IBM Storage Suite for IBM Cloud Paks

Highlights

- Flexible sofware-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

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 cloud 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.

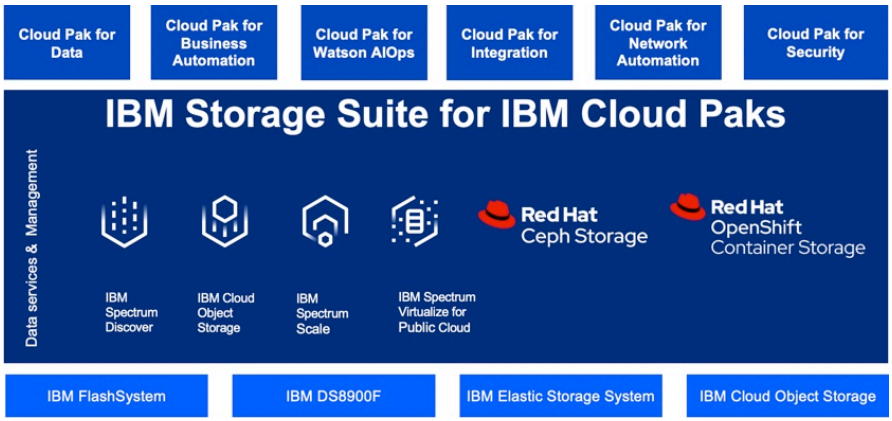
Containerization is a key enabling technology for flexibly delivering workloads to private and public clouds and DevOps. Among their many benefits, containers allow legacy applications to run in almost any host environment without being rewritten – an enormous advantage for enterprises with numerous 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 Pak solutions designed to enhance and extend the functionality and capabilities of Red Hat OpenShift. The solutions include Cloud Pak for Data, Business Automation, Watson AIOps, Integration, Network Application, and Security, and 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 Pak solutions deployed with Red Hat OpenShift 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 IBM Cloud Paks. The solution, based on members of the IBM Spectrum Storage family as well as offerings from Red Hat, brings enterprise data 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 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 Pak solutions 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 Pak solutions 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 data services that more transparently and comprehensively automate and enhance the integration of underlying storage and data management resources.



IBM Storage Suite for IBM Cloud Paks

IBM Cloud Pak solutions

IBM Cloud Paks are AI-powered software for hybrid cloud that are designed to help you advance digital transformation with prediction, security, automation and modernization capabilities.

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. Built on Red Hat OpenShift, you can develop applications once and deploy them anywhere on any cloud, deliver seamless integration and enhance collaboration and efficiency.

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

- ***Cloud Pak for Data*** brings together critical cloud, data, and AI capabilities as containerized microservices to deliver AI-ready data within one unified hybrid cloud platform.
- ***Cloud Pak for Business Automation*** helps achieve better business performance by applying intelligent automation to transform core operations.
- ***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 Network Automation*** is an AI-powered cloud platform that enables the automation of network operations.
- ***Cloud Pak for Watson AIOps*** is a unique application-centric approach to ITOps that helps you automate labor-intensive IT processes and proactively mitigate high impact events.
- ***Cloud Pak for Security*** is a containerized software platform providing insights into threats across hybrid cloud environments.

IBM Storage Suite for IBM Cloud Paks

IBM Storage Suite for IBM Cloud Paks is software-defined storage (SDS) for hybrid cloud container environments. The IBM Cloud Paks combined with IBM Storage Suite for IBM Cloud Paks delivers a modular, easy to consume enterprise-ready data 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 Pak and Red Hat OpenShift with ongoing security, compliance and version compatibility:

- **IBM Spectrum Scale** provides high performance, simple scalability and data access for edge to core to public cloud and the hybrid cloud optimized data center. It offers a full-featured set of data management tools, including advanced storage data optimization, global collaboration for data-anywhere access that spans storage systems and geographic locations, with intelligent storage tiering. With the new containerized IBM Spectrum Scale, Kubernetes containers have a simple way to provide faster access to data for containerized workloads. 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. Providing a high performance interface to multi-vendor NFS or object data make IBM Spectrum Scale the choice when creating an AI information architecture for global enterprise access including containerized workloads.
- **IBM Spectrum Virtualize for Public Cloud** is the public-cloud-based counterpart of the software at the heart of IBM FlashSystem, IBM Spectrum Virtualize. A new way is needed to modernize existing data center architectures, providing a single data fabric on a cloud native architecture such as Red Hat OpenShift that can extend existing infrastructure into new and modern AI and public cloud environments. The data fabric can provide a single control point with consistent enterprise-class performance and management, and a consistent user experience between on-premises clouds or public clouds such as AWS and IBM Cloud. IBM Spectrum Virtualize for Public Cloud and IBM FlashSystem are container-ready storage for Red Hat OpenShift that can free enterprises from silos and modernize their current infrastructure through virtualization
- **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 over “fifteen-nines” of system durability and “eight nines” of availability with always on data and no forklift upgrades required. 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 business, regulatory or legal demands.

- **IBM Spectrum Discover** is a multi-source data catalog that automatically and continuously indexes objects and files whenever changes are made using the metadata in real-time. The result is a powerful and customizable database with a user-friendly interface that allows users to locate and identify the most relevant data regardless of its type or location. Using either a simple SQL query command or actionable API scripts or commands, users are empowered with comprehensive insight into the data in a fast and efficient manner. Spectrum Discover can also be used to create custom tags and policy-based workflows to orchestrate content inspection and activate data in artificial intelligence (AI), machine learning (ML), and analytics workflows. Spectrum Discover can be used for faster AI analysis, compliance classification, image and video indexing, identifying personal data, AI data pipeline integration, real-time data discovery, and providing new insights to optimize data and find bad or duplicate data. Data sources include IBM Spectrum Scale, IBM COS, AWS S3, NFS or SMB data sources including Netapp and Isilon and Red Hat (Ceph and OCS).
- **Red Hat OpenShift Container Storage** is integrated with Red Hat OpenShift Container Platform to deliver persistent container storage services for all types of data including block, file, and object. OpenShift Container Storage presents a consistent interface for administrators, users, and developers no matter the underlying infrastructure – public cloud, private cloud, or on-premises virtualized or bare metal. It is deployed via operators for dramatically simplified day 0 installation and day 1 configuration as well as streamlined day 2 operational management.
- **Red Hat Ceph Storage** is an open, massively scalable storage solution for modern workloads like AI/ML and data analytics, media and content repositories, cloud infrastructure, 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 and scales to support 100s of petabytes.

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.[4]

[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/

[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 (100TBs after entitlement conversion) will not give entitlement to both 100TB of IBM Spectrum Scale and 100TBs of Red Hat Ceph. The 100TBs of entitled capacity should only be applied to a single storage protocol or the entitled capacity may be divided for use between storage products (i.e., 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

→ IBM Storage for Red Hat OpenShift

→ IBM Storage solutions for private cloud

For more information

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

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