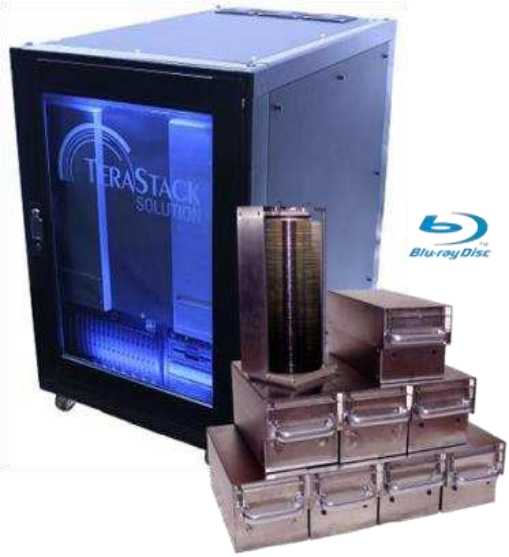
HIE ELECTRONICS
The Future of Data...Now™

Features

(2) TBYTe® Systems shown in Customer Racks

Standalone 15U cabinet or 19" rack
Up to 164 TB using 425 Watts
Scaling to 2.2 PB in 1 Node
Many Nodes Available



(1) Standalone TBYTe® System
(9) TeraStack® Cartridges in Transportable Containers

The TeraStack® Solution

- 164 TB of on-board system storage in a three tiered storage architecture
- Applications Server: 24 core Windows 2008 64 bit host/server; VM host of Linux applications; primary and post processing of data
- Tier I: Enterprise application/storage server with up to 64 TB (RAW) RAID-capable online capacity
- Tier II: 50-100TB of extendable randomly accessible nearline data storage, scalable into petabytes with multiple systems in a clustered architecture
- Tier III: Unlimited transportable offline storage
- Customer-friendly integrated software that automates hierarchical data movement based on customer defined business parameters
- Seamless integration with commercially available software

- Up to 90% reduction in total cost of ownership and operational overhead
- Up to 80% reduction in energy cost, with each unit using approx. 425 watts per hour
- Minimal floor space requirements

TeraStack® Cartridge

- 50-100 years of media data integrity
- Energy passive, non-mechanical media increases reliability and reduces cost
- Automated media handling eliminates human contact with media
- Hot-swappable media volume for added capacity and long-term storage
- COTS Enterprise components; media, burners, and server components follow industry road map for long-term compatibility
- 125 Blu-ray discs in each TeraStack®

Specifications

Application Server	
Operating System	Microsoft Windows Server 2008 R2
Processor	Dual AMD Opteron 2214HE 2.0GHz 24-core
Memory	Optional 4, 8, or 16GB DDR2 667MHz ECC RAM
Online Cache	Up to 64TB (RAW) storage buffer, RAID 5 or 6 capable, Serial-ATA, SLC and MLC SSD Capable, Hot-swappable
RAID Controller	Areca ARC-1680-ix
Network Interface	Gigabit Ethernet, Fibre compatible with expansion card (10GigE, FC optional)
PCI Expansion	PCI , PCI-X, or PCIe x16, SCSI compatible

TBYTe® Storage	
15U Cabinet Physical Dimensions w/ Server	**Width** 22in/56.5cm **Height** 33in/84cm **Depth** 35.5in/90cm **Weight** ≈470lbs/214kg
Rack-mount Unit Physical Dimensions w/ Server	**Width** 19in/48.3cm **Height** 31in/79cm **Depth** 33in/84cm **Weight** ≈400lbs/181kg
Max. Capacity (per TBYTe®)	**Online** Application Storage Server **Nearline** 100TB (8 TeraStack® Cartridges w/ 100GB Media) **Offline** Unlimited
Burners (per TBYTe®)	6 to 14 Dual layer Blu-ray; hot-swappable; expandable in pairs
Operating Environment	**Temperature** 50-95°F, 10-35°C **Humidity** 20-80%, non-condensing
Warranty	**Standard** 1-year hardware
Robotic Sensor Type	Class 2 Laser
Power (per TBYTe®)	**Power Supplies** 2+1 redundant and hot-swappable **Power Rating** 100-240VAC auto-sensing **Power Usage** 425 W typical, 800 W max **Heat Generation** 2047 BTU per hour typical
Data Rate (per TBYTe®)	**Peak** 400MB/second **Sustained** 121.8MB/second max

TeraStack® Cartridge	
Media/Capacity	50GB Blu-ray write once (WORM) or re-writable / **6.25TB RAW**
Media/Capacity	100GB Blu-ray write once (WORM) / **12.5TB RAW**
Cataloging	Embedded with flash media to allow operation with any TBYTe®
Data Integrity	**Write Once** 100 years **Re-Write** 50 years
Storage Environment	**Temperature** 50-131°F, 10-55°C **Humidity** 5-90%, non-condensing

8 Series TBYTe® (Customizable options available)

Overview

Nomenclature Legend: TBYTe 8.14.64
- 8 = # TERASTACKS
- 14 = # BURNERS
- 64 = # TB (ONLINE)

Base Models	8.6.X	8.14.X
# Burners	6	14
Data Rate for BD-RE SL, DL	**Read** 2X – 4.7 TB/Day **Write** 0.9X – 2.1 TB/Day	**Read** 2X – 10.9 TB/Day **Write** 0.9X – 4.8 TB/Day
Data Rate for BD-R SL, DL	**Read** 6X – 14.0 TB/Day **Write** 1.8X – 4.3 TB/Day	**Read** 6X – 32.7 TB/Day **Write** 1.8X – 10.0 TB/Day
Data Rate for BD-R TL	**Read** 4X – 9.3 TB/Day **Write** 1.5X – 3.4 TB/Day	**Read** 4X – 21.8 TB/Day **Write** 1.5X – 8.0 TB/Day

SL – Single Layer Discs (25GB), DL – Double Layer Discs (50GB), TL- Triple Layer Discs (100GB)

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