

IBM Storage Suite for IBM Cloud Paks

Highlights

- Flexible software-defined data resources for easy container deployments
 - Reduce risk and complexity when moving mission-critical apps to the cloud
 - Market-leading Red Hat and award-winning IBM Spectrum Storage software
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IBM Storage Suite for Cloud Paks offers a faster, more reliable way to modernize and move to the cloud

Today, 85% of enterprises around the world are already operating in a hybrid multicloud environment.^[1] At the same time, more than three-quarters of all business-critical workloads have yet to make the transition to the cloud.^[2] These metrics suggest that for all the benefits conveyed by cloud computing, many organizations still face plenty of challenges ahead to fully incorporate cloud-native solutions into their core business environments.

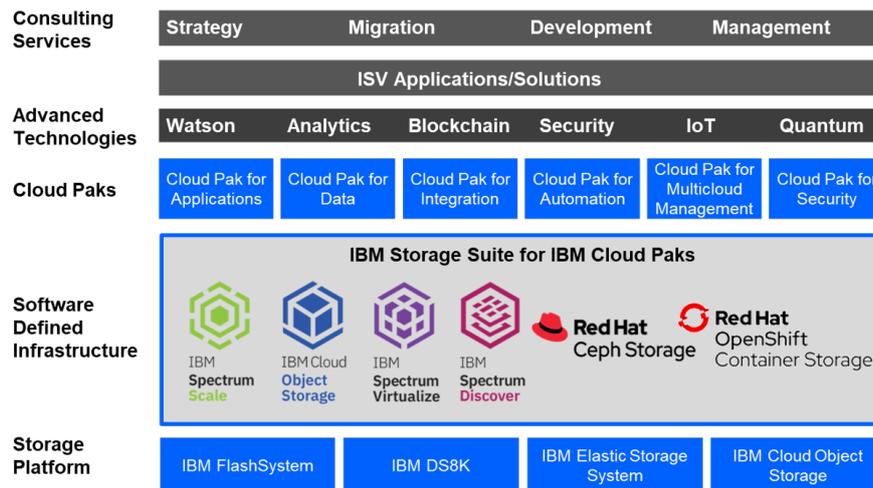
Containerization is a key enabling technology for flexibly delivering workloads to private and public clouds and DevOps. Among their many benefits, containers allow legacy applications to run in almost any host environment without being rewritten – an enormous advantage for enterprises with numerous applications, each composed of thousands of lines of code. To facilitate deployment of containerized workloads and development of new cloud-native applications, companies large and small are modernizing around platforms such as Red Hat OpenShift.

IBM has developed a series of middleware tools called IBM Cloud Paks designed to enhance and extend the functionality and capabilities of Red Hat OpenShift. The new family of Cloud Paks – including Cloud Paks for Applications, Data, Integration, Multicloud Management, Automation, and Security – give enterprises the fully modular and easy to consume capabilities they need to bring the next 80% of their workloads into modern, cloud-based environments.

IBM Cloud Paks deployed with Red Hat OpenShift Container Platform provide much of the overall solution to the challenges of modernizing applications, but there is one crucial element remaining – the underlying data management and storage infrastructure. Recognizing the importance of carefully and reliably integrating storage resource management into any effective application modernization initiative, IBM has developed a flexible software-defined storage solution set called IBM Storage Suite for Cloud Paks. The Suite, based on members of the IBM Spectrum Storage family as well as complementary offerings from Red Hat, brings enterprise data and storage services to container environments with a comprehensive set of software-defined storage offerings to satisfy almost any workload requirement.

Flexible and powerful infrastructure solutions

As its name implies, IBM Storage Suite for Cloud Paks is designed to complement, facilitate, and support the deployment and effective operation of IBM Cloud Pak solutions. The flexible elements in the Suite are all software-defined solutions. They all can easily be implemented within legacy IT environments. They are all hardware agnostic and can run on any host with appropriate resources and performance. And the overall solution environments they create are deeply integrated with open-source components. These characteristics give IBM Cloud Paks and the IBM Storage Suite supporting them great power and flexibility. There's no vendor lock-in. There's no need to forklift out legacy infrastructure and lose substantial investments. Instead, containerization can enable existing business applications to move where needed and operate in multiple new environments, both on-premises and in the cloud. IBM Cloud Paks enrich basic container platforms such as Red Hat OpenShift and Kubernetes with additional functionality to enhance, automate, and accelerate many tasks associated with developing, deploying, and maintaining cloud-native applications. Finally, IBM Storage Suite for IBM Cloud Paks provides a flexible menu of data management and storage solutions that more transparently and comprehensively automate and enhance the integration of underlying storage and data management resources.



IBM Storage Suite for Cloud Paks

IBM Cloud Paks

IBM Cloud Paks enable organizations to easily deploy IBM software either on-premises or in the cloud. They bring together all the essential elements required, including thoroughly tested workload software container images, intelligent defaults for simplified configuration and management – and additional assets such as prebuilt monitoring dashboards for integrating with the core services of IBM's container platforms – in a single archive from a trusted source.

Each IBM Cloud Pak solution includes containerized IBM middleware and common software services for application development and management, on top of a common integration layer designed to reduce application development time by up to 84% and operational expenses by up to 75%.^[1] IBM Cloud Paks run wherever Red Hat OpenShift runs and are optimized for productivity and performance on Red Hat OpenShift on IBM Cloud.

IBM Cloud Paks are available to address a number of different requirements and use cases:

- **Cloud Pak for Applications** is a platform that enables faster application building, testing, and deployment in a modern, microservice-based architecture.
- **Cloud Pak for Data** brings together critical cloud, data, and AI capabilities as containerized microservices to deliver AI-ready data within one unified multicloud platform.
- **Cloud Pak for Integration** enables enterprises to set up appropriate organizational models and governance practices to support a modern agile approach to integration.
- **Cloud Pak for Automation** is a pre-integrated set of essential software that enables users to easily design, build, and run intelligent automation applications at scale.

- **Cloud Pak for Multicloud Management** provides consistent visibility, automation, and governance across multiple cloud environments.
- **Cloud Pak for Security** is a containerized software platform providing insights into threats across hybrid, multicloud environments.

IBM Storage Suite for IBM Cloud Paks

IBM Storage Suite for IBM Cloud Paks is software-defined storage (SDS) for hybrid multicloud container environments. The IBM family of Cloud Paks combined with IBM Storage Suite for IBM Cloud Paks delivers a modular, easy to consume enterprise-ready software and storage services foundation for containerized environments. The combination provides an open, faster, and more secure way to move core business applications to any cloud.

IBM Storage Suite for IBM Cloud Paks is a comprehensive set of SDS solutions that includes data resources for file, object, and block data, as well as services for data management. The Suite offers the flexibility to choose between open-source Red Hat storage solutions or award-winning IBM Spectrum Storage solutions for file, block, and object storage. Designed to simplify IBM Cloud Pak setup with an out-of-the-box storage layer, the Suite is Cloud Pak Recommended, tested with IBM Cloud Paks and Red Hat OpenShift with ongoing security, compliance and version compatibility:

- **IBM Spectrum Scale Data Management Edition** provides high performance, highly functional data management for all the types of data that business activities may generate. It offers a full-featured set of file data management tools, including advanced storage virtualization, global collaboration for data-anywhere access that spans storage systems and geographic locations, and intelligent storage tiering. IBM Spectrum Scale is designed to support a wide range of application workloads at scale using a variety of access protocols and has been proven extremely effective in large, demanding environments.
- **IBM Spectrum Virtualize** provides comprehensive data services and storage virtualization capabilities, including advanced replication, high-performance thin provisioning, encryption, compression, deduplication, and IBM Easy Tier that improve administrator productivity and boosts storage utilization while also enhancing and extending the value of existing storage investments. In addition, IBM Spectrum Virtualize offers powerful new technology that enables efficient, cost-effective SDS solutions for containers and hybrid multicloud environments.
- **IBM Cloud Object Storage** is a highly scalable cloud storage solution for unstructured data that provides on-premises and cloud-based dedicated services. It enables enterprises to store and manage massive amounts of data efficiently and securely, with “ten-nines” system availability. IBM Cloud Object Storage uses an innovative approach for cost-effectively storing large volumes of unstructured data. It delivers the capabilities required to provide continuous access to data assets – to improve research outcomes, decision making, and responsiveness to regulatory/legal demands.

- **IBM Spectrum Discover** is a sophisticated metadata management solution that provides data insight for petabyte-scale unstructured storage. It easily connects to Red Hat storage, IBM Cloud Object Storage and IBM Spectrum Scale to rapidly ingest, consolidate, and index metadata for billions of files and objects, providing a rich metadata layer that enables storage administrators, data stewards, and data scientists to efficiently manage, classify, and gain insights from massive amounts of unstructured data. This improves storage economics, enhances data compliance, and accelerates large-scale analytics to create competitive advantage and speed critical research.
- **Red Hat OpenShift Container Storage** integrates with Red Hat OpenShift Container Platform to deploy applications and storage in either converged mode (storage is served from containers deployed on top of an OpenShift Cluster) or independent mode (a stand-alone Red Hat Storage cluster provides persistent storage to containers). The solution includes deployment tools to easily and quickly set up Red Hat storage in a containerized environment. It can be deployed on an OpenShift pod with compute and storage instances run from the same hardware or on a dedicated Ceph cluster to provision storage.
- **Red Hat Ceph Storage** is an open, massively scalable storage solution for modern workloads like cloud infrastructure, data analytics, media repositories, and backup and restore systems. It delivers software-defined storage on your choice of industry-standard hardware. With block, object, and file storage combined into one platform, Red Hat Ceph Storage efficiently and automatically manages all your data.

Based on the storage requirements in your environment, IBM Storage Suite for IBM Cloud Paks offers two options for capacity – Standard Edition and Capacity Edition. The Standard Edition, delivers up to 2TB of storage capacity per VPC licensed. The Capacity Edition, delivers up to 20TB of storage capacity per VPC licensed. IBM Spectrum Discover and Red Hat OpenShift Container Storage are available for each deployment and do not count towards capacity entitlement. Buy what you need when you need it and mix and match your data service capacities as business dictates – block, file, and/or object.[\[2\]](#)

[1] IBM Institute for Business Value: *Assembling Your Cloud Orchestra*, October 2018 <https://www.ibm.com/downloads/cas/EXLAL23W>

[2] IBM cloud computing news: *3 reasons most companies are only 20 percent to cloud transformation*, March 2019 <https://www.ibm.com/blogs/cloud-computing/2019/03/05/20-percent-cloud-transformation/>

[3] Ovum: *Delivering Business Value through Transitioning from Managing VMs to Orchestrating Containers*, January 2019

[4] IBM Storage Suite for IBM Cloud Paks does not allow for a combination of storage protocols (file, block, object) within the same managed terabyte. For example, within the Standard Edition, 50 VPCs of the Suite license (100 TBs after entitlement conversion) will not give entitlement to both 100TB of IBM Spectrum Scale and 100 TBs of Red Hat Ceph. The 100 TBs of entitled capacity should only be applied to a single storage protocol or the entitled capacity may be divided for use between storage products (ie 20TB IBM Spectrum Scale and 80TB IBM Cloud Object Storage).

Why IBM?

Business agility simplified

Essentially all enterprises are doing business in hybrid multicloud environments – or they soon will be. The opportunities to lower costs while increasing productivity and business agility are too great to ignore. IBM Storage Suite for IBM Cloud Paks is designed to reduce the risk and complexity of modernizing IT infrastructure, adding container capabilities, and moving business-critical applications to the cloud. These are the tools that will help your business thrive in the 21st century.

Next steps

- [Storage Suite for IBM Cloud Paks](#)
- [Storage Suite for IBM Cloud Paks](#)
- [IBM Storage for Red Hat OpenShift](#)

For more information

<https://www.ibm.com/it-infrastructure/storage/cloud-private>

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