

Vault C190

All-Flash Storage System



Product Overview

The Vector Data Vault C190 storage system, powered by NetApp ONTAP® data management software, offers a simple, smart, and secure enterprise-class flash system for an affordable price. Designed for IT generalists, it helps you meet new business requirements with a modern all-flash array that provides comprehensive data services, integrated data protection, seamless scalability, new levels of performance, and cloud integration.

Perfect for NFV (network function virtualization), Vault C190 offers full support for VMware, Linux KVM, OpenStack, and other leading virtualization platforms, letting you combine the performance and security of Netapp ONTAP® with the flexibility and unified management of cloud deployments. Vault C190 is the perfect foundation for SDN and the network of the future.

Protect Your Data

- **Maintain resilience.** Your end users demand nonstop access to business-critical data, so you can't allow unplanned downtime and other disruptions to affect business operations. Vault C190 provides comprehensive integrated data protection to safeguard your data and keep things running smoothly. Meet your requirements for local backup with near-instant recovery by using space-efficient NetApp Snapshot™ copies. Achieve remote backup/recovery and disaster recovery with NetApp SnapMirror® asynchronous replication
- **Secure your application data.** Robust security is important to protect data from internal and external threats. Without any special hardware, you can easily secure your at-rest data with NetApp Volume Encryption. In addition, multifactor authentication improves data access control, and cryptographic shredding enables General Data Protection Regulation (GDPR) compliance for your organization.
- **Never lose your data.** Achieve zero-data-loss protection (RPO=0) if a disaster or major outage occurs. NetApp SnapMirror Synchronous technology delivers granular, synchronous data replication and maintains storage efficiency savings during and after data transfer.

Drive Operational Efficiencies

- **Improve storage efficiency to control costs.** Reduce infrastructure costs with the comprehensive storage efficiency capabilities delivered by the C190 system. Data reduction features in ONTAP, including compression and deduplication, work together to help you optimize the capacity needed. Your storage efficiency is backed by the industry-leading efficiency guarantee program.
- **Accelerate application performance with flash.** C190 systems are optimized for flash and deliver 10 times faster application response than hybrid arrays. All-flash storage allows you to run more workloads on a single system without compromising performance.

Key Features and Benefits

Perfect for NFV

- Full support for VMware, OpenStack, and other leading virtualization platforms

High altitude and extreme temperature environment certification available

- Optional NEBS Level 3 and ETSI certification
- Optional MIL-STD-810G and EN50155 certification
- AC and DC power options available

Simple

- Provision storage in minutes.
- Manage file and block data on a single system
- Effortlessly connect to any public

Smart

- Lower TCO with data reduction
- Accelerate application performance and improve response time
- Optimize availability and performance

Secure

- Safeguard your data
- Protect your data at rest and in transit
- Never lose data with zero-data-loss protection

Vault C190 Technical Specifications for Active-Active Dual Controller

Drives and Capacity	Connectivity	Protocols and Operating Systems
Max. effective capacity 50TiB*	4 ports—12Gb/6Gb SAS	ONTAP 9.6 GA or later
Max. SSD 24 drives	1GbE management port, USB port	Protocols: FC, FCoE, iSCSI, NFS, pNFS, SMB
Drive type: 960GB SSD	8 ports—FC target (16Gb) 8 ports—FCoE target, UTA2 12 ports—10GbE ports, UTA2 12 ports—10GBASE-T	Host OS version: Windows 2000, Windows Server 2003, Window Server 2008, Windows Server 2012, Windows Server 2016, Linux, Oracle Solaris, AIX, HPE UX, macOS, VMware, ESX

* Effective capacity is based on 3:1 storage efficiency ratios with the maximum number of SSDs installed. The actual ratio can be higher depending on workloads and use cases

Software Included with Vault C190	System Environmental Specifications
Efficiency: NetApp FlexVol® technology, inline deduplication, inline compression, inline compaction, and thin provisioning	Thermal Rating (at 110V) 1,219 BTU (typical) 1,697 BTU (worst case)
Availability: high availability (HA) pair and multipath I/O	Weight 55.56 lbs
Data protection: NetApp RAID DP®, RAID-TEC™, and Snapshot technology	Height 3.35" (8.5 cm), fits into 2U space
SnapMirror Synchronous replication	Width 19" IEC rack-compliant (17.6", 44.7 cm)
Performance acceleration: NetApp FlexCache® software	Depth (without cable management brackets) 19" (48 cm)
Management: NetApp OnCommand® Workflow Automation, ONTAP System Manager, and Active IQ Unified Manager	Operating Temperature, Altitude, and Relative Humidity 0° C to 40° C (32° F to 104° F); at <= 3,000 m (at <= 10,000' feet) elevation; 20% to 80% relative humidity, noncondensing
Scalable NAS container: NetApp ONTAP FlexGroup	Nonoperating Temperature and Relative Humidity -40° C to 70° C (-40° F to 158° F); at <= 12,192 m (at <= 40,000') typical of unconditioned airplane cargo bay, 8% to 80%
Storage protocols supported: FC, FCoE, iSCSI, NFS, pNFS, and SMB	Power supply / cooling fans Dual, hot pluggable, integrated power supplies
NetApp SnapRestore® software: restore entire Snapshot copies in seconds	
NetApp SnapMirror software: simple, flexible backup and replication for disaster recovery	
NetApp FlexClone® technology: instant virtual copies of files, LUNs, and volumes	
NetApp SnapCenter® software: unified, scalable and plug-in suite for application-consistent data protection and clone management	
NetApp SnapManager® software: application-consistent backup and recovery for enterprise applications	
Optional Software	
OnCommand Insight: flexible, efficient resource management for heterogeneous environments	
NetApp SnapLock® software: compliance software for write once, read many (WORM) protected data	
NetApp Volume Encryption (free license): granular, volume-level, data-at-rest encryption	
FabricPool: automatic data tiering to the cloud (free when tiering to NetApp StorageGRID®)	
NetApp Data Availability Services: cloud-native backup solution for ONTAP storage	

Safety Agency Approval

CAN/CSA C22.2 NO. 60950-1	
UL 60950-1	
IEC 60950-1	
EN 60950-1	Safety of Information Technology Equipment

Telco NEBS/ETSI Certifications

Telcordia GR-63-CORE NEBS Requirements: Physical Protection	
Telcordia GR-1089-CORE EMC and Electrical Safety	
Telcordia SR-3580 Level 3	
ETSI ETS 300-019 Physical Protection and ETSI ETS 300-753 Acoustic Noise	

Military Specifications

Optional MIL-STD-810 F/G compliance	
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Electrical Safety/Bonding and Grounding

Electrical Safety	ATT-TP-76200 GR-1089-CORE Section 7
Bonding and Grounding	ATT-TP-76200 GR-1089-CORE Section 9

System Physical Environmental

Airborne Contaminants	ATT-TP-76200 GR-63-CORE Section 4
Earthquake, Shock and Vibration	Zone - 4, ATT-TP-76200 GR-63-CORE Section 4
Fire Resistance	ATT-TP-76200 GR-63-CORE Section 4

Electromagnetic Emission and Immunity

FCC Part 15 and Class A	
VCCI	Japan
KCC	Korea
Electromagnetic Interference	ATT-TP-76200 GR1089-CORE Section 3
ESD - Electrostatic Discharge	IEC 61000-4-2
EFT - Electrical Fast Transient	ATT-TP-76200 GR-1089-CORE Section 2.2
Lightning and Power Fault	ATT-TP-76200 GR-1089-CORE Section 4
DC Power - Telecommunication	ATT-TP-76200 GR-1089-CORE Section 10

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For more information, please contact your Vector Data account manager.