IBM Cloud
Solution Brief

Using IBM Cloud Object Storage with Komprise Data Management to Curb NAS expansion

Identify data across your storage and transparently move infrequently accessed data to more cost-efficient IBM Cloud Object Storage

Benefits

- Helps optimize network-attached storage capacity by moving inactive data to more cost-effective IBM Cloud Object Storage
- Offers a quicker ROI by significantly cutting primary storage costs
- Delivers transparent access to archived data for users and applications

Data is growing fast—nearly 90 percent of the world's data was created in the last two years, and enterprise data is doubling every two years.[1] The challenge is how to retain all this data within flat budgets. Businesses need to do more with less and are looking to affordable scale-out storage options such as cloud and object storage.

Although amounts vary by company, many IBM and Komprise clients report that as much as 60 – 90 percent of their data is infrequently accessed within months of creation, and yet enterprises often store and manage it in the same way as active data. This is because there have been no easy approaches to identifying inactive data and moving it without disrupting users. How can you seamlessly leverage the scale and cost-efficiency of object storage along with the performance of your existing network-attached storage (NAS) infrastructure without creating any disruption to users or applications?

Using Komprise data management software with IBM Cloud Object Storage

IBM and Komprise, Inc. have teamed to help IT organizations extend Network File System (NFS) and Server Message Block/Common Internet File System (SMB/CIFS) storage with the scale and cost-efficiency of IBM Cloud Object Storage. Komprise software is designed to enable businesses to manage their data more intelligently by identifying data across their storage and transparently moving infrequently accessed data to more cost-efficient IBM Cloud Object Storage—without disruptions to user or application access. This can significantly cut storage costs and help solve the business challenge of managing data growth within flat budgets. Komprise software can analyze and move data from virtually any storage that supports NFS or SMB/CIFS mounts including NetApp Inc., Dell Inc. Dell EMC Isilon, and Microsoft Corp. Windows File Servers applications.

Typical use cases

Active archiving: Using the Komprise and IBM solution you can manage inactive data differently from active data. By moving inactive data to IBM Cloud Object Storage, you can save as much as 70 percent on your storage costs while freeing up tier-1 storage capacity.[2] Komprise and IBM provide you with an archive designed for always-on access and with full file-based access to data moved to IBM Cloud Object Storage.

Replication and disaster recovery in the cloud: If you want to keep a copy of your data in the cloud for redundancy and disaster recovery purposes, the Komprise copy policy can continuously copy data to IBM Cloud Object Storage to provide a replication site, taking advantage of the reduced cost and ease of cloud storage for backup. In a disaster recovery situation, this archived data can be more easily accessed from another site directly using IBM Cloud Object Storage or as files by spinning up a Komprise Observer virtual machine (VM) at that site.

Getting up and running in less than 15 minutes

Deploying Komprise software is designed to be simple—download the Komprise Observer and point the Observer VM at existing storage using NFS or SMB/CIFS. Within 15 minutes, Komprise provides analytics on how much data you have across your storage, how it's being used, who is using it and how fast it's growing. Even on petabytes of data, Komprise's data management technology provides nearly instantaneous results using a patent-pending dynamic sampling technique.

Data analysis and interactive ROI visualization

You can set various data management objectives and play with "what if" scenarios to understand their projected impact on footprint and costs (see Figure 1). Komprise software interactively projects:

- How the data footprint at the source will change based on the chosen objectives
- The cost impact
- The projected ROI

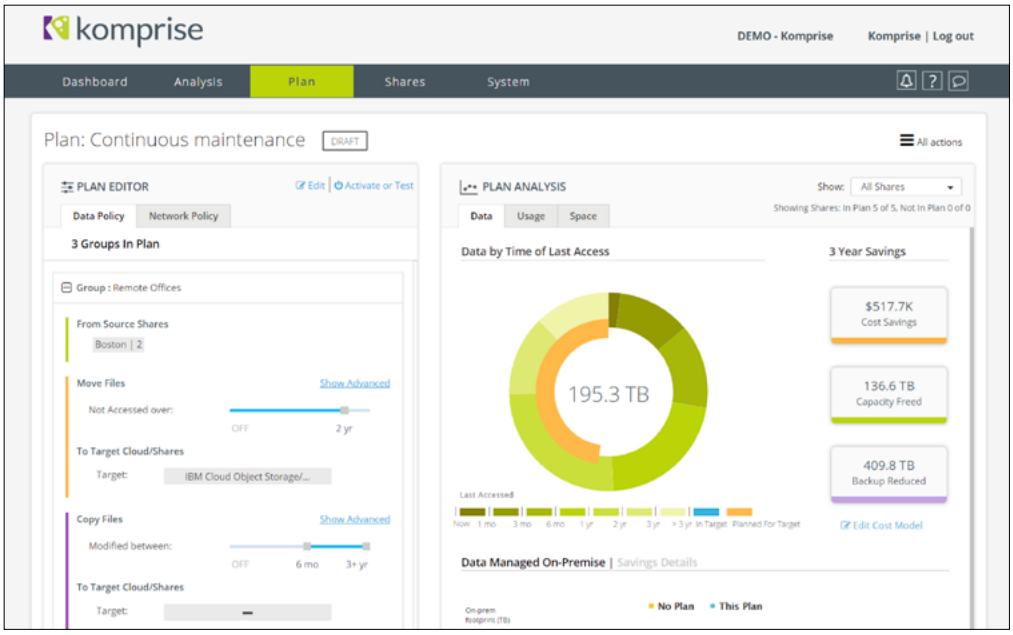

Figure 1: Komprise software helps plan capacity and cost savings of moving data to IBM Cloud Object Storage.

Move data with no changes to user and application access
Once satisfied, simply activate the plan and Komprise moves the data transparently to IBM Cloud Object Storage without using any proprietary agents or static links on the storage systems—mechanisms that have traditionally caused problems. The way users access files is designed to be transparent and users and applications continue to see and access the data as they did before. The data is accessible both as files and as objects in IBM Cloud Object Storage, so applications can be run against the data natively in the cloud.

Making it possible with innovation

The Komprise and IBM solution is designed for flexibility, scalability and simplicity. IBM Cloud Object Storage gives you increased flexibility with deployment options that can meet your needs for a private, public or hybrid cloud solution. Choose from on-premises, private cloud, public cloud or hybrid cloud options that use a common software infrastructure with flexible license arrangements.

Komprise consists of one or more Komprise Observer VMs running at the client site connected to a Komprise Director that can run either as a cloud service or on-premises.

Scale out on-demand to handle data growth
IBM Cloud Object Storage scales as needed by directing your NAS data to virtually unlimited capacity. The web-scale storage platform helps performance and capacity scale independently—reaching exabyte levels and beyond. The IBM single, global addressable namespace delivers a unified, single point of management and access that can scale beyond the limits of traditional centralized metadata servers (see Figure 2).

The Komprise solution is designed to deploy in minutes and yet scale out to handle massive data growth. The architecture has a distributed, fault-tolerant, scale-out design. As the load on the Komprise Observer grows, additional Observers can be added on-demand and Komprise manages the Observers as a single, fault-tolerant grid—simplifying management while delivering a more robust, efficient, scalable performance.

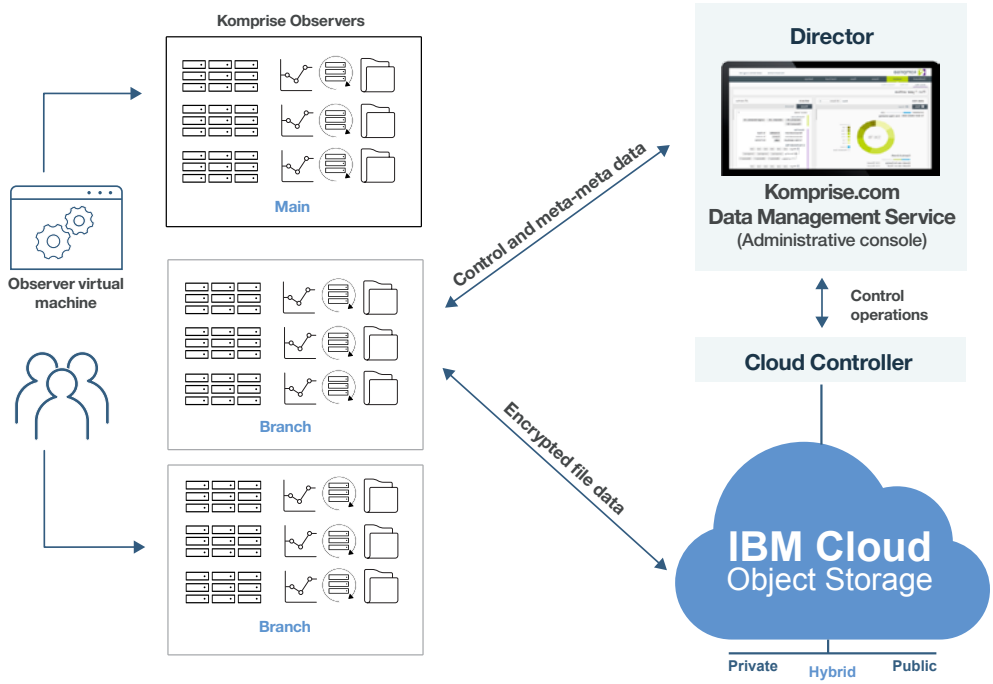

Figure 2: Komprise and IBM Cloud Object Storage technology helps streamline management of scalable storage.

Facilitating always-on accessibility
Komprise and IBM Cloud Object Storage are designed for always-on accessibility. IBM uses a shared-nothing architecture that provides industry-leading scalability, and the software supports strong data consistency models that give you access to your data across multiple time zones. The namespace is virtually unlimited with a distributed architecture that avoids scaling problems caused by other centralized architectures. Data is uniquely addressed and erasure-coded for protection. This helps ensure your data is available even when drives, nodes, networks or sites fail.

Moreover users and applications experience virtually no changes to their access as Komprise technology seamlessly presents the moved data as files on the source exactly as before—even though they sit as objects in IBM Cloud Object Storage.

Security rich
Both Komprise and IBM help secure your data with encryption, security-rich data transfer features and full preservation of your access control policies. IBM uses advanced data encryption for objects at rest and uses Transport Layer Security (TLS) encryption for data in motion, user credentials and digital certificates to help protect data and regulate access. IBM uses SecureSlice software where objects are encrypted, protected and divided into several slices, with no copy of the data residing in any single disk, node or location. Individual objects can be read bit-perfect by using a subset of those slices. Thus, even if a disk, node or location is physically breached, it is virtually impossible to decode the data using algorithmic computation.

Komprise software provides you the choice of encryption at source or at rest and data moved by Komprise is protected by using secure sockets layer (SSL) technology. Komprise software preserves the access controls placed on the original files so that Windows New Technology File System (NTFS) permissions are fully preserved on the moved data.

Simplified management
Both Komprise and IBM Cloud Object Storage are designed to be simple to manage and easy to scale. Komprise requires no dedicated infrastructure and runs as a scale-out grid of VMs that are managed as one entity. Komprise adapts to your environment and provides built-in fault-tolerance, adaptivity and scaling so that you can "set it and forget it" even on hundreds of petabytes of data and billions of files.

For companies that choose to manage their own systems, IBM Cloud Object Storage uses a rich set of features that help you more easily manage petabytes or exabytes of data with a small staff. The core technology is designed with a robust management graphical user interface that lets you provision, monitor, troubleshoot and better secure your storage system with reduced intervention.

Industry recognition
Gartner, Inc., awarded IBM Cleversafe dsNet (now IBM Cloud Object Storage) the highest scores in the Analytics, Archiving and Cloud Storage use cases in its March 2016 Critical Capabilities for Object Storage report.

- IDC Research, Inc. named IBM Cloud Object Storage as a leader in object storage because of its proven ability to deliver data scalability, reliability and availability in its IDC MarketScape: Worldwide Object-Based Storage 2016 Vendor Assessment in December 2016.
- Komprise, Inc. was recognized by Gartner as one of its Cool Vendors in Storage Technologies, 2017.

Take the next step with a no-cost assessment
If you are interested in understanding the ROI of using Komprise with IBM Cloud Object Storage, you can sign up for a free assessment. The assessment can more quickly give you analytics into data usage and growth across your storage. Also you can set objectives on when data should move to IBM Cloud Object Storage and instantly visualize the cost and capacity savings and ROI. Sign up at https://www.komprise.com/try-komprise-data-management-ibm/

Sources

1. *10 Key Marketing Trends for 2017, IBM Watson Marketing,* March 2017, https://www.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=WRL12345USEN&

2. Based on IBM and Komprise internal analysis of client engagements. Individual results will vary.

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