

## Vault 2040

### PRODUCT OVERVIEW

The Vault 2040 data storage appliance is designed to meet the storage intensive needs of telco central offices and military operations for both SAN & NAS environments. Based on NetApp's proven storage technology, the Vault 2040 runs on Data ONTAP, NetApp's robust and reliable storage-focused operating system.

The Vault 2040 is available in AC & DC-powered models, allowing Vector Data to provide network operators with a consistent storage product across their entire infrastructure including AC & DC powered and NEBS & non-NEBS facilities.

As a NetApp OEM Partner, Vector Data supports the full suite of NetApp software on the Vault 2040 including: NFS, CIFS, iSCSI, fibre channel, SnapMirror and more.

The Vault 2040 contains redundant storage controllers for reliability and high-performance 15K RPM SAS disk drives. It also operates using NetApp's WAFL file system and RAID-DP, a Double Parity RAID 6 implementation that prevents data loss when two drives fail.

Additional software features include:

- Data deduplication
- Snapshot
- FlexVol
- SyncMirror
- FlexClone & more

Specialized software to store, backup and improve the reliability and performance of the following is also available:

- Microsoft Exchange
- Microsoft SQL Server
- Microsoft SharePoint Server
- Oracle
- SAP
- VMware

The Vault 2040 is an excellent solution for any media-rich applications network operators to deploy in today's data-driven world. It can be bundled into telco service offerings systems (for storing voice, email, audio & image files, streaming multimedia and more) and is ideal for rugged military settings to ensure data protection and availability during unexpected events.



### TECHNICAL HIGHLIGHTS

<b>SAN Protocol Support</b>	Fibre Channel Protocol (FCP) for SCSI (4/2/1Gb); fabric-attached; IP San (iSCSI), Fibre Channel over Ethernet (FCoE)
<b>NAS Protocol Support</b>	NFS V2/V3/V4 over UDP or TCP, PCNFSD V1/V2 for (PC) NFS client authentication, Microsoft® CIFS, HTTP 1.0, HTTP 1.1 virtual hosts
<b>LUNs</b>	Up to 1,024
<b>FlexVol® Volumes</b>	Up to 200 per controller
<b>Snapshot™ Copies</b>	Up to 51,000 per controller
<b>Number of Supported Hosts</b>	Up to 2 ports per controller configured as front-end (host) connectivity ports Up to 4 directly connected servers per active/active configuration Up to 32 SAN host connected servers
<b>Supported Configurations</b>	<u>Controller Configurations</u> Single controller, active/active controller with clustered failover (CFO) <sup>1</sup> <u>Back-End (Disk) Configurations</u> Dual-path, multipath HA storage
<b>Reliability</b>	Redundant hot-swappable controllers, cooling fans and power supplies
<b>Management</b>	Full-duplex 10/100 Base-T Ethernet onboard console, diagnostic LED, Maintenance Center, SNMP, telnet, SSH, HTTP, Web (SSL), host scripting, e-mail alerts
<b>Security</b>	Virus protection, SecureAdmin, IPSec, CHAP authentication, role-based access control (RBAC)

### MAXIMUM RAID GROUP AND AGGREGATE SIZES

	FC or SAS	SATA
<b>RAID 6 (RAID-DP™)</b>	28 (26 data disks plus 2 parity disks)	16 (14 data disks plus 2 parity disks)
<b>RAID 4<sup>3</sup></b>	14 (13 data disks plus 1 parity disk)	7 (6 data disks plus 1 parity disk)
<b>SyncMirror® (High Resiliency RAID 1) Options:</b>		
(1) RAID-DP + RAID 1	FC Expansion	Yes
(2) RAID 4 + RAID 1		
<b>Volume/Aggregate</b>	16TB	16TB

## SCALABILITY

	Active/Active Configuration	Single Controller
Max. Raw Capacity <sup>1</sup>	136TB	136TB
Max. Number of Internal Disk Drives	12	12
Max. Number of Expansion Disk Drives	124	124
Max. Number of Total Disk Drives (Int. + Ext.)	136	136
Max. Drives per Back-End (Disk) FC Loop	84	84
ECC Memory	8GB	4GB
Nonvolatile Memory	1024MB	512MB

<sup>1</sup> For more information about cluster configurations, please contact your Vector Data account manager.

<sup>2</sup> 1) Max. capacity is derived based on the type, size, and number of the drives.

<sup>2</sup> 2) Max. capacity is calculated using Base10 arithmetic (1TB = 1012 bytes).

<sup>3</sup> RAID 6 is the recommended configuration for drives greater than 144GB.

<sup>4</sup> Maximum capacity is calculated using Base10 arithmetic (1TB = 1012 bytes).

## ONBOARD I/O

	Active/Active Configuration	Single Controller
Onboard Fibre Channel Ports (target or initiator)	4 ports of 1, 2, or 4Gb (auto sensing)	2 ports of 1, 2, or 4Gb (auto sensing)
Onboard GbE Ports	8	4
Modular I/O Slots	2	1

## SOFTWARE

Operating System	NetApp Data ONTAP®	
Operating Systems Supported	Windows® 2000, Windows Server 2003, Windows XP, Linux®, Sun™ Solaris™, AIX, HP-UX, Mac® OS, VMware ESX	
Software Features	<b>Standard</b> FlexVol® Thin Provisioning Snapshot RAID-DP FlexShare® Deduplication Operations Manager NearStore® SyncMirror® System Manager FilerView® FC protocol iSCSI protocol HTTP protocol DNS NDMP NIS FlexCache® Maintenance Center  <b>Software Protocols &amp; Options</b> CIFS NFS	<b>Foundation Pack</b> SnapRestore® SnapVault® Primary Provisioning Manager  <b>Protection Pack</b> SnapMirror® SnapVault Secondary Protection Manager  <b>Application Pack:</b> · SnapManager® for Microsoft Exchange · SnapManager® for Microsoft SQL Server · SnapManager® for Microsoft Office · SnapManager® for Oracle® · SnapManager® for SAP · SnapManager® for Virtual Infrastructure · SnapDrive® for UNIX · SnapDrive® for Windows  <b>Server Pack:</b> · Single Mail Recovery · SnapManager for Virtual Infrastructure · SnapDrive® for UNIX · SnapDrive® for Windows  <b>Advanced Pack</b> · FlexClone® · MultiStore® · SnapLock® Compliance · SnapLock Enterprise

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

## SYSTEM SPECIFICATIONS

Disk Drive Support	SATA: 1TB, 750GB, 500GB, 250GB disks SAS (15K RPM): 144GB, 300GB, 450GB disks
Internal Disk Drive Storage Interface	SAS, SATA
Power Supply/Cooling Fans	Dual, redundant, hot-pluggable, integrated power supply/fan assemblies
Thermal Rating	2304 Btu/hr (rated), 1587 Btu/hr (typical), fully loaded
Operating Acoustic Noise	≤ 60 dBA sound pressure (LpA) @ normal operating conditions (at 23°C and at sea level)
Dimensions (height/width/depth)	Height - 2 EUU (3.45", 8.76 cm), Width - 19" IEC rack- (height/width/depth) compliant (17.6", 44.7 cm), Depth 24" (61 cm)
Weight	66 lbs (29.9 kg) fully loaded
Min. Cabinet Clearances for Airflow	10 in (25.4 cm) in front, 12 in (30.5 cm) in rear
Min. Cabinet Clearances for Service	30 in (76.2 cm) in front, 30 in (76.2 cm) in rear
Operating Temperature, Altitude, and Relative Humidity	10°C to 40°C (50°F to 104°F); at ≤ 3,000 m (at ≤ 10,000') elevation; 20% to 80% relative humidity, non condensing (28°C wet bulb temperature)
Non-operating Temperature and Relative Humidity	-40°C to 70°C (-40°F to 158°F); 8% to 80% relative humidity, non condensing, in original container

For more information about the Vault 2040 or any other Vector Data products, please contact us at [sales@VectorData.com](mailto:sales@VectorData.com).

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