DATA SHEET

Commvault® Validated Reference Design Specification

Commvault HyperScale™ X Software on Dell R660XS

INTRODUCTION TO COMMVAULT HYPERSCALE™ X SOFTWARE

Commvault HyperScale™ X Software is an intuitive and easy to deploy integrated data protection solution with a distributed scale-out file system that provides unmatched scalability, security, and resiliency. Its flexible architecture allows you to get up and running quickly and grow as your needs demand. Commvault Validated Reference Designs accelerate hybrid cloud adoption and deliver:

- Simple, flexible data protection for all workloads including containers, virtual, and databases.
- High performance backup and recovery with enhanced recovery capabilities
- Optimized scalability to easily grow capacity in single-node increments as needed, on-prem and to the cloud.
- Enhanced resiliency with intelligent load balancing of data across disks and nodes and the ability to support concurrent hardware failures.
- Built-in ransomware protection via intelligent monitoring to detect data anomalies and alert users.

By shifting the secondary storage and data management infrastructure to a scale-out architecture, enterprises can help transform their data centers to be as operationally efficient, resilient, and scalable as public cloud infrastructure. Commvault HyperScale X allows organizations to replace limited and legacy backup tools with a modern hybrid cloud-enabled data management solution that eliminates expensive forklift upgrades. The purpose of this technical specification is to provide the complete Dell R660XS Commvault Validated Reference Design for Commvault Hyperscale X Software.

GENERAL AVAILABILITY DESIGNATION

This configuration is classified as a general availability design, meaning it has been tested and validated per the Commvault Validated Reference Design Program. This configuration is subject to change due to updated part numbers or replacement hardware because of hardware life cycles. Validated Reference Designs are developed to provide optimized costs, resiliency, and performance. Commvault collaborates with Dell to create fully supported design build. Substitutions or modifications to validated design specifications could result in unsupported configurations. Any substitutions or modifications to validated configurations must be approved by both Commvault and Dell. This configuration is currently orderable for customer deployment and supported through Commvault support channels.

HOW TO USE THIS DOCUMENT

This document details the necessary design components of the Commvault HyperScale™ X Technology architecture, providing the key components required when purchasing and configuring the infrastructure for a Commvault HyperScale™ X Software solution. Commvault Reference Designs deliver validated configurations with leading hardware vendor technology complemented by best practices that will accelerate ROI, reduce complexity, and add customer value.

This document does not cover overall architecture and design of the Commvault HyperScale solution and should be considered as a supplement specific to this document.

NOTE: This build is only supported with the December 2023 (or later) HSX ISO.

DELL R660XS SPECIFICATION SUMMARY

Server overview

Technical specifications	
Form factor	• 1U Rack Mount
Processors	• Minimum Dual Intel Silver 10 Core CPU (Ex: Intel® Xeon® Silver 4410)
Memory	• Minimum 256GB RAM
Total slots and form factor	• (1) x16 Low Profile Slot

Bill of materials

The Bill of Materials list all components required to configure Commvault HyperScale nodes. Each component has been tested and validated. Country-specific components such as power cables are not listed and can be changed as required.

Core Components

Core components are the base parts of the required server and cannot be changed. There can be no modifications made to these components

Qty.	Part Number	Description
1	210-BFUZ	PowerEdge R660xs
1	470-AFQO	3.5" Chassis with up to 4 HDDs (SAS/SATA), 2x2.5" Rear HDDs (NVMe), 2 CPU
1	329-BHOF	PowerEdge R660xs Motherboard with Broadcom 5720 Dual Port 1Gb On-Board LOM
1	461-AAIG	Trusted Platform Module 2.0 V3
1	338-CHQT	Heatsink for 2 CPU configuration (CPU less than or equal to 150W)
1	370-AHCL	4800MT/s RDIMMs
1	780-BCDS	Unconfigured RAID
1	405-AAZB	PERC H755 SAS Front
1	750-ACFR	Front PERC Mechanical Parts, front load
1	528-CTIC	iDRAC9, Enterprise 16G
1	330-BCCD	Riser Config 4, Low Profile, 1x16 LP Slots (Gen4) + Rear Backplane
1	384-BDJC	Standard Fan X7
1	450-AKLF	Dual, Redundant (1+1), Hot-Plug Power Supply,1100W MM(100-240Vac) Titanium
1	800-BBDM	UEFI BIOS Boot Mode with GPT Partition

Flexible components

It is required to select one component (unless otherwise specified) from each of the sections below to complete the BOM, if not the BOM will be invalid, and the design will not work.

CPU

The **minimum requirement** for the DUAL CPUs, must be an Intel Silver level 10 Core CPU, higher core Silver or Gold CPUs can be used if required. Lower spec'd CPUs are not supported.

Qty.	Part Number	Description
2	338-CKVW	Intel Xeon Silver 4410T 2.7G, 10C/20T, 16GT/s, 27M Cache, Turbo, HT (150W) DDR5-4000

Memory

The **minimum required RAM is 256GB** for N4. If a customer desires more memory, they are free to do so. The minimum required RAM is listed below. It is recommended to use 16 DIMMS for better memory performance.

Qty.	Part Number	Description
16	370-AGZO	16GB RDIMM, 4800MT/s Single Rank

Boot Drives

For Dell, the BOSS-S2 controller is required for boot

Qty.	Part Number	Description
1	403-BCRT	BOSS-N1 controller card + with 2 M.2 480GB - (RAID 1)
1	490-BJKK	Riser for Boss

CDS/Commvault Combined Cache

The CVFS/Commvault cache requires a **minimum of a 3.2TB SSD** or NVMe drive. **MUST** be of type **Mix Use**, Read Intensive drives are NOT supported. Please select **only one** of the options below.

Qty.	Part Number	Description
1	400-BKGD	3.2TB Enterprise NVMe Mixed Use AG Drive U.2 Gen4 with carrier

Networking

It is recommended to have a total of 4 NIC ports for network redundancy, however 2 ports are a valid configuration. Port speeds must be 10 or 25 Gbps. Some vendors use Network Daughter or OCP cards which do not use up a PCIe slot, it is recommended to use one of those cards if available.

Recommended Configuration

Qty.	Part Number	Description
1	540-BCRX	Broadcom 57504 Quad Port 10/25GbE, SFP28, OCP NIC 3.0

Alternative Supported Cards – (only listed cards are supported)

Data Disks
Data disks can be of type SAS, NLSAS or SATA. SAS is the recommended option. 20TB drives are the largest supported drives, do not use larger than 20TB. Smaller drive sizes than the ones listed below can be used if desired. Work with your partner/vendor for the part numbers of the drives required.

Qty.	Description
4	4TB Hard Drive
4	8TB Hard Drive
4	12TB Hard Drive
4	16TB Hard Drive
4	20TB Hard Drive

NOTE: For part numbers not listed, work with the partner/vendor as the part numbers change too often to keep updated.

Additional add-on cards, Free slots available
The slots below are the remaining free slots available for use in the server after all the above components have been installed. Please ensure any additional cards added will physically fit in the server. Work with your partner/vendor for the part numbers of the cards required.

Qty.	Form Factor
1	x16 Low Profile Slot

Optional I/O Cards

Qty.	Description
1	QLogic 2772 Dual Port 32Gb Fiber Channel HBA
1	Emulex LPe35002 Dual Port FC32 Fiber Channel HBA

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Additional add-on cards
Please note that due to the differences in each customer environment, some components are not included in the design but must be ordered separately to ensure full functionality and connectivity. These parts include the FC and Ethernet transceivers, as well as the Ethernet, FC, and power cables.

Additional add-on cards
Additional information regarding the Dell R660XS can be found on the Dell website. A couple of useful links have been included:
Dell R660XS Technical Guide
Dell R660XS Spec Sheet

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.

To learn more, visit **commvault.com/hyperscale.**