QNAP

TurboNAS

TS-x79 Series

IP-SAN, iSCSI, NAS Storage for High-end SMB

- VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™ compatible
- High performance, secure, reliable, and simple
- 10 GbE ready reaching over 2,000 MB/s and 200,000 IOPS
- Multi-core processor, DDR3, SATA 6Gb/s, and USB 3.0

Full lineup:

TS-EC1679U-RP/ TS-1679U-RP   TS-EC1279U-RP/ TS-1279U-RP   TS-EC879U-RP/ TS-879U-RP   TS-1079 Pro   TS-879 Pro

As the data value and volume of business data continue to rise, corporations need high-performance storage solutions which are secure, reliable, and easy to manage. The QNAP TS-x79 series, which serves as both IP-SAN (iSCSI) and NAS, can be easily utilized in different business and enterprise applications such as backup center, disaster recovery, file sharing, virtualization, and video editing storage.

■ Secure

Data might seem insecure being open in a network, but the Turbo NAS offers a variety of security options such as encrypted access, IP filtering, policy-based automatic IP blocking, and more. In addition, full control of the Turbo NAS is offered down to the user and folder access rights to determine who can access and what can or cannot be accessed. The Turbo NAS is packed with security features to stop all unauthorized data access. The AES-256 volume-based encryption prevents sensitive data from unauthorized access and data-breach even if the hard drives or the device were stolen.

■ Reliable

The Turbo NAS is reliable with built-in safety precautions to safeguard all data from any unforeseen problems. With multiple built-in features to guarantee no interruptions to the work flow of a business, the Turbo NAS is an efficient asset. The advanced RAID configurations and hot-swap capabilities are included to give better RAID performance, protection and reduced rebuilding time. Moreover, the dual OS embedded on the DOM architecture ensures the system willboot up. If one of the two operating systems fails, the healthy operating system will boot up and operate normally while repairing the failed operating system. The dual Gigabit LAN ports can also be configured for failover which allows the Turbo NAS to sustain the failure of one network port and still provide continuous services.

■ Simple

Setting up local or remote access with a Turbo NAS is painless and does not require any IT skills. All setup processes have been simplified so that most of the process is either automatic or can be completed by an installation wizard guiding the whole procedure. Creating a user-friendly NAS is what QNAP strives for. No previous experience with a NAS is required to reap the full benefits of a NAS as storage and backup. The user-friendly web GUI allows users to easily control the Turbo NAS through icons and clearly-marked tabs so there is no need for an extensive knowledge of complex commands. Simple management tools such as instant SMS/Email alert, the hard drive S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) feature, and system resource monitor are provided to keep users up-to-date on their Turbo NAS at all times.

■ High Performance

The QNAP TS-x79 series delivers the most flexible, high-performing and scalable storage solution in the industry. Expandable to 4 ports and with an optional 10 GbE card to ensure the throughput, the QNAP TS-x79 series significantly accelerates data transmission. Furthermore, the powerful Intel processor delivers the necessary power for multiple users access and guarantees data access with low latency.

■ Private Cloud Storage

Cloud computing is revolutionizing IT applications and the way data is stored. Today's IT technology allows users to access data and applications across the Internet without the need to know where the server/storage devices are located. By using QNAP cloud computing technology, private cloud storage can be easily built up for data access, sharing, and backup anywhere, anytime via the Internet.

■ Primary Applications

- Centralized storage and file sharing
- Backup center in businesses
- Disaster recovery solution
- Server virtualization
- Video editing storage
- IP-SAN storage
- Private cloud storage

Centralized Storage and File Sharing

Cross-platform Sharing with Antivirus:
The Turbo NAS supports SMB/CIFS, NFS, and AFP protocols for file sharing across Windows, Mac, Linux/UNIX networks. User accounts and shared folders can be created via the user-friendly web-based interface without IT expertise. The integrated antivirus solution for the Turbo NAS ensures business continuity by offering detection against the latest viruses, malware, worms, and Trojan horses.

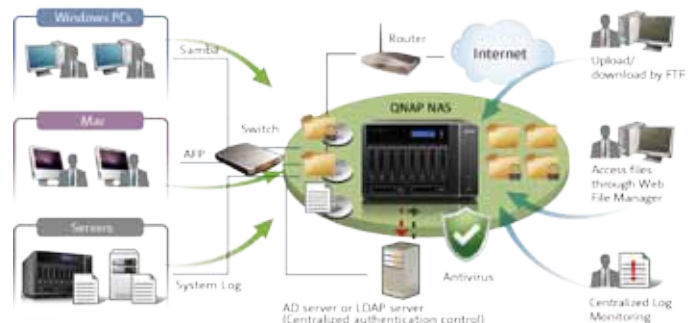**Windows Active Directory (AD) and LDAP Directory Service:**
The Windows AD and LDAP (Lightweight Directory Access Protocol) directory service features enable the system administrator to retrieve user accounts from Windows AD or Linux LDAP server to the Turbo NAS reducing time and effort in account setup. Users can use the same login name and password to access the Turbo NAS.

Centralized Log Monitoring:
A central repository of log data from various network devices allows efficient management and security auditing in businesses. QNAP Syslog server allows the IT administrator to effectively collect and store logs of other network devices in the Turbo NAS.

ISO File Archiving and Sharing:
The Turbo NAS supports mounting ISO images of CD and DVD discs as network shares for data archiving, storage, and sharing. This feature saves space for storing the physical discs, reduces the risk of data loss caused by long term use of discs, and enhances the performance of data sharing on a business network.

Backup Center in Businesses

The Turbo NAS is a complete backup solution that offers high performance storage to meet the needs of small or medium-sized businesses looking to simplify and centralize data management while safeguarding their data from unauthorized users. With powerful applications such as the QNAP NetBak Replicator, information can be automatically transferred from Windows PC to the Turbo NAS instantly or scheduled. The Turbo NAS is even an ideal storage for the Apple Time Machine. Many IT companies may already use third party software, and an array of backup software such as Acronis True image and Symantec Backup Exec is supported.

Disaster Recovery Solution

QNAP offers users peace of mind, business continuity, and high availability of data by providing the ability to recover their data from disasters with the Turbo NAS.

Real-time Remote Replication:

Real-time Remote Replication (RTRR) provides real-time or scheduled data replication between the local Turbo NAS and a remote Turbo NAS, an FTP server, or an external drive. With RTRR all newly added and modified files will be synchronized to a remote server or an external storage device automatically. Scheduled backup is supported to provide periodic replication from the Turbo NAS to a remote server or vice versa.

iSCSI LUN Backup and Restore:

The Turbo NAS has taken iSCSI LUN backup/restore to a whole new level with snapshot technology. The IT administrator can use the LUN snapshot to back up contents in the LUN to various storage destinations, including Windows shared folders via SMB/CIFS, Linux shared folders via NFS, or local shared folders on the Turbo NAS.

Cloud Storage Backup:

QNAP is ready to send private data to the clouds! The Turbo NAS supports Amazon S3, ElephantDrive, and Symform cloud backup storage which have several backup modes including real-time, scheduled backup and versioning control so that the data can be restored from any point of time. Cloud storage can be monitored through a web browser. An extra set of all of the data stored will always be available, so remote data recovery is quick and simple.

Video Editing

Digital film and video production produces volumes of data that require high performance RAID storage with sustainable throughput to balance with the demanding output of video editing. The Turbo NAS fulfills storage and video editing needs with a high-speed 10 GbE network interface. Digital videos can be quickly stored and edited on the Turbo NAS directly over the network. The Turbo NAS supports various network file sharing protocols such as NFS, AFP, and SMB/CIFS, so sharing files among PCs with different operating systems is easy. The scalable design of the Turbo NAS allows for the capacity to be expanded on the fly so the Turbo NAS can grow as the business data does.
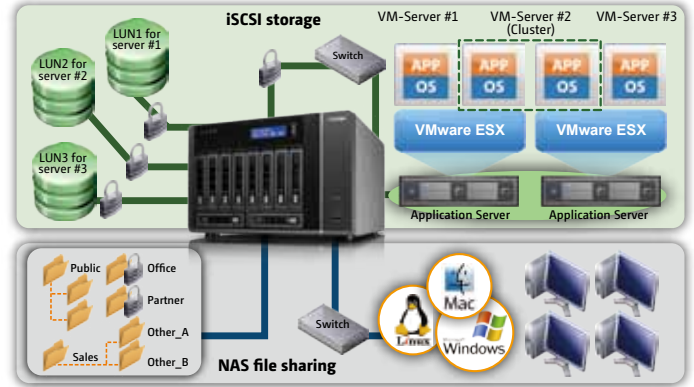

iSCSI and Virtualization Deployment

The QNAP Business Series Turbo NAS servers are fully VMware and Citrix ready and Windows Server 2008 Hyper-V clusters compliant.

NAS + iSCSI Combo Solution:

The Turbo NAS can serve as a NAS for file sharing and iSCSI storage concurrently.

Flexible Management:

The Turbo NAS supports multiple LUNs (Logical Unit Numbers) and iSCSI targets. LUNs can be flexibly mapped to, unmapped from, and switched among different iSCSI targets.

Secure Deployment:

Designed with CHAP authentication and LUN masking, the advanced ACL (Access Control List) offers the capability to block unauthorized access from the initiators.

Designed for Virtualized and Clustered Environments:

Compared with a high cost Fibre Channel SAN, the Turbo NAS is an affordable system that can be deployed as a storage center for virtualized and clustered server environments, such as VMware, Citrix and Microsoft Windows Failover Cluster.

SPC-3 Persistent Reservation Supported:

The built-in iSCSI service supports enterprise-level features such as SPC-3 persistent reservation for clustering in VMware and Windows 2008 R2. Users can set up Microsoft Failover Cluster environment, use Cluster Shared Volume for Hyper-V, and execute virtual machine live migration between Hyper-V hosts.

Advanced MPIO and MC/S Supported:

With the support of MPIO (Multipath Input Output) and MC/S (Multiple Connections per Session) on the Turbo NAS, users can connect to the QNAP iSCSI targets using 2 or more network interfaces from their server with failover and load balancing. Furthermore, with MC/S settings better data transmission performance is achieved.

IP-SAN Storage

The built-in iSCSI feature of the Turbo NAS provides an affordable IP-SAN (Storage Area Network) alternative for business. The QNAP IP-SAN is an excellent solution for IOPS (Input/Output Operations Per Second) intensive missions such as database service and OLTP (On-Line Transaction Processing). With the 10 GbE ready card, it offers a high speed 10 GbE network to eliminate I/O bottlenecks and boost the total throughput and IOPS. Compared with Fibre Channel SAN, the total investment is significantly lower, when including Fibre Channel SAN necessary components such as FC-SAN switch, Fiber Channel HBA (Host Bus Adapter) and FC-SAN storage.

Secure Measures for Data Storage and Access

Policy-based Unauthorized IP Blocking:
Users can allow, deny or auto block specified IP addresses or network domains which attempt to connect to the Turbo NAS via SSH, Telnet, HTTP(S), FTP, Samba, or AFP.

Remote Login:
The Turbo NAS supports remote login by SSH (secure shell) or Telnet connection.

SSL Security (HTTPS):
The Turbo NAS supports HTTPS connection. Users can upload a secure certificate and RSA private key in X.509PEM format issued by a trusted provider to allow access the Turbo NAS by secure SSL login.

Secure FTP:
The Turbo NAS offers secure data transfer with SSL/TLS (explicit) encryption. Passive FTP port range setup is also supported.

Encrypted 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 securely.

Shared Folder Management:
Users can select to hide or show the network shared folders of the Turbo NAS on Windows network.
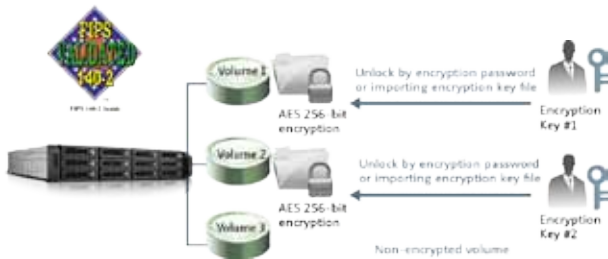
User Authority Management:
Users can create user ID and password, and define the authority and quota for each user.

Secure Encryption and Sharing

FIPS 140-2 Certified AES 256-bit Volume-based Data Encryption:
The disk volume with FIPS 140-2 certified AES 256-bit encryption can only be accessed by an authorized encryption password or key. This prevents sensitive government or businesses data on the Turbo NAS from unauthorized access and breach, even if the hard disk drives or the entire system were stolen.

* The data encryption functions may not be available in accordance to the legislative restrictions of some countries. Please contact QNAP sales representatives for further information.

Advanced Folder Permissions:
Advanced folder permissions allow users to configure folder/subfolder access to the Turbo NAS. With this feature enabled, users can manage the folder permissions from Microsoft Windows or the web-based management interface of the Turbo NAS without complicated procedures.
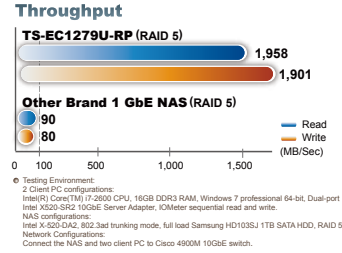
Antivirus:
The integrated antivirus solution for the Turbo NAS ensures business continuity by offering detection against the latest viruses, malware, worms, and Trojan horses with continuous free virus database updates.

10 Gigabit Ethernet Network Ready

The Turbo NAS has an optional 10 GbE network card which can be added to fulfill the most demanding applications requiring high bandwidth. 10 GbE has the highest data transfer rate; it is ten times faster than standard GbE.

Throughput

TS-EC1279U-RP (RAID 5)
1,958
1,901

Other Brand 1 GbE NAS (RAID 5)
90
80

- Read
- Write
(MB/Sec)

0   100   500   1,000   1,500

※ Testing Environment:
2 Client PC configurations
Intel(R) Core(TM) i7-2600 CPU, 16GB DDR3 RAM, Windows 7 professional 64-bit, Dual-port
Intel X520-SR2 10GbE Server Adapter, IOMeter sequential read and write.
NAS configurations:
Intel X-520-DA2, 802.3ad trunking mode, full load Samsung HD103SJ 1TB SATA HDD, RAID 5.
Network Configurations:
Connect the NAS and two client PC to Cisco 4900M 10GbE switch.

Powerful Storage Solution for the Virtualized Data Center:
Application and processing requirements constantly evolve heightening the need for higher performance storage. Especially with virtualization of IT resources the need for high performance storage is essential. The Turbo NAS offers class-leading hardware matched with unparalleled 10 GbE speed for all the virtualization needs. The 10 GbE speed will increase the agility of data transmission in a virtualized environment intensifying NFS and iSCSI connection performance.

Abundant Business Features

The Turbo NAS supports a multiuse of server business applications.

File Server:
The Turbo NAS allows file sharing cross Windows, Mac, Linux, and UNIX platforms. It also supports WebDAV for easy access to shared folders via HTTP/HTTPS protocol remotely.

FTP Server:
Business users can establish an FTP server by the Turbo NAS and share the files conveniently with colleagues or customers.

Backup Server:
The Turbo NAS offers the most complete backup solution with Apple Time Machine support, remote replication to an Rsync server, Windows client backup software NetBak Replicator, third party backup software support, and more.

Web Server:
Multiple websites can be hosted on the Turbo NAS with the built-in web server and virtual host feature.

RADIUS Server:
RADIUS server centralizes and consolidates user authentication by maintaining a list of user accounts that are authorized for remote network access through dial-up equipment, Wi-Fi access point, or VPN connections.

Syslog Server:
By collecting and storing logs of other network devices in the Turbo NAS with QNAP's Syslog server support, the IT administrator can easily monitor the status of these devices, and further troubleshoot when necessary.

Print Server:
The Turbo NAS offers cross-platform printer sharing over the network and remote printing over the Internet (max. 3 USB printers). IPP (Internet Printing Protocol), print job management, and Bonjour printing for Mac OS X are also supported

Surveillance Station:
Users can connect to IP cameras via the Turbo NAS and set up a video surveillance system with comprehensive monitoring, recording, and playback features.

Advanced RAID Management with Hot-swap Design

RAID is an advanced feature that the Turbo NAS offers to enhance data protection and performance. The Turbo NAS has a scalable design in addition to supporting various levels of disk configurations such as RAID 0, 1, 5, 5+hot spare, 6, 6+hot spare, 10, 10+hotspare, single disk, and JBOD.
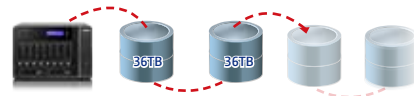
Global Hot Spare:

The Global Hot Spare function allows users to share a spare drive with multiple RAID volumes on the Turbo NAS. When a hard drive fails in any RAID group the global hot-spare drive will automatically replace the failed drive to prevent data

from being lost. Compared with a normal spare drive, the global spare function offers more efficient use of spare drives.

Scalable Design*:

The Turbo NAS has a scalable design that grows with the data-hungry business.

*The expansion solutions will be available by of Q3, 2012

Multiple LAN Deployment

The Turbo NAS supports multiple bonding modes: Balance-rr (Round-Robin), Active Backup, Balance XOR, Broadcast, IEEE 802.3ad, Balance-tlb (Adaptive Transmit Load Balancing), and Balance-alb (Adaptive Load Balancing).
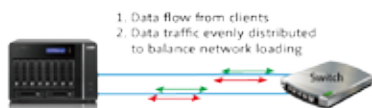
Failover:

The LAN ports of the Turbo NAS can be configured in failover mode which allows the Turbo NAS to sustain the failure of one network port and provide continuous services.

Load Balancing:

The LAN ports of the Turbo NAS can be configured in load balancing mode for bandwidth aggregation to boost file transfer speeds. (It works with managed Ethernet switch with 802.3ad configured.)

Multi-IP Settings:

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

System Management Tools

The Turbo NAS offers lots of features to help users manage the system efficiently.

Instant SMS, Email and Windows Live Messenger Alert:
Configure the SMTP server, SMS server, and Windows Live Messenger account settings on the Turbo NAS and receive instant system warning or error messages by email, SMS and Windows Live Messenger.

SNMP (Simple Network Management Protocol):
Collect information, warning, or errors of the Turbo NAS and send the warnings to up to 3 SNMP servers for centralized management and real-time monitoring.

Wake on LAN:
Enable this option to power on the Turbo NAS remotely by Wake on LAN. Wake on LAN helps users manage their Turbo NAS conveniently.

Scheduled Power on/off:
Create schedules to automatically turn on, turn off, or restart the Turbo NAS. Up to 15 schedules can be set.
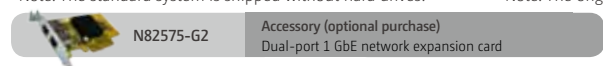
S.M.A.R.T. & Advanced HDD Health Scan (HHS):
S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) helps users monitor hard disk status. Moreover, the Turbo NAS supports HHS (HDD Health Scan) for disk checking and bad blocks scanning.

Superior Performance for IP-SAN, Virtualization, and Business Storage

	TS-EC1679U-RP	TS-EC1279U-RP	TS-EC879U-RP	TS-1679U-RP	TS-1279U-RP	TS-879U-RP	TS-1079 Pro	TS-879 Pro
CPU	Quad-core Intel® Xeon® Processor E3-1225 (3.1 GHz)			Dual-core Intel™ Core™ i3-2120 Processor (3.3 GHz)			Dual-core Intel® Core™ i3-2120 Processor (3.3 GHz)	
RAM	4 GB DDR3 ECC RAM (expandable RAM, up to 16 GB)	4 GB DDR3 ECC RAM (expandable RAM, up to 8 GB)		2 GB DDR3 RAM (Expandable RAM, up to 8GB)	2 GB DDR3 RAM (Expaudable RAM, up to 4 GB)		2 GB DDR3 RAM	
USB	USB 3.0: 2 rear/ USB 2.0: 4						USB 3.0: 1 front 1 rear/ USB 2.0: 4	
eSATA	2							
Internal Hard Disks ■	16 x 3.5" hard drive or 2.5" hard drive or SSD	12 x 3.5" hard drive or 2.5" hard drive or SSD	8 x 3.5" hard drive or 2.5" hard drive or SSD	16 x 3.5-inch hard drive or 2.5-inch hard drive or SSD	12 x 3.5" hard drive or 2.5" hard drive or SSD	8 x 3.5" hard drive or 2.5" hard drive or SSD	10 x 3.5" hard drive or 2.5" hard drive or SSD	8 x 3.5" hard drive or 2.5" hard drive or SSD
Maximum Raw Capacity	64 TB	48 TB	32 TB	64 TB	48 TB	32 TB	40 TB	32 TB
Hard Drive Interface	SATA 6Gb/s (backward compatible with SATA 3Gb/s)							
Network Interface	4 x Gb LAN (default) Expandable for additional dual Gb LAN or 10 Gb LAN ports	4 x Gb LAN (default) Expandable for additional 10 Gb LAN ports ■■		4 x Gb LAN (default) Expandable for additional dual Gb LAN or 10 Gb LAN ports	2 x Gb LAN (default) Expandable for additional dual Gb LAN or 10 Gb LAN ports		2 x Gb LAN (default) Expandable for additional dual Gb LAN or 10 Gb LAN ports	
Expansion Slots	2 (for network and storage expansion)						1 (for network or storage expansion)	
Form Factor	3U, Rackmount	2U, Rackmount		3U, Rackmount	2U, Rackmount		Tower	
Dimensions	130(H) x 442.4(W) x 528.3(D) mm 5.12(H) x 17.42(W) x 20.80(D) inch	88(H) x 439(W) x 520(D) mm 3.46(H) x 17.28(W) x 20.47(D) inch		130(H) x 442.4(W) x 528.3(D) mm 5.12(H) x 17.42(W) x 20.80(D) inch	88(H) x 439(W) x 520(D) mm 3.46(H) x 17.28(W) x 20.47(D) inch		217.5(H) x 327(W) x 321.2(D) mm 8.56(H) x 12.8(W) x 12.65(D) inch	
Weight	18.14 kg/ 39.99 lb (Net) 25.92 kg/ 57.14 lb (Gross)	15.88 kg/ 35.0 lb (Net) 22.92 kg/ 50.53 lb (Gross)	12.52 kg/ 27.61 lb (Net) 20.76 kg/ 45.78 lb (Gross)	18.14 kg/ 39.99 lb (Net) 25.92 kg/ 57.14 lb (Gross)	15.88 kg/ 35.0 lb (Net) 22.92 kg/ 50.53 lb (Gross)	12.52 kg/ 2 7.61 lb (Net) 20.76 kg/ 45.78 lb (Gross)	9.84 kg/ 21.67 lb (Net) 15.43 kg/ 33.98 lb (Gross)	8.39 kg/ 18.48 lb (Net) 13.98 kg/ 30.79 lb (Gross)
Power	600W redundant power supply	300W redundant power supply		600W redundant power supply	300W redundant power supply		350W power supply	
Fan	Smart fan: 3 (6cm, 12V DC)						Smart fan: 2 (12cm, 12V DC)	
LCD Screen	No	No	Yes	No	No	Yes	Yes	
Power Consumption	229W (In operation) 89W (Sleep mode)	167W (In operation) 68W (Sleep mode)	132W (In operation) 68W (Sleep mode)	229W (In operation) 89W (Sleep mode)	165W (In operation) 68W (Sleep mode)	130W (In operation) 68W (Sleep mode)	121W (In operation) 40W (Sleep mode)	101W (In operation) 39W (Sleep mode)

■ Note: The standard system is shipped without hard drives.   ■■ Note: The original 1 GbE network card must be replaced by a 10 GbE LAN card for network expansion.

N82575-G2   Accessory (optional purchase) Dual-port 1 GbE network expansion card

Comprehensive Event Logs

Detailed logs of file-level access to the Turbo NAS via Samba, iSCSI, FTP, AFP, HTTP, HTTPS, Telnet, and SSH, and networking services accessed by online users can all be recorded.

Available QPKG Software Plugins

Maximize the usage of the Turbo NAS by installing additional QPKG software plugins developed by users and communities worldwide.

Software Specification

Operating System
- QNAP Turbo NAS Firmware 3.6

Protocols
- CIFS/SMB, AFP (3.2), NFS (v3), FTP, HTTP, HTTPS, Telnet, SSH, iSCSI, SNMP, SMTP, SMSC

Platforms
- Microsoft Windows, XP, Vista (32/64-bit), Windows 7 (32/64-bit), Server 2003/2008 R2
- Apple Mac OS X
- Linux & UNIX

File System
- Internal Hard Drive: EXT3, EXT4
- External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

Multilingual Support
- Chinese (Traditional & Simplified), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian, Spanish, Swedish, Thai, Turkish

Browser Support
- Internet Explorer 7 & 8 or Later
- Firefox 3 or Later
- Safari 3 & 4 or Later
- Google Chrome

Networking
- TCP/IP (IPv4 & IPv6: Dual Stack)
- Dual Gigabit NICs with Jumbo Frame
  - Failover
  - Multi-IP Settings
  - Port Trunking/NIC Teaming (Modes: Balance-rr, Active Backup, Balance XOR, Broadcast, IEEE 802.3ad/Link Aggregation, Balance-tlb and Balance-alb)
- Optional Dual-port 10 GbE and 1 GbE Network Expansion Card
- Service Binding based on Network Interfaces
- Virtual LAN (VLAN)
- DHCP Client, DHCP Server
- UPnP & Bonjour Discovery
- USB Wi-Fi Adapter Support

Security
- FIPS 140-2 Certified AES 256-bit Volume-based Data Encryption*
- AES 256-bit External Drive Encryption
- IP Filter & Policy-based Automatic IP Blocking
- Network Access Protection with Auto-blocking
- Encrypted Access: HTTPS, FTP with SSL/TLS (Explicit), SSH/SFTP (admin only), Encrypted Remote Replication (Rsync over SSH)
- CIFS Host Access Control for Shared Folders
- Antivirus Protection
- Importable SSL Certificate
- Instant Alert via E-mail, SMS, Instant Messaging, and LCD

- RADIUS Server

Disk Management
- Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5+Hot Spare, 6+Hot Spare , 10+Hot Spare, Global Hot Spare**
- Online RAID Capacity Expansion
- Online RAID Level Migration
- HDD S.M.A.R.T.
- Bad Block Scan
- RAID Recovery
- Bitmap
- ISO Mounting: Max 256 (via Web File Manager)

Server Virtualization & Clustering
- VMware vSphere (ESX/ESXi 4.x, 5.x)
- Citrix XenServer (6.0)
- Windows Server 2008 Hyper-V
- Windows Server 2008 Failover Clustering

Power Management
- Wake on LAN
- Scheduled Power on/off (Max 15 Settings)
- Automatic Power on after Power Recovery
- Network UPS with SNMP Management
- Internal Hard Drive Standby Mode

Access Right Management
- User Accounts Management
- User Groups Management
- Network Shares Management
- Batch User Creation
- Import/Export User List
- User Quota Management
- Sub-folder Permissions Support for CIFS/SMB, AFP, FTP and Web File Manager

Domain Authentication Integration
- Microsoft Active Directory
- LDAP Directory Service
- Domain Users Login via CIFS/SMB, AFP, FTP, and Web File Manager
- NTLMv2 Authentication

Administration
- AJAX-based User Interface
- HTTP/HTTPS Connections
- Email & SMS Alerts
- Smart Fan Control
- Dynamic DNS (DDNS)
- SNMP Traps (v2 & v3)
- UPS Support with SNMP & USB
- Resource Monitor
- Network Recycle Bin for File Deletion via CIFS/ SMB and AFP
- Comprehensive Logs (Event & Connection)
- Real-time Online User List
- Syslog Client
- Firmware Live Update
- System Settings Backup and Restore
- Restore to Factory Default
- LCD Quick Installation (Touch-N-Go)***

File Server
- Protocols: CIFS/SMB (Plus DFS Support), AFP, NFS, FTP/FTPS, HTTP/HTTPS (Web File Manager), WebDAV
- Platforms: Windows, Mac OS, Linux/UNIX
- Web File Manager:

- File Management by Web Browser
- Smart File & Folder Search
- Supports ISO Mounting
- Direct File Viewing via Google Doc
- Create and Send Download Links for Public File Sharing with Expiration Time and Password Protection

iSCSI
- iSCSI Target
  - Multi-LUNs per Target
  - Up to 256 LUNs
  - LUN Mapping & LUN Masking
  - iSCSI LUN Snapshot/Backup and Restore
  - SPC-3 Persistent Reservation
  - MPIO & MC/S
  - Online LUN Expansion
- Virtual Disk Drive (via iSCSI Initiator)
  - Stack Chaining Master
  - Virtual Disk Drives: Max 8
  - iSCSI LUN Backup and restore, One-time Snapshot

FTP Server
- FTP over SSL/TLS (Explicit)
- Concurrent Connections: Max 256
- Passive FTP Port Range Control
- FTP Bandwidth & Connection Control
- Supports FXP & Unicode

Backup Server
- Real-time Remote Replication (RTRR)
  - Work as Both RTRR Server & Client
  - Supports Real-time & Scheduled Backup
  - Supports Encryption, Compression, and File Filter , and Transfer Rate Limitation
- Apple Time Machine Support with Backup Management
- Desktop Backup by QNAP NetBak Replicator
- Data Backup to Cloud Storage (Amazon S3, ElephantDrive, and Symform)
- Backup to External Storage Devices
- USB One Touch Backup (Import/Export)****
- Block-level Remote Replication:
  - Work as Both Rsync Server & Client with Bandwidth Control
  - Encrypted Replication to/from Turbo NAS
- Third Party Backup Software Support : Veeam Backup & Replication , Acronis True Image, CA BrightStor, ARCserve Backup, EMC Retrospect, Symantec Backup Exec, LaCie SilverKeeper

Web Server
- HTTP/HTTPS Connections
- Built-in MySQL Server
- Web-based Management via phpMyAdmin (QPKG)
- Virtual Hosts: Max 32

VPN Server
- Secure Remote Access: PPTP & Open VPN VPN services
- Remote Access to Other Resources on Local Network
- Max No. of Clients: 30

Syslog Server
- Supports TCP & UDP
- Immediate E-mail alerts
- Supports Manually Log Filtering and Advanced Filtering via a Wizard
- Web-based Log Display

RADIUS Server
- Centralized Account Management and Authentication for Network Access
- Supports PAP, EAP-TLS/PAP, and EAP-TTLS/PAP Authentication

MyCloudNAS Service
- Private Cloud Storage and Sharing
- Free Host name Registration (DDNS)
- Auto Router Congfiguration (via UPnP)
- MyCloudNAS Connect for Easy Connection (Windows utility)

Storage Plug & Play
- Windows Software: QNAP Finder
- Create and Map Shared Folders
- Create and Connect to iSCSI Target LUN

Print Server
- Network Printer Sharing (LAN or WAN)
- Printers: Max 3 (USB)

Surveillance Station
- Supports IP Cameras: Max 4 (Optional Purchase)
- Network Surveillance: Remote Monitoring, Video Recording, and Playback

QPKG
- Web Applications
  - Joomla!
  - phpMyAdmin
  - WordPress
  - AjaXplorer
  - vtigerCRM
  - eyeOS
  - Magento
  - GLPI
- P2P Applications
  - MLDonkey (eMule)
  - SABnzbd+
- Server Applications
  - Tomcat
  - Mono
  - Asterisk
  - XDove (Mail Server)
  - OpenLDAP
- Others
  - Optware IPKG
  - Python
  - Java Runtime Environment
  - iStat
... and more

* The data encryption functions may not available in accordance to the legislative restrictions of some countries.
** The RAID configurations available vary according to the product models and the number of hard disk drives installed.
*** The Touch-N-Go function is not available for the TS-1279U-RP, TS-EC1279U-RP, TS-1679U-RP and the TS-EC1679U-RP.
****The USB one touch backup function is available for the TS-879 Pro and the TS-1079 Pro.

QNAP
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