

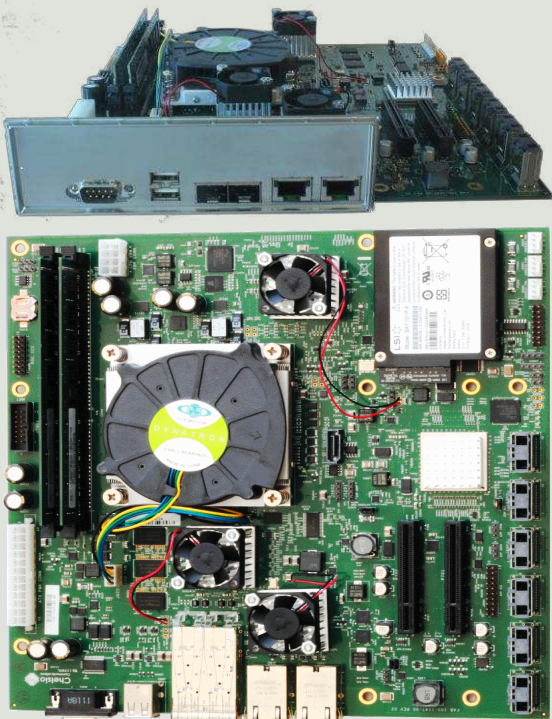


Unified Storage Motherboard

Single Board Storage Controller including Software

Features

- **High Performance Processor**
- **Chelsio T4 Networking**
- **LSI Raid-On-Chip**
- **Support for up to 24 SAS drives**
- **Unified Storage Server software Pre-Installed and Included**
- **Green Product. Need less than 180 watts and only 100 LFM of airflow.**



Overview

Chelsio's Unified Storage Motherboard is a single board computer which creates a storage subsystem consisting of up to 24 SAS disks which are accessible via Ethernet as a:

1. SAN (Storage Area Network)
 - iSCSI
2. NAS (Network Attached Storage)
 - NFS
 - SMB
 - FTP

The Unified Storage Motherboard is designed to deliver high performance, scalable, secure, virtualization ready, and multi-featured host-independent solution that uses low power.

Processor and Slots

The Unified Storage Motherboard uses a High Performance Threaded Quad-core processor as the heart of the system. In addition to its SAS capabilities, the Unified Storage Motherboard has 2 PCIe Gen2 x4 slots for expansion such as a PCI-e based Solid State Disk (SSD) or additional Ethernet or SAS ports.

T4 - Fourth-Generation Protocol Offload Engine

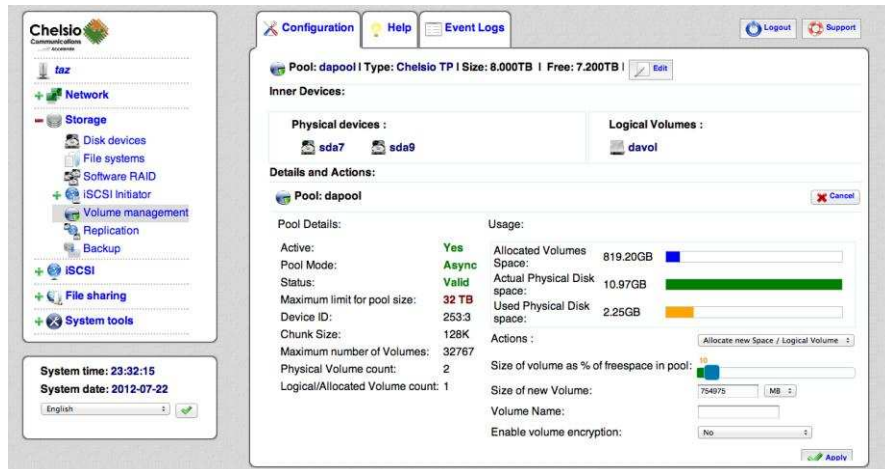
T4 is Chelsio's fourth-generation offload silicon delivering support for TCP offload (TOE), iSCSI, iWARP (RDMA), packet filtering and classification (firewall offload), and traffic shaping (media streaming).

RAID-on-Chip (RoC)

The Unified Storage Motherboard uses a highly integrated Dual-Core RAID-on-Chip (RoC) controller that provides connectivity to up to 24 SAS disks at 6 Gb/sec. The controller supports RAID levels 0/1/5/6/10/50/60.

Ease of Use

Single, field upgradable software image includes all the latest and self-consistent images for all silicon. Field diagnostic phone-home service enables remote diagnostics and preventive maintenance at customer site. Manufacturing diagnostics and stress software assists system integrators in integration and test and diagnostics.



Unified Storage Software (USS)

To configure and manage the card and storage, the Unified Storage Motherboard has pre-installed the Unified Storage Server suite. USS includes a wide array of features that simplify the deployment of iSCSI block storage as well as file sharing in a dependable, reliable, and scalable way. The software is managed either via a CLI or a GUI. The software can also be modified to customize the displayed logo as per the customer for branding purposes.

USS Features

iSCSI

- Full iSCSI offload
- Multi-path IO
- ACLs
- > 2TB LUN Support
- Multiple Connections per Session
- Target redirection
- CRC digest offload

NAS Functions

- SMB/NFS/FTP
- Live migration between storage devices
- Local User and Group Management
- Active Directory Support
- NIS

Hardware Acceleration

- TCP Offload
- HW RAID controller
- iSCSI offload
- T4 HW Filtering/Firewall
- HW based data scrubbing / Data Integrity Verification

Storage Management

- Dynamic LUN allocation, resizing
- Snapshots, scheduling
- Thin Provisioning
- Volume Cloning
- ROW snapshot, instant restore / volume rollback
- Self & Stress Testing
- SSD based Caching

System

- On-line Incremental Update
- Monitoring and Alerts
- Web-based GUI and Character Cell I/F
- Can contact support when a problem is detected

Ordering info

USM1000

Accessories

SM10G-SR: 10G short-reach SFP+ optic module

SM10G-LR: 10G long-reach SFP+ optic module

TAPCABLE1M : Twinax passive cable – 1m

TAPCABLE3M : Twinax passive cable – 3m

TAPCABLE5M : Twinax passive cable – 5m

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Specifications

Microprocessor and Slots

Quad-Core MIPS 64 @ 1GHz
1GB NVRAM for operating environment
16GB of DDR3 Memory
2 PCIe Gen2 x4 slots

RAID on Chip (RoC)

RAID Support 0/1/5/6/10/50/60
Cache: 512 MB, Battery Backed-up

SAS Drives

Up to 24 native SAS drives
6 Gb/sec, 3 Gb/sec, 1.5 Gb/sec

Network

Chelsio T4 ASIC
2 100m/1G/10G – 10BASE-T
2 1/10G CR – SFP+
Up to 5M Twin-Ax Copper
11Gb/sec Full-duplex aggregate bandwidth
CAT 6A – 100M
CAT 5E – 10M
2 USB Ports
1 Serial Port

USS Operating Software

Performance

100K IOPs
11 Gb/sec Full-duplex aggregate bandwidth

Physical and Environmental

MicroATX card – 9.6" x 9.6"
Power: < 180 W
Operating Temp: 0 to 55°C or 32 to 131°F (Board Only)
Operating Humidity: 5 to 95%
Airflow: 100 lf/m