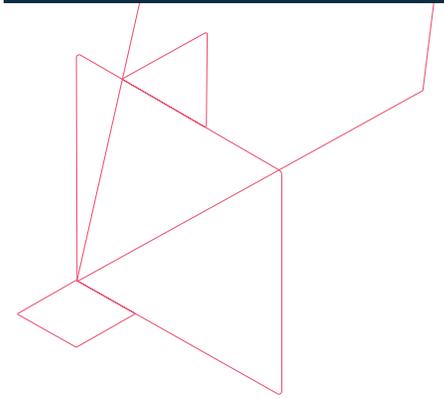# Commvault® Validated Reference Design specification

Commvault HyperScale™ X Software on Cisco UCS® S3260 M5

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 Cisco UCS S3260 M5 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 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 HyperScale™ Technology architecture, providing the key components required when purchasing and configuring the infrastructure for a Commvault HyperScale™ 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 HyperScale solution and should be considered as a supplement specific to Cisco.

Cisco UCS S3260 M5 specification summary

Server overview

Technical specifications	
Form factor	4U Rack Mount
Motherboard chipset	Intel® C620 Series
Processors	Intel® Xeon® Silver 4216
Memory	512 GB RAM
Total slots and form factor	None

Boot and metadata storage options

Boot storage houses the operating system and core Commvault HyperScale 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 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 varies 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) 10 GB ports are required for Commvault HyperScale installs: 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 HyperScale Technology. There are specific times where additional parts may be required depending on the environment and uses case (e.g., optional I/O cards for SAS and Fiber 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 Fiber Channel cards are used for Commvault IntelliSnap® technology operations or tape libraries.

Bill of materials

The Bill of materials list all components required to configure Commvault HyperScale 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

Qty.	Part number	Description
1	CVLT ScaleProtect X S3260 M5 6 TB	S3260 M5 Single HyperScale Node with 24 x 6 TB Drives
1	CVLT ScaleProtect X S3260 M5 6 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 6 TB Drives
1	CVLT ScaleProtect X S3260 M5 8 TB	S3260 M5 Single HyperScale Node with 24 x 8 TB Drives
1	CVLT ScaleProtect X S3260 M5 8 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 8 TB Drives
1	CVLT ScaleProtect X S3260 M5 10 TB	S3260 M5 Single HyperScale Node with 24 x 10 TB Drives
1	CVLT ScaleProtect X S3260 M5 10 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 10 TB Drives
1	CVLT ScaleProtect X S3260 M5 12 TB	S3260 M5 Single HyperScale Node with 24 x 12 TB Drives
1	CVLT ScaleProtect X S3260 M5 12 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 12 TB Drives
1	CVLT ScaleProtect X S3260 M5 14 TB	S3260 M5 Single HyperScale Node with 24 x 14 TB Drives
1	CVLT ScaleProtect X S3260 M5 14 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 14 TB Drives
1	CVLT ScaleProtect X S3260 M5 16 TB	S3260 M5 Single HyperScale Node with 24 x 16 TB Drives
1	CVLT ScaleProtect X S3260 M5 16 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 16 TB Drives
1	CVLT ScaleProtect X S3260 M5 18 TB	S3260 M5 Single HyperScale Node with 24 x 18 TB Drives
1	CVLT ScaleProtect X S3260 M5 18 TB 2N	S3260 M5 Dual HyperScale Nodes with 48 x 18 TB Drives

Note: Single node and one dual node ID are required for a complete 3 node pool. 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.

Qty.	Form factor
	none

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 S3260 M5 can be found on the Cisco website. A couple of useful links have been included:

- Cisco UCS S3260 Storage Server Data Sheet (U.S. version)
- Cisco UCS S3260 Storage Server Specification Sheet (U.S. version)
- The Cisco Commerce Workspace (CCW)

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. Visit **commvault.com/hyperscale/software ›**

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