Dell EMC PowerVault ME4 Series Storage Specification Sheet

Enterprise-class features in our most affordable entry level SAN/DAS storage array

**Purpose-built for SAN/DAS**

The affordable, simple, and fast Dell EMC PowerVault ME4 Series SAN/DAS Storage Series is optimized to run a variety of mixed workload applications – physical and virtual – for small businesses. Whether you need to consolidate your block storage, support the demands of data intensive applications, take advantage of intelligent data management, or optimize your virtual environments, the ME4 Series has been designed to meet your growing business needs. The flexibility of the ME4 Series lets you decide the protocol, supports a wide range of mixed drive types, scales to 4PB raw, is highly aligned with Dell PowerEdge Servers, and is delivered to you with all-inclusive software – everything you’ll need to store, manage, and protect your data.

**Powerful entry storage architecture**

Based on the family of Intel “Broadwell-DE” processors, Dell EMC PowerVault ME4 Series storage implements a block architecture with VMware virtualization integration and concurrent support for native iSCSI, Fibre Channel, and SAS protocols. Each system leverages dual storage processors (single storage processor systems are available) and a full 12Gb SAS back-end. Additional storage capacity is added via Disk Array Enclosures (DAEs) while Distributed RAID (ADAPT) delivers faster drive re-build times and lowers opex. And all ME4 Series arrays are managed by an integrated HTML5 web-based GUI.

**PowerVault ME4 Series Base System and Expansion Models**

The two non-dense ME4 base arrays start at 2U and the dense ME4 array starts at 5U. Both models include dual controllers with Dual-core Intel Xeon processors, 8GB per controller and 4x10Gb iSCSI, 4x12Gb SAS, and 4x16Gb FC network connections (auto-negotiation supported on iSCSI and FC).

Optional ME4 Series expansion enclosures let you scale up to 336 drives or 4PB. PowerVault ME412 and ME424 expansion enclosures can only be used with either ME4012 or ME4024 base arrays.
The ME484 dense expansion enclosure is supported behind any ME4 base array. All array and expansion enclosure models support a variety of SSD, 15K, 10K and NLSAS drives (including FIPS-certified SEDs).

### PowerVault ME4 Series Specifications

#### Chassis Overview

<table>
<thead>
<tr>
<th>Chassis format</th>
<th>All-in-one (single/dual controllers, internal drive bays, networking) with expansion options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack size</td>
<td>2U or 5U</td>
</tr>
<tr>
<td>Controllers</td>
<td>2 hot-swappable per chassis (dual active)</td>
</tr>
<tr>
<td></td>
<td>Single/dual controller support for 2U</td>
</tr>
<tr>
<td></td>
<td>Dual controller support for 5U</td>
</tr>
<tr>
<td>Processor</td>
<td>Intel® Broadwell-DE Processor 2 cores 2.2GHz</td>
</tr>
<tr>
<td>Internal storage</td>
<td><strong>ME4012</strong>: 12 x 3.5&quot; drive bays (2.5&quot; drive carriers supported)</td>
</tr>
<tr>
<td></td>
<td><strong>ME4024</strong>: 24 x 2.5&quot; drive bays</td>
</tr>
<tr>
<td></td>
<td><strong>ME4084</strong>: 84 x 3.5&quot; drive bays (2.5&quot; drive carriers supported)</td>
</tr>
<tr>
<td>System memory</td>
<td>8GB per controller</td>
</tr>
</tbody>
</table>

#### Expansion Capacity

<table>
<thead>
<tr>
<th>Expansion enclosures</th>
<th><strong>ME412</strong>: 12 x 3.5&quot; drive bays (12Gb SAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>ME424</strong>: 24 x 2.5&quot; drive bays (12Gb SAS)</td>
</tr>
<tr>
<td></td>
<td><strong>ME484</strong>: 84 x 3.5&quot; drive bays (12Gb SAS)</td>
</tr>
<tr>
<td>Min/Max drive count</td>
<td><strong>ME4012</strong>: 2/264</td>
</tr>
<tr>
<td></td>
<td><strong>ME4024</strong>: 2/276</td>
</tr>
<tr>
<td></td>
<td><strong>ME4084</strong>: 28/336</td>
</tr>
<tr>
<td>Max raw capacity</td>
<td><strong>ME4012</strong>: 3.1PB (with ME484 expansion)</td>
</tr>
<tr>
<td></td>
<td><strong>ME4024</strong>: 3PB (with ME484 expansion)</td>
</tr>
<tr>
<td></td>
<td><strong>ME4084</strong>: 4PB</td>
</tr>
<tr>
<td>NAS Support</td>
<td>Supported with NX Series Windows NAS appliance</td>
</tr>
</tbody>
</table>

#### Storage media

- SAS and NL-SAS drives; different drive types, transfer rates, rotational speeds can be mixed in the same system:
  - NLSAS 7.2K 3.5" – 4TB, 8TB, 12TB, 12TB SED
  - NLSAS 7.2K 2.5" – 2TB, 2TB SED
  - SAS 10K 2.5" – 1.2TB, 1.6TB, 2.4TB, 2.4TB SED
  - SAS 15K 2.5" – 900GB, 900GB SED
  - SSD – 480GB, 960GB, 1.92TB, 1.92TB SED
  - SSD and HDD: FIPS-certified SEDs

#### Network and Expansion I/O

<table>
<thead>
<tr>
<th>Host interface</th>
<th>FC, iSCSI, SAS (supports simultaneous multiprotocol FC/iSCSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max 16Gb FC ports</td>
<td>8 per array (support auto-negotiate to 8Gb)</td>
</tr>
<tr>
<td>Max 10Gb iSCSI ports</td>
<td>8 SFP+ or BaseT ports per array (BaseT only support auto-negotiate to 1Gb)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max 12Gb SAS ports</td>
<td>8 12Gb SAS ports</td>
</tr>
<tr>
<td>Max multi-protocol ports</td>
<td>4 ports 16Gb FC SFP+</td>
</tr>
<tr>
<td>Max multi-protocol ports</td>
<td>4 ports 10Gb iSCSI SFP+</td>
</tr>
<tr>
<td>Max management ports</td>
<td>4 ports 16Gb FC SFP+</td>
</tr>
<tr>
<td>Disk expansion protocol</td>
<td>4 ports 10Gb iSCSI SFP+</td>
</tr>
<tr>
<td>Max management ports</td>
<td>2 per array (1Gb BASE-T)</td>
</tr>
<tr>
<td>Disk expansion protocol</td>
<td>12Gb SAS</td>
</tr>
<tr>
<td>Disk interface expansion ports</td>
<td>2 12Gb SAS (wide-Port) per array (1 port per controller)</td>
</tr>
<tr>
<td>Disk interface expansion ports</td>
<td>Up to 9 2U expansion enclosures per 2U base array</td>
</tr>
<tr>
<td>Disk interface expansion ports</td>
<td>Up to 3 5U expansion enclosures per 2U base array</td>
</tr>
<tr>
<td>Disk interface expansion ports</td>
<td>Up to 3 5U expansion enclosures per 5U base array</td>
</tr>
<tr>
<td>Functional</td>
<td>All-flash, hybrid or all HDD arrays</td>
</tr>
<tr>
<td>Storage format</td>
<td>Native SAN or DAS</td>
</tr>
</tbody>
</table>

### Data Optimization

- **Auto-tiering**: Up to 3 primary (media-based) tiers
- **RAID support**: RAID 0, 1, 5, 6, 10, 50 or Adapt; any combination of RAID levels can exist in single array
- **Adapt**: Distributed erasure coding that reduces rebuild times when drive failures occur
- **Thin provisioning**: Active by default on all volumes, operates at full performance across all features
- **Snapshots**: 1024 maximum snapshots per array

### Data Mobility and Migration

- **Replication**: Replicates with other ME4 Series Arrays
  - Asynchronous block via FC or iSCSI
  - Target/source relationships may be one-to-many or many-to-one
- **Volume copy**: Copy complete standalone volumes

### Data Protection, Disaster Recovery, Security

- **Business continuity**: VMware Site Recovery Manager
- **Data-at-rest encryption**: Self-encrypting drives (SEDs) in SSD or HDD formats
  - Full Disk Encryption (FCE) based on AES-256
  - Drives certified to FIPS 140-2 Level 2
- **Key manager**: Internal controller key management
### Management

**ME Storage Manager (MESM)** HTML5 GUI, CLI, REST

**VMware vCenter**
Support VMware vCenter plugin to manage the ME4 arrays through vCenter.

**Scripting**
- CLI
- Microsoft PowerShell API
- RESTful API

**Supported host OS**
- Windows 2016 and 2012 R2
- RHEL 6.9 and 7.4
- SLES 12.3
- VMware 6.5 and 6.0

**Virtualization integration**
- VMware vSphere (ESXi)
- vCenter, SRM
- Microsoft Hyper-V

### Physical Base System

**Rack size**
- **ME4012** (2U), **ME4024** (2U), **ME4084** (5U)

**Base system height**
- **ME4012**: 8.79 cm (3.46 inches)
- **ME4024**: 8.79 cm (3.46 inches)
- **ME4084**: 22.23 cm (8.75 inches)

**Base system width**
- **ME4012**: 48.30 cm (19.01 inches)
- **ME4024**: 48.30 cm (19.01 inches)
- **ME4084**: 48.30 cm (19.01 inches)

**Base system depth**
- **ME4012**: 60.29 cm (23.74 inches)
- **ME4024**: 60.29 cm (23.74 inches)
- **ME4084**: 97.47 cm (38.31 inches)

**Weight (max configuration)**
- **ME4012**: 32.00 kg (71.00 lbs)
- **ME4024**: 30.00 kg (66.00 lbs)
- **ME4084**: 135.00 kg (298.00 lbs)

**Weight (empty)**
- **ME4012**: 4.80 kg (10.56 lbs) without drives
- **ME4024**: 4.80 kg (10.56 lbs) without drives
- **ME4084**: 64.00 kg (141.00 lbs) without drives

### Physical Expansion Enclosure

**Rack size**
- **ME412** (2U), **ME424** (2U), **ME484** (5U)

**Expansion height**
- **ME412**: 8.79 cm (3.46 inches)
- **ME424**: 8.79 cm (3.46 inches)
- **ME484**: 22.23 cm (8.75 inches)

**Expansion width**
- **ME412**: 48.30 cm (19.01 inches)
- **ME424**: 48.30 cm (19.01 inches)
- **ME484**: 48.30 cm (19.01 inches)

**Expansion depth**
- **ME412**: 60.29 cm (23.74 inches)
- **ME424**: 60.29 cm (23.74 inches)
- **ME484**: 97.47 cm (38.31 inches)

**Weight (max configuration)**
- **ME412**: 28.00 kg (62.00 lbs)
- **ME424**: 25.00 kg (55.00 lbs)
- **ME484**: 130.00 kg (287.00 lbs)

**Weight (empty)**
- **ME412**: 4.80 kg (10.56 lbs) without drives
- **ME424**: 4.80 kg (10.56 lbs) without drives
- **ME484**: 64.00 kg (141.00 lbs) without drives

### Base System Power

**Power/wattage**
- **ME4012**: 580W
- **ME4024**: 580W
- **ME4084**: 2200W

**Heat dissipation**
- **ME4012**: 1980 BTU
- **ME4024**: 1980 BTU
- **ME4084**: 7507 BTU
DELL EMC POWERVAULT ME4 SERIES

Voltage
- ME4012: 100-240 VAC
- ME4024: 100-240 VAC
- ME4084: 200-240 VAC

Frequency
- 50/60 Hz

Amperage
- ME4012: 7.6-3.0A (x2)
- ME4024: 7.6-3.0A (x2)
- ME4084: 11.07-9.23A (x2)

Expansion Power

Power/wattage
- ME412: 580W
- ME424: 580W
- ME484: 2200W

Heat dissipation
- ME412: 1980 BTU
- ME424: 1980 BTU
- ME484: 7507 BTU

Environmental Operating Conditions

Operating temperature
- 41 - 95°F (5 - 35°C)

Non-operating temperature
- -40 - 149°F (-40 - 65°C)

Operating humidity ranges (non-condensing)
- 10% to 80% with 29°C (84.2°F) maximum dew point

Non-operating humidity (non-condensing)
- 5% to 95% with 33°C (91°F) maximum dew point

Service & Warranty

Services
- Dell ProSupport with deployment and consulting services. Optional ProSupport Plus is available offering proactive and preventative services to improve performance and stability. Dell Optimize is available for additional ongoing strategic counsel and guidance from a highly-trained system analyst.

System sizing
- Dell EMC Midrange Sizer Tool

Drive warranty
- All SSDs and HDDs are warrantied for full lifetime wear-out replacement with valid service agreement

OEM-Ready

From bezel to BIOS to packaging, your storage arrays can look and feel as if they were designed and built by you. For more information, visit Dell.com/OEM

Learn more about Dell EMC Unity solutions

Contact a Dell EMC expert