



▶ Commvault® Validated Reference Design Specification

COMMVault HYPERSCALE™ SOFTWARE ON FUJITSU® PRIMERGY® RX2540 M4

▶ INTRODUCTION TO COMMVault HYPERSCALE™ SOFTWARE

With Commvault HyperScale™ Technology, you can build a unified, modern data protection and management platform that delivers cloud-like services on premises. The purpose of this technical specification is to detail the Fujitsu PRIMERGY RX2540 M4 infrastructure for the Commvault Validated Reference Design. By building these services on a scale-out infrastructure and leveraging Commvault capabilities, you'll enable:

- Cloud-like agility, resiliency and availability to on-premises data and applications
- Greater end-user efficiency through automation and self-service capabilities
- Improved hardware utilization and optimized costs from general-purpose hardware
- Seamless storage scalability with predictable performance without requiring forklift upgrades
- Better, more secure data protection, utilization and movement by eliminating point product and data silos

By shifting the secondary storage and data management infrastructure to this architecture, enterprises can go a long way in transforming their data centers to be as operationally efficient, resilient and scalable as public cloud infrastructure. Lower hardware costs, operational efficiencies and simplified support allows the replacement of limited and legacy backup tools with a modern cloud enabled data management solution at the cost of replacing legacy purpose-built backup appliance (PBBA). More importantly, this architecture, which extends into public cloud, allows enterprises to offer consistent sets of services to all workloads running on premises or in public cloud, independent of the underlying infrastructure for true cloud based data management.



- ▶ Bringing a scale-out infrastructure to the Commvault Data Platform, Commvault HyperScale™ Technology integrates with storage arrays, hypervisors, applications and the full range of cloud provider solutions to support the most diverse and dynamic environments.

RELEASE CANDIDATE DESIGNATION

This configuration is classified as a release candidate, meaning it is not yet fully validated and could change; however, it is built to the design specification with the vendor and is expected to become the final reference design. Validated Reference Designs are designed to provide optimized costs and match performance requirements for every customer.

Further testing is required before this configuration is fully validated it is built to the design specification with the vendor and serves as the configuration that Commvault is currently testing against.

This configuration is currently orderable for customer deployment and supported through Commvault support channels.

REFERENCE DESIGN WITH FUJITSU

Fujitsu PRIMERGY® servers are versatile rack-optimized servers providing excellent performance and energy efficiency. PRIMERGY servers deliver more than 20 years of development and production know-how, resulting in extremely low failure rates below market average, which leads to continuous operations and outstanding hardware availability. The Fujitsu PRIMERGY RX2540 M4 represents a suited platform for Commvault HyperScale™ Software to expand and transform capabilities for customers in today's evolving software-defined world. The Fujitsu PRIMERGY RX2540 M4 has a number of options to ensure that the acquisition, deployment, and upkeep are streamlined.

HOW TO USE THIS DOCUMENT

This document covers the design components of the Commvault HyperScale™ architecture, providing options for purchasing the infrastructure for a Commvault HyperScale™ Software solution. Commvault Validated Reference Designs deliver tested configurations with leading hardware vendor technology that provide validated designs complemented by best practices that will accelerate ROI, reduce complexity, and add customer value.

The document is broken into a high level component section detailing out the configuration and specific component options that can be selected depending on the storage density, metadata, and optional I/O components that are required. Each subsection provides guidance for ordering configurations.

► FUJITSU PRIMERGY® RX2540 M4 SPECIFICATION SUMMARY

CORE COMPONENTS

Core Components represent features of the build that do not change. They include Chassis, CPU, Memory and other critical elements that need to be ordered.

Country-specific components such as power cables are not listed and can be changed as required.

CORE COMPONENTS	TECHNICAL SPECIFICATION
Form Factor	2U Rackmount
Motherboard Chipset	Intel® C624
Processors	INTEL XEON SILVER 4110 8C 2.10 GH
Memory	256GB RAM (8x 32GB RDIMM)
Networking	PLAN EM 4x 10GB SFP+
Storage Controller	PRAID EP540i LP

BOOT & METADATA STORAGE OPTIONS

Boot storage houses the operating system and core Commvault HyperScale™ binaries, while the Metadata storage provides caching areas for such operations as deduplication, indexing, and extents. Boot and metadata can be either configured together as a single unit or housed separately. Two storage options have been included as part of this build as there have been times that specific hardware components, surrounding flash storage, have elongated order cycles and are typically beyond Fujitsu's control.

Although these two configurations rely on slightly different components they meet the required specifications for customer deployment. When selecting a configuration for deployment choose one of the following options, not both.

While both configurations options meet the required performance requirements, at the time of this writing, there is an economic advantage with the first option and should be considered as the primary choice.

OPTION	BOOT/METADATA CONFIGURATIONS	TECHNICAL SPECIFICATION
Option 1	Combined Boot/Metadata Configuration	4x 1.2TB SATA SSD, 6Gbps – RAID5
Option 2	Separate Boot/Metadata Boot Storage Metadata Storage	2x 480GB SATA SD, 6Gbps – RAID1 1x Intel P4600 4TB PCIe x8 Lanes Mixed Use HH\HL

DATA STORAGE OPTIONS

Data storage houses the data footprint for the customer environment. Data storage configuration directly impacts the amount of data that each node in the solution is able to store.

When deploying nodes inside of the same block (e.g. 3 node initial configuration), choose identical HDDs. If the nodes in a block have different HDD sizes, the lowest size will be chosen for the data storage, which would lead to wasted resources on nodes with larger HDDs.

Separate node blocks in the same grid may use different HDDs (e.g. mixing a 3 node 6TB block with a second 3 node 10TB block in the same grid).

Overall sizing and retention varies per customer and therefore is beyond the scope of this document. Please refer to Commvault HyperScale™ sizing documentation to determine the drive size (and node quantity) required for the specific deployment.

DATA STORAGE CONFIGURATION	TECHNICAL SPECIFICATION
Storage Configuration – Data Storage	4TB, NL-SAS or SATA, 12 Drives
Storage Type	6TB, NL-SAS or SATA, 12 Drives
	8TB, NL-SAS or SATA, 12 Drives
	10TB, NL-SAS or SATA, 12 Drives
	12TB, NL-SAS or SATA, 12 Drives

OPTIONAL I/O ADD-ON CARDS

The design includes all core components to work with Commvault’s HyperScale™ Technology. There are specific times where additional I/O connectivity is desired as part of the overall solution. Optional I/O cards for SAS and fibre channel connectivity are validated and included as part of the design. The quantity and type of these I/O cards are customizable, and there are multiple valid configurations possible.

SAS Connectivity is typically used for direct tape integration, while fibre channel cards are used for Commvault IntelliSnap® operations or tape libraries.

► BILL OF MATERIALS

This bill of materials represents the configuration being validated as part of the Commvault Validated Reference Design Program. There are four main sections of this document. [Core Components](#), [Data Storage Options](#), [Metadata Storage Options](#), and [Optional Components](#).

CORE COMPONENTS

QTY.	PART NUMBER	DESCRIPTION
1	S26361-K1567-V116	PY RX2540 M4 12X 3.5' +4 @1CTRL
2	S26113-F574-E13	MODULAR PSU 800W PLATINUM HP
1	S26361-F1790-E243	IRMC ADVANCED PACK
1	S26361-F2036-E100	SERVERVIEW SUITE DVDS

QTY.	PART NUMBER	DESCRIPTION
1	S26361-F2735-E175	RACK MOUNT KIT F1 CMA QRL LV
1	S26361-F3694-E10	INDEPENDENT MODE INSTALLATION
1	S26361-F3846-E31	RISERCARD PCIE 2 FH SLOTS X16/X8 RIGHT
1	S26361-F3849-E100	COOLER KIT 2ND CPU
1	S26361-F3853-E30	4X REAR 2.5' SAS/SATA HDD/SSD
1	S26361-F3953-E411	PLAN EM 4X 10GB SFP+ OCP INTERFACE
8	S26361-F4026-E232	32GB (1X32GB) 2RX4 DDR4-2666 R ECC
1	S26361-F4042-E204	PRAID EP540I LP
2	S26361-F4051-E110	INTEL XEON SILVER 4110 8C 2.10 GHZ
1	S26361-F4530-E10	MOUNTING OF RMK IN SYMMETRICAL RACKS
2	T26139-Y1968-E100	CABLE POWERCORD RACK, 4M, BLACK

BOOT & METADATA STORAGE OPTIONS

There are two configuration options for boot and metadata storage. Select only one option. All part numbers in the selected option are required.

OPTION 1 – COMBINED BOOT/METADATA STORAGE

QTY.	PART NUMBER	DESCRIPTION
4	S26361-F5632-E120	SSD SATA 6G 1.2TB Read-Int. 2.5' H-P EP

OPTION 2 – SEPARATE BOOT & METADATA STORAGE

QTY.	PART NUMBER	DESCRIPTION
2	S26361-F5632-E480	SSD SATA 6G 480GB Read-Int. 2.5' H-P EP
1	S26361-F5650-E400	PACC EP P4600 AIC 4TB Mixed-Use

DATA STORAGE OPTIONS

For data storage, choose the appropriate part number and do not mix drive types within a block. The drives listed for this configuration are 6Gbps SATA, but 12Gbps or NL-SAS variants of these drives are acceptable, they may be deployed as part of this design. Currently all known variants of 6/12Gbps and NL-SAS/SATA drives are validated.

QTY.	PART NUMBER	DESCRIPTION
12	S26361-F5636-E400	HD SATA 6G 4TB 7.2K HOT PL 3.5' BC
12	S26361-F5638-E600	HD SATA 6G 6TB 7.2K 512E HOT PL 3.5' BC
12	S26361-F3904-E800	HD SATA 6G 8TB 7.2K 512E HOT PL 3.5' BC
12	S26361-F3904-E100	HD SATA 6G 10TB 7.2K 512E HOT PL 3.5' BC
12	S26361-F3904-E120	HD SATA 6G 12TB 7.2K 512E HOT PL 3.5' BC

OPTIONAL I/O ADD-ON CARDS

QTY.	PART NUMBER	DESCRIPTION
1	S26361-F5580-E2	PFC EP QLE2692 2X 16GB QLOGIC
1	S26361-F3845-E1	PSAS CP400E FH

▶ ADDITIONAL RESOURCES

Additional information regarding the Fujitsu PRIMERGY® RX2540 M4 can be found on the Fujitsu website. A few useful links have been included:

- [Fujitsu PRIMERGY RX2540 M4 Rack Server details.](#)

▶ Learn more about Commvault HyperScale™ Software. Visit [commvault.com/hyperscale](https://www.commvault.com/hyperscale).

©1999-2019 Commvault Systems, Inc. All rights reserved. Commvault, Commvault and logo, the "C hexagon" logo, Commvault Systems, Commvault HyperScale, ScaleProtect, Commvault OnePass, GridStor, Vault Tracker, IntelliSnap, CommServe, CommCell, APSS, Commvault Edge, Commvault GO, Commvault Advantage, Commvault Complete, Commvault Activate, Commvault Orchestrate, and CommValue are trademarks or registered trademarks of Commvault Systems, Inc. All other third party brands, products, service names, trademarks, or registered service marks are the property of and used to identify the products or services of their respective owners. All specifications are subject to change without notice.

