



Qsan for years has won many proven records in enterprise market and now TrioNAS series aims to bring the enterprise-class features into SMB market at competitive price, helps organizations to manage IT infrastructure at minimum efforts.

Unified storage with simple management

TrioNAS consolidates NAS and IP-based iSCSI SAN in one box. Unified storage can help consolidate your IT infrastructure and reduce hardware expenses. You don't need multiple file servers for SMB, NFS, AFP, FTP, and WebDAV. TrioNAS supports all these protocols in one box including iSCSI. TrioNAS will be your common storage pool that is accessible at either file or block level over existing IP networks. It's the most cost-effective and efficient storage solution.

Affordable

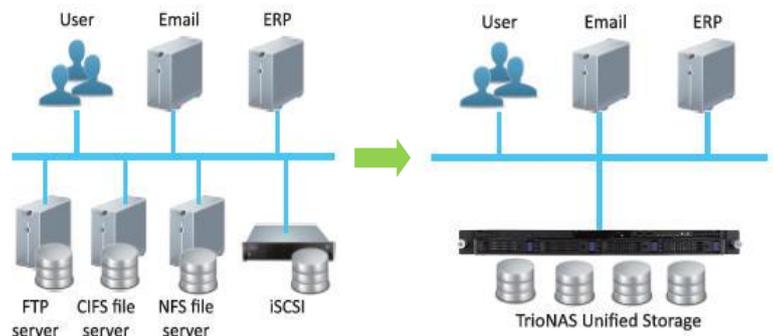
- TrioNAS U120 and U210 are the most affordable unified storage in SMB NAS market.
- 4 bay and 12 bay models can easily meet your IT budget.

Simple

- **Instant Readiness** to use storage capacity. No RAID initialization is needed!
- Friendly Web UI to configure the system in minutes.
- Centralized Management tool to reduce IT efforts.

Reliable

- ZFS file system provides end-to-end data integrity. No more file system crash.
- Redundant power supply design protects your valuable data.



Best Integration of Windows Active Directory

TrioNAS delivers outstanding integration of Windows Active Directory & LDAP for IT administrators to easily manage accounts. The supports for multiple domains of Windows Active Directory plus the patent-pending UnifiedAUTH empower TrioNAS to provide superior manageability.



ZFS and RAID protection

TrionAS adopts ZFS file system, which is a transactional, copy-on-write, crash-free file system with 128-bit huge addressing space. ZFS can detect silent data corruption and has self-healing capability and guarantees end-to-end data integrity. There are abundant RAID levels* to choose from to meet application requirements such as redundancy and performance.

*U120 only supports RAID 0, 1, 5, 10



Q-Turbo offload engines

Q-turbo offload engine includes both SOE (Samba Offload Engine) and ZVIOS (ZFS Volume IO Scheduler) modules, two Qsan innovated in-house IO acceleration technologies. SOE can greatly improve SMB (Small Message Block) protocol performance. ZVIOS can accelerate block IO such as iSCSI protocol performance.



SSD caching support

TrionAS supports using high performance SSD drives as fast storage tiering. SSD caching* can greatly improve random IO performance. You can combine SSD drives and SATA drives as a hybrid storage pool and have a net performance result of a pure SAS storage pool.

*U120 does not support SSD caching function.



Thin provisioning and deduplication

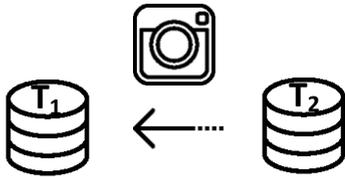
Thin provisioning allows just-in-time capacity and allocates storage space that does not exist. You can delay the hard drive purchase until it is absolutely necessary.

Inline block-level deduplication* provides more efficient way to remove data redundancy and save storage space. For backup and VM application, it can save up to 95% space.

*U120 and U210 only support thin provisioning.

File-level snapshot

File-level snapshot helps IT administrator to retrieve a file as easy as browsing through a directory when things like virus attack and accidental deletion or modification happens. You can rollback the snapshot to a certain point in time in the past or clone the snapshot to become an independent folder.



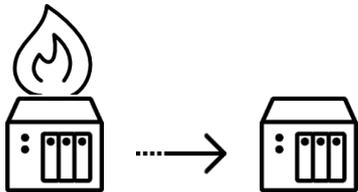
Block-level snapshot

TrioNAS supports snapshot for block-level storage such as LUN. Using copy-on-write technology, differential data are recorded between two given points in time. You can rollback the snapshot to a certain point in time in the past or clone the snapshot to become an independent LUN.

*U120 supports up to 2048 snapshots.

*U210 supports up to 4096 snapshots.

Remote replication for disaster recovery



TrioNAS supports both Rsync and block-level snapshot-based replication function. Both of them are asynchronous. Remote replication task can be created for folders and LUNs. Only differential data at block level will be replicated to achieve maximum efficiency.

When disaster strikes at site A, you can quickly switch to site B to make sure business continuity and data security.

TrionAS the Unified Storage for SMB

	TrionAS				
	U221	U211	U220	U210	U120
Processor	Intel® Xeon®E3 quad cores		Intel® Core™ i3 dual cores		Intel® Atom™ dual cores
Memory	32GB DDR3		16GB DDR3, up to 32GB		4GB DDR3
Host Channels Per Controller	10GbE x2 + 1GbE x2	1GbE x6	10GbE x2 + 1GbE x2	1GbE x6	1GbE x2
Hard Drive	Up to 12 SATAII/SATAIII HDD or SSD (3.5" and 2.5") *Connection speed up to 6Gb/s				Up to 4 SATAII/SATAIII HDD or SSD (3.5" and 2.5") *Connection speed up to 3Gb/s
Power Supply	549W Redundant				226W Redundant
Fan	System fan x3 + CPU fan x1				System fan x2
Form Factor	2U 12bay				1U 4bay
Dimension	442.0 x 711.2 x 88.0 mm				442.0 x 431.8 x 44.0 mm
RAID	0, 1, 5, 6, 10, 50, 60				0, 1, 5, 10
Storage Pool	Dedicated hot spare disks, multiple RAID groups support, auto volume rebuilding, online pool expansion, offline pool roaming, instant ready (zero RAID init time), fast rebuild				
Data Efficiency	Thin provisioning Deduplication Compression SSD caching		Thin provisioning Compression SSD caching		Thin provisioning Compression
Networking	IPv6, DHCP or static IP address assignment, NTP client, jumbo frame, trunking & LACP & teaming support, VLAN tagging, WINS client, static route table, loopback				
Data Services	SMB v2 for Windows, NFS v3/v4 for Linux & UNIX, AFP v3.3 for Mac OS X, FTP & SFTP, iSCSI target, WebDAV				
Directory Service	Microsoft Active Directory, Windows ACL, LDAP, Qsan UnifiedAUTH				
Data Protection	File-level snapshot, block-level snapshot, rsync, remote replication, local clone, Amazon S3 Cloud backup				
Security	Access auditing log, 3-year McAfee anti-virus, HTTPS, FTP with SSL/TLS (explicit), SFTP & SSH (Admin), IP filtering				
Management	Web browser user interface, QCentral management (Java), Event notification via Email, SNMP trap, messenger & Syslog, Performance states, System monitoring & Device health status, S.M.A.R.T., Start-up wizard, Wake-on-LAN				
Supported Host Operating Systems	Microsoft Windows, Red Hat Enterprise Linux 5/6, Solaris 10 or later, Mac OS X				
Green	80 Plus Platinum power supply, Auto disk spin down				Auto disk spin down
Safety/EMI	RoHS, CE, FCC, BSMI, UL, CB, cUL				
Warranty	3 years for system				

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