DATA SHEET

Commvault® Validated Reference Design Specification

Commvault Grid Software on Dell R570

OVERVIEW

Commvault Grid™ Software is an intuitive and easy to deploy integrated data protection solution with a distributed scaleout 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 operationally efficient, resilient, and scalable as public cloud infrastructure. Commvault Grid 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 R570 Commvault Validated Reference Design for Commvault Grid™ 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 Grid Technology architecture, providing the key components required when purchasing and configuring the infrastructurefor a Commvault Grid 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 the overall architecture and design of the Commvault Grid solution and should be considered as a supplement specific to this document.

DELL R570 SPECIFICATION SUMMARY

Server overview

Technical specifications	
Form factor	2U Rack Mount
Processors	Single Socket Silver Intel CPU Systems with a total of 32 or more Cores
Memory	512GB RAM (640GB required for 24TB Drives)
Total slots and form factor	Rear Full Heigh 2x16 FH (Gen5), 1x16 FLOP OCP, 1x16 Onboard OCP

NOTE: This server can ONLY be installed with a VaultOS 9 based ISO image, this server will NOT work with any prior ISO image and will NOT install and is NOT supported on any prior ISO image.

BILL OF MATERIALS

The Bill of Materials lists all components required to configure Commvault Grid 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.	Description
1	PowerEdge R570 Server, Enterprise
1	3.5" Chassis with up to 12 HDDs (SAS/SATA), 4xE3.S Rear Direct Drives (G5x4), PERC12
1	6400MT/s RDIMMs
1	H965i Adapter Full Height
1	Dual, Fully Redundant(1+1), Hot-Plug MHS Power Supply,1100W MM (100-240Vac)
1	iDRAC10, Enterprise 17G
1	UEFI BIOS Boot Mode with GPT Partition
1	PowerEdge R570 Motherboard

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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 CPUs is: must be an Intel Silver or better and must total 24 Cores (or more), higher spec'd Silver or Gold CPUs can be used if required. Lower spec'd CPUs are not supported.

Qty.	Description
1	Intel® Xeon® 6 Performance 6731P 2.5G, 32C/64T, 144M Cache, Turbo, (245W) DDR5-6400

Memory

The minimum required RAM is 512GB. If using 24TB drives 640GB RAM is required. If a customer desires more memory, they are free to do so. RDIMM size does not matter as long as the minimum RAM size requirements are met and is supported by the manufacturer.

Boot Drives

For Dell, the BOSS controller with RAID 1 is required for boot.

Qty.	Description
1	BOSS-N1 controller card with 2 M.2 480GB (RAID 1) (22x80) Rear

CVFS Cache

The CVFS cache requires a minimum of a 3.2TB NVMe drive. Can be either a Mix Use (MU) or Read Intensive (RI) drive. Larger capacities can be used, but not smaller. Please select only one of the options below.

Qty.	Description
1	3.2TB Data Center NVMe Mixed Use AG Drive E3s Gen5 Flex Bay

Commvault Cache

The Commvault cache requires a minimum of a 3.2TB NVMe drive. Can be either a Mix Use (MU) or Read Intensive (RI) drive. Larger capacities can be used, but not smaller. Please select only one of the options below.

Qty.	Description
1	3.2TB NVMe Mixed Use AG Drive E3s Gen5 Flex Bay

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 Gpbs. 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. Work with the partner/vendor for part numbers.

Recommended Configuration

Qty.	Description
1	Broadcom 57414 Dual Port 25GbE SFP28 Adapter, OCP 3.0 NIC +Sec
1	Broadcom 57414 25GbE SFP28 Dual Port Adapter, PCIe Full Height +Sec

Alternative Supported Cards – (only listed cards are supported)

Qty.	Description
1	Broadcom 57416 Dual Port 10GbE BASE-T Adapter, OCP NIC 3.0
1	Broadcom 57416 Dual Port 10GbE BASE-T Adapter
1	Intel X710-T4L Quad Port 10GbE BASE-T Adapter

Data Disks

Data disks can be of type SAS, NLSAS or SATA. SAS is highly recommended. 24TB drives are the largest supported drives, do not use larger than 24TB. 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. For 24 TB drives **640 GB Ram is a requirement**, failure to follow this will lead to an unsupported configuration. For lower than 24 TB drive capacities, 512 GB of Ram is still fine.

Qty.	Part Number
12	8TB Hard Drive
12	12TB Hard Drive
12	16TB Hard Drive
12	20TB Hard Drive
12	24TB Hard Drive (must acknowledge the increased memory requirement)

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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 and validate that the required cards will fit in the server.

Qty.	Form Factor

Optional I/O Cards

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

Additional considerations

Please note that due to the differences in each customer's 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 resources

Additional information regarding the Dell R470 can be found on the Dell website. A couple of useful links have been included:
Dell R570 Technical Guide
Dell R570 Spec Sheet

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