

Catalogic ECX and IBM FlashSystem V9000: Software-defined agility



Significantly improve your overall data economics by creating highly efficient storage environments

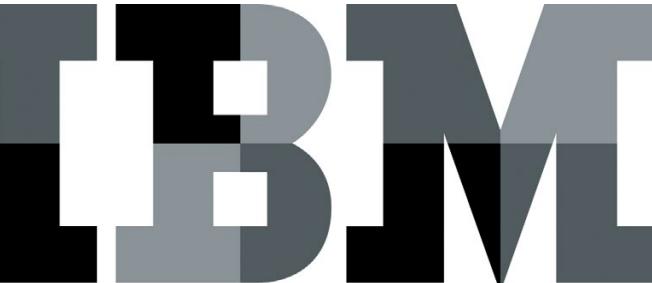
Highlights

- Tackle the challenge of using costly enterprise data storage capacity to store copies of production data sets
- Lower costs and increase IT efficiency by deploying copy data management (CDM)
- Leverage the IBM and Catalogic Software partnership to obtain the premiere flash storage and CDM solution
- Use the combination of IBM® FlashSystem® and Catalogic ECX™ to increase the efficiency and lower the cost of flash storage

Modern businesses cannot continue to sustain conventional approaches to data backup. In many cases, the traditional approach results in as many as 30 copies¹ of data being created and stored throughout the IT environment, including the primary instance and the various backups, snaps and/or replicas.

The industry term for dealing with data copies and the cost and complexity associated with them is “copy data management” (CDM). The concept is especially meaningful in modern data centers, where one-third of current enterprises² have already deployed flash as their primary storage medium. This means a significant percentage of businesses may be storing unneeded, unused or inefficiently managed data copies on flash storage, certainly not a good strategy for maximizing the benefits or economics of flash.

IBM and Catalogic Software have been working together to change this equation. The two technology partners have optimized the compatibility and interoperability of IBM FlashSystem V9000 all-flash storage arrays and the Catalogic ECX CDM platform. Extensive testing in IBM labs has confirmed that when deployed together, the software-defined storage capabilities of IBM FlashSystem V9000 and Catalogic ECX enable enterprises to significantly improve overall data economics by creating the most efficient storage environments possible. But the benefits don’t stop there. The combination of IBM FlashSystem V9000 and Catalogic ECX provides a leading-edge suite of storage services, orchestration, and virtualization features that help accelerate the agility and competitiveness of the businesses they support.



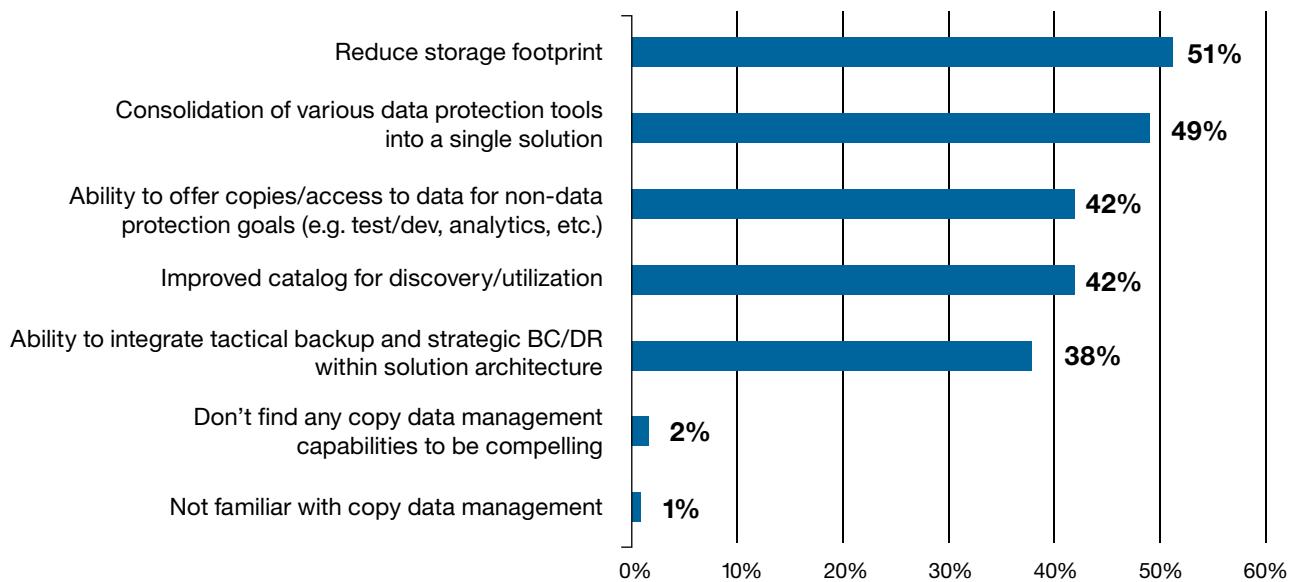
The value of copy data management

Most enterprises have built highly efficient and resilient storage environments with replicated application-consistent snapshots. This is pretty standard. But most organizations don't use these data copies. And most build out separate storage environments for application testing and development (Test/Dev), data analytics and disaster recovery. Additionally, most enterprises make significant capital investments and operational expenditures to manage these separate environments while trying to keep the data in them up to date. The result is too many data copies, lots of software, lots of hardware, plenty of budget overruns, and yet, less than optimal access to the data needed.

Copies can account for more than 60 percent of the data in today's IT infrastructure.³ Primary data is copied repetitively to support a number of business solutions, including disaster recovery, forensics, Test/Dev and data analytics. By 2018, industry analysts estimate that these extra copies of production data will cost enterprises USD50 billion and consume 475 petabytes (PB) of storage. Enterprises are constantly caught between the need to have copies of production data available for various business purposes and the challenges associated with managing these data copies. As IT budgets are squeezed and IT personnel are asked to get more out of the infrastructure they have, gaining control of the geometric storage growth caused by copy data is a top priority for storage administrators everywhere.

Of the following copy data management capabilities, which do you find most compelling?

(Percent of respondents, N=375, multiple responses accepted)



Source: "Trends in Data Protection Modernization," ESG Research, September 2015.

Figure 1. Perceived value of copy data management capabilities

Figure 1 quantifies the perceived value in the marketplace of CDM solutions.² Though more than half of respondents were drawn to the promise of reduced storage capacity requirements, almost as many wanted to consolidate their disparate data protection tools. Running a close third and fourth were the desires to easily provision data copies for non-production purposes and accurately catalog the storage infrastructure.¹ In fact, these are exactly the benefits and functionality offered by the Catalogic ECX CDM platform.

Catalogic: Software-defined CDM

Catalogic Software is a leading provider of software-defined copy data solutions that are purpose-built to leverage the copy services within an enterprise's existing storage and hypervisor infrastructure. Catalogic Software solutions enable visibility into copy data or files in almost any IT environment and provide rapid data access for operational use cases, automated disaster recovery, Test/Dev and business analytics.

Catalogic ECX is the storage industry's first and only software-defined CDM platform that enables enterprises to leverage existing storage infrastructure. Catalogic ECX installs as a virtual machine or virtual application and catalogs storage and VMware environments without the need to deploy agents. Once installed, the solution runs out-of-band to create an actionable catalog of all storage and VMware environments. The Catalogic ECX catalog provides IT administrators with the ability to manage, orchestrate and analyze data in order to unleash its power and meet business demands.

Manage, orchestrate and analyze

Operationally efficient CDM is critical to drive down cost and complexity. Catalogic ECX enables enterprises to very quickly and easily establish policies that create and manage local and

remote snapshot and replica copies for storage volumes and VMware virtual machines. The flexible and robust platform allows IT administrators to establish policies that are optimized for the business processes they support. Creating workflows using Catalogic ECX saves administrative time, drives repeatability of best practices and reduces copy data sprawl of data copies that are never used. Catalogic ECX eliminates the dependency on custom scripts and provides service-level and exception-based reporting as well as detailed logging, allowing administrators to manage and diagnose failures faster and help meet service level agreements (SLAs) with the business.

Catalogic ECX allows IT administrators to automate and orchestrate otherwise complex data reuse scenarios for multiple business solutions such as enhanced recovery, automated disaster recovery, Test/Dev and analytics quickly and easily. This orchestration includes storage and VMware infrastructures. Catalogic ECX "Use Data" workflows instantaneously allow administrators to deliver services that are often otherwise failing or have been deemed next to impossible to implement. Business operations such as disaster recovery can be automated so that they can be tested and validated every day. The power of the Catalogic ECX platform enables the resources used for these business operations to be brought up in a fenced/segregated environment, promoted to production quickly with the push of a button, or torn down and cleaned up after a test. Orchestration drives home repeatability and auditability, allowing enterprises to leverage a single data copy for multiple purposes, reducing data sprawl and helping lower costs.

Catalogic ECX provides detailed insight across storage and VMware environments for both local and remote locations in the enterprise, including the cloud. These analytics begin with an actionable catalog that allows administrators to search existing metadata, snapshots, replicas and hypervisor components.

File analytics, protection compliance, storage protection and storage utilization reports can quickly deliver valuable insight to the IT team. These reports can help administrators plan how to achieve better control of the data in their environment and enable planning for a number of business operations.

Market-leading IBM flash storage

Building on decades of storage leadership, IBM offers a comprehensive portfolio of integrated, flash-optimized storage solutions that can propel organizations into the future of IT and thus, of business itself. These proven, easily integrated flash storage platforms accelerate critical applications for faster decision making, come with enterprise-grade reliability and deliver new cost efficiencies across the entire business environment for a faster return on investment. IBM flash storage solutions can provide enterprises with the storage performance needed to compete, innovate and grow.

IBM FlashSystem V9000: The engine of CDM

IBM FlashSystem is a family of all-flash storage arrays engineered to address the most demanding enterprise performance, reliability, comprehensive feature set and cost requirements. IBM FlashSystem 900 provides extreme performance, low latency and data protection for business-critical application acceleration. IBM FlashSystem V9000 adds advanced storage services and virtualization capabilities to create a complete Tier 1 storage solution. IBM FlashSystem V9000 is the member of the family spearheading copy data management solutions with Catalogic ECX, though IBM FlashSystem 900 can be used in environments where IBM Spectrum Virtualize™ is already deployed.



Figure 2. IBM FlashSystem V9000

IBM FlashSystem V9000 offers the advantages of software-defined storage at the speed of flash memory. It combines the high performance, ultra-low latency, superior efficiency and extreme reliability of IBM FlashCore™ technology with a rich set of virtualization and storage services features including IBM Real-time Compression™, dynamic tiering, thin provisioning, snapshots, clones, synchronous and asynchronous replication, and high-availability configurations.

IBM FlashSystem V9000 provides many of the underlying storage capabilities orchestrated by Catalogic ECX. It is designed as a comprehensive storage solution for all active data sets. By accelerating the full range of applications and infrastructures, IBM FlashSystem V9000 can help organizations reduce costs, increase revenue and improve customer satisfaction. It includes powerful data reduction capabilities such as IBM Real-time Compression based on more than 70 patents that can deliver flash for less than the cost of a conventional enterprise storage array.

IBM FlashSystem V9000 can function as a feature-rich, software-defined storage layer that virtualizes all managed storage. In this capacity, it acts as the virtualization layer between the host and other external storage systems, providing flexibility and extending functionality to the virtualized external storage capacity. Up to 32 PB of external storage can be managed by a single IBM FlashSystem V9000 array, and because the storage is virtualized, data volumes can be nondisruptively moved between external and internal storage capacity. This functionality enables very agile integration into existing storage environments with seamless data migration between IBM FlashSystem V9000 and legacy storage systems.

Advantages of software-defined CDM and flash solutions

IBM FlashSystem V9000 and Catalogic ECX, each in their own right, bring many benefits to enterprise IT environments, from much higher application performance to much more efficient use of storage capacity. But when deployed together, the two technologies offer some industry-leading advantages.

Synergies of software-defined systems

Catalogic ECX catalogs, orchestrates and reports on storage system status. It depends on the existing storage system technologies to perform the many functions that Catalogic ECX manages, such as taking snapshots or replicating data sets to disaster-recovery sites. Catalogic ECX accomplishes these tasks by communicating with underlying IT infrastructure components through standard application programming interfaces (APIs). This means that the efficiency and effectiveness of CDM tasks initiated and monitored by Catalogic ECX are directly tied to the capabilities of the underlying systems.

One of the most important synergies between IBM FlashSystem and Catalogic ECX results from the speed of flash storage. Because flash is so fast and Catalogic ECX enables easy management of snapshots, when deployed together, the two technologies can make provisioning Test/Dev environments much faster and more productive. Catalogic ECX can save very space-efficient snapshots to IBM FlashSystem storage and, from there, the snapshots can be quickly used to provision Test/Dev projects. The result is that application development and testing teams can use very up-to-date instances of the actual production data, increasing the quality of the Test/Dev results, and accomplish this with a minimum of time and effort.

Another way that the underlying IBM FlashSystem infrastructure increases the efficiency and effectiveness of Catalogic ECX environments comes from the fact that IBM FlashSystem V9000 brings the full capabilities of the IBM Spectrum Storage™ family of software-defined storage solutions. IBM FlashSystem V9000 leverages the power of IBM Spectrum Virtualize technology, a mature, industry-leading suite of storage services and virtualization capabilities that have been successfully deployed in mission-critical enterprise environments around the world for more than a decade. Through IBM Spectrum Virtualize, IBM FlashSystem V9000—or IBM FlashSystem 900 when IBM Spectrum Virtualize has already been deployed—can provide the wide range of features and benefits offered by the entire IBM Spectrum Storage family, from external storage system virtualization and dynamic tiering, through comprehensive data reduction, to encryption and worldwide mobility. Additionally, IBM Spectrum Storage brings deep integration with VMware components such as vSphere, vCenter and the VMware Virtual Volumes initiatives.

Extensive testing in IBM labs has verified that Catalogic ECX integrates effectively with all the software-defined storage capabilities provided by IBM Spectrum Storage and IBM FlashSystem V9000. For enterprises that have already implemented Catalogic ECX, adding IBM FlashSystem V9000 doesn't require retiring any existing storage systems. It instead enhances and accelerates the entire environment with the high performance of flash and the ability to virtualize any legacy systems and extend the powerful capabilities of the IBM Spectrum Storage family to all existing systems.

Lower cost high performance

For enterprises that have deployed IBM FlashSystem V9000, implementing a Catalogic ECX CDM solution can lower risks and offer rewards, especially from the perspective of flash economics. A key objective of CDM is to dramatically increase storage system efficiency. After Catalogic ECX is implemented and it completes the process of cataloging every data copy, its lineage, statistics and status, "orphaned" data copies will typically be revealed. IT administrators can then "clean up" the copy landscape, verifying which copies are useful and eliminating the rest. In this manner, significant storage capacity may be reclaimed.

Achieving software-defined business agility

With IBM FlashSystem V9000 and Catalogic ECX accelerating crucial applications and increasing efficiency, the effect can be something like a very heavy weight being lifted from your business—with your IT infrastructure and your budget no longer dragging the burden of unused data copies, labor-intensive IT processes and unmet SLAs. Increased business agility is the

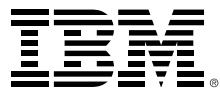
result. The focus of budget, investment and mindshare then can turn from keeping the lights on to quickening the pace of innovation. The IT team can begin planning the virtual desktop infrastructure deployment that will enable greater data security and more staff mobility, while reducing costs. The loan department can stay open later than competitors to capture more business, thanks to accounting batch processes that take a couple of hours instead of all night. And when disaster strikes, the disaster-recovery plan can work flawlessly because it was tested yesterday, instead of never.

Business agility isn't a slogan; it's a necessity. The performance and capabilities of IBM FlashSystem V9000 and the efficiencies resulting from Catalogic ECX copy data management aren't bells and whistles; they can be the foundation of a business with the agility to capture and keep competitive advantage.

For more information

To learn more about IBM FlashSystem V9000, please contact your IBM representative or IBM Business Partner, or visit ibm.com/systems/storage/flash/v9000/

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IBM Systems
Route 100
Somers, NY 10589

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

¹ Jason Buffington, Jennifer Gahm and Bill Lundell, "2015 Trends in Data Protection Modernization," ESG, September 30, 2015.
<http://www.esg-global.com/research-reports/2015-trends-in-data-protection-modernization/>

² Jennifer Gahm, Bill Lundell, Mark Peters and Scott Sinclair, "2015 Data Storage Market Trends," ESG, October 21, 2015.
<http://www.esg-global.com/research-reports/2015-data-storage-market-trends/>

³ "IDC Technology Spotlight: Solving the Copy Data Problem with In-Place Copy Data Management," IDC, sponsored by Catalogic, October 2015.
<http://data.catalogicsoftware.com/idc-in-place-copy-data-management-ty?submissionGuid=70548797-ed7a-4d9e-8d88-481326404305>



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