TS-419U 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

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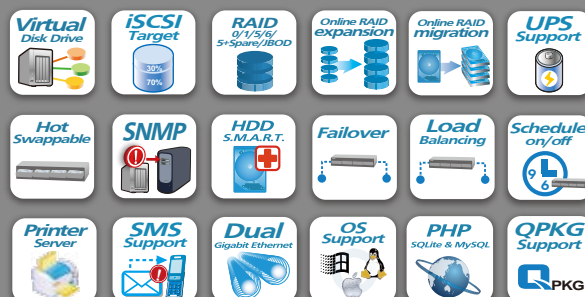- Superior Performance for Cross-platform Data Sharing

Brand NEW
1.2GHz 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

- File Server
- Web Server
- FTP Server
- Media Server
- Remote Replication (Rsync)
- Surveillance Station

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

All-in-one NAS Server with iSCSI
for SMB and SOHO Users

Overview

QNAP TS-419U Turbo NAS is the 4-bay, 1U chassis multi-functional network attached storage (NAS) server designed for small and mid-sized business who is looking an affordable and low-powered network storage solution. The TS-419U can be easily installed and maintained in the server room. It is an ideal solution for mass data backup, management and sharing. Moreover, the NAS supports excellent hardware design, outstanding performance, high system reliability and expandability, and numerous powerful software applications. It is undeniably the top-notch model in the 4-bay 1U chassis NAS market.

The TS-419U adopts Marvell 1.2GHz CPU and 512MB DDRII memory. It supports 4 2.5-inch and 3.5-inch hot-swappable SATA hard drives, 2 Gigabit LAN ports for multi-IP settings and port trunking (7 bonding modes) modes. The NAS is equipped with 4 USB ports and 2 eSATA ports for storage expansion or external data backup.

The TS-419U supports RAID 0/ 1/ 5/ 6/ 5+spare, single and JBOD disk configurations. The unique Online RAID Capacity Expansion and Online RAID Level Migration allow the users to expand the storage capacity of the RAID configuration and upgrade the RAID level

without turning off the server respectively. The RAID recovery feature secures the server data against accidental removal of the hard drives.

In addition, the TS-419U supports NAS and iSCSI applications to provide a low-cost, highly flexible and efficient IP SAN solution for SMB users. Up to 8 iSCSI targets can be created on the NAS for storage expansion of the PC or other servers and backup destination of the database servers and mail servers, etc. The TS-419U is featured with virtual disk drive (VDD) by built-in iSCSI initiator that other iSCSI devices on the network can be added to expand the storage capacity of the NAS.

Moreover, the TS-419U can be accessed across Windows, Mac, Linux, and UNIX. The NAS supports EXT3 and EXT4 file systems, and numerous management tools, e.g. Windows Active Directory (AD), real-time system monitoring, detailed event logs, Simple Network Management Protocol (SNMP), instant SMS alert, schedule power on/ off management. The users can make use of all these powerful features to manage the NAS efficiently.

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.

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.

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.

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

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.

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.

Web Server
Establish the official website to publish information over the Internet by the QNAP NAS.
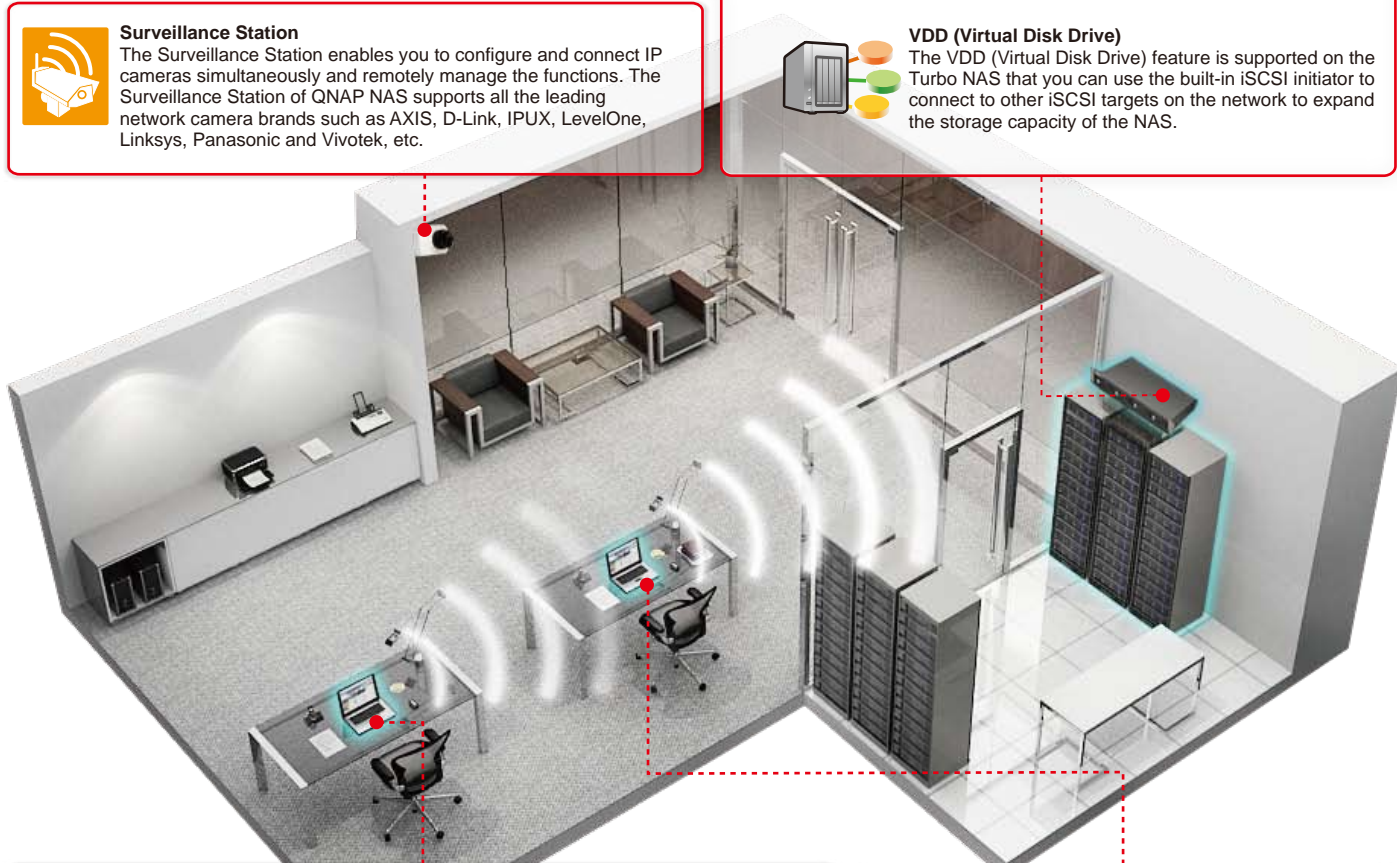
FTP Server
You can establish your own FTP server by using the Turbo NAS and share the files conveniently with your friends or customers.
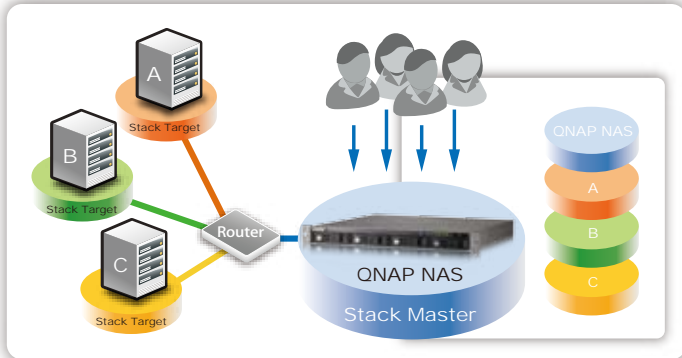
Exclusive Windows-based Backup Utility
The automatic backup software, NetBak Replicator, is provided for you to perform real-time synchronization or schedule backup from multiple PCs to the Turbo NAS.

Virtual Disk Expansion

Virtual Disk Drive (VDD) adds flexibility to storage expansion along with ease of management
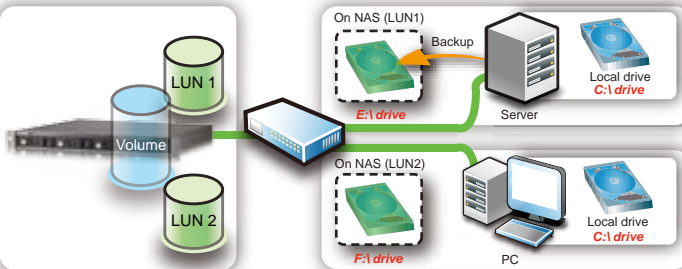
The unique "Virtual Disk Drive" adds flexibility to expand the capacity of NAS. By using the built-in iSCSI initiator, the NAS can connect to other iSCSI targets on the network and turn them into virtual disks, which become multiple single volumes on the NAS. Up to 8 virtual disks can be stacked. The 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.
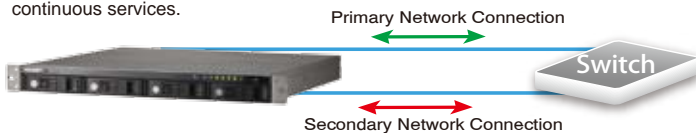
The TS-419U can act as a NAS and iSCSI target server at the same time. It provides a cost-efficient iSCSI solution to set up an IP-SAN. You can make use of the built-in iSCSI target service to add up to 8 iSCSI devices. Different iSCSI Target LUNs (Logical Unit Number) can be defined as storage expansion 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.

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

Convenient System Tools

HDD S.M.A.R.T. (Self-monitoring Analysis and Reporting Technology): HDD S.M.A.R.T. offers a quick overview of the hard drive status which enables you to monitor the hard drives and check potential problems. You can also set the schedule for S.M.A.R.T. test (rapid or complete) to ensure the health of the hard disks.

Advanced Hard Drive Protection (HHS): The embedded HHS (HDD health scanning) technology supports disk checking and bad blocks scanning which helps you discover the abnormal issue of the hard disks to prevent disaster.

Batch Creation of Users and Network Shares: The NAS supports batch creation of users and share folders to save your time and effort in account and folder creation.

Instant SMS & Email Alert: You can configure the SMTP server and SMSC server settings on the NAS in order to receive instant system warning or error messages by email or SMS.

Smart Fan: The fan rotation speed is automatically adjusted according to the server's temperature. You can also define the system temperatures to trigger high speed or low speed rotation of the fan. By manually setting the fan rotation speed, the fan will rotate at the defined speed continuously.

SNMP (Simple Network Management Protocol) : Enable SNMP service on the NAS to actively send the information, warning or error of the NAS to max 3 SNMP trap addresses installed SNMP management tool. Moreover, MIB of NAS can be downloaded and imported to your PC with SNMP tool. Your PC can then acquire the info of the NAS actively, e.g. cpu-usage, temperature.

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).

Efficient Power Management

1. Hard Disk Standby: You can configure the hard disks to enter standby mode if there is no disk access within the specified period.

2. Schedule Power on/ off: The flexible schedule power on/ off feature enables you to manage the NAS server's up time according to the working hours. You can set the time for automatic system power on, power off, or restart on any days of the week.

3. Power Resumption Settings: The Turbo NAS can be configured to be turned on or off when the AC power resumes after a power loss.

4. UPS Support & Advanced Standby Setting: The Turbo NAS supports the majority of USB UPS devices (usbhid-ups supported). You can also set the time for the server to enter stand-by mode when an abnormal AC power supply is detected. When the power resumes, the server resumes to the operation status before the power outage.

Low Power Consumption

TS-419U (Sleep mode)   15W
TS-419U (In operation)   29W
PC server   350W

Hardware Specifications

Processor
- Marvell 1.2GHz

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® 98/ ME/ NT/ 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. 4,096 users)
- User group management (max. 512 groups)
- Batch creating users

File System Management
- Network share management (max. 512 shares)
- Network volume status management

Share folder level ACL support
- 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
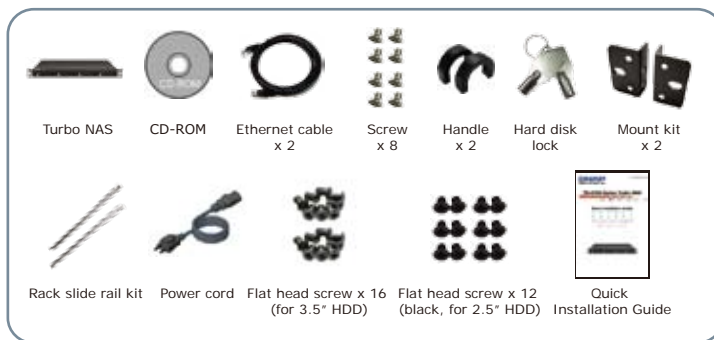
Backup Management
- PC-client backup software-NetBak Replicator: Instant/ Schedule/ Auto-sync backup
- Remote replication supports Rsync
- Encrypted remote replication
- Data backup to external storage devices
- USB one touch copy backup

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

BitTorrent™

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