

IBM Rapid Deploy for Red Hat Storage for general-purpose NAS

Modernized storage made simple



Highlights

- Easily and rapidly deploy up to 720 TB of software-defined Red Hat® Gluster® Storage
- Deliver tested, tuned and self-configuring general-purpose network-attached storage (NAS) clusters
- Experience one-stop procurement with four-hour 24x7x365 single-vendor support
- Enjoy enterprise-class reliability, resiliency and a full storage feature set

IBM Rapid Deploy for Red Hat Storage

Flexible and scalable software-defined storage has already revolutionized storage deployment in the public cloud. Many organizations are now embracing a software-defined approach on premises that combines enterprise-grade storage reliability with optimized performance for specific workloads, while running on cost-effective, industry-standard servers. At the same time, many companies are looking for a software-defined storage solution that's easier to evaluate, procure, deploy and support.

IBM Rapid Deploy for Red Hat Storage for general-purpose NAS provides an integrated, preloaded, preconfigured and supported hardware and software solution that's optimized for specific workload categories. All IBM Rapid Deploy for Red Hat Storage solutions include the following in a single IBM part number:

- Standard storage servers optimized and configured for a particular workload category
- Preloaded, licensed, preconfigured and workload-optimized storage software
- Rapid deployment with a quick-deploy utility that makes mountable file systems ready in minutes
- Single-vendor support for both hardware and software

IBM Rapid Deploy for Red Hat Storage for general-purpose NAS

IBM Rapid Deploy for Red Hat Storage for general-purpose NAS dramatically simplifies storage deployment. See Figure 1. The solution provides a ready-to-use Network File System (NFS), Server Message Block (SMB) or high-performance Portable Operating System Interface (POSIX)-compatible Filesystem in Userspace (FUSE) distributed file system, supporting:

- Highly concurrent usage from hundreds to thousands of users
- Multisite geo-replication for disaster recovery support
- Common enterprise-ready features, such as snapshots, self-healing and Nagios-ready monitoring

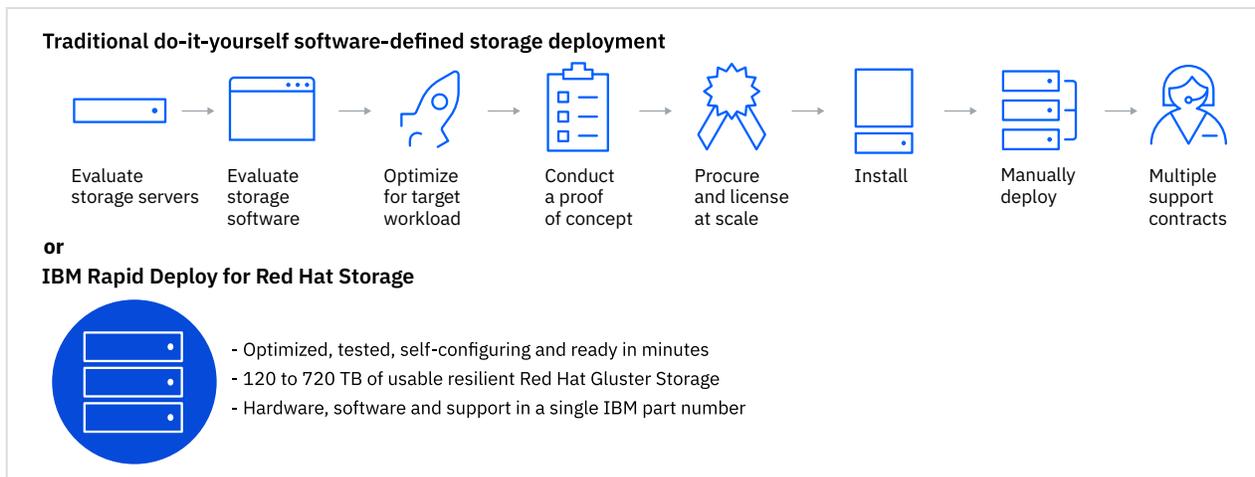


Figure 1: IBM Rapid Deploy for Red Hat Storage for general-purpose NAS dramatically simplifies deployment.

Red Hat Gluster Storage

IBM Rapid Deploy for Red Hat Storage for general-purpose NAS is powered by Red Hat Gluster Storage. Designed for petabyte scale and beyond, Red Hat Gluster Storage is backed by vibrant open source community innovation and can be deployed on bare-metal, virtual, container and cloud environments.

Cluster specifications

Minimum cluster	4 nodes, 288 TB/120 TB raw/usable capacity
Maximum cluster	24 nodes, 1.728 PB/720 TB raw/usable capacity
Cluster deployment size increment	2 nodes, 60 TB usable capacity
Replication factor	2x (with arbiter for split-brain protection)
Top-of-rack (TOR) switch ports required per node	<ul style="list-style-type: none">- Up to 4x 10 Gb small form-factor pluggable (SFP)+ ports (storage network)- 1x 1 Gb RJ-45 (Gluster management network)- 1x Intelligent Platform Management Interface (IPMI) RJ-45 port (optional out-of-band management)
Red Hat Gluster Storage	Version 3.3.x
Client support	NFS client, Server Message Block (SMB), Red Hat Enterprise Linux Gluster-native client using FUSE
Protocol support	NFS v3, NFS v4.0, SMB 2.0, SMB 3.0, FUSE

Cluster specifications (continued)

High availability	<ul style="list-style-type: none">- No single point of failure- Pacemaker (NFS), Cluster Trivial Database (SMB) or built-in (Gluster-native client) provides highly available mount points- 2x replication over RAID6 bricks help ensure continued availability across disk, server and network failures
Disaster recovery	<ul style="list-style-type: none">- Multisite geo-replication (not configured by default)- Snapshots (not configured by default)
Data encryption	In-flight and at-rest encryption (not configured by default)

Server specifications

Base server model	Lenovo ThinkSystem SR650 7X06CTO1WW (three-year warranty) IBM MT7059
Rack units	2U
Processor	Dual Intel Xeon Silver 4110, 8-core 2.1 GHz, 85 watt
Random access memory (RAM)	192 GB (12x 16 GB)
Input/output (I/O) controller	ThinkSystem RAID 930-16i 8 GB Flash PCIe 12 Gb adapter
Hard disk drive (HDD) media drives	13x ThinkSystem 3.5" 6 TB 7.2K SAS 12 Gb hot swap 512e HDD, including hot spare
Boot media	Dual ThinkSystem M.2 CV3 128GB SATA 6Gbps non-hot swap SSD (mirrored)
Solid-state drive (SSD) media drives	1x ThinkSystem 3.5" Intel P4600 1.6 TB mainstream NVMe PCIe 3.0 x4 hot swap SSD
Network interfaces	<ul style="list-style-type: none">- 4x 10 Gb SFP+ ports (with transceivers)- 2x 1 Gb RJ-45 ports- 1x dedicated IPMI RJ-45 port



Environmental specifications (per server)

Physical dimensions	17.5" x 3.4" x 28.3"
Power supply	Dual ThinkSystem 1,100 W (230 volt (V)/115 V) Platinum Hot-Swap Power Supply
Typical power consumption (85% load factor)	498 W
Typical thermal rating (85% load factor)	1,700 BTU/hour
Minimum and maximum operating temperature	ASHRAE class A4: 5°C - 45°C (41°F - 113°F)

Lenovo ThinkSystem SR650 is a 2-socket rack server designed for speed and expansion, with flexible storage and I/O, and reliability for business-critical workloads.



ThinkSystem SR650

Lenovo

Figure 2: Lenovo ThinkSystem SR650

About the IBM and Red Hat partnership

IBM and Red Hat have been providing industry-leading solutions for the past 20 years. Together, the organizations have made significant investments in the Linux operating system and demonstrated their commitment to driving innovation in open source. Working together, the organizations are helping clients meet their needs for big data, analytics, mobile, cloud, security and more.

For more information

To learn more about IBM Technology Support Services and IBM Rapid Deploy for Red Hat Storage, or to learn more about other solutions from IBM and Red Hat, please contact an IBM sales representative at 1-866-426-9989, or visit ibm.com/marketplace/redhat-support and ibm.com/services/techsupport.

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New Orchard Road
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Produced in the United States of America
January 2019

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

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