



Relion™ 1700 | 2700

Intel Xeon 5500-based Servers

Latest Performance with Reliability, Availability and Serviceability

Features

- » 1U and 2U rack mount servers
- » Up to two Intel Xeon 5500 Quad Core Processors
- » Up to 144GB of RAM using DDR3-1333 modules
- » SAS and SATA storage options
- » Integrated IPMI 2.0 management capabilities

Benefits

- » Latest quad core processing power
- » Low latency, high performance memory subsystem for memory intensive HPC code
- » PCI Express generation 2 expansion slots to accommodate high-performance messaging and storage interconnects.
- » Reliability, Availability and Serviceability to support critical enterprise applications

Application Areas

- » High-performance computing
- » Web services
- » Enterprise Computing
- » Database Server
- » File Server

Latest High-Performance Architecture - Intel Nehalem

Penguin Relion 1700 and 2700 are based on the all new Intel Xeon 5500 series 'Nehalem' CPUs and accompanying 'Tylersburg' chipset. This latest Intel dual processor, quad core platform is a complete redefinition of the x86 architecture. The new platform moves system RAM closer to the processors, making data readily available to the CPU cores. The Nehalem architecture also introduces substantially upgraded I/O capabilities, which meet or exceed the performance of current high performance cluster interconnect fabrics and storage backends.

Penguin RAS – Reliability, Availability, Serviceability

Penguin Computing's Relion 1700/2700 servers are designed to support critical enterprise applications yet its ruggedness and resiliency is highly applicable to High Performance Computing cluster environments as well. Redundant, high-efficiency power supplies and integrated hardware health monitoring are there to both maximize the uptime and to reduce the operating cost. Should problems occur, systems are fully serviceable in-rack, with all components designed for toolless replacement. Storage options include economical yet 24/7 rated high capacity SATA as well as mission critical, high performance SAS drives with optional hardware RAID.

Options for Enterprise and Clustering

Penguin Computing Relion servers are available with a gamut of I/O options and supporting infrastructure for both enterprise data center and High Performance Computing environments. Our particular strength is integrated solutions consisting of Penguin servers, associated communications, storage infrastructure, necessary power and cooling solutions. Penguin has in-depth expertise on InfiniBand fabrics, including the latest QDR generation. Fiber channel host connectivity, SAN switches and storage backends are also readily available.

Designed for Linux

All Penguin servers have been tested for compatibility with major commercial and free Linux distributions. Relion servers are available with Red Hat Enterprise Linux, SuSE Linux Enterprise Server or CentOS preinstalled. HPC clusters built from Relion servers can be effectively provisioned and managed by Scyld ClusterWare software from Penguin. Scyld ClusterWare is a fourth generation cluster management platform designed to make a cluster as easy to manage as a single system. Scyld ClusterWare has been architected by the 'father' of Linux clustering, Penguin Computing's CTO Donald Becker.



Technical Specifications - Relion 1700/2700 Servers

	Relion 1700	Relion 2700
Form Factor	1U rackmount server	2U rackmount server
Processors	Up to two Intel Xeon 5500 series quad core processors	
Bus Speed	Intel QuickPath Interconnect, up to 6.4GT/s depending on CPU option selected	
Cache	8MB level 3 cache	
Chipset	Intel 5520 'Tylersburg'	
Memory	DDR3-1333, 18 DIMM slots, up to 144GB	
Expansion Slots	PCI-E gen2 x16 (std size) PCI-E gen2 x8 (low profile)	2 x PCI Express gen2 x168 (x8 lanes, std size) PCI Express gen2 x8 (low profile) PCI Express gen2 x4 (x2 lanes, low profile) PCI Express x8 (x4 lanes, std size)
Internal Storage	4 hot swap drive bays for 3.5" drives Enterprise grade 7200rpm SATA drives High performance 15krpm SAS drives Optional hardware RAID with backup battery	6 hot swap drive bays for 3.5" drives Enterprise grade 7200rpm SATA drives High performance 15krpm SAS drives Optional hardware RAID with backup battery
Network Interfaces	Integrated dual Intel 10/100/1000Mbps Ethernet with dedicated 10/100 management NIC	
Ports	4 x USB 2.0 PS2 keyboard and mouse 2 x LAN + management LAN serial port VGA	
Management	IPMI 2.0 management processor with support for remote power control, remote console and server health monitoring	
Power Supply	Readiness for power supply redundancy Available with single or dual 700W modules	
Dimensions	1.70" H x 16.93" W x 27.38" D	3.44" H x 16.93" W x 27.38" D
Warranty	Standard 3-year warranty included with every Penguin Computing server	

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