



Introduction to Zadara

Always Aligned with your Changing World

About Zadara

Leading Provider of Enterprise Storage-as-a-Service

More than 30 Global Service Locations across 5 Continents

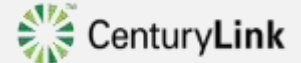


Ranked 81st Fastest Growing Company on Deloitte's 2017 Technology Fast 500™

Deloitte.
Technology Fast 500
NORTH AMERICA

Grew 1,770% between 2013 and 2016

Key Partners:



Selected Customers

Service Providers

dimension data

TOSHIBA
Leading Innovation >>>

NETREPID
Technology. Velocity. Scale.

starcom.
CLOUD AND MORE FROM THE K2 GROUP

kt

BULLETPROOF
MISSION CRITICAL CLOUD

HEADWATERS GROUP

SupraNimbus

orixcom

Equinix

EQUINIX

NTT WEST

FUSEFORWARD

SaaS

Deloitte.

Commerce.

CONTRACTPAL
IT'S ABOUT TIME!

roadnet technologies

Jobvite

think
buying better profits

infor

percy3D.

annalect

B2B Tech

vmware

mojo

brandworkz

Signature
TECHSTUDIO

RIGHT BRAIN
NETWORKS

Barnstorm
Research

arcon
Cloud Managed Network

NTT COMWARE

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

M&E

Time Inc.

dsb
CONSULTING

A&E
NETWORK

The Washington Post

News UK

BASE
MEDIA GROUP

Kodak
alaris

UPrinting
Smart Print Solutions

news.com.au

metrolandmedia
Inspired by your community.

Education



TU/e
Technische Universiteit Eindhoven
University of Technology
Where innovation starts

echo
active learning

Pearson

ELSEVIER

Mc Graw Hill
Education

moonami

SoftChalk
Create. Connect. Inspire.

Other

RWE
The energy to lead

EYEDENTITY
MOBILE

Realty Data
COMPANY

LAWTER

DRI DIGITAL ROOM INC.

GILT

OnePacs
One PACS. One Solution.

SOE
a Soft company

Atlantiscus

GGHC

Connect to or Migrate Among any Zadara Location



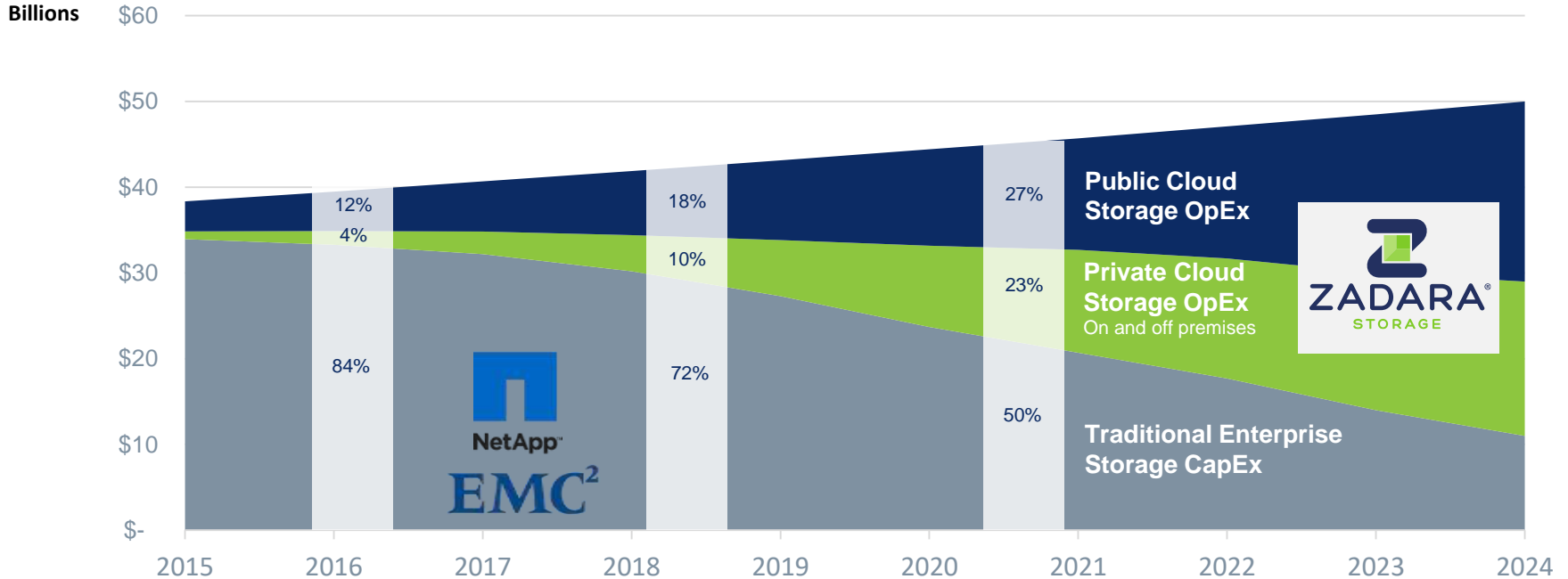
Microsoft Azure



dimension data



Data Center Storage Revenue Forecast



Source: IT Brand Pulse, October 2016

91% of organizations expect at least half of their applications/workloads will still run on-premises in 5 years.

ESG On-Premises Infrastructure is the Key to Hybrid Cloud, June 2017

Technology Needed

Software Defined Storage (SDS)

Eliminate large storage design costs with much quicker turns on new products (Moore's Law)

Storage as-a-Service (STaaS)

Just plug in and it works - Cloud or On-Premises

Multi-Tenancy in a single array architecture

Single tenant experience. Many logins, security with 100% isolation

OpEx rather than CapEx

Subscription model. Consumption based pricing. Zero up-front costs.

Self subscription model

No IT needed

Feature benefits

More features than today's clouds can provide. One size fits all will not work.

SSD vs HDD

SSD Caching layer will keep costs lower using HDD with the R/W performance of SSDs

Plugins

Options for plugins such as Backup, Docker Containers

Problem Statement

My Storage is Not Aligned with My Business Needs

- ✘ I need different storage silos for different use cases
- ✘ I can't afford big capital expenditures (CapEx) investments
- ✘ I need to provide single-tenant experience, while enjoying the economy of scale
- ✘ I need flexible scalability to grow or shrink – on-demand – as my business changes
- ✘ I can't afford to replace storage every few years, and deal with complex migrations

Solution Statement

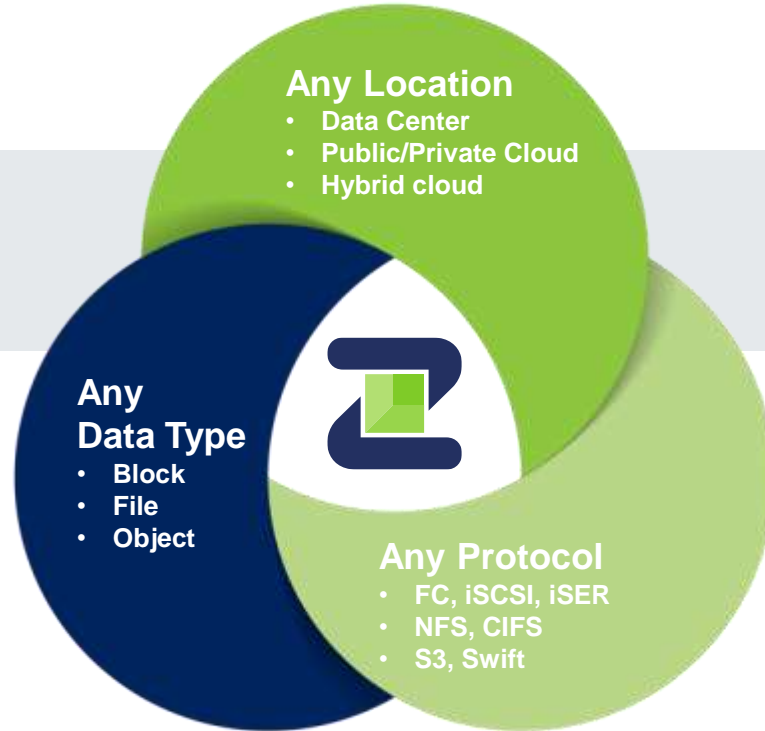
Enterprise-grade, multi-tenant, elastic Storage-as-a-Service

- ✓ Universal storage that serves all business use-cases
- ✓ Pay-per-use OpEx model
- ✓ Complete tenant isolation, privacy, performance consistency and control
- ✓ Elastic and flexible scale-out solution that always fits my needs
- ✓ Immortal storage that lives as long as required

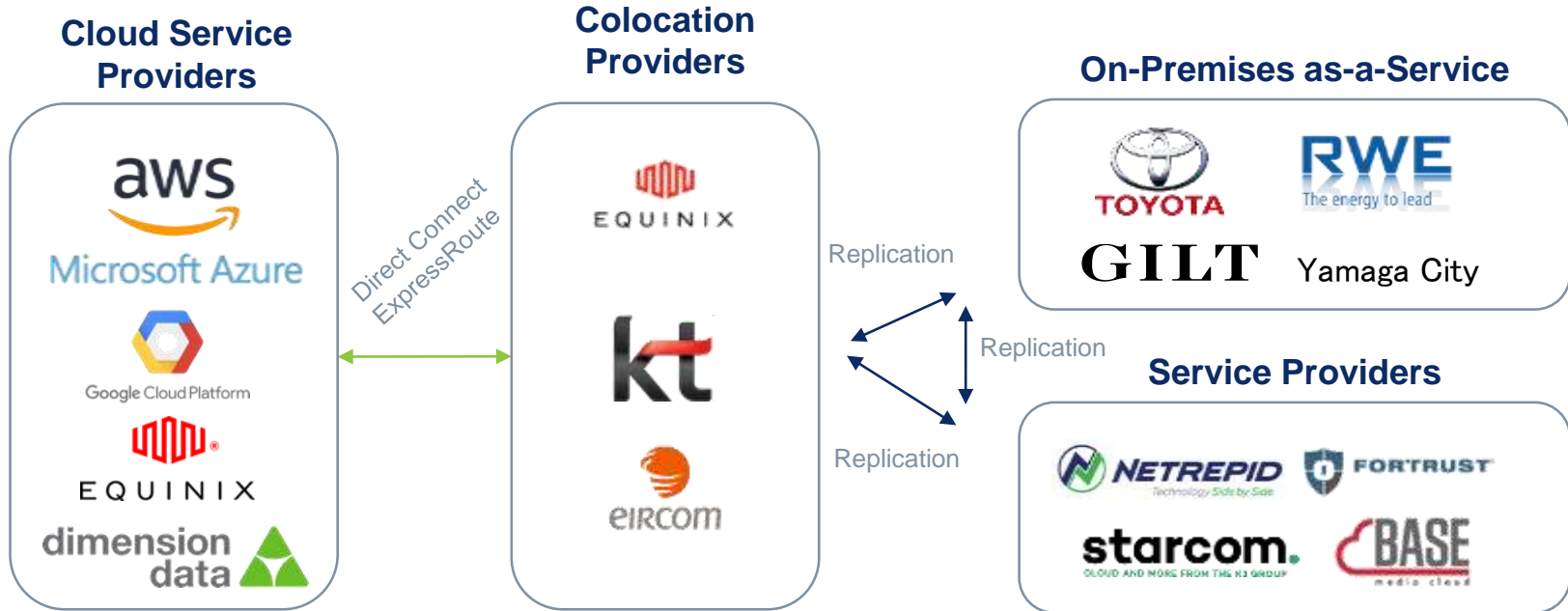
Universal Storage that Evolves with your Business

*One Common
Product*

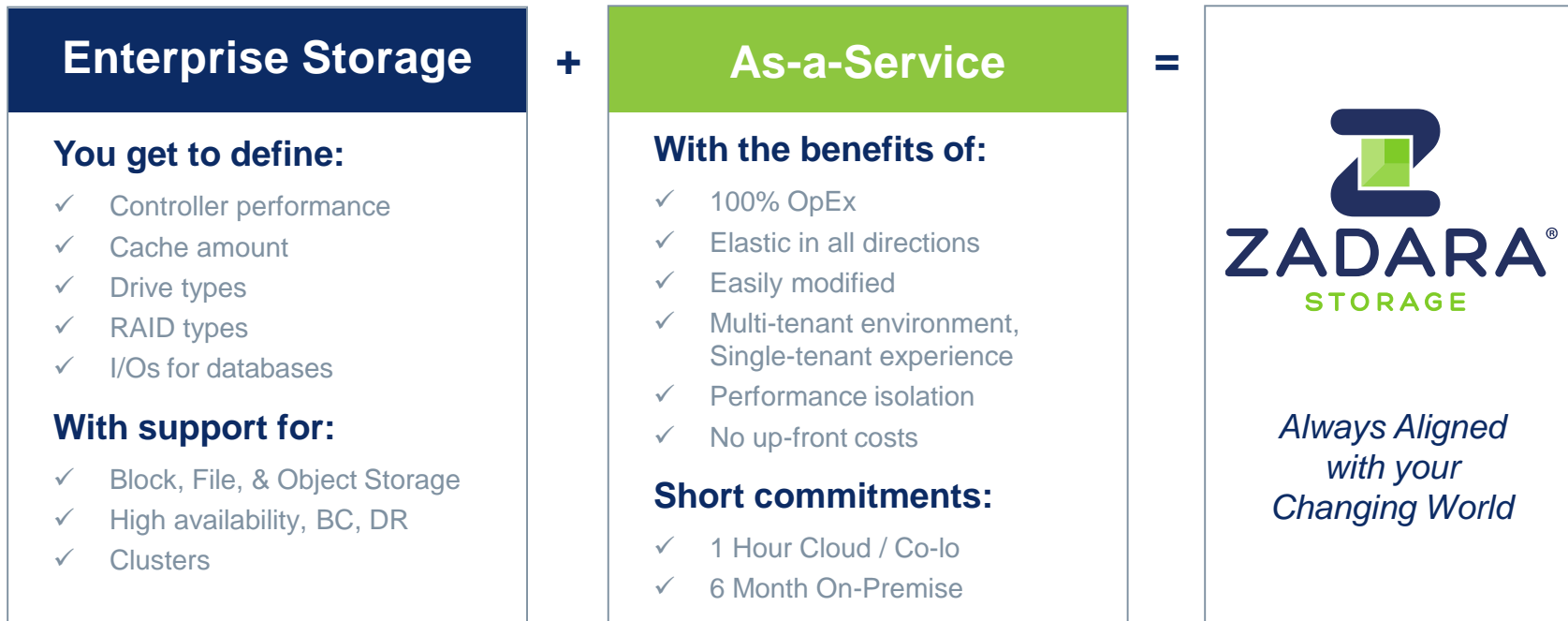
*A Complete
Storage Solution*



Zadara Storage Cloud: Any Location



Enterprise Storage... as-a-Service






VPSA® Storage Array



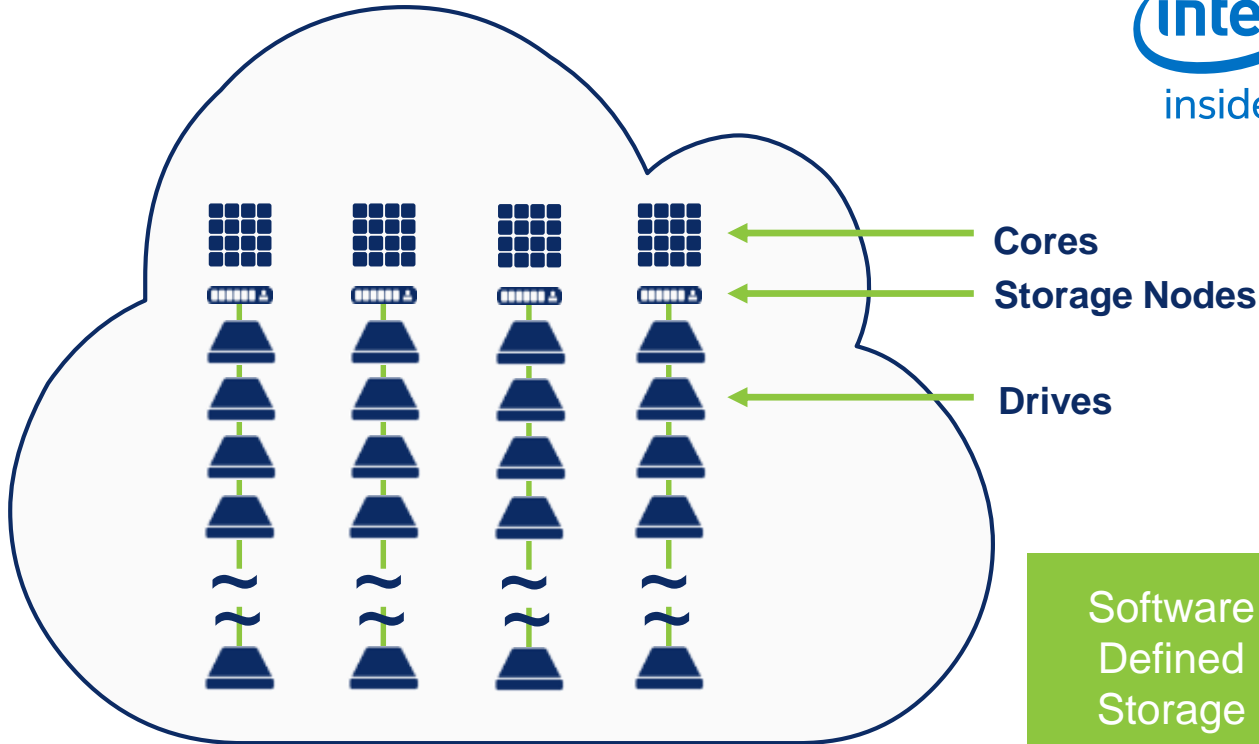
Market-Leading Enterprise Storage Features

-  Block and File Storage
-  NFS, CIFS (Active Directory), Fibre Channel, iSCSI, iSER
-  Large Volume Sizes (200TB)
-  At-Rest and In-flight Data Encryption (user owns keys)
SMB Encrypt
-  Cluster Support
-  Thin Provisioned Volumes
-  Large SSD cache options
-  Non-Disruptive Upgrades
-  100% RESTful API coverage

Market-Leading Data Protection Features

		
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
<ul style="list-style-type: none"> ✓ Zero-Capacity ✓ Instantly-Available ✓ Unlimited Number 	<ul style="list-style-type: none"> ✓ Snapshot-based ✓ Bi-Directional ✓ Local/Remote Mirroring 	<ul style="list-style-type: none"> ✓ Change RAID Level ✓ Change Drive Type ✓ Change Pool Striping
Test/Dev and Rapid Recovery	Enables Disaster Recovery	Rapidly Respond to Needs
Near-CDP (1 minute interval) Read/write capability	1 Minute interval Support for triple-mirroring	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

Zadara Storage Cloud



Award-Winning Data Services, engineered with:

- Patented Zadara Storage Cloud system
- Intel Servers
- Intel/HGST Drives: SSD/SATA
- Dual 10/40GbE Switching

VPSA® Provisioning

Create New VPSA® Storage Array

Name
VPSA# Name

Description
VPSA# Description

Select Cloud Provider

AWS Microsoft Azure Google Cloud Platform

EQUINIX CHESSBYTE ORACLE

orixcom dimension data Objective ventures

Select Region
AWS US East 2 (N. Virginia)

Protection Zone
zone_0

200/Baby

Select your
Public Cloud / Co-lo
Provider

Select your
Dedicated
Drives

Select Region
AWS US East (N. Virginia) 2

Protection Zone
zone_0

Select Zadara IO Engine
200/Baby - 2 CPUs, 4GB RAM (Max. 5 drives) (\$0.49/hr)

Select Zadara Container Services (ZCS) Engine
None

Select Drive Quantities

4	600GB SATA Repository Storage (\$0.20/hr)
0	800GB SSD (\$0.25/hr)
0	600GB SAS 10K RPM (\$0.15/hr)

NEW! Backup to S3-compatible storage (B2S3) included as an optional feature

- \$0.02 per GB protected, per month
- \$0.02 per GB transferred to object storage

Submit Cancel

VPSA ENGINE
200/Baby

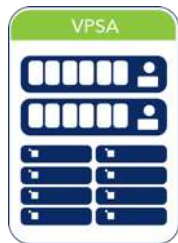
VPSA COST
\$1.29/hr

Per Hour Costs
Calculated
Based on your
Configuration Choices

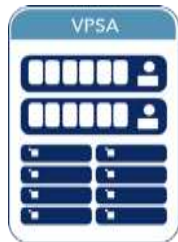
What does my VPSA look like?



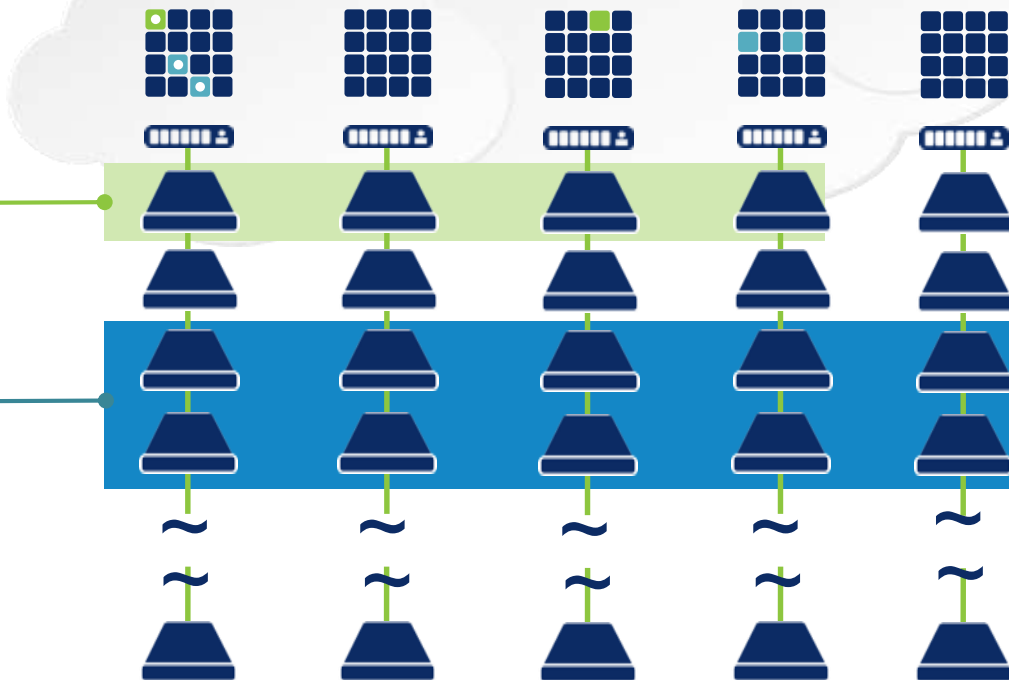
Active Cores
Standby Cores
Available Cores



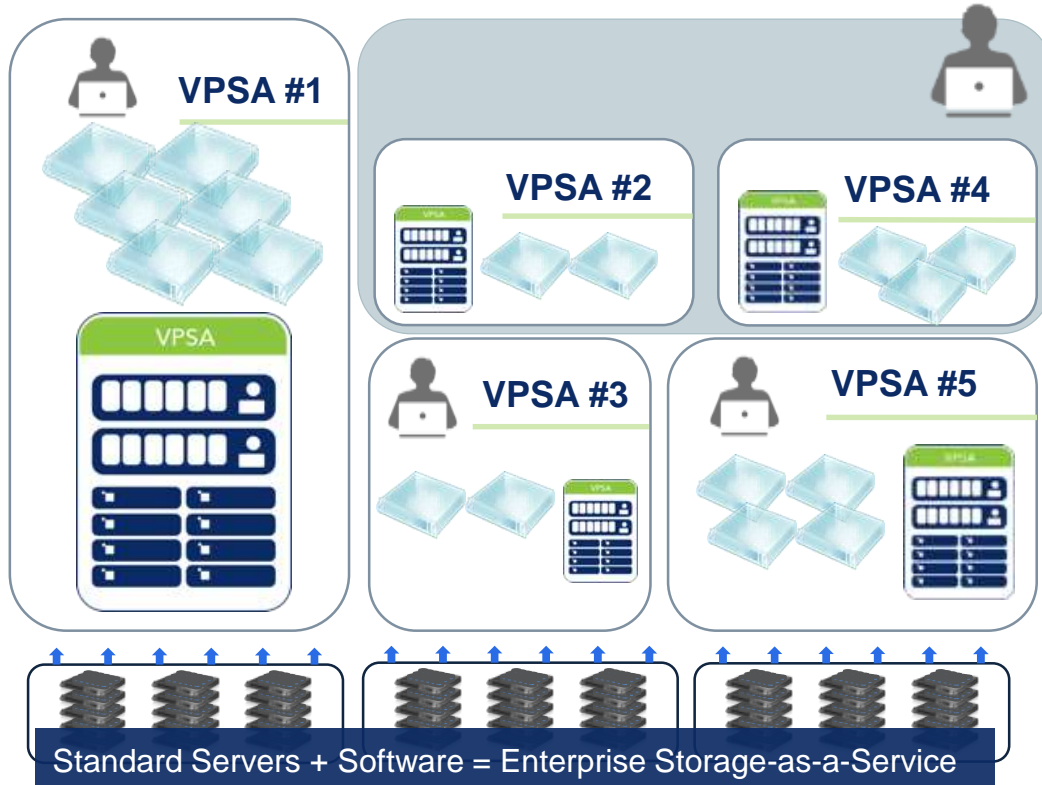
VPSA - A
Customer/Dept. A
200 Series + 4 Drives



VPSA - B
Customer/Dept. B
400 Series + 10 Drives



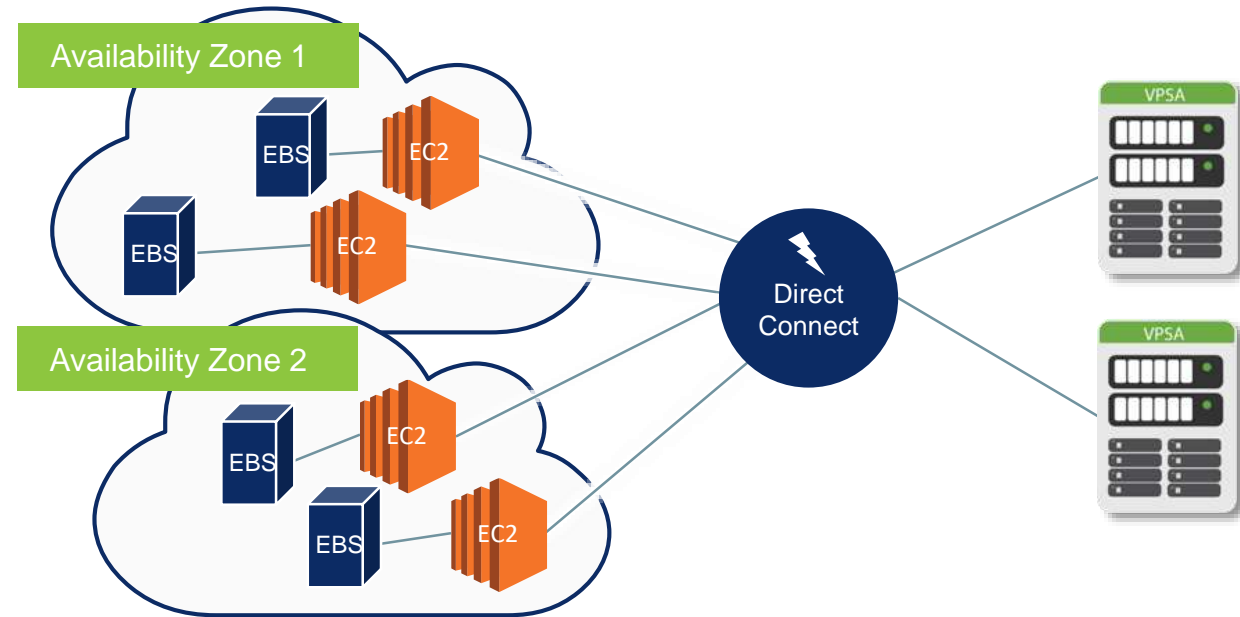
100% Isolation Among Depts./Customers



Independent Storage
Management by Each
User

Full Isolation Access and
Performance

VPSA Public Cloud Option



Storage-As-a-Service
Payment by the Hour

Public Cloud

The Public Cloud section displays logos for four major cloud providers: AWS, Google Cloud Platform, Microsoft Azure, and dimension data.

Colocation

The Colocation section displays logos for four providers: Equinix, TeletyGroup, Eircom, and kt.

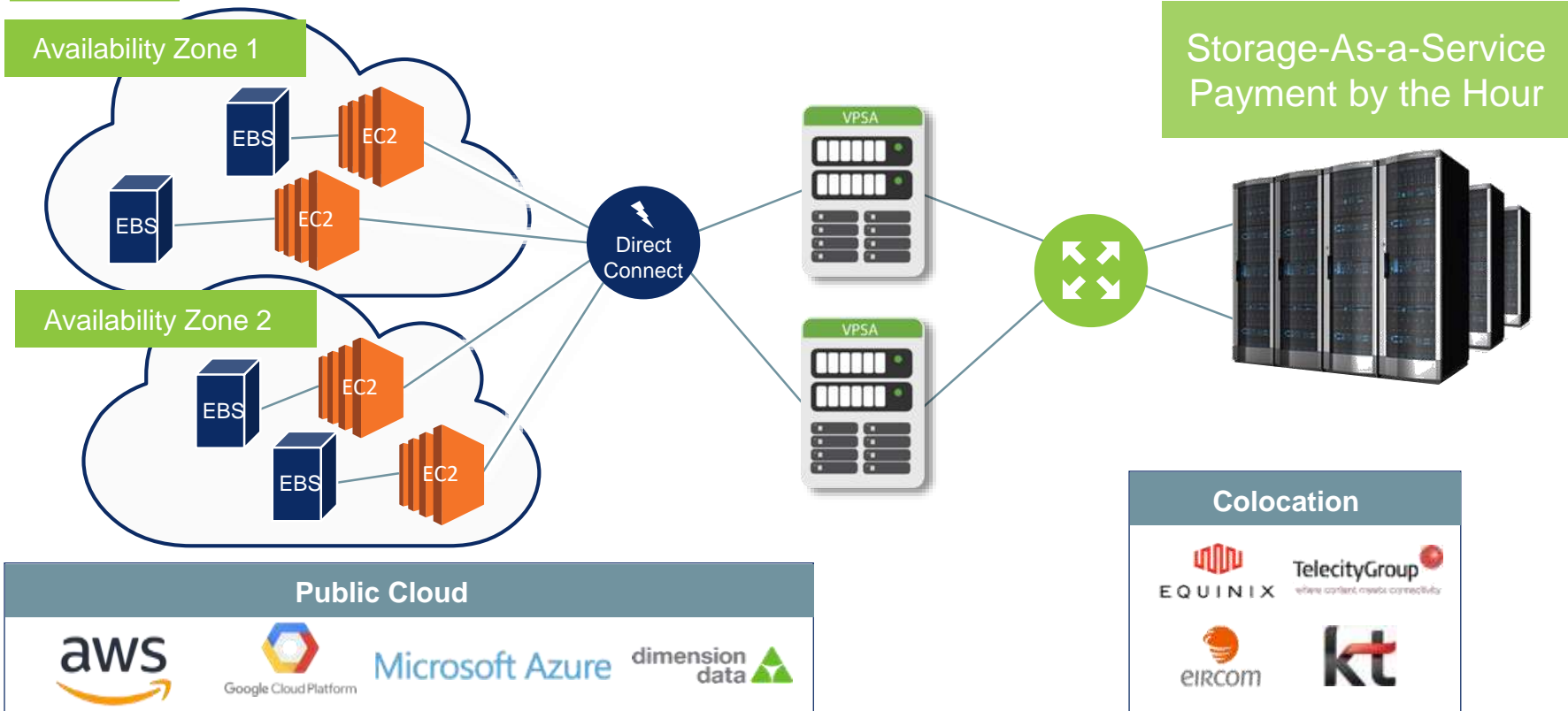


VPSA Colocation Option



Storage-As-a-Service
Payment by the Hour

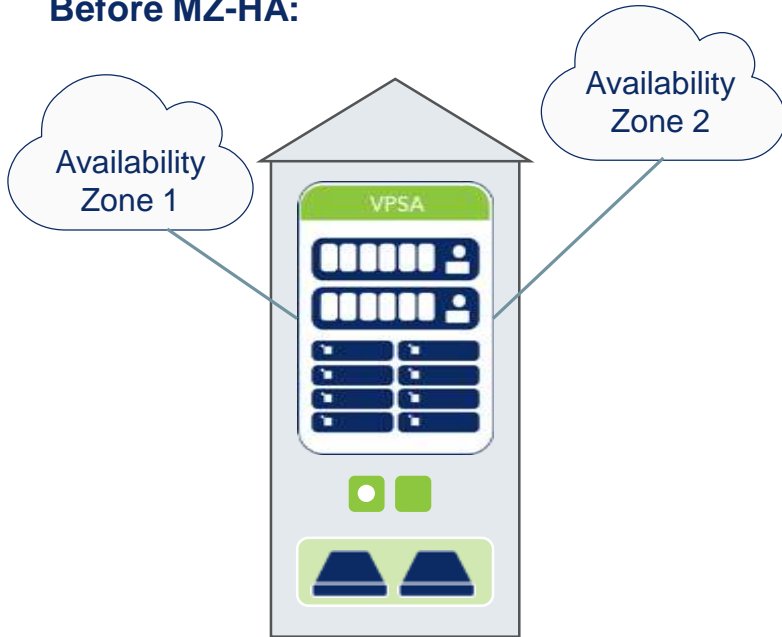
Combined — Cloud and Colocation



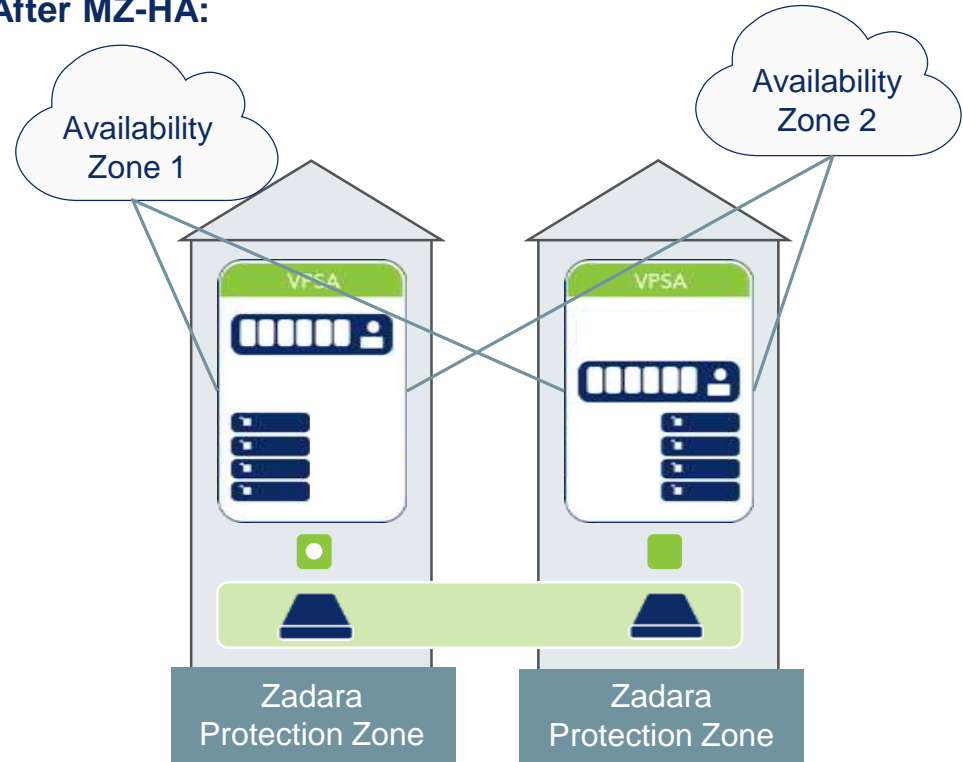


Multi-Zone High Availability (MZ-HA)

Before MZ-HA:



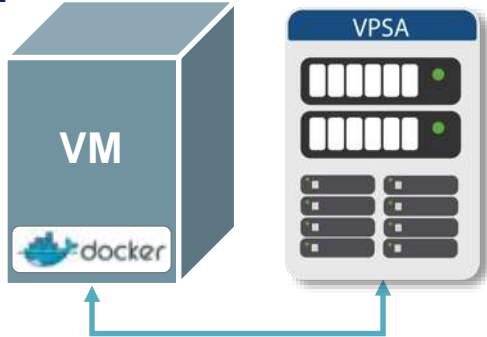
After MZ-HA:





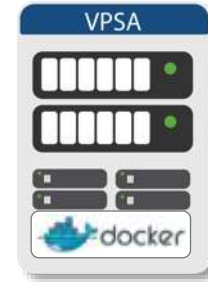
Zadara Container Services (ZCS)

Before:



- Docker Apps run on VM
- Network Latency

After:



- Docker Apps run within VPSA
- Zero Latency, High throughput
- No transfer charges
- Automation
- Free up host CPU cycles

Run tasks within storage for high-performance

Zadara Container Services (ZCS) Uses



Organize and Discover

- NAS Indexing / search / notifications
- Data Classification
- Low-latency OLTP tasks
- Hadoop / Map Reduce



Manipulate

- Transcoding / data transformation
- Compress



Protect

- Data governance / auditing of NAS share
- Secure file transfer
- Anti-virus scanning



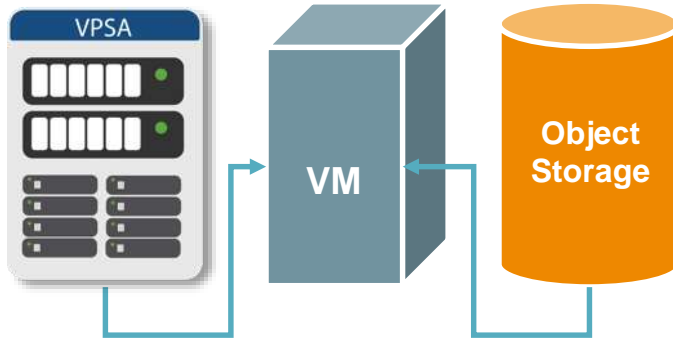
Share

- WebDAV/FTP server



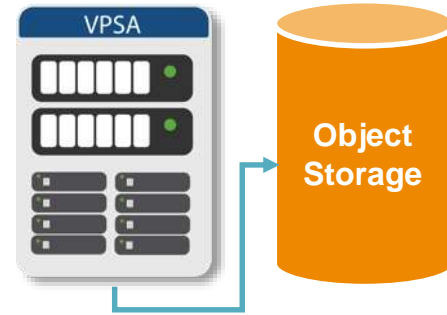
Zadara Backup to Object Storage (B2OS)

Before:



- VM Cost
- Proprietary Software Cost
- Complexity
- Latency

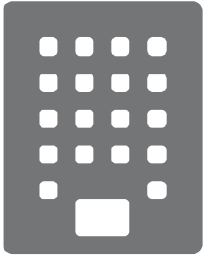
After:



- Automatic
- No need for VMs
- Efficient block-level backups
- Can be restored anywhere

Backup data to cost-effective object storage (AWS, Google, Zadara, others)

Zadara On-Premises as-a-Service (OPaaS)



“The Best of Both Worlds”

A Cloud Experience, On-Premises

- Fully managed, pure OpEx Storage
- Delivered elastically, on-demand
 - Pay only for consumption
 - Not a lease and no long-term accounting items
- Remote monitoring, updates, operations (just like cloud)
 - Hardware replacement
 - 24/7 phone support
- Enterprise functionality, control, privacy
- Periodic price reductions, even for existing capacity

OPaaS Provisioning

Provision
Storage to
your
Departments

Create new VPSA Storage Array

VPSA Name
Customer_1

VPSA Description
OPaaS

Select Cloud Provider

Your Name HERE

Select Region
Example ↕ **\$2.79/hr**

Select Zadara Engine
Boost - 6 CPUs, 16GB RAM (Max. 20 drives) (\$1.99/hr) ↕

Select Drive Quantities

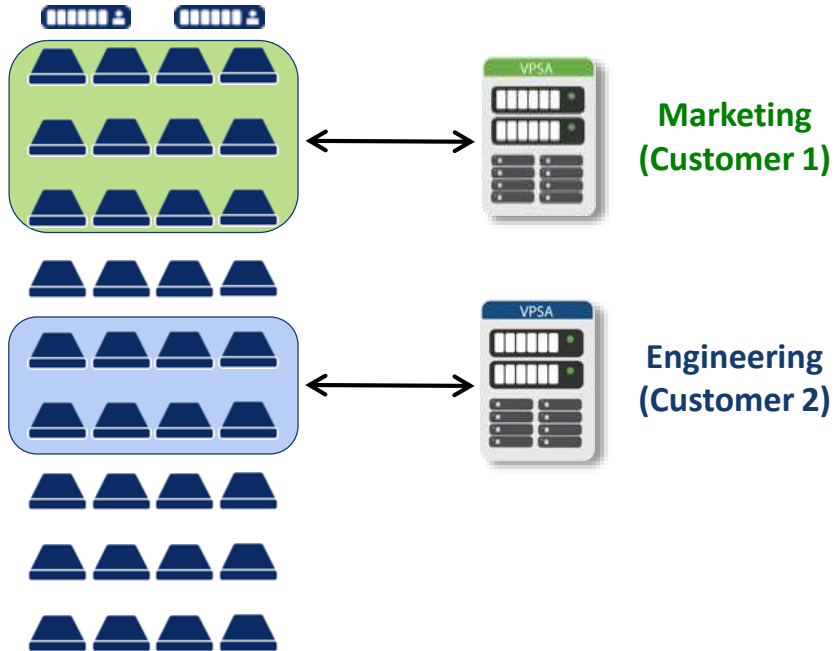
4	6000GB SATA Repository Storage (\$0.20/hr)
0	900GB SAS 10000 RPM (\$0.20/hr)
0	800GB SSD (\$0.25/hr)

Submit Cancel

Charge-back
actual usage

Departments access
elastic, scalable
storage services

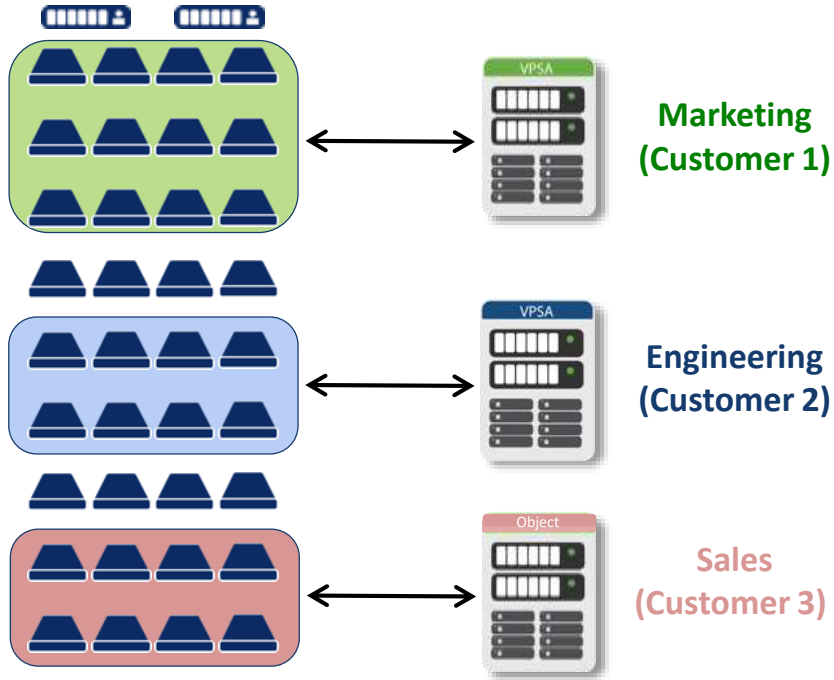
Only Pay for What You Use



Payment based on usage

- Example:
 - 2 storage nodes and
 - 36 drives installed
- Payment is for
 - 2 VPSAs
 - 20 drives
- ***Pay only for what you use***
- Subject to floor price



Only Pay for What You Use



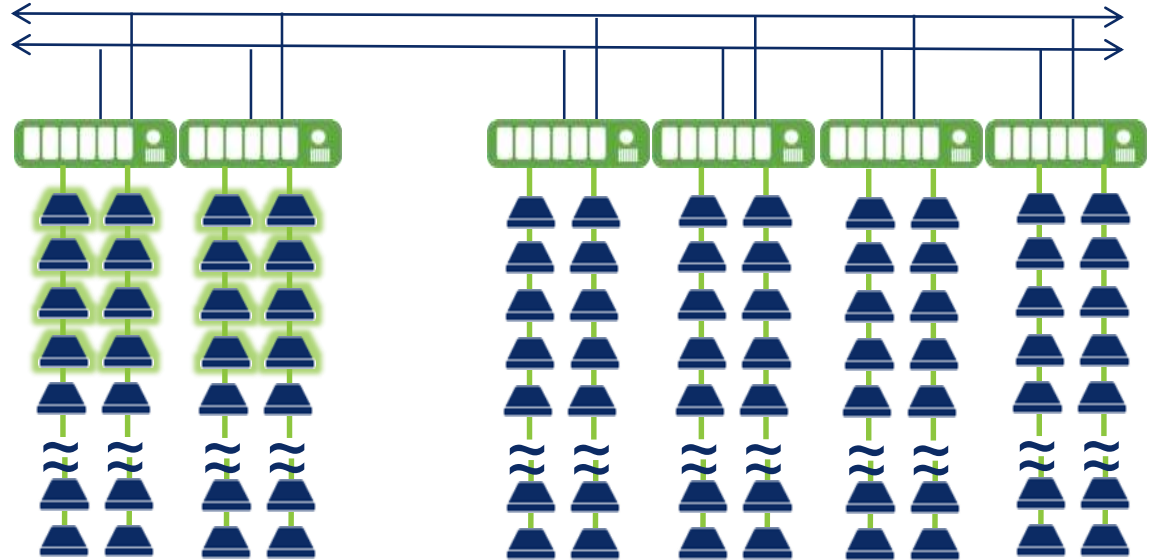
Payment based on usage

- Example:
 - 2 storage nodes and
 - 36 drives installed
- Payment is for
 - 2 VPSA Storage Arrays
 - 1 VPSA Object Storage
 - 28 drives
- ***Pay only for what you use***
- Subject to floor price

Never Run Out of Capacity

-  Drives In Use (pay for these)
-  Unused Drives (no charge)

As capacity grows, we jointly develop a growth strategy so that we deliver more capacity before you need it



Original Nodes
(Minimum of 2)

Zadara Delivers New Nodes
(No charge until used)

Market-Leading Enterprise Storage Features



VPSA® Object Storage

-  Private Object Storage for many tenants (dedicated Resources)
-  S3, Swift compatible
-  2/3-way redundancy across availability zones
-  Role-based Access
-  Charge back and billing
-  Infinite scalability
-  Scalable performance
-  Remote access over HTTP
-  Simple Management
-  Rich metadata

VPSA Object Storage Features



Scalability

- Capacity -> Scalable to PBs
- Performance -> Storage services / Proxy services / External LB
- Coexistence with VPSAs on the same cloud



Simplicity

- Automatic storage services scale-out
- Simple storage and accounts provisioning



Privacy

- Real granular secured multi-tenancy
- Secured interfaces – SSL only
- Per account billing/accounting



Availability

- Multiple QoS-based storage policies with different redundancy levels (2-way/3-way)
- No single point of failure

VPSA Object Storage Provisioning

Simply Select
Drives

Create New VPSA® Object Storage

Name

Description

Select Cloud Provider

AWS Microsoft Azure Google Cloud Platform

EQUINIX ORACLE CLOUD orixcom

Select Region

I want to create a demo Object Storage

Redundancy Level

Select Drive Quantities (Minimum of 18)

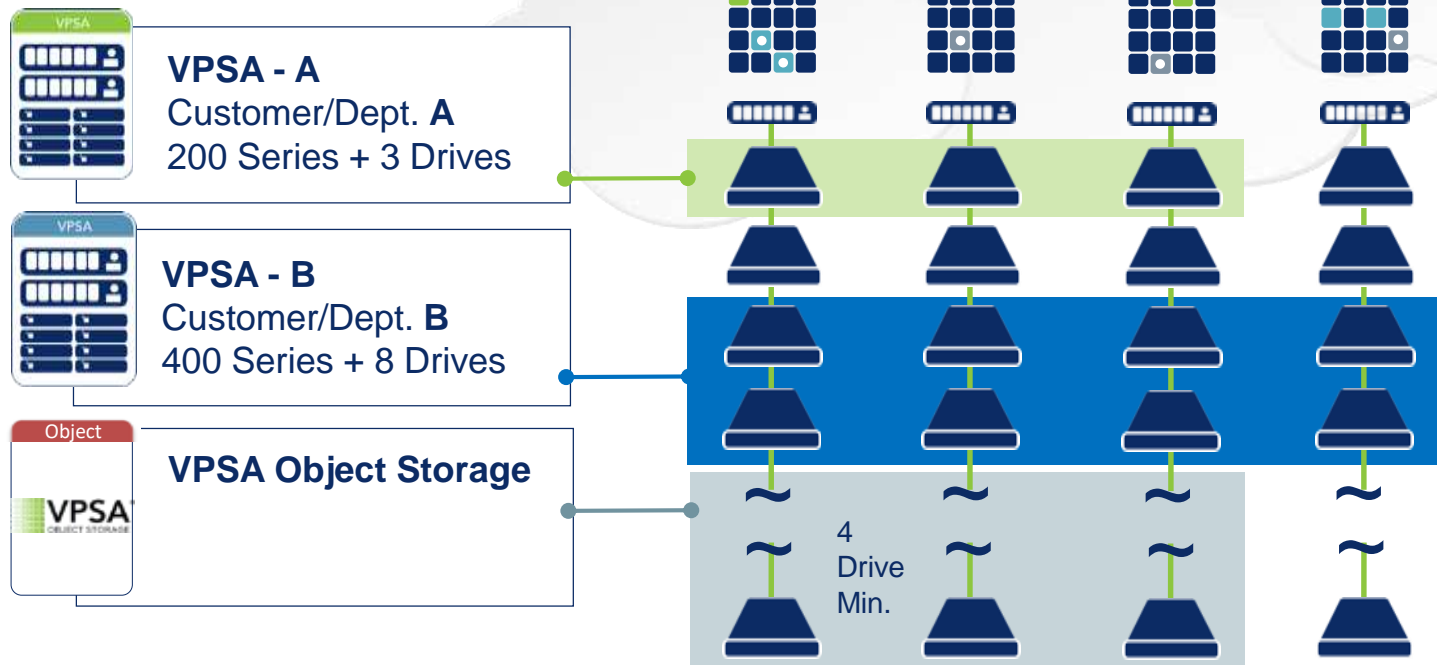
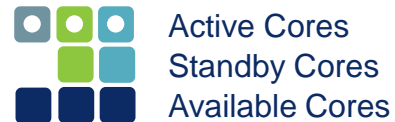
<input type="text" value="0"/>	1600GB (1490GiB) Intel SSD (\$0.30/hr)
<input type="text" value="4"/>	10000GB (9313GiB) SATA Repository Storage (\$0.30/hr)

TOTAL COST
\$1.20/hr

Engines are
Assigned
Automatically

User that orders
becomes the
Administrator

How does Object fit in with VPSA?



Zadara “Immortal” Storage Grows with you!



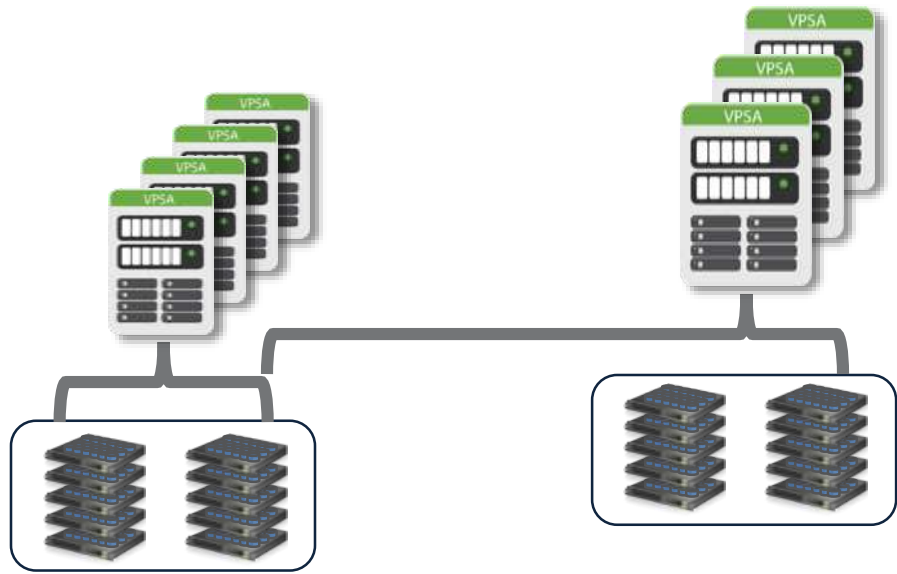
2016

2017

2018

Initial 2 Storage Node configuration with many VPSAs

Zadara “Immortal” Storage Grows with you!



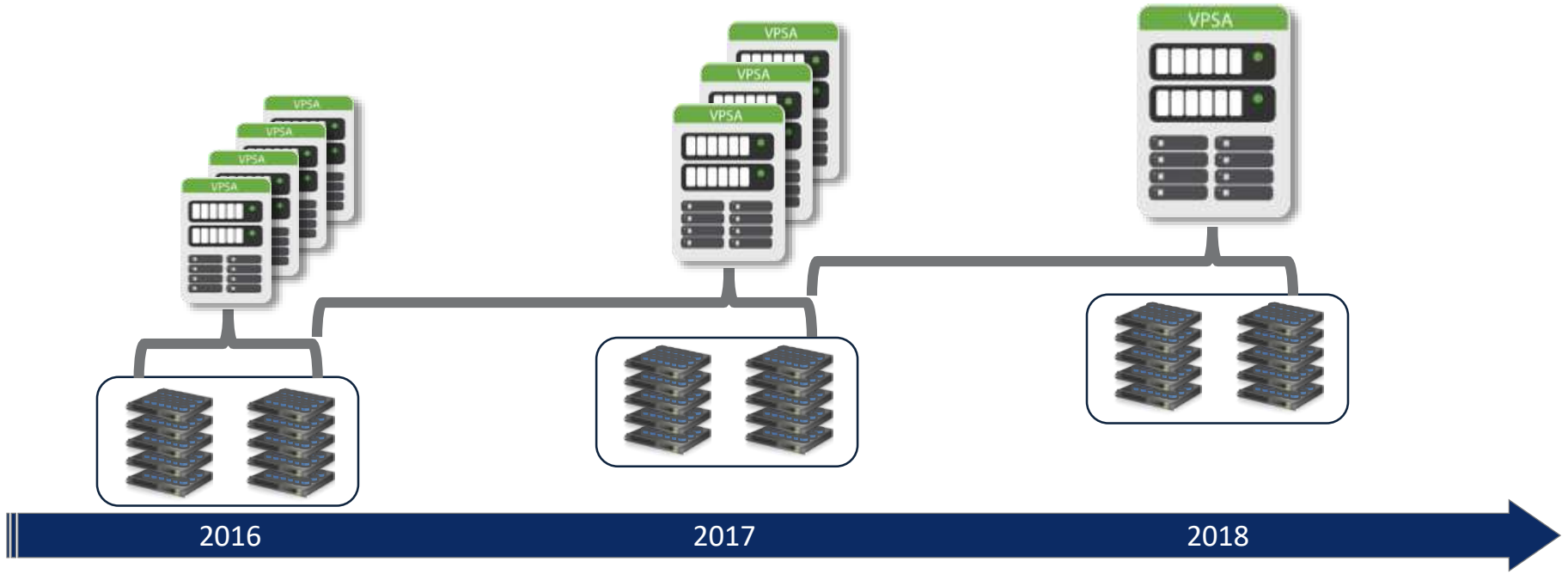
2016

2017

2018

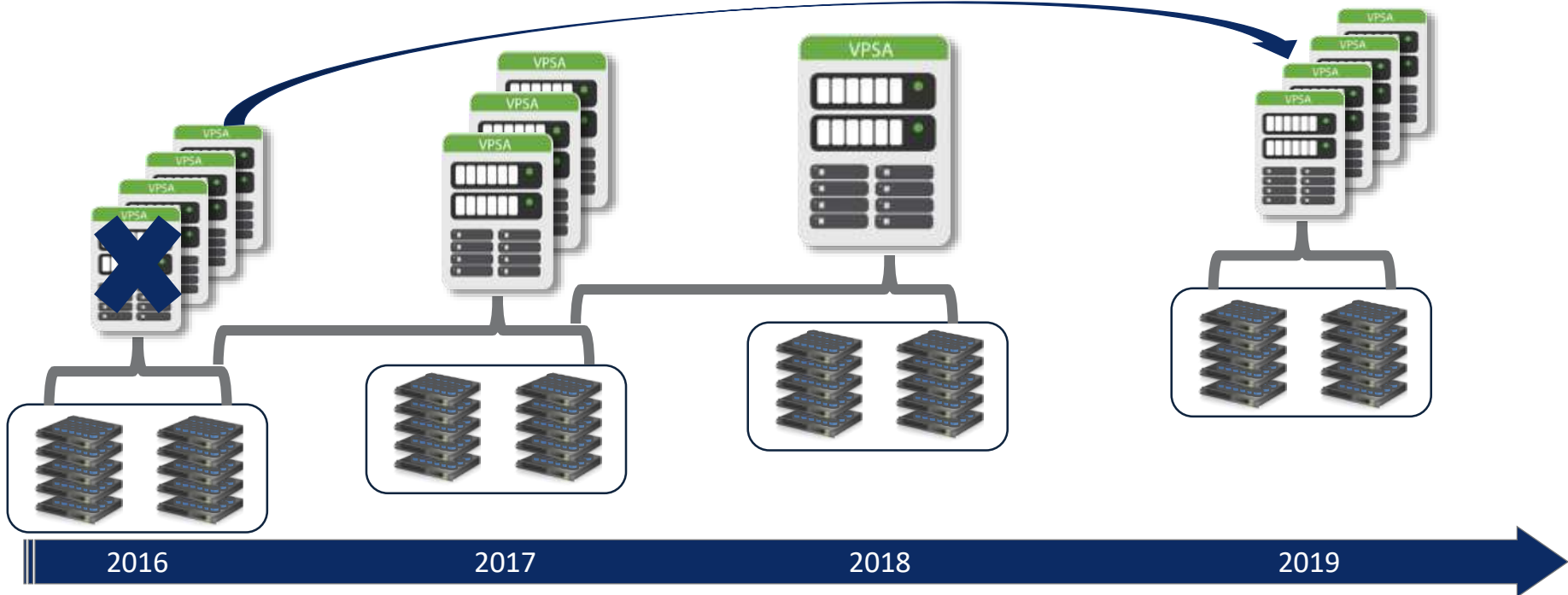
Expanding in 2017, by adding an additional 2 SN and many more VPSAs On-the-fly!

Zadara “Immortal” Storage Grows with you!



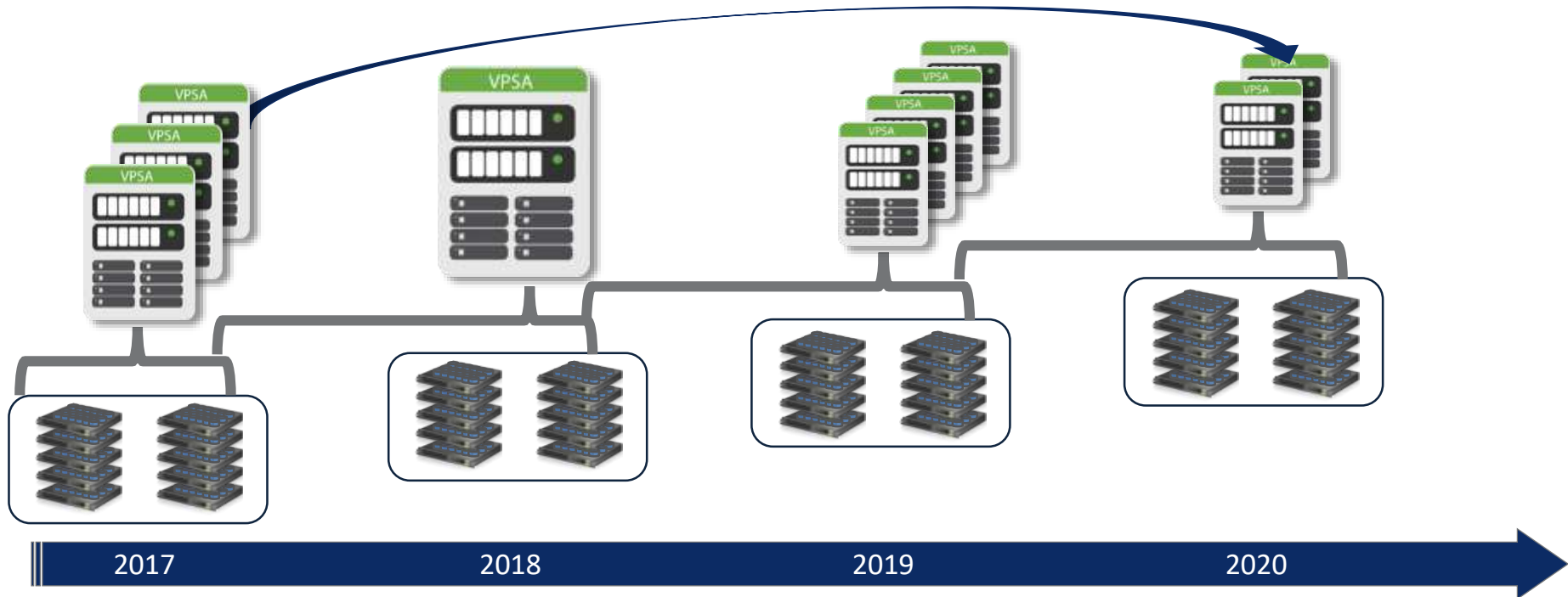
Expanding in 2018, grow another 2 SNs and add more VPSAs. Again, on-the-fly!

Zadara “Immortal” Storage Grows with you!



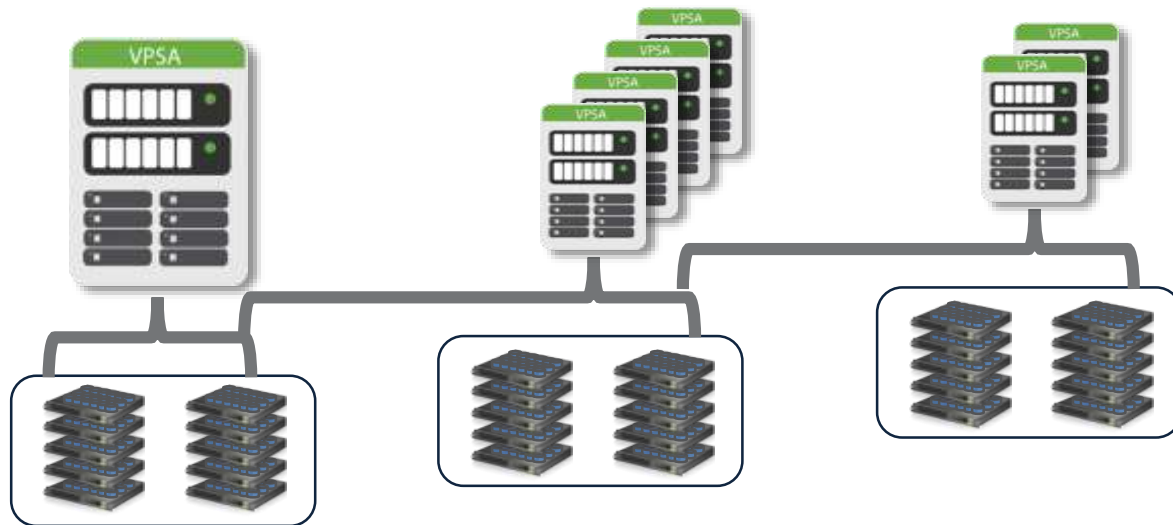
Performance increases, cost (\$/GB) decreases, no hardware EOL!
remove older 2016 SNS

Zadara “Immortal” Storage Grows with you!



Repeat the process again

Zadara “Immortal” Storage Grows with you!



2017

2018

2019

2020

Result is always having state-of-the-art storage and never having to buy storage assets again.

Run Your Business with Chargeback Tools

Sales (AWS US East (N. Virginia) 1 #1061)

Created by doug@zadarastorage.com 2014-03-25 18:55:56 GMT

From	To	Action	Description	Flavor	Enterprise	Hours	Price/Hr			
2015-02-04 13:08:00 UTC	2015-03-06 13:08:00 UTC	create_upse	No change this billing period.	Baby (\$0.49/hr)	Enabled	720	\$0.89/hr			
Gigabytes Read	Gigabytes Written	Crypt Hours	Public IP Hours	Snap Hr	Snap Add	Snap Del	Mirror Src Cnt	Mirror Dst Cnt	Mirror GB Send	Mirror GB Recv
105.638	468.704	0.000	720.001	720.001	777	777	0.000	90.000	0.000	5447.867



Consumption Based Pricing

Marketing (AWS US East (N. Virginia) 1 #2090)

Created by doug@zadarastorage.com 2014-06-15 12:51:45 GMT

From	To	Action	Description	Flavor	Drives	Enterprise	Hours	Price/Hr		
2015-02-04 13:08:00 UTC	2015-03-06 13:08:00 UTC	change_drives	No change this billing period.	Boost (\$1.99/hr)	4x SAS 10K RPM (\$0.15/hr each) - 6x SATA Repository Storage (\$0.18/hr each)	Enabled	720	\$3.67/hr		
Gigabytes Read	Gigabytes Written	Crypt Hours	Public IP Hours	Snap Hr	Snap Add	Snap Del	Mirror Src Cnt	Mirror Dst Cnt	Mirror GB Send	Mirror GB Recv
15649.443	7523.850	0.000	720.000	720.000	779	776	90.000	0.000	5452.895	0.000
12049.443	1253.900	0.000	150.000	150.000	118	118	90.000	0.000	2425.990	0.000

OPaaS vs. a Flex Lease

	Lease	OPaaS
Minimum Term	2-5 Years	6 Months
Pay for Consumption	✘	✔
Order Only What You Need Now	✘	✔
Small Base Capacity	✘	✔
Easy Expansion	✘	✔
Fully Managed	✘	✔
Proactive Price Reductions	✘	✔
Pennies / GB / Month	✘	✔
Support and Service Included	✘	✔

OPaaS vs. Traditional Storage

	Traditional Storage	OPaaS
Commitment	3-5 years	6 mo. with 2 mo. POC
Pay for Consumption	No	YES (pay-as-you-go)
Order Only What You Need Now	No - Overprovision	Yes - Grow Organically
Cost of an IT Manager	\$\$\$	Included
Cost of Maintenance	\$\$\$	Included
Cost of Migration in 3-5 years	\$\$\$	Included
Cost of 24 hour NOC (Networking Operations Center)	\$\$\$	Included
Cost of Downtime for Upgrades and Add-Ons	\$\$\$	100% Uptime SLA. No Downtime Required
Cost of Storage	\$\$\$	<\$.10 / GB / Month – All in

Solution Statement

Enterprise-grade, multi-tenant, elastic Storage-as-a-Service

- ✔ Universal storage that serves all business use-cases
- ✔ Pay-per-use OpEx model
- ✔ Complete tenant isolation, privacy, performance consistency and control
- ✔ Elastic and flexible scale-out solution that always fits my needs
- ✔ Immortal storage that lives as long as required




Case Studies

 Education	 IT	 Energy	 SaaS	 Entertainment	 Education
 IT Services	 Retail	 SaaS	 Engineering	 Education	 IT Services
 Publishing	 Printing	 Mapping	 Government	 IT Services	 Education
 Government	 IT Services	 IT Services	 IT Services	 Publishing	 IT Services
 SaaS	 Publishing	 Imaging	 Telecommunications	 Entertainment	
 Storage					WWW.ZADARA.COM 44






THANK YOU!

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-  [@ZadaraStorage](https://twitter.com/ZadaraStorage)
-  linkedin.com/company/ZadaraStorage

Management Team



Nelson Nahum
Co-Founder, CEO



Yair Hershko
Co-Founder, VP Engineering



Noam Shendar
COO



Doug Jury
VP Solution Sales



Dani Naor
VP International Sales



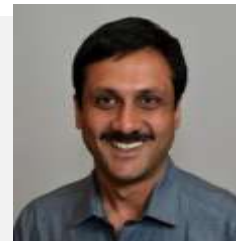
Vladimir Popovski
VP Cloud Operations



Bob Sarubbi
VP America Sales/Alliances



Kevin Liebl
VP Marketing



Shyam Kayushik
Chief Architect



Oded Kellner
VP Product Management

