



# SR-71mach6 SpeedServer™

## SSD-optimized Server

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The SR-71mach6 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-71mach6 SpeedServer™ delivers the I/O performance of thousands of disks by removing the mechanical limitations of spinning disks.

### Built in Flexibility

- Intel® Xeon® Scalable Processors
- 35-136 TiB of provisioned SSD RAID
- up to 768GB of 2666MHz ECC memory
- up to (12) 10Gb Ethernet ports
- up to (20) 1Gb ports
- RAID options: 0, 1, 10, 5, 50
- OS Options: Windows®, Linux®, Open-E DSS

### Benefits of the solution include:

- More than 1.4 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



# The SSD Technology Revolution

4kB Random Read Comparison	Disk-based SAN	SR-71mach6	Save
IOPS	400 IOPS/disk ► 2500 disks	>1,400,000 IOPS	
Latency	≥2.3 milliseconds	240 microseconds	90%
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-71mach6 SpeedServer Specifications

### System Features

- ◆ Intel® Xeon® Scalable 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 M.2 SSDs for boot
- ◆ 2U rackmount chassis
- ◆ 1300 W Cold Redundant Power Supply
- ◆ 3.5”(89mm) x 17.2”(437mm) x 28”(711mm)
- ◆ 45 pounds (21 kg)

### Configuration Options

- ◆ 6TB or 13TB 2U Server
- ◆ RAID 0, 1, 10, 5, 50
- ◆ 48 to 368 GB 2666MHz ECC RAM
- ◆ Up to (12) 10GbE ports
- ◆ Windows®, Linux® or Open-E DSS
- ◆ 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-71mach6 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 target storage
- ◆ Cache tier for iSCSI 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-71mach6 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-71mach6 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 proven record of building and supporting more than 5000 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 2018 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 of up to 5 years
    - ◆ up to 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

