# Deploy a hybrid cloud with IBM Spectrum Scale and IBM Cloud Object Storage

## Benefits

- Brings flexibility, scalability and simplicity to IBM Spectrum Scale software active archive data
- Introduces a lower total cost of ownership (TCO) for active archive data on the IBM Spectrum Scale platform using Cloud Object Storage
- Provides a single enterprise file services solution with policy-driven, data-aware storage that includes migration through tiering  encryption
- Supplies a one-stop solution for unstructured data to modernize applications for cloud without complicated configurations or gateways
- Provides a flexible on-premises, cloud or hybrid solution, all from one vendor

Do you find that expensive on-premises storage hardware, the tight availability requirements of your data and the difficulty of capitalizing on modern storage solutions are creating complex technology challenges? How can you transition traditional IT organizations and users who rely on existing resources to a cloud or hybrid solution that is flexible, scalable and simpler to use and manage? Does your business require access to massive amounts of unstructured data that your current infrastructure cannot support without excessive costs?

IBM can help you resolve these challenges with the combined solution of IBM® Spectrum Scale™ software and IBM Cloud Object Storage.

## Stepping up to the data challenge with IBM Cloud Object Storage

IBM Cloud Object Storage is designed to deal with your data challenges. The transparent cloud tiering function in IBM Spectrum Scale software automatically tiers active archive data to IBM Cloud Object Storage through storage-aware and policy-driven configurations. This process is integrated without a gateway and presents a single, integrated solution and single namespace to your data. IBM Cloud Object Storage:

- Supports a unified IBM solution for high-performance network-attached storage (NAS) that is more easily expandable for active archive data
- Provides simplified management for both file management and active archive data
- Supplies enterprise security from IBM Spectrum Scale software and Cloud Object Storage

- Scales more easily and is designed for always-on access from multiple locations
- Reduces your data storage costs up to 70 percent[1] by using IBM Cloud Object Storage for active archive data
- Increases flexibility with a choice of on-premises, cloud or hybrid deployment for active archive data

## Enhancing enterpise NAS using a combined IBM solution

IBM Spectrum Scale software provides a robust solution when you require high-performance file system applications. As Figure 1 shows, it also handles high-performance computing (HPC) environments and applications such as digital surveillance or large media servers that require file access more easily. IBM Spectrum Scale technology can provide high-performance access and IBM Cloud Object Storage can maintain the active archive data with higher reliability and availability.

## Scalable use cases with a combined solution

Use cases:

- Data-aware and policy-driven active archive for IBM Spectrum Scale
- High-performance computing (HPC) and analytics archives for storing big data on Spectrum Scale
- Digital surveillance, large unstructured healthcare data or requirements for large media files

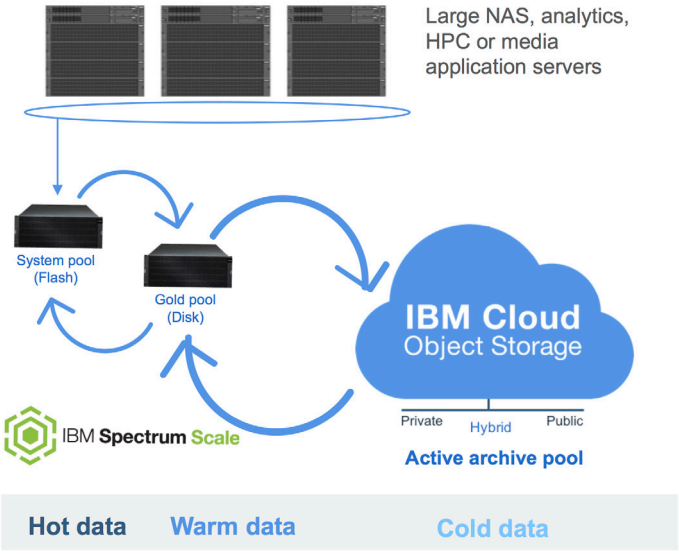


*Figure 1:* IBM Cloud Object Storage as the active archive tier for IBM Spectrum Scale software.

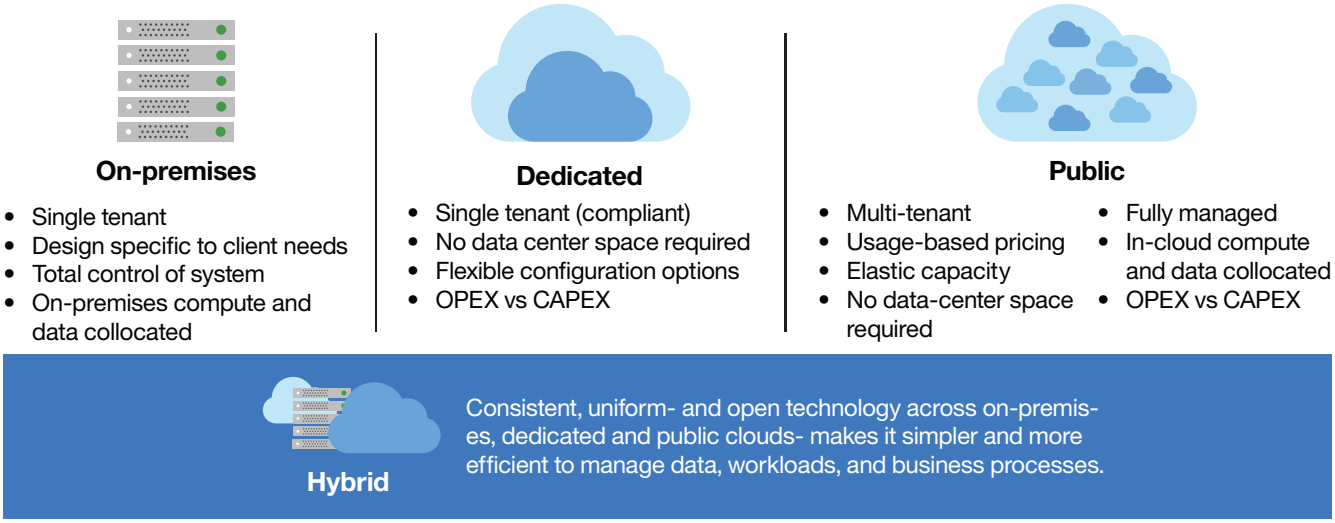


*Figure 2:* IBM Cloud Object Storage offers flexible deployment options.

## Delivering flexible deployment options

With IBM Cloud Object Storage as the backbone to this solution, you gain flexibility in your choice of deployment options. As Figure 2 shows, you can deploy Cloud Object Storage on-premises, in the IBM cloud (dedicated or shared deployments) or in combination to create a hybrid solution.

## Providing transparent cloud tiering with IBM Spectrum Scale software

The IBM Spectrum Scale application provides software-defined storage with high-performance, simultaneous access to your data. As shown in Figure 3, by using transparent cloud tiering, IBM Spectrum Scale technology can seamlessly and transparently tier data to IBM Cloud Object Storage with policy-driven, data-aware storage. The data tiering takes place in one namespace without creating multiple copies of data. Once a policy is set to optimize data placement, the system automatically takes care of the rest. You can benefit from the flexibility, scalability and simplicity of IBM Cloud Object Storage. You also can use active archive data on a more scalable, flexible solution. Finally, IBM Cloud Object Storage can eliminate duplicate tape copies stored either on-premises or in the cloud.

## Improving the economics of unstructured data at a major medical center

New healthcare regulations have brought changes and increased pressure for medical institutions across the United States. Institutions must now reduce costs while continuing to provide top-quality patient care. For a leading research and treatment center for life-threatening diseases, the challenge is twofold: the organization must address the cost and quality challenges across both research and treatment.

Existing IT systems at this research center lacked the agility, reliability and scalability needed to support core applications such as electronic medical records and patient databases. The organization sought to upgrade to a more agile, scalable and flexible infrastructure, capable of hosting a wide range of systems running on VMware, Inc. platforms virtualization technology while keeping IT costs low. The center knew it needed cloud-ready technologies.

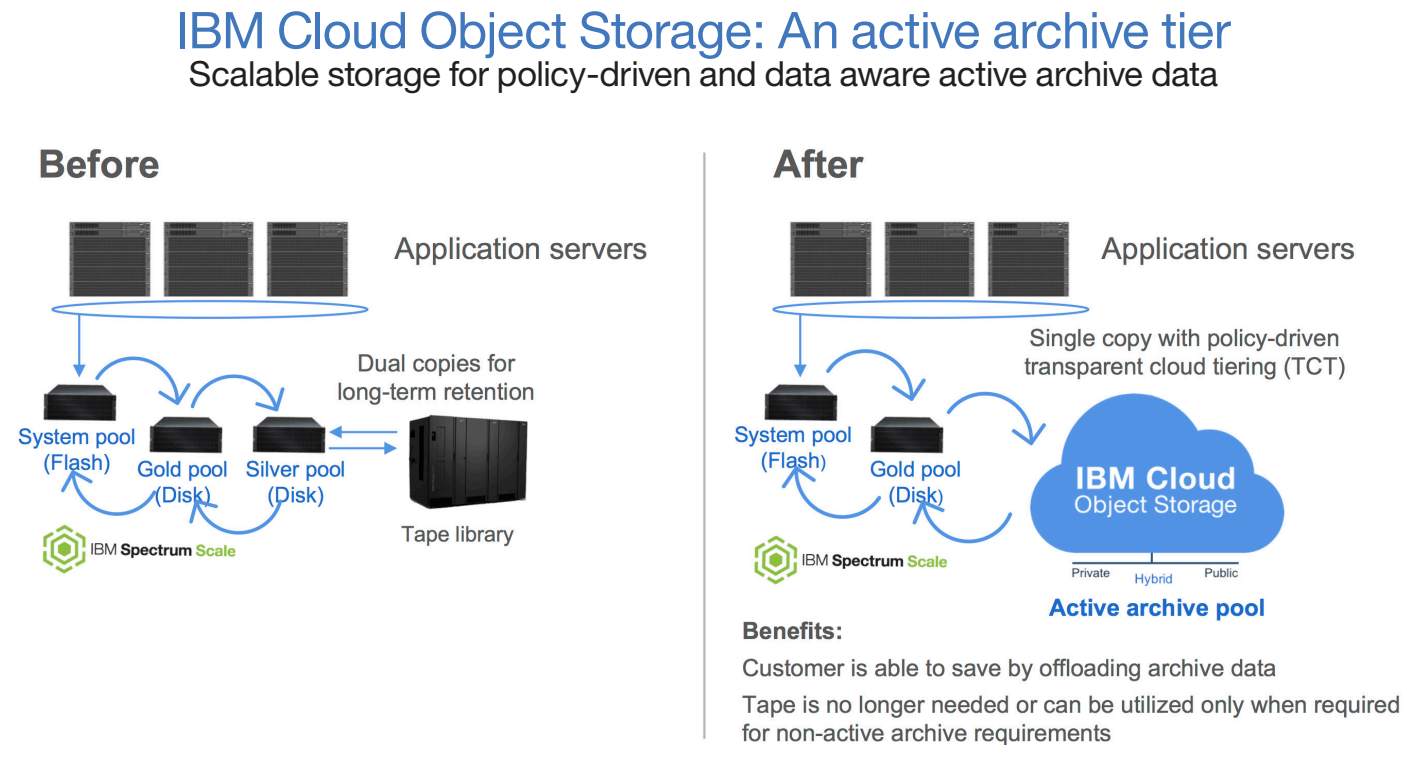


*Figure 3:* IBM Cloud Object Storage helps modernize unstructured data storage.

The director of enterprise technologies explains, "The IT department is the largest cost center. But most of these costs directly support the implementation of systems and applications that foster healthcare research and improve treatments; if we simply cut the spending, our medical staff could not continue to deliver great patient care."

The director continues, "Safely storing patient information in a private, always-accessible and consistently fast private cloud infrastructure means that if a doctor or a nurse needs medical information quickly, they can retrieve it easily and reliably, wherever they are. Ultimately, fast access to data can mean saving lives."

He concludes, "By implementing cloud-enabled storage technologies from IBM, we have created a very agile and dynamic in-house infrastructure to meet the demands of our end-users."

## Taking the next step on your journey

By combining two effective technologies, IBM Cloud Object Storage and IBM Spectrum Scale software, clients receive additional value to their Spectrum Scale-only solutions. IBM Cloud Object Storage adds the flexibility, scalability and simplicity required to manage and deploy cloud-enabled solutions to create a more modern storage infrastructure. Clients who already use the IBM Spectrum Scale application can add IBM Cloud Object Storage more easily into their existing environments without migrating data. Once installed and configured, clients can set the policies for their existing data and watch the benefits begin. For organizations that do not currently use IBM Spectrum Scale software, the combined solution can be bundled as part of the IBM Spectrum Storage family to save additional costs and gain additional functionality, all from a single source—IBM.

## IBM Spectrum Scale software

The IBM Spectrum Scale application is an enterprise-grade parallel file system that provides superior resiliency, scalability and control. Based on the IBM General Parallel File System (GPFS™) application, IBM Spectrum Scale delivers scalable capacity and performance to handle demanding data analytics, content repositories and technical computing workloads. Storage administrators can combine flash, disk, cloud- and tape storage into a unified system that is higher-performing and lower-cost than traditional approaches. With thousands of customers and more than 15 years of demanding production deployments, the IBM Spectrum Scale platform is a file system that can adapt to both application performance and capacity needs across the enterprise. To learn more about IBM Spectrum Scale software, please visit **ibm.com/**systems/storage/spectrum/scale

## IBM Cloud Object Storage

IBM Cloud Object Storage provides the flexibility, scalability and simplicity needed to store, manage and access today's rapidly growing volumes of unstructured data in a private, public or hybrid cloud environment. IBM Cloud Object Storage transforms storage challenges into business advantages by reducing storage costs while reliably supporting both traditional and emerging cloud-born workloads for enterprise mobile, social, analytics and cognitive computing.

IBM Cloud Object Storage is built on technology from object storage leader Cleversafe®, which was acquired by IBM in 2015. Some of the world's largest repositories rely on IBM Cloud Object Storage. To learn more about IBM Cloud Object Storage, please visit: **ibm.com**/cloud-computing/products/storage/object-storage

## Endnotes

1. Davison, D., Forrester Research, Inc.: *The Total Economic Impact™Of Cleversafe, an IBM Company,* March 2015. ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=TSL03266USEN

© Copyright IBM Corporation 2017

IBM Corporation
IBM Cloud Services
Route 100
Somers, NY 10589

Produced in the United States of America
March 2017

IBM, the IBM logo, ibm.com, GPFS- and Spectrum Scale 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 "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Cleversafe® is a trademark or registered trademarks of Cleversafe, Inc., an IBM Company.

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

The client is responsible for ensuring compliance with laws and regulations applicable to it. IBM does not provide legal advice or represent or warrant that its services or products will ensure that the client is in compliance with any law or regulation.

Statement of Good Security Practices: IT system security involves protecting systems and information through prevention, detection and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, misappropriated or misused or can result in damage to or misuse of your systems, including for use in attacks on others. No IT system or product should be considered completely secure and no single product, service or security measure can be completely effective in preventing improper use or access. IBM systems, products and services are designed to be part of a lawful, comprehensive security approach, which will necessarily involve additional operational procedures- and may require other systems, products or services to be most effective. IBM DOES NOT WARRANT THAT ANY SYSTEMS, PRODUCTS OR SERVICES ARE IMMUNE FROM, OR WILL MAKE YOUR ENTERPRISE IMMUNE FROM, THE MALICIOUS OR ILLEGAL CONDUCT OF ANY PARTY.

Please Recycle

WUS12361-USEN-00