

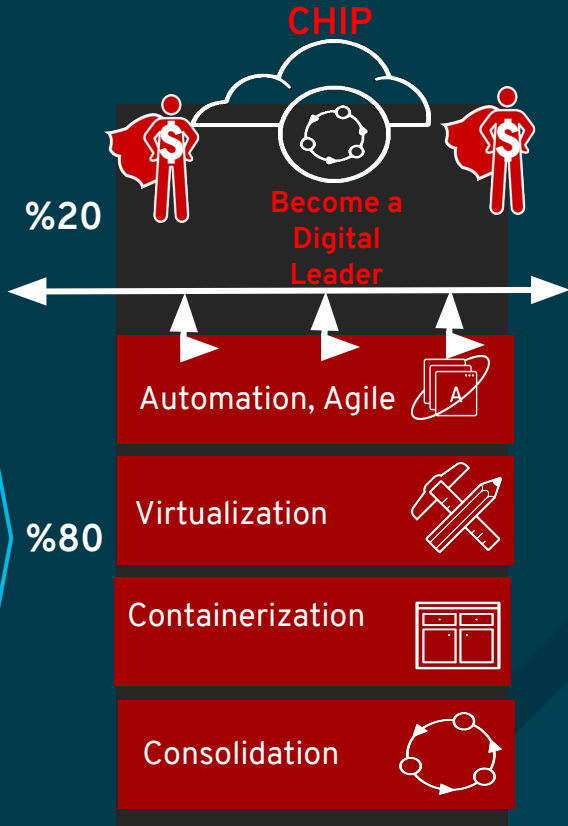
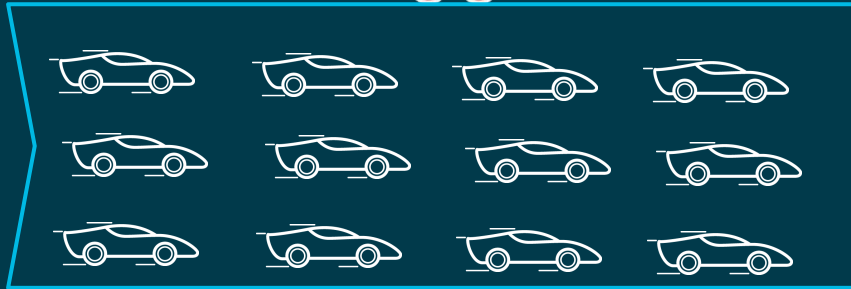


Open Telco

Kadir Özmen - Key Account Manager
kozmen@redhat.com

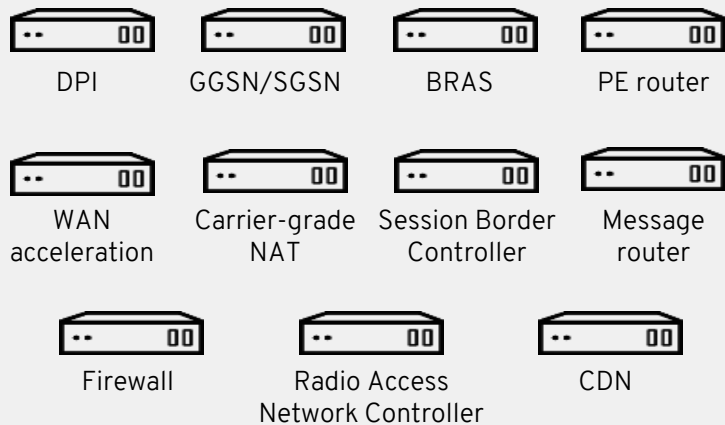
Anıl Sönmez - Telco Solution Architect
asonmez@redhat.com

INNOVATION JOURNEY



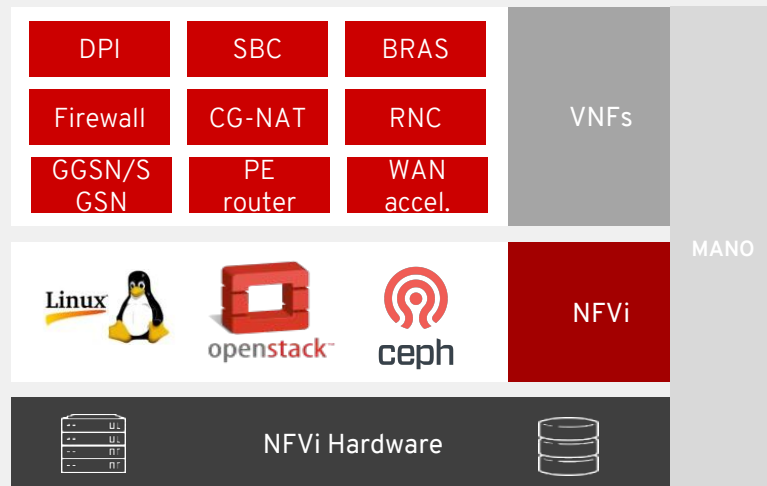
NFV: MINIMIZING HARDWARE DEPENDENCIES FOR NETWORK SIMPLICITY AND FLEXIBILITY

TRADITIONAL NETWORK APPLIANCE APPROACH

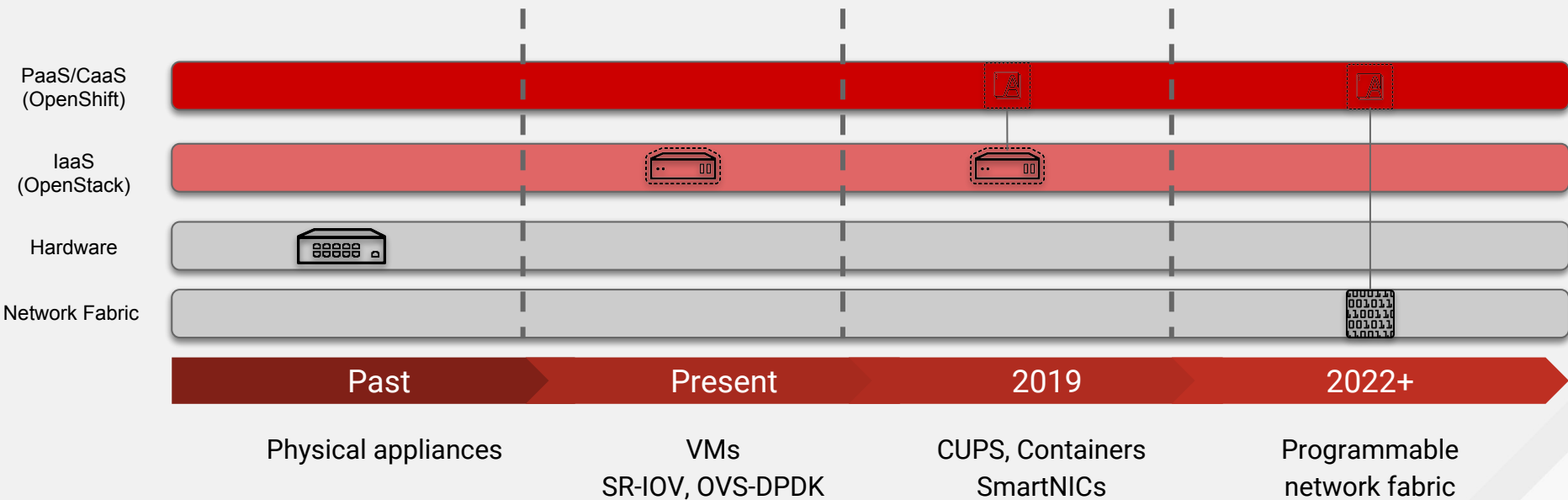


- Network functions based on specific hardware/software
- Fragmented non-commodity hardware
- One physical node per role

VIRTUALIZED NETWORK APPLIANCE APPROACH



The Telco Journey





Red Hat OpenStack 13



LONG LIFE RELEASE

Red Hat OpenStack Platform 13 (Queens) is our second Long Life Release

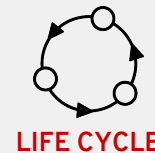
- Choose to upgrade every 6 months and benefit from 1 year of support on that release
- Choose to upgrade every 3 years via long-life releases with an optional extended life-cycle support (ELS) totaling up to 5 years of support

		Long Life			Long Life			Long Life
RHOSP 8 Liberty	RHOSP 9 Mitaka	RHOSP 10 Newton	RHOSP 11 Ocata	RHOSP 12 Pike	RHOSP 13 Queens	RHOSP 14 Rocky	RHOSP 15 Stein	RHOSP 16 T...
3 years (ends Apr 2019)	3 years (ends Aug 2019)	3 years (+2 years)*	1 year (out of support)	1 year (ends late 2018)	3 years (+2 years)*	1 year (ends late 2019)	1 year (ends 2020)	3 years (+2 years)*

* With Optional Extended Lifecycle Support (ELS)

FAST FORWARD UPGRADES

Facilitates accelerated upgrades between long life releases



10

RED HAT®
OPENSTACK®
PLATFORM

13



UPGRADES FOR LONG LIFE RELEASES

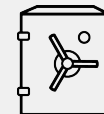


- › **Minimum of 3-year support**
+ optional 2-year support extension
through extended life-cycle support

- › **Accelerated upgrade process**
and in-place upgrade without
additional hardware

ENHANCED SECURITY & COMPLIANCE

Covering technical implementation to industry leadership



SECURITY



TLS

More and more internal endpoints are now encrypted with TLS:

- Block storage (cinder)
- Secrets API (barbican)
- Metrics (redis)
- SDN (OpenDaylight)
- Remote consoles (VNC)



COMPLIANCE

- FedRAMP
- ANSSI
- ETSI



SECURITY GUIDE

New Security Guide - Comprehensive industry leading best practices releasing soon.

Predictable Low-Latency for Real Time Computing & Analytics

Faster response times



DIRECTOR +
TUNING +
RED HAT EXPERTISE

RED HAT[®]
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PLATFORM

REAL TIME OVERCLOUD IMAGE
REAL TIME KVM KERNEL ENHANCEMENTS



RED HAT[®]
ENTERPRISE LINUX[®]

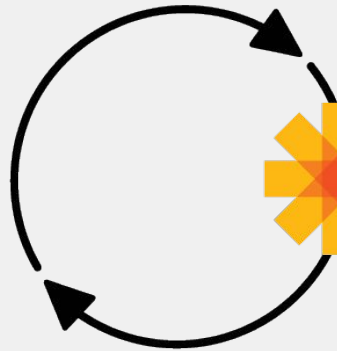
REAL TIME
ENABLED KERNEL

AN OPEN SOURCE INTEGRATED SDN CONTROLLER

Bringing an integrated SDN lifecycle to Red Hat OpenStack Platform.



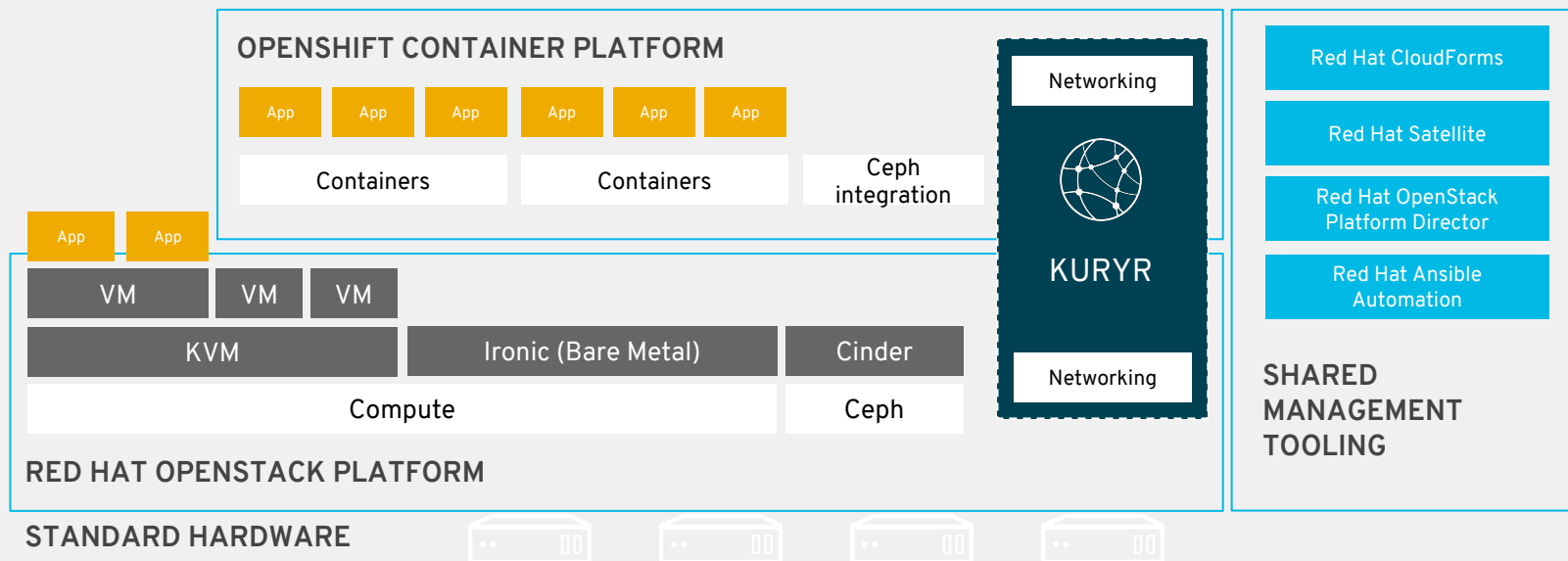
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PLATFORM



OPEN
DAYLIGHT

OPENSIFT ON OPENSTACK

Integrations



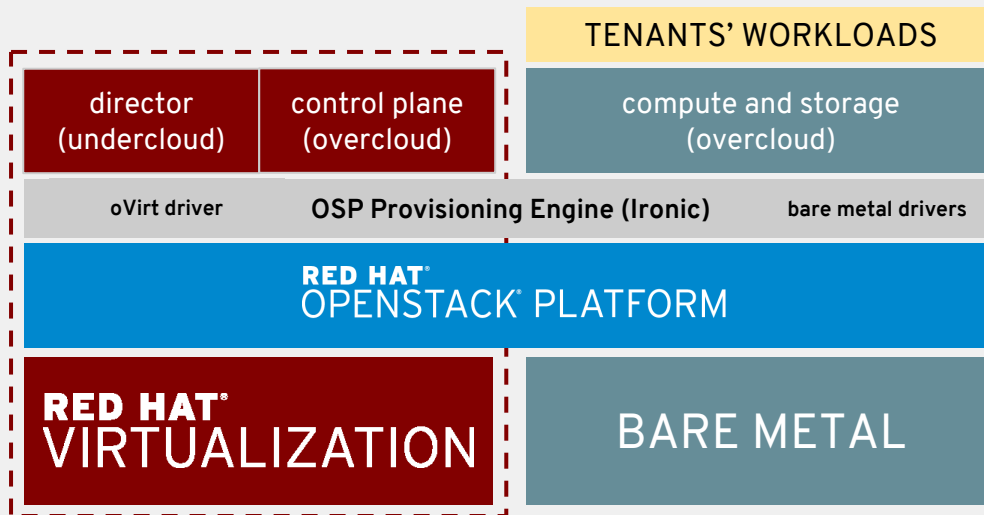
Kuryr with OCP 3.11 is in Technology Preview

VIRTUALIZED MANAGEMENT INFRASTRUCTURE

Use Red Hat Virtualization to save time and money



OPERATIONS



YES!

You can now use the features already in Red Hat Virtualization for Red Hat OpenStack Platform services.*

* Does not provide RHV as a hypervisor for OSP workloads.

RHOSP 13 - Queens Key take away

- Long term release (3+2 years) based on Openstack Queens release
- Fast forward upgrade from 10 -> 13
- Cinder volume encryption
- Manila in combination with CephFS
- Real Time KVM
- Opendaylight



Automation with Ansible

Ansible Networking



AUTOMATION IS THE SWEET SPOT

86%

Automation is either critical or very important to future cloud strategy.

79%

Of IT organizations will need to deploy new management and automation software between now and 2020.



SIMPLE

- Human readable automation
- No special coding skills needed
- Tasks executed in order
- Usable by every team
- Get productive quickly**



POWERFUL

- App deployment
- Configuration management
- Workflow orchestration
- Network automation
- Orchestrate the app lifecycle**



- Agentless architecture
- Uses OpenSSH & WinRM
- No agents to exploit or update
- Get started immediately
- More efficient & more secure**

ANSIBLE POPULARITY

28,000+

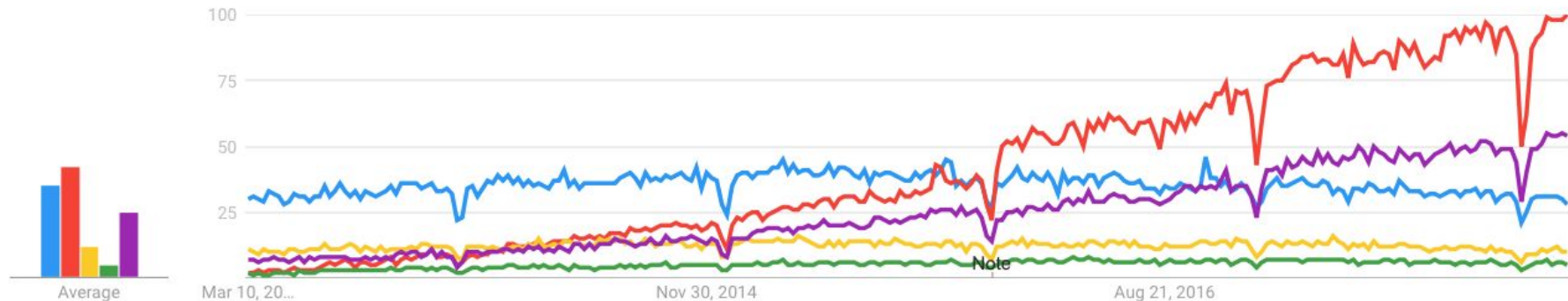
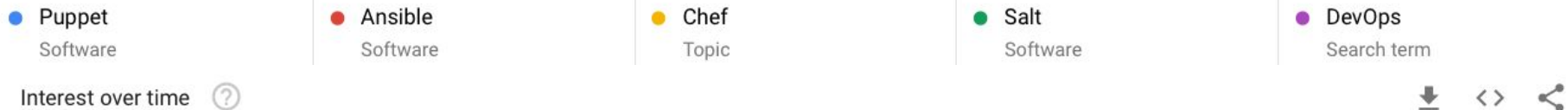
stars on GitHub

1600+

Ansible modules

500,000+

downloads a month



NETWORK MODULES

- Developed, maintained, tested, and supported by Red Hat
- **140+ supported modules** and growing*
- Red Hat reports and fixes problems
- **Networking modules included** with Ansible Engine offering, but the **Ansible Engine Networking Add-On SKU purchase is required** for full support

*take special note of the specific supported platforms

NETWORKING ADD-ON INCLUDED SUPPORT:

Arista EOS

Cisco IOS

Cisco IOS XR

Cisco NX-OS

Juniper Junos

Open vSwitch

VyOS



Red Hat Storage



Storage most used for Openstack

According to latest annual survey done by Openstack Foundation to Openstack users:

Ceph is most used storage for Openstack in production: 48% compared against next proprietary solution with 10%

<https://www.openstack.org/assets/survey/April2017SurveyReport.pdf>

Which OpenStack block storage (Cinder) drivers are in use?

Cinder drivers also remained relatively constant, with Ceph RDB up 8 points and both LVM and NetApp up 3 points.

Just a handful of respondents indicated IBM Storwize, Huawei, HDS, IBM GPFS, Dell EqualLogic, IBM XIV/DS800, Windows Server 2012, Nexenta,

SAN/Solaris, HP LeftHand, XenAPI Storage Manager, Sheepdog and IBM NAS.

Among the largest clouds with 1,000 or more cores, Ceph RDB is still dominant, but not used by the majority, while other block storage drivers were also popular.

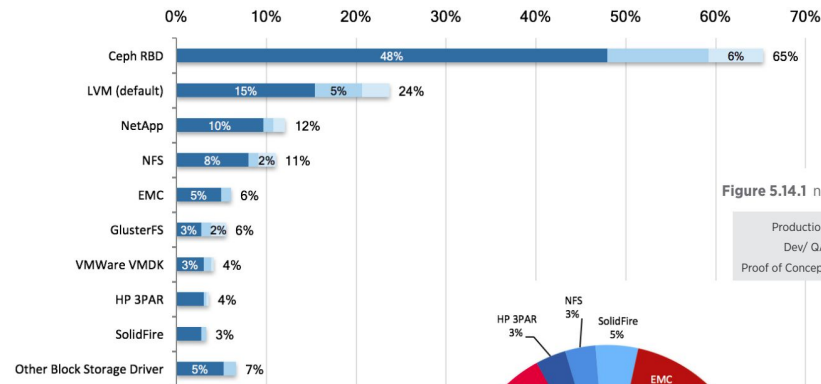


Figure 5.14.1 n=363

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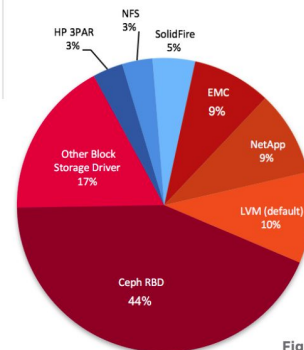
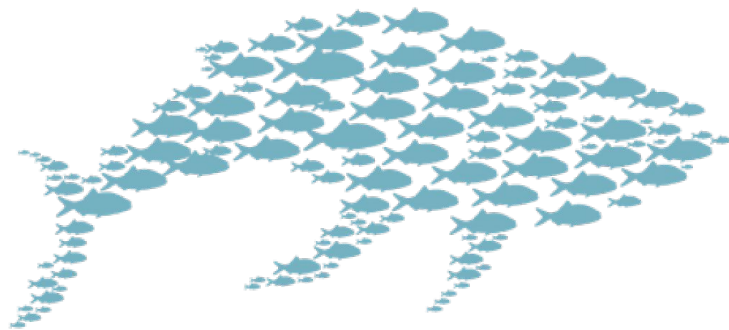
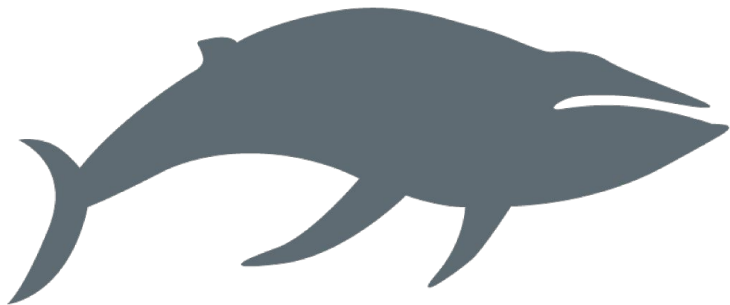


Figure 5.14.2 n=88

RED HAT CEPH STORAGE USE CASES

- OpenStack
 - IaaS, Private Cloud
 - Telcos NFV
- Web App Storage (STaaS/Cloud Storage)
- Media Repository
- Big Data: Data Lake for Analytics
- Backup
- Enterprise File Sync and Share (EFSS)

FLEXIBILITY IS EVERYTHING



WE CAN DO MORE TOGETHER!



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