



# ▶ Commvault® Validated Reference Design Specification

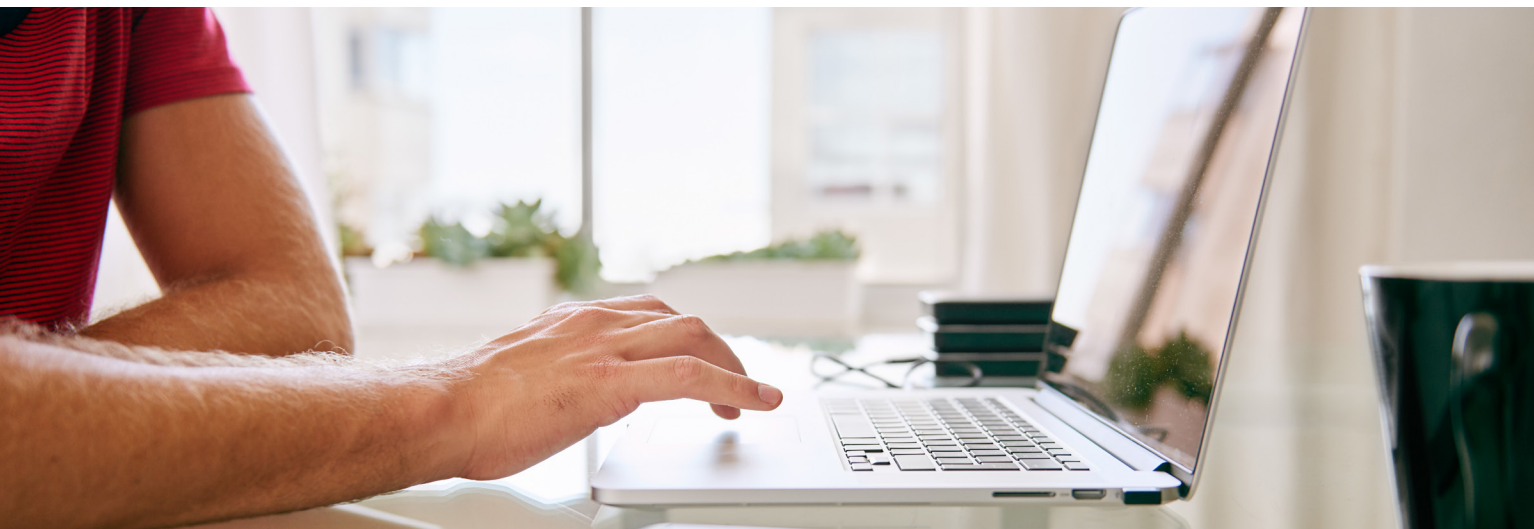
SUPERMICRO® 6029P OR 6049P

## ▶ INTRODUCTION TO COMMVAULT HYPERSCALE™ SOFTWARE

With Commvault HyperScale™ Technology, 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 Supermicro® 6029P or C049P 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 with 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.](#)

## RELEASE CANDIDATE NOTATION

This configuration is classified as a release candidate as it has the potential to be the final reference design, unless a significant bug occurs. Validated Reference Designs are designed to provide optimized costs and match performance requirements for every customer. Although further testing is required for this configuration it is built to the design specification with the vendor and serves as the configuration that Commvault is currently testing against.

This configuration is currently orderable for customer deployment. During deployment any issues that are identified can be raised via regular support channels.

## REFERENCE DESIGN WITH SUPERMICRO

The Supermicro SuperStorage servers improve upon their existing extensive portfolio of modern solutions to drive IT transformation in the data center. The 6029P (6029P-E1CR24L) is Supermicro's Simply Double 2U SuperStorage that includes twice the number of hot-swap drive bays as a standard 2U system. This configuration provides a superior storage density for that customers can realize a great efficiency in their storage deployments. The 6049P (6049P-E1CR24L) is Supermicro's 4U SuperStorage server that provides the same infrastructure as the 2U system, however it has the added expansion capabilities of external optional I/O cards when required. Either system 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™ solution. Commvault Validated Reference Designs deliver tested configurations with leading hardware vendor technology that provide validated designs complemented by best practice configurations 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 the applicable hardware vendor.

## ► SUPERMICRO SUPERSTORAGE 6029P/6049P 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.

The criteria for selecting the 6029P or 6049P relate to the use of optional I/O expansion cards. Should the solution require tape connectivity (via SAS or Fibre Channel) or the use of Fibre Channel (for IntelliSnap technology) the 6049P models are the only capable models to provide that solution.

The 6029P has the main components as the 6049P but in an ultra-dense form factor, this save data-center space however that density has limited the amount of PCIe slots that are available and there are no additional slots available for optional I/O cards.

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

CORE COMPONENTS	TECHNICAL SPECIFICATIONS	
	6029P (6029P-E1CR24L)	6049P (6049P-E1CR24L)
FORM FACTOR	2U Rackmount	4U Rackmount
NODE FORM FACTOR	Large Density – 24LFF	
MOTHERBOARD CHIPSET	Intel® C624	
PROCESSORS	Intel® Xeon® Silver 4114	
MEMORY	256GB RAM (8x32GB RDIMM)	
NETWORKING	Quad Port 10Gbps SFP+	
STORAGE CONTROLLER	Broadcom 3008	
OPTIONAL I/O CARDS CAPABLE	No	Yes

## BOOT AND METADATA STORAGE OPTION

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 SPECIFICATIONS	
	6029P (6029P-E1CR24L)	6049P (6049P-E1CR24L)
BOOT CONFIGURATION METADATA CONFIGURATION	2x 480GB SATA SSD, 6Gbps – RAID1 1x 4TB Intel P4500	

## 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 SPECIFICATIONS	
	6029P (6029P-E1CR24L)	6049P (6049P-E1CR24L)
STORAGE CONFIGURATION – DATA STORAGE STORAGE TYPE	4TB, NL-SAS or SATA, 12 Drives 6TB, NL-SAS or SATA, 12 Drives 8TB, NL-SAS or SATA, 12 Drives 10TB, NL-SAS or SATA, 12 Drives 12TB, NL-SAS or SATA, 12 Drives	

## ► BILL OF MATERIALS

Commvault has partnered with Supermicro to create Supermicro SKU's for Commvault which are pre-validated Bill of Materials (BOMs) that allows easy quoting by Supermicro or Supermicro partners while ensuring the configurations are validated and consistent. These SKU's include the core hardware components for the Commvault HyperScale™ architectures, items such as power cords and country specific region kits are required as part of the ordering process.

### SUPERMICRO COMMVault SKU ID – 6029P – 2U

Each Supermicro SKU below represents a single Commvault HyperScale™ node in the 2U ultra-dense configuration. 3 or 6 individual nodes need to be order as part of a Commvault HyperScale™ grid.

**Note:** The 6029P has no Optional I/O expansion capabilities.

QTY.	FORM FACTOR	SUPERMICRO SKU	DESCRIPTION
1	2U	SRS-CVHSEM-96-2401-SC071	Single HyperScale Node – Supermicro 6029P with 24 x 4TB Drives
1	2U	SRS-CVHSEM-144-2401-SC071	Single HyperScale Node – Supermicro 6029P with 24 x 6TB Drives
1	2U	SRS-CVHSEM-192-2401-SC071	Single HyperScale Node – Supermicro 6029P with 24 x 8TB Drives
1	2U	SRS-CVHSEM-240-2401-SC071	Single HyperScale Node – Supermicro 6029P with 24 x 10TB Drives
1	2U	SRS-CVHSEM-288-2401-SC071	Single HyperScale Node – Supermicro 6029P with 24 x 12TB Drives

### SUPERMICRO COMMVault SKU ID – 6049P – 4U

Each Supermicro SKU below represents a single Commvault HyperScale™ node in the 4U configuration that has I/O expansion capabilities. 3 or 6 individual nodes need to be order as part of a Commvault HyperScale™ grid.

QTY.	FORM FACTOR	SUPERMICRO SKU	DESCRIPTION
1	4U	SRS-CVHSEM-96-2402-SC071	Single HyperScale Node – Supermicro 6049P with 24 x 4TB Drives
1	4U	SRS-CVHSEM-144-2402-SC071	Single HyperScale Node – Supermicro 6049P with 24 x 6TB Drives
1	4U	SRS-CVHSEM-192-2402-SC071	Single HyperScale Node – Supermicro 6049P with 24 x 8TB Drives
1	4U	SRS-CVHSEM-240-2402-SC071	Single HyperScale Node – Supermicro 6049P with 24 x 10TB Drives
1	4U	SRS-CVHSEM-288-2402-SC071	Single HyperScale Node – Supermicro 6049P with 24 x 12TB Drives

## OPTIONAL I/O ADD-ON CARDS FOR 6049P

The Optional I/O cards are used for connectivity to tape and Fibre Channel connections. The quantity and type of these I/O cards is customizable, and there are multiple valid configurations. Specific cards can be housed in individual nodes and do not have to be matched identically across all nodes.

**Note:** For the 6049P only.

QTY.	PART NUMBER	DESCRIPTION
1	AOC-LPE12002M8	Emulex LPE12002M8 Dual port 8G Fibre Channel Card
1	AOC-LPE16002B-M6-0	Emulex LPE16002B-M6-0 Dual port 16G Fibre Channel Card
1	AOC-QLE2562	QLogic QLE2562 Dual port 8G Fibre Channel Card
1	AOC-QLE2672	QLogic QLE2672 Dual port 16G Fibre Channel Card

## ▶ ADDITIONAL RESOURCES

Additional information regarding the Supermicro 6029P and 6049P be found on the Supermicro website.

- [Supermicro 6029P-E1CR24L Technical Specifications Guide \(US version\)](#)
- [Supermicro 6049P-E1CR24L Technical Specifications Guide \(US version\)](#)

- ▶ 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.

©1999-2018 Commvault Systems, Inc. All rights reserved. Commvault, Commvault and logo, the "C hexagon" logo, Commvault Systems, Commvault HyperScale, ScaleProtect, Commvault OnePass, GridStor, Vault Tracker, IntelliSnap, CommServe, CommCell, APSS, Commvault Edge, Commvault GO, Commvault Advantage, Commvault Complete, Commvault Activate, Commvault Orchestrate, and CommValue are trademarks or registered trademarks of Commvault Systems, Inc. All other third party brands, products, service names, trademarks, or registered service marks are the property of and used to identify the products or services of their respective owners. All specifications are subject to change without notice.