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Executive Guide

From Stored Data to Trusted AI

How a modern storage foundation from HPE and Intel can make information more accessible, resilient, and ready for intelligent workloads.

For years, storage was judged and purchased based primarily on cost, capacity, and reliability. In the AI era, however, storage has become a key pillar in the success of AI initiatives. To deliver real business value and move beyond the pilot stage, models and agents require data they can reach, trust, and use in real time. This guide explains why storage expectations are shifting and how Logicalis, HPE, and Intel can organizations build a modern storage foundation and move from "stored data" to trusted, future-ready AI.

Toward a New Definition of Storage

AI and modern data-intensive workloads depend heavily on both structured data, as well as unstructured data such as documents, images, logs, and recordings. New techniques such as retrieval-augmented generation (RAG) also require continuous access to current enterprise data rather than occasional batch extracts. Yet because traditional storage was designed for capacity and reliability rather than speed and accessibility, it often fails to keep pace with the demands of AI workloads.

Other pressures add to the challenge:

- Data sovereignty rules shape where data can live
- Cyberattacks increasingly target backup and recovery systems
- Rising capacity and energy costs strain budgets
- Legacy systems often cannot meet the throughput AI requires

To compound these challenges, many organizations spread data across arrays, file servers, backup systems, cloud services, and other storage devices. These silos make it difficult to know what data exists, who can access it, and whether it is reliable enough to feed an AI model.

Many organizations recognize these demands but are struggling to keep pace, as research from Logicalis and HPE have confirmed.

2/3

of CIOs don’t believe they can scale AI beyond initial deployments

76%

of enterprises say their current data management capabilities cannot keep up with business demands

-Logicalis, HPE

To meet the challenges of AI and other modern workloads, organizations must rethink their storage strategy and look past capacity and reliability.



Four Pillars of AI-Ready Storage

Closing the gap between stored data and trusted AI starts with storage designed for how AI uses information. Key capabilities of a trusted, AI-ready storage foundation include:

- Unified access that lets AI tools find and use file and object data wherever it lives
- Processing close to the data to reduce the time and cost of moving large datasets
- Scale-out flexibility that allows capacity and performance to grow independently
- Trust that is built in from the hardware up, to ensure AI data is protected, governed, and recoverable

When evaluating solutions, IT leaders should look for energy-efficient, high-density hardware that keeps cost per gigabyte predictable, along with compatibility with the software-defined storage tools they already use. A cloud-like operating experience is equally important, because it simplifies management across increasingly complex hybrid environments and frees busy IT teams to focus on higher-value work.

Building a Storage Foundation with

HPE Alletra Storage Servers 4000 and HPE ProLiant Compute Gen12

HPE and Intel bring decades of enterprise infrastructure leadership to help organizations build AI-ready storage. Built on Intel® Xeon® processors, the HPE Alletra Storage Servers 4000 lineup is designed for storage-intensive applications, with a balanced architecture that delivers high data capacity, throughput, and processing power. The servers secure data and infrastructure with features such as silicon root of trust, Secure Boot, iLO 6 firmware protection, and self-encrypting drives, among others. A cloud experience lets teams manage storage servers globally from a single location or consume them as a service, so staff can focus on applications instead of infrastructure.

HPE Alletra Storage Servers 4000

HPE Alletra Storage Server 4210

Workloads AI data stores, real-time analytics, NoSQL databases, and software-defined storage

The Alletra Storage Server 4210 delivers all-flash NVMe performance in a 1U form factor, with dual Intel Xeon 6 processors totaling up to 288 cores. Up to 20 PCIe Gen5 EDSFF SSDs provide up to 315 GB/s of bandwidth, and up to 4 TB of DDR5 memory runs at 6400 MT/s. Support for up to three GPU or FPGA accelerators allows data processing to happen directly on the storage server.

HPE Alletra Storage Server 4120

Workloads Analytics data lakes, file and object software-defined storage, active archives, and data protection

The Alletra Storage Server 4120 is a 2U hybrid NVMe server that balances performance and economic capacity. It supports up to 24 large or 48 small drives in the front, with optional rear drive bays, and runs on one or two 4th or 5th Gen Intel Xeon Scalable processors. As the successor to the HPE Apollo 4200 Gen10, it supports the broadest range of data storage-intensive workloads.

HPE Alletra Storage Server 4140

Workloads Archive, backup, and data lakes

The Alletra Storage Server 4140 is a 4U high-density server built for bulk capacity with high throughput. It supports up to 68 large drives, or up to 92 in an extended-depth chassis, plus up to eight PCIe Gen5 NVMe SSDs for cache and metadata. Dual 4th or 5th Gen Intel Xeon Scalable processors and up to 1.5 TB of DDR5 memory power large-capacity workloads.

HPE ProLiant Compute Gen12

The HPE ProLiant Compute DL340e Gen12 marks the next generation of the HPE Alletra Storage Server 4000 family, bringing HPE's storage server lineup into the ProLiant Gen12 portfolio. Built as an enhanced storage server, it runs on Intel® Xeon® 6 processors and balances performance with security, flexibility, and a cloud-like operational experience.

HPE ProLiant Compute DL340e Gen12

Workloads AI and analytics data lakes, software-defined file and object storage, data protection, and archive

The DL340e Gen12 is a storage-optimized 2U server and the next generation of the HPE Alletra Storage Server 4000 family. It holds up to 24 large drives in the front and up to 10 EDSFF drives in the rear, and runs on a single Intel Xeon 6 processor with up to 144 cores. Up to 2 TB of DDR5 memory and HPE iLO 7 support data-intensive workloads at a lower cost per gigabyte.

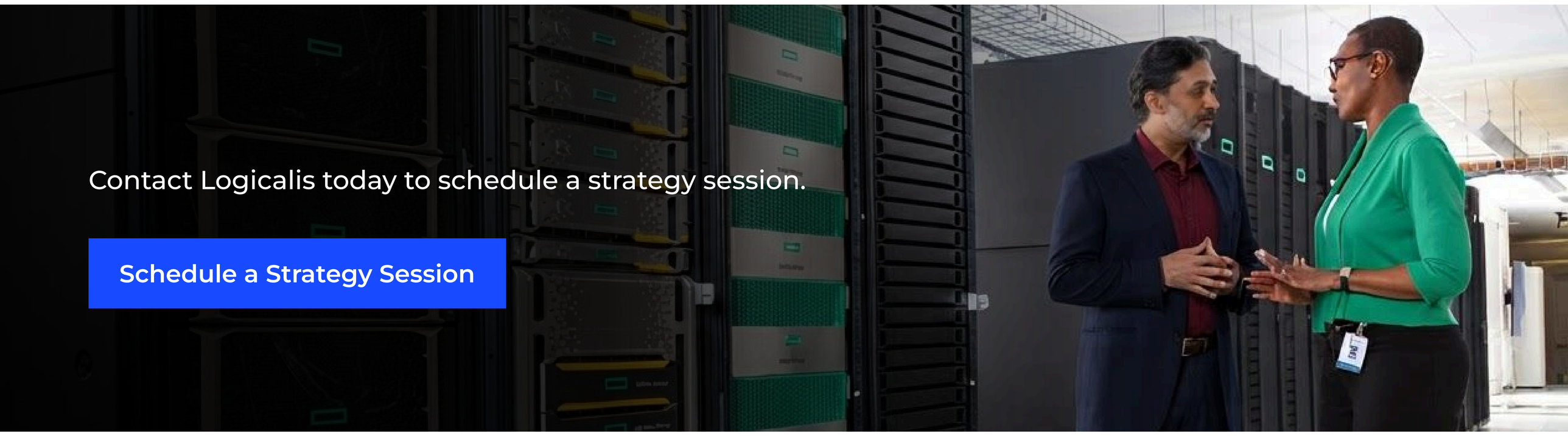


Build a Trusted Data Foundation

with Logicalis, HPE, and Intel

AI value depends on having fast access to secure, usable data. Organizations that modernize their data foundation now will be better positioned to scale AI in the years to come.

Many CIOs already plan to rely on managed service providers to navigate AI governance, scaling, and sustainability over the next few years. Logicalis supports clients at every stage of that journey through professional and managed services. From assessment and design to deployment and ongoing optimization, our teams help organizations build and maintain an AI-ready storage foundation on HPE and Intel.



Why Logicalis?

- 7,000+ professionals, 10,000+ clients, 30 territories
- HPE Platinum Partner for 30+ years
- CRN MSP 500, 2025
- Lifecycle services across cloud, connectivity, collaboration, and security

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