Spectra StorCycle for Media & Entertainment

Visibility and Insight to Better Manage Storage

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Introduction - Market Shifts and Challenges

The Media & Entertainment (M&E) market has gone through major changes over the last few years, and the transformation continues. The move from analog to digital, dramatic increases in resolution, higher frame rates, high dynamic range, and immersive technologies has caused a dramatic increase in the amount of content being created. Another factor in the increase of captured content is the ratio of raw to finished assets. Typical ratios of 10:1 and 20:1 have risen to staggering ratios of 100:1 to nearly 1000:1 – driven primarily by reality TV shows. The shift to digital and IP has created more channels of delivery with a plethora of end devices and a multitude of formats further exacerbating this challenge.

While organizations have worked hard to adapt to this new digital realm, they find themselves competing for viewership with a completely new breed of highly specialized companies, such as Google, Facebook, and others – all with businesses that compete to capture a greater number of eyes for viewership. As the battle for viewers gains momentum, so does the need for original content ownership and streaming, each of which results in greater quantities of content created.

Storage budgets have remained flat in most organizations, making content storage growth a primary concern and requiring new creative solutions to assure competitiveness within the industry.

Spectra Logic has worked with the media and entertainment industry for over 40 years – introducing numerous storage technologies such as object storage disk, object storage tape, hybrid cloud solutions and migration programs to move content off of proprietary applications and media. In response to the ever evolving need for modern technologies and tools to help customers solve content storage challenges, Spectra has now introduced StorCycle® Storage Lifecycle Management Software to address data lifecycle management challenges.

StorCycle moves content to the right level of storage at the right time assuring that all storage types can be used to their utmost economic value to balance cost, performance and availability.

Spectra's Commitment

Spectra developed BlackPearl® Object Storage Disk to help media and entertainment organizations transform their storage infrastructures to optimize managing content and relevant workflows in the most efficient ways, based on open standards -- whether on premise or in the cloud, local or remote. Spectra followed this commitment with the introduction of Eon Browser, a freeware that archives unmanaged assets. More recently, Spectra introduced BlackPearl RioBroker, a front-end software to BlackPearl, that further enhances the Spectra BlackPearl platform as a resilient system that scales to meet the storage needs of small businesses all the way up to large enterprises. StorCycle software now makes it easier to take advantage of the BlackPearl family, and other third-party storage subsystems providing users with a modern storage foundation that frees them from the handcuffs associated with their legacy, proprietary storage systems. This new platform allows end users to move to modern technologies with all their associated benefits: simpler open systems, scale at contained cost, multiple geographic operations, consolidation, and more efficient and automated workflows.

Managed and Unmanaged Assets

The broadcast industry deals primarily with two types of assets: managed assets and unmanaged assets.

Managed Assets

Managed assets are commonly managed via Production Asset Management (PAM), Media Asset Management (MAM), or at times Digital Asset Management (DAM) systems. Assets within the 'managed assets' category are often managed in groups (news, sports, seasons, events, etc.) and are typically placed on the proper tier of storage by policies administered by the asset management applications in order to balance cost and perceived value, assuming a modern storage infrastructure is in place.

Unmanaged Assets

Conversely, unmanaged assets fall outside of the domain of asset management applications due to a lack of support by the applications for such files. Examples of such material are raw or original content, graphics, still images, etc. In some instances, it is possible to deploy separate, dedicated management applications, but the cost of such software often overrides the benefit offered. The storage capacity used by these unmanaged assets often grows astonishingly large, and it all sits on costly primary storage, eventually reaching a threshold that is both financially and operationally difficult to manage.

In production and post-production environments, asset management systems are typically found only in larger organizations that can afford such applications. In the absence of asset management applications, operations such as workspace protection, periodic project recurrence, project-based file tiering, and archive management are dealt with manually. If automation is used at all, it's semi-automated with the use of scripts. In these environments, lack of cost-efficient, intelligent solutions leads to the acquisition of additional, expensive primary storage. Similar challenges also apply to the IT divisions within these organizations who have no way to share existing resources.

A cost-effective, intelligent, tiered storage solution is needed for organizations of all sizes to deal with unmanaged assets.

Introducing StorCycle

StorCycle is a new storage lifecycle management software application that brings visibility and insight to better manage storage by enabling intelligent tiering and migration, while maintaining transparent search and seamless access to migrated assets. StorCycle provides the means to automate the management of vast amounts of growing assets for any organization facing the financial or operational challenges of managing an expanding amount of digital content.

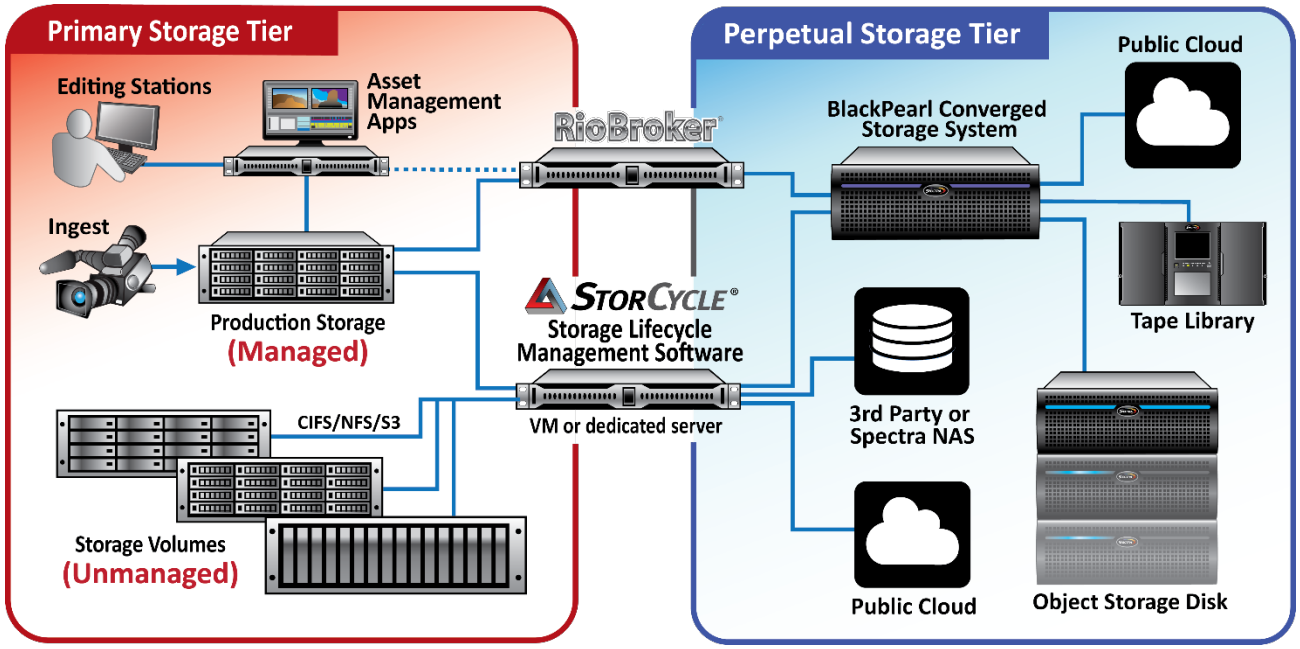
How Does StorCycle Help?

Spectra designed StorCycle to meet the myriad challenges listed above. StorCycle is not an asset management application; rather, it is an intelligent storage management system. StorCycle brings visibility into any organization's unmanaged assets with the necessary tools and intelligence needed to protect and/or archive assets, while matching their perceived value to the proper storage tier. The storage lifecycle management software was designed so that recurring and popular migrations/tiering can be automated while maintaining familiar and consistent access to copied or migrated assets. StorCycle also provides a simple API to provide data analytics and intelligence to previously deployed applications, further optimizing intelligent storage and asset management.

StorCycle's Benefits

StorCycle is a simple solution that:

- Brings visibility and analytics to unmanaged assets
- Identifies inactive content on expensive primary storage and migrates it to lower cost, protected tiers of storage on-premise or in the cloud
- Improves overall efficiencies by enabling semi or full automation to better manage storage and media production workflows
- Provides long- and short-term asset protection and preservation
- Reduces overall cost of storage by reducing capital expenditure and human resources needed to manage storage
- Maintains consistent and familiar access to all migrated assets



StorCycle's Functional Pillars

SCAN & IDENTIFY

(Identify, Measure and Improve)

StorCycle scans any number of NAS devices and volumes to which it is mapped. Scan results are made available to the system administrator or storage manager in a user-friendly graphic interface, including information such as capacity, age, size, type, and last access, all of which are relevant to best match the perceived value of assets to the cost and performance of storage and associated workflows. Scan jobs can be initiated on-demand or scheduled, to minimize loading effect on active storage during business hours. Scan results can be used one time or repeatedly.

MIGRATE

Migration policies can be set based on scan results to copy or move assets to the storage target of choice (NAS, object storage disk, cloud or tape). Migration jobs can run immediately -- either one time or recurring on a set schedule. Migrations can be performed for files, directories or volumes. Migrations allow for the exclusion of file(s) such as shared files among projects when and if required. Migration jobs can be associated to specific departments or groups. Each migration job allows for the addition of as many metadata tags as needed for future search purposes. Additionally, StorCycle creates a manifest with each migration job for future audit trails.

While the scan feature of StorCycle is typically used to identify older or less often accessed content, StorCycle can also be used to identify "**Project-Based**" files for archive. Project-based content such as dailies may be copied (for immediate protection), or episodic content may be archived, immediately after project completion rather than being archived based on age. In essence, StorCycle can create a "watch folder" to continuously archive content or be used for one-time archive jobs. In this manner, any number of files may be grouped and archived or moved together as a "project." Migrated content may be tagged with metadata to make search and retrieval easier in the future.

PROTECT

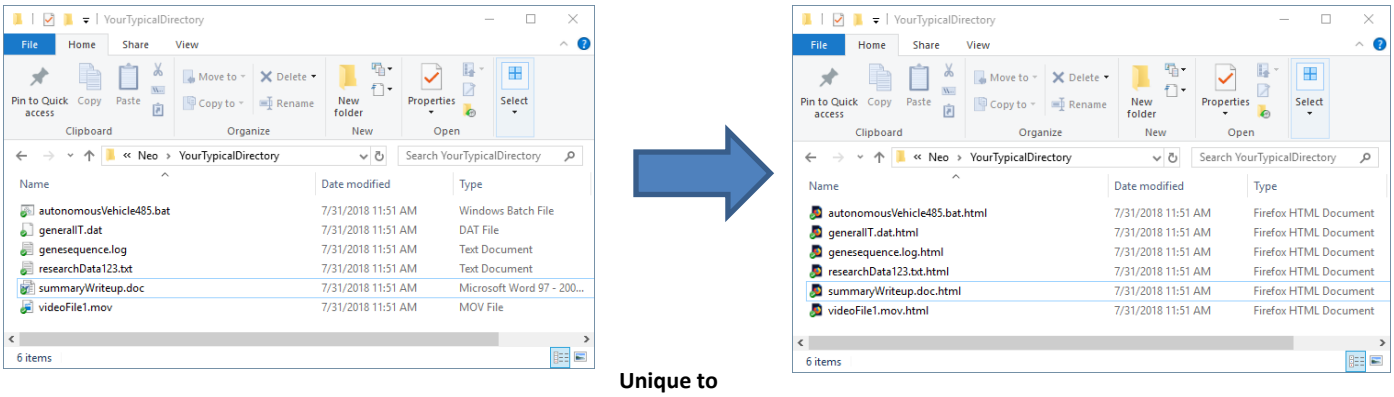
Depending on requirements, files can be copied (with original left in place) or migrated. Copying files to a storage target may be utilized as temporary "backup" protection for work in progress. StorCycle supports versioning for jobs that copy the same set of files on a recurring basis.

When migrating files to another destination (for archival purposes or for cost control) StorCycle checks the integrity of the file(s) at the destination prior to removal of the source files. For added protection or disaster recovery (DR), migration jobs can be configured to create copies on multiple destinations such as on any standard NAS, on-premise object storage disk, such as Spectra BlackPearl, or to the public cloud, including Amazon and others.

ACCESS

StorCycle ensures seamless and consistent access to migrated files. StorCycle has the unique ability to replace moved files with HTML links. These HTML links support all storage targets but are especially effective when migrating files to long latency mediums such as public cloud or tape. This approach assures consistent visibility and ease of recovery. Migrated files can be restored to their original location or to another destination specified during the recovery process.

StorCycle Storage Lifecycle Management Software Leaves HTML Links for Ease of Recovery

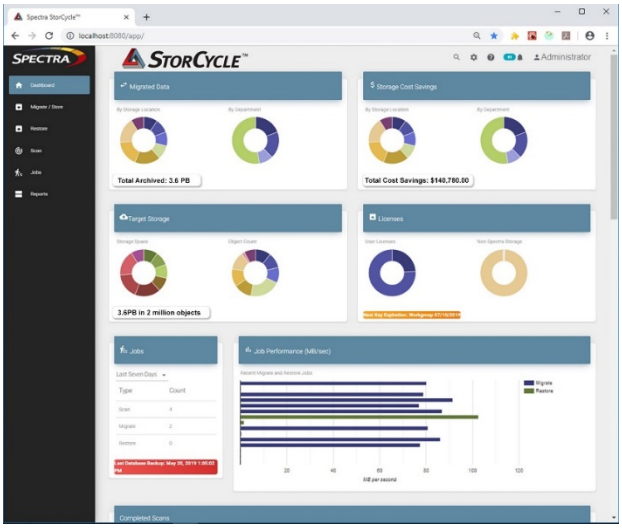


Unique to StorCycle, the software leaves an HTML link in place of files moved from the storage source to another storage platform for consistent visibility and ease of retrieval.

StorCycle will also support symbolic links.* This approach is more commonly used with lower latency mediums such as archiving to other NAS devices. The original file name is left behind for consistent visibility and ease of access, even though the file(s) resides on a different storage system.

As an alternative, users with proper permissions can search and restore files via the StorCycle web interface. Search parameters can be set for files and directories by file and directory name, project name, and tag name.

StorCycle Attributes



Dashboard - Executive View

StorCycle's dashboard provides a central view of all migrated data. It provides a graphical representation of all storage under its domain, including a histogram of scanned devices. This executive view provides the overall cost associated with each storage subsystem, as well as cost savings associated with migrated data.

Access Control and Permissions

Roles such as 'Administrator,' 'Storage Manager' or 'Authenticated User' have a varying range of authorizations to configure all aspects of StorCycle from mapping storage locations and setting up users, to creating jobs for scans and migrations, to basic search and file recovery.

StorCycle is an Active Directory compliant platform and all original file's access credentials for authenticated users remain enforced (intact) for migrated and/or copied files.

Open APIs*

StorCycle offers an open set of RESTful APIs that applications can use to programmatically initiate scans, or create jobs to copy, migrate or restore. This brings not only visibility and insight to all unmanaged storage, but also automation to create greater efficiencies in storage, asset management, and relevant workflows.

Cloud

The use of cloud is becoming more and more a part of the storage and workflow landscape. StorCycle supports movement of files to popular cloud platforms, be it for DR purposes or cloud-based workflows, such as transcoding and artificial intelligence (AI) tagging.

Non-Proprietary Open Standards

StorCycle retains the original file formats, names and directory structures on storage targets; therefore, end-users (with valid credentials) can access files directly on storage targets, without the need of StorCycle.

Files moved by StorCycle to tape storage (via BlackPearl Converged Storage System) for ultimate and long-term protection, or for exchange of assets, are written in open LTFS format. Files on tape are accessible by any standard and publicly available LTFS drivers in the market.

Files copied or moved to Amazon buckets or other public cloud providers are written in their native format, and if desired, can be shared with other applications for cloud-based workflows or users for sharing.

StorCycle's non-proprietary approach assures content is readily accessible today and well into the future.

SMTP / Email Integration

StorCycle can inform users and administrators with relevant notifications related to scans and file movement via an organization's standard email systems.

Scalable Platform – Clustering*

Storage management challenges are not unique to any one industry or company size. Spectra designed StorCycle to meet the needs of small organizations to the largest of enterprises. StorCycle servers can be deployed as a single server, or as a clustered platform, to meet the requirements of any organization.

Flexible Platform

StorCycle runs on a dedicated or virtual Windows server.

Conclusion

The rising cost of storage in media and entertainment is not merely attributable to increased procurement costs. In fact, the cost of storage has consistently dropped over the last number of years. The rising cost of storage is almost always traceable to the hidden costs associated with the improper retention and management of large amounts of digital content. These hidden costs include the explosion in the number of multi-terabyte file servers, backup storage capacities that are often a multiple of actual production data, daunting inventory tasks, complex storage management, shortage of skills and quick data availability requirements. The lack of a cost-efficient storage management tool that brings visibility and analytics to data for proper and intelligent tiering of data relative to its perceived value and access patterns has forced organizations to postpone decisions and actions that properly address data lifecycle management.

While Media & Entertainment organizations cannot necessarily control the amount of content they collect, which is driven by the industry's competitive landscape as well as society's voracious appetite for content, they now have access to StorCycle to automate the process of auditing (scan and identify) and intelligently tiering, which will reduce all other ancillary costs of storage outside of the procurement cost.

Spectra created StorCycle, an intelligent storage lifecycle management software with a rich set of features and capabilities, to help any enterprise – small to very large – manage their growing amounts of unmanaged assets to help ensure a healthy position in today's competitive landscape.

Additional reading and references:

- StorCycle Brochure
- StorCycle Technical Guide

**Available in future releases*

About Spectra Logic Corporation

Spectra Logic develops data storage and data management solutions that solve the problem of long-term digital preservation for organizations dealing with exponential data growth. Dedicated solely to storage innovation for over 40 years, Spectra Logic's uncompromising product and customer focus is proven by the adoption of its solutions by leaders in multiple industries globally. Spectra enables affordable, multi-decade data storage and access by creating new methods of managing information in all forms of storage — including archive, backup, cold storage, private cloud and public cloud.

To learn more, visit www.SpectraLogic.com.

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