Aurora TIGON

Unleash the Hybrid Power

The Aurora Tigon supercomputers break all records of performance, density and efficiency. Capable to perform at 350 TFlop/s for each 1.5 m2 rack with a consumption of 100 Kw of power, the Tigon offers a tremendous computational performance in a very confined space. Hot water cooled, noiseless, green, reliable the Aurora Tigon is able to scale to multi-petaflops installations, while maintaining full compatibility with the majority of open source and commercial software.

Peak performance	350 Tflop/s per standard rack
Power	100 kW
Memory	up to 64 GB soldered RAM per node
Cooling	Aurora Direct Hot Water Cooling
Accelerators	Nvidia GPU and/or Intel Xeon® Phi
Interconnects	Infiniband QDR/FDR
Optional interconnects	240 full duplex Gbps 3D Torus
Monitoring	3 independent sensor networks
Storage	local and IB storage options
Software	full HPC software stack provided

intel inside™ Xeon® intel inside™ Xeon Phi™ NVIDIA.

AURORA | EUROTECH
Imagine. Build. Succeed.

PERFORMANCE

- Aurora Tigon delivers high performance and density like never seen before: 350 TFlops per single standard rack
- A choice of accelerators (GPU and MIC) allows to find the optimal solution for any customer need
- A sync network optimizes the applications
- Aurora supercomputers scale over millions of cores
- Aurora cooling maximizes processor efficiency

EFFICIENCY

- Direct hot water cooling guarantees large savings on data centre energy bills
- Avoid chillers also in warm climates
- Opportunity for thermal energy reuse
- Pervasive cooling is applied to every component (CPUs, accelerators, switches, memories, FPGAs…) to maximize the cooling effectiveness
- 97% efficiency in power conversion

RELIABILITY

- 3 independent sensor networks guarantee full redundant coverage of the system
- No moving parts eliminate vibrations
- Direct embedded cooling avoids hot spots
- Soldered memory provides speed and robustness
- Eurotech commitment to control and quality
- High serviceability: all parts are hot swappable despite being water cooled

The Eurotech advantage: do more, with less

Eurotech manufactures the Aurora Tigon supercomputers and can integrate them in a solution that includes storage, networking, software stack, water cooling infrastructure, installation, delivery, HPC education, maintenance and services. With Eurotech, you do more of your core business, with less HPC worries.

AURORA TIGON SPECIFICATIONS

Computing power	350 TFlops per rack (peak)
Processor	2 x Intel Xeon E5 series per node
Accelerator option 1	2 x Nvidia Kepler K20 per node
Accelerator option 2	2 x Intel Xeon Phi 5120D per node
CPU cores per node	16
Architecture	8 backplane connected nodes per chassis, 16 chassis per rack, optional integrated external IB storage
CPUs per rack	256
Accelerators per rack	256
Memory per node	up to 64GB per node soldered RAM. ECC DDR3 SDRAM 1866 MT/s 12GB GDDR5 GPU memory
Interconnects	40 Gbps QDR Infiniband, 56 Gbps FDR Infiniband 1GbE Optional: 1+1 3D Torus or 3D mesh BW:240 full duplex Gbps, Latency: ~1us
I/O ports per rack	320 Infiniband + 272 Gigabit Ethernet
FPGA	Altera Stratix V SGXB6
Local storage (per node)	up to 1024 GB with 2,5" SATA spinning disk or up to 256 GB with 1,8" microSATA SSD
Monitoring and Control	3 independent sensor networks and power measurement per node and per GPU slot
Cooling	Aurora Direct Hot Water Cooling (water temperature up to 55°C)
Operating System	Linux
Cluster Manager	Bright Cluster Manager, ParTec Parastation
Compilers, Libraries and Tools	Intel Cluster Studio, OpenMPI and other MPI libraries, CUDA, CAPS, Allinea, NICE software suite
Job Management	PBS Professional, Platform LSF, Moab Adaptive Computing Suite
Parallel File System	Lustre
Power	100 kW per rack
Dimensions and weight	H 2400mm x W 1100mm x D 1500mm

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www.eurotech.com/aurora