



Data Management and Storage Solutions Overview

Distributed Multi-Cloud Data Management Software



Storage Lifecycle Management Software



SPECTRA
Attack-hardened data management and storage for the multi-cloud world

Multi-Purpose Hybrid Storage Platform



Long-Term Storage and Secure Digital Preservation



Introducing



Distributed Multi-Cloud Data Management Software

Vail unifies all of your data, allowing you to leverage on-premises applications and native cloud services, no matter where your data is created or stored.

Vail provides a user experience that is built utilizing Amazon® Web Services (AWS®), meaning that users familiar with AWS will have an easy transition to Spectra's Vail software. Vail's multi-synchronization capability manages cloud and on-premises storage repositories so that customers can direct users to either type of storage based on that user's locality and performance requirements, all under a single pane of glass management user interface (UI). Vail enables workflows that leverage the flexibility and agility of cloud services while keeping data locally when needed, allowing egress optimization for lowest cost and fastest access from available storage. For datasets that are on-premises, Vail can synchronize them to public cloud storage enabling public cloud applications to leverage the same data as on-premises applications.

Leverage cloud services

Vail enables users to extend their data center into the public cloud and manage data in multiple clouds and multiple locations under a single, policy-based management structure. During the process to leverage the public cloud and the services it can provide, Vail can keep the customer's on-premises and cloud storage synchronized so that the data is usable in both locations simultaneously. This allows on-premises applications and cloud applications to use the same data without negative impacts to performance. When data is no longer needed in the public cloud, a golden copy can be maintained on-premises, and the copies in the public cloud can be erased to stop the metered service, without losing the long-term preservation often required.



Multi-site, multi-cloud

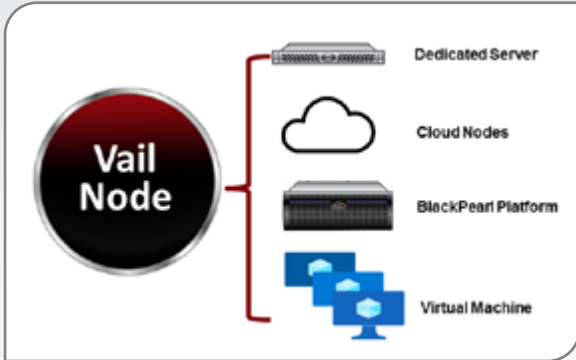
There are many ways to extract value from data today. With more public cloud providers providing overlapping and complementary capabilities, users have reasons to want the same data in multiple locations in a synchronized way. Vail extends multiple public and private clouds into a single global namespace with a user-defined policy engine so that data can be leveraged where it has the most value and at the optimal cost. With a complete copy of data in the on-premises data center infrastructure, customers can populate and synchronize object data into whichever cloud they want on demand. Then once the computations are completed, the data can be deleted from metered locations without incurring egress charges.

Control cloud costs

By keeping object data which is actively used by cloud-based applications in the cloud and storing an entire copy of data on-premises, customers can use their data center infrastructure to store a golden copy of data. This will save on metered cloud costs while continuing to extract maximum value out of their cloud services. When data stored on-prem is needed in any public cloud, customers can populate and synchronize data to the cloud location where it delivers the most business value. When the data is no longer being used in a metered public cloud, the customer can delete the data from that location without incurring egress charges.



Building Blocks of a Vail Solution



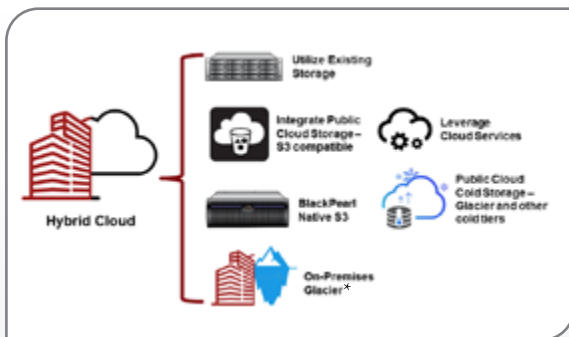
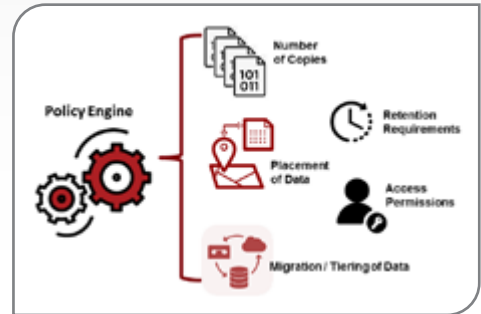
Connection Types (Vail Nodes)

A Vail node is a software package that can be deployed on a number of options:

- A virtual machine or on a BlackPearl storage platform
- Existing storage
- Cloud storage – AWS, **GCP, **Azure
- Spectra storage
- Local glacier tier (tape behind BlackPearl)

Lifecycle Policies Drive Vail Solutions

A lifecycle policy in a Vail solution consists of rules that dictate where objects are stored and the length of time they are stored in each storage location. Each lifecycle policy is created by the administrator to fit the desired workflow and retention periods. Users can determine the placement of objects in the bucket by specifying the number of copies the rule will keep and the specific storage pools to use. The available storage targets consist of public cloud storage tiers and local storage under control of a Vail node that has been integrated into a Vail Sphere.



Hybrid Cloud Integrations

Vail presents both on-premises and cloud-based storage options within the lifecycle policies. Copies can be made immediately or after, in any location, to any storage target or medium, and presented to the user as one simple storage system that reacts to their immediate needs.

From storage to compute, Vail integrates with the major cloud providers and any cloud using S3 protocols. This eliminates cloud lock-in and provides the ability to leverage the cloud and cloud services that fit the desired workflow.

Glacier Storage for Long-Term Retention

Creating a local glacier repository is now possible with the help of Vail. Glacier storage delivers substantial cost savings and infinite scalability. The benefits of a Vail solution cannot be overstated. The fact that long-life object storage disk and literally unlimited tape capacity can be realized, makes your own glacier storage tier an easily attainable reality.

The seamless combination of affordable disk and ultra-cost-efficient tape, means that any company's growing data universe can be organized and managed in a whole new way – and without any cloud lock-in limitations.



**future release



Storage Lifecycle Management Software

Running out of Primary Tier storage?

Backups taking too long? StorCycle solves these challenges with its ability to identify inactive data based on user-defined policies, and then migrate this data to a protected and less expensive Perpetual Tier of storage. StorCycle is capable of managing trillions of files in its database which is backed up daily. StorCycle works flawlessly with all Spectra disk and tape products or can be integrated as a stand-alone into a customer's current storage environment.



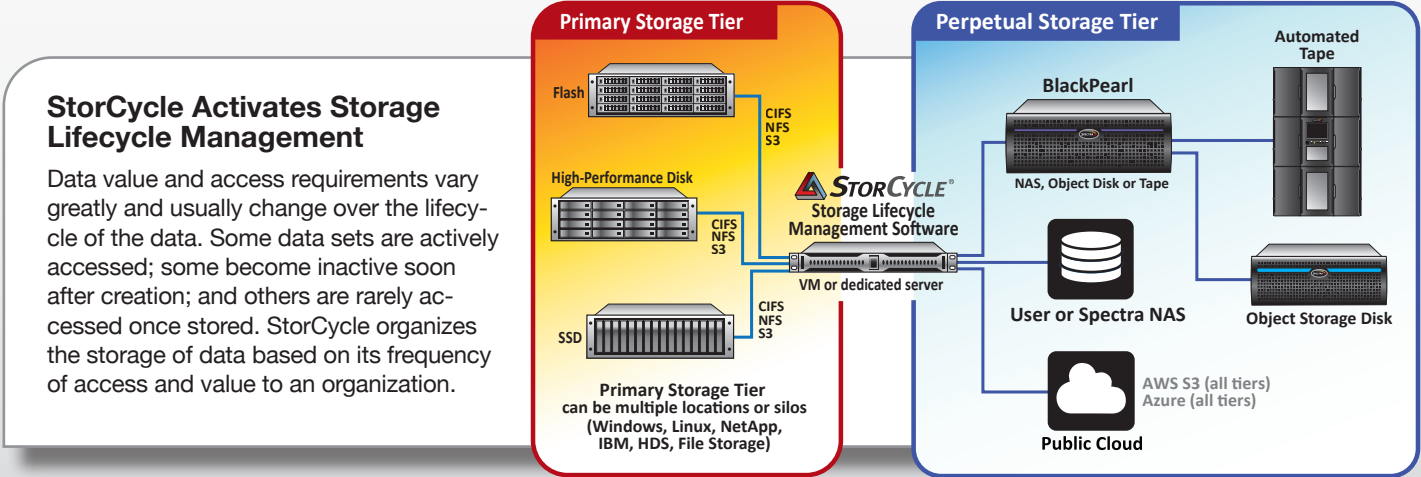
StorCycle is designed to address four vital storage management necessities:

1 Identify Storing growing amounts of inactive data on expensive primary disk is a financial drain on an organization's bottom line. StorCycle can identify any and all data that can and should be moved to less expensive disk space, tape archives or even the cloud.

2 Migrate StorCycle software provides two basic methods of migrating data – Project Archive and Auto Migrate. The Project Archive method is for completed data sets which will change minimally, if at all, but cannot be deleted. The Auto Migrate method identifies inactive files based on user-defined age and size policies, and moves those files to the Perpetual Tier. StorCycle can be a stand-alone software product utilizing the cloud and user NAS, or paired with Spectra hardware to create a secure storage environment.

3 Protect Cyberattack, ransomware, natural disaster or simple human error – any of these can destroy an organization's most valuable asset – its digital data. StorCycle software protects data through end-to-end checksums, encryption on all storage targets, and storage of multiple copies on multiple storage mediums. StorCycle is fully ADFS compliant meaning file permission will remain intact regardless of where data is stored.

4 Access StorCycle's unique ability to use HTML Links or Symbolic Links assures quick and easy user access to data even after it has been migrated. StorCycle removes the file from primary storage leaving a link behind for access. The user-friendly StorCycle web interface also includes a robust search interface to easily find and retrieve files. StorCycle stores data in open formats such as CIFS or NFS file systems, LTF5 recorded tape, or native cloud formats.



SPECTRA BLACKPEARL®

Multi-Purpose Hybrid Storage Platform

BLACKPEARL® Network Attached Storage



Flexible, Reliable Attack-Hardened NAS

BlackPearl NAS is the ideal solution for organizations from Enterprise IT to Media and Entertainment and everything in between. Designed around its cost-effective, scalable storage solution, the BlackPearl platform is made to handle a variety of workloads to be a backup target or data offload storage destination, among others. When the base NAS platform is expanded, it becomes the perfect springboard solution that is flexible enough to adapt to an ever-changing list of storage requirements.



BLACKPEARL® S3 Storage



Hybrid Cloud Storage: On-Premises and Multi-Cloud

BlackPearl's native S3 extension enables easy-to-implement hybrid cloud storage with local S3 protocol and even failover to the public cloud. BlackPearl's native S3 extension provides storage that makes it easy for organizations to deploy an S3-based storage solution at a single site, or across multiple sites, including replication to the public cloud. As BlackPearl is fully integrated with the public cloud, organizations can leverage cloud services and keep data locally. This allows for freedom to choose the cloud provider of your choice and leverage local storage for increased performance and application dependency.

BLACKPEARL® Nearline Gateway



Massive Content Storage At Virtually No Cost

Spectra's BlackPearl Nearline Gateway storage solves the problem of costly and complex approaches to digital preservation by combining NAS and S3-based interfaces with multiple storage targets into a simple and affordable solution. Designed for numerous concurrent workflows, BlackPearl reduces the need for expensive third-party data movers by integrating Spectra S3 with a range of certified clients and simple file movers.

BLACKPEARL® On-Prem Glacier



A Breakthrough in Long-Term Disk Storage

Creating a local glacier* repository is now possible with the help of BlackPearl. On-Prem Glacier storage delivers substantial cost savings and is infinitely scalable. The benefits of a BlackPearl solution cannot be overstated. The fact that long-life object storage disk and literally unlimited tape capacity can be realized, makes your own glacier storage tier an easily attainable reality.

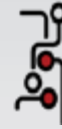
The seamless combination of affordable disk and ultra-cost-efficient tape, means that any company's growing data universe can be organized and managed in a whole new way – and without any cloud lock-in limitations.

BlackPearl Attack-Hardened Features



Triggered Immutable Snapshots:

Snapshots, or point-in-time copies of a volume, let you restore a volume to the state it was in when the snapshot was created. BlackPearl interfaces with backup software via pre and postscripts. After the snapshot is complete, Spectra provides code to be used to make the target volume read only.



Multiple Types of Air Gap:

- **Virtual Air Gap** - Replication inside BlackPearl unit
- **Remote Air Gap** - Replication to a remote BlackPearl
- **Offline Air Gap** - Tape copy of data



Multi-Factor Authentication:

BlackPearl works with Google Authenticator to confirm the identity of any user trying to log into the BlackPearl system.



Tape Storage for Offline Storage:

BlackPearl has full integration with Spectra automated tape libraries and can provide a fully protected, offline copy of your data to ensure no outsider threat can access that offline data.



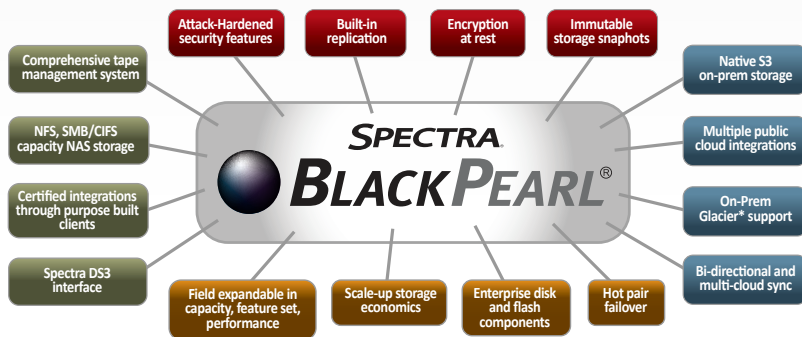
Multi-Site Replication:

BlackPearl can replicate to another volume in the same BlackPearl system, a separate system located in the same onsite location, a different offsite location, or a remote cloud target.



Self-Encryption:

BlackPearl can be configured with self-encrypting drives (SED). This is excellent protection of the data if a drive is being sent back for repair or being disposed of at end of life.



Legend

- BlackPearl Security Features
- BlackPearl Software
- BlackPearl Hardware
- BlackPearl S3 powered by Vail

BlackPearl Platform:

BlackPearl is a multi-purpose hybrid storage platform that easily and cost effectively scales up as object and file volumes grow; adapts as operational requirements change; and enables easy synchronization of data between on-prem and cloud storage.



	BlackPearl V Series			BlackPearl S Series			BlackPearl X Series			BlackPearl Expansion
	CPU With Motherboard	Tape Connect	Network	CPU With Motherboard	Tape Connect	Network	CPU With Motherboard	Tape Connect	Network	Dual Power Supplies
Interface	Single	Up to 3 FC or SAS HBA	25 GbE Standard, 40GbE optional	Single	Up to 3 FC or SASHBA	25 GbE Standard, 40GbE optional	Single or Dual	Up to 2x8 or 16 port FC or SAS HBA	100GbE Standard	SAS Interface
Internal Disk Drives	24 x 3.5" SAS HDD's			60 x 3.5" SAS HDDs						107 x 3.5" SAS HDDs
Flash Drives	(Upgrade) 6 x 6.4 TB NVMe SSD's			(Upgrade) 10 x 6.4 TB NVMe SSDs			24 x 6.4 TB NVMe SSDs			None
Throughput	Up to 1.6 GB/s to tape sustained			Up to 4 GB/s to tape sustained			Up to 9 GB/s to tape sustained			
Expansion	Up to 10 expansion chassis*			Up to 9 expansion chassis*			Up to 10 expansion chassis*			
Capacity of expansion	107 drive expansion chassis			107 drive expansion chassis			107 drive expansion chassis			Up to 107 drives per 4U chassis

For complete specifications, please contact your Spectra Representative or visit www.spectralogic.com/BlackPearl. *In a 42U rack

Spectra's Tape Library Family

TFinity **ExaScale**



Can hold up to
2.53 EB
in a 45-frame
TFinity ExaScale
Tape Library

The TFinity ExaScale library shown at left is an example of the optional front panel graphic customization available.

TFinity® ExaScale Tape Library The World's Highest Capacity Storage System

Proven by the largest data users in the world, TFinity ExaScale offers a highly flexible hardware architecture and a revolutionary management interface, helping you achieve the ultimate in data preservation. The TFinity ExaScale can expand up to 45 frames in a single library.

Built upon Spectra's history as the undisputed leader in tape technology innovation, TFinity ExaScale offers many advantages: component redundancy, high-performance dual robotics, industry-leading storage density, extreme scalability, energy efficiency, ease of management, integrated encryption and enduring reliability and service.



*Sample image:
9-frame TFinity*



In addition to LTO drives and media, TFinity ExaScale can use the fastest and highest capacity IBM® TS1160 Technology. This library can also incorporate Oracle T10000 proprietary drives and tape. (see below)

Product Specifications

Minimum 3-frame Library Configuration				
Media/Drive	Max Slots	Max Drives	Capacity Native/Compressed ¹	Throughput Per Hour Native/Compressed
IBM® TS1160 Technology	1,350 slots	24 drives	27 PB / 67.5 PB	34.56 TB / 86.4 TB/hr
LTO-9 FH	1,800 slots	24 drives	32.4 PB / 81 PB	34.56 TB / 86.4 TB/hr
LTO-8	1,800 slots	24 drives	21.6 PB / 54 PB	31.1 TB / 64.8 TB/hr

1. Compressed at 2.5:1 for IBM® TS1160 Technology, LTO-8 and LTO-9

As large as a 45-frame Library Configuration			
Media/Drive	Max Frames	Max Slots	Max Capacity ¹
IBM® TS1160 Technology	45	42,930	2.146 EB
LTO-9 FH	45	56,400	2.53 EB
LTO-8	45	56,400	1.6 EB

1. Compressed at 2.5:1 for IBM® TS1160 Technology, LTO-8 and LTO-9

The TFinity ExaScale 45-frame library

Max Capacity: Over 2 Exabytes

- 144 drives
- 42,930 IBM® TS1160 slots: 2.146 EB
- 56,400 LTO-9 slots: 2.53 EB



Max capacities shown above are calculated with 2.5:1 compression

Spectra Exclusive!

Now available with Oracle® T10000 Technology



We now offer the ultra-functionality of tri-media. LTO, IBM® TS11XX, and Oracle® T10000 all in the same tape library. This provides for maximum flexibility in any environment and makes migration of data easier from one media to another.

Operational Reliability: TFinity has been tested to 3 million MCBF and to 6.33 years MTBF.

The Spectra T950 and T950v Enterprise Storage Without Compromise

Product Specifications for T950 and T950v

CAPACITY				
Media	Base frame max slots ²	Base frame max capacity ²	8 frame max slots	8 frame max capacity
IBM® TS1160 Technology	738	14.7 PB 36.9 PB*	7,614	152 PB 380 PB*
LTO-9	920	16.5 PB 41.4 PB*	10,020	180.3 PB 450.9 PB*
LTO-8	920	11 PB 27.6 PB*	10,020	120 PB 300.6 PB*

² With four drives installed

THROUGHPUT				
Drive	Base frame max drives	Base frame max throughput	8 frame max drives	8 frame max throughput
IBM® TS1160 Technology	24	34.56 TB/hr 86.4 TB/hr*	120	172.8 TB/hr 432.0 TB/hr*
LTO-9	24	34.56 TB/hr 86.4 TB/hr*	120	172.8 TB/hr 432.0 TB/hr**
LTO-8	24	31 TB/hr 64.8 TB/hr*	120	155.6 TB/hr 324 TB/hr**

T950 Physical Characteristics (Base Frame)

H x W x D: 79.2" x 29" x 43.25" / 201 x 73.6 x 109.9 cm
 Weight (loaded): 1850 lbs (LTO) / 839.2 kg
 Min/Max Slots: 100 (expandable to 10,020 LTO slots)
 Drives Supported: LTO-5, LTO-6, LTO-7, LTO-8, LTO-9
 IBM's TS1140, TS1150, TS1155, TS1160

*Capacity values calculated using compression:
 LTO-8, LTO-9 and IBM® TS1160 (2.5:1)
 **Throughput rate calculated using maximum compression achievable

8-Frame Spectra T950 With Bulk Entry/Exit Frame



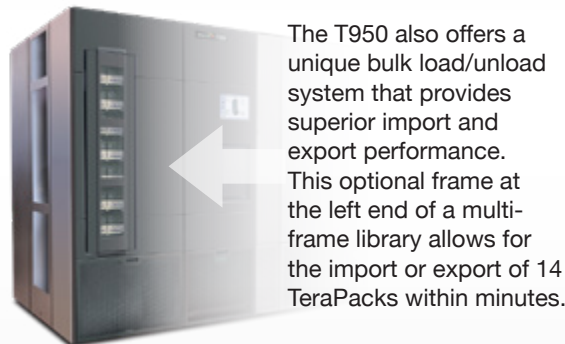
T950

Base Frame Spectra T950

The award-winning Spectra T950 library leads the field with the lowest TCO of any tape solution—from the greatest storage density and feature set to integrated encryption with key management—in an automated library. T950 also offers comprehensive media and hardware health monitoring inside our easy-to-use, single management BlueScale® interface, giving you a simple and secure system that eliminates the element of surprise. The T950 can also configure with IBM® TS1160 Technology drives & media for even greater performance.

Maximum Density, Performance & Availability

The T950 brings an elegant, straightforward solution to managing large quantities of tapes: TeraPack® cases, each holding up to ten LTO or nine IBM® TS11XX tape cartridges. The TeraPack architecture reduces floor space requirements allowing the T950 to use as little as 20% of the floor area that competitors require.



The T950 also offers a unique bulk load/unload system that provides superior import and export performance. This optional frame at the left end of a multi-frame library allows for the import or export of 14 TeraPacks within minutes.



T950v Spectra T950v: Same capacities and most features as T950 but at a reduced price point.

Enterprise tape storage is now more affordable. Spectra is offering a reduced-cost version of its award-winning T950 Tape Library. This full-featured library model has all of the capabilities of the original but with a few bells and whistles left off to achieve some significant cost savings. It still has the ability to use LTO-7, LTO-7 Type M, LTO-8 and LTO-9 drives and media, or the extra high performance of IBM® TS1160 technology. T950v can also expand to a maximum of 8 frames like the original T950.

The T950v uses a single TAP (TeraPack Access Port) and features simplified wall panels and a reduction in drive bays. It retains all of the full functionality of the BlueScale management interface in common with the T950. (See T950 library features on spectralogic.com)



Shown here, the T950v in its 8-frame maximum configuration.

SPECTRA Stack

Spectra's New Stackable Tape Library with scalability and reliability built in.

Built with maximum flexibility at its core, the Spectra® Stack Tape Library will meet your backup, archive, and perpetual storage requirements. Designed to be easily installed, expanded and managed, the Spectra Stack is rated at a 100% duty cycle – meaning it is one of the only stackable libraries built to perform in a 24/7 environment. Spectra Stack starts as a 6U library with 1 to 6 LTO tape drives and 10 to 80 LTO tape slots. Each module of the Spectra Stack holds an additional 10 to 80 tape slots and 1 to 6 tape drives. Scalable from 10 to 560 tape slots and 1 to 42 tape drives, users can store more than 10PB (25.2PB compressed) of data in a fully expanded Spectra Stack library.

No. of Modules	Form Factor	Max Slots	Maximum Capacity			
			LTO-8		LTO-9 FH and HH	
			Native	Compressed†	Native	Compressed†
1 (1 CM*)	6U	80	960 TB	2.4 PB	1.44 PB	3.6 PB
2 (1 CM, 1 EM**)	12U	160	1.9 PB	4.8 PB	2.88 PB	7.2 PB
3 (1 CM, 2 EM)	18U	240	2.8 PB	7.2 PB	4.32 PB	10.8 PB
4 (1 CM, 3 EM)	24U	320	3.8 PB	9.6 PB	5.76 PB	14.4 PB
5 (1 CM, 4 EM)	30U	400	4.8 PB	12.0 PB	7.2 PB	18 PB
6 (1 CM, 5 EM)	36U	480	5.7 PB	14.4 PB	8.64 PB	21.6 PB
7 (1 CM, 6 EM)	42U	560	6.7 PB	16.8 PB	10.08 PB	25.2 PB

No. of Modules	Form Factor	Max Drives	Maximum Performance – TB/Hr			
			LTO-9			
			Full Height Drive		Half Height Drive	
			Native	Compressed†	Native	Compressed†
1 (1 CM*)	6U	6 HH, 3 FH	4.32	10.80	6.48	15.12
2 (1 CM, 1 EM**)	12U	12 HH, 6 FH	8.64	21.60	12.96	30.24
3 (1 CM, 2 EM)	18U	18 HH, 9 FH	12.96	32.40	19.44	45.36
4 (1 CM, 3 EM)	24U	24 HH, 12 FH	17.28	43.20	25.92	60.48
5 (1 CM, 4 EM)	30U	30 HH, 15 FH	21.60	54.00	32.40	75.60
6 (1 CM, 5 EM)	36U	36 HH, 18 FH	25.92	64.80	38.88	90.72
7 (1 CM, 6 EM)	42U	42 HH, 21 FH	30.24	75.60	45.36	105.84



Full Rack: Controller Module plus 6 expansion modules



Controller Module

*Controller Module
**Expansion Module
†Assumes 2.5:1 compression

Spectra Stack management suite

Easy to use and manage, the library's management software provides a similar feature set as the rest of the Spectra tape library family, including an intuitive color touchscreen, remote web interface, ability to create partitions (up to 20), built-in diagnostics, Media Lifecycle Management, Drive Lifecycle Management, encryption, and encryption key management. An optional SpectraVision web camera can be mounted inside the rack to provide an immediate visual assessment of all robotics.

Spectra T680 and T380 Product Specifications

Model	Max. Slots	Media/Drive	Max. Drives	Maximum Capacity Native / Compressed	Maximum Throughput Native / Compressed	Dimensions	Weight
T680†	680	LTO-9 FH	12	12 PB / 30.1 PB†	17.3 TB/hr / 43.2 TB/hr†	80.5" x 24" x 48" 186.7 x 44.5 x 102.8 cm 42U	765 lbs 347 kg
		LTO-8		8 PB / 20.1 PB†	15.6 TB/hr / 32.4 TB/hr†*		
T380	261	IBM® TS1160	12	5.2 PB / 13.05 PB†	17.28 TB/hr / 43.2 TB/hr PB†	49" x 17.5" x 41" 124.6 x 44.5 x 102.8 cm 28U	305 lbs 138 kg
	380	LTO-9 FH		6.8 PB / 17.1 PB†	17.28 TB/hr / 43.2 TB/hr PB†		
		LTO-8		4.5 PB / 11.4 PB†	15.6 TB/hr / 32.4 TB/hr†		

Spectra T680



Spectra T380

†Compressed capacity values calculated at a ratio of 2.5:1 Compressed throughput calculated at maximum achievable rate. (Maximum capacity and throughput may change according to configuration.) Drive support includes LTO-7, LTO-8, LTO-9 and IBM® TS11XX in the T380 library. 1) T680 ships with a standard 19" rack. Additional weights: Drive/Sled: 12 lbs / 5.4 kg each; TeraPack® Case (With Media): 6 lbs / 2.7 kg, each

Tape Library Product Features



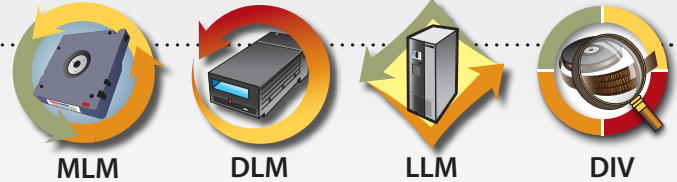
BlueScale: Simple, yet powerful library management

BlueScale is the common software management interface for all Spectra libraries (except the Spectra Stack which uses its own software). BlueScale is available through each library's onboard LCD color touchscreen and also through remote web access. BlueScale is an easy-to-navigate, browser-based library management tool that enables our storage solutions to work easily, flexibly and safely with your data.

- Manage from anywhere using a secure web browser
- Monitor the library's interior with a web-based camera
- Monitor power usage with EnergyAudit™
- Secure your data through integrated encryption with key management
- Support multiple partitions in a single library with Shared Library Services (SLS)

Complete Lifecycle Management

For highly reliable tape archive and backup, Spectra libraries track and report the expected lifetime utilization thresholds for tape media, drives and library components. With advance notification, you can address any potential concerns before they become an operational issue.



To ensure the viability of your data, **Media Lifecycle Management (MLM)** tracks and reports on over 40 health and security related statistics for Spectra Certified Media. Detailed reporting can warn you to copy and move your data onto new media when necessary. Like MLM, **Drive Lifecycle Management (DLM)** extends the same proactive approach to drives by integrating tape drive analysis and reporting within the library. Using easy-to-manage, color-coded icons, you can quickly identify the health status of a drive. Managing the health of your library's critical components is made easy with **Library Lifecycle Management (LLM)**. By delivering utilization metrics relative to the expected useful life of library robotics, filters and other critical components; you are able to service your library before issues occur.

Data Integrity Verification (DIV) is built into BlueScale's management suite that allows you to proactively check each tape before and after data is written. **PreScan** ensures that tapes are usable and can accept data. **QuickScan** scans a tape uni-directionally by reading the length of one track of the tape to provide a rapid indicator of integrity of data written. **FullScan** checks an entire tape to ensure that all sectors can be read. The library stores all of the **DIV** information into a database. Users can set triggers to check the health of tapes over an interval of time to ensure that the data is valid.

Spectra Encryption and Key Management

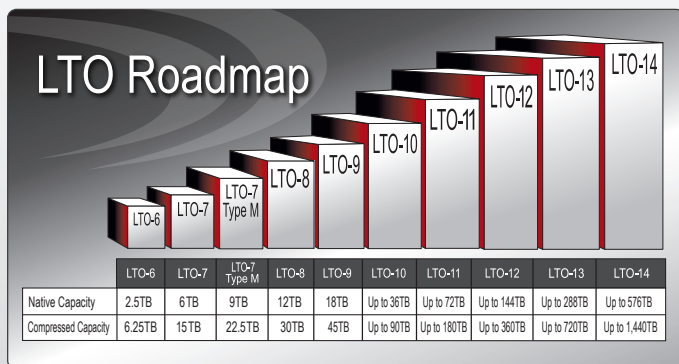
All Spectra Tape Libraries allow you to add AES-256 bit encryption through encryption-capable tape drives. This lets you compress, encrypt and backup data in a single step. To help you secure data on tape, Spectra SKLM and BlueScale Encryption deliver tailored, customer-centric encryption solutions.



Spectra Certified Media: Efficient Management and Data Assurance

Spectra Certified Media is ready to use when you receive it: cleaned with CarbideClean®, pre-labeled, pre-loaded into TeraPacks, and covered by Spectra's Lifetime Media Guarantee. Our Certified Media offers a wide range of media options: bulk or individual cartridges, cleaning cartridges, and custom and standard bar-code labels. We also offer custom-fit Iron Mountain cases for secure offsite handling.

The unique TeraPack design gives Spectra's libraries unrivaled storage density, offers secure stacking for storage and provides you with highly efficient media handling. The 8-, 9- and 10-tape TeraPack containers allow for bulk media loading which can reduce the time you spend handling tapes up to 90%.



Note: Compressed capacities assume 2.5:1 compression (achieved with larger compression history buffer).
Source: The LTO Program. The LTO Ultrium roadmap is subject to change without notice and represents goals and objectives only.

LTO Technology

LTO (Linear Tape-Open) Ultrium Technology is optimized for high capacity and performance with exceptional reliability in either a stand-alone or an automated environment. Ideally suited for backup, deep storage and archive applications, the LTO tape format establishes a new benchmark for large volume data protection and archive.



LTO technology will meet the needs of the enterprise with a roadmap that extends into the next decade.

World-Class Support



The SpectraGuard Difference – Customer Focused. Results Driven.

Spectra Logic's SpectraGuard support takes a personal and attentive approach to every support interaction regardless of customer size or severity level. It's what sets Spectra apart and will earn your highest satisfaction. We provide the correct tools, expertise and resources to drive your issues to resolution. We offer a comprehensive set of support options spanning a wide range of business requirements, from simple phone support and parts replacement, to custom add-ons such as stocked parts at customer sites and focused service account management.

A Better Approach to Support

24x7 Global Support – Our technical experts and management teams are available around the clock to ensure you are receiving the support you can rely on. With an industry-leading time-to-answer average of 30 seconds, and an unprecedented 98% incident resolution rate at Tier 1, you can count on Spectra support to assist you. Our centralized location at our corporate headquarters in Boulder, Colorado is complemented by our European and Asian support teams to provide global time-zone coverage.



Unparalleled Customer Satisfaction – As customer satisfaction is one of our core values, we are dedicated to ensuring you receive the best support out there. Our customers validate their positive experience by consistently providing us with near-perfect ratings on routine satisfaction surveys.

Professional Services – Quickly implemented and according to specification, these services allow a rapid return on your storage investment from the time of first contact to the end of the product lifecycle. Services include: Installation and Integration, Media Migration, Preventative Maintenance, Customized Training, Data Center Services, and many more.

Assisted Self Maintenance – For those organizations that require immediate parts availability, this industry-first support option provides faster resolution time with onsite, customer replaceable parts. Secure sites, remote locations, and companies with hands-on oriented technical staff will find this supplemental support ideal to meet their unique requirements.

AutoSupport Phone Home – When a critical error on the library occurs, BlueScale AutoSupport notifies our support team, sends error logs via email, and automatically opens an incident on your behalf. The support process is initiated without you even making a phone call, and because we understand the importance of response and recovery times, this benefit is part of every support contract – at no additional cost.



Technical Account Management – This personalized support service provides a single point of contact at Spectra. Familiar with the intricacies of your data storage environment, your personal advocate is accountable for managing and overseeing all technical support activities for your organization. This premium service saves you effort, involvement and time, allowing you to focus on achieving your core business objectives.

Storage Crisis Lifeline – A disaster recovery program, Storage Crisis Lifeline provides customers with a complimentary loaner library and installation services in the event a disaster situation damages or destroys the original library to the point that data cannot be restored.

Training – Those responsible for administering, operating or maintaining a Spectra product will benefit from our hands-on training courses. Customers will walk away with the expertise to skillfully manage their tape library, and the added proficiency to replace parts and perform preventive maintenance procedures without having to engage Spectra Logic.

Price Lock – A first of its kind price protection plan on all of our tape product support offerings that guarantees the list price of your annual support agreement will never go up more than the rate of inflation year-over-year.

“Spectra's fast support response means that we can always rely on Spectra to find a solution or quickly send replacement parts.”

*Post-Production Manager
AMC Networks*

Spectra Logic's Integrated Portfolio

Spectra Logic has over 40 years of experience delivering innovative, high-capacity, long-term storage – and with it, a sterling reputation for being known and trusted as a storage company. This has given us the foundation to deliver a new generation of data management and storage solutions for a future that is not only cloud, but multi-cloud. And it's a future where Spectra addresses the challenges faced by many organizations of increasing internal and external attacks, such as ransomware, that threaten company brands and bottom lines.

Spectra's experience and successful track record in meeting customer needs has led to a portfolio transformation that consists of Attack-Hardened™ data management and storage solutions for the multi-cloud world.

Whether you are looking to manage data seamlessly across public and private clouds, store data securely for many types of workloads, automate migration to take advantage of the perpetual tier of storage or store data easily on an affordable, scalable platform, or any combination of these, Spectra Logic delivers an innovative portfolio of integrated solutions to help your organization protect, access, secure and harness the power of your data.

