

Cisco and Commvault Validated Reference Design Specification

Commvault HyperScale X software on
Cisco UCS C240 M5 Rack Servers

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Introduction to Commvault ScaleProtect X

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

Commvault ScaleProtect™ X 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. Cisco and 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 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 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 and Commvault Validated Reference Design for Commvault ScaleProtect X on Cisco UCS C240 M5.

General availability designation

This configuration is classified as a general availability design, meaning it has been tested and validated per the Cisco and 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. Cisco and Commvault 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 Cisco Solutions Support and 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 solution. Cisco and Commvault Reference Designs deliver validated configurations with Cisco UCS® technology complemented by best practices that will accelerate ROI, reduce complexity, and add customer value.

This document is broken into a high-level-component section that details the configuration, and sections on 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® technologies.

Cisco UCS C240 M5 Rack Server specification summary

Server overview

Table 1. Cisco UCS C240 M5 Rack Server key specifications

| Technical specification | |
|-----------------------------|------------------------------|
| Form factor | 2U rackmount |
| Motherboard chipset | Intel® C620 Series |
| Processors | Intel Xeon® Silver 4216 |
| Memory | 512GB RAM |
| Total slots and form factor | 5 FH slots [(3) x8, (2) x16] |

Boot and metadata storage

Boot storage houses the operating system and core Commvault HyperScale™ 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 HyperScale 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.

Overall sizing and retention vary per customer and therefore are 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 HyperScale 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 configurations 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 when additional parts may be required depending on the environment and uses case (for example, optional I/O cards for SAS and Fibre Channel connectivity). The I/O cards discussed 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. Part number (Solution ID) lists with components

| Qty. | Part number (Solution ID) | Description |
|------|----------------------------------|--|
| 1 | CVLT ScaleProtect X C240 M5 6TB | Single C240 M5 ScaleProtect X Node with 12 x 6TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 8TB | Single C240 M5 ScaleProtect X Node with 12 x 8TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 10TB | Single C240 M5 ScaleProtect X Node with 12 x 10TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 12TB | Single C240 M5 ScaleProtect X Node with 12 x 12TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 14TB | Single C240 M5 ScaleProtect X Node with 12 x 14TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 16TB | Single C240 M5 ScaleProtect X Node with 12 x 16TB Drives |
| 1 | CVLT ScaleProtect X C240 M5 18TB | Single C240 M5 ScaleProtect X Node with 12 x 18TB Drives |

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

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 available

| Qty. | Form factor |
|------|-------------|
| 3 | FH x8 slot |
| 2 | FH x16 slot |

Additional considerations

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 resources

Additional information regarding the Cisco UCS C240 M5 Rack Server can be found on the Cisco website. Useful links include the following:

[Cisco UCS C240 M5 Rack Server Data Sheet \(US version\)](#)

[Cisco UCS C240 M5 \(LFF\) Rack Server Specification Sheet \(US version\)](#)

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

Commvault HyperScale Technology integrates with storage arrays, hypervisors, applications, and a full range of cloud-provider solutions to support the most diverse and dynamic environments. Visit

[commvault.com/hyperscale/software >](https://commvault.com/hyperscale/software)

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