

Storage Solutions

A single family of storage appliances



Storage is getting valuable

With the expansion of data-intensive applications, storage has been highlighted as a critical factor in HPC.

Data Management is a key to optimize your entire system's speed and performances.

High Performance Storage enables organizations to take full advantage of highly parallel applications and thus harness the power of super computing.

The data tsunami pushes organizations to redesign their compute and storage solutions to be prepared for future needs. That creates a need for highly scalable and modular solutions to stay competitive.

Introducing BullSequana Xstor



The BullSequana Xstor from Atos is a new range of modular storage appliances designed for HPC current and future needs.

We developed this solution with that new paradigm in mind, focusing on **Performance, Modularity, Scalability and Cost Optimization** to deliver our customers a new range of capabilities.

At Atos we believe that HPC users are just beginning to feel the possibilities of Hybrid Computing. We are only starting to exploit the power of mixed workloads. Following that BullSequana Xstor is one of the first storage systems in the market able to be optimized for **Simulation, Data Lake, AI and Data Tiering** using various file-systems.



High level of Performances

To address the more demanding applications on the market, we design BullSequana Xstor with the highest level of performance, including:

- **High Performance Storage** (Focus on bandwidth optimization up to 80+ GB/sec per Rack, 10+ GB/sec per building block).
- **High Performance Interconnect** with Mellanox Infiniband
- **Highest Density** (integrates 90xHDDs + 4xSSDs + 2 x86 dual-sockets servers in 4U)



Scale as You Grow

Aware of the increasing data flow, we address your future storage needs with a **proven-scalable** solution.

BullSequana Xstor is designed to scale with a **Building block architecture** and **linear performance** increase.

It comes with:

- **Scale-out** capabilities: Match your storage needs with the highly scalable building block architecture.
- **Scale-up** capabilities: Using JBODs extensions.



Modular Architecture

BullSequana Xstor's architecture has been designed with modularity in mind. Using Atos storage expertise, we help our clients to build a dedicated solution.

A BullSequana Xstor architecture can either focus on **optimized bandwidth** (up to 80+ GB/sec per 42U rack) or **storage capacity** (up to 11PB per 42U Rack).

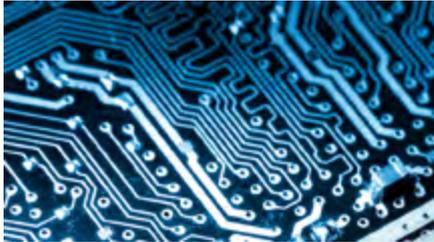
That modularity will also allow future options, such as the possibility to integrate Flash accelerators or application-specific accelerators (HDF5, ...).

Multiple use case relevancy

This storage family matches all customers' needs. We answer the workflows diversification with an optimized solution for Simulation, Data Lake, AI & Data Tiering. BullSequana Xstor integrates dedicated file systems to accelerate your I/O.

It comes with a single centralized management interface to setup, administrate and monitor and a unique hardware for all file systems to protect your investment and reduce your cost of ownership.

Parallel File System



Lustre is the preferred file system for HPC, used by most of the TOP 500 sites. BullSequana Xstor using Lustre is the perfect solution for a parallel file system performance dedicated to performance, resiliency and scalability. It is the best way to scale out using Lustre linear performance increase property. BullSequana Xstor focuses on Bandwidth optimization, in a fully secured, standardized and performing environment. Lustre is highly compatible, without any modification, your intensive I/O application will accelerate using highly parallel file system.

Data Lake & AI



Using CEPH-based Software Defined Storage, handle all your data and push even further your Data Lake & AI applications in an HPC environment. BullSequana Xstor is designed for Data Lake customers who want to take the most of a unified block, file and object distributed storage system. This solution is optimized for Data Lake needs relying on a scalable hybrid storage solution providing both file accesses and Industry standard object storage APIs.

Data Tiering



The actual tremendous amount of data creates needs for high data volume storage solution. Long term archiving is also a key criteria for storage choice. 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. BullSequana Xstor is tuned for data tiering: cheaper than the competition, with high availability and optimized architecture with embedded servers. Atos has a high expertise in HPSS with multiple customers projects that include value added softwares (Bull Director for HPSS, Smart Migration tool, PlayFare).

Technical Presentation & Benefits

Introducing BullSequana Xstor



Main Enclosure

- 90xHDDs + 4xSSDs + 2 dual-socket x86 servers)
- 10+ GB/sec per 90 disks building block
- High Performance InfiniBand network

JBOD Extension

- 102 x HDDs
- 2 x IO Modules
- 8 x 12 GB/s SAS

BullSequana Xstor Technical Benefits

Appliance - Design for Plug & Play

- Pre-Tested: Reduce drastically the early technical problems rate
- Pre-Installed: Fastest Deployment: Easy to configure & Deploy

High Availability

- Fully Redundant Multi Path

Data Protection

- RAID6

Single Monitoring Tool

- Setup & Administration Tools
- Monitoring Tools

About Atos

Atos is a global leader in digital transformation with over 110,000 employees in 73 countries and annual revenue of over € 11 billion.

European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data, Business Applications and Digital Workplace solutions. The group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Syntel, and Unify. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information technology space. Its expertise and services support the development of knowledge, education as well as multicultural and pluralistic approaches to research that contribute to scientific and technological excellence. Across the world, the group enables its customers, employees and collaborators, and members of societies at large to live, work and develop sustainably and confidently in the information technology space.

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Let's start a discussion together

