CERTIFIED CLOUD AND SERVICE PROVIDERS

Accelerate business with Storage-as-a-Service

TECHNOLOGY BRIEF

> "*It's absolutely unacceptable for our application to be down in the tax season. If it is, we make the news. The final architecture of Red Hat Gluster Storage means there are no single points of failure and it provides high availability all the time.*"
>
> **JEFF LUDWIG**
> DIRECTOR, PRODUCT PLATFORM
> DEVELOPMENT FOR INTUIT TURBOTAX

INTRODUCTION

Businesses today are investing in advanced technologies that help them make and deliver greater business value. Recent studies show that most executives expect a significant amount of earnings growth over the next several years to come from technology-enabled business innovations such as open source, software-defined solutions like software-defined storage.

At the same time, many companies are looking for ways to save money, increase return on investment, and increase business agility by:

- Creating modern, flexible software-defined hybrid cloud infrastructures.
- Using service providers for low-risk, easy-to-adopt, public cloud-based storage services.
- Migrating from expensive enterprise proprietary storage hardware to a more flexible pay-as-you-use, scale-out pricing model.

FAST FACTS ABOUT SOFTWARE-DEFINED STORAGE

- It reduces service provider cost of maintaining a scalable storage infrastructure and is an integral part of the software-defined datacenter.
- It has standard application programming interfaces (APIs) that allow for management, provisioning, and maintenance.
- It gives service providers the ability to scale the storage infrastructure without disruption to the specified service level agreement of performance.
- It solves challenges for all three storage types – block, file, and object.

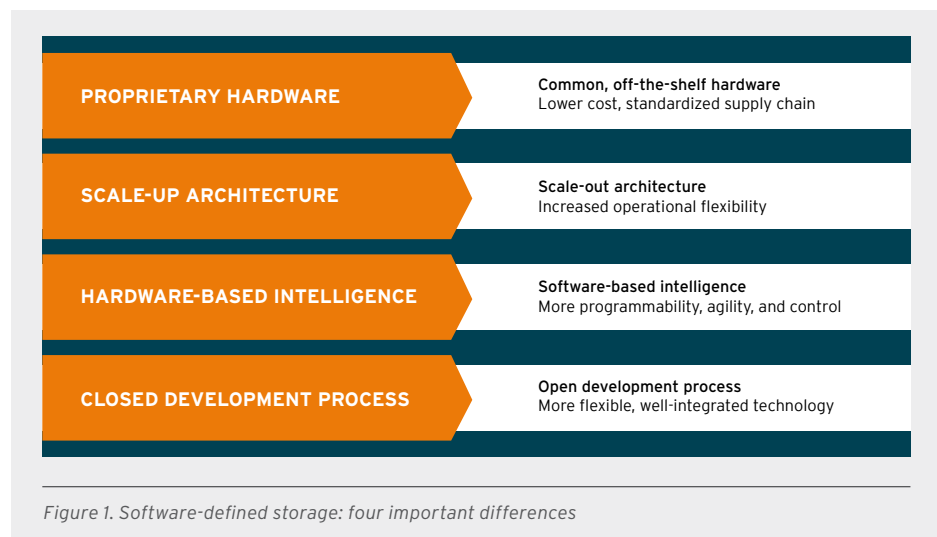## OPPORTUNITIES FOR CERTIFIED CLOUD AND SERVICE PROVIDERS

For many companies, open source software-defined storage solutions are key to their ability to compete effectively. Red Hat is at the epicenter of what's happening in the information technology industry today and is well-positioned to help customers looking for powerful, flexible, and cost-effective storage solutions. Cloud and service providers can take advantage of the opportunities available with Red Hat's combined market leadership and our integrated, enterprise-ready software-defined storage solutions to build profitable new service offerings for their end-customers. All of these factors create an incredible amount of opportunity for service providers to attract and retain customers and accelerate their business.

Cloud and service providers who want to create new offerings based on Red Hat® solutions can join the Red Hat Certified Cloud & Service Provider (CCSP) program, which provides access to a wide variety of business and technical assets designed to help our partners:

- Create new service offerings and accelerate revenue streams.

- Deliver sought-after solutions built on next-generation technology.

- Attract new customers and retain current customers with an expanded portfolio of services.

- Build a more strategic and trusting relationship with customers.

- Take advantage of an extensive library of sales and technical resources available to Red Hat partners.

SOFTWARE-DEFINED STORAGE OVERVIEW

Software-defined storage is a way to manage policy-based provisioning and management of data storage independent of the underlying hardware. Software-defined storage typically includes a form of storage virtualization to separate the storage hardware from the software that manages its infrastructure. The software used in a software-defined storage environment also provides policy management for feature options such as replication, thin provisioning, snapshots, and data protection.

PROPRIETARY HARDWARE	Common, off-the-shelf hardware Lower cost, standardized supply chain
SCALE-UP ARCHITECTURE	Scale-out architecture Increased operational flexibility
HARDWARE-BASED INTELLIGENCE	Software-based intelligence More programmability, agility, and control
CLOSED DEVELOPMENT PROCESS	Open development process More flexible, well-integrated technology

Figure 1. Software-defined storage: four important differences

RED HAT SOLUTIONS FOR SOFTWARE-DEFINED STORAGE

Most people know that Red Hat Enterprise Linux® is the leading Linux platform worldwide. But fewer realize that Red Hat offers open, cost-effective, software-defined storage solutions for cloud infrastructures, web-scale object storage, and scale-out file storage. As the industry moves from closed, proprietary, network area storage (NAS) and storage area network (SAN) storage environments based on scale-up architectures, Red Hat Storage utilizes the open source community to create software-defined, scale-out storage products that can be deployed on industry-standard hardware to significantly reduce the cost for cloud service providers building solutions for their customers.

RED HAT CEPH STORAGE

Red Hat Ceph Storage is a ready-to-use, fully supported, distributed software storage solution built as a scale-out object store. Ceph is a truly unified storage solution that offers block, object, and file interfaces, and it has established itself as the de facto standard for OpenStack® block storage deployments where over 57% of users have stated they use Ceph. But the recent Red Hat Ceph Storage 2 release has added many new features to also make it a compelling option for standalone object storage deployments.

RED HAT® CEPH STORAGE

TARGET USE CASES

Cloud infrastructure
• VM storage with OpenStack Cinder, Glance, and Nova
• Object storage for tenant apps

Rich media and archival
• S3-compatible object storage

BENEFITS
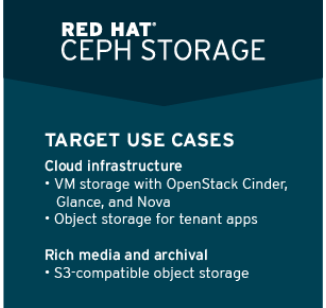
- **Value.** Significantly lower the cost of storing data while laying the foundation for managing exponential growth at a low cost per gigabyte.

- **Longevity.** Use block storage or object storage and grow into file-based access across a single storage pool utilizing industry-standard servers from Supermicro, Quanta, Dell, and others.

- **Enterprise-ready.** Integrate tightly with solutions like OpenStack and provide advanced storage capabilities that work like traditional block storage while providing hardware flexibility and massive web scalability.

- **Expert-backed.** Take advantage of the expertise of Ceph's creators and primary sponsors with best-in-class professional services and training.

- **Reliable and scalable.** Built from the ground up using modern object storage, Ceph has gone through 10 long-term-support releases and has been deployed in hundreds of cloud production environments that scale into tens and even hundreds of petabytes of data.

RED HAT GLUSTER STORAGE

Traditional hardware-based file storage segregates information, making it hard to find, access, and manage. Adding capacity to your traditional system often requires purchasing a new NAS file node, which disrupts access to data. If your hardware fails, it can bring your business to a standstill. Red Hat Gluster Storage is different. Its open, software-defined storage provides file-based storage at a fraction of the cost of competitive commercial NAS filers. And because it scales out across standard server hardware, it's easy to grow into petabytes of data.

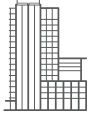**RED HAT® GLUSTER STORAGE**

TARGET USE CASES

Analytics
• Machine analytics with Splunk
• Big data analytics with Hadoop

Enterprise file sharing
• Media streaming
• Active archives

Enterprise virtualization

Rich media and archival

BENEFITS

- **Fast and simple deployment.** Build a secure, thin-provisioned, multitenant storage system in just minutes. With a few mouse clicks, command line, or automation you can deploy additional storage nodes in seconds.

- **Performance.** Having no centralized metadata server alleviates performance bottlenecks, and storage-tiering functionality enhances performance for your frequently accessed files.

- **Data protection.** Replication, snapshots, and erasure coding options reduce capacity requirements and bit-rot detection to preserve the integrity of data assets.

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- **DevOps.** Gluster provides the ability to tie OpenShift containers to a Gluster client, providing persistent storage throughout the development and deployment life cycle.

- **Painless storage management.** Red Hat Gluster Storage doesn't require a complex storage area network infrastructure, saving your staff time and lowering maintenance overhead.

WHY THE OPERATING SYSTEM MATTERS

A key component of any successful datacenter modernization initiative is the standardization of the operating environment. Standardization allows enterprises to reap the benefits of a simplified infrastructure, lowered costs, and increased agility.

Red Hat Enterprise Linux is the operating system trusted by thousands of enterprises around the world to power their most critical applications. Today, Red Hat Enterprise Linux leads the paid Linux market, and it is the foundation for our jointly developed and supported software defined storage solutions that are designed for customers who need an economical, reliable, and flexible storage platform.

IN CONCLUSION

Enterprise customers are interested in cloud storage services that provide maximum business value and cost savings, but with minimal risk and up-front investments. This creates a lot of opportunity for service providers that can provide targeted storage services that customers are looking for in today's market.

Join the Red Hat Certified Cloud & Service Provider (CCSP) program to take advantage of Red Hat's combined market leadership and integrated, enterprise-ready software-defined storage solutions to build profitable new service offerings for your end-customers.