

### SAVE Reduce backup costs

Embrace the economics of commodity server hardware and the simplicity of software-defined storage to lower the cost of storing and managing backup data. Reduce backup storage costs by 60% or more.



### SPEED Protect more data, faster

Scale performance and capacity independently to deliver high-speed ingest rates that shorten backup windows while simplifying capacity expansion by adding additional nodes as needed. Inline global deduplication and compression reduce data footprint up to 90% or more.



### REPLICATION Store across sites & clouds

Store data securely on and offsite with built-in multi-site replication for disaster recovery. Create one to six copies of data across any number of active data centers and public clouds – all managed as a single logical backup storage cluster.

# The Future of Storage: A Universal Data Plane

## *Making multi-cloud and cross-cloud data a reality*

Enterprises are journeying to the public cloud. Containers and orchestration technologies help make applications portable among private and public clouds, but no such data portability exists. A new, distributed approach is needed to store, manage, and protect data across this hybrid landscape. Using a modern, hyperscale architecture, Hedvig software-defined storage has solved this problem. We call it a Universal Data Plane.

## Digital business demands a new approach

Transportation and hospitality have been disrupted by the sharing economy, fueled by social and mobile technologies. Cities have become “smart,” connected by the Internet of Things and cloud computing. Consumer packaged good companies are launching new products and services, using big data and analytics to mine customer information. No matter where you look, digital transformation – defined as the profound and accelerating transformation of business activities, processes, competencies and models to fully leverage digital technologies – is at the forefront of business agendas to meet the availability and data locality requirements of your business agendas.

All but the smallest businesses will need to roll out new digital services incorporating existing infrastructure, applications, and data. In fact, 451 Research found that 83% of organizations still rely on their own data center or onsite IT. That means today’s CIOs need a hybrid strategy that balances digital services across both private and public cloud infrastructure. Advances in containers and orchestration makes application portability among clouds a reality. But what about data portability? Companies will struggle with how to store, manage, and protect the growing volume of data that digital businesses generate. Traditional storage infrastructures are a bottleneck. These rigid, costly solutions are an impediment to digital progress.

## Traditional storage is an impediment

Enterprises embracing digital transformation struggle with storage that is too:

- › Expensive: Most storage infrastructure is deployed in discrete tiers, with each tier designed to accommodate specific performance and availability requirements. This tiered approach leads to excessive capital and operational expenses associated with disparate storage platforms. It also leads to complex replication, backup, and gateway technologies needed to interconnect and protect data among tiers.



**MULTI-WORKLOAD**  
*Support any application, any OS*

Traditional storage creates islands of SAN, NAS, and object storage to support different applications and OSes. The Universal Data Plane eliminates these disparate platforms.



**MULTI-CLOUD**  
*Spans private and public clouds*

Traditional storage doesn't natively support public clouds. The Universal Data Plane spins up in any cloud, making a single data layer that replicates among private, public sites.



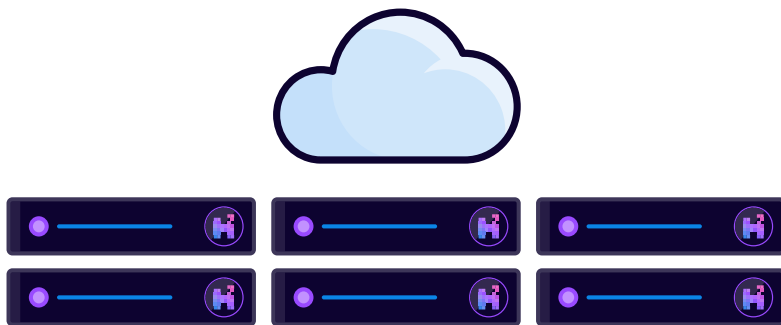
**MULTI-TIER**  
*Collapses traditional storage tiers*

Traditional storage platforms are designed for discrete tiers. The Universal Data Plane exposes tiering policies and runs on different classes of hardware, eliminating discrete tiers.

- > Inflexible: Organizations are looking at modern, distributed workloads like Hadoop, Spark, and Cassandra to power digital business services. New virtualization, container, and orchestration technologies are needed to support these workloads. Traditional storage doesn't integrate well with these systems and often takes days or weeks to provision capacity in these environments.
- > Unscalable: Enterprises look to public clouds to offset costs, scale services, and provide better availability than they can in their own private data centers. But traditional storage does not easily support data movement to public clouds. Replication and gateway technologies help, but are complex, static, and don't support the ability to move data and workloads among data centers and clouds.

The case for a Universal Data Plane

What if you could overcome these limitations? What if there was a single solution that managed data across any tier, any workload, and any cloud? We believe software-defined storage has evolved to provide such a platform. We call it the Universal Data Plane.



The Universal Data Plane overcomes the rigidity and economics of traditional storage. It provides a single, programmable data management layer that spans across workloads, clouds, and tiers. It replaces the need for disparate SAN, NAS, object, cloud, backup, replication, and data protection gear. As true software-defined storage, it can be run on commodity servers in private clouds and as instances in a public clouds. It's a virtualized abstraction layer that enables any workload to store and protect its data across any location. It also dramatically simplifies operations by plugging into modern orchestration and automation frameworks like Docker, Kubernetes, Mesos, Microsoft, OpenStack and VMware.



## ADVANCED STORAGE FEATURES

*“The journey to total digital transformation makes the public cloud attractive and, to some extent, inevitable. I believe on-premise data centers will eventually be eliminated. But today, many organizations still rely on their own data center or onsite IT and a simple way for organizations to embrace the public cloud as an extension of their data center does not exist. We believe traditional storage is the impediment.”*

- Avinash Lakshman,  
Founder & CEO Hedvig

*“The Hedvig Distributed Storage Platform now underpins our entire software-defined datacenter initiative and we have it deployed in development across four data centers in Europe to help with rapid prototyping in our digital platform. We’re excited about Hedvig’s vision for the Universal Data Plane and it aligns with BNP Paribas CIB’s global platform strategy.”*

- Emmanuel Salzard,  
Director of IV2 Digital Platform  
BNP Paribas CIB



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With a Universal Data Plane, enterprises can support digital transformation by creating services and deploying applications across any site. These services and applications are truly stateless, with the Universal Data Plane providing data locality and availability guarantees. Digital strategies like cloud arbitrage and reverse auctioning become possible. Looking to avoid cloud lock-in? Move your workloads seamlessly among public clouds. Need to eliminate downtime? Protect applications and data among a global footprint of private and public cloud sites. Following the sun or competing globally? Automatically move applications and services anywhere globally based on business policies. And all this without incurring the penalty of moving terabytes or petabytes of data among cloud providers.

## Attributes needed in software-defined storage

To deploy a Universal Data Plane, enterprises need four capabilities:

- › A scale-out, software architecture: Scale-up architectures don’t provide the flexibility that digital services require. Instead, a scale-out architecture, coupled with a software-defined approach, provides the elasticity to grow data services in lock step with changing business requirements.
- › Native, multi-site replication: Modern systems can’t have single points of failure. Nor can they support complex, bolted-on replication to improve availability. A critical element of the Universal Data Plane is the ability to natively replicate data among sites to ensure locality and availability.
- › Full automation and orchestration support: Enterprises can no longer suffer the human latency of manually provisioning capacity. New orchestration tools have emerged that create composable infrastructure and storage needs a full suite of APIs to integrate natively into these frameworks.
- › Application-specific data services: Not all digital services are created the same. Each service and application has its own unique data requirements. Modern storage provides the flexibility to give each application a unique policy, which can be augmented automatically as business needs change.

The Hedvig Distributed Storage Platform is the only software-defined storage solution built with these capabilities. It was designed from the beginning as a modern, distributed storage platform that can run on any commodity server or in any public cloud.

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### ABOUT HEDVIG

Built by software engineers of the world’s largest distributed systems, Hedvig delivers modern storage for enterprise compute environments running at any scale. Customers such as LKAB, Scania, and GE use the Hedvig platform to transform their storage into a fundamental enabler of digital business strategies.

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