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DATASHEET

Commvault® Validated Reference Design Specification

Commvault HyperScale™ X Software on Yadro VEGMAN S320

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 resilience. 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 in the cloud
- Enhanced resilience 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 Yadro VEGMAN S320 Commvault Validated Reference Design for Commvault Hyperscale™ X Software.

General availability designation

This configuration is classified as general availability design, meaning it has been tested and validated as 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 Yadro 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 Yadro. 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 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 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 Yadro.

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Yadro VEGMAN S320 Specification Summary

Server overview

Technical specification	Yadro VEGMAN S320
Form factor	3U Rack Mount
Motherboard chipset	Intel® C624
Processors	Intel® Xeon® Silver 4216
Memory	512 GB RAM
Total slots and form factor	5 PCIe Gen3 x8 FHHL slots, 1 PCIe Gen3 x16 FHFL slots

Boot and metadata storage

Boot storage houses the operating system and core Commvault HyperScale™ and Commvault Distributed Storage (CDS) binaries. The metadata storage provides caching areas for such operations as deduplication, indexing, and extents. The design specifies dedicated storage for Commvault HyperScale™ metadata and separate, dedicated storage for CDS 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 drives (HDDs) capacities. Subsequent expansion of the Storage Pool can be done with individual or multiple nodes. Mixing of different server vendors within a Storage Pool is supported as long as they are the same capacity.

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 (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 (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 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.

Fiber Channel cards are typically used for Commvault IntelliSnap® operations, VSA SAN based backups 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	YO3X83U2S101A	VEGMAN S320 Chassis with 4 x 1/10G SFP+ ports, 1 x dedicated host 1 GbE RJ-45 port, 1 x shared host/BMC 1 GbE RJ-45 port, 1 x dedicated BMC 1 GbE RJ-45 port)
1	YO3BEZACC301A	S320 Front Bezel
1	YO3TELSLD301A	S320 Tool-less Sliding Rails w/ CMA support
2	YO3SYSCPU211U	Intel Xeon Scalable v2 Silver 4216 - 16c, 2.1 - 3.2 GHz, 22 MB, 100 W, with heatsink
8	YO3SYSRAM502U	Memory module 64 GB DDR4-2933 RDIMM ECC 2Rx4
2	YO3CASPSU103U	Power Supply 1200W 220VAC 80PLUS Platinum 185mm
4	YO3TSCOPX102U	Optical module 10GBASE-SR, SFP+/LC, 850nm, 300m for Intel NIC

Boot and metadata storage		
Qty.	**Part number**	**Description**
1	YO3SASRDC209U	RAID 9361 SAS/SATA PG3x8 HHHL, 16i, 2 GB cache
2	YO3SSDSTA131U	480 GB SATA SSD 6G SFF 1.3 DWPD, w/ mounting kit
1	YO3SSDSAS114U	3.2 TB SSD SAS 12Gb/s 2.5", 3 DWPD, w mounting kit
1	YO3SSDSAS117U	6.4 TB SSD SAS 12Gb/s 2.5", 3 DWPD, w mounting kit

Data storage options		
Qty.	**Part number**	**Description**
24	YO3HDDSAS112U	Hard drive LFF NL-SAS 12G 8 TB 512e 7.2k vSAN-ready
24	YO3HDDSAS119U	Hard drive LFF NL-SAS 12G 12 TB 512e 7.2k vSAN-ready
24	YO3HDDSAS123U	Hard drive LFF NL-SAS 12G 14 TB 512e 7.2k vSAN-ready
24	YO3HDDSAS125U	Hard drive LFF NL-SAS 12G 16 TB 512e 7.2k vSAN-ready

Note: 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
4	FHHL x8 slots
1	FHFL x16 slot

Optional I/O Add-On Cards

Qty.	Part number	Description
1	YO3ADPETH201U *	NIC ETH PG3x8 Broadcom 2×10/25GbE SFP28
1	YO3ADPETH204U *	NIC ETH PG3x8 Intel XXV710 2×10/25GbE SFP28
1	YO3ADPETH205U *	NIC ETH PG3x8 Mellanox CX5 2×25GbE SFP28
1	YO3ADPFCP202U	HBA FC PG3x8 Marvell 2×16Gb w SW SFP+ LC
1	YO3ADPFCP302U	HBA FC PG3x8 Marvell 2×32Gb w SW SFP+ LC

* These adapters come without transceivers or cables. Please order DACs or transceivers compatible with network infrastructure.

Additional Resources

Additional information regarding the Yadro VEGMAN S320 can be found on the Yadro website. A couple of useful links have been included here:

https://yadro.com/en/vegman/s220-s320

https://yadro.com/en/vegman/specs

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