BullSequana X400 series

Atos

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The BullSequana X400 series is a comprehensive family of rack-mounted servers designed for High Performance Computing and offering an optimum balance between cost and performance.

Truly designed for any HPC workload

The BullSequana X400 server's family allows you to address any workloads and to scale as you grow:

- BullSequana X440: Compute node
- BullSequana X430: Service / Login node
- BullSequana X410: Acceleration node
- BullSequana X450: Visualization node

Atos close collaboration with key technology providers enables BullSequana X400 server family to be time-to-market and to feature best-in-class latest technologies:

- Latest market-leading high-performance computing technologies (Intel®, NVIDIA® and AMD®);
- Largest DIMM and NVDIMM capacity at high frequency rates
- High-end interconnect networking technologies (Mellanox InfiniBand, High Speed Ethernet)
- Wide storage technologies (NVME, SATA, SAS)
- Advanced remote management features.

All our servers come with Atos' HPC Software Suites, a software environment that meets the requirements of the most challenging HPC configurations and workloads, with high security standards.

Benefit from Atos' long-standing expertise in HPC solutions

With BullSequana X400 series, Atos provides an outstanding service level:

- With the Fast Start program, Atos experts guide you from day one to make sure that the solution is tailored to your needs and that you can start running workloads efficiently as quickly as possible.
- Your supercomputer will be installed and tested on your premises by highly skilled engineers who will answer any of your questions.
- Guided by Atos HPC experts, your team will be able to run workloads on the system very quickly and efficiently.
- High quality maintenance and support will be provided during the whole lifecycle of your supercomputer.
- Atos Center for Excellence in Performance Programming collaborates with you to get optimal application performance on BullSequana X400 series.

By choosing BullSequana X400 family, you choose to be guided and trained by some of the most qualified HPC experts.

Optimized TCO

The BullSequana X400 family is designed to be cost-effective without leaving performances out. Every server has an optimized density and performance to cost ratio. BullSequana X400 are air-cooled servers that fit in standard racks which enables time, space and cost saving for deployment. Several customers have already entrusted this solution at government, education or industrial facilities.

BullSequana X400 family is highly energy efficient featuring 80+ Titanium certified Power Supplies, PWM cooling fans and advanced power-monitoring and management via Atos HPC Software Suites.

BullSequana X440 - Compute node

BullSequana X440 Compute nodes are perfectly sized to deliver the level of performance required by power-hungry and complex HPC workloads. Their outstanding density makes it possible to minimize the footprint, significantly reduce real estate or rental costs and improved energy efficiency. Storage on multiple hard disks allows data redundancy and performance improvement. RAID technology provides the right balance between reliability, availability, performance, capacity – and cost!

BullSequana X430 - Service node

BullSequana X430 servers are ideally suited as a service node, their advanced connectivity features, extended storage options and improved redundancy, guarantee efficient and reliable cluster administration services. Designed with Extreme Computing in mind, they combine the features expected from efficient service nodes and can be connect with other Atos HPC systems to make up a powerful and cost-efficient cluster.

BullSequana X410 – Acceleration node

With BullSequana X410, Atos offers complete GPU-based solutions: hardware leveraging the latest technologies, an integrated software environment, expertise and services to implement your solution. NVIDIA® Ampere® GPU are highly parallel processors designed to boost computing. The integration of up to eight GPU within 2U places this system at the forefront of today's accelerated computing solutions, both in terms of compute density, performance and cost-optimization. Pioneered in 2008 by Atos in its supercomputing range, GPU accelerators now power energy-efficient data centers in government labs, universities, enterprises, and small-and-medium businesses around the world.

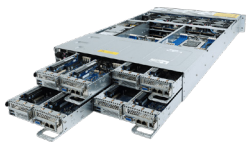
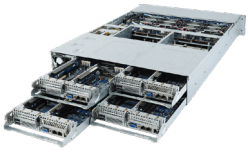
BullSequana X450 - Visualization node

BullSequana X450 is a highly flexible graphic node which combine the qualities expected from efficient visualization nodes in the most depending HPC, data visualization and rendering workloads. The server is optimized to support several coprocessors-GPU and the latest graphic cards. It is compatible with a large selection of active or passive NVIDIA® GPU cards and graphic cards.

BullSequana X400–A5 series

BullSequana X400-A5 series is a server range supporting latest 2nd and 3rd Gen AMD EPYC™. AMD EPYC™ are x86 processors based on 7nm technology with base frequency up to 3.5GHz and highest core density by scaling from 8 to 64 cores. BullSequana X400-A5 family of servers are available in single or dual sockets, with memory support up to 8 DDR4 channels per socket at 3200MT/s. Each node owns several PCIe Gen 4 expansion slots, enabling fastest interconnect and GPU possibility.

Technical specifications

	Compute node BullSequana X440-A5		Service node BullSequana X430-A5	
				
Form Factor	2U4N2S	2U4N1S	2U1N2S	2U1N1S
Dimensions HxWxD, mm	87.5 x 440 x 820 mm	87.5 x 440 x 650 mm	87 x 438 x 730 mm	87.5 x 438 x 660 mm
Processors	Dual socket per node TDP up to 225W	Single socket per node TDP up to 225W	Dual socket	Single socket
	2nd and 3rd Gen AMD EPYC™ processors			
Memory	16x DIMM slots per node	8x DIMM slots per node	32x DIMM slots	16x DIMM slots
	DDR4 3200MHz RDIMM/LRDIMM			
Expansion slots per node	2x PCIe Gen4 x16 1x OCP 2.0 PCIe Gen3 x16	1x PCIe Gen4 x16 1x PCIe Gen3 x16 1x OCP 2.0 PCIe Gen3 x16	2x PCIe Gen4 x16 6x PCIe Gen4 x8 1x OCP 3.0 PCIe Gen4 x16 1x OCP 2.0 PCIe Gen3 x8	3x PCIe Gen4 x16 1x PCIe Gen4 x8 1x PCIe Gen3 x16 or x8 1x OCP 2.0 PCIe Gen3 x16
Network per node	2x 1GbE ports 1x Management port			
Storage	Front: 24x hot-swap 2.5" SATA/SAS/NVMe disk trays Internal: 2x M.2 2280/22110	Front: 24x hot-swap 2.5" SATA/SAS/NVMe disk trays Internal: 2x M.2 2280/22110	Front: 24x hot-swap 2.5" SATA/SAS/NVMe disk trays Rear: 2x hot-swap 2.5" SATA/SAS disk trays Internal: 1x M.2 2280/22110	Front: 24x hot-swap 2.5" SATA/SAS/NVMe disk trays Rear: 2x hot-swap 2.5" SATA/SAS disk trays Internal: 2x M.2 2280
Power Supply	Redundant 3200W/2200W	Redundant 2000W	Redundant 1600W	Redundant 800W
	80+ Platinum			
OS & Cluster Software	Red Hat Enterprise Linux & Atos HPC Software Suites			
Regulatory Compliance	Safety (CE certification) Electromagnetic Compatibility (FCC, CE, ICES-03 certification) Environment (RoHS II & WEEE directives			
Warranty & Services	1 year standard warranty, optional extension			

BullSequana X400–A5 series

Technical specifications

	Acceleration node BullSequana X410 - A5			Visualization node BullSequana X450 - A5
				
Form Factor	2U1N1S 4GPU	2U1N2S 8GPU	2U1N2S 4GPU SXM - ALD	2U1N2S 3GPU
Dimensions HxWxD, mm	87.5 x 438 x 820 mm	87.5 x 448 x 800 mm	87 x 448 x 800 mm	438 x 87 x 730 mm
GPU Accelerator and Graphics	Up to 4x PCIe GPU	Up to 8x PCIe GPU	SXM: NVIDIA HGX 4xA100 80GB with NVlink ALD: AMD 4xMI250 128GB	Up to 3x GPU/FPGA NVIDIA A100, A30, A40, RTXA5000/A6000, NVIDIA A2, AMD Radeon MI50, Xilinx Alveo U280, AMD MI210
	NVIDIA A100, A40, A30, RTXA5000/A6000, AMD Radeon MI50, AMD MI210			
Processors	Single socket	Dual socket, TDP up to 225W	Dual socket, TDP up to 280W	Dual socket, TDP up to 225W
	2nd and 3rd Gen AMD EPYC™ processors			
Memory	8x DIMM slots	16x DIMM slots DDR4 3200MHz RDIMM/LRDIMM		32x DIMM slots
Expansion slots per node	4x PCIe Gen3 x16 for GPU 2x PCIe Gen3 x16/x8 1x OCP 2.0 PCIe Gen3 x16	4x PCIe Gen4 x16 for GPU 2x PCIe Gen4 x16	2x PCIe Gen4x16 4x PCIe Gen4x16 with GPU Direct 1x OCP 3.0 PCIe Gen 4x16	3x PCIe Gen4 x16 for GPU 2x PCIe Gen4 x16 1x OCP 3.0 PCIe Gen4 x16 1x OCP 2.0 PCIe Gen3 x8
Network per node	2x 1GbE port 1x Management port	2x 10GbE ports 1x Management port	2x 1GbE port 1x Management port	2x 1GbE port 1x Management port
Storage	Front: 4x hot-swap 3.5"/2.5" SATA disk trays Rear: 2x hot-swap 2.5" SATA/SAS/NVMe disk trays Internal: 1x M.2 2280/22110	Front: 8x hot-swap 2.5" SATA/SAS/NVMe disk trays	Front: 4x Hot-swap 2.5" SATA/SAS/NVMe trays 2x M.2 2260/2280	Front: 12x hot-swap 3.5"/2.5" SATA/SAS disk trays Internal: 1x M.2 2280/22110
Power Supply	Redundant 1600W	Redundant 2200W	Redundant 3200W	Redundant 2000W
	80+ Platinum			
OS & Cluster Software	Red Hat Enterprise Linux & Atos HPC Software Suites			
Regulatory Compliance	Safety (CE certification) Electromagnetic Compatibility (FCC, CE, ICES-03 certification) Environment (RoHS II & WEEE directives)			
Warranty & Services	1 year standard warranty, optional extension			

About Atos

Atos is a global leader in digital transformation with 112,000 employees and annual revenue of c. € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea) and listed on Euronext Paris.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

Find out more about us

Let's start a discussion together

For more information: hpc@atos.net