



HP RI Mezzanine PCIe Workload Accelerators

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Achieve high transaction rates with real-time data access

## PCIe Application Workloads:

- Server Virtualization
- Virtual Desktop Infrastructure
- Databases: MS SQL Server, SAP, Oracle, MySQL, Informix, Sybase, DB2
- Business Intelligence and Data Mining
- Real-time Financial Data Processing
- Seismic Data Processing
- Content Caching
- 3D Animation/Rendering
- CAD/CAM

The new HP Read Intensive (RI) Mezzanine PCIe Workload Accelerators for BladeSystem c-Class provides higher performance, greater capacity and lower latency data access for mission-critical virtualized, cloud and hyperscale data center environments. This flash based mezzanine PCIe card is designed for applications requiring high transaction rates and real-time data access where high performance and ultra-low latency is required. The PCIe device sits close to the CPU, alleviating I/O storage bottlenecks to deliver performance gains for even the most I/O intensive workloads, and thus delivering denser and more VMs per server, accelerated databased/data mining performance, and to drive faster decisions for strategic business intelligence, resulting in cost and time savings.

This latest generation of HP RI Mezzanine PCIe Workload Accelerators based on SanDisk® Fusion ioMemory™ technology, provides ultra-low 92µs/15µs read/write access latency and superior reliability with an UBER of 10<sup>-20</sup>, which is important for mission-critical applications where high performance cannot be compromised. These devices offer 33% more capacity over the previous ioDrive2 IO Workload Accelerators with available capacities of 1.2TB - 1.6TB\*. This HP RI Mezzanine PCIe Workload Accelerator achieves random read/write performance of up to 235K/375K and data transfer rates of up to 2.7/1.7 GB/s\*\* sequential read/write, enabling I/O performance to scale while maintaining ultra-low latency and consistent application performance. These RI Mezzanine PCIe Workload Accelerators are designed to work seamlessly with existing customer HP BladeSystem c-Class Gen8 and Gen9 server environments.

The HP RI Mezzanine PCIe Workload Accelerators offer significant application performance acceleration benefits and can augment existing NAS/SAN HDD based solutions and as an alternative solution for customers that buy large arrays in order to get the performance for their application. Implementing these high performance enterprise-grade NAND flash technology storage devices lowers power consumption, cooling requirements and reduces infrastructure rack and space needs over traditional hard disk drives. The HP RI Mezzanine PCIe Application Accelerators are designed to provide performance driven application environments with deterministic performance, superior reliability, and maximum value.

## HP RI Mezzanine PCIe Workload Accelerators

Usable MLC Capacity*	1.2TB	1.6TB
Read Bandwidth (GB/s)	2.7	2.7
Write Bandwidth (GB/s)**	1.5	1.7
Ran. Read IOPS (4K, 512QD)	196,000	235,000
Ran. Write IOPS (4K, 512QD)	330,000	375,000
Read Access Latency	92µs	92µs
Write Access Latency	15µs	15µs
Bus Interface	HP Type B Mezzanine Card	
Endurance (PBW)	4	5.5
UBER	10 <sup>-20</sup>	
Weight	5.2 ounces	
Form Factor	Low Profile	
Warranty	Refer to the 3 year warranty for these products on the HP website	

### Operating Systems

**Microsoft Windows:** Windows Server 2012 R2, Windows Server 2012, Windows 2008 R2 SP1  
**Linux:** RHEL 5/6/7; OEL 5/6/7; CentOS 5/6/7  
**UNIX:** Solaris 11.1/11 x64; Solaris 10 U11 x64  
**Hypervisors:** VMware ESXi 5.0/5.1/5.5, Windows Server 2012 with Hyper-V, Windows Server 2012 R2 with Hyper-V; Oracle VM

### Environmental Specifications

		Min	Max
Temperature <sup>1</sup>	Operational	0°C	55°C
	Non-operational	-40°C	70°C
Power Requirements			25 W
Air Flow (LFM) <sup>2</sup>		300	
Humidity (%)	Non-condensing	5	95
	Operational	-1,000	10,000
Altitude (ft)	Operational	-1,000	10,000
	Non-operational	-1,000	30,000

### HP RI Mezzanine PCIe Workload Accelerator Ordering Information

HP RI Mezzanine PCIe Workload Accelerators for BladeSystem Servers	HP Part Number	Models with SanDisk SSDs
HP 1.2TB RI Mezz PCIe Workload Accelerator	794603-B21	<b>Gen8</b> BL420c, BL465c, BL660c, BL 480c
HP 1.6TB RI Mezz PCIe Workload Accelerator	794605-B21	<b>Gen 9</b> BL460c

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Specifications subject to change without notice. Performance results are based on internal testing and use. Results and performance may vary according to configurations and systems, including drive capacity, system architecture and applications.  
 \* 1TB = 1,000,000,000,000 bytes. Actual user capacity less.  
 \*\* Write BW achieved with optional high power mode. Maximum Write bandwidth performance of 1.6 GB/s achievable within 25 W power limit. Performance may vary based on host device. 1GB = 1,000,000,000 bytes. X = 150 KB/sec.  
 1 Temperature derated 1°C per 1000 ft elevation above sea level  
 2 Products designed for server platforms only and relies on 300 LFM (min) airflow, which is required for normal operation in server environments.  
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