



SR-71mach5 SpeedServer™

SSD-optimized Server

The SR-71mach5 SpeedServer™ is a server in which I/O performance has finally been balanced with the performance gains of processors, memory and network through the optimized use of Solid State Drives. Tuned throughout as an SSD-optimized system, not just a server with new drives, the SR-71mach5 SpeedServer™ delivers the I/O performance of thousands of disks by removing the mechanical limitations of spinning disks.

Benefits of the solution include:

- More than 1 Million IOPS
Dramatic increase in storage performance
- All Solid State Storage
Extremely stable, high-reliability platform
- 500 Watt System
Significant savings in power and cooling
- Compact 2U Server
Compared to racks full of rotating disks
- Small Quiet Server
Suitable for in-office Use

Built in Flexibility

- 6-13 TB SSD RAID, scalable to 150GB
- up to 384GB of 2133MHz ECC memory
- up to (12) 10Gb Ethernet ports
- up to (22) 1Gb ports
- RAID options: 0, 1, 10, 5, 50, 6, 60
- OS Options: Windows, Linux, Open-E



The SSD Technology Evolution

4kB Random Read Comparison	Disk-based SAN	SR-71mach5	Save
IOPS	400 IOPS/disk ► 2500 disks	>1,000,000 IOPS	
Latency	≥2.3 milliseconds	330 microseconds	85%
Size	5 rack cabinets	2 rack units, 88mm	99%
Cost	~\$2,000,000	~\$40,000	98%
Power	30kW + 30kW cooling	500 W + 500 W cooling	98%
Annual Electric Cost @\$0.10/kWh	\$52,560	\$876	98%

SR-71mach4 SpeedServer Specifications

System Features

- ◆ Intel®Xeon® E5-2690 V3 processors
- ◆ Intel Serverboard in Intel Chassis
- ◆ Intel 12Gb SAS 3 RAID Controllers
- ◆ Intel “DC” Solid State Drives
- ◆ (24) SSDs in front hot-swap bays
- ◆ (2) mirrored boot SSDs in rear
- ◆ 2U rackmount chassis
- ◆ 750 W Redundant Power Supply
- ◆ 3.45”(88mm) x 17”(430mm) x 28”(710mm)
- ◆ 45 pounds (21 kg)

Configuration Options

- ◆ 6TB or 13TB 2U Server
- ◆ Scalable to 26U with 154TB
- ◆ RAID 1, 10, 5, 50, 6, 60
- ◆ 32 to 384 GB 1600MHz ECC RAM
- ◆ Up to (12) 10GbE ports
- ◆ Up to (12) 8Gbps Fibre Channel ports
- ◆ Windows®, Linux® or Open-E
- ◆ Standard Endurance SSDs
- ◆ High Endurance SSDs

Enterprise management

- ◆ Browser-based Management Interface
- ◆ KVM over IP remote console
- ◆ IPMI 2.0 management
- ◆ Shared & Dedicated Management NICs
- ◆ Monitoring of Fans, Temp & Power
- ◆ Diagnostic LEDS, internal & external
- ◆ SNMP & Email Alerting



Possible SR-71mach5 Applications

- ◆ Database Server
- ◆ OnLine Transaction Processing
- ◆ Financial Tick Processing Databases
- ◆ File Server delivering very high IOPS at low latency to server or workstation LAN
- ◆ Static Content or Content Caching Web Server
- ◆ Streaming Media Server
- ◆ High performance iSCSI or Fibre Channel target storage
- ◆ Cache tier for iSCSI or Fibre Channel SAN
- ◆ Compile Engine
- ◆ Rendering Engine
- ◆ Applications that seemed impossible to achieve with disk-based I/O.

Disk-Impossible Applications

- ◆ Space Constraints
 - Comparable performance with disks requires multiple rack cabinets.*
 - ◆ Office
 - ◆ Trading Floor
 - ◆ Plane / Ship / Truck
 - ◆ Even Home
- ◆ Power Constraints
 - Comparable performance with disks requires 10s of kiloWatts.*
 - ◆ Office
 - ◆ Trading Floor
 - ◆ Mobile Platform
 - ◆ Pre-wired spaces
 - ◆ Home
- ◆ Financial Constraints
 - SR-71mach5 SpeedServer has price/performance justification for many applications where dedicated high-performance SANs do not.*
 - ◆ Cost / benefit equation makes sense at \$40k for the SR-71mach5 server, but not at \$2M+ for a dedicated SAN
 - ◆ Return on Investment would never be achieved with large disk-based solution.
 - ◆ Application calls for many servers, not just one

The ION Advantage

- ◆ ION Computer Systems®, Inc. has a track record of building and supporting high-quality custom servers since 1992.
- ◆ All ION systems are built, tested and supported from ION's headquarters in Long Island, NY, USA.
- ◆ ION is an Intel® Technology Provider Platinum member for 2014 and has been a member of this exclusive program since 1998 when ION became the first company in the world to qualify. ION engineers have been certified by Intel, Microsoft®, Cisco®, VMware®, Red Hat® and other industry leaders.
- ◆ All ION servers undergo extended, full-system diagnostic testing. Test results are retained for each system.
- ◆ Detailed records are compiled for each unit including:
 - ◆ scanned serial numbers
 - ◆ recording of part number, version and serial numbers reported by components
 - ◆ photo documentation of the system, inside and out.
- ◆ Support of ION products is facilitated through ION's *orion* program, an ION exclusive data collection program that gathers and assembles system information from DMI, IPMI, FRU, Sensor, System Event Log, RAID state and log, and other configuration information. Orion transfers the data to ION's secure website for coordinating diagnosis and repair between customers, ION engineers and ION field engineers.
- ◆ All ION systems include ION's unique "*scorpion*" bootable USB Flash drive. The Scorpion includes diagnostic tests, the orion program, and the files and tools needed to restore the firmware versions applied to the system when it was manufactured. Scorpion enables all of this support regardless of the operating system, the tools installed, or even the state of the boot drive.
- ◆ Worldwide field service is available. Service options include:
 - ◆ Terms of up to 5 years
 - ◆ 7-day x 24-hour onsite service with 4-hour response
 - ◆ on-site diagnosis and repair
 - ◆ Complete or partial spare parts kits are available for all ION servers



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