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## Highlights

- Consolidate isolated storage into one easily-managed resource and increase the value of legacy infrastructure
  - Help lower costs with comprehensive software-based data reduction that can be extended across existing systems
  - Deploy new cloud and container capabilities with the simplicity of a software download
  - Take advantage of enhanced remote IBM customer support
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# Spectrum of innovations

*New features and technologies make IBM Spectrum Virtualize an even better solution to the data challenges of modern business*

IBM is the number one software-defined storage (SDS) vendor in the industry.<sup>1</sup> In order to remain a market leader, IBM constantly develops and introduces innovations that bring recognized value to its customers.

IBM® Spectrum Virtualize™ has been helping enterprises improve infrastructure flexibility and data economics for 14 years. It is a member of the market-leading IBM Spectrum Storage™ family of SDS solutions. With IBM Spectrum Virtualize version 8.1.1, IBM continues to introduce innovations such as enhanced cloud functionality and increased data reduction capabilities, plus support for leading-edge container technologies that can provide IBM customers with the information technology they need to capture and keep competitive advantage across the full spectrum of modern business environments.

## Sophisticated storage

IBM Spectrum Virtualize serves as the block data plane backbone for the IBM Spectrum Storage family. Its innovative capabilities help organizations modernize and transform legacy storage infrastructure and increase the value of existing investments by consolidating isolated systems into a single storage resource managed under one pane of glass and extending a rich set of services and functionality to all. IBM Spectrum Virtualize is a proven solution that has been available for years in IBM SAN Volume Controller (SVC), the IBM Storwize® family, IBM FlashSystem® V9000, and IBM VersaStack—with more than 349,000 deployments over the past decade and 7.2 exabytes of data under management.<sup>2</sup>



IBM Spectrum Virtualize is available as a true SDS solution to deploy on x86 servers. It delivers a full range of sophisticated storage functionality, including:

- IBM HyperSwap® for nondisruptive application and data mobility between data centers
- Support for host-side virtualization solutions from VMware, Microsoft Hyper-V, and IBM PowerVM®, among others
- Support for more than 400 different storage systems from a wide variety of vendors
- IBM Easy Tier® automated tiering
- Inline software encryption that can be extended across all managed systems
- IBM FlashCopy® and remote mirror for local and remote replication
- Support for using cloud resources to complement on-premises storage

This powerful set of storage capabilities provides substantial benefits to end users, including three times better performance with only five percent flash storage, up to 63 percent lower personnel and management costs in conjunction with IBM Spectrum Control™, and up to 100 percent better storage utilization.<sup>2</sup>

And the benefits don't stop there. Recently, IBM has introduced a variety of new features that allow IBM Spectrum Virtualize to further reduce capacity requirements and storage costs; provide agile, multi-site cloud-based disaster recovery and data movement solutions; and leverage IBM block storage in leading-edge container environments—as well as:

- More powerful data compression and automated thin provisioning
- Support for up to 256 GB memory that can be used as cache to provide more consistent high performance
- Expanded IBM Security Key Lifecycle Manager support, including the option to deploy three clone IBM Security Key Lifecycle Manager servers for better redundancy

- A new graphical user interface (GUI) with format, features and functionality consistent with the entire IBM storage portfolio
- A new REST application programming interface (API) that simplifies task automation using industry-standard tools

### **Enhanced data reduction**

IBM Spectrum Virtualize now offers enhanced data reduction capabilities using new compression technology that provides more consistent results across a wider range of application workload patterns. IBM data compression solutions utilize only a single compression cycle and are designed to provide optimal compression results with minimal impacts to storage latency and performance.

### **Simplified cloud**

Organizations today are searching for better ways to store, manage, protect and use their data, often by leveraging the greater flexibility and lower costs offered by private or hybrid cloud architectures. IBM Spectrum Virtualize provides multiple ways to build cloud-based solutions, including hybrid cloud configurations using both continuous mirroring and snapshots. Replication from on-premises storage built with IBM Spectrum Virtualize to cloud storage becomes easier and more flexible.

And, thanks to its SDS nature, IBM Spectrum Virtualize enables storage administration at a service provider's site in the same way as in an on-premises data center, regardless of the type of storage being used by the provider. Businesses using storage-as-a-service providers or colocation data centers can deploy IBM Spectrum Virtualize on x86 servers in order to experience the same benefits at the service provider location that they experience in their own data center.

New IBM Spectrum Virtualize for Public Cloud is now available, enabling real-time disaster recovery and data replication and migration between on-premises storage and public cloud resources. Enterprises with SVC, Storwize family, IBM FlashSystem V9000 and VersaStack solutions—plus any of the more than 400 heterogeneous storage systems supported when virtualized by these platforms—can take advantage of this capability. Implementing IBM Spectrum Virtualize for Public Cloud is straightforward: customers purchase public cloud server and storage resources from IBM Cloud, then license IBM Spectrum Virtualize for Public Cloud to extend its rich set of storage services and features across the acquired cloud resources. An advantageous utility-based licensing model is available to complement IBM Cloud pricing for servers and storage.

### **More versatile containers**

Containers are an open-source technology that lets software be packaged with all the elements needed to run the same in any environment. You can quickly launch thousands of containers per host for short- or long-term jobs. Containers offer the versatility of virtual machines—but at a much smaller footprint and cost. As a result, containerization is a key enabling technology for flexibly delivering workloads to private and public cloud. It also helps enable DevOps by simplifying and accelerating application deployment through reuse of components specified as dependences and encouraging a micro-service architecture.

Using a standardized/certified open-source plug-in, IBM block storage can now be used as persistent storage in Docker and Kubernetes container environments, improving flexibility, simplifying deployment and lowering costs—and offering customers the confidence of deploying stateful containers using highly available storage with enterprise capabilities. This leading-edge storage solution is deployed by leveraging the capabilities of IBM Spectrum Virtualize in conjunction with IBM Spectrum Control Base Edition and IBM Storage

container volume service—both available at no additional charge to all IBM Storage customers. The benefits of this solution include:

- Simplifying the journey to cloud and DevOps using IBM enterprise storage
- Responding swiftly to different needs by automating storage provisioning using policy controls per container workload
- Gaining further agility by using IBM Spectrum Virtualize to deploy containerized workloads in any mix of more than 400 supported storage systems

### **Smarter customer support**

To help make IBM customer support more effective and efficient, the latest IBM Spectrum Virtualize version features key enhancements to the existing Electronic Customer Support (ECS) services. The enhanced ECS remote support assistance, when enabled on designated storage systems, allows remote interaction with IBM support technicians who can perform secure, nondisruptive diagnostics, software updates, troubleshooting and, in many cases, problem resolution. Plus, the data collected from deployed systems can help drive product enhancements and future innovation. This powerful new capability can help lower costs, increase system availability and streamline maintenance and updates for thousands of enterprises around the planet.

IBM is also introducing new remote support capabilities. Both capabilities are optional and must be enabled by clients. A new automatic upload capability enables “one-click” creation and upload to IBM of service logs, eliminating the additional step of manually transmitting logs to IBM. Customers using enterprise-class support can now elect to enable IBM service staff to use a secure connection to remotely access their system and make recommended configuration changes. This approach is designed to eliminate the delay and potential for error when IBM support requests changes that on-site staff must perform.

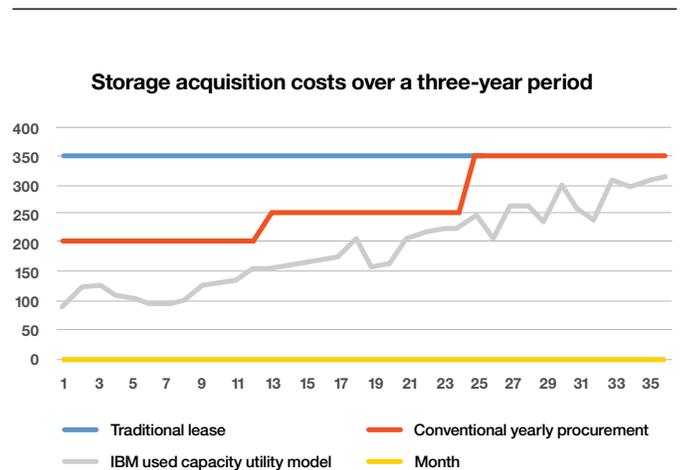
Enhanced ECS services are an important next step in the IBM quest to make customer support smarter and better. But the journey doesn't stop there. [Cognitive computing](#) offers fundamental differences in how systems are built and interact with humans. Cognitive-based systems, such as IBM Watson™, are able to build knowledge and learn, understand natural language, and reason and interact more naturally with human beings than traditional systems. Cognitive computing can provide real benefits to data storage management, troubleshooting, repair and innovation.

IBM is developing and implementing cognitive support services in its cloud-based storage management platform—IBM Spectrum Control Storage Insights. An early user program has already been launched. The new cognitive support for enterprises using IBM Storage will dramatically increase the volume of diagnostic data collected and use the latest IBM technologies to increase insight into storage health, performance and capacity. The new cognitive capabilities can help IBM customers enjoy faster resolution of issues, an enhanced user experience, higher systems availability and the confidence of services delivered from one of the world's leading cloud environments.

### More agile capacity

IT industry analyst IDC predicts that pay-as-you-go use models will account for as much as 50 percent of on- and off-premises physical IT and data center asset spending in 2018.<sup>3</sup> IBM is responding with the new IBM Storage Utility Offering that provides the service model and economics of cloud with the assurance and security of on-premises infrastructure.

The IBM Storage Utility Offering gives enterprises the ability to pay for storage capacity based on actual monthly usage. It is designed to provide quick access to new capacity to address requirement spikes and unpredictable rates of data growth. It's ideal for businesses that want to avoid lengthy procurement processes each time they need more capacity and don't want to overbuy due to seasonal capacity spikes.



Cost comparison of three storage capacity procurement strategies.  
Source: IBM internal research and analysis.

IBM analysis indicates that this new offering can lower costs in the short term and over longer periods as well.<sup>4</sup> You pay for what you use, when you use it, which means your monthly costs can flex more efficiently up and down. And the powerful management capabilities of IBM Spectrum Control Storage Insights provide greater predictability and better planning for the future.

## **Ongoing innovation**

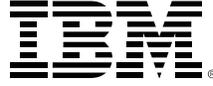
IBM Spectrum Virtualize has provided market-leading storage virtualization and management in mission-critical environments for more than a dozen years. But past success has certainly not deterred ongoing innovation. Recently, IBM Spectrum Virtualize has introduced more powerful data reduction, added cloud-enabling features, incorporated new container technology, and even begun the journey toward the cognitive future. For IBM customers, the robust rate of product innovation makes IBM Spectrum Virtualize—and systems such as the Storwize family built with the software—an even better choice for addressing the data challenges of modern business.

## **For more information**

For more information about IBM Spectrum Virtualize, contact your IBM representative or IBM Business Partner, or visit: [ibm.com/use-en/marketplace/virtualization-software](http://ibm.com/use-en/marketplace/virtualization-software)

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](http://ibm.com/financing)



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<sup>1</sup>“IBM Ranked # 1 in Worldwide Software-Defined Storage Software Market,” *IBM*, April 2017. <http://www-03.ibm.com/press/us/en/pressrelease/52189.wss>

<sup>2</sup> Based on IBM offering manager analysis of latest internal IBM sales data.

<sup>3</sup> Rick Villars, Jennifer Cooke, Susan Middleton, “IDC Futurescape Worldwide Datacenter 2017 Predictions,” *IDC*, November 22, 2016. <https://www.idc.com/url.do?url=/getfile.dyn?containerId=US41951416&attachmentId=47254277&elementId=54422750&term=YmNlGRhdGE=&position=9&page=1&perPage=50&id=6c21ae7a-6ab6-46c8-b2cd-d0922a9009ac>

<sup>4</sup> IBM internal research and analysis.



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