USS 4.0

Unified Storage Server

Unified SAN + NAS Solution

All software necessary to build powerful Unified Storage Server with any 64-bit Intel- or AMD-based systems.

Applications

- High Performance NVMe-oF (iWARP), NVMe/TCP Offload Target
- iSCSI Target with offload
- NAS/SAN Integration
- Storage Spaces Direct (S2D)
- Remote Mirroring
- Virtualization Applications
- Data Warehousing
- Video Storage
- High performance computing
- Databases
- Edge Computing
- AI/ML workloads

USS is Localized to 10 different Languages for enhanced user experience.

Overview

Chelsio's Unified Storage Server (USS) is a powerful turnkey solution for creating high-performance storage systems. It is an integrated solution that is best-of-breed in the market, providing an easy integration path for VARs and OEMs, and offers state-of-the-art performance and ease-of-use for end users.

Chelsio's Unified Storage Server includes a wide array of features that simplify file serving, backup and replication of valuable data that makes it the choice for dependable, reliable, and scalable storage.

Key Features and Benefits

Deploy storage systems in minutes! The first-time setup wizard makes it simple to connect to the network, define local workgroups, add users, and create iSCSI LUNs or NVMe namespace for high performance block storage.

Plug-and-play - Integrates easily into VAR/OEM's hardware platform, ensuring smooth storage system integration. Comes as a bootable flash memory or loadable software. Fully compatible with most x86-64 multi-processor systems.

Ease-of-use - in deploying and reconfiguring of the storage array - Unified Storage Server has an intuitive web-based management interface, which is accessible in any compatible web browser, over an encrypted secure connection, providing ease-of-use and requiring minimum training.

Lower ownership cost - Consolidating multiple file servers and iSCSI/NVMe servers onto a single device reduces server management overhead and associated IT staff costs. Network storage can be remotely managed using a Web-based user interface, simplifying maintenance and providing centralized control of processes like backups, restores, and upgrades.

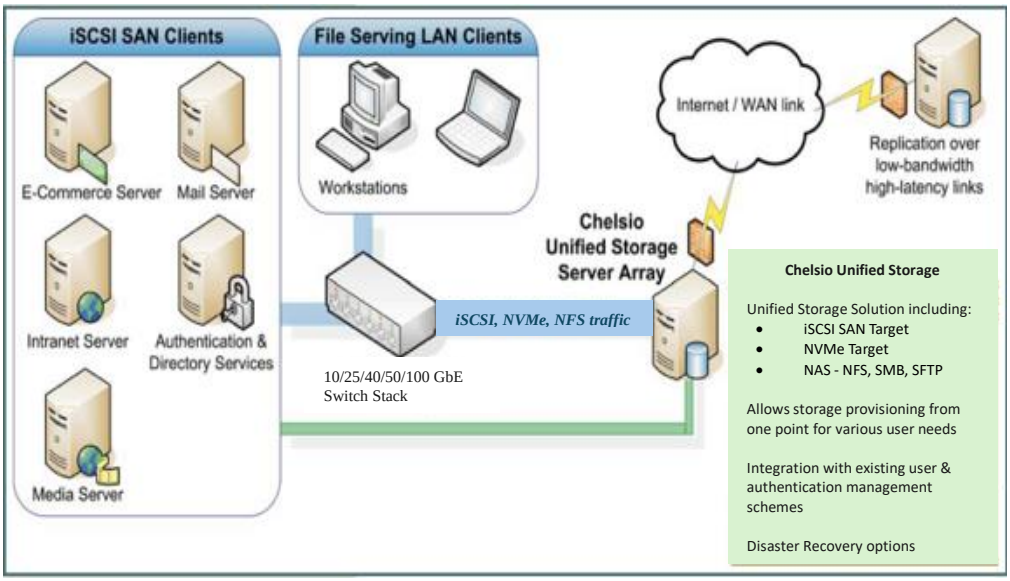
Feature Rich - Deliver storage needs at wire speed and supports NFS, SMB, SFTP, iSCSI Offload, NVMe/TCP Offload, and NVMe-oF (iWARP). Also supports Remote Mirroring, Backup, iSNS, iSCSI Scaling, Nested RAID, Easy Management features, bandwidth management, extensive self-test, stress test, and remote test capabilities.

New features - USS 4.0 implements various Offloads for iSCSI and NVMe targets. It is optimized for supporting 10/25/40/50/100GbE clients with high throughput, high IOPs, and low-latency requirements. It integrates with the USS storage stack which provides dynamic storage provisioning with thin provisioned volumes, snapshots, and volume cloning.

Flexible branding capability feature for OEMs

Software Implementation

- Chelsio NVMe/TCP Offload Target reaches 2.9 Million IOPs on Chelsio T6 100 Gbps Ethernet adapter.
- Chelsio iSCSI Target Protocol Stack with offload delivers line-rate throughput on a single Chelsio card.
- Simultaneous offload of iSCSI, NVMe and NAS traffic on Chelsio family of Ethernet adapters.
- Support for low-latency, high-workload random transactions, ideal for databases, mail servers, and file servers.
- Storage management - Includes dynamic storage allocation, volume cloning, and snapshots for convenient and quick backup and restoration of data.
- Nested RAID provides higher level of redundancy than regular storage arrays.
- Support for common file-sharing protocols – SMB, NFSv3, and SFTP.
- NAS features for different needs, NFS for UNIX and Linux networks, CIFS for Windows, and SFTP for legacy applications.
- Authentication support using NIS for UNIX clients, and Active Directory for Windows clients.
- Addresses the storage consolidation requirements of block storage and file serving, i.e. SAN and NAS.
- Replication – Unified Storage Server allows you to increase data availability and provide disaster recovery for your network storage by creating a copy of data on a remote peer over local area networks (LANs) or wide area networks (WANs) with high-latency, low-bandwidth links.
- Online update of system OS image – update takes effect after reboot.
- Greater than 2TB disk size support for streaming data, delivering breakthrough performance for video/multimedia applications.
- Capable of serving shared storage for Microsoft Windows 2019/2022 Cluster nodes.
- Enables "Secure iSCSI™" to protect all storage data with a 32-bit CRC. The dual iSCSI/Ethernet CRC provides more data protection than Fibre Channel.



Specifications

NAS Features

- SMB
- NFSv3
- SFTP

iSCSI Features

- MPIO
- ACLs
- iSNS
- CHAP authentication
- Greater than 2TB LUN support
- Support for Microsoft Cluster Nodes with iSCSI shared storage
- iSCSI boot initiator DHCP management
- iSCSI boot LUN cloning

NVMe-oF Fabrics Features

- NVMe-oF (iWARP)
- NVMe/TCP Offload
- Hardware Header and Data Digest

High-Performance

- High-performance target stack with 2.9M IOPs and 94 Gbps throughput at 4K IO on a single Chelsio T6 card

Storage Management

- Performance monitoring
- Asynchronous replication
- Snapshots of iSCSI LUNs/Shared file systems
- Backup and restore to disk and tape drives
- Thin provisioning and Volume cloning
- Software RAID and Hardware RAID
- Hardware management
  - RAID controller management support
  - Fibre Channel initiator HBA management support
  - SSD storage support

Redundancy Features

- Remote Mirroring
- Nested RAID

Additional Features

- Bandwidth Management

System Requirements

- Compatible X86-64 bit processor
- 8 GB RAM
- Storage Pool with (SSD, SAS, SATA, SCSI)
- Chelsio Adapter T6/T5

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