COMMVAULT®

Commvault® Validated Reference Design Specification

COMMVAULT HYPERSCALE™ SOFTWARE ON HPE® PROLIANT® DL380 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 DL380 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.

Learn more about **Commvault HyperScale™ Software**.

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 HPE 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 HPE 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 DL380 Gen10 represents a suited platform for Commvault HyperScale™ Software to expand and transform capabilities for customers in today's evolving software-defined world. The highly optimized ProLiant DL380 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 HPE.

HPE PROLIANT DL380 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 SPECIFICATION
FORM FACTOR	2U Rackmount
MOTHERBOARD CHIPSET	Intel® C620
PROCESSORS	Intel® Xeon® Silver 4110
MEMORY	256GB RAM (8x 32GB RDIMM)
NETWORKING	HPE Ethernet 10Gb 2-port 562SFP+ Adapter HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
STORAGE CONTROLLER	HPE Smart Array P816i-a SR Gen10

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 and metadata can be either configured together as a single unit or housed separately. Two storage options have been included as part of this build as there have been times that specific hardware components, surrounding flash storage, have elongated order cycles and are typically beyond the vendor's or partner's control.

Although these two configurations rely on slightly different components they meet the required specifications for customer deployment. When selecting a configuration for deployment choose one of the following options, not both.

While both configuration options meet the required performance requirements, at the time of this writing, there is an economic advantage with the first option and should be considered as the primary choice.

BOOT/METADATA CONFIGURATIONS	TECHNICAL SPECIFICATION
OPTION 1 – COMBINED BOOT/METADATA CONFIGURATION	4x 960GB SATA SSD, 6Gbps – RAID5
OPTION 2 – SEPARATE BOOT/METADATA BOOT STORAGE METADATA STORAGE	2x 480GB SATA SD, 6Gbps – RAID1 1x HPE 3.2TB PCIe x8 Lanes Mixed Use HHHL 3yr Warranty 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 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, 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

OPTIONAL I/O ADD-ON CARDS

The design includes all core components to work with Commvault HyperScale™ Technology. There are specific times where additional I/O connectivity is desired as part of the overall solution. Optional I/O cards for SAS and fibre channel connectivity 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® operations or tape libraries.

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**.

CORE COMPONENTS

QTY.	PART NUMBER	DESCRIPTION
1	868705-B21	HPE ProLiant DL380 Gen10 12LFF Configure-to-order Server
1	868705-B21 ABA	HPE DL380 Gen10 12LFF CTO Server
1	826846-L21	HPE DL380 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit
1	826846-B21	HPE DL380 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit
8	815100-B21	HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit
1	727055-B21	HPE Ethernet 10Gb 2-port 562SFP+ Adapter
1	P01366-B21	HPE 96W Smart Storage Battery (up to 20 Devices/145mm Cable) Kit
1	804338-B21	HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller
1	727054-B21	HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter
2	865408-B21	HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
1	E6U64ABE	HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features
1	826687-B21	HPE DL38X Gen10 2SFF Premium HDD Front NVMe or Front/Rear SAS/SATA Kit

BOOT & 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.

OPTION 1 – COMBINED BOOT/METADATA STORAGE

QTY.	PART NUMBER	DESCRIPTION
4	P04564-B21	HPE 960GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD
1	826688-B21	HPE DL38X Gen 10 2SFF HDD SAS/SATA Riser Kit
1	830824-B21	HPE Smart Array P408i-p SR Gen10 12G SAS PCIe Plug-in Controller

OPTION 2 – SEPARATE BOOT & METADATA STORAGE

QTY.	PART NUMBER	DESCRIPTION
2	P04474-B21	HPE 480GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Warranty Digitally Signed Firmware SSD
1	877827-B21	HPE 3.2TB PCIe x8 Lanes Mixed Use HHHL 3yr Warranty 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 6Gbps SATA, but should 12Gbps or NL-SAS variants of these drives are acceptable, and they may be deployed as part of this design. Currently all known variants of 6/12Gbps and NL-SAS/SATA drives are validated.

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

OPTIONAL I/O ADD-ON CARDS

QTY.	PART NUMBER	DESCRIPTION
1	P9D94A	HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter
1	Q0L14A	HPE StoreFabric SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter

ADDITIONAL RESOURCES

Additional information regarding the HPE ProLiant DL380 Gen10 can be found on the HPE website. A few useful links have been included:

- HPE ProLiant DL380 Gen10 Rack Server details and general configuration can be found at this **link** (US version).
- HPE ProLiant DL380 Gen10 Technical Specifications Guide can be found at this **link** (US version).

COMMVAULT

COMMVAULT.COM | 888.746.3849 | GET-INFO@COMMVAULT.COM