Server Features

- iSCSI Target
- Printer Server (Max. 3 Sets)
- Mirror Station
- Multimedia Station
- Download Station
- Surveillance Station

- File Server
- Web Server
- FTP Server
- Media Server
- Remote Replication (Rsync)
- and more...

Virtual Disk Drive

iSCSI Target

RAID 0/1/5/6/ 5+Spare/JBOD

Online RAID expansion

Online RAID migration

UPS Support

Hot Swappable

SNMP

HDD S.M.A.R.T.

Failover

Load Balancing

Schedule on/off

Printer Server

SMS Support

Dual Gigabit Ethernet

OS Support

PHP SQLite & MySQL

QPKG Support

Overview

The 4-bay, 1U rack-mounted TS-410U Turbo NAS is the perfect storage solution with best price performance ratio for SMB and workgroups who need a network attached storage (NAS) server with solid performance, low power consumption, high reliability, and excellent overall value. The Turbo NAS can be easily installed in the server room with rack slide rail kit and efficiently managed by IT personnel over the local network or the Internet. The Turbo NAS is more than a simple networked storage server. It is capable of being a stand-alone download server, centralized network backup, website hosting, network surveillance, and much more.

The Turbo NAS incorporates a Marvell 800MHz CPU and 512MB DDRII memory. It supports 4 2.5-inch and 3.5-inch hot-swappable SATA hard drives (optional purchase) and provides 4 USB ports and 2 eSATA ports for storage expansion or external data backup. It is also equipped with 2 Gigabit LAN ports for multi-IP settings and port trunking (7 bonding modes). The Turbo NAS supports advanced NAS and iSCSI applications to provide a low-cost, highly flexible and efficient IP SAN solution. Up to 8 iSCSI targets can be created on the NAS for storage expansion and a central backup destination for computers and servers. The powerful built-in virtual disk drive (VDD) function allows the Turbo NAS to connect other iSCSI targets on the network to "virtually" expand its capacity.

The Turbo NAS supports RAID 0/ 1/ 5/ 6/ 5+spare, single and JBOD disk configurations. The unique Online RAID Capacity Expansion and Online RAID Level Migration features allow the administrator to expand the storage capacity of the RAID configuration and upgrade the RAID level without turning off the server. A built-in RAID recovery feature is offered to secure the server data against accidental removal of the hard drives.

The Turbo NAS is designed to work with Windows, Mac, Linux, and UNIX networks. Other advanced features include Windows Active Directory (AD), real-time system monitoring, detailed event logs, Simple Network Management Protocol (SNMP), instant SMS alerts, and scheduled power on/ off, etc.

ALL-in-One Server Features

iSCSI Target
With the built-in iSCSI target feature, the NAS can be an ideal solution for backup or storage expansion. The users can easily create dedicated virtual drives on the NAS for their PCs or existing servers. The iSCSI drives on the NAS can be formatted as file system and used as local drives.

VDD (Virtual Disk Drive)
The VDD (Virtual Disk Drive) feature is supported on the Turbo NAS that you can use the built-in iSCSI initiator to connect to other iSCSI targets on the network to expand the storage capacity of the NAS.

Surveillance Station
The Surveillance Station enables you to configure and connect IP cameras simultaneously and remotely manage the functions. The Surveillance Station of QNAP NAS supports all the leading network camera brands such as AXIS, D-Link, IPUX, LevelOne, Linksys, Panasonic and Vivotek, etc.

Cross-platform File Sharing
The Turbo NAS is designed for different users to share the files across Windows, Mac, Linux, and UNIX environment.

MySQL Server
The Turbo NAS can be flexibly applied in various deployments such as a database server of another web server in remote site or as an additional backup database server.

Windows AD
The Windows AD feature enables you to import user accounts from AD domain to NAS to reduce the time and effort for account setup, and the users can use the same set of login name and password.

File Server
The Turbo NAS allows you to create user ID and password, and define the authority and quota for each user.

Exclusive Windows-based Backup Utility
The automatic backup software, NetBak Replicator, is provided for you to perform real-time synchronization or schedule backup from multiple PCs to the Turbo NAS.
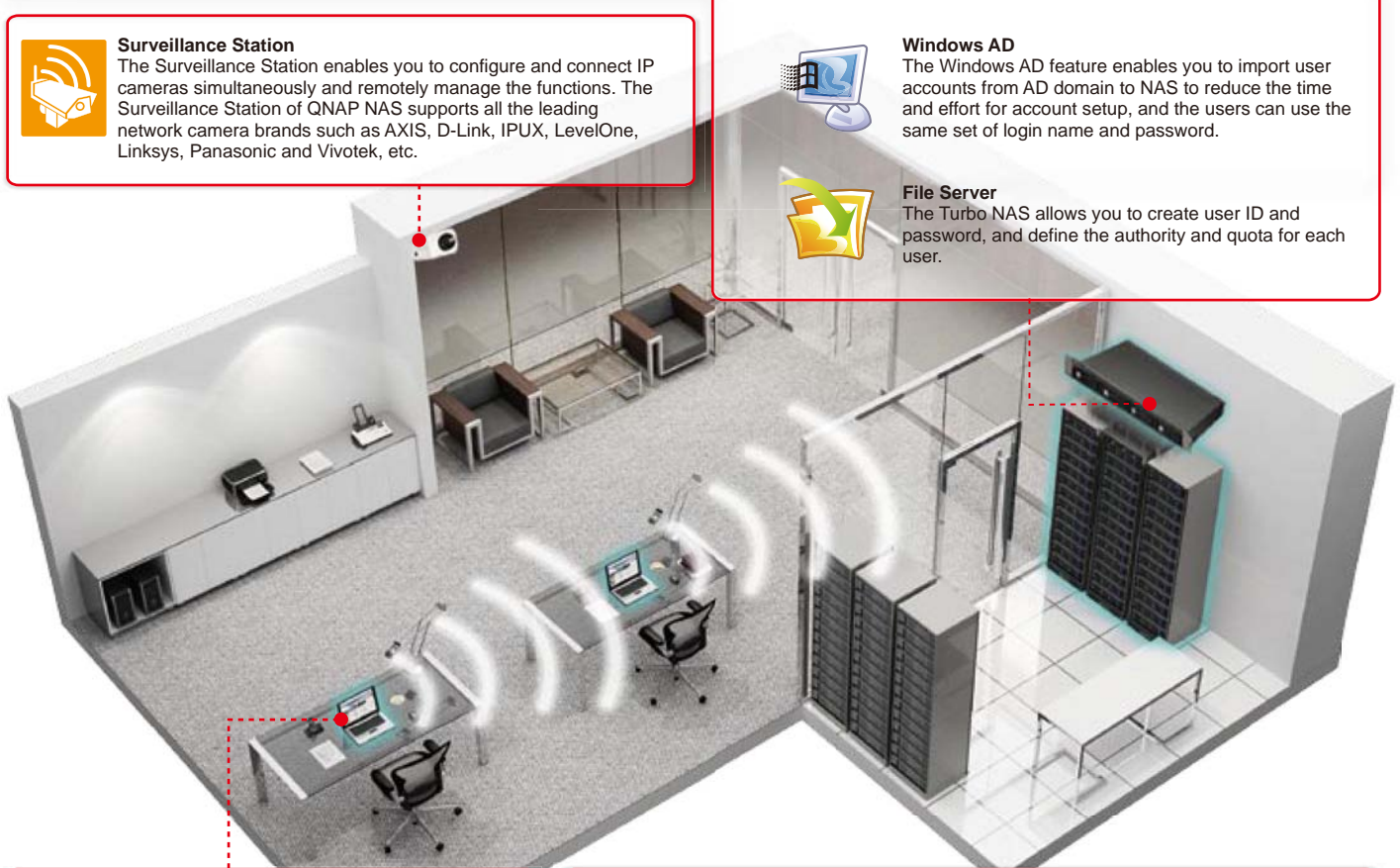
Web Server
Establish the official website to publish information over the Internet by the QNAP NAS.

FTP Server
You can establish your own FTP server by using the Turbo NAS and share the files conveniently with your friends or customers.

Virtual Disk Expansion

Virtual Disk Drive (VDD) adds flexibility to storage expansion along with ease of management

The unique "Virtual Disk Drive" adds flexibility to expand the capacity of NAS. By using the built-in iSCSI initiator, the NAS can connect to other iSCSI targets on the network and turn them into virtual disks, which become multiple single volumes on the NAS. Up to 8 virtual disks can be stacked. The NAS serves as the storage stack chaining master. The user only needs to connect to this single entry (QNAP NAS) and is able to reach and use all the iSCSI target storages on the network.
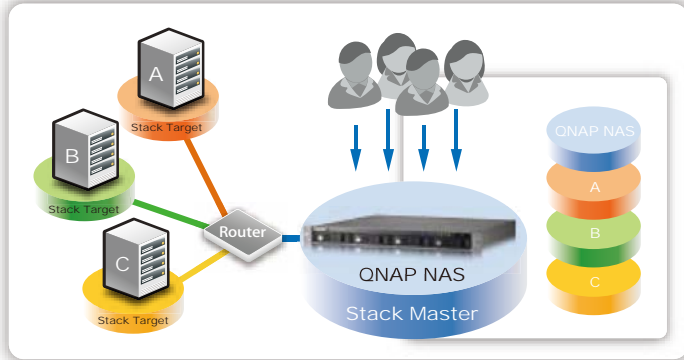
Flexible Built-in iSCSI Target Service

For business, a high-performance and flexible storage expansion solution for the existing application servers is required. However, DAS (Direct Attached Storage) is not an efficient solution and a Fiber Channel SAN is too expensive and complicated to implement.

The TS-410U can act as a NAS and iSCSI target server at the same time. It provides a cost-efficient iSCSI solution to set up an IP-SAN. You can make use of the built-in iSCSI target service to add up to 8 iSCSI devices. Different iSCSI Target LUNs (Logical Unit Number) can be defined as storage expansion or backup destination of the existing application servers, such as database servers and mail servers.
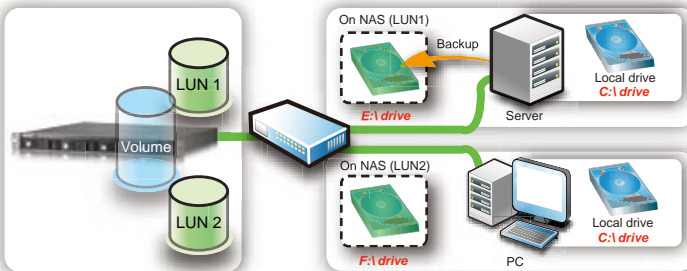
# Benefits of Dual LAN Deployment

Network Failover

Failover allows the NAS to sustain the failure of one network port to provide continuous services.

Primary Network Connection

Secondary Network Connection
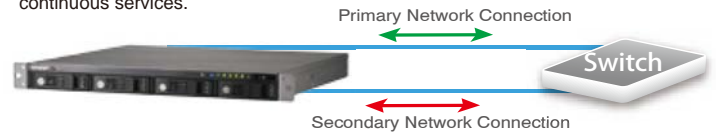
Load-Balancing

Bandwidth aggregation is supported to boost the file transfer speed (works with managed Ethernet switch with 802.3ad configured).

1. Data flow from clients
2. Data traffic evenly distributed to balance network loading
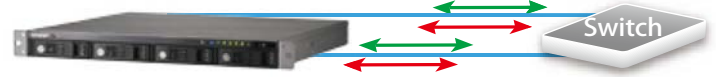
Multi-IP Setting

The NAS can be deployed with two different IP settings for sharing among different workgroups in two different subnets.

Support access of multiple IP from different LAN areas

Complete Backup Solution

NetBak Replicator (no license account limitation)

The backup software, NetBak Replicator, is provided for the NAS users to perform real-time synchronization or schedule backup from multiple PCs to the NAS.

Remote Replication by Rsync

The data on the Turbo NAS can be backed up to or from another Turbo NAS or Rsync server over the network.

3rd Party Backup Software Ready

Acronis True Image, CA BrightStor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, and LaCie Silverkeeper.

USB One Touch Auto Copy

The USB one touch copy button can be configured to trigger instant data backup from the external USB device to the NAS or the other way round (applies to the USB device connected to the front USB port of the NAS only).

Secure Measures for Data Storage and Access

1. **Policy-based Unauthorized IP Blocking:** You can allow, deny or auto block specified IP address or network domain which attempts to connect to Turbo NAS via SSH/ Telnet/ HTTP(S)/ FTP/ samba/ AFP.

2. **Comprehensive Event Log System:** Detailed logs of file-level data access to the Turbo NAS via samba, FTP, AFP, HTTP, HTTPS, Telnet, iSCSI, and SSH, and networking services accessed by online users are all recorded.

3. **Syslog Setting:** All the system event logs and connection logs can be saved to a remote syslog server.

4. **Remote Login** by SSH (secure shell) or Telnet connection is supported.

5. **SSL Security (HTTPS):** The Turbo NAS can be accessed and configured by the web browser securely. You can upload a secure certificate and RSA private key in X.509PEM format issued by a trusted provider for the users to access the Turbo NAS by secure SSL login.

6. **Secure FTP:** The data can be transmitted with SSL/TLS (explicit) encryption. Passive FTP port range setup is also supported.

7. **Write-only access right on FTP server:** The third party partners are allowed to upload data to the NAS but not able to read or edit the data via FTP.

8. **Encrypted Remote Replication:** The data on the NAS can be backed up to or from another Turbo NAS over the network securely.

9. **Share Folder Management:** For the security of Windows network environment, you can hide or show network share folders.

10. **User Authority Management:** You can create user ID and password, and define the authority and quota for each user.
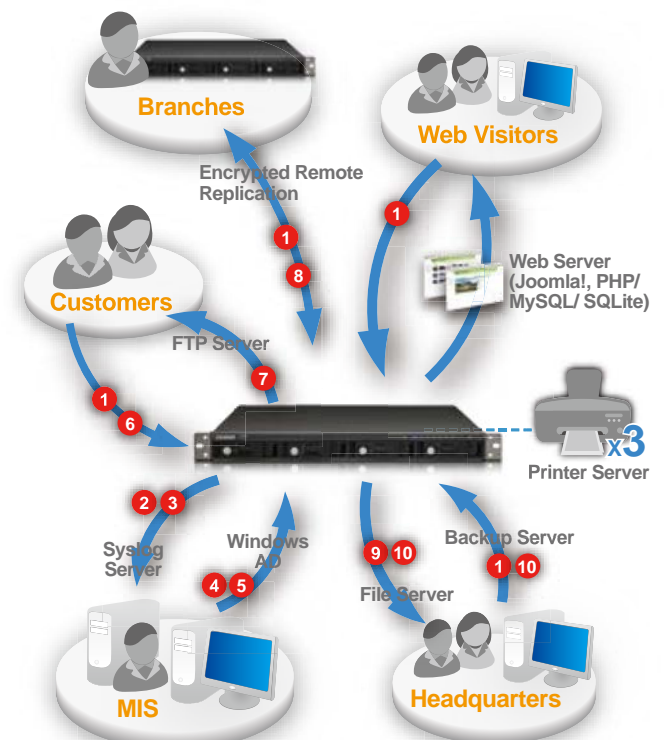
Hardware Specifications

Processor
- Marvell 800MHz

Memory
- 512MB DDRII RAM, 16MB flash

HDD Capacity
- 4 x 3.5" SATA I/II HDD or 4 x 2.5" SATA HDD(the standard package is shipped without HDD)

HDD Tray
- 4 x hot-swappable and lockable tray

LAN Port
- 2 x Gigabit RJ-45 Ethernet port

LED Indicators
- USB, Status, HDD 1, HDD 2, HDD 3, HDD 4, LAN

USB
- 4 x USB 2.0 (front: 1; back: 3)
- Supports USB printer, disk, pen drive, USB hub, and USB UPS etc.

eSATA
- 2 x eSATA port

Buttons
- System: Power button, reset button, one touch copy button

Alarm Buzzer
- System warning

Form Factor
- Rackmount

Dimensions
- 44(H) x 439(W) x 483(D) mm
- 1.73(H) x 16.97(W) x 19.02(D) inch

Weight
- Net weight: 6.7 kg/ 14.77 lb
- Gross weight: 11.06 kg/ 24.38 lb

Operation Environment
- Temperature: 0~40°C/ 32~104°F
- Humidity: 0~95% R.H.

Power Supply
- Input: 100-240V AC, 50/60Hz Output: 250W, 47-63Hz, 3.5A

Fan
- 3 x cooling fan (4 cm, 12V DC)

Powerful All-in-one Server

File Server
- File sharing across Windows/ Mac/ Linux/ Unix and centralized management

FTP Server
- Supports data access from remote location via FTP (max. 256 concurrent connections)
- FTP with SSL/ TLS (explicit) mode
- FTP bandwidth control and connection control
- Passive FTP port range control

Backup Server
- QNAP client-side backup software - NetBak Replicator supports instant, schedule, and auto-sync backup
- 3rd party backup software support: Acronis True Image, CA Brightstor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, LaCie Silverkeeper

Printer Server
- Network printer sharing via USB (Windows & Mac)
- Supports all-in-one printer (max. 3 sets)

Remote Replication
- Block-level remote replication supports instant, schedule backup management; supports synchronization mode

Web Server
- Built-in phpMyAdmin, Joomla!, editable php.ini, SQLite and MySQL

MySQL Server
- Supports MySQL database server

UPnP Media Server (built-in TwonkyMedia)
- Supports UPnP or DLNA technology; the video, music, and photos on the NAS can be played by digital media players over the local network
- Internet radio (built-in TwonkyMedia)
- Media playing with PS3,

Xbox360, PSP game consoles

iTunes Server
- iTunes server for music sharing
- Smart playlist for iTunes software

Multimedia Station
- Image slide show and rotation (+90°, -90°)
- Display photo details: date, exposure time, aperture, etc.
- Automatic thumbnail generation for easy browsing
- Photo album access authority management
- Multimedia files (video and audio) local playing
- Automatic file categorization

Download Station
- PC-less BitTorrent/ FTP/ HTTP download
- QNAP remote download control software: QGet (Windows & Mac), allows you to control the download tasks of multiple Turbo NAS on one PC via LAN/ WAN
- BitTorrent download supports TCP/ UDP, DHT
- BT schedule download
- BT tasks download (up to 500 tasks)
- Download configuration (current seed number, configurable port range, bandwidth control, download percentage, UPnP NAT port forwarding for BitTorrent download)
- Download status list management (download percentage)
- Supports access from Mac by Mozilla Firefox

Surveillance Station
- Supports 4 IP cameras (optional purchase) for network surveillance

Software Specifications

Operating System
- Linux-embedded system

Networking
- TCP/IP, DHCP Client, DHCP Server, CIFS/SMB, AFP, NFS, HTTP, HTTPS, FTP, DDNS, NTP
- Multi-IP setting
- Port trunking (support 7 bonding modes)
- Network service discovery (UPnP & Bonjour)
- Gigabit Jumbo Frame

File System
- EXT3 (Internal/ external HDD)
- EXT4 (Internal/ external HDD)
- FAT (External HDD)
- NTFS (External HDD)

Supported Operating Systems
- Microsoft® Windows® 2000/ XP/ 2003/ Vista
- Mac OS X
- Linux & Unix

Disk Management
- Single disk, RAID 0 (Disk Striping), RAID 1 (Disk Mirroring), RAID 5, RAID 5+ hot spare, RAID 6, and JBOD (Linear Disk Volume)
- Multiple RAID
- RAID recovery
- Online RAID Capacity Expansion
- Online RAID Level Migration
- Disk usage status management
- Check disk (Check Linux file system)
- HDD S.M.A.R.T.
- Bad blocks scan
- Built-in iSCSI target service
- Virtual Disk Drive (VDD) for storage expansion (max. 8 Volumes)
- Bitmap support for faster RAID rebuild (RAID 1/5/6)

User Management
- User quota management (per user)
- Windows AD
- User account management (max. 2,048 users)
- User group management (max. 256 groups)
- Batch creating users

File System Management
- Network share management (max. 256 shares)
- Network volume status management

Share folder level ACL support
- Hide share folder on Windows network
- Unicode support
- Journaling file system
- Web File Manager

System Tools
- E-mail alert (SMTP authentication)
- SMS alert
- SNMP
- HDD standby mode
- Disk usage alert
- Automatic power on after power loss
- QPKG add-on firmware supported
- System firmware upgrade
- Back up, restore, reset system settings
- Smart fan setting
- Configurable management port
- Policy-based unauthorized IP blocking
- Secure remote login by SSH connection; remote login by Telnet connection
- USB, SNMP UPS support
- Schedule on/ off (max. 15 settings)
- Network recycle bin
- Import SSL certificate
- Real-time Resource Monitor

Event Logs
- Complete system logs (file level): system events management, connection logs, current connection of on-line users

Multilingual Support
- English, Traditional Chinese, Simplified Chinese, Japanese, Korean, French, German, Italian, Spanish, Russian, Swedish, Norwegian, Finnish, Danish, and Polish
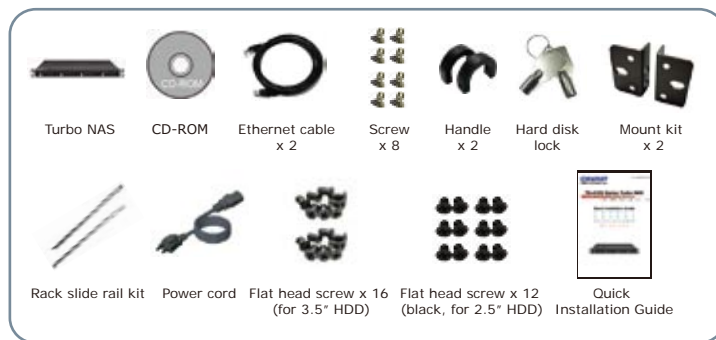
Backup Management
- PC-client backup software-NetBak Replicator: Instant/ Schedule/ Auto-sync backup
- Remote replication supports Rsync
- Encrypted remote replication
- Data backup to external storage devices
- USB one touch copy backup

Multi-browser Support
- Internet Exploere 7 & 8
- Safari 3 & 4
- Firefox 3
- Google Chrome

Package Contents

Turbo NAS	CD-ROM	Ethernet cable x 2	Screw x 8	Handle x 2	Hard disk lock	Mount kit x 2
Rack slide rail kit	Power cord	Flat head screw x 16 (for 3.5" HDD)		Flat head screw x 12 (black, for 2.5" HDD)		Quick Installation Guide

LED Indicators: USB, Status, HDD1, HDD2, HDD3, HDD 4 & LAN

USB 2.0

One Touch Copy Button

Power Button

USB 2.0 x 3

eSATA x 2

Password & Network Settings Reset Button

Power Connector

Giga LAN x 2

2009/10

BitTorrent™

QNAP
www.qnap.com