

IBM Spectrum Control

Monitoring, automation and analytics for data and storage infrastructure optimization

Highlights

- Take control with integrated monitoring, automation and analytics
 - Consolidate management for file, block, object, software-defined storage
 - Improve performance and reduce storage costs
 - Streamline performance troubleshooting and problem resolution
 - Improve consistency and control for storage operations
 - Choose from a range of licensing plans
-

IBM Spectrum Control is a comprehensive solution that can significantly improve monitoring, automation and analytics capabilities in multi-vendor storage environments. IBM Spectrum Control helps manage storage systems, software-defined storage, storage-area network (SAN) fabrics and devices. Storage can be seen from multiple perspectives, including departmental, application and server views. IBM Spectrum Control helps simplify provisioning, tier optimization, performance management and data replication processes.

The mission: Simplify data and storage management

While storage environments continue to grow in capacity and complexity, many organizations are scaling back on dedicated storage experts. It is, therefore, imperative that storage become easier to manage by IT administrators who may also be responsible for servers, networks and applications.

Organizations tend to acquire collections of multi-vendor storage systems due to application requirements, multiple buyers, mergers, staff turnover and other factors. Adoption of cloud and software-defined storage creates more to manage. Each brand of storage system has its own administration interface, which can increase complexity and opportunities for error.

In addition, user expectations are increasing. Businesses collect, store, process and use more information than ever before. At the same time, there is low tolerance for

downtime, unpredictable performance or provisioning delays. To satisfy these increased demands, organizations need more comprehensive monitoring, automation and analytics capabilities—so they can proactively resolve issues before users are impacted.

The solution: IBM Spectrum Control

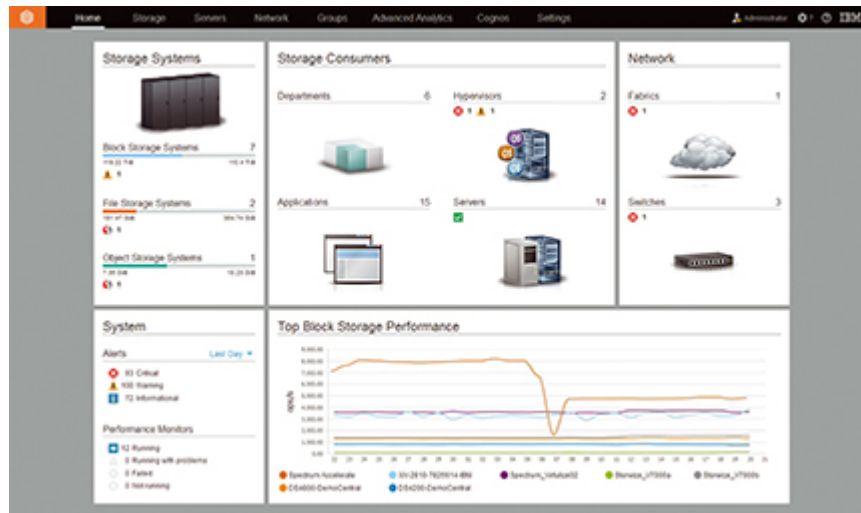
IBM Spectrum Control is a comprehensive, end-to-end data and storage management solution that monitors, automates and analyzes multi-vendor storage environments.

IBM Spectrum Control provides a single point of control that helps administrators manage every aspect of the storage infrastructure—between the hosts, through the fabric, and down to the physical disks—across multi-site storage environments. IBM Spectrum Control helps consolidate management of file, object, flash, block, server-based and software-defined storage.

In fact, IBM Spectrum Control helps you see storage as others see it—with application, departmental and server views of storage. IBM storage administrators can use IBM Spectrum Control for their everyday tasks, leveraging a consistent dashboard for managing the broader storage environment.

IBM Spectrum Control enables you to manage storage your way. Optimized interfaces are included for storage specialists, VMware vCenter users, and remote management using interfaces such as OpenStack, REST, IBM Tivoli Application Dependency Discovery Manager (TADDM) TPC Sensor and IBM Cloud Orchestrator.

IBM Spectrum Control is on-premises software with agent-based and agent-less monitoring. A range of licensing plan options are available to fit environments of all sizes. [IBM Storage Insights](#) provides comparable capability as a cloud-based service.



IBM Spectrum Control features a fully-integrated, web-based user interface.

See your storage like you've never seen it before

IBM Spectrum Control enables comprehensive monitoring of the entire data path—including storage systems, software-defined storage, devices and SAN fabric components from multiple vendors—providing a more complete view of the storage infrastructure. Views of applications, departments or other collections are easy to create, so data owners can see customized views of their domains.

Heterogeneous storage systems, ports and switches

IBM Spectrum Control provides device-level, integrated storage infrastructure management capabilities for managing both IBM and non-IBM storage systems. Agent and agentless options are available. Heterogeneous storage support is offered via the Storage Networking Industry Association (SNIA) Storage Management Initiative Specification (SMI-S) standard. Management capabilities include operational control and provisioning of heterogeneous storage platforms, including storage systems from EMC, NetApp, Hitachi, Oracle and HP. IBM Spectrum Control also enables performance management at the port and switch levels for platforms from Brocade Communications and Cisco Systems.

In addition, it includes advanced monitoring and performance reporting for IBM storage systems, including IBM FlashSystem, IBM Cloud Object Storage System, IBM DS8000, IBM Storwize family systems and IBM XIV Storage System; VersaStack systems based on these systems; as well as software-defined storage offerings, including IBM Spectrum Virtualize, IBM Spectrum Accelerate and IBM Spectrum Scale. A complete list of supported storage products is available from the [IBM Support portal for IBM Spectrum Control](#).



An application-oriented view of storage.

IBM Spectrum Control
Chargeback Report

Application	Cost	Total (TiB)	Block Capacity (TiB)						Eracfg	Cops
			Block	Primary	vDisk Mirrors	FlashCopy	Remote Mirrors	Tier 1		
Claris	27.72	0.28	0.28	0.00	0.02	0.13	0.13	0.00	0.25	
Connections Nodes	7.19	0.11	0.11	0.11	0.00	0.00	0.00	0.04	0.00	
DB2 Database Servers	22.13	0.44	0.44	0.29	0.00	0.00	0.15	0.13	0.15	
Democentral-vmware Farm	19637.81	200.75	200.75	200.75	0.00	0.00	0.00	0.00	0.00	
Epic Database	26.19	0.55	0.55	0.42	0.00	0.00	0.14	0.16	0.14	
Epic Reporting	16.99	0.29	0.29	0.29	0.00	0.00	0.00	0.13	0.00	
Exchange	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Exchange Mail Box End to End view	12.01	0.25	0.25	0.25	0.00	0.00	0.00	0.09	0.00	
ibmnet Web Servers	29.18	0.41	0.41	0.16	0.06	0.00	0.16	0.06	0.18	
Perkinon DB Server	142.72	1.50	1.50	1.50	0.00	0.00	0.00	1.42	0.00	
Sharepoint Servers	14.88	0.29	0.29	0.29	0.00	0.00	0.00	0.10	0.00	
SQL Server Databases	19.04	0.37	0.37	0.37	0.00	0.00	0.00	0.13	0.00	
Statland Reporting	96.19	1.04	1.04	1.04	0.00	0.00	0.00	0.96	0.00	
Web Servers	66.52	0.81	0.81	0.25	0.10	0.14	0.29	0.14	0.47	

Integrated chargeback reporting.

Device performance

IBM Spectrum Control helps monitor and manage performance and measure service levels by storing received performance statistics into database tables for future use. Administrators can set performance thresholds for devices based on selected performance metrics, generating alerts when those thresholds are exceeded. These capabilities help the solution simplify the complex monitoring of multiple SAN-attached storage devices.

IBM Spectrum Control device management capabilities include:

- Proactive performance management from a single, integrated console for monitoring storage devices
- Monitors key metrics, such as I/O rates and cache utilization
- Preserves historical performance statistics for service-level analysis and report generation
- Generation of timely alerts that enable event action by setting performance thresholds based on business policies



Consolidate file, object, flash, block and software-defined storage management with one console

SAN fabric management

IBM Spectrum Control supports multi-vendor SAN monitoring and alert management. IBM Spectrum Control diagnostic capabilities show which resources are impacted by an availability or performance issue in the SAN.

IBM Spectrum Control SAN fabric monitoring capabilities include:

- Multiple SAN views, including physical, logical and zone

- Diagnostic capabilities that pinpoint resources impacted by an availability or performance issue
- Performance monitoring at the port and switch level
- Enterprise scalability that enables upgrading from SAN islands to enterprise SANs

Automate data and storage management tasks

IBM Spectrum Control solutions help automate storage provisioning and event processing tasks.

Storage provisioning

IBM Spectrum Control includes optimized interfaces for storage specialists, VMware vCenter users, IBM Cloud Orchestrator environments and open application programming interfaces (APIs) such as Storage Management API for Cloud (SMAC). Templates can be set up to simplify and standardize storage provisioning, so users can quickly get the class of storage they need to do their jobs.

Event processing

Event processing in IBM Spectrum Control can help administrators identify and resolve storage problems faster. Event processing supports multiple thresholds, severity levels and suppression settings, which can greatly reduce the complexity of managing alerts in large storage environments. Policy-based automation enables automated responses, based on business policies.

Optimize storage with predictive analytics

IBM Spectrum Control uses predictive analytics to help optimize tiered storage, balance workloads within storage tiers and plan capacity requirements.

Tiered storage optimization

IBM Spectrum Control uses predictive analytics to help organizations optimize storage cost and performance, without manual tuning. Storage tier recommendations are based on data usage patterns, rather than on initial projections or guesswork. When deployed with IBM Spectrum Virtualize, as in the IBM Virtual Storage Center solution, data volumes can be moved automatically between storage pools and managed storage systems. Tier optimization can help large enterprises reduce the total cost of storage by an average of 73 percent over five years.¹

Load balancing

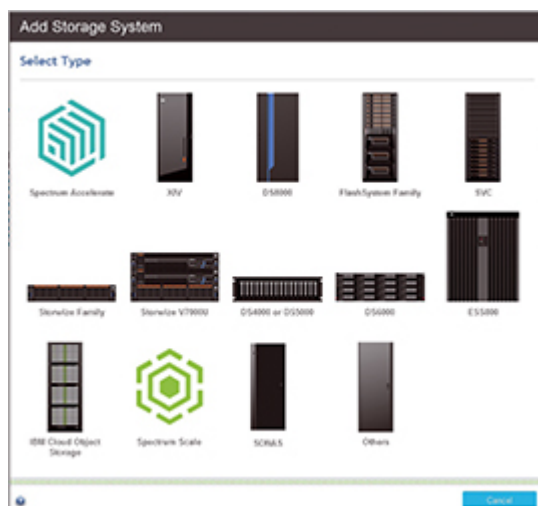
IBM Spectrum Control makes it easy to balance performance within storage tiers. Simply select two or more pools on the same tier in a virtualized storage environment, and click 'Balance Pools.' Analytics in IBM Spectrum Control and automation in IBM Spectrum Virtualize work together to complete the task. Complexity and the risk of errors are greatly reduced.

Capacity planning

IBM Spectrum Control uses analytics to predict future capacity needs. Administrators can see, at a glance, when capacity will be needed. Buyers can see how much storage will be needed at a particular future date, so acquisitions can be pooled and aligned with business requirements.

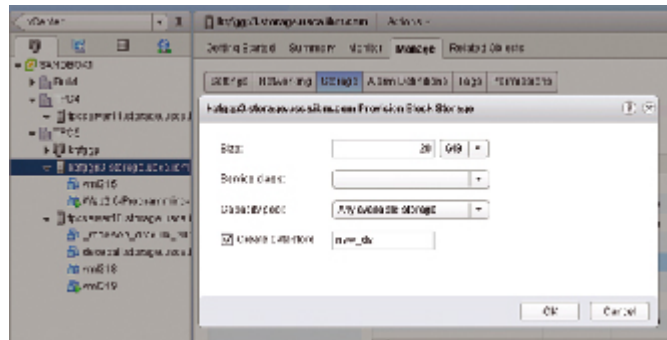
Choose from on-premises and cloud solutions

IBM Spectrum Control is available in a range of options to fit practically any size environment and budget. For example, [IBM Storage Insights](#) is an ISO 27001-certified, cloud-based solution that deploys in minutes and includes predictive analytics.



IBM Spectrum Control simplifies management for multiple types of storage.

On-premises solutions include standard and advanced editions, available in capacity or per-enclosure license options. [IBM Virtual Storage Center](#) bundles IBM Spectrum Control Advanced Edition with multi-brand storage virtualization and snapshot management. IBM Spectrum Control Base consolidates VMware integration for IBM storage systems into a single download.



IBM Spectrum Control and VMware integration simplifies storage management for server and VMware administrators.

IBM Spectrum Control Standard Edition includes:

- Capacity visualization and management
- Performance troubleshooting
- Health and performance alerting
- Showback
- Application modeling
- VMware integration

IBM Spectrum Control Advanced Edition includes all of the features of IBM Spectrum Control Standard Edition, plus:

- Tiered storage optimization with predictive analytics
- A service catalog with policy-based provisioning
- Self-service provisioning with restricted-use logins
- Chargeback
- Application-aware, hardware-assisted snapshot management from [IBM Spectrum Protect Snapshot](#)

¹ ITG Management Report: Cost/Benefit Analysis of IBM Spectrum Storage Compared to EMC Storage Virtualization and Management Solutions, 2015

IBM data and storage management solutions at a glance

IBM storage software as a service (SaaS)	
IBM Storage Insights	Cloud-based monitoring and analytics for IBM and IBM virtualized storage; free and subscription license (Storage Insights Pro)
IBM storage software license plan options	
IBM Spectrum Control Advanced Edition	Monitoring, automation, analytics and chargeback for storage environments; tiered capacity license
IBM Spectrum Control Advanced Select Edition	Monitoring, automation, analytics and chargeback for storage environments; per-enclosure license
IBM Spectrum Control Standard Edition	Monitoring and automation for storage environments; tiered capacity license
IBM Spectrum Control Standard Select Edition	Monitoring and automation for storage environments; per-enclosure license
IBM Virtual Storage Center	Solution bundle including IBM Spectrum Control Advanced Edition and IBM Spectrum Virtualize; tiered capacity license
IBM Virtual Storage Center Entry	IBM Virtual Storage Center for sites under 500 TB usable capacity and four I/O groups; capacity license
IBM Virtual Storage Center for Storwize Family	IBM Virtual Storage Center for IBM Storwize environments; per-enclosure license
IBM storage system VMware and container integration	
IBM Spectrum Connect	No-cost download; enables VMware APIs for IBM storage systems and container support for block storage
Supported environments	
IBM all-flash storage systems	IBM FlashSystem family, IBM DS8880F, VersaStack, IBM Storwize family all-flash models
IBM hybrid and disk storage systems	IBM SAN Volume Controller, IBM Storwize family, VersaStack, IBM XIV, IBM DS8000 family
Multi-brand virtualized SAN storage	More than 440 storage systems from IBM and others, using IBM Spectrum Virtualize external virtualization
File and object storage	IBM Cloud Object Storage System, NetApp, Storwize V7000 Unified, IBM Spectrum Scale, IBM Elastic Storage Server
Software-defined storage	IBM Spectrum Virtualize SAN storage, IBM Spectrum Scale file and object storage, IBM Spectrum Accelerate server storage

For details, please see the [IBM Spectrum Control Interoperability Matrix](#) on the IBM Support Portal.

Why IBM?

IBM Spectrum Control provides monitoring, automation and analytics to help simply and effectively manage complex storage environments. In addition, IBM Spectrum Control helps organizations classify storage, manage storage service levels and reduce storage costs.

For more information

To learn more about IBM Spectrum Control, please contact your IBM representative or IBM Business Partner, or visit: ibm.com/us-en/marketplace/spectrum-control

Additionally, IBM Global Financing provides numerous payment options to help you acquire the technology you need to grow your business. We provide full lifecycle management of IT products and services, from acquisition to disposition. For more information, visit: ibm.com/financing

© Copyright IBM Corporation 2019.

IBM, the IBM logo, and ibm.com are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at <https://www.ibm.com/legal/us/en/copytrade.shtml>, and select third party trademarks that might be referenced in this document is available at https://www.ibm.com/legal/us/en/copytrade.shtml#section_4.

This document contains information pertaining to the following IBM products which are trademarks and/or registered trademarks of IBM Corporation:

IBM®, IBM Tivoli®, IBM FlashSystem®, IBM DS8000®, IBM Storwize®, IBM XIV®, IBM Cloud Object Storage System (IBM Cleversafe®), Spectrum Control™, IBM Cloud Object Storage System™, IBM Spectrum Virtualize™, IBM Spectrum Accelerate™, IBM Spectrum Scale™, IBM Spectrum Protect™, IBM General Parallel File System (GPFS™), IBM Elastic Storage™



All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.