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**SUMMIT**

# Modernizing storage infrastructure with open scale-out storage

Discovery Zone session - C144011

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# Discovery Session Agenda

- Exploring your storage landscape
- Do you have a need for storage modernization?
- Is scale-out storage right for you? Do you have what it takes?
- What does Red Hat have to offer to help you with that journey?
- Is there a roadmap for introducing software-defined scale-out storage?
- Who has successfully done it already?
- What are the next steps?

# Exploring your storage landscape

# Exploring your storage landscape

- What is your total expenditure for storage every year?
  - < \$500k
  - \$500k - \$5m
  - \$5m - \$10m
  - >\$10m
- How many distinct applications does your organization maintain?
  - < 50
  - 50-500
  - 500-2000
  - > 2000
- What is your enterprise wide installed storage capacity?
  - < 100TB
  - 100TB - 1PB
  - 1PB-10PB
  - > 10PB

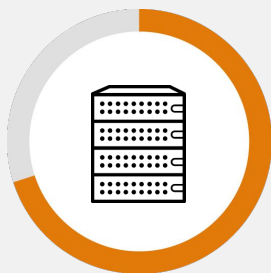
**Do you have a need for storage  
modernization?**

# Many enterprises are not happy with the status quo



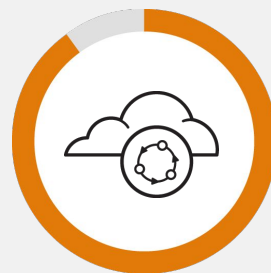
38%

of IT decision makers report *inadequate storage capabilities* as one of their top three weekly pain points



70%

of IT decision makers admit that their organization's current storage *can't cope with emerging workloads*



98%

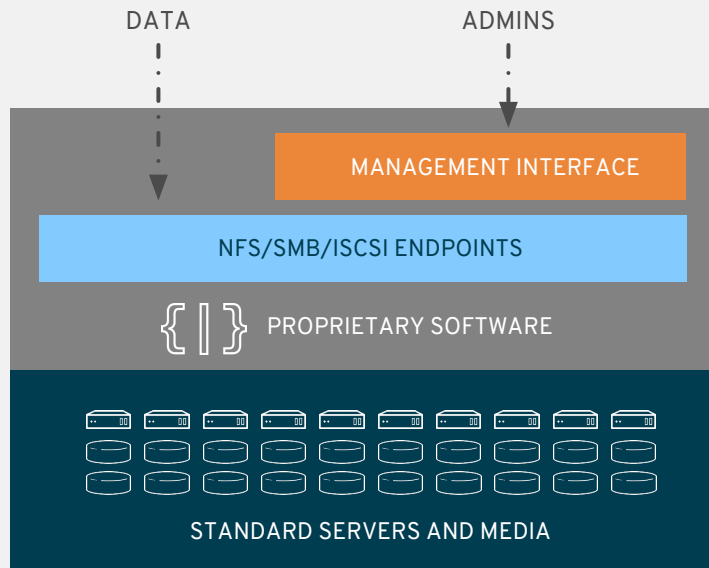
of IT decision makers believe *a more agile storage solution could benefit their organization*

# Business Drivers for storage modernization

Why are companies looking for a new way of doing storage?

- Data growth exceeds 40% year over year in many enterprises (Gartner)
- Storage is in the top-3 spending categories for most IT budgets
  
- Legacy storage vendors sell proprietary appliances
- Legacy storage platforms scale by buying a bigger appliance (“*fork lift upgrades*”)
- Users feel being held hostage by legacy storage vendors (ecosystem lock-in)
- Legacy storage platforms are not aligned with the cloud, modern application development

# The many ways appliances lock you in



Complexity hidden from end users, along with flexibility



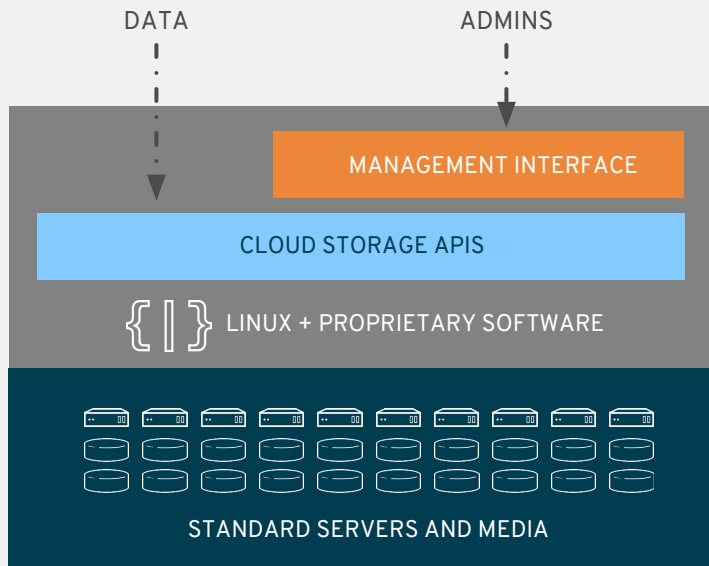
Vendor lock-in leads to pricing premium



Price premium over constituent components is difficult to sustain



# Public cloud storage is not the final answer either



Complexity still hidden from end users, pay-as-you-go pricing

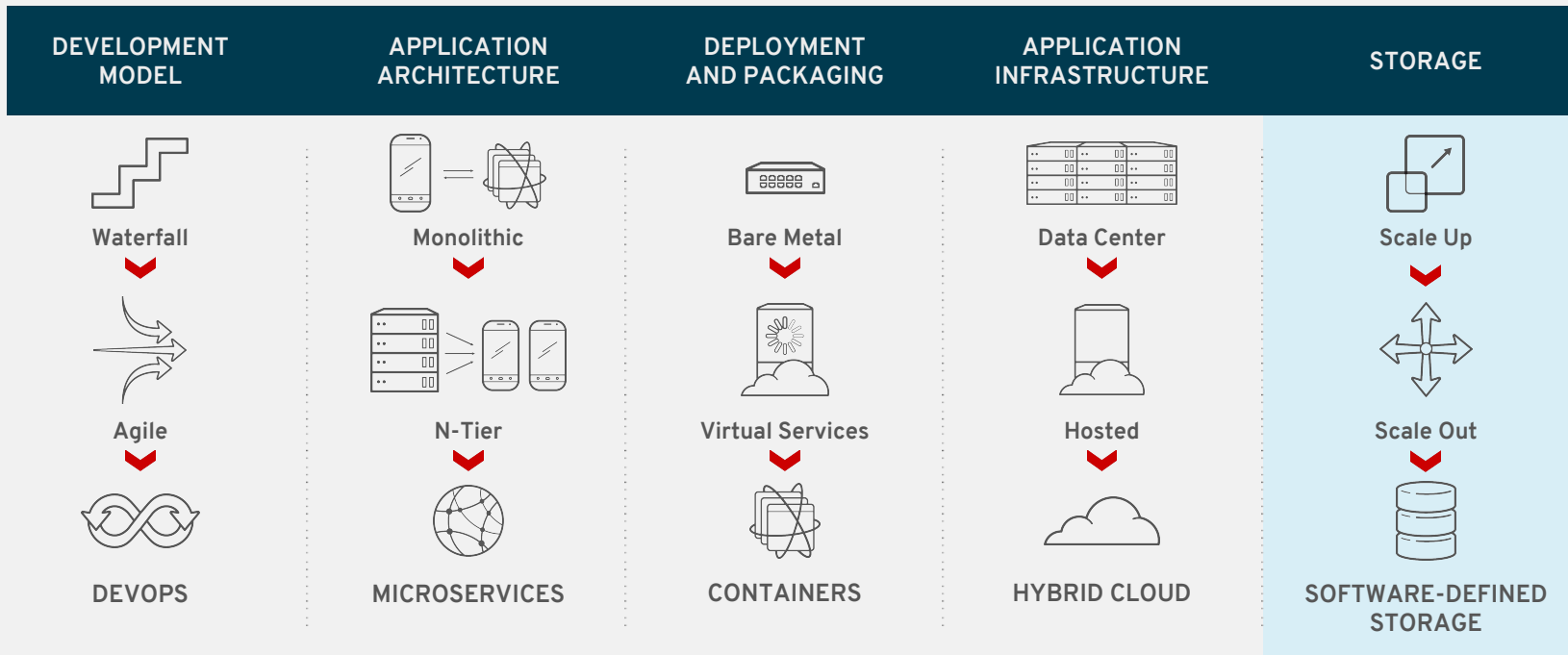


Fastest-growing segment of IT storage budgets



Mostly built using proprietary software

# The data center is changing

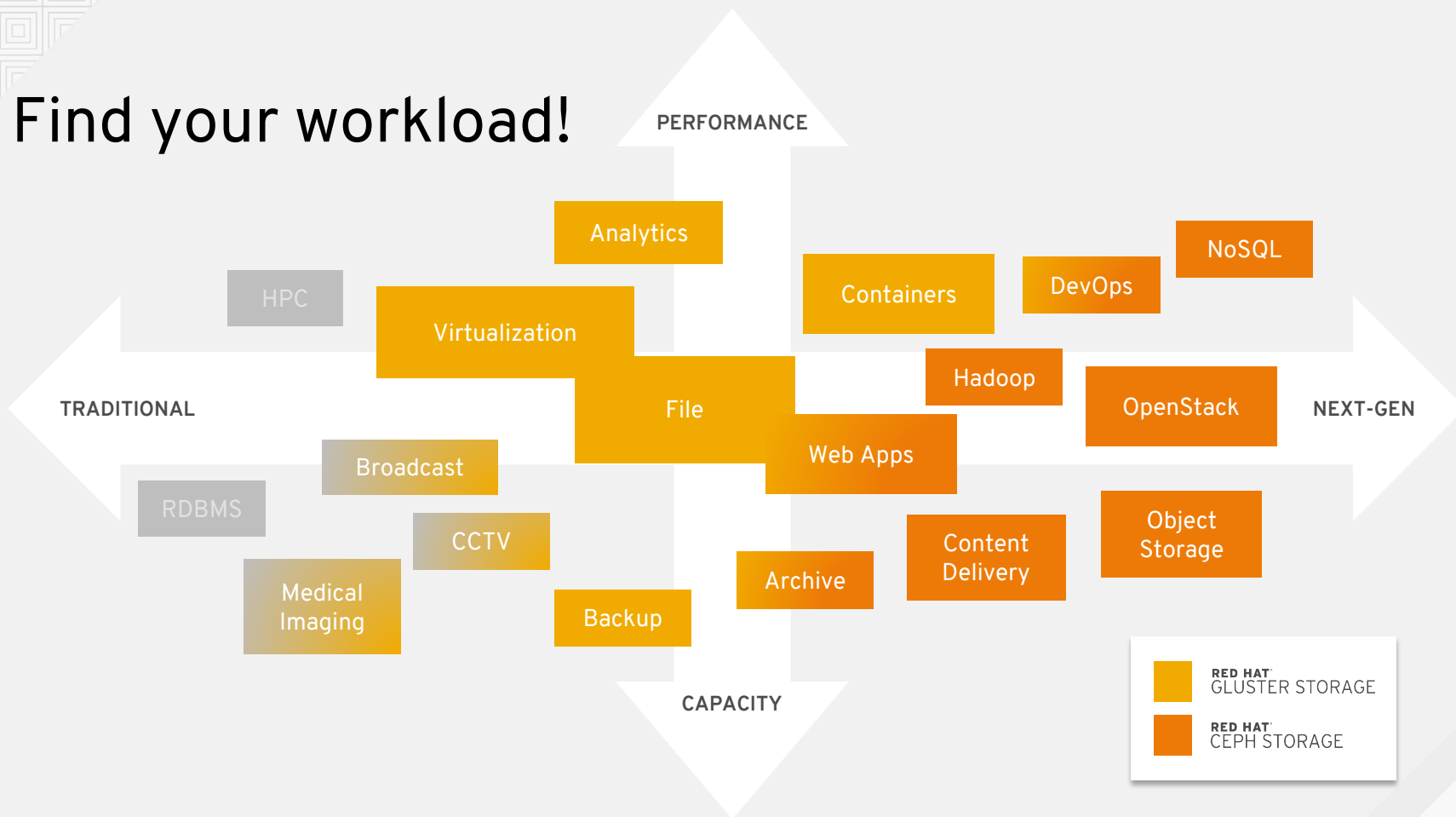


**Is scale-out storage the right fit for you?  
Do you have what it takes?**

# How good is the fit for you?

- What is your year-over-year growth for storage capacity?
  - < 5%
  - 5-10%
  - 10-30%
  - >30%
- How familiar with Linux administration are your storage experts ?
  - Not at all
  - Barely
  - Mixed bag
  - Totally!
- Are you currently in the process of adopting...
  - containers
  - DevOps
  - microservices
  - hybrid cloud
  - all of the above?

# Find your workload!



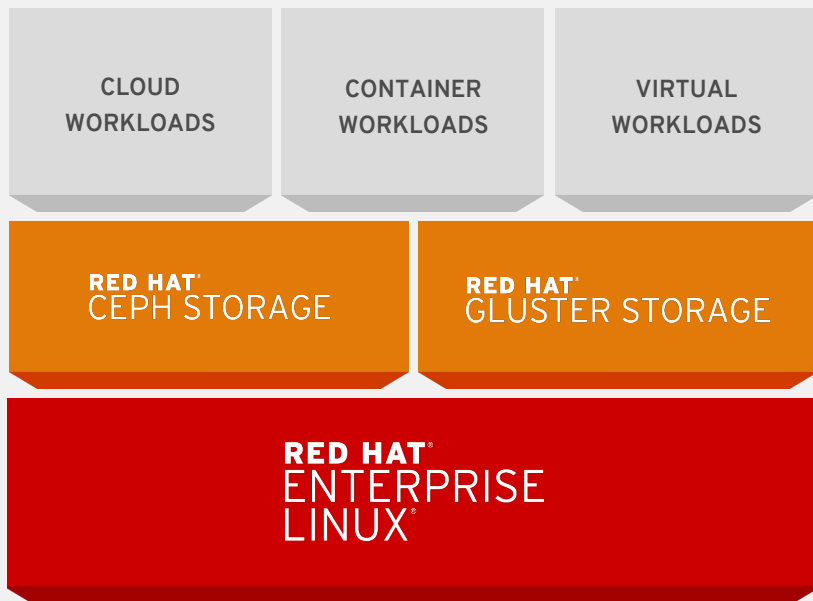
**What does Red Hat have to help you  
with the transition  
to open scale-out storage?**

# Red Hat offers

Stating the obvious...

- Tested and tried 100% Open Source software with long-term support life-cycles
- Reference Architectures for many commodity hardware vendors
- World class support
- Training
- Consulting

# Two products in Red Hat's Storage Portfolio



Every workload users deploy require an operating system and durable, flexible storage.





# Mature hardware and software ecosystem

SOFTWARE PARTNERS	
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Standard interfaces and full APIs ease integration with applications and systems

OPEN SOURCE SOFTWARE	<b>RED HAT<sup>®</sup> CEPH STORAGE</b>	<b>RED HAT<sup>®</sup> GLUSTER STORAGE</b>
	Ceph management Ceph data service	Gluster management Gluster data service

Self-managing and self-healing software provides durability and adapts to changes

STANDARD HARDWARE				
				

Industry-standard hardware provides choice and can be tailored for specific workloads

# Recognized as storage visionary by Gartner

Figure 1. Magic Quadrant for Distributed File Systems and Object Storage



Source: Gartner (October 2016)

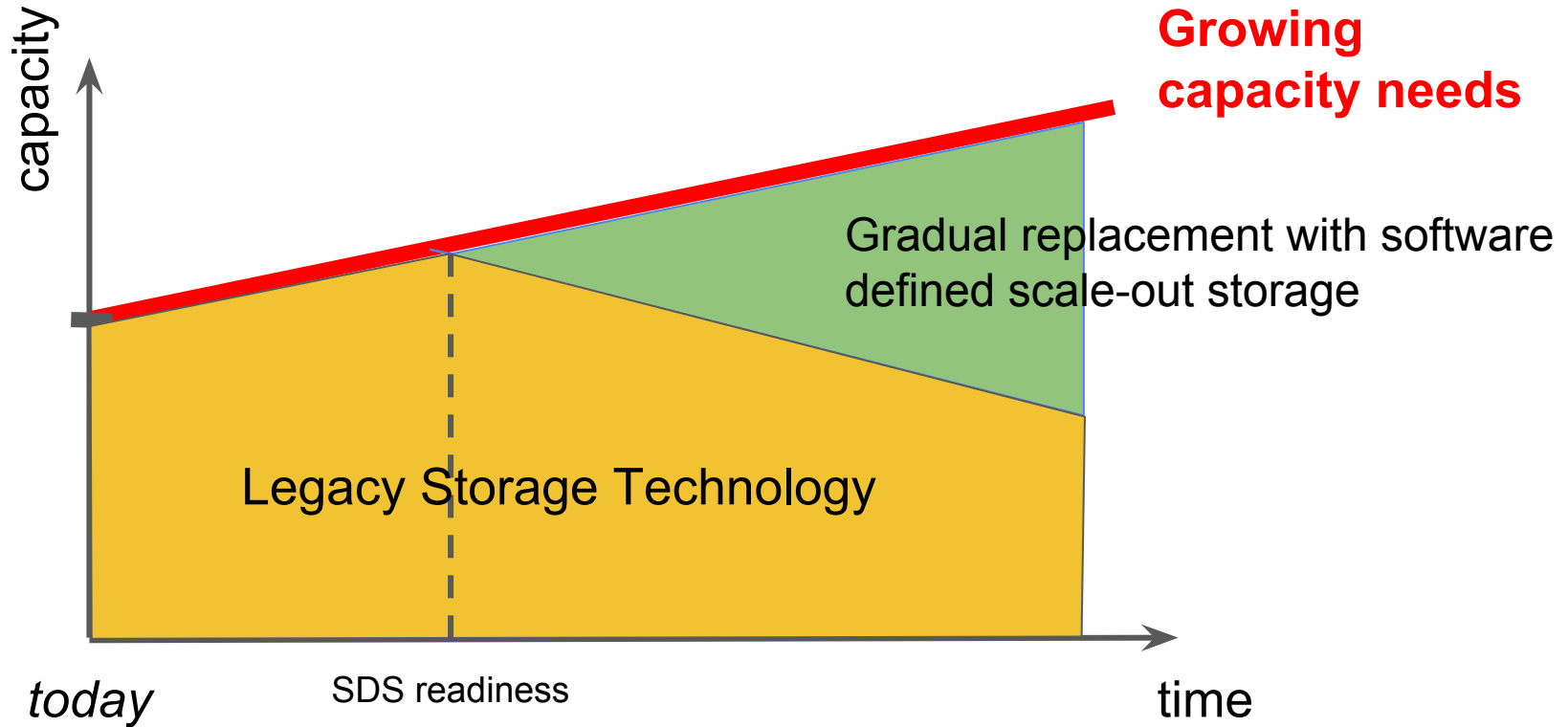
**Red Hat Storage recognized as a Visionary** by Gartner in their first Magic Quadrant for Distributed File Systems and Object Storage.

This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request at <https://engage.redhat.com/gartnrmagic-quadrant-storage-s-201610121525>

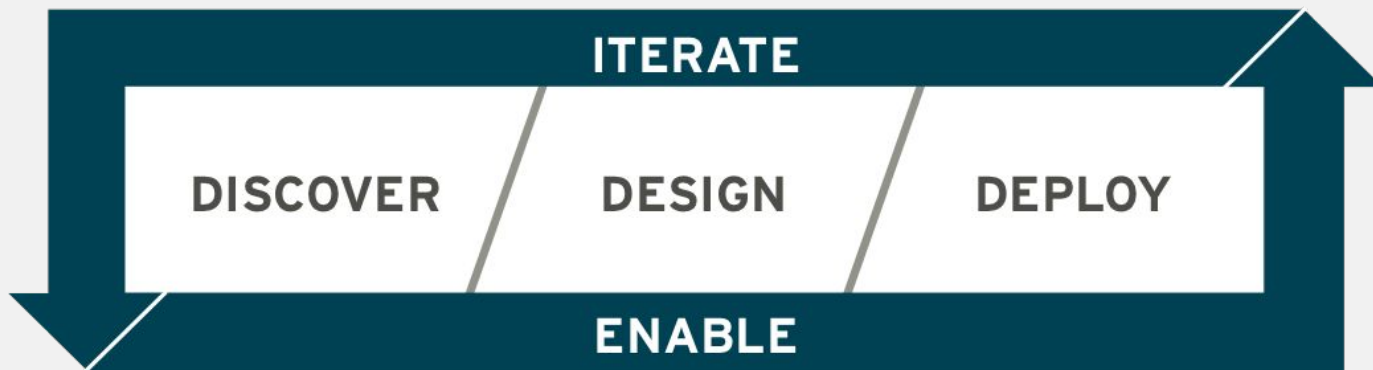
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**Is there a roadmap how for introducing  
scale-out open storage?**

# Enterprise adoption of software-defined storage



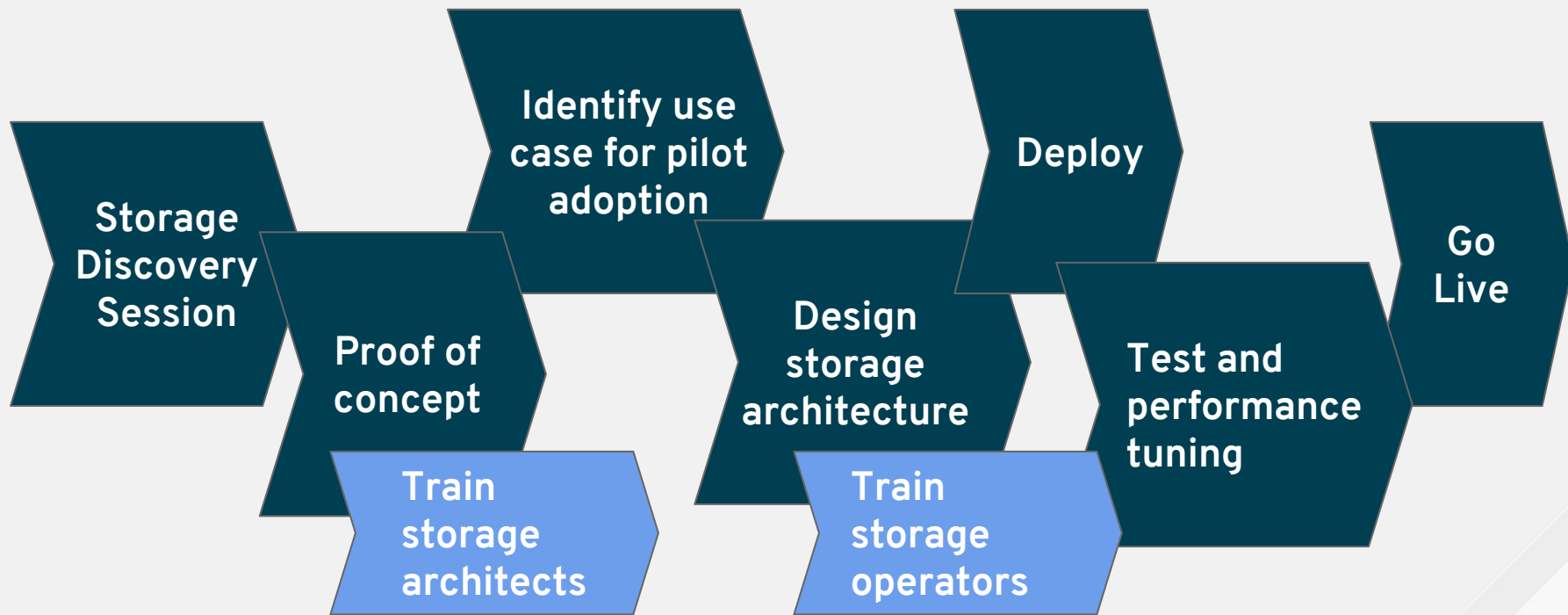
# Red Hat's Delivery Framework



Resist the temptation to skip the design phase, unless

- You use a reference architecture right out of the box
- You know someone who has done exactly the same thing before

# Roadmap for adopting software-defined storage



# Common mistakes you should try to avoid...

- Failure to train architects
  - May lead to wasted opportunity, poorly aligned solutions
- Failure to understand the use case and the production workload
  - May lead to performance problems and outages
- Failure to train operators
  - May lead to data loss
- Failure to exercise fail-over scenarios
  - May leave you poorly prepared when real disaster strikes
- Failure to monitor, iterate and improve
  - What worked initially may get worse as workload changes

# Red Hat consulting can help

We have numerous ways to make adoption smoother

- 3-day Jumpstarts
- SmartStarts
- Storage Solution Architecture Design
- Performance Testing and Tuning
- Deployment and Operational Assistance
- Migration and Upgrade Assistance
- Storage Health Checks



# Where to start?

# Inform yourself and build trust

- Attend Red Hat Storage events (Community days, Red Hat Storage Days)
- Talk to other users about their experiences
- Attend storage related sessions right here at the Red Hat Summit
- Read case studies and whitepapers from people who already took the plunge
- Visit the Red Hat Storage savings calculator
- Try the products out in a free test drive

Do a Proof of Concept.      Build Confidence.      Invest into training your staff.

# Attend storage sessions at the Red Hat Summit

- L103175 Deploy Ceph Rados Gateway as a replacement for OpenStack Swift
- L104665 The Ceph power show: Hands on with Ceph (Singh, Bader, Messer)
- S102032 Choosing the right storage for your OpenStack cloud
- S103002 OpenStack and Ceph at scale
- S104248 Red Hat Storage Console 3:  
Unified Management of Ceph and Gluster storage (Applewhite)
- S105141 Big data analytics with Silicon Valley Data Science and Red Hat  
(Compton & O'Sullivan)
- S107224 Why storage matters for your digital transformation (Ross Turk)**

# Who has already done it?

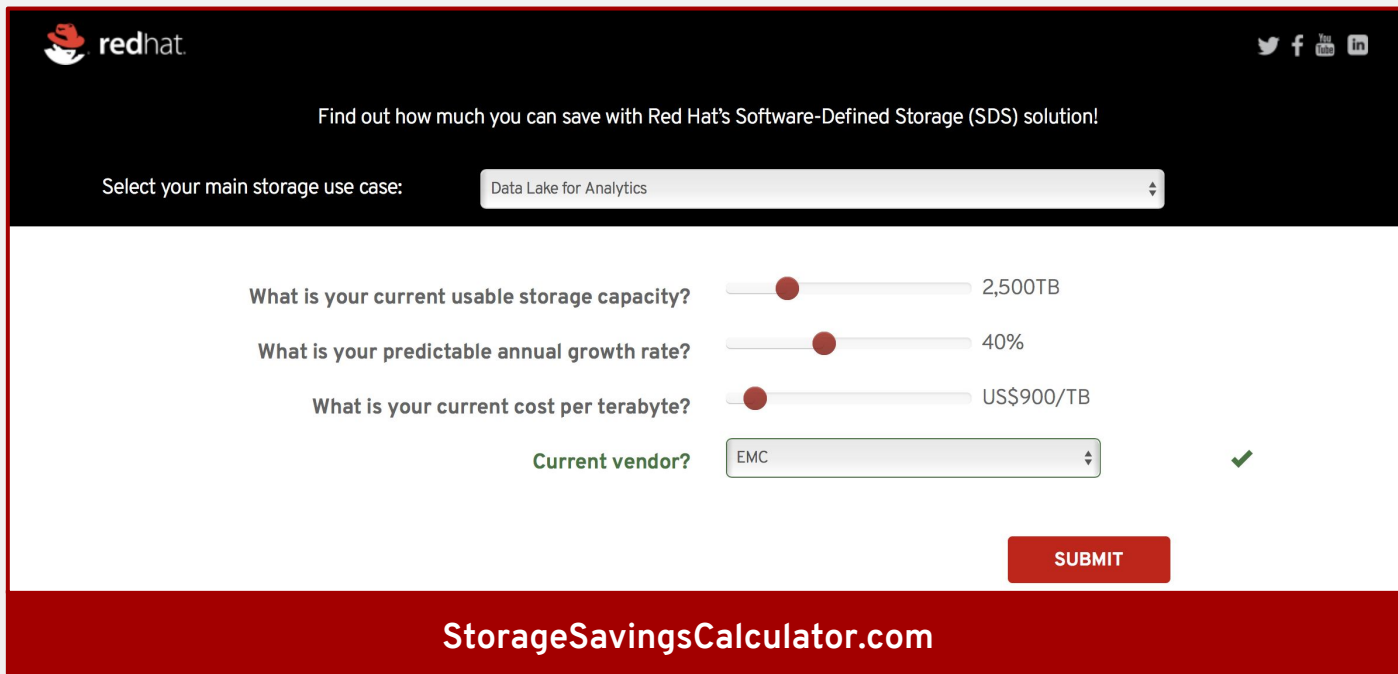
Successful adopters of software defined storage from Red Hat

Check out case studies and materials from successful adopters, such as

- Casio (Gluster)
- Cisco (Ceph)
- CLIMB (Cloud Infrastructure for Microbial Bioinformatics), UK (Ceph)
- FICO (Ceph)
- Intuit (Gluster)
- Interactive Intelligence (Ceph)
- KazTransCom (Ceph)
- Monash University (Ceph)
- University of Reading (Gluster)

# Visit our storage savings calculator

It will generate a customized estimate based on your inputs



The screenshot shows the Red Hat Storage Savings Calculator interface. At the top left is the Red Hat logo. In the top right corner are social media icons for Twitter, Facebook, YouTube, and LinkedIn. The main heading reads "Find out how much you can save with Red Hat's Software-Defined Storage (SDS) solution!". Below this is a dropdown menu for "Select your main storage use case:" with "Data Lake for Analytics" selected. The calculator features three sliders: "What is your current usable storage capacity?" set to 2,500TB, "What is your predictable annual growth rate?" set to 40%, and "What is your current cost per terabyte?" set to US\$900/TB. A "Current vendor?" dropdown menu is set to "EMC" with a green checkmark to its right. A red "SUBMIT" button is located at the bottom right of the form area. The footer of the calculator is a red bar with the text "StorageSavingsCalculator.com".

# TRY A TEST DRIVE

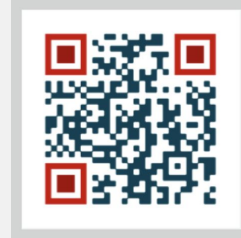
## RED HAT® CEPH STORAGE

Test-Drive:  
[bit.ly/ceph\\_testdrive](https://bit.ly/ceph_testdrive)



## RED HAT® GLUSTER STORAGE

Test-Drive:  
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The logo consists of a red speech bubble shape pointing downwards, containing the text "RED HAT" in a smaller font above "SUMMIT" in a larger font, both in white.

**RED HAT**  
**SUMMIT**

**LEARN. NETWORK.  
EXPERIENCE  
OPEN SOURCE.**



# Extra material

# RED HAT STORAGE OFFERS SUPERB VALUE

3-year TCO for 1PB of usable capacity, optimized for throughput

