



Accelerating Transformation Projects with Dynamic, Software-Defined Storage

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Challenges Facing IT

- Modernize and Mobilize
- Deliver Consistent Performance
- Manage Growth and Scale
- Protect Against Data Loss
- Lower Costs



IT's Dilemma – Limited Storage Options

SAN/NAS Array

Proprietary architecture
Legacy apps
Scales within frame
High entry cost
Highest TCO

Cloud Storage

Cloud Architecture
Modern Apps
Scale-out
Lowest entry cost
High TCO at scale

Hyper- Converged

Appliance architecture
Legacy Apps
Scale storage w/compute
Lower entry cost
High TCO at scale

Hyper-Scale

Software architecture
Legacy + Modern Apps
Scale-out
Lowest entry costs
Lowest TCO at scale

Hyperconverged or Hyperscale?

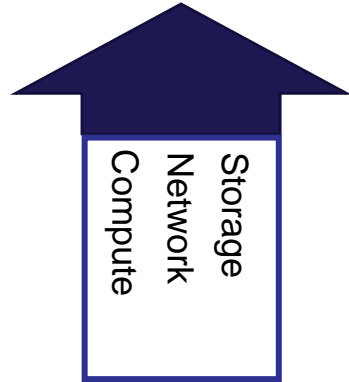
Both have their fit

Hyperconverged SDS

Linked scaling of storage relative to compute and networking

- Simple
- Best entry cost

- Environments that have limited storage needs/growth
- Small environments

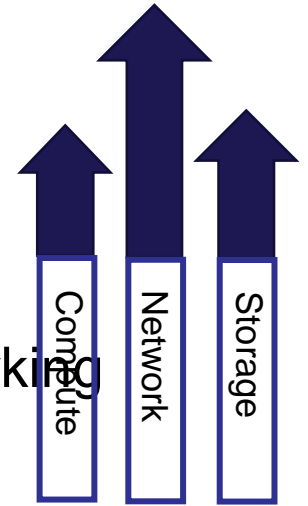


Hyperscale SDS

Independent scaling of storage relative to compute and networking

- Flexible
- Best cost at scale

- Mixed application environments
- Data intensive environments
- Larger environments



Why consider Software Defined Storage?

Done right, SDS:



Fundamentally
reduces
storage cost

Array Model



Scale Out Open
Platform Model



Fundamentally
improves
performance

Speed



Performance
(Speed + Control)



Fundamentally
improves
agility

Static Environments



Dynamic
Environments



Does NOT
require a
“strategic
investment”

Hyperscale SDS Checklist:

- ✓ 100% **Software** that runs on open HW platforms
- ✓ Complete **Storage + Data Virtualization** (array replacement)
- ✓ **Scale Out** – System can grow seamlessly to any scale
- ✓ **Performant** – Array-like latency
- ✓ **Compatible** with today's VMware and application environments

How Does Hyperscale SDS work?



Array Model

RAID 5/6

Data Protection

Tightly coupled

Fault Architecture

Scale up

Scaling

Semi-Custom/
Proprietary

Hardware

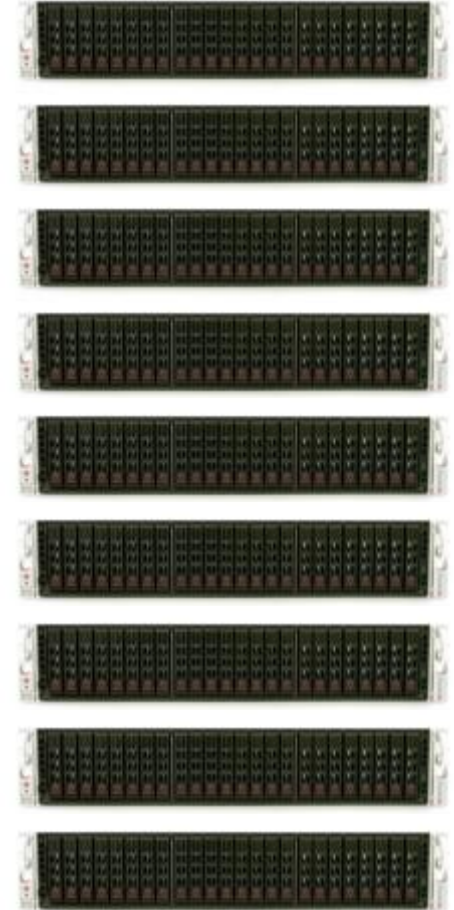
SDS-HS Model

Replication/
Erasure Coding

Loosely coupled

Scale out

Industry Standard



FORMATION | ONE

DYNAMIC STORAGE PLATFORM



Consolidate traditional SAN/NAS arrays to dramatically lower costs



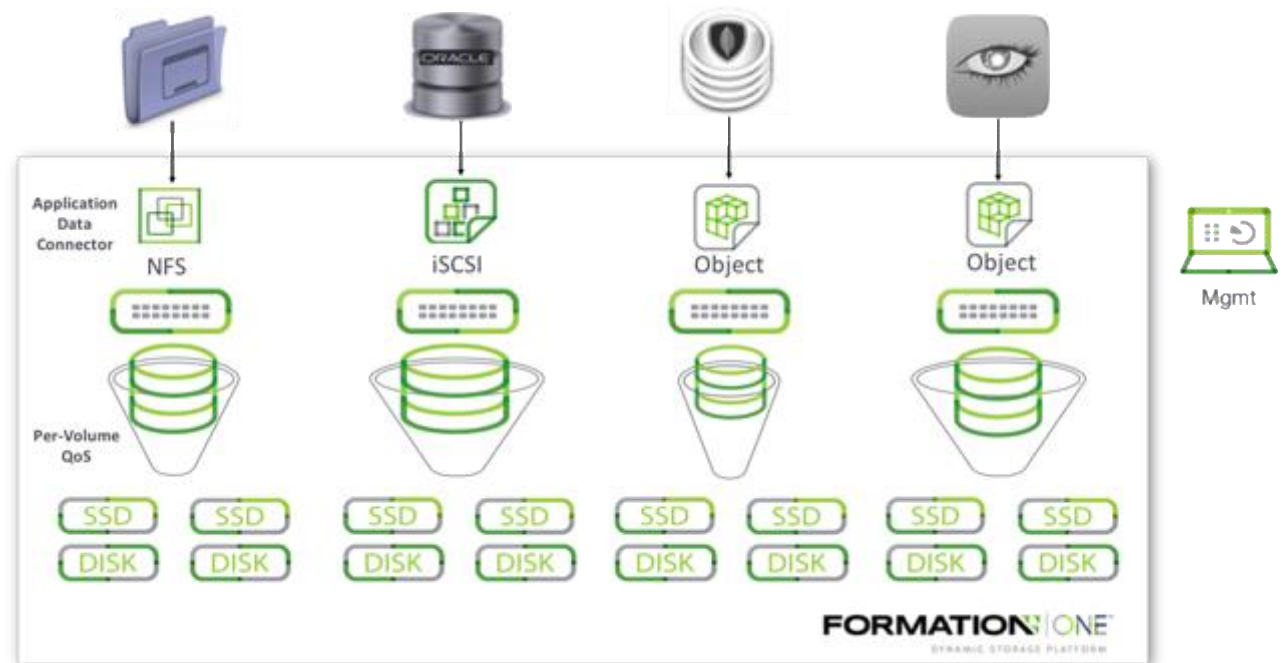
Deliver scale-out performance with dynamic tiering and QoS control



Automate and simplify management for greater business agility



Distributed architecture, compatible with modern cloud applications



All SDS is not equal: The Formation Dynamic Storage Advantage



FormationOne algorithms distribute data evenly across all storage nodes and devices in the domain (data pool)



This minimizes performance impact due to failures and allows for INSTANT performance and capacity provisioning!

All SDS is not equal: The Formation Dynamic Storage Advantage



Storage Domains can be dynamically expanded and upgraded



Automatic data migration allows the new performance/capacity to be allocated to any new or existing volume!

All SDS is not equal: The Formation Dynamic Storage Advantage



Your choice of access protocol, performance and protection



File: NFS, SMB*



Object: S3, HDFS



Block: iSCSI



All-Flash



Hybrid



Archive



Continuous Data Protection



Automatic Snapshot



Volume Cloning

Complete flexibility with settings changeable on the fly!

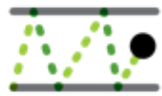
* Delivery Q3 2016

All SDS is not equal: The Formation Dynamic Storage Advantage

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DYNAMIC STORAGE PLATFORM

Modern Features



Data Analytics &
Anomaly detection



In-line data
deduplication



Multi-tenancy



Cloud Integration (Q3)

Complete flexibility with settings changeable on the fly!

FormationOne: Targeted Use Cases



Integrated Storage Platform for Virtual Infrastructure



Dynamic Storage Platform for Test/Dev & DevOps Mobility






Scale-out Object Storage for Private Cloud/AWS S3



Integrated Storage Platform for Managed Service Providers

Formation SDS TCO Advantage

<p>↓ 75%</p> <p>less than AWS</p> 	<p>↓ 50%</p> <p>less than NetApp FAS</p> 	<p>↓ 88%</p> <p>less than typical array</p> 
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	\$/GB/month
FormationOne	\$0.03 (all in pricing : software, support and hardware)
NetApp FAS	\$0.06
AWS EBS/EFS/S3*	\$0.12
Typical Array	\$0.25

*Assumes a mix of 20% EBS (block), 30% EFS (file), 50% S3 (object)

No Change No Gain But The Pain Can Be Minimized

Implement in projects:



ARRAY REPLACEMENT, CAPACITY GROWTH



PROJECT LEVEL TCO, ROI JUSTIFICATION

Start on the ground floor:



TEST &
DEVELOPMENT

T



TIER 2
BUSINESS
APPLICATIONS



IT APPLICATIONS
(AUDIT/SECURITY

)



BACKUP/ACTIVE
ARCHIVE STORAGE



QUESTIONS?

Visit Formation at Booth 229

- ✓ Meet with storage experts
- ✓ See a live demo
- ✓ Win a FitBit Blaze



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Schedule a Demo and
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to fight hunger!



THANK YOU!

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