

Commvault Validated Reference Design specification

Commvault HyperScale™ Software on HPE® ProLiant® DL360 Gen10

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 HPE ProLiant DL360 Gen10 infrastructure 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.

Release candidate designation

This configuration is classified as a release candidate, meaning it is not yet fully validated and could change; however, it is built to the design specification with the vendor and is expected to become the final reference design. Validated Reference Designs are designed to provide optimized costs and match performance requirements for every customer.

Further testing is required before this configuration is fully validated 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 and supported through Commvault support channels.

Reference Design with HPE

HPE ProLiant servers are designed to simplify Hybrid IT by providing the agility of a modernized infrastructure, with the 10th generation servers improving upon their existing extensive portfolio of modern solutions. The ProLiant DL360 Gen10 represents a suited platform for Commvault's HyperScale software to expand and transform capabilities for customers in today's evolving software-defined world. The highly optimized ProLiant DL360 Gen10 has a number of options to ensure that the acquisition, deployment, and upkeep are streamlined.

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 the applicable hardware vendor.

HPE ProLiant DL360 Gen10 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.

Core components	Technical specifications
Form factor	1U Rackmount
Motherboard chipset	Intel® C621
Processors	Intel® Xeon® Silver 4208
Memory	256 GB RAM (8 x 32 GB RDIMM)
Networking	HPE ethernet 10/25 GB 2-port 631SFP28 adapter HPE ethernet 10/25 GB 2-port 631FLR-SFP28 adapter
Storage controller	HPE Smart Array P816i-a SR Gen10

Boot and metadata storage

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

This configuration allows for an optional cloud copy deduplication on the boot storage drive.

Boot/metadata configurations	Technical specifications
Separate boot/metadata Boot storage Metadata storage	1x 960 GB SATA SD, 6 Gbps HPE 1.6 TB NVMe x8 Lanes Mixed Use HHHL 3 yr Wty Digitally Signed Firmware Card

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 wasted resources on nodes with larger HDDs.

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

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

Data storage configuration	Technical specifications
Storage configuration – data storage	4 TB, NL-SAS or SATA, 4 Drives
Storage type	6 TB, NL-SAS or SATA, 4 Drives
	8 TB, NL-SAS or SATA, 4 Drives
	10 TB, NL-SAS or SATA, 4 Drives
	12 TB, NL-SAS or SATA, 4 Drives

Note: Drive sizes and interfaces can change. Not all drive sizes are available from all vendors. Please view Data Store Options section below.

Bill of Materials

This Bill of Materials represents the configuration being validated as part of the Commvault Validated Reference Design Program. There are four main sections of this document. Core components, data storage options, metadata storage options, and optional components.

Qty.	Part number	Description
1	867958-B21	HPE ProLiant DL360 Gen10 4LFF Configure-To-Order Server
1	867958-B21 ABA	HPE DL360 Gen10 4LFF CTO Server
1	PO2571-L21	HPE DL360 Gen10 Intel Xeon-Silver 4208 (2.1 GHz/8-core/85 W) FIO Processor Kit
1	PO2571-B21	HPE DL360 Gen10 Intel Xeon-Silver 4208 (2.1 GHz/8-core/85 W) Processor Kit
4	PO0924-B21	HPE 32 GB (1 x 32 GB) dual rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit
1	867972-B21	HPE DL360 Gen10 1SFF rear SAS/SATA/UFF Backplane Kit
1	867982-B21	Hpe DL360 Gen10 Low Profile Riser Kit
1	817718-B21	HPE Ethernet 10/25 GB 2-port 63ISFP28 Adapter
1	PO1366-B21	HPE 96 W Smart Storage Battery (up to 20 devices) with 145 mm Cable Kit
1	804338-B21	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4 GB Cache/SmartCache) 12 G SAS Modular Controller
1	817709-B21	HPE Ethernet 10/25 GB 2-port 63IFLR-SFP28 Adapter
4	455883-B21	HPE BladeSystem c-Class 10 GB SFP+ SR Transceiver
2	865408-B21	HPE 500 W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
1	789388-B21	HPE 1U LFF Gen9 Easy Install Rail Kit
1	H7J34A3 SCT	HPE PCIe Workload Accelerator Support
1	BD505A	HPE iLO Advanced 1-Server License with 3 yr Support on iLO Licensed Features
1	871246-B21	HPE DL360 Gen10 High Performance Heat Sink Kit Required for 10 TB or 12 TB storage drives only.

Boot and metadata storage options

There are two configuration options for boot and metadata storage. Select only one option. All part numbers in the selected option are required.

Separate boot/metadata storage

Qty.	Part number	Description
1	PO4476-B21	HPE 960 GB SATA 6 G Read Intensive SFF (2.5 in) SC 3 yr Wty Digitally Signed Firmware SSD
1	PIO264-B21	HPE 1.6 TB NVMe x8 Lanes Mixed Use HHHL 3 yr Wty Digitally Signed Firmware Card

Data storage options

For data storage, choose the appropriate part number and do not mix part numbers within a block. The drives listed for this configuration are 6 Gbps SATA, but should 12 Gbps or NL-SAS variants of these drives can be deploy as they are also considered validated as part of this design. Currently all known variants of 6/12 Gbps and NL-SAS/SATA drives are validated.

Qty.	Part number	Description
4	872491-B21	HPE 4 TB SATA 6 G Midline 7.2K LFF (3.5 in) SC 1 yr Wty 512e HDD
4	861750-B21	HPE 6 TB SATA 6 G Midline 7.2 K LFF (3.5 in) SC 1 yr Wty 512e HDD
4	819203-B21	HPE 8 TB SATA 6 G Midline 7.2 K LFF (3.5 in) SC 1 yr Wty 512e Digitally Signed Firmware HDD
4	857648-B21	HPE 10 TB SATA 6 G Midline 7.2 K LFF (3.5 in) SC 1 yr Wty Helium 512e Digitally Signed Firmware HDD
4	881785-B21	HPE 12 TB SATA 6 G Midline 7.2 K LFF (3.5 in) SC 1 yr Wty Helium 512e Digitally Signed Firmware HDD

Optional I/O add-on cards

HPE ProLiant DL360 Gen10 with dual 2-port ethernet cards lacks space required for optional I/O add-on cards.

Additional resources

Additional information regarding the HPE ProLiant DL360 Gen10 can be found on the HPE website. A few useful links have been included:

[HPE ProLiant DL360 Gen10 Rack Server details and general configuration \(US version\) >](#)