

Intel® RAID Controllers RS2BL080 and RS2PI008

Performance Brief

Revision 1.0
10 Jul 2009

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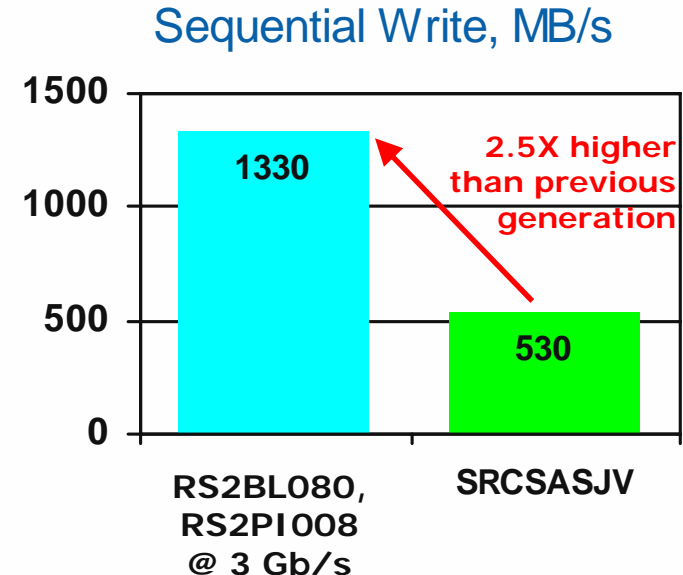
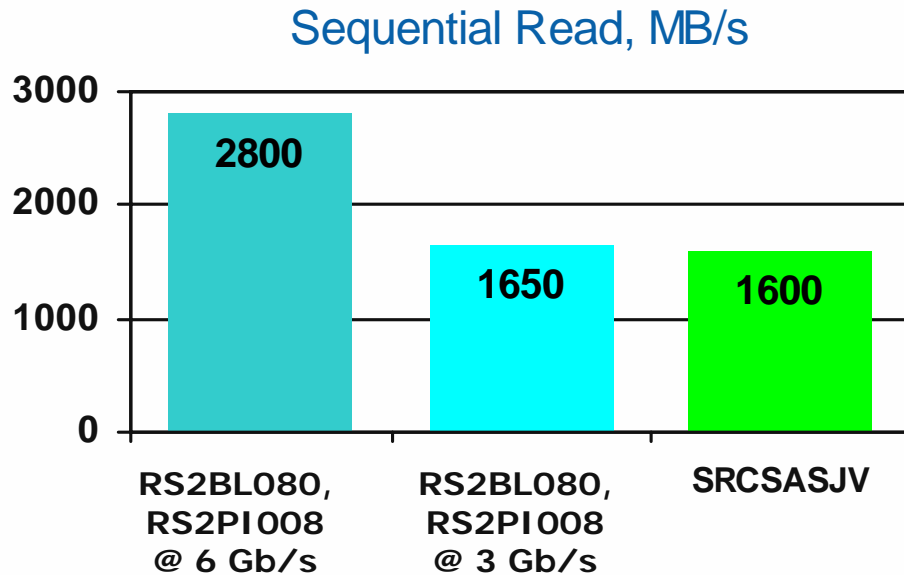
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Intel® RAID Controllers RS2BL080 and RS2PI008 RAID 5 Performance



**Industry leading RAID5 performance!
Up to 2.5X higher bandwidth compared to the previous generation.**

The RS2BL080, RS2PI008 @ 3 Gb/s and SRCASJV measurements done with 16 x SAS HDDs. The RS2BL080, RS2PI008 @ 6 Gb/s results are estimates only.

Data source: Intel internally measured results as of 10 Jul 2009. See the "Test Configuration" slide for details.

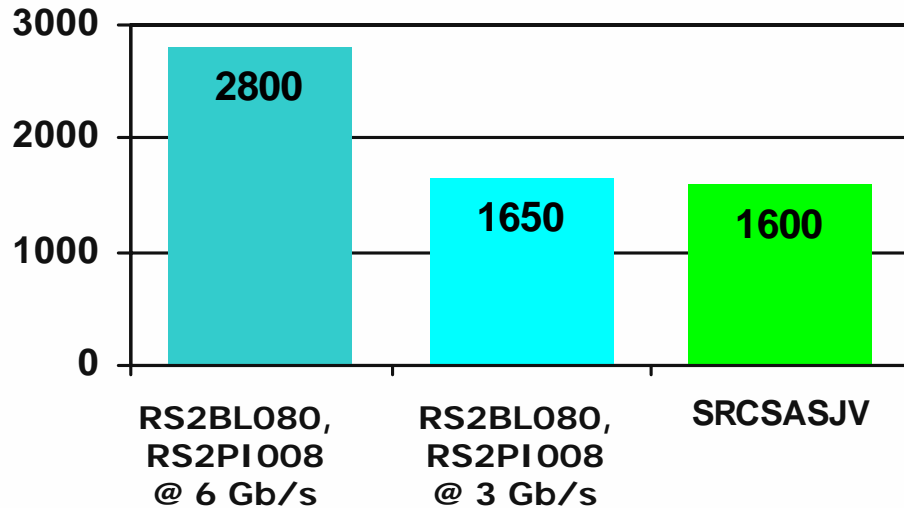
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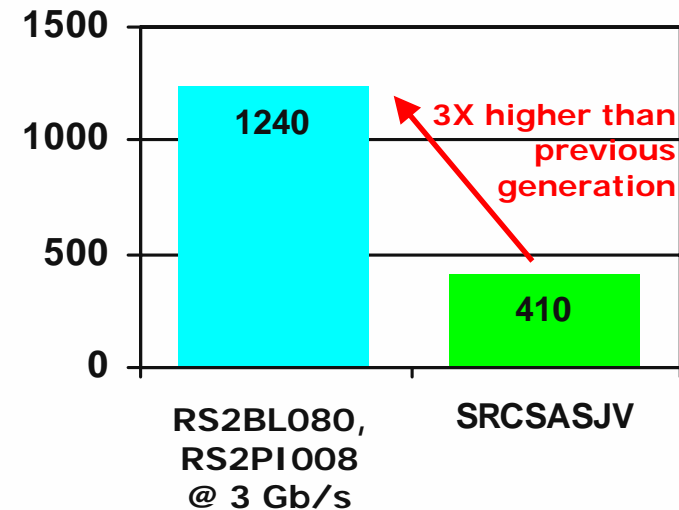


Intel® RAID Controllers RS2BL080 and RS2PI008 RAID 6 Performance

Sequential Read, MB/s



Sequential Write, MB/s



Industry leading RAID6 performance!
Up to 3X higher bandwidth compared to the previous generation.

The RS2BL080, RS2PI008 @ 3 Gb/s and SRCASJV measurements done with 16 x SAS HDDs.
The RS2BL080, RS2PI008 @ 6 Gb/s results are estimates only.

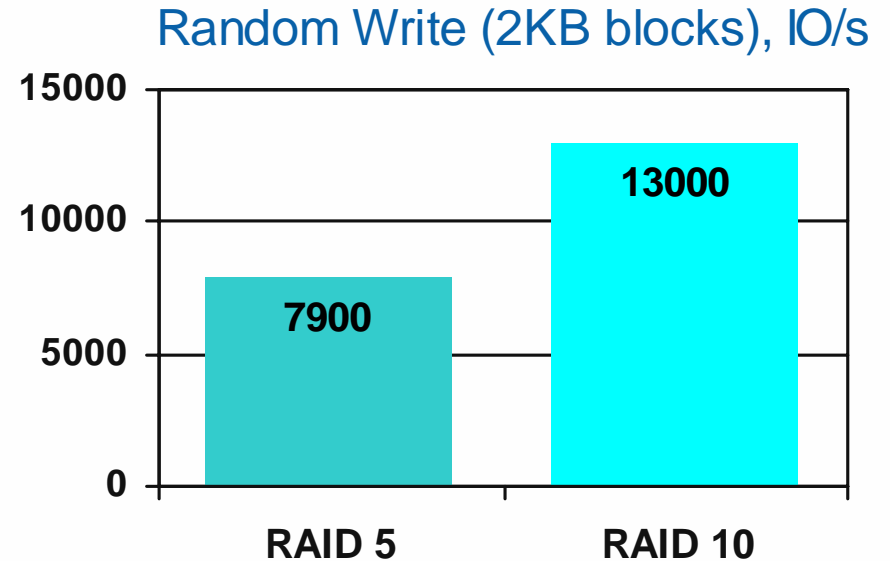
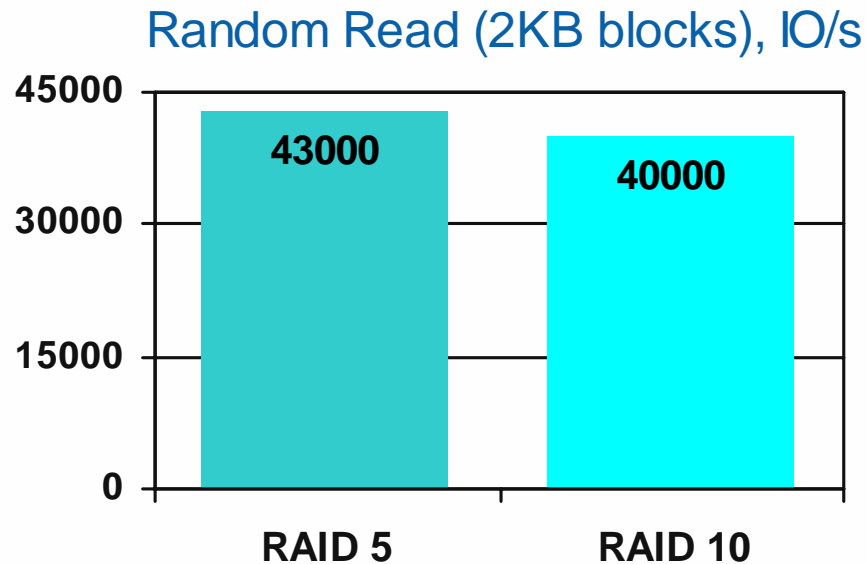
Data source: Intel internally measured results as of 10 Jul 2009. See the "Test Configuration" slide for details.

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Intel® RAID Controllers RS2BL080 and RS2PI008 Random Performance with 8 x Intel® X25-E SSDs



Performance of 100 x 15K RPM hard-drives* in a single system

*Assuming 400 IO/s random read performance of a 15K RPM HDD

Data source: Intel internally measured results as of 10 Jul 2009. See the "Test Configuration" slide for test configuration details.

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Test Configuration – RAID5/6 Sequential Performance

RAID Settings:

Strip Size: 1MB for sequential workload;
Write Policy: Write Back for sequential workload
Disk Cache Disabled, No Read Ahead, Direct IO

IOmeter Settings:

Outstanding IOs: 64;
Block Size: 1MB block with 1MB alignment
20 sec ramp; 180 sec test run

Software and Firmware:

RAID firmware ver. 649; Windows* 2003 64-bit ; IOmeter ver 2006.07.27

System Hardware:

Intel® Server Board S5400SF; Intel® Xeon® Processor 5150; 4 GB RAM;

SAS HDD configuration:

16 x Seagate ST3300655SS, 4 drives per one AXX4DRV3GEXP enclosure

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Test Configuration – Random Performance with SSDs

RAID Settings:

Strip Size: 256K for random workload;

Write Policy: Write Thru

Disk Cache Enabled, No Read Ahead, Direct IO

IOmeter Settings:

2KB block with 2KB alignment;

256 Outstanding IOs

Test Run:

- 1) Low-level format the SSDs
- 2) Create RAID array with no initialization and Background Initialization disabled
- 3) Condition the drives by running the random write workload for 2 hours
- 4) Run the random read/write workload for 1 hour

Software and Firmware:

RAID firmware ver. 649; Windows* 2008 64-bit ; IOmeter ver 2006.07.27

System Hardware:

Intel® Server Board S5520UR; Intel® Xeon® Processor 5560; 4 GB RAM;

SSD configuration:

8 x Intel® X25-E Extreme SATA Solid-State Drives, 32 GB

- Firmware ver. 8831