COMMVAULT
Be ready

CISCO
The bridge to possible

Cisco and Commvault Validated Reference Design Specification

Commvault ScaleProtect X Software on Cisco UCS C240 M6 Rack Server

Introduction to Commvault ScaleProtect X Software

Commvault ScaleProtect™ X is Commvault HyperScale™ X deployed on Cisco UCS® servers.

Commvault ScaleProtect X Software is an intuitive and easy-to-deploy integrated data protection solution with a distributed scale-out file system that provides industry-leading 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 premises and in 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 through 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 ScaleProtect 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 Cisco UCS C240 M6 Rack Server Commvault Validated Reference Design for Commvault ScaleProtect 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 as a result of hardware life cycles. Validated Reference Designs are developed to provide optimized costs, resiliency, and performance. Commvault collaborates with Cisco to create fully supported design specifications. 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 Cisco. 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 ScaleProtect X Technology architecture, providing the key components required when purchasing and configuring the infrastructure for a Commvault ScaleProtect 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.

The document is broken into a high-level component section detailing the configuration and specific component options that can be selected to satisfy storage capacity and

density requirements. Each subsection provides guidance for ordering configurations.

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

Cisco UCS C240 M6 Rack Server specification summary

Table 1. Server overview

Technical specifications	
Form factor	2U rackmount
Processors	Intel® Xeon® Silver 4314
Memory	512GB RAM
Total slots and form factor	(2) x8 full-height slots, (1) x16 full-height slot

Boot and metadata storage options

Boot storage houses the operating system and core Commvault ScaleProtect X and Hedvig binaries. The metadata storage provides caching areas for such operations as deduplication, indexing, and extents. The design specifies dedicated storage for Commvault metadata.

Data storage options

Data storage houses the protected data. Data storage selection dictates the amount of data that each node can accommodate. Initial deployments of Commvault ScaleProtect X require a 3-node configuration, each with identical Hard Disk Drive (HDD) capacities. Subsequent expansion of the storage pool can be

done with individual or multiple nodes. Mixing of different server vendors, models, and/or node capacities with a storage pool is supported.

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

Networking options

A minimum of two (2x) 10GB ports are required for Commvault ScaleProtect X installations, one for protected data and one for storage communication between the nodes. It is

recommended to have a total of four (4x) ports per node: two (2x) for data and two (2x) for storage for failover and redundancy. These builds have been designed with this recommendation.

Optional I/O add-on cards

The design includes all core components to work with Commvault ScaleProtect X Technology. There are specific times where additional parts may be required depending on the environment and use case (for example, optional I/O cards for SAS and Fibre Channel connectivity). The I/O cards below 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® technology operations or tape libraries.

Bill of materials

The bill of materials lists all components required to configure Commvault ScaleProtect X nodes. Each component has been tested and validated. Substitutions cannot be supported. Country-specific components such as power cables are not listed and can be changed as required.

Table 2. Bill of materials

Qty.	Part number	Description
1	Commvault ScaleProtect X C240 M6 6TB	Single C240 M6 ScaleProtect X node with 12 x 6TB drives
1	Commvault ScaleProtect X C240 M6 8TB	Single C240 M6 ScaleProtect X node with 12 x 8TB drives
1	Commvault ScaleProtect X C240 M6 10TB	Single C240 M6 ScaleProtect X node with 12 x 10TB drives
1	Commvault ScaleProtect X C240 M6 12TB	Single C240 M6 ScaleProtect X node with 12 x 12TB drives
1	Commvault ScaleProtect X C240 M6 14TB	Single C240 M6 ScaleProtect X node with 12 x 14TB drives
1	Commvault ScaleProtect X C240 M6 16TB	Single C240 M6 ScaleProtect X node with 12 x 16TB drives
1	Commvault ScaleProtect X C240 M6 18TB	Single C240 M6 ScaleProtect X node with 12 x 18TB drives

Note: SAS, NL-SAS, or SATA drives are supported for data storage. SAS drives are recommended.

Additional add-on cards

Note: Smaller form factor cards can fit in larger form factor slots. However, larger form factor cards cannot fit into smaller form factor slots. For example, an x4 size card can fit in an x8 size slot; however, an x8 size card cannot fit in an x4 size slot.

Free slots available

The slots below are the remaining free slots available for use in the server after the core components have been installed. Please ensure any additional cards added will physically fit in the server.

Table 3.   Free slots

Qty.	Form factor
2	FH x8 slot
1	FH x16 slot

Optional I/O add-on cards

Table 4.   Optional I/O add-on cards

Qty.	Part number	Description
1	UCSC-PCIE-QD16GF	QLogic QLE2692 dual port 16G FC HBA
1	UCSC-PCIE-BD16GF	Emulex LPe31002 dual port 16G FC HBA

Additional resources

Additional information regarding the Cisco UCS C240 M6 Rack Server can be found on the Cisco website. A few useful links have been included:

- [Cisco UCS C240 M6 Rack Server Data Sheet (US version)](#)

- Cisco UCS C240 M6 (LFF) Rack Server Specification Sheet (US version)

- [The Cisco Commerce Workspace (CCW)](#)

Commvault ScaleProtect X 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**.