e-Book

Effective Data Storage Methods in a Hybrid IT Environment

zadara

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Introduction

In an era of exponential data growth, and an ever-growing demand for higher Service Level Agreements (SLAs), storage and storage management is a pressing issue throughout the industry. Storage costs are outpacing the cost of the rest of IT resources in enterprise environments.

The traditional approach to purchasing storage is increasingly failing and not meeting demands of budget nor flexibility. Customers are locked into expensive CapEx cycles and rigid architectures that require over-provisioning and complex management.

New Software-Defined Storage (SDS) architectures and as-a-Service models are enabling a great shift to OpEx spending models. Enterprise Storage as a Service enables organizations to take advantage of pay-as-you go, flexible storage to meet changing business and application needs, without compromising on performance or security and at lower costs – both on premises and in the cloud.

Storage Challenges in The Enterprise Sector

Historically, more data generated means more storage needs, and ultimately more headaches. Enterprises are contending with the challenges of scaling capacity, performance and management while pressured to operate at greater cost efficiencies than ever before.

1. CapEx

First of all, buying storage requires a huge, 6-digit budget. Purchasing storage is a very CapEx intensive proposition that requires budgeting, long-term planning, research and extensive approval processes.

2. Application and storage silos

Secondly, there is no “one size fits all” approach to storage. Different storage solutions are needed for different use cases. There are different needs for applications requiring block storage vs. file storage, object storage, backup and archive, or disaster recovery. And the list continues ...

There are also different array types that utilize different kinds of drives for different kinds of workloads. Be it HDDs or SSDs, these too come in all different speeds, feeds and flavors.

3. Storage management

Even if enterprises are going down this rocky road (and until the cloud there have not been other options), traditional storage systems are far from being self-sufficient. A team of storage experts is needed to constantly maintain and manage each different system with its different needs and capacities to ensure it’s delivering application SLAs for performance and uptime.

4. Warranty and service costs

What if something goes wrong that the managing team can't solve, or is the responsibility of the manufacturer? Vendors usually don't provide immediate response to warranty claims or urgent repair requests. However, even a four-hour response time can be insufficient for many businesses. Four hours of downtime could have already caused significant damage.

5. Over-provisioning

As storage arrays are traditionally bought in 3-5 year cycles, organizations are faced with 'fortune-telling' style capacity planning and it can be catastrophic to under-provision as it can bring businesses to a halt. Over-provisioning has been the customary way of managing growth. However, it is inefficient because businesses pay upfront for expensive systems that run partially idle for years to come.

6. Interoperability

To add insult to injury, capacity planning has to be done for each and every kind of storage that is needed (block, file, object, archive, backup…). And to make matters even worse, it's quite likely that each of these different systems come from different vendors, adding to the headaches immensely.

The bottom line is that all of these challenges keep IT, and organizations as a whole, from being agile and from being able to support strategic changes, whether on the technology end or the business end.

Zadara provides enterprise storage as a service. Organizations can enjoy all the performance, control and critical data management features they expect from traditional enterprise SAN, NAS and object storage solutions, but they can consume them on-demand in a pay-as-you go model.

Enterprise Storage as-a-Service: A New Storage Model

This new storage operation model enables customers with:

1. 100% OpEx storage

There are absolutely no up-front costs.

2. Pay-as-you-go

Customers are charged only for the storage they consume, even on-premises. That means that even if customers over-provision capacity, they only pay for what they actually use and not for idle capacity.

3. Storage elasticity and flexibility

You can't get it wrong. Zadara was built from the ground to be flexible and elastic. Customers can change drive types, engine types and even grow or shrink capacity and performance – on demand. Anything can be easily modified at any given point in time – with no downtime.

4. Very short commitment

With on-demand pricing, customers commit for just one hour in the cloud, and six months for our on-premise storage.

GILT

Customer Use Case:

Online retailer, Gilt, saved 85% of their storage costs by switching to the Zadara pay-as-you-go, OpEx model.

"We are able to have significantly more capacity with Zadara at a fraction of the cost."

5. Maintenance and support included

Whether you connect to Zadara at a leading provider (such as AWS, Azure and others) or deploy Zadara on premises, our technology and service ensure 100% uptime, supported by SLA's, and we take care of all maintenance and monitoring. Zadara engineers are available 24/7 to provide live support.

6. Immortal storage

The term 'Storage Immortality' originated by John Webster of the Evaluator Group to describe how the Zadara technology eliminates the vicious and costly cycle of enterprise data migration across storage arrays and its impact on storage TCO. Zadara is an immortal system. Not only is it self-healing (our software-defined technology ensures redundancy with automatic failover and re-growth should any component fail), but we also continually and perpetually replace and upgrade all hardware and software components – with neither application downtime nor performance degradation.

CAL POLY

Customer Use Case:

Cal Poly can grow from two to 100s of nodes with no downtime.

"We chose Zadara because they fit our requirements, not the other way around."

7. Periodic price reductions

The cloud is a constantly changing commodity with storage prices seeing periodic price reductions. With Zadara STaaS, whether you deploy your storage in a public cloud, a colocation facility or on-premises, you will experience proactive price reductions regardless of your storage location, including existing capacity (even on-premises).

How Does Zadara On Premises Differ From a Lease?

In the following graph you can see the key differences and advantages of deploying Zadara on your premises vs. a traditional equipment lease:

	Lease	Zadara
Minimum Term	2-5 years	6 Months
Pay only for Consumption	No	Yes
Order only what you need	No	Yes
Small Base Capacity	No	Yes
Easy Expansion	No	Yes
Fully Managed	No	Yes
Proactive Price Reductions	No	Yes
Pennies / GB / Month	No	Yes
Support and Service included	No	Yes

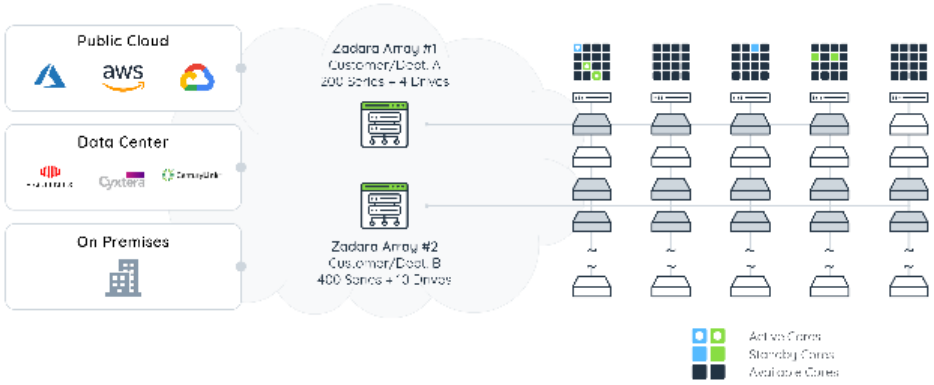
Multi-Tenant Environment, Single Tenant Experience

Zadara is a software-defined storage system that delivers a multi-tenant environment, but unlike other cloud storage solutions, it delivers absolute separation between tenants.

This patented technology can support multiple workloads. Whether it is block storage-based databases running on an all-flash based environment, NFS storage requiring low cost and high capacity SATA drives for archive and backup, or object storage supporting big data, multimedia or backup files — all very different workloads with completely different storage requirements can coexist in a single multi-tenant system; and they can do so without a performance penalty, while keeping data completely private and separated.

Virtual Private Storage Arrays

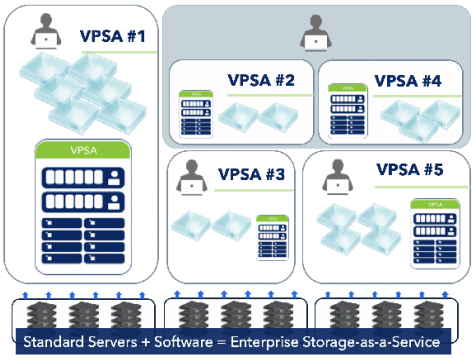
Zadara's Virtual Private Storage Array (VPSA) software-defined storage technology allocates dedicated resources (drives, CPU, networking) to each user, even in public cloud environments. Yet these dedicated resources are assigned from a single Zadara instance – a multi-tenant system. That means customers enjoy robust, enterprise storage powered by private, dedicated resources, yet these resources are elastic. They can grow, shrink and change on the fly.



For example, a customer who opted for a VPSA deployed with HDDs but suddenly needs increased IOPS, can change drive types directly in their administrative panel with the click of a button or simply increase their SSD cache or engine size. Whether adding or subtracting drives, growing or shrinking the caching capabilities, even just for a few hours - customers have full control and flexibility to deploy the type of resources for their changing application demands and only pay for they actually use.

Users can create as many VPSAs as needed (e.g. different VPSAs for different areas or departments within a company). With billing and chargeback built in, companies and/or service providers can easily monitor usage by each tenant/user.

What does a multi-tenant environment that features a single-tenant experience look like?



Remote Management

Zadara operates its clouds at dozens of locations around the globe. We screen and monitor all our cloud hardware and software 24/7, and respond immediately if anything fails, regardless of the domain. As the system was built for remote operation, all elements of the cloud are integrated with a ticketing system that allows our engineers to react if something in the system is not working properly. In most cases our support team will see and fix an issue before a customer is impacted. The system is architected to be self-healing with seamless failover and redundancies at every level.

Data Protection

Virtual private storage arrays data protection features are industry leading and include:

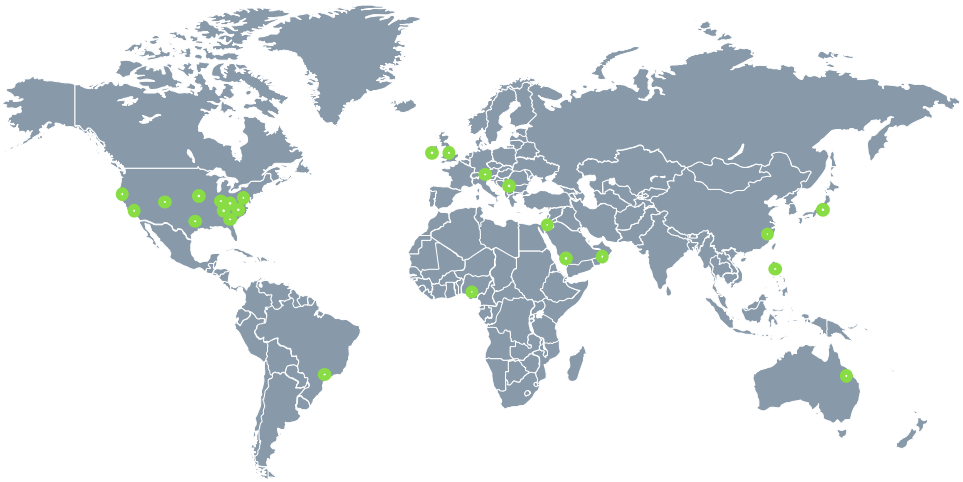
- Snapshots/Clones: live, non-disruptive point-in-time read/write copies
- Mirroring: automatic local (synchronous) or remote (asynchronous) copies
- Online volume migration: live, non-disruptive migration of volumes

The chart below breaks down all of their capabilities:

 Snapshots/Clones	 Mirroring	 Online Volume Migration
Live, non-disruptive point-in-time read/write copies	Automatic local (sync) or remote (async) copies	Live, non-disruptive migration of volumes
- Zero-Capacity - Instantly-Available - Unlimited Number	- Snapshot-based - Bi-Directional - Local/Remote Mirroring	- Change RAID level - Change drive type - Change pool striping
Test/Dev & Rapid Recovery	Enables Disaster Recovery	Rapidly responds to needs
Near-CDP (1 min interval) & read/write capability	1 minute interval	Provides ability to change storage personality
Support for Microsoft VSS. Create clone of snapshot while mirror in process	Maintain different number of snapshots on source vs. destination	Adapt storage to match shifting requirements

Data Mobility: Seamless Hybrid and Multi-Cloud Deployments

The same Zadara data storage solutions that are available at service providers (such as AWS, Azure, etc.) are also deployed in private data centers (on premises). Each customer receives access to a private portal, in which they can configure their Zadara Virtual Private Storage Arrays. Zadara even supports multiple regions for customers running multiple data centers in various regions around the globe. With Zadara available at multiple locations and clouds worldwide, customers can easily and seamlessly replicate between different data centers, into the cloud, across different cloud providers and at various locations.



Conclusion

Whether you are in the cloud, on premises, or a mix of both, you get the exact same experience, regardless of where the data is located. With unmatched flexibility, reliability and support, Zadara is delivering storage for the modern enterprise, enabling organizations and service providers with a storage model that fits their business model and the ability to be truly agile in a competitive, ever-changing market.

Large SSD cache options

Block, file and object storage

Thin provisioned volumes

Large volume sizes

NFS, CIFS (AD), FC, iSCSI, iSER

Multi-zone high-availability

Non-disruptive upgrades

100% RESTful API coverage

Cluster support

At-rest and in-flight data encryption

Awards & Recognition

Transform your business with zero-risk enterprise storage.
Zadara transforms storage-related costs from a variable mix of equipment and management expenses to a predictable, on-demand, pay-per-use, elastic service that greatly simplifies planning, streamlines budgeting, and improves return on investment (ROI). Find out how zero-risk enteprise storage can help transform your business. Call or email today.

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