BullSequana Xstor

A single family of storage appliances

Today Machine Learning and Data Analytics are creating many of the most challenging HPC workloads as we move inexorably towards the exascale era. Atos actively participates in initiatives to strengthen the industrial control of digital simulation and Big Data technologies.

BullSequana Xstor is a new family of modular storage appliances focused on **Performance**, **Modularity**, **Scalability** and **Cost Optimization** to deliver our customers a new range of possibilities.

At Atos we believe that HPC users are just beginning to feel the possibilities of Hybrid Computing. After developing BullSequana XH2000 the first fully hybrid computing solution, we introduce our hybrid storage solution. The goal is to support our customers as a trusted partner, in addition to meeting their specific needs.

Modular storage solution

The BullSequana Xstor family has been designed with modularity in mind: implementation can either focus on **optimized bandwidth** (up to 96 GB/sec per rack) or **storage capacity** (up to 11PB per Rack).
The BullSequana Xstor family is relying on a virtualized architecture implementing the most appropriate storage to match the I/O needs.Depending on your workloads, optimized storage services are implemented in Virtual Machines to best fit your needs for either **Simulation**, **Data Lake** & **AI** or **Data Tiering**.

A new level of Performances

To address the more demanding applications on the market, we design BullSequana Xstor with the higher level of performance, including a high-density storage server which combines 102 3.5" hard disk drives (HDD) with four 2.5" solid state disks (SSD) at 12Gb/s. Among its capabilities, note its possibility to integrate Flash accelerators or application specific accelerators.

Multiple purpose

BullSequana Xstor is designed and optimized for various workflows using different file systems for each use case:

- **Spectrum Scale** is the perfect solution to provide distributed parallel file system performance expected by HPC with resiliency and evolutivity to thousands of compute nodes.
- Using **CEPH**-based Software Defined Storage will handle all your data and push even further your Data Lake & AI applications in an HPC environment.
- An **HPSS** data tiering solution using
- BullSequana Xstor for disk caching is fully optimized for archiving huge data volume for a long time with high level of performance.

Scale as you grow

Aware of the increasing data flow, we address your current and future storage needs with **highly scalable** solutions sharing the same foundation and management tools.

Trusted partner for your **Digital Journey**

Atos

Technical specifications

	Main Enclosure	JBOD Extension
Form Factor	Rack-mounted 2U	Rack-mounted 4U
File System Capacity	4 x SSDs	102 x HDDs
Performance	10+ GB/sec	
File Systems	Spectrum Scale followed by Ceph, BeeGFS ...	
Embedded Servers	2 x Single sockets Intel AMD EPYC servers	
Media	2 M.2 boot drives per server	
Network	Single IB 200GB/s and 1Gb/s Eth Management Port per server	
Security	Zoning through SCSI Enclosure Services	
I/O Ports	Single Port IB 200GB/s per Server	2 internal I/O controllers providing 8 x 12Gb/s SAS-3 ports
Management	1 GbE port for baseboard management controller (BMC) and IPMI 2.0 baseboard management controller	In-band (SES) or out-of-band Intelligent Platform Management Interface (IPMI) enclosure specifications
Power Supply	2x 1600W high-efficiency redundant power supply	2x 1600W high-efficiency, hot swappable power supply
Physical Specifications	3.43in H x 17,2in W x 27,44in D (87mm H x 438mm W x 697mm D)	6.89in H x 17.61in W x 41.25in D (175mm H x 447mm W x 1047mm D)
Ventilation	6x Hot swappable fans module, N+1 Redundant	4x Hot swappable fans module, each containing 2 impeller fans.
Regulatory Compliance	Safety (IEC 62368-1:2014) Electromagnetic Compatibility (FCC, ICES-03, EN61000), Environment (RoHS II & WEEE compliant)	
Warranty & Services	Choice 3 or 5 years of support	

	Console & Management Unit
Form Factor	Rack-mounted 2U Enclosure
Embedded Servers	2 x Single sockets servers
File System Capacity	4xSSDs as High Availability shared storage
Management	Board to Board IPMI 2.0 w/ Fan Speed control; Thermal and voltage monitoring
Power Supply	2x 1600W high-efficiency redundant power supply

CT-201103-SB-B_BULLSEQSINGLEFAM-FC

For more information: hpc@atos.net