OpenFlex™ Data24 NVMe-oF™ Storage Platform

The Performance of NVMe™ Flash in Shared Storage

Western Digital’s OpenFlex™ Data24 NVMe-oF™ storage platform extends the high performance of NVMe™ flash to shared storage. It provides low-latency sharing of NVMe SSDs over a high-performance Ethernet fabric to deliver similar performance to locally attached NVMe SSDs. Unsurpassed connectivity in its class using Western Digital RapidFlex™ NVMe-oF controllers, allows up to six hosts to be attached without a switch, like a traditional JBOF.

NVMe-over-Fabrics, or NVMe-oF, is a networked storage protocol that allows storage to be disaggregated from compute to make that storage widely available to multiple applications and servers. By enabling applications to share a common pool of storage capacity, data can be easily shared between applications or needed capacity can be allocated to an application to respond to application needs.

OpenFlex Data24 NVMe-oF storage platform can also be used as a disaggregated storage resource in an open composable infrastructure environment using the Open Composable API. The platform can also be specified with just two RapidFlex adapters for simpler environments and as a direct replacement for SAS external storage.

OpenFlex Data24 is built to deliver high availability and enterprise-class reliability. The entire platform, including SSDs, is backed with a 5-year limited warranty.

Features

- Up to 368TB\(^1\) of low latency Dual Port SSDs in 2U 24-bay platform
- Bandwidth match between SSDs (Storage) and I/O (Network) – No oversubscription
- RESTful API support for simplified management
- Vertically integrated Western Digital design: NVMe SSDs, fabric adapters and platform
- Optional dual adapter configuration for direct SAS replacement
- Industry-leading 5-year limited warranty

Benefits

- Enables multiple servers to share NVMe flash storage as if it were local
- Leverages low latency fabric to fully utilize IOPS and capacity
- Provides more efficient use of large capacity SSDs at low latency
- Balances access to eliminate over-subscription and maintain NVMe performance
- Provides open composability thru mature NVMe-oF standard
- Ideal SAS replacement option (dual adapter configuration)

\(^1\) One terabyte (TB) is equal to one trillion bytes. Actual user capacity may be less due to operating environment.
## Specifications

### Hardware

- 24 Dual port high-performance SSDs
- Wide range of NVMe SSD capacity and endurance options
  - Ultrastar® DC SN840: 1DWPD: Up to 15360 GB
  - Ultrastar DC SN840: 3DWPD: Up to 6400 GB
- High availability with dual IOM
- 3 PCIe® x 16 slots/IOM
- Western Digital RapidFlex NVMe-oF fabric adapters
  - Six 100GbE ports with dual IOM for maximum performance
  - Two 100GbE ports for direct replacement of SAS external storage
- Two 100GbE ports for direct replacement of SAS external storage
- Western Digital RapidFlex NVMe-oF fabric adapters
- OpenFlex inspired composability in a mainstream 2U24
- 28” (711mm) chassis depth – fits most commonly used short depth racks (800 – 1000 mm)

### OpenFlex Data24

<table>
<thead>
<tr>
<th>Specifications</th>
<th>OpenFlex Data24</th>
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<tbody>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U</td>
</tr>
<tr>
<td><strong>Front Drive Bays</strong></td>
<td>Up to 24 x U.2 NVMe SSDs</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2x 2000W Platinum 200-240VAC, CRPS, Hot Plug</td>
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<tr>
<td><strong>Fabric Adapter Slots</strong></td>
<td>6x PCIe x16</td>
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<tr>
<td><strong>Fabric Adapter(s)</strong></td>
<td>Western Digital RapidFlex NVMe-oF Fabric Adapter</td>
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<tr>
<td><strong>Cabling</strong></td>
<td>Passive (1 – 5m) and Active Optical (5 – 50m)</td>
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<tr>
<td><strong>Platform Management</strong></td>
<td>ARM Based BMC</td>
</tr>
<tr>
<td><strong>Rear I/O</strong></td>
<td>1G-BASE-T Management Port (RJ-45)</td>
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<tr>
<td><strong>HA Redundancy</strong></td>
<td>Dual IOMs, Dual Port SSDs, Dual PSUs, Dual Rotor Hot Plug Fans</td>
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<tr>
<td><strong>Environmental</strong></td>
<td>10°C – 35°C</td>
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<tr>
<td><strong>Chassis Dimensions</strong></td>
<td>8.75 x 44.80 x 71.12 cm</td>
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<tr>
<td></td>
<td>3.45” x 17.64” x 28” in</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Maximum 31.75 kg / 70 lb</td>
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<tr>
<td><strong>Limited Warranty</strong></td>
<td>5 Years Standard</td>
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### Performance

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<thead>
<tr>
<th>128K Bandwidth</th>
<th>4K IOPS</th>
<th>4K QD1 Latency</th>
</tr>
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<tbody>
<tr>
<td><strong>6 x 100GbE</strong></td>
<td>Read: 71.3 GB/s</td>
<td>15.2M</td>
</tr>
<tr>
<td></td>
<td>Write: 39.8 GB/s</td>
<td>6.2M</td>
</tr>
<tr>
<td><strong>2 x 100GbE</strong></td>
<td>Read: 23.83 GB/s</td>
<td>5.09M</td>
</tr>
<tr>
<td></td>
<td>Write: 15.09 GB/s</td>
<td>3.72M</td>
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