Aurora G-Station
The ultimate GPU machine!

- **High performance and density**
- **Compact, silent, vibration less**
- **Based on Intel® Xeon™**
- **Nvidia GPU accelerators**
- **Entirely water cooled**
- **Provided with full software stack**

FEATURES

Powerful – Aurora G-Station is able to perform at 21 Tflop/s per rack. Very fast Infiniband interconnects.

Compact – Remarkable density, storing 16 powerful Xeon processors and 16 Nvidia Kepler GPUs in a 9U (or 14U with incorporated heat exchanger) rack.

Energy efficient – Aurora G-Station marks a record in energy efficiency with 3.15 GFlop/s per Watt.

Silent – The Aurora G-Station is water cooled, so it produces very little noise.

Reliable – No moving parts eliminate vibrations. Direct water cooling avoids hot spots while the soldered memory provides speed and robustness.

Scalable and easy – The G-Station doesn't have complicated and messy cabling because all of the nodes are connected via backplane. It easily scales joining more modules together.

Water cooled – The Aurora G-Station is entirely water cooled, but it doesn't need an expensive infrastructure to be deployed. All heat can be taken out of the room just as with a split air conditioner.

The Aurora G-Station is the ultimate GPU machine! Equipped with the powerful Nvidia Kepler GPUs, it offers extraordinary power to process the heaviest computational loads in:

- computer graphics and digital media
- scientific computing
- industrial applications (EDA, CAE, signal processing...)
- business applications (computational finance, cyber security, forensic...)
- software development.

The Aurora G-Station is a supercomputer in a box. Small and compact, easily deployable with no need of infrastructure and extensive HPC knowledge. Available in different configurations, pre-loaded with the software stack, the G-Station is silent thanks to its liquid cooling, has no messy cabling and generate no heat inside the room, so it can even be deployed in an office environment. Aurora G-Station is ideal for whoever needs easy high performance everywhere.

The Eurotech advantage: do more, with less

Eurotech manufactures the Aurora G-Station HPC systems and deploys, supports and maintains them at customers either directly or via VAR network. With Eurotech, you do more of your core business, with less HPC worries.

EUROTECH
Imagine. Build. Succeed.

Aurora G-Station

Specifications

Chassis and blades

the Aurora HPC 20-22 chassis mounted in the G-Station

the Aurora HPC 20-23 blade

System Description

Architecture	Each G-Station mounts 1 Aurora HPC 20-22 chassis with 8 slots Each chassis provides electrical, network (IB 40 Gbps) and liquid connections Mounts up to 8 Aurora HPC 20-23 blades
Computing power	Up to 21 Tflop/s per rack
Processor	up to 16 Intel Xeon E5
Accelerators	up to 16 Nvidia Kepler K20
Memory	Up to 128 GB RAM per node. ECC DDR3 SDRAM 1866 MT/s
Interconnects	40 Gbps QDR Infiniband Optional: 1+1 3D Torus or 3D mesh BW:up to 240+240Gbps, Latency: ~1us
Interfaces	6 x 40 Gbps QDR Infiniband 2 x 1Gbs Ethernet 2 x USB 1 x standard VGA 2 x DVI
Local storage	up to 32 TB GB 2,5" Sata Disk or up to 4 TB 1,8" microSATA SSD
Storage (optional)	up to 75 TB Infiniband fast storage (expandable)

Environmental

Cooling	Aurora Direct Hot Liquid Cooling (embedded or external cooling configurations) Embedded cooling configuration includes: cooling plates, low noise pump, heat exchanger, low noise fan External cooling configuration includes: cooling plates, connection pipes, external heat exchanger and pump
Power	7 Kw per fully loaded (8 blades) rack peak - 3 x 230 V 16A
Dimensions (excluding wheels)	H 70cm x W 65cm x D 80cm (H 27.3" x W 25.3" x D 31.2") with ext cooling: H 50 cm x W 65cm x D 65 cm (H 19.5" x W 25.3" x D 25.3")
Weight (fully loaded)	180 kg (396 pounds)

Software

Operating System	Linux, Windows

OPTIONAL SOFTWARE

Cluster Manager	Bright Cluster Manager, ParTec Parastation
Compilers, Libraries and Tools	OpenMPI, CUDA, CAPS, Allinea, NICE software suite
Job Management	PBS Professional
Parallel File System	Lustre