TerraMaster U16-722-2224

Network Attached Storage Server

Datasheet

TerraMaster U16-722-2224 is an enterprise-class 16-bay networked attached storage server. It is highly scalable storage server, designed to meet the requirements of enterprise virtualization, data-intensive applications and service continuity.

Powerful storage solution

Featuring Intel Xeon 2224G 3.5Ghz quad-core processor, 8GB DDR3L, 4 Gigabit network interfaces. Designed for flexible storage management, it offers over 50000 IOPS and 3000MB per second continuous storage.

High Scalability

Configure four DDR4 slots to support up to 16GB of memory modules with total memory up to 64GB; configure three PCI-E3.0 8X expansion slots for expansion of 10 Gigabit network cards (2 SFP + ports) and hard array RAID cards.

Fast and stable

Equipped with four network interfaces and the Link Aggregation function, the server access will not be interrupted even if a network interface fails online, greatly reducing the probability of online interruption without warning. In addition, the Link Aggregation function breaks through the limitation of network transmission speed of a single network interface and has the on-load balancing function of automatically balancing network traffic, thus providing stable data transmission for customers.

SSD cache technology

Hard disks, though large in capacity and cost-effective, are not as fast as SSDs. The use of SSD cache technology in hard disk arrays will optimize the response speed when accessing data and improve transmission performance by about 25%.

Easy management, security and worry-free

TOS enterprise version provides a graphical interface that allows you to flexibly manage user accounts and storage space, and provides you with tight server security and optimized storage space management. Alert notifications can be sent to keep you informed of server status.

Diversified professional applications

Enterprise version of the TOS operating system provides a wide range of professional applications. One TNAS device is better than dozens of devices, such as: file servers, mail servers, web servers, VPN servers, DHCP servers, DNS servers, Rsync remote servers, FTP servers and MySQL servers.

File management is easy and simple

In addition to using the network disk mapping function, you can also access files in TNAS through the web, directly drag and drop files from your computer to the File Explorer to upload files to

the NAS. If you want to download files, just simply click "Download" to finish. The tree structure of the storage directory allows you to quickly master the data structure, copy / move / compress / unzip / unzip files for you!

Share files securely and conveniently

TOS supports a full range of SMBs, AFP, NFS, ISCSI, and FTP file services. Share files on any device, as intuitive as accessing folders on your computer, making file access and sharing easy.

Complete rights management

TNAS can share storage space for multiple users, support up to 1000 + user access, adopt RBAC rights management and Windows ACL, and can set access rights according to users, user groups and folders.

Tight security

TOS provides a variety of strict security means, such as: password login, https access, firewall, at the same time support AES256-bit disk encryption security protection mechanism, to prevent hard disk theft or loss of data generated by the risk of leakage.

Server clusters

Using a server cluster, merge two TNAS into one cluster, with one server serving as a work activity server and the other as a standby passive server. The active server processes data requests and services while continuously replicating all content to the passive server. This provides a comprehensive hardware and data redundancy solution in the event of an accident.

Virtual Machines

Virtual machines allow you to always test new software in the sandbox, isolate your customers' machines, and increase the flexibility of your servers. In just a few steps, you can run the Windows and Linux operating systems on TNAS.

A variety of free applications

The TOS Application Center offers dozens of applications free of charge, covering the types of tools, services, databases, multimedia, and so on. You can choose to install them according to your needs.

More possibilities

Docker is a lightweight software containerization solution supported by Docker Inc. TerraMaster lets you run thousands of containers created on TOS by developers around the world by leveraging this advanced technology. Docker Hub uses an extensive built-in image repository that

lets you find shared applications from other good developers.

Centralized storage, smart backup

You can backup the data of Mac, PC, USB external device and server to TNAS for centralized management. TerraMaster backup application supports data deduplication and incremental backup technology, greatly reducing storage space consumption.

Remote access

TNAS.online is a highly efficient remote access platform unique to TerraMaster. By registering a commonly used and easy to remember ID, you can remotely access your TNAS devices anytime, anywhere.

ISCSI disk mount

Mount virtual disks via ISCSI to expand storage space for TNAS servers and improve storage space management and utilization efficiency.

Next-generation format file system

TNAS server supports Btrfs file system. Btrfs file system uses more advanced storage technology, through snapshot, rollback, defragmentation and other functions, can prevent data corruption, reduce maintenance costs, make your data storage more secure.

Multiple backup methods

Support Time Machine backup, USB external storage backup and Rsync remote backup, effectively protect your data security.

A variety of RAID mode

Support RAID 0, RAID 1, RAID 5, RAID 6, JBOD, SINGLE a variety of disk array mode, can meet a variety of user applications, data security more secure.

Panel Illustration:

⏻	Power button	Short press to power on, Press again to power off.
↻	Reset	Short press to restart
🗄	Power Indicator	Indicator on when powered on
🖧	Hard drive indicator	Flicker: hard drive mounts normally OFF: undetected hard drive
🖧	Network indicator 1	Management Port (MGMT) is activated
⌁	Network indicator 2	On: the network is connected; Flicker: in data transmission
💡	UID information indicator	On: UID is activated
i	Standby indicator	On: Standby
UID	UID button and indicator	No function for now
⇅	USB port	Connect USB storage device or USB wireless card

Rear Cover Illustration:
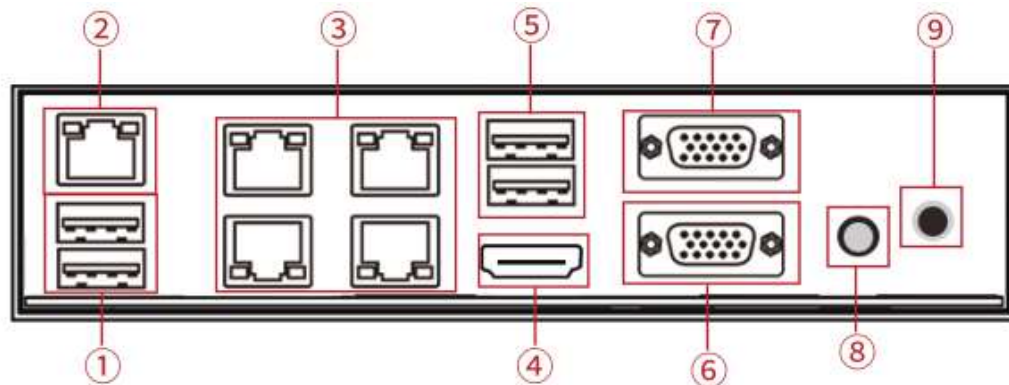
1	USB2.0 port	Connect USB storage device or USB wireless card
2	MGMT port	Remote management port
3	RJ45 port	1000M/100M/10Mbps network port
4	HDMI port	Connect to display device(default no output)
5	USB3.0 port	Connect USB storage device or USB wireless card
6	VGA port	Connect to display device
7	COM port	COM serial communication interface
8	UID button and indicator	Press the UID button to activate UID, the UID indicator will turn on
9	Reset	Short press to restart

Specifications:

Hardware	
Processor	
Processor Model	Intel XEON E-2224G
Processor Architecture	X.86 64-bit
Processor Frequency	Quad Core 3.5 GHz
Hardware Encryption Engine	√
Hardware Transcoding Engine	H.265 (HEVC), MPEG-4 Part 2, VC-1; maximum resolution: 4K (4096 x 2160); maximum frame rate per second (FPS): 30
Memory	
System Memory	8GB
Pre-installed Memory module	8GB (1 x 8GB)
Total Memory Slot Number	4
Maximum Supported Memory	64 GB (4 *16GB)
Note	TerraMaster reserves the right to replace memory modules with the same or higher frequency based on supplier's product life cycle status. Rest assured that the compatibility and stability have been strictly verified with the same benchmark to ensure identical performance.
Storage	
Disk Slot Number	16
Compatible Drive types	3.5" SATA HDD
	2.5" SATA HDD
	2.5" SATA SSD
Maximum Internal Raw Storage Capacity	224 TB (14TB x 16) (Capacity may vary by RAID types)
Max Single Volume	108 TB
Drive Hot Swap	√
Note	. Hard drive vendors will release their latest models of hard drives, and Maximum internal raw storage capacity may be adjusted accordingly. . The maximum single volume size is not directly related to the maximum raw capacity.
File System	
Internal Drive	EXT4,BTRFS
External Drive	EXT3, EXT4, NTFS, FAT32, HFS+
External Ports	

RJ-45 1GbE Network Jack	4
USB 3.0 Port	2
USB 2.0 Port	4
COM	1
HDMI	1
VGA	/
LSI HBA Card	1
PCIe Slots	1 x PCIe X16 slot(PCIe 3.0 X8),1 x PCIe X8 slot(PCIe 3.0 X8)
Appearance	
Size (H*W*D)	440 x 664 x 136　mm
Packaging Size (H*W*D)	800 x 585 x 285 mm
Weight	Net Weight: Kg　Gross Weight: Kg
Others	
System Fan	120 mm x 120 mm x38mm　3 pcs
Fan Mode	Smart, High speed, Middle speed, Low speed
Noise Level	dB(A)
Power Supply	550W
Redundancy Power Supply	Optional
AC Input Voltage	100V - 240V AC
Current Frequency	50/60 Hz, single frequency
Power Consumption	220W (read & write)
	60.0W　(hard drive dormancy)
Limited warranty	2 years
Certificate	FCC, CE, CCC, KC
Environment	RoHS, WEEE
Temperature	
Working Temperature	5°C　~ 40°C (40°F ~ 104°F)
Storage Temperature	-20°C ~ 60°C (-5°F ~ 140°F)
Relative Humidity	5% ~ 95% RH
Package Contents	
	Host (x1)
	Power cord (x1)
	RJ-45 network cable (x1)
	Quick Installation Guide (x1)
	Limited Warranty Note(x1)
	Screws(a few)

TOS Features	
OS Supported	
Supported Client OS	Windows OS, Mac OS, Linux OS
Supported Web Browsers	Google Chrome 48, Microsoft Internet Explorer 9, Mozilla Firefox 30,Apple Safari 4.5 or later version; Microsoft Edge is not recommended.
Supported mobile OS	iOS 8.2, Android 6.0 or later version
Storage Management	
Supported RAID Types	Single, JBOD, RAID 0, RAID 1, RAID5,RAID 6,RAID10
Maximum Internal Volume Number	512
Maximum iSCSI Target	256
Maximum iSCSI LUN	512
Volume Expansion with Larger HDDs	RAID 1,RAID5,RAID 6,RAID10
Volume Expansion by Adding a HDD	RAID5,RAID6
RAID Migration	√
SSD Cache	√
Hot Spare	√
SSD TRIM	√
Hard Drive S.M.A.R.T.	√
Seagate IHM	√
NVRAM write cache(BBU-protected)	/
WORM(Write Once Read Many)	/
Shared Folder Snapshot	√
LUN Snapshot	/
Storage QoS For Shared Folder	/
File Services	
File Protocol	SAMBA/AFP/NFS/FTP/WebDAV
Maximum Concurrent SAMBA/AFP/FTP Connections	2000
Windows Access Control List (ACL) Integration	√
NFS Kerberos Authentication	√
Account & Shared Folder	
Maximum local user's account number	16000
Maximum local group number	512

Maximum shared folders number	512
Maximum shared folders syncing tasks	32
Backup	
Rsync Server	√
Rsync Backup	√
Schedule Backup	√
USB Device Backup	√
Cloud Sync	√
Time Machine Server	√
File System Gluster	/
Networking	
TCP/IP	IPv4
Protocols	CIFS/SAMBA, NFS, FTP, TFTP, HTTPS, SSH, iSCSI, SNMP, SMTP
Link Aggregation	/
DLNA Compliance	√
VPN Client	√
VPN Server	√
Proxy client	√
Proxy Server	/
UPnP/Bonjour Discovery	√
TNAS.online Remote Access	√
DDNS	√
Access Right Management	
Batch users creation	/
Import/Export users	/
User Quota Management	√
Local user access control for CIFS/SAMBA and FTP	√
Domain Authentication	
Microsoft Active Directory	√
LDAP Client	√
LDAP Server	√
SSO	√
Security	
Firewall Protection	√
Account Auto-block Protection	√

AES Volume and Shared Folder Encryption	√
Importable SSL certificate	√
Instant Alert via email, SMS, Beep	√
Power Management	
Automatic Power On After Power Recovery	√
Scheduled Power On/Off	√
Wakeup On LAN	/
UPS Supported	√
Administration	
Multi-window, Multi-task System Management	√
Custom Desktop	√
Control Panel	√
Resource Monitor	√
Syslog	√
OS UI Language	English, German, French, Spanish, Italian, Magyar, Chinese , Japanese, Korean
Applications	
Application Center	√
Mail Server	√
Web Server	√
Clam Antivirus	√
Download	√
Multi Media Server	√
Docker	√
Plex Media Server	√
Snapshot	√

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