



SANGFOR



# **Sangfor aStor**

## **All-Flash Unified Storage**



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## Introduction



### The Foundation for the AI & Cloud-Native Era

In the age of Artificial Intelligence and cloud-native applications, data is no longer static; it is the lifeblood of innovation. However, traditional storage architectures often create "data silos," limiting accessibility and performance.



Sangfor introduces the **aStor EDS All-Flash Unified Storage**, a next-generation Software-Defined Storage (SDS) 3.0 platform. Designed to eliminate data silos, Sangfor aStor all flash EDS provides a unified infrastructure for block and file storage. By combining advanced NVMe hardware with a highly optimized software stack, it delivers the extreme performance required for AI training, High-Performance Computing (HPC), and mission-critical databases, while maintaining the agility and cost-efficiency of software-defined architecture.

Whether you are running complex AI models, managing massive healthcare datasets, or rendering 8K video, Sangfor aStor all flash EDS ensures your data is always available, secure, and ready to drive value.

## Architecture Overview

### Hardware-Software Synergy: Built for Speed and Scalability



Sangfor aStor all flash EDS adopts a "Start Small, Scale Big" architecture, allowing enterprises to begin with a minimal 2-node (in a single 2U chassis) footprint and scale capacity and performance linearly as business needs grow.

### Core Architectural Highlights



**SDS 3.0 Architecture:** A fully distributed, shared-nothing architecture that decouples storage from specific hardware dependencies while optimizing for the latest hardware capabilities (Intel Xeon Gen 5, DDR5, PCIe 5.0).



**Protocol Convergence:** Native support for **Block (iSCSI/NVMe-oF)** and **File (NFS/CIFS/FTP)** protocols on a single platform, eliminating the need for separate storage silos.



## Core Architectural Highlights



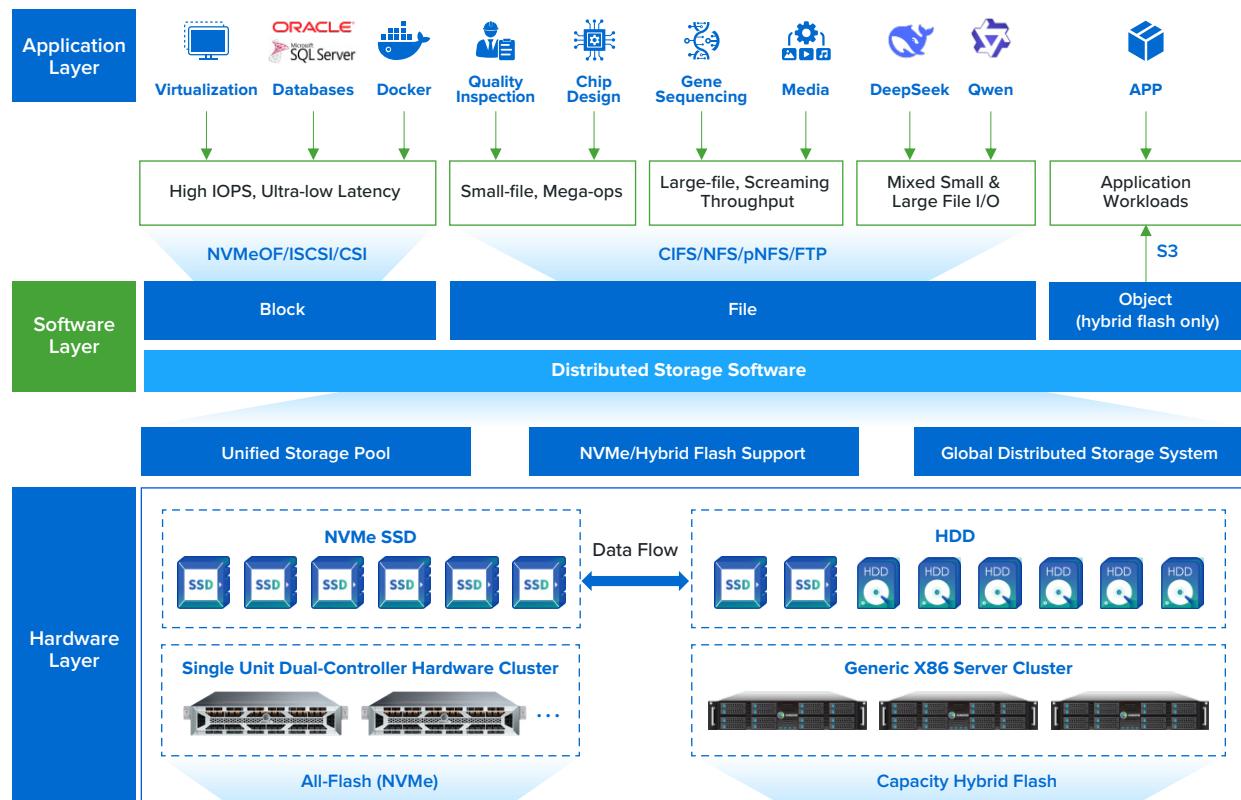
**Phoenix InFlash Intelligent I/O:** A proprietary I/O scheduling engine that adapts to mixed workloads. It intelligently aggregates small random writes into large sequential stripes (Log-Structured Write) to extend SSD lifespan and boost performance, while allowing large I/O to pass through directly for maximum throughput.



**End-to-End NVMe Strategy:** From the network interface (NVMe over RoCE v2) to the storage media, the data path is optimized to reduce protocol overhead, delivering ultra-low latency.



**Disaggregated Architecture:** The system logically separates compute and storage resources within the cluster, utilizing RDMA for high-speed internal communication, ensuring that storage bottlenecks never hinder application performance.





## Advanced Features & Value Propositions

1

### Extreme Performance



#### 100µs Ultra-Low Latency

By stripping away legacy SAS protocols and utilizing a streamlined NVMe stack, Sangfor aStor all flash EDS achieves end-to-end latency as low as 100µs, ideal for latency-sensitive databases and virtualization.



#### 120 GB/s Single Node Throughput

Optimized for bandwidth-hungry applications, a single node delivers up to 120 GB/s, enabling the cluster to reach TB-level aggregate throughput.



#### AI-Driven Optimization

The system utilizes RDMA high-speed channels and GDS (GPUDirect Storage) support to feed GPU clusters efficiently, ensuring user's AI training is never starved for data.

2

### Enhanced Security & Reliability

#### AI-Powered Ransomware Protection



Built-in AI engines establish baseline models of file metadata. If abnormal encryption behavior is detected, the system automatically blocks the threat and triggers a "Safe Snapshot" for instant recovery.

#### SDPC (Software Defined Persistent Cache)



An industry-first innovation that eliminates the need for physical battery backup units (BBUs). It ensures data integrity during power failures by flushing cache data directly to persistent memory regions on NVMe drives.





**99.9999% Reliability**

Built with enterprise-grade stability, offering 6-nines availability through multi-copy mirroring and advanced Erasure Coding (EC).



**Comprehensive Data Protection**

Features include WORM (Write Once, Read Many), Recycle Bin, and immutable snapshots to prevent accidental deletion or malicious tampering.

### 3

### Ease of Use & Efficiency



#### Global Namespace & Tiering

Manage Flash and HDD (if hybrid) or different Flash tiers (TLC/QLC) under a single namespace. The system automatically moves hot data to high-performance tiers and cold data to cost-effective tiers or cloud storage without disrupting applications.



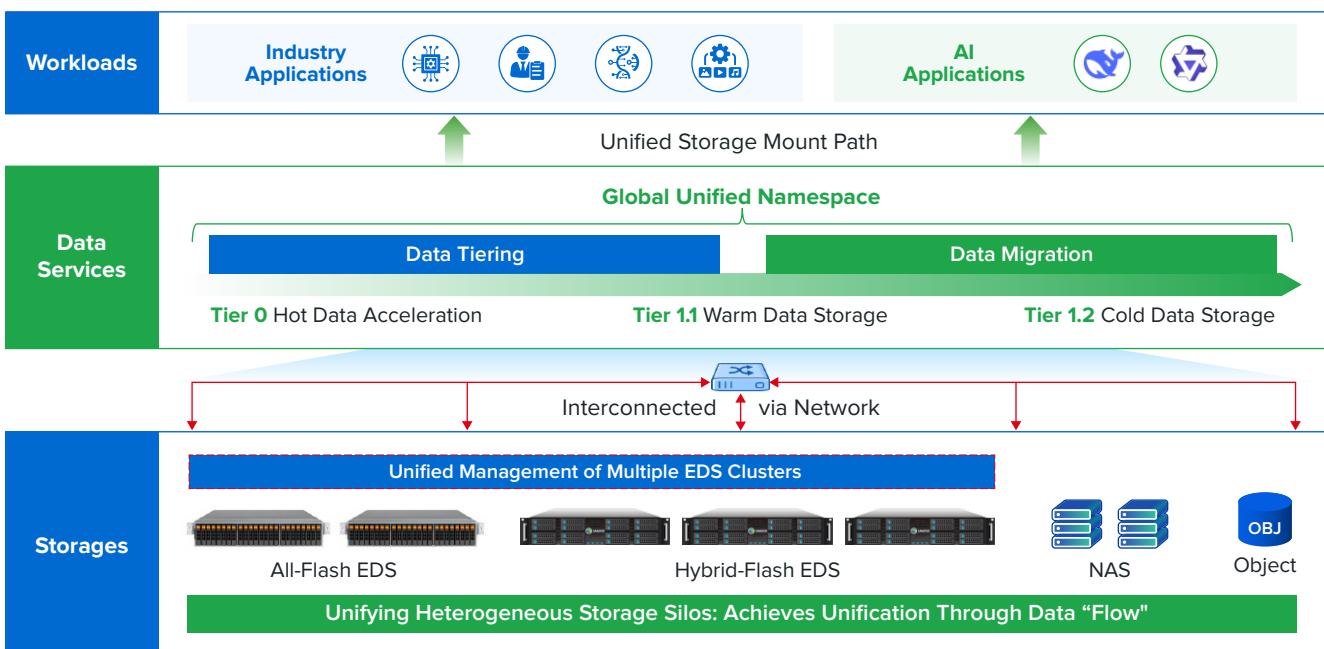
#### High-Density Efficiency

Supports advanced data reduction (compression) with savings up to 88% for text/log data.



#### QLC Optimization

Our "Append-Only" write technology overcomes the endurance limitations of QLC SSDs, allowing you to enjoy the cost benefits of high-density flash without compromising lifespan or reliability.





## Key Use Cases

### Hardware-Software Synergy: Built for Speed and Scalability

#### Challenge



Hospitals generate massive amounts of small files (reports) and large files (CT/MRI images) that require long-term retention and instant retrieval.

#### Solution



Sangfor aStor all flash EDS provides high concurrent access for doctors to retrieve images instantly (low latency) while offering massive scalability for archiving historical data using cost-effective QLC models.

### AI Training & HPC

#### Challenge



AI Model training requires massive bandwidth to keep GPUs utilized; checkpointing requires high write bursts.

#### Solution



With support for NFS over RDMA and parallel file systems, Sangfor aStor all flash EDS delivers the throughput needed for datasets in autonomous driving, LLM training, and genomics.

### Geospatial & Satellite Imaging

#### Challenge



Processing aerial photography and satellite remote sensing data involves handling billions of small files and massive aggregate throughput.

#### Solution



The metadata management engine handles billions of file lookups efficiently, accelerating mapping rendering and data analysis for government and research agencies.





## Media &amp; Entertainment (3D Rendering/Animation)

**Challenge**

 4K/8K video editing and rendering farms require consistent high bandwidth and shared access across workstations.

**Solution**

 Sangfor aStor all flash EDS allows non-linear editing workstations to collaborate on the same footage simultaneously without dropped frames, significantly shortening post-production cycles.

## High-Tech Manufacturing: EDA (Electronic Design Automation)

**Challenge**

 IC design and verification workflows create intense mixed I/O—billions of small files (logs, netlists, scratch), large checkpoint images, and heavy parallel reads/writes across P&R, simulation, and formal verification. Teams need low-latency shared workspaces, fast clone/snapshot cycles, and predictable performance for long-running jobs.

**Solution**

 Sangfor aStor all flash EDS delivers **high IOPS small-file performance** with **scale-out all-flash** and **NFS over RDMA**, sustaining parallel EDA jobs without contention. **Metadata acceleration** and **instant snapshots/clones** speed up checkpointing and branch experiments, while **directory-level quotas & QoS** help isolate projects and maintain consistent performance across shared scratch spaces.

## Product Family: The All-Flash Series

**Extreme Performance Series (TLC NVMe)**

Designed for mission-critical databases and high-intensity I/O.

 aStor-EDS-F6000T

 aStor-EDS-F3000T

**Balanced Performance Series (QLC NVMe)**

Optimized for massive data capacity and read-intensive workloads.

 aStor-EDS-F6000Q

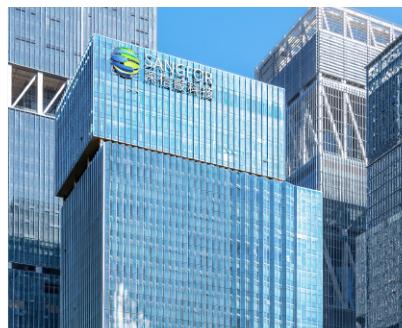
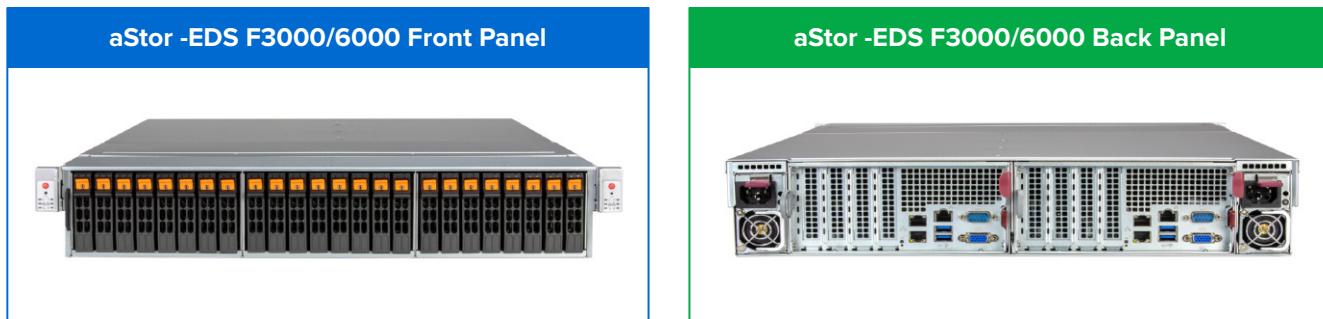
 aStor-EDS-F3000Q





## Technical Highlights

Hardware	Network	Advanced Compression	Architecture
			
Intel Xeon 5th Gen CPUs, DDR5 Memory, PCIe 5.0 Bus.	100G/200G RDMA/IB network support for low-latency interconnects.	Supports intelligent data compression to reduce data footprint (e.g., 74% reduction for logs, 60% for medical images).	2U Integrated Disk-Controller Nodes, minimizing rack space and power consumption.



### Ready to accelerate your business?

Contact Sangfor Technologies today to learn how Sangfor aStor All-Flash Unified Storage can transform your data infrastructure.

[www.sangfor.com](http://www.sangfor.com)



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## AVAILABLE SOLUTIONS

### Athena SWG - Secure Web Gateway

Secure User Internet Access Behaviour

### Athena NGFW - Next Generation Firewall

Smarter AI-Powered Perimeter Defence

### Athena EPP - Endpoint Protection Platform

The Future of Endpoint Security

### Athena NDR - Network Detection and Response

Smart Efficient Detection and Response

### Athena XDR - Extended Detection and Response

Revolutionize Your Cyber Defense with Intelligent XDR

### Athena MDR - Managed Threat Detection & Response Service

Faster Response Through Human/AI Collaboration

### Athena SASE - Secure Access Service Edge

Simple Security for Branches & Remote Users

### TIARA - Threat Identification, Analysis and Risk Assessment

Smart Threat Analysis and Assessment

### IR - Incident Response

Sangfor Incident Response – One Call Away

### HCI - Hyper-Converged Infrastructure

Fully Converge Your Data Center

### VDI - aDesk Virtual Desktop Infrastructure

Seamless Experience, Secure and Efficient

### VMware Alternative

The Ideal Platform to Streamline Your off-VMware Journey

### EDS - Enterprise Distributed Storage

The Only Secured Data Storage You Need

### SD-WAN

Boost Your Branch with Sangfor

### MCS - Managed Cloud Services

Your Exclusive Digital Infrastructure



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