FLEXIBLE STORAGE FOR MEDIA CONTENT REPOSITORIES

Red Hat Storage provides a modern, scale-out infrastructure

SOLUTION BRIEF

Red Hat Storage provides open, software-defined storage for growing content repositories:

- Proven at web scale

- Modern scale-out architecture

- Cost-effective, built on clusters on industry-standard servers

- Object, block, and file storage interfaces

- Multisite support for better data protection

- Vibrant open source community

- Eliminates vendor lock-in

- Great alternative to traditional network-attached storage appliances

OVERVIEW

Media content continues to grow exponentially due to increasing video resolution size and the need for multidevice delivery. As a result, many large enterprises, entertainment companies, and telcos are struggling to maintain a central repository for this data. Legacy storage systems lack the agility, flexibility, and scale to handle the explosive growth and demands of today's media content workflows in an efficient manner. Using a highly scalable software-defined storage (SDS) solution built on industry-standard servers provides an elastic and cost-effective means to handle unpredictable growth in video and rich media assets.

TELCOS AND MULTIPLE SYSTEM OPERATORS (MSOs)

Telcos and cable companies face increased competition from hyperscale companies, like Amazon, Netflix, Google, and Facebook, that are investing in content creation and over-the-top (OTT) delivery. To differentiate, providers need to offer compelling new services, like CloudDVR, while taking a similar approach as these hyperscale companies and deploying a centralized media repository with open SDS technology to increase flexibility and reduce costs.

ENTERTAINMENT COMPANIES AND LARGE ENTERPRISES

Media content owners face similar cost challenges. Their content repositories are growing rapidly as the resolution of their mezzanine master files moves from high-definition (HD) to 4K/ultra-high-definition (UHD) or even 8K. Distribution channels (OTT, multidevice delivery) and the emergence of the cloud require a more agile and distributed infrastructure that cannot be cost-effectively implemented using traditional network-attached storage (NAS) appliances.

FEATURES AND BENEFITS

New media companies have built their infrastructure strategically, with open source software on top of elastic, cost-efficient, industry-standard hardware. This approach has given them access to large, innovative developer communities while taking advantage of the commodity price curves for industry-standard systems. To achieve similar results, however, telcos, content owners, and communications service providers (CSPs) must take a less ambitious approach—one that avoids the considerable resources expended by web-scale organizations to develop and customize open source software to fit their unique needs.

Red Hat® Storage provides hardware-independent, software-defined storage solutions on scale-out clusters of industry-standard servers and disks. Benefits include:

- **Scalability.** Red Hat Storage can grow gradually and incrementally to dozens of petabytes without the costly forklift upgrades of traditional NAS appliances or tape-based repositories. With software-defined storage, customers can grow their environment in smaller building blocks on standard servers, unlike NAS or storage area network (SAN) solutions, which require disruptive, large appliance additions. Also, with more self-service capabilities, fewer resources are required to manage these growing content repositories. Content retrieval is also simpler and quicker.

- **Performance.** The ability of Red Hat Ceph Storage to use the same cluster to support throughput-optimized workloads for video streaming and cost- and capacity-optimized workloads for finished content repositories means the modern workflow demands of just-in-time transcoding for OTT delivery of assets can be accomplished with the same storage infrastructure. Red Hat Gluster Storage provides the ability to configure a cache tier built on solid state drives (SSDs) for better performance for those parts of the workflow that need higher performance, such as ingest and editing.

- **Versatility.** Red Hat provides a fully integrated stack for hybrid cloud environments. It supports on-premise, hybrid, or public cloud deployments. For example, Red Hat Ceph Storage is the preferred storage technology for OpenStack® private cloud deployments. Red Hat Gluster Storage is available in all three major public clouds with easy portability. Also, Red Hat Gluster Storage is tightly integrated with Red Hat OpenShift to provide persistent storage for containers. This helps ensure that a media content company or cloud service provider's storage environment keeps pace with their application development and deployment architectures as they move from virtual to microservices-based DevOps models.

  In addition, Red Hat Storage covers a broad range of protocols, including object storage application programming interfaces (APIs), such as S3 and OpenStack SWIFT, and block storage, such as network file systems (NFS) and server message block (SMB).

- **Open.** Red Hat Ceph Storage and Red Hat Gluster Storage are based on leading open source technologies built on the innovations of a vast community of developers, partners, and customers. These technologies have broad Red Hat subscription benefits and a portfolio of valuable consulting services, global support, and training options. Red Hat Storage uses an open ecosystem for customer choice without proprietary lock-in.

- **Cost.** Compared to traditional appliances, Red Hat Storage offers users demonstrable savings—total cost of ownership savings range from 40%-60% over traditional NAS.[1] Red Hat Storage also uses open source and industry-standard server cost curves to remain a viable, long-term option for rich media content.

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1 IDC, *The Economics of Software-Defined Storage whitepaper*. October 2016. https://www.redhat.com/en/resources/economics-of-software-defined-storage-idc-whitepaper.
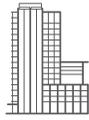
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CONCLUSION

Storing large quantities of video, image, and audio content quickly becomes unwieldy with traditional proprietary storage systems or tape-based repositories. Red Hat Storage offers a better solution with durable, cost-effective storage using hardened open source software running on industry-standard hardware.
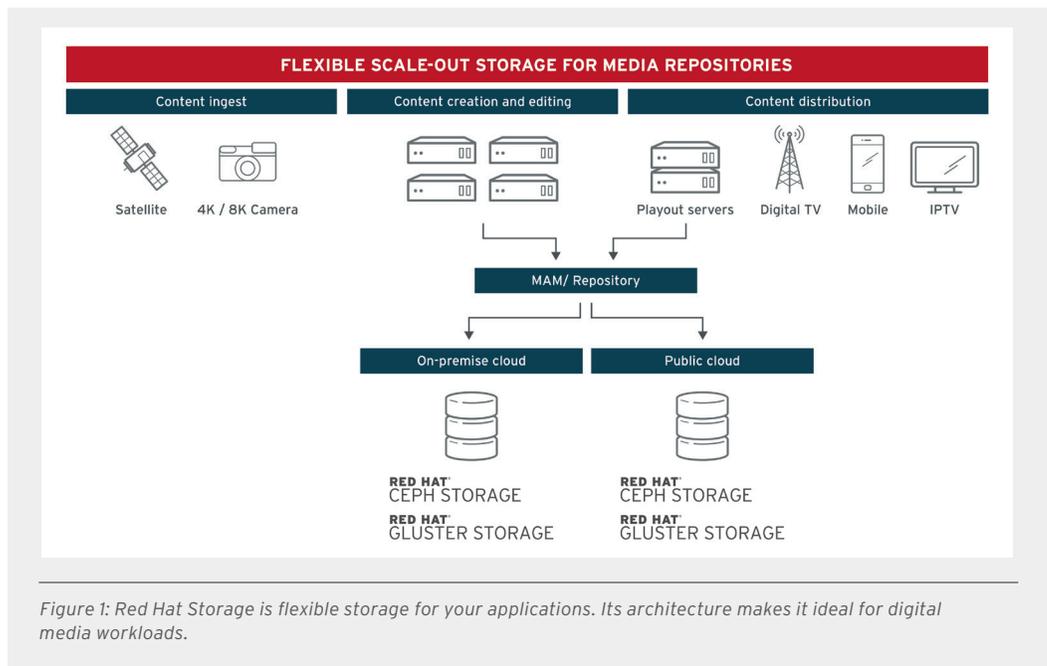

Figure 1: Red Hat Storage is flexible storage for your applications. Its architecture makes it ideal for digital media workloads.