



9in1

NAS Server

TS-101 Turbo Station

The World's Most Powerful & Reliable
Mini NAS Barebone System



Product Presentation

About QNAP

- **QNAP, with more than 4 years experience in embedded systems, is devoted to be world's leading company in IA (Internet Appliance) field.**
- **Successful experience in developing innovative IA products.**
 - Most Extensive Networking Storage (RAID, NAS)
 - Most Advanced Digital Surveillance Systems (DVR, IP camera, Turkey Software)
 - Most Affordable Message communication (mail server)
 - Best synergy in storage and surveillance



Awards



NAS-4300 Best Choice
Computex 2003



NAS-2000 Editor's Choice
Digital Home (UK)



NAS-5100 2004
Golden Torch Award



TS-101
2006 IT Magazine, Network Storage
Device of the Year, Taiwan



TS-101
2006 eZone,
Editor's Choice, Taiwan



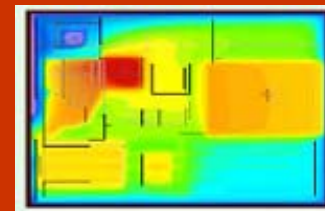
TS-101
2006 IT Magazine,
Editor's Choice, Taiwan



TS-101
2006 PC home Advance,
Editor's Choice, Taiwan

Core Competence

- **Software Team (over 25 engineers)**
 - Pioneer in Embedded Linux technology
 - High performance and high reliability server & Video technology
 - Extensive Experience in RISC I/O Processor
 - Experts in TCP/IP Offload Engine technology
 - Most Complete Self-developed Management software
 - Advanced Network distributed management technology
- **Hardware Team (over 10 engineers)**
 - Top Notch E/E and ME Design Engineer Team
 - Partner with major chipset vendors: Intel/VIA/Freescale/Promise/Silicon
 - ID/ME/Thermal In House Design & Simulation Capability

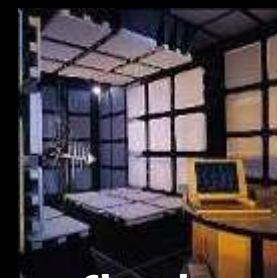


The Most Complete and Experienced R&D Team in the Industry!!!

- **Hardware Test:**
 - Stress Test, Reliability Test
 - Performance Test, Function Test
 - Compatibility Test
 - EMI Test
- **Software Test:**
 - Stability Test
 - Full Function Test
 - Real environment 32 clients NetBench Test
- **Most Stringent Quality Controlled manufacturing**
 - SMT/DIP Facility
 - Assembly Facility



**32 Client
Simulation**



Chamber



EMI Lab

Not every company can and is willing to invest on equipment for quality improvement to save partner's service cost.

Complete Internet Appliance Solutions

QNAP Stands in the Most Potential Segment in Post-PC Era!!!



Storage

With the popularity of broadband Internet, business activity continues to move online. Thus, the need to move, manage, access, copy, back up, protect, and store data is more important than ever. Small business users, such as accounting firms, art design houses, dentists, lawyers, and real-estate brokers, often store years of valuable client information on their Windows or Mac PC hard drives without any backup or redundancy.

This may result in the loss of all business data and cause a big disaster to the user. Also the increasing popularity of residential broadband and digital multimedia such as music, video and still images have contributed to the growing need for high-capacity storage systems.

According to IDC, the network storage market has CAGR of 29% annually and will reach US\$ 5.7 billion by year 2007.



Surveillance

Utilizing high video compression and motion detection technology, DVR (Digital Video Recorder) rapidly replaces the traditional analog tape type security video system to become the mainstream in surveillance application.

With the threat of increasing terrorist activities such as United States 911 in year 2001, Bali Island Terrorist Attack in year 2002, Spain Train Explosion in year 2004, people everywhere are more and more conscious about the importance of security of their live and property. This has brought a tremendous business opportunity for surveillance industry.

It is estimated to have 30% annual growth for surveillance industry.

Target Market & Needs



SOHO/Home Storage Market Glance

“The amount of personal content or home reference data generated by the use of consumer electronic devices will grow from **about 322 GB per home in 2005 to 1,933 GB in 2010.**”

Only **21%** of broadband households are familiar with network-attached storage (NAS), and only **3%** currently use a network-attached storage solution.

Storage capacity, speed of file transfer/backup, and price are the most important considerations in determining which storage solution consumers are likely to purchase.

Total NAS home units will exceed 15 million units by 2010, with about 25% being multiple drive (RAID) storage systems.”

Source: TDG

What Does SOHO/Home Need?



Households with multiple-PC, private data network and broadband needs smart and simple backup scheme.

My digital photos, MP3 music, home-made video files are growing rapidly, I need more storage capacity and a easy way to share the files with my family.

I need to have a high capacity FTP server to share files with my customers. I need a simple solution which I can handle by myself.

Downloading multimedia files over 500MB is time-consuming, keeps my laptop occupied. I need a device which can store and download without any PC connection.

QNAP 9 in 1 Server

A cost effective and versatile
NAS server ideal for SOHO/SMB



Multimedia Station

Personal Album and
Multimedia Center

Download Station

Support P2P (BT Torrent)
download

Mirror Station

Exclusive Q-RAID 1
Technology

Disaster Recovery

Fastest Network Remote
Replication

Web Server

Establish user own static
webpage

Printer Server

Support Network Printer
sharing

File Server

Centralize and manage data
easily

FTP Server

User FTP Server via
internet

Backup Server

Easy backup data via Netbak
Replicator

The graphic features a central circular diagram with a purple border. Inside the circle, various server icons are arranged around a central 'Backup Server' icon. The icons are labeled: 'Web Server', 'Disaster Recovery', 'Mirror Station', 'Download Station', 'File Server', 'FTP Server', and 'Multimedia Station'. A large green arrow points from the 'Backup Server' icon towards the 'Download Station' icon. To the right of the circular diagram, the text '9 in 1 NAS Server TS-101 Turbo Station' is displayed in a stylized font. Below this, it says 'The World's Most Powerful & Reliable Mini NAS Hardware System'. At the bottom left of the graphic, a small text box reads 'The 9 in 1 NAS Server for Personal, Home and SOHO Users'. On the right side of the graphic, a photograph of the QNAP TS-101 Turbo Station server unit is shown.

Multimedia Station



Enrich Your Digital Multimedia Life

TS-101 provides the most user-friendly web interface to manage personal albums and multimedia files easily.

Share Precious Moments of Your Life with Your Friends & Family

Precious photos and video files can be saved in TS-101 and shared with friends and family via the network.

Flexible Viewing Mode

Multiple ways of viewing multimedia files are provided that you can view image or video files directly, or use thumbnail display to preview photos.



Directory tree: Directory shown in tree structure for easy browsing

View the video or music file by double-click the icon. Default player will be activated automatically.



File sorting: Sort by alphabet, file size, create date

File thumbnail: Show photo thumbnail or icon indicating file format

Movie or Music file: shown as icon corresponding to the file format

Viewing control: Rotate picture, zoom in, zoom out, photo slide show...etc.

Photo information: Name, resolution, date, time, camera, detail setting...etc.



Download Station



Uninterrupted Download Anytime Anywhere

TS-101 enables P2P (Bit Torrent) to download files automatically independent of PC. TS-101 can fully utilize your broadband and runs 24 hours a day but consumes little power.

You can add, manage, and arrange download tasks priority when you are away from home, and enjoy the downloaded files when you get back.

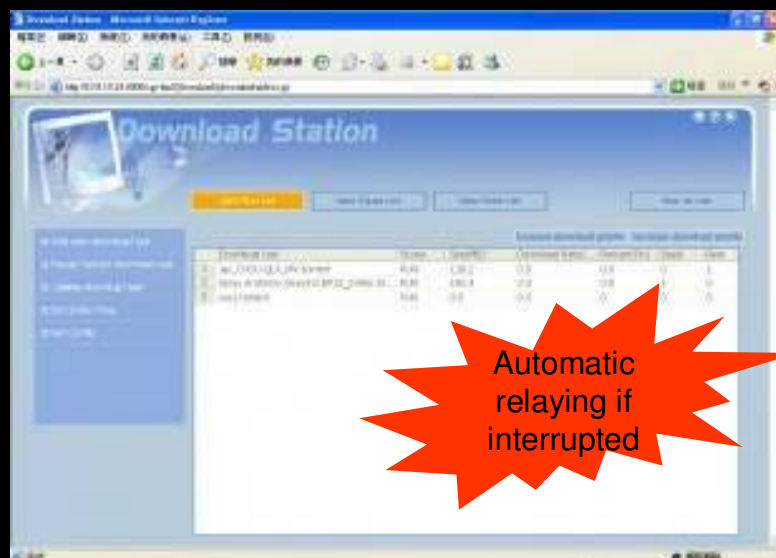
Select BT seeds for downloading



Support
automatic
BT download

Users do not have to monitor
the download process

Support BT Download



Easy Download, only 3 steps

1 Download torrents (*.torrent)

Search for torrents (*.torrent) via the Internet. Simply enter the keywords e.g. file name + BT in the searching websites to look for the torrents and save them to your PC.

2 Add new download task

click Add new download task. Select the torrents saved in Step 1 and click OK to start downloading. You can refer to View Run List for the information of the downloading task.

3 Download completes

Go to View Finish List to view completed download task. The downloaded file(s) will be saved in the default folder Qdownload. You can access the files via Web File Manager or FTP.

Mirror Station



Protect Your Data with Q-RAID 1

The very first single disk to support RAID 1 mirroring protection by external hard disk in the world!

Exclusively Q-RAID 1 Technology

When backup is executed once, data can be automatically backed up by connecting the external disk to TS-101 directly. There is no need to configure the settings in administration interface. Manual operation is required for the first time backup to enhance secure data protection.

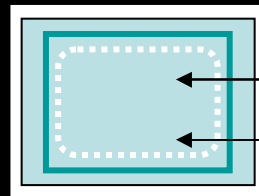


Restore Critical Data from Q-RAID 1 ****Marvelous!!!**

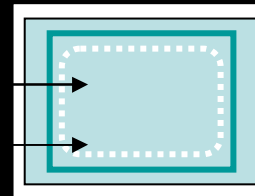
When the main storage disk is damaged, the backup disk can be installed to TS-101 to resume normal operation. You can also purchase and install a new hard disk in TS-101 and restore the data from the raid 1 backup disk.



TS-101 HDD



External Disk



Q-RAID 1
Disk mirroring



External USB disk



e-SATA disk

Disaster Recovery



Remote Replication, Achieves Disaster Recovery

Files can be backed up from TS-101 to another TS-101 or other QNAP NAS products in remote location for speedy data recovery.

TS-101 Block Level Remote Replication supports backup of modified data and greatly reduces replication time compared to commonly used file level transfer. Besides, automatic data compression transmission mode saves up to 2/3 transfer time.

TS-101 Remote Replication also comes with instant, scheduled, synchronization mode for the best remote backup management.

QNAP Block Level Remote Replication

5.3 minutes

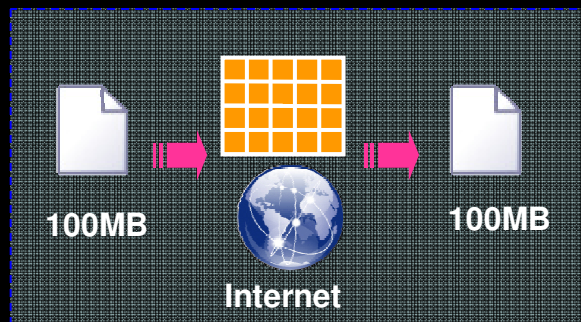
Other competitors

27.3 minutes

Copy 100MB file via 512K ADSL (10MB changed)

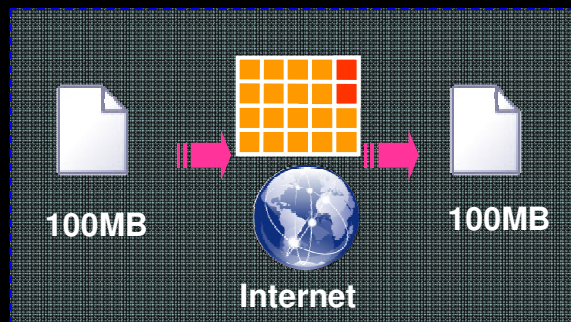
TS-101 Block-Level Remote Replication, compared to other general file-level NAS, only needs **1/5** transmission time

1st Remote Replication



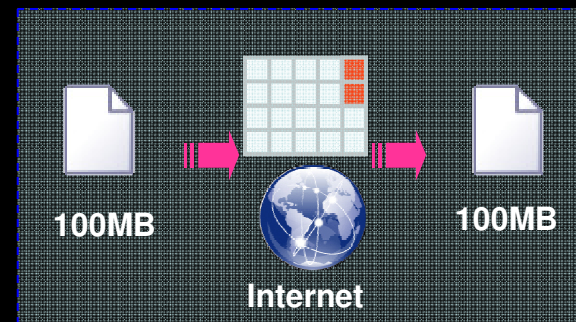
Copy File (All block):
26.6 minutes

2nd File-Level Remote Replication



Copy File (Changed and Unchanged Block) :
27.3 minutes

2nd Block-Level Remote Replication



Only Copy Changed Block :
5.3 minutes

Backup Server



Makes Backup a Simpler Work

Using client-side backup software—
NetBak Replicator, data can be backed up in one click.
TS-101 is the most convenient file backup center.

Practical functions of client-side backup software

- Instant & schedule automatic backup
- File filter function
- Real time file monitoring and backup
- File restore from remote destination

High Usability Backup Choices

Users can select multiple folders and files for backup simultaneously through either LAN or Internet connection



*Can do Backup through:
LAN or Internet*

*Backup Log: Record or
Just Record Errors!!!*

*Easy Selection: Select All
or My Document*

*Backup Level: Folder or
Even to File Level*

*Backup option: Instant,
Schedule, Real Time*



Real Time & scheduled Auto Backup

1 Choose TS-101 on the LAN or WAN

Edit When using automatically backup,
choose TS-101 and folder on the
network.

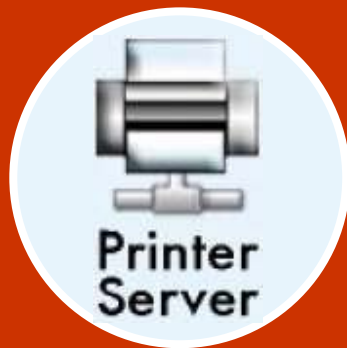
2 Select the folder to be backup

Edit Choose files or folders on local
computer.

3 Upload your folder

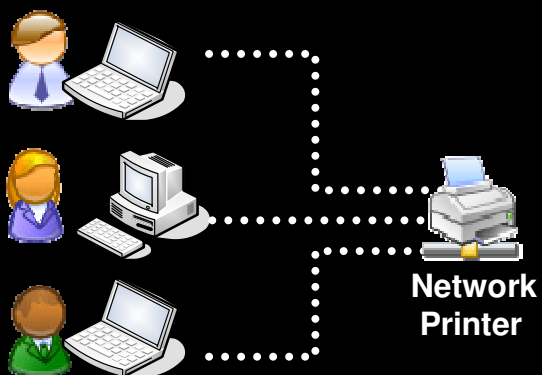
Click “Start” to put all the files in local
folder onto TS-101.

Printer Server

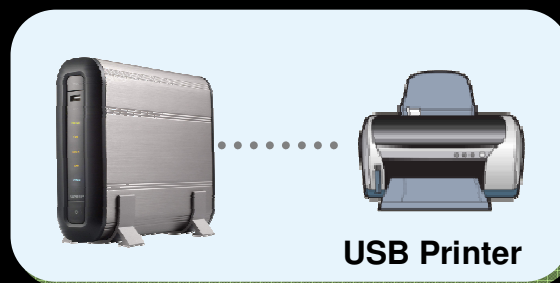


Network Printer Sharing

Simply connect USB printer to the USB port of TS-101 to enable printer sharing function without occupying any PC resource.



Office & Home User



USB printer can be shared through USB2.0 High speed Port

- 1** *Connect USB printer to TS-101*
- 2** *Enable printer service*
- 3** *Enjoy network printer sharing*

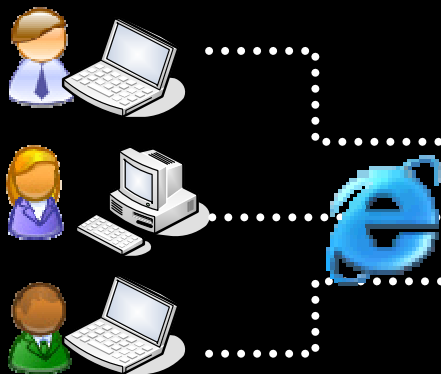
Note: User should install printer driver in local computer

Web Server



Establish user own webpage

TS-101 lets you easily publish your HTML files as your own website on the Internet. There is no need of going through all the hassles of setting up a web server.



Office & Home User



1 Enable web server service

Enable service by check the service item on GUI. System will create a default web folder for html page automatically.

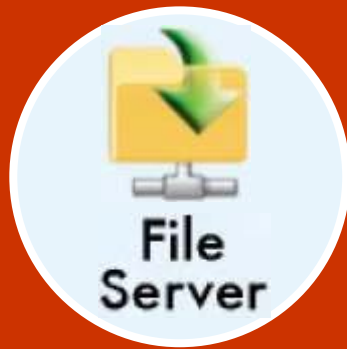
2 Upload the HTML files

Upload HTML files to Qweb folder (homepage should be index.html)

3 Enjoy your own web server

Establish http connection with web browser, e.g. Internet Explorer, to specific directory on TS-101

File Server

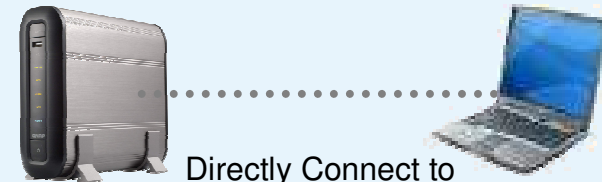


File Management

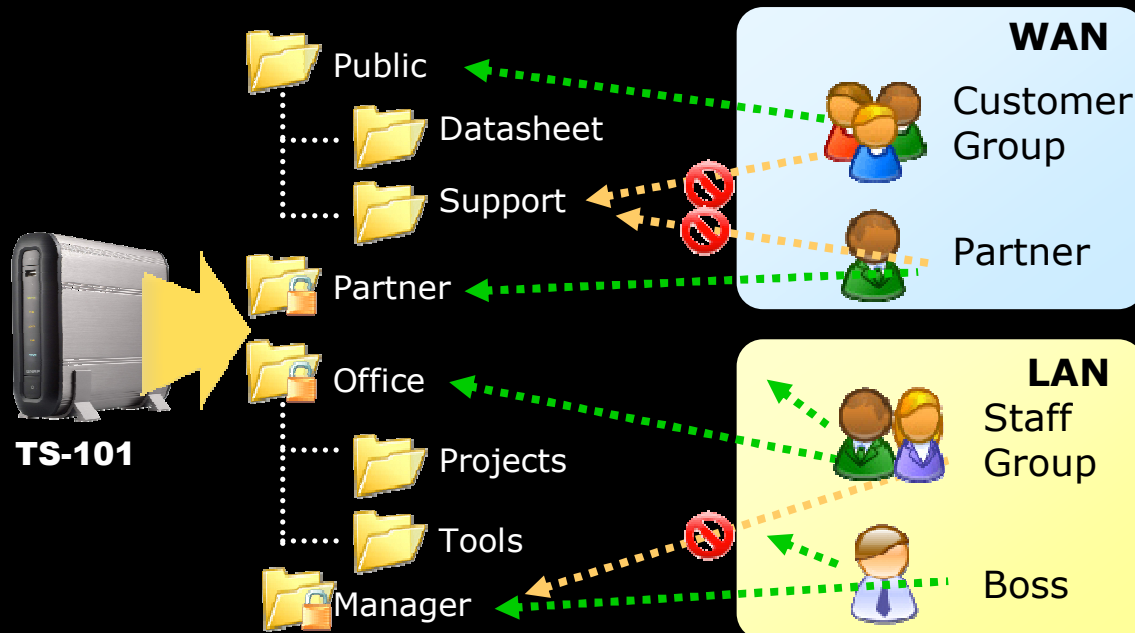
Supports access from either Windows PC or MAC to centralize management of documents. Access right of users and user groups can be configured easily. Only authorized parties can read or modify files, which greatly enhance the security of data access.

EXT3

It allow user to transfer file larger than **4GB**. This is what FAT32 and NTFS cannot do.



Directly Connect to PC via LAN cable



1 Cross platform

Support Windows, Mac. Centralize your data easily.

2 Powerful management function

- * User quota restricted
- * File access authority setup –files can be read or changed by specific users

3 Easy to use

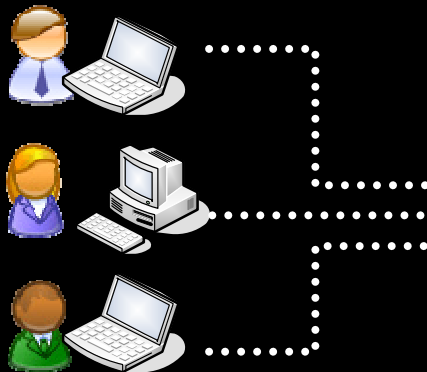
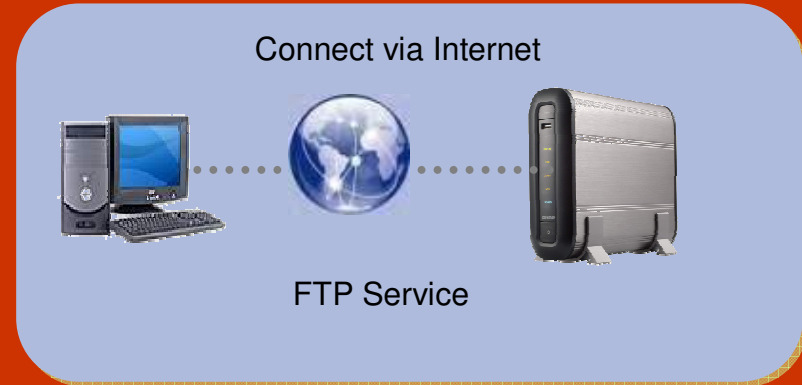
- * External users can access files via FTP or QNAP web page file administrator
- * Internal users can setup network disks and access directly

FTP Server

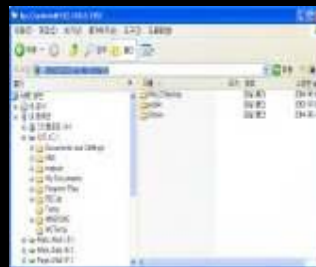


Access Files via Internet

Different FTP accounts can be set up for customers and colleagues to access files from remote location. Staff working outside office can access the server from the Internet to enhance mobility of work and reduce the inconvenience of large file transfer by e-mail. TS-101 simplifies the procedure of establishing an FTP server in a few steps without the need for MIS help.



Office & Home User



Taking natural benefit of cross platform of Internet, Windows and Macintosh clients can store, share, exchange and backup the same data.

1 Cross platform

Support Windows and MAC access

2 Easy management

FTP service can be turn on/ shut down through web management GUI easily.

3 Data security

FTP service can also be configured as user Level security.

Designed for SOHO & Home User

Protection

- Q-RAID 1 Secure HDD Data
- Remote Replication (Instant & Scheduled Backup)
- Share Folder Level Access Security

Reliability

- System Error Email Notification
- Journaling File System
- System Backup & Restore

Ease of Use

- Easy Installation
- Friendly Web UI
- One Click Firmware Upgrade
- Intelligent One Touch Backup

Expandable

- External eSATA & USB Disk
- Support USB Hub



Protection

Q-RAID 1 Technology

Protect Your Data with Q-RAID 1

The very first single disk to support RAID 1 mirroring protection by external hard disk in the world!

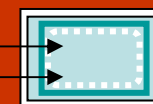
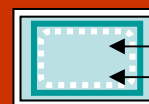
Exclusively Q-RAID 1 Technology

When backup is executed once, data can be automatically backed up by connecting the external disk to TS-101 directly. There is no need to configure the settings in administration interface. Manual operation is required for the first time backup to enhance secure data protection.



TS-101
HDD

External Disk



Q-RAID 1
Disk mirroring



External USB disk



e-SATA disk

Remote Replication (Instant & Scheduled Backup)

You can perform immediate replication job or schedule a replication job to be executed at the specified time periodically. In order to reduce the network bandwidth usage as well as the time consumed, the files will be compressed before transferring over the network.

QNAP Block Level
Remote Replication

5.3 minutes

Other competitors

27.3 minutes

Copy 100MB file via 512K ADSL (10MB changed)

Share Folder Level Access Security

Centralize all your data. Access right of users can be configured easily. Only authorized parties can read or modify files, which greatly enhance the security of data access.



TS-101



Office

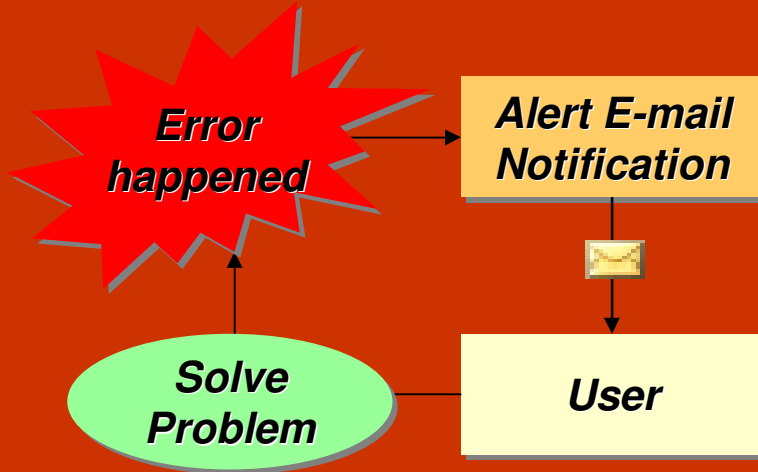


Manager



Reliability

System Error Email Notification



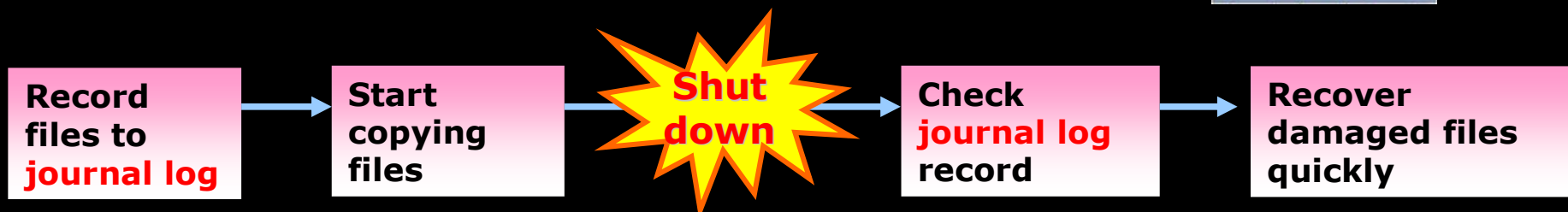
System Backup & Restore

- Able to backup and restore all settings on TS-101, including user accounts, server name and network configuration etc.



Journaling File System

- Able to ensure the data consistency and reduce the time to boot up.
- Should the system experience an abnormal shutdown, JFS allows rapid system-checking after rebooting.



Easy of Use

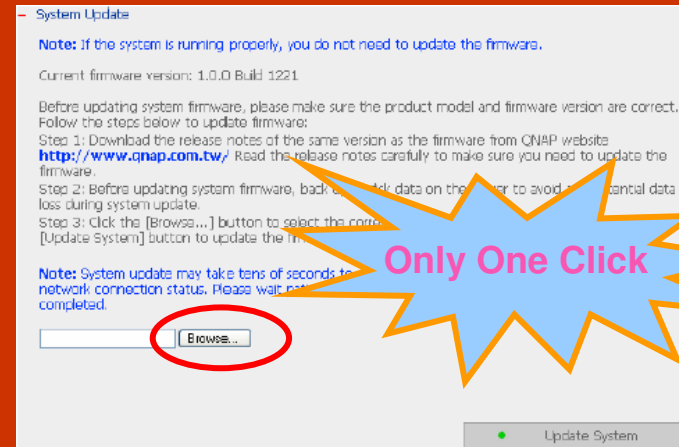
Easy Installation & Friendly Web UI:

-Only 3 steps to install the hard disk to TS-101.

-TS-101 settings can be easily completed by Quick Install Wizard.



One Click Firmware Upgrade :



Intelligent One Touch Copy:

TS-101 will detect if there is any file changed inside the USB device. If any file is changed, TS-101 will copy it automatically.



Expandable

Support USB Hub

3 high speed USB 2.0 to support USB printer, disk, digital camera, pen drive, card reader, USB Hub.

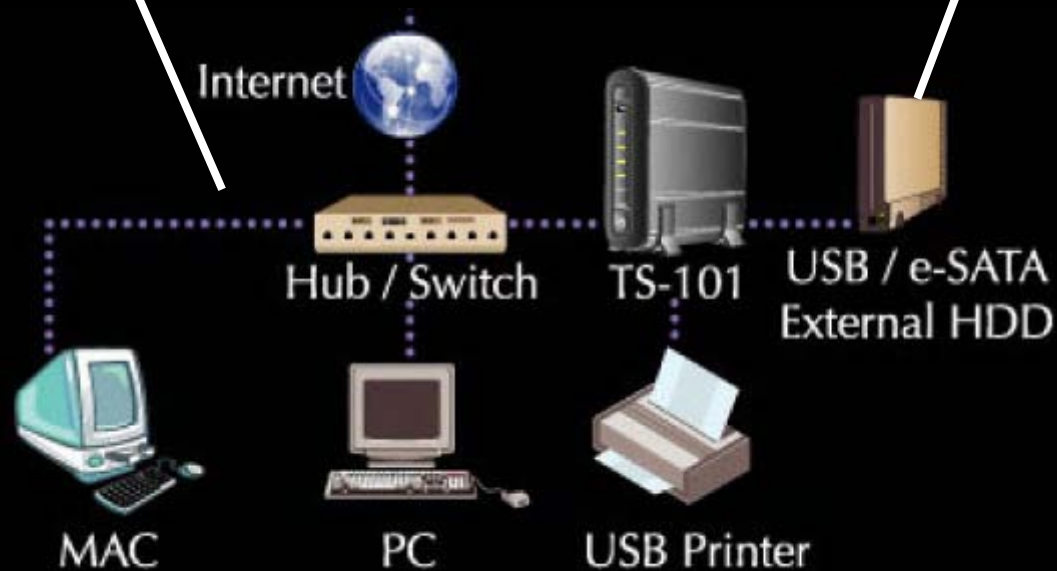
External eSATA & USB Disk

Support SATA disk of up to 500GB or above, and extendable to 1 TB by eSATA/USB port.

SATA

eSATA

USB
2.0 x 3



TS-101 Hardware Design



Intelligent One Touch Auto Copy



USB 2.0 x 3

480Mbps high speed USB 2.0 support
USB printer, disk, digital camera,
pen drive, card reader, USB hub

eSATA

External Serial-ATA HDD interface

Gigabit Ethernet

Reset Button

Power Cord Hook

Keep power cord connected even
TS-101 is kicked or hit

K-Lock Security Slot

Prevent TS-101 From being stolen



Intelligent Auto Copy Button

When a USB storage device is
plugged in, press this button
and TS-101 will copy the data
from the USB device to
TS-101 HDD automatically.

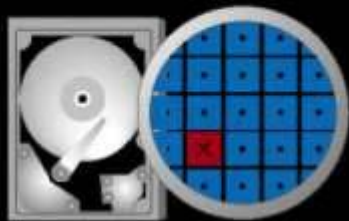
Power Button

TS-101 Hardware Reliable Design

- Best heat-dissipation, shock-resistance, anti-collision aluminum design



Advanced HDD Health Scanning (HHS)



Embedded HHS technology advises bad block before HDD crash.



Perfect Combination of Silence & Energy Saving



Fanless



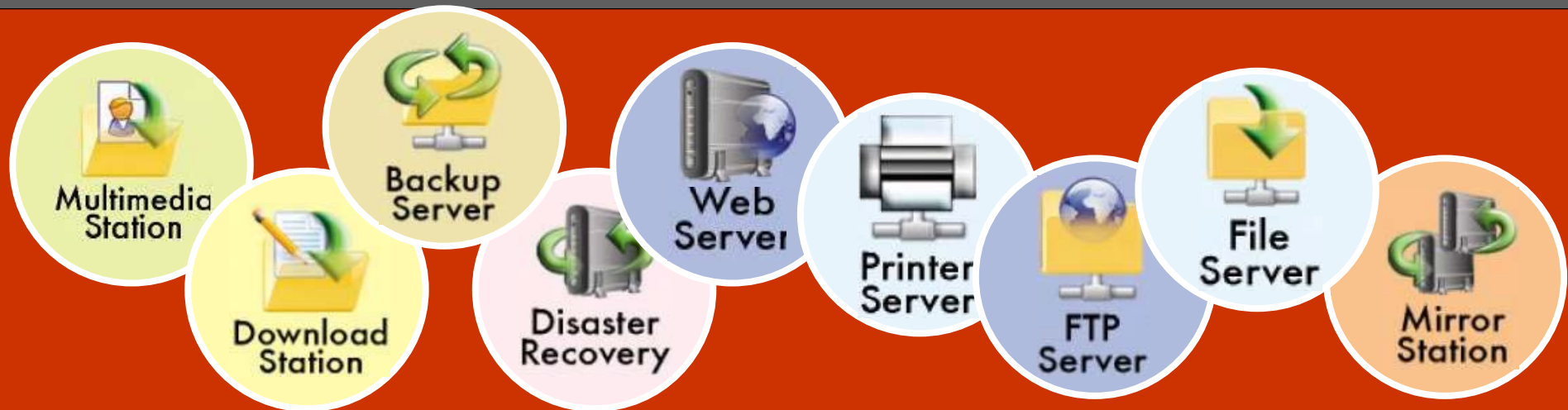
HDD Sleep



Power Saving

Low power consumption SoC system chip, smart hard disk sleep function, fanless design, TS-101 can run 24x7, 365 days for all applications!!!

TS-101 Application



Personal Use

Easy to install and use, you can set up your own data center in a few minutes. TS-101 helps manage your multimedia, FTP, web and download station smartly. You can share files with friends around the world.

Home User

Provide a home-based network platform and friendly web-based user interface for family members to easily store, manage, share and back up large files. Enrich your digital home life in a simple way.

Small Business

Provide a smart and simple backup server (business solution) for local PC in LAN or PC in remote location through internet. TS-101 protects your business data, helps you reach more customers and serve them better.



9in1

NAS Server

TS-101 Turbo Station

The World's Most Powerful & Reliable
Mini NAS Barebone System

