

# NetWitness Platform<sup>®</sup> Platform

Version 12.5.0.0

## PowerVault (Dell MD2412 - 16TB) Setup Guide

## Contact Information

NetWitness Community at <https://community.netwitness.com> contains a knowledge base that answers common questions and provides solutions to known problems, product documentation, community discussions, and case management.

## Trademarks

RSA and other trademarks are trademarks of RSA Security LLC or its affiliates ("RSA"). For a list of RSA trademarks, go to <https://www.rsa.com/en-us/company/rsa-trademarks>. Other trademarks are trademarks of their respective owners.

## License Agreement

This software and the associated documentation are proprietary and confidential to RSA Security LLC or its affiliates are furnished under license, and may be used and copied only in accordance with the terms of such license and with the inclusion of the copyright notice below. This software and the documentation, and any copies thereof, may not be provided or otherwise made available to any other person.

No title to or ownership of the software or documentation or any intellectual property rights thereto is hereby transferred. Any unauthorized use or reproduction of this software and the documentation may be subject to civil and/or criminal liability. This software is subject to change without notice and should not be construed as a commitment by RSA.

It is advised not to deploy third-party repos or perform any change to the underlying NetWitness Operating System that is not part of the supported NetWitness version. Any such change outside of the NetWitness approved image may result in a service or functionality conflict and require a reimage of the NetWitness system to bring NetWitness back to an optimized functional state. In the event a third-party repo is deployed, or other non-supported change is made by the customer without NetWitness approval, the customer takes full responsibility for any system malfunction until the issue can be remediated through troubleshooting efforts or a reimage of the service.

## Third-Party Licenses

This product may include software developed by parties other than RSA. The text of the license agreements applicable to third-party software in this product may be viewed on the product documentation page on NetWitness Community. By using this product, a user of this product agrees to be fully bound by terms of the license agreements.

## Note on Encryption Technologies

This product may contain encryption technology. Many countries prohibit or restrict the use, import, or export of encryption technologies, and current use, import, and export regulations should be followed when using, importing or exporting this product.

## Distribution

Use, copying, and distribution of any RSA Security LLC or its affiliates ("RSA") software described in this publication requires an applicable software license.

RSA believes the information in this publication is accurate as of its publication date. The information is subject to change without notice.

THE INFORMATION IN THIS PUBLICATION IS PROVIDED "AS IS." RSA MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WITH RESPECT TO THE INFORMATION IN THIS PUBLICATION, AND SPECIFICALLY DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Miscellaneous

This product, this software, the associated documentations as well as the contents are subject to NetWitness' standard Terms and Conditions in effect as of the issuance date of this documentation and which can be found at <https://www.netwitness.com/standard-form-agreements/>.

© 2024 RSA Security LLC or its affiliates. All Rights Reserved.

October, 2024

# Contents

---

<b>About this Document</b> .....	<b>4</b>
<b>Hardware Description</b> .....	<b>5</b>
High-Level Capacity Information .....	5
Enclosure Options .....	5
PowerVault 2412 Storage Enclosures Supported .....	6
Capability with NetWitness Platform Series 7 Hosts .....	7
Package Contents .....	7
Customer Supplied Materials .....	7
Front View of the PowerVault .....	8
Front Panel LEDs .....	8
PowerVault Front View Showing Drive Numbers .....	9
Rear View of the PowerVault .....	10
PowerVault Cable .....	11
Monitoring PowerVault Through IDRAC .....	11
PowerVault Support by Host .....	11
<b>Install PowerVault MD2412</b> .....	<b>13</b>
Prerequisites .....	13
Introduction .....	14
Attach and Configure a PowerVault to Series 7 Physical Host .....	14
Attach and Configure New PowerVault MD2412 .....	14
Connect PowerVaults to a Concentrator, Archiver, Decoder or Log Decoder Series 7 Physical Host .....	15
<b>Revision History</b> .....	<b>19</b>

## About this Document

---

This document provides instructions for installing a PowerVault MD2412 external storage device on NetWitness Series 7 (Network) Decoder, Log Decoder, Concentrator, Archiver, and Hybrid hosts.

The hardware setup instructions in this document are for hardware only; they do not apply to a specific release of NetWitness Platform software. This document is for new hardware only. It is not intended for PowerVaults with preexisting data.

For NetWitness Platform 12.5.0.0 and later, use the hardware connection information in this guide, but refer to *Storage Guide for NetWitness Platform Version 12.5.0.0 and later* for instructions on how to allocate storage for your hardware.

**Caution:** If you are adding a previously used PowerVault and would like to preserve the data, DO NOT follow the instructions in this guide. Contact NetWitness Customer Support. Running the script on a previously used PowerVault could erase any existing data.

**Note:** When viewing a printed guide, be aware that a newer version of the guide may be available online at NetWitness® Platform under Hardware Setup Guides:  
<https://community.netwitness.com/t5/netwitness-platform-hardware/series-7-hardware-setup-guide/tap/572346>

## Hardware Description

**Caution:** The NetWitness PowerVault (Dell MD 2412) high capacity storage device is a drive array enclosure powered by Dell. PowerVault is used to extend the usable storage on the NetWitness Series 7 (Network) Decoder, Log Decoder, Concentrator, Archiver, and Hybrid hosts.

**Caution:** For Series 7, Series 6E, MD2412 and MD1400, all drives are all self-encrypting drives. However, encryption should be turned on explicitly by the customer, so that they can own and manage the encryption key.

## High-Level Capacity Information

PowerVault:

- Stores up to 192 TB for a single enclosure.
- Accommodates up to 12 hot-pluggable 3.5".
- Allows you to daisy-chain eight PowerVaults (four enclosures per channel).
- Provides improved device monitoring and management.
- Is compatible with Dell OpenManage/iDRAC system management technology.

## Enclosure Options

Host	Type	SKU	Specification
Network Decoder, Log Decoder, Archiver, Concentrator, Log Hybrid, Network Hybrid, Endpoint Log Decoder	High Density	S7-PV-HD-192	Dell MD2412 12 x 16 TB SAS SED
Concentrator	High Density	S7-PV-HD-192	Dell MD2412 12 x 16 TB SAS SED
	Drive Packs	S7-PE-CON-SDF-3	3 * 3.2 TB FIPS SSD
	Drive Packs	S7-PE-CON-SDF-7	3 * 7.68 TB FIPS SSD

## PowerVault 2412 Storage Enclosures Supported

Host	NW Server/Category	Number of MD2412
Series 7(R660) Core	Network Decoder, Log Decoder, Archiver	8
	Concentrator	2 or 4
Series 7 Hybrid (R760)	Log Hybrid, Network Hybrid, Endpoint Log Decoder	1

## Capability with NetWitness Platform Series 7 Hosts

NetWitness Platform Series 7 hosts are shipped with the software to support a PowerVault installation. The initial setup of a PowerVault in your network involves these steps:

1. Review site requirements and safety information.
2. Install PowerVault.

## Package Contents

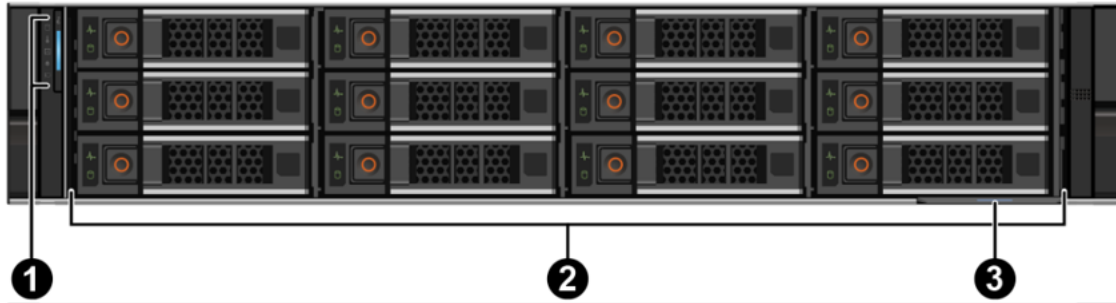
Refer to the documentation that is included with the PowerVault. The *Dell Storage MD2412 Enclosures Hardware Owner's Manual* (<https://dl.dell.com/content/manual48914611-dell-powervault-md2412-and-md2424-direct-attach-storage-for-powerededge-servers-owner-s-manual.pdf?language=en-us>) contains detailed instruction on all the optional setups you can implement with PowerVault to address the needs of your environment.

**Note:** The PowerVault comes with two SAS cables. You only need one cable to connect the PowerVault to a Series 7 host. Use a cable with the mini-to-mini-SAS connectors to connect the PowerVault to a Series 7 host.

## Customer Supplied Materials

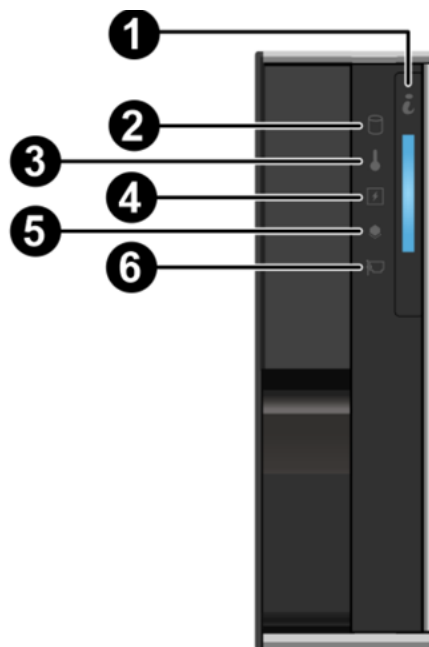
You do not need to supply any materials.







## Front View of the PowerVault



Item number 1 is indicator located on the Front Control Panel (refer to **Front panel LEDs** section below for details), which indicate the status of the enclosure. Item number 2 refers to hard disks and 3 refers to Serial number of the Power Vault. For more detailed information, see *The Dell Storage MD2412 Enclosures Hardware Owner's Manual* (<https://dl.dell.com/content/manual48914611-dell-powervault-md2412-and-md2424-direct-attach-storage-for-powered-edge-servers-owner-s-manual.pdf?language=en-us>).

## Front Panel LEDs



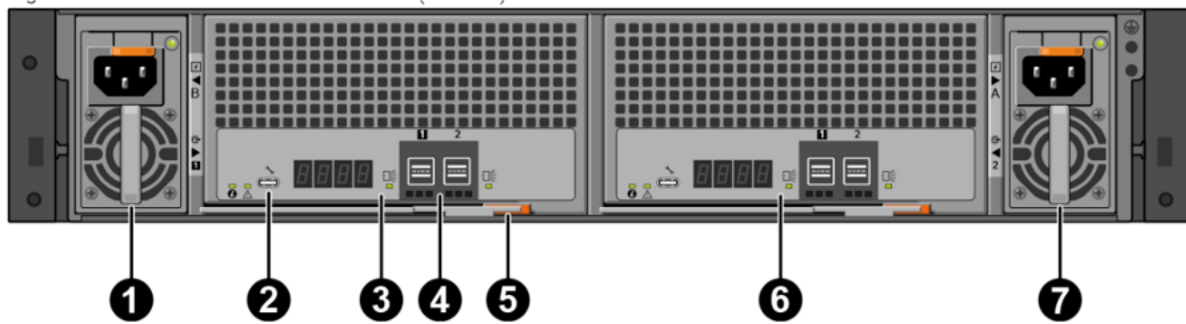
INDEX NO.	INDICATOR	DESCRIPTION	COLOR	STATUS
1		System health	Blue	<ul style="list-style-type: none"> <li>On solid: Normal operation</li> <li>Blinking (1 sec. on, 1 sec. off): Identify</li> </ul>
			Amber	Blinking (2 sec. on, 1 sec. off): Fault
2		Drive fault	Amber	<ul style="list-style-type: none"> <li>Off: Normal operation</li> <li>On: Failed drive in the enclosure</li> </ul>
3		Temperature fault	Amber	<ul style="list-style-type: none"> <li>Off: Normal operation</li> <li>On: Thermal fault such as temperature, fan, and heatsink fault</li> </ul>
4		Electrical fault	Amber	<ul style="list-style-type: none"> <li>Off: Normal operation</li> <li>On: Electrical fault related to voltage or PSU</li> </ul>
5		Memory fault	Not used	N/A
6		PCI fault	Not used	N/A

## PowerVault Front View Showing Drive Numbers



The PowerVault drive locations are listed on a table to the right on the front of the PowerVault. The drive numbers are also labelled in this diagram. For information on how to flash and replace the hard disk drives, see the *Hard Disk Drive Replacement Guide* in the Hardware Setup Guides on NetWitness Link: <https://community.netwitness.com/t5/netwitness-platform-hardware/hard-disk-drive-replacement-guide/ta-p/562969>

## Rear View of the PowerVault



Key	Description
1 - AC PSU-B	Power Supply Unit
2 - Debug port	Port for external access for debugging
3 - EMM 1 (EMM-A/Slot1)	Primary Enclosure management modules (EMM1) <ul style="list-style-type: none"> <li>• A data path between the enclosure and the host server</li> <li>• Enclosure Management functions for the enclosure</li> </ul>
4 - SAS ports	A set of SAS ports per EMM
5 - Latch/handle	Latch
6 - EMM 2 (EMM-B/Slot2)	Secondary Enclosure management module (EMM2)
7 - AC PSU-A	Power Supply Unit

For more detailed information, see *The Dell Storage MD2412 Enclosures Hardware Owner's Manual* (<https://dl.dell.com/content/manual48914611-dell-powervault-md2412-and-md2424-direct-attach-storage-for-poweredge-servers-owner-s-manual.pdf?language=en-us>).

## PowerVault Cable

You receive multiple cables with the PowerVault. Both connectors on PowerVault cables are square, **Mini-SAS (Codename SFF-8088)** connectors. You use these cables to connect:

- A PowerVault to a host.
- A PowerVault to another PowerVault in a daisy chain.

The following figures shows a **Mini-SAS** connector.

**Note:** You must insert the cable correctly at both ends with the correct side up. If you have done this correctly, you hear a click and a green light displays on the rear of the PowerVault and the rear of the Series 7 host indicating a live connection.



## Monitoring PowerVault Through IDRAC

You can monitor PowerVault MD 2412 array communication through the Integrated Dell Remote Access Controller (IDRAC). Refer to the "Monitoring network devices using web interface" and "Monitoring network devices using RACADM" sections of the *Integrated Dell Remote Access Controller 9 User's Guide* ([https://dl.dell.com/topicspdf/44010ug\\_en-us.pdf](https://dl.dell.com/topicspdf/44010ug_en-us.pdf)) for information on how to monitor network devices through IDRAC.

## PowerVault Support by Host

This topic lists the maximum number of PowerVaults you can attach to NetWitness physical hosts.

### PowerVault MD2412 Storage Enclosures Supported

NW Service	SKU	Host	Maximum number of PowerVaults (MD2412)
Decoder	S7-PV-HD-192	Series 7 core (R660)	8
LogDecoder	S7-PV-HD-192	Series 7 core (R660)	8

NW Service	SKU	Host	Maximum number of PowerVaults (MD2412)
Archiver	S7-PV-HD-192	Series 7 core (R660)	8
Concentrator	S7-PV-HD-192	Series 7 core (R660)	2 or 4 (Refer to the below table)
Network Hybrid	S7-PV-HD-192	Series 7 (R760) hybrid	1
Log Hybrid	S7-PV-HD-192	Series 7 (R760) hybrid	1
Endpoint Log Hybrid	S7-PV-HD-192	Series 7 (R760) hybrid	1

**PowerVault MD2412 Storage Enclosures Supported (Concentrator Only)**

Host (Concentrator Only)	SKU	Number of Drive Packs (Installed on Series 7 Core Host)	Number of MD2412 Storage Enclosures Supported
Series 7(R660) Core	S7-PE-SDF-3.2	1	1
		2	2
	S7-PE-SDF-7.68	1	2
		2	4

## Install PowerVault MD2412

---

This topic describes how to install a PowerVault without encryption on NetWitness Series 7 Decoder, Log Decoder, Concentrator, Archiver, and Hybrid physical hosts.

### Prerequisites

Make sure that you have the following required software:

- **NetWitness Platform** - The supported versions are 12.5.0.0 and later.  
To verify the version, in the Administration Services view (Administration > Services), the release version is displayed to the right of each service listed. To check the version at the command line, run the following command:

```
rpm -qa | grep nw
```

Results example:

```
rsa-nw-concentrator-12.5.0.0-12887.5.0d989c1a1.e18.x86_64
```

**Caution:** If you are adding a previously used PowerVault and would like to preserve the data, DO NOT follow the instructions in this guide. Contact NetWitness Customer Support. Running the script on a previously used PowerVault could erase any existing data.

## Introduction

The following table contains the summarized installation instructions for different deployments, and detailed procedures are in individual subsections. The deployment scenarios are:

- Multiple PowerVaults in a Concentrator, (Network) Decoder, Log Decoder, and Archiver deployment.
- A single PowerVault in a Hybrid deployment.

## Attach and Configure a PowerVault to Series 7 Physical Host

This topic describes how to install a PowerVault on a NetWitness Series 7 Archiver, Concentrator, Log Decoder, (Network) Decoder and Hybrid host.

**Note:** For NetWitness Platform Software, the minimum version is rsa-nw-12.5.0.0

**Caution:** If you are adding a previously used PowerVault and would like to preserve the data, DO NOT follow the instructions in this guide. Contact NetWitness Customer Support. Running the script on a previously used PowerVault could erase any existing data.

## Attach and Configure New PowerVault MD2412

This table summarizes the tasks you must complete to attach and configure a PowerVault with Encryption. The tasks are shown in detail in the topics following immediately the table.

### NetWitness Platform 12.5.0.0 and Later

Deployment Scenario	Tasks
Concentrator, Archiver, Decoder, Log Decoder (Multiple PowerVaults)	<ol style="list-style-type: none"> <li>1. Connect the PowerVaults to the host before powering on the physical host as described in <a href="#">Connect PowerVaults to a Concentrator, Archiver, Decoder or Log Decoder Series 7 Physical Host</a> .</li> <li>2. Follow the instructions in the <a href="#">Storage Guide for NetWitness Platform Version 12.5.0.0 and Later</a> to allocate storage for your hardware.</li> </ol>
Hybrid	<ol style="list-style-type: none"> <li>1. Connect the PowerVaults to the host before powering on the host as described in <a href="#">Connect PowerVaults to a Concentrator, Archiver, Decoder or Log Decoder Series 7 Physical Host</a> .</li> <li>2. Follow the instructions in the <a href="#">Storage Guide for NetWitness Platform Version 12.5.0.0 and later</a> to allocate storage for your hardware.</li> </ol>

## Connect PowerVaults to a Concentrator, Archiver, Decoder or Log Decoder Series 7 Physical Host

You can connect one or more PowerVaults to a NetWitness Series 7 Concentrator, Archiver, Decoder, or Log Decoder physical hosts. The PowerVault comes with two SAS cables. You only need one cable to connect the PowerVault to the host.

1. Ensure that the host is powered off.
2. Connect one end of the SAS cable to the **left** port of the RAID controller on the back of the Concentrator, Archiver, Decoder or Log Decoder physical host.

3. Connect the other end of the SAS cable to the PowerVault unit. When you connect the first PowerVault to the RAID controller, make sure that you insert the cable into the **Primary SAS port** on the PowerVault as shown in the following figure.

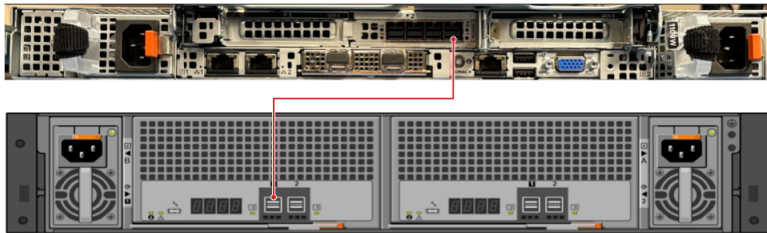
#### Series 7 Core Host (R660)

For a NetWitness Series 7 host, use a cable with the mini-mini-SAS connector. The following figure shows Series 7 - R660 host (port 0) connected to PowerVault (port 1 in top row of ports) using a mini-to-mini-SAS cable.

The PERC965e card for the R660 is installed in slot #2. This means that:

- Port 0 is on the right followed by port 1,2 and 3 on the R660.
- You must attach the cable to the R660 with the connector's blue tab on the top.
- You must attach the other end of the cable to the PowerVault with the connector's blue tab on the top.
- You know if the cable is properly connected when you hear a click as the cable locks into place and see the green port light illuminate on the R660.

#### Series 7 Core Host (R660) Connected to One MD2412 PowerVault

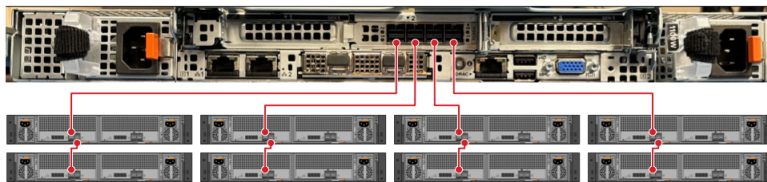


4. When you connect two or more PowerVaults to the H975e RAID controller, make sure that you:
- Connect the Primary Port 1 of the first PowerVault to Port 0 of the R660 host RAID controller.
  - Daisy chain up to one additional PowerVaults to the first PowerVault, port2.
  - Connect the Primary Port 1 of the second PowerVault to Port 1 of the R660 host RAID controller.
  - Daisy chain up to one additional PowerVaults to the second PowerVault, port2.
  - Connect the Primary Port 1 of the third PowerVault to Port 2 of the R660 host RAID controller.
  - Daisy chain up to one additional PowerVaults to the third PowerVault, port2.
  - Connect the Primary Port 1 of the fourth PowerVault to Port 3 of the R660 host RAID controller.
  - Daisy chain up to one additional PowerVaults to the fourth PowerVault, port2.

**Note:** If you are connecting two or three or four PowerVaults, each PowerVault should be connected to a dedicated port on the R660 physical hosts for improved performance.

The following figure shows you how to connect eight PowerVaults to an NetWitness Series 7 core (R660) physical hosts.

#### Series 7 Core (R660) Connected to Eight PowerVaults



#### Series 7 (R760) Hybrid

The following figure shows Series 7 - R760 hybrid host Port 0 connected to a PowerVault's Port 1 in top row of ports using a mini-to-mini-SAS cable. The PERC H965e card for the R760 is installed in slot #6 (marked red).

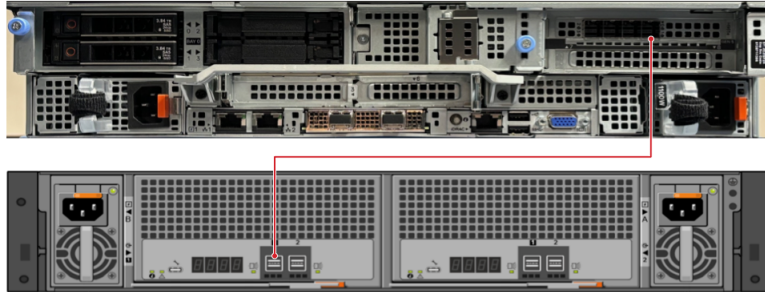


This means that:

- Port 0 is on the right followed by 1,2 and 3 on the right on the R760 Hybrid.
- You must attach each cable to the R760 with the connector's blue tab on the bottom as shown in the following picture.

- You must attach the other end of the cable to the PowerVault with the connector's blue tab on the top.
- You know if the cable is properly connected when you hear a click as the cable locks into place and see the green port light illuminate on the R760.

**Series 7 Hybrid Host (R760) Connected to One MD2412 PowerVault**



5. When you finish the cabling, ensure that the PowerVault is powered on and then power on the physical host.

## Revision History

---

Date	Description
May 5, 2024	Initial Documentation