



▶ Commvault® Validated Reference Design Specification

COMMVault HYPERSCALE™ SOFTWARE ON CISCO® UCS® S3260 M5

▶ INTRODUCTION TO COMMVault HYPERSCALE™ SOFTWARE

With Commvault HyperScale™ Software, you can build a unified, modern data protection and management platform that delivers cloud-like services on premises. The purpose of this technical specification is to detail the Cisco® UCS® S3260 M5 Storage Server for the Commvault Validated Reference Design. By building these services on a scale-out infrastructure and leveraging Commvault capabilities, you'll enable:

- Cloud-like agility, resiliency, and availability to on-premises data and applications
- Greater end-user efficiency through automation and self-service capabilities
- Improved hardware utilization and optimized costs from general-purpose hardware
- Seamless storage scalability with predictable performance without requiring forklift upgrades
- Better, more secure data protection, utilization, and movement by eliminating point product and data silos

By shifting the secondary storage and data management infrastructure to this architecture, enterprises can go a long way in transforming their data centers to be as operationally efficient, resilient, and scalable as public cloud infrastructure. Lower hardware costs, operational efficiencies, and simplified support allows the replacement of limited and legacy backup tools with a modern cloud enabled data management solution at the cost of replacing legacy purpose-built backup appliance (PBBA). More importantly, this architecture, which extends into public cloud, allows enterprises to offer consistent sets of services to all workloads running on premises or in public cloud, independent of the underlying infrastructure for true cloud based data management.



▶ [Learn more about Commvault HyperScale™ Software.](#)

REFERENCE DESIGN WITH CISCO

Cisco UCS S3260 M5 Storage Server is a modular dual-node server that provides architectural flexibility and is well-suited for high-capacity storage and I/O intensive workloads. Cisco UCS S3260 M5 Storage Servers can house two (2) nodes in an individual chassis, this density allows for two (2) Commvault HyperScale™ nodes to be housed in a single chassis. Cisco UCS S3260 M5 Storage Servers can be deployed as standalone servers or as part of the Cisco Unified Computing System to take advantage of Cisco standards-based unified computing innovations that help reduce customers' total cost of ownership and increase business agility. The UCS S3260 M5 represents a suited platform for Commvault HyperScale™ Software to expand and transform capabilities for customers in today's evolving software-defined world.

HOW TO USE THIS DOCUMENT

This document covers the design components of the Commvault HyperScale™ architecture, providing options for purchasing the infrastructure for a Commvault HyperScale™ Software solution. Commvault Validated Reference Designs deliver tested configurations with leading hardware vendor technology that provide validated designs 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 out the configuration and specific component options that can be selected depending on the storage density, metadata, and optional I/O components that are required. 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

CORE COMPONENTS

Core Components represent features of the build that do not change. They include Chassis, CPU, Memory, and other critical elements that need to be ordered.

Country-specific components such as power cables are not listed and can be changed as required.

Solution Brief: Commvault HyperScale™ Technology

Our offering allows customers to significantly decrease complexity and cost while increasing scalability and IT agility.

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CORE COMPONENTS	TECHNICAL SPECIFICATION
FORM FACTOR	4U Rackmount
NODE FORM FACTOR	Large Density – Single or Dual Node Capable
MOTHERBOARD CHIPSET	Intel® C620
PROCESSORS	Intel® Xeon® Silver 4114
MEMORY	256GB RAM (8x 32GB RDIMM)
NETWORKING	Cisco VIC 1300 Dual Port 40Gb QSFP CNA
STORAGE CONTROLLER	Cisco 12G Modular SAS RAID

BOOT AND METADATA STORAGE OPTIONS

Boot storage houses the operating system and core Commvault HyperScale™ binaries, while the Metadata storage provides caching areas for such operations as deduplication, indexing, and extents.

BOOT/METADATA CONFIGURATIONS	TECHNICAL SPECIFICATION
SEPARATE BOOT/METADATA BOOT STORAGE METADATA STORAGE	2x 480GB SATA SSD, RAID1 4x Top Load 1.6TB SSD Raid 5

DATA STORAGE OPTIONS

Data storage houses the data footprint for the customer environment. Data storage configuration directly impacts the amount of data that each node in the solution is able to store.

When deploying nodes inside of the same block (e.g. 3 node initial configuration), choose identical HDDs. If the nodes in a block have different HDD sizes, the lowest size will be chosen for the data storage, which would lead to underutilized resources on nodes with larger HDDs.

Separate node blocks in the same grid may use different HDDs (e.g. mixing a 3 node 6TB block with a second 3 node 10TB block in the same grid).

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

DATA STORAGE CONFIGURATION	TECHNICAL SPECIFICATION
STORAGE CONFIGURATION – DATA STORAGE STORAGE TYPE	4TB, NL-SAS or SATA, 24 Drives 6TB, NL-SAS or SATA, 24 Drives 8TB, NL-SAS or SATA, 24 Drives 10TB, NL-SAS or SATA, 24 Drives 12TB, NL-SAS or SATA, 24 Drives

▶ BILL OF MATERIALS

Commvault has partnered with Cisco to create Solution IDs which are pre-validated Bill of Materials (BOMs) that allows easy quoting by Cisco or a Cisco Reseller while ensuring the configurations are validated and consistent. These Solution IDs include the core hardware components for the Commvault HyperScale™ designs, items such as power cords and country specific region kits are required as part of the ordering process through the Cisco Commerce Workspace (CCW) website.

Note: ScaleProtect™ refers to the joint offering that Cisco and Commvault have in market. ScaleProtect™ with Cisco UCS® is Commvault data protection solution including Commvault HyperScale™ Software running on Cisco UCS infrastructure. The Commvault Validated Reference Design for Cisco UCS Servers utilizes the exact same infrastructure as the ScaleProtect offering.

SOLUTION ID

Each Solution ID below represents either a single or dual Commvault HyperScale™ node configuration. The Dual Node configurations have a trailing "2N" on the end of the Solution ID.

Commvault HyperScale™ block sizes are made up of 3 or 6 node configurations, and as outlined in the Data Storage Options section, mixing and matching different nodes sizes within a block is not allowed.

To size a 3 node configuration, choose a single and a double node configuration. For instance if choosing 3 Nodes with 4TB drives, choose the "Commvault ScaleProtect S3260 M5 4TB" and "Commvault ScaleProtect S3260 M5 4TB 2N" Solution IDs.

To size a 6 node configuration, choose three double node configurations. For instance if choosing 6 nodes with 10TB drives, choose the "Commvault ScaleProtect S3260 M5 10TB 2N" with quantity 3.

QTY.	PART NUMBER	DESCRIPTION
1	CVLT ScaleProtect S3260 M5 4TB	S3260 M5 Single HyperScale™ Node with 24 x 4TB Drives
1	CVLT ScaleProtect S3260 M5 4TB 2N	S3260 M5 Dual HyperScale™ Nodes with 48 x 4TB Drives
1	CVLT ScaleProtect S3260 M5 6TB	S3260 M5 Single HyperScale™ Node with 24 x 6TB Drives
1	CVLT ScaleProtect S3260 M5 6TB 2N	S3260 M5 Dual HyperScale™ Nodes with 48 x 6TB Drives
1	CVLT ScaleProtect S3260 M5 8TB	S3260 M5 Single HyperScale™ Node with 24 x 8TB Drives
1	CVLT ScaleProtect S3260 M5 8TB 2N	S3260 M5 Dual HyperScale™ Nodes with 48 x 8TB Drives
1	CVLT ScaleProtect S3260 M5 10TB	S3260 M5 Single HyperScale™ Node with 24 x 10TB Drives
1	CVLT ScaleProtect S3260 M5 10TB 2N	S3260 M5 Dual HyperScale™ Nodes with 48 x 10TB Drives
1	CVLT ScaleProtect S3260 M5 12TB	S3260 M5 Single HyperScale™ Node with 24 x 12TB Drives
1	CVLT ScaleProtect S3260 M5 12TB 2N	S3260 M5 Dual HyperScale™ Nodes with 48 x 12TB Drives

OPTIONAL CLOUD CACHE

The following part numbers add optional Cloud Cache in the HyperScale Reference Design. The quantities below represent matching requirements for either a single or dual Commvault HyperScale node configuration.

These quantities represent a per node requirement and need to be added to each configuration.

To add Cloud Cache to a 3 node configuration, add quantity 1 NVMe to the 1 node configuration, such as the "CVLT ScaleProtect S3260 M5 4TB" and add quantity 2 NVMe to the 2 node, such as "CVLT ScaleProtect S3260 M5 4TB 2N".

To size a 6 node configuration, add quantity 2 NVMe to each of the "CVLT ScaleProtect S3260 M5 10TB 2N".

OPTION 1 – CLOUD CACHE

QTY.	PART NUMBER	DESCRIPTION
1	UCS-S3260-NVG220	Cisco UCS 2TB NVMe – For Single Node Configurations
2	UCS-S3260-NVG220	Cisco UCS 2TB NVMe – For Dual Node Configurations

▶ 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 \(US version\)](#)
- [Cisco UCS S3260 Storage Server Specification Sheet \(US version\)](#)
- [The Cisco Commerce Workspace \(CCW\)](#)

- ▶ Bringing a scale-out infrastructure to the Commvault Data Platform, [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.

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