As storage demands expand and processing loads grow, it becomes increasingly more difficult for administrators to achieve maximum performance and scale from their applications. The newest line of Dell EMC PERC cards, built on the LSI® 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 (2- x4 connectors), 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 and RAID 6, further strengthen the data protection capabilities of the PERC H830. Dell EMC’s Flash Backed Cache or 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 12Gb/s SAS 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 9 (iDRAC9) 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 EMC’s CLI known as RACADM. Additionally, Dell EMC’s one-to-many OpenManage console allows the user to perform storage operations across multiple servers, including the 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 do it Real-Time or schedule reboot for a later date.
- PERC H830 supports real-time RAID monitoring and hardware inventory.

Customers can also use Dell OpenManage™ Server Administrator/ Storage Services (OMSS) tools to efficiently manage PERC products, including a pre-boot setup utilities and a full spectrum of online RAID management utilities. This suite of applications allow administrators to adjust SAS 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 PERC H830

<table>
<thead>
<tr>
<th>Features</th>
<th>Technical Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution provided</td>
<td>Eight-port (2-x4 connectors) external SAS solution for performance-hungry external storage environments</td>
</tr>
<tr>
<td>Physical dimensions</td>
<td>167.6mm (6.6in) x 64.4mm (2.5in) (low profile)</td>
</tr>
<tr>
<td>Connectors</td>
<td>Two mini-SAS HD external SFF8644</td>
</tr>
<tr>
<td>Host bus type</td>
<td>8-lane, PCI Express 3.0 compliant</td>
</tr>
<tr>
<td>Data transfer rates</td>
<td>Up to 12Gb/s per port</td>
</tr>
<tr>
<td>SAS controller</td>
<td>LSI SAS 3108 1200MT/s PowerPC 476 dual-core 12Gbps ROC</td>
</tr>
<tr>
<td>Cache size</td>
<td>2GB 1866MT/s DDR3 SDRAM</td>
</tr>
</tbody>
</table>
| Key RAID & data protection features | RAID levels 0, 1, 5, and 6  
Online Capacity Expansion (OCE)  
Online RAID Level Migration (RLM)  
Auto-resume on rebuild or reconstruction  
Single controller multipathing  
Load balancing  
Configurable stripe size up to 1MB  
Fast initialization for quick array setup  
Check Consistency for background data integrity  
3Gb/s, 6Gb/s & 12Gb/s SAS SSD support  
SED drive support  
Physical disk power management (Dimmer Switch™)  
4K native sector support  
Support UNMAP command  
S.M.A.R.T. support  
Global and dedicated hot-spare with Reversible Hot-Spare support  
• Automatic rebuild of hot-spare drives  
• Enclosure affinity |
| RAID management           | CTRL-R  
Dell OpenManage Storage Services  
PERC CLI  
Additional management:  
UEFI (HII)  
CEM |
| Operating voltage         | +3.3V                                                      |
| Optional SSD optimization | Dell FastPath™ firmware feature: delivers high IOPs performance on SSD arrays |
| Operating systems         | Microsoft® Windows Server® 2008 R2 SP1  
Microsoft Windows Server 2012  
Microsoft Windows Server 2012 R1 & R2  
Red Hat® Enterprise Linux® 5.8  
Red Hat Enterprise Linux 6.5  
SUSE® Linux Enterprise Server 10 SP4  
SUSE Linux Enterprise Server 11 SP3  
Virtualization options:  
VMware® ESXi 5.1  
VMware 6.0 |
| Warranty                  | Up to five-year warranty available for controller (up to the length of purchased system warranty)  
Three-year warranty for battery |

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Learn more at [Dell.com/PowerEdge](http://Dell.com/PowerEdge)

**Recommended services**

ProSupport Plus with SupportAssist provides proactive and predictive support for critical systems. ProSupport provides comprehensive hardware and software support. Get more from your technology starting on day one with ProDeploy Enterprise Suite deployment offers. For more information, visit [Dell.com/itlifecycleservices](http://Dell.com/itlifecycleservices).

**End-to-end technology solutions**

Reduce IT complexity, lower costs and eliminate inefficiencies by making IT and business solutions work harder for you. You can count on Dell EMC for end-to-end solutions to maximize your performance and uptime. A proven leader in Servers, Storage and Networking, Dell EMC Services deliver innovation at any scale. And if you’re looking to preserve cash or increase operational efficiency, Dell Financial Services™ has a wide range of options to make technology acquisition easy and affordable. Contact your Dell Sales Representative for more information.*

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