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## Dell PowerEdge RAID Controller H830

Eight-port external 12Gbps SAS solution for performance-hungry external storage environments supporting up to 255 SAS hard-disk or solid-state drives.

As storage demands expand and processing loads grow, it becomes increasingly more difficult for administrators to achieve maximum performance from their applications. The newest line of Dell PowerEdge RAID Controller cards, built on the LSI® SAS 3108 dual-core PowerPC® RAID-on-Chip (ROC), offers unmatched I/O performance for database applications and streaming digital media environments.

The PowerEdge RAID Controller (PERC) H830, with eight external ports, delivers two PowerPC processor cores and a 72-bit DDR3 interface that drives 2GB cache memory. This controller is ideal for configuring external storage enclosures with high-performance SAS hard drives and application-accelerating solid state drives. The PERC H830 exploits the potential of 12Gbps SAS SSDs for unsurpassed performance and enterprise-class reliability.

### Enterprise data protection

Standard support for the most popular RAID levels, including RAID 5, RAID 6 and NV Cache, further strengthen the data protection capabilities of the PERC H830. NV Cache technology allows protection of the cache for a nearly unlimited period of time. The H830 also supports non-RAID mode (pass-through) for applications that manage the storage independently.

### Sophisticated DAS topologies

The PERC H830 can easily be connected and deployed within new 12Gbps SAS switch environments to further simplify direct attached storage (DAS) scale management and reduce single point of failures common in expanded DAS environments. The PERC H830 is unique in that it offers higher levels of connectivity, simplified management and features and benefits typically available only in higher-end storage network configurations.

### Intuitive RAID management

Managing the PERC H830 is easy using the integrated Dell Remote Access Controller (iDRAC) with Lifecycle Controller. Without having to deploy an agent, IT admins can configure, deploy, update, and monitor the PERC H830, via the GUI or through

Dell's CLI known as RACADM. Additionally, Dell's one-to-many OpenManage™ Essentials console allows a user to perform storage operations across multiple servers, including RAID controllers as well as the physical disks in the PowerEdge system and external enclosures.

Benefits include:

- iDRAC automatically creates and executes jobs for each storage configuration operation
- Customer can reboot the host OS automatically or schedule reboot for a later date.
- PERC H830 supports real-time RAID monitoring and hardware inventory.

iDRAC incorporates Dell OpenManage Storage Services (OMSS) which provides the tools to efficiently manage PERC products, including a pre-boot setup utility and a full spectrum of online RAID management utilities. This suite of applications allows administrators to adjust SAS or SATA topology views from the system host down to the logical and physical drive level. Extending to enterprise deployments, these tools can scale to easily configure, monitor and manage RAID and JBOD volumes locally or over the LAN network.

## PowerEdge RAID Controller H830

- Eight external ports
- 72-bit DDR3 interface drives 2GB non-volatile cache memory
- Unsurpassed performance and enterprise-class reliability

| Feature                                      | PowerEdge RAID Controller H830 technical specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Solution provided</b>                     | Eight-port external SAS solution for performance-hungry external storage environments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Physical dimensions</b>                   | 167.6 mm (6.6 in) x 64.4 mm (2.5 in) (MD2 low profile)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Connectors</b>                            | Two internal HD mini-SAS SFF8644                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Host bus type</b>                         | 8-lane, PCI Express 3.0 compliant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Data transfer rates</b>                   | Up to 12Gbps per port                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>SAS controller</b>                        | LSI SAS 3108 1200MT/s PowerPC 476 dual-core 12Gbps ROC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Cache memory</b>                          | 2GB 1866MT/s DDR3 SDRAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Key RAID and data protection features</b> | RAID levels 0, 1, 5, and 6<br>RAID spans 10, 50, and 60<br>Non-RAID (JBOD mode)<br>Online Capacity Expansion (OCE)<br>Online RAID Level Migration (RLM)<br>Auto-resume on rebuild or reconstruction<br>Single controller multipathing<br>Load balancing<br>Configurable stripe size up to 1MB<br>Fast initialization for quick array setup<br>Check Consistency for background data integrity<br>3Gb/s, 6Gb/s & 12Gb/s SAS SSD support<br>SED drive support<br>Physical disk power management (Dimmer Switch™)<br>4K native sector support<br>64 logical drive support<br>Up to 64TB LUN support<br>Support UNMAP command<br>S.M.A.R.T. support<br>Global and dedicated hot-spare with Revertible Hot-Spare support <ul style="list-style-type: none"> <li>Automatic rebuild of hot-spare drives</li> <li>Enclosure affinity</li> </ul> |
| <b>RAID management</b>                       | CTRL-R<br>Dell OpenManage Storage Services<br>PERC CLI<br><b>Additional management:</b><br>UEFI (HII)<br>CEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Operating temperature</b>                 | Maximum ambient temperature: 60°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Operating voltage</b>                     | +3.3V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Optional SSD optimization</b>             | Dell FastPath™ firmware feature: delivers high IOPs performance on SSD arrays                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Operating systems</b>                     | Microsoft® Windows Server® 2008 R2 SP1<br>Microsoft Windows Server 2012<br>Microsoft Windows Server 2012 R1 & R2<br>Red Hat® Enterprise Linux® 5.8<br>Red Hat Enterprise Linux 6.5<br>SUSE® Linux Enterprise Server 10 SP4<br>SUSE Linux Enterprise Server 11 SP3<br><br><b>Virtualization options:</b><br>VMware® ESXi 5.1<br>VMware 6.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Warranty</b>                              | Up to five-year warranty available for controller (up to the length of purchased system warranty)<br>Three-year warranty for battery                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## End-to-end technology solutions

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