



**Hewlett Packard**  
Enterprise

# **Retour d'expérience client : accélérez et sécurisez vos déploiements avec HPE Synergy et Red Hat OpenShift**

Christian Schutz  
Didier Kirszenberg  
Massive Data

Responsable France Avant-Vente Cloud C&E  
Responsable France des architectures

---

# Agenda

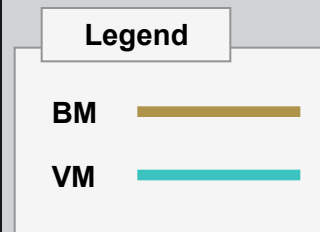
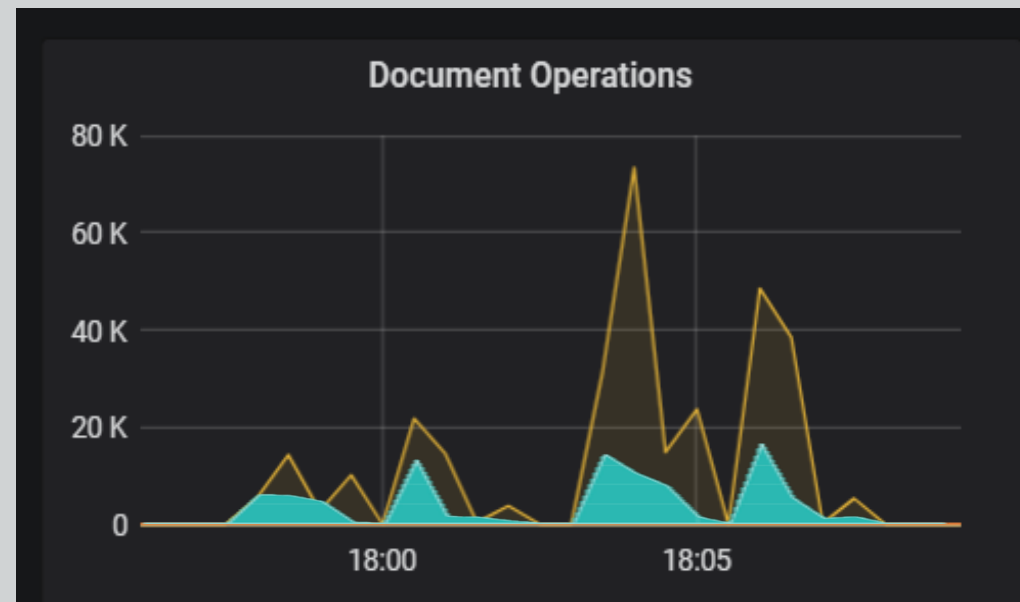
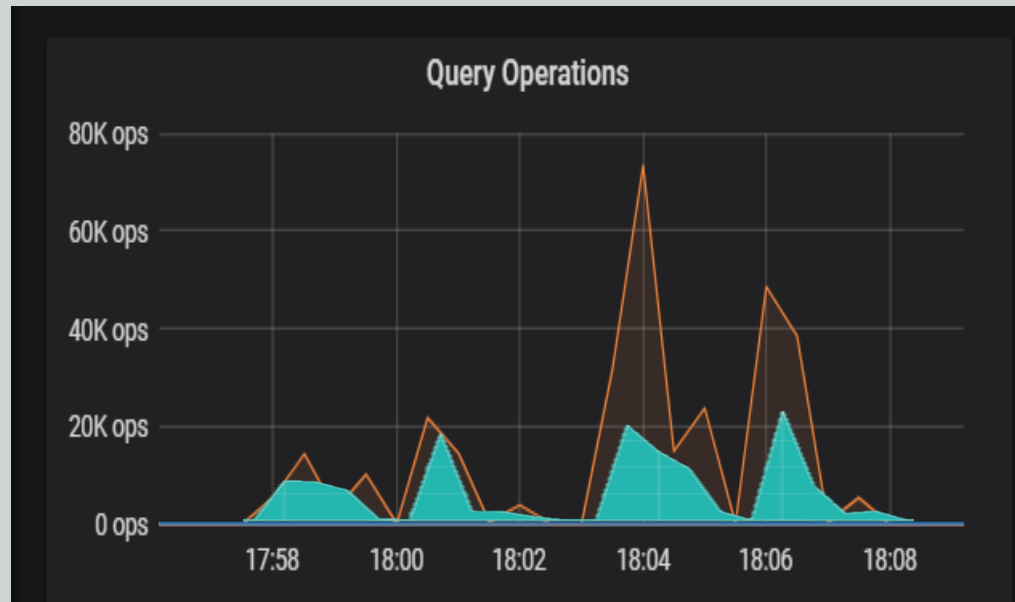
- Container deployment Challenges
- Red Hat OpenShift on HPE Synergy
- HPE Pointnext for OpenShift container solutions
- Customer use-case
- Conclusion



# Container deployment Challenges

# Containers on VMs impact performance

## Containers mongodb on Physical Server vs Virtual Server



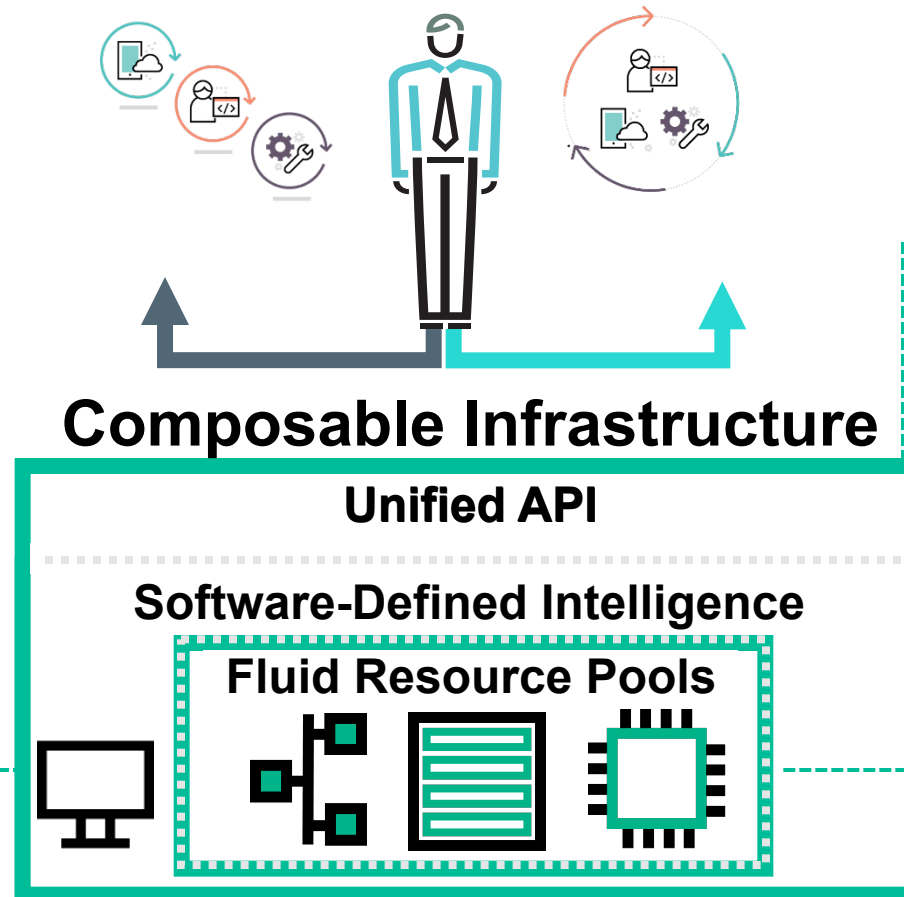
<https://github.com/mongodb/mongo-perf>

**x4,11 better performance on BM**  
**46% TCO saving on BM**

- Same hardware, just a virtualization differ
- Hardware stack based on HPE Synergy SY480 and HPE 3PAR 9450
- Mongodb bench \$ `python benchrun.py -f testcases/simple_insert.js -t 5 10 20 --host 10.3.88.156 --port 27017`
- Performance monitoring based on Prometheus and Grafana

# Composable Infrastructure

How to be agile for Bare Metal also



## Fluid Resource Pools

- Single infrastructure of disaggregated resource pools
- Physical, virtual, and containers
- Auto-integrating of resource capacity
- GenZ compatibility

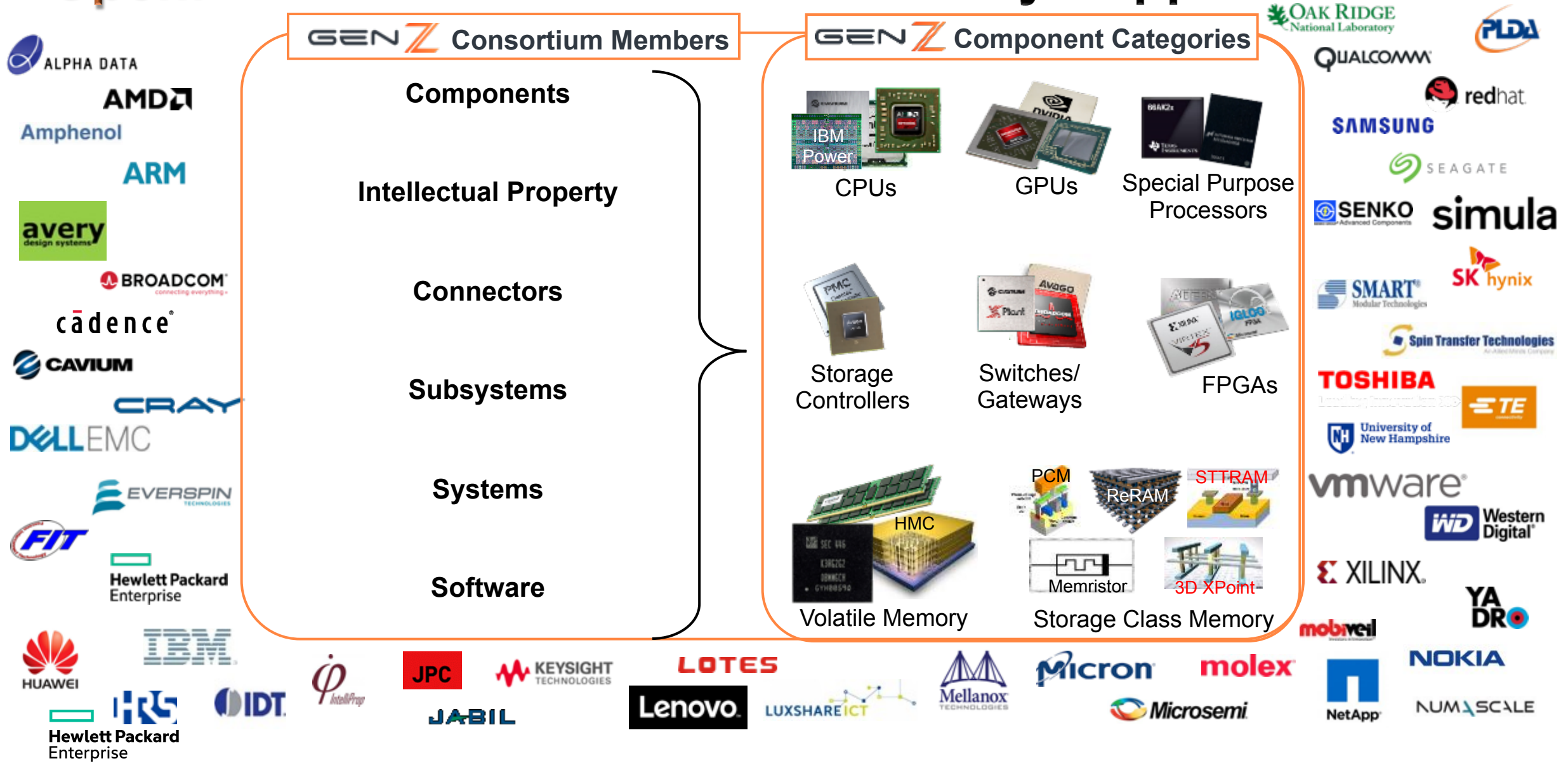
## Unified API

- Single line of code to abstract every element of infrastructure
- Full infrastructure programmability
- Bare metal interface for Infrastructure as a Service

## Software-Defined Intelligence

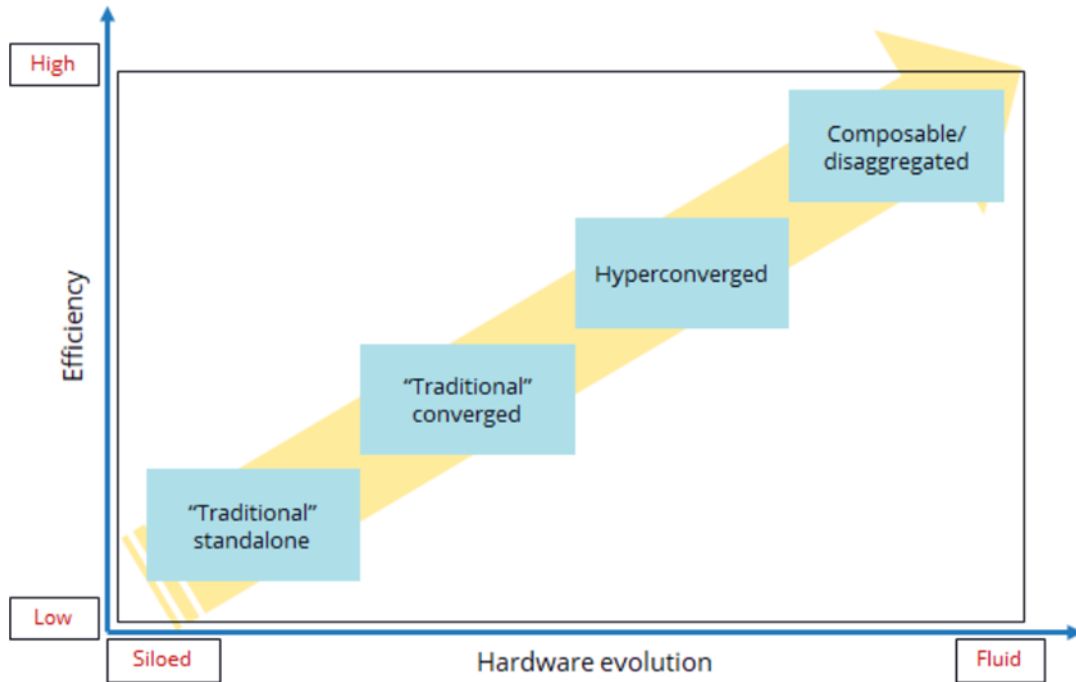
- Template-driven workload composition
- Frictionless operations

# Open: Consortium with Broad Industry Support



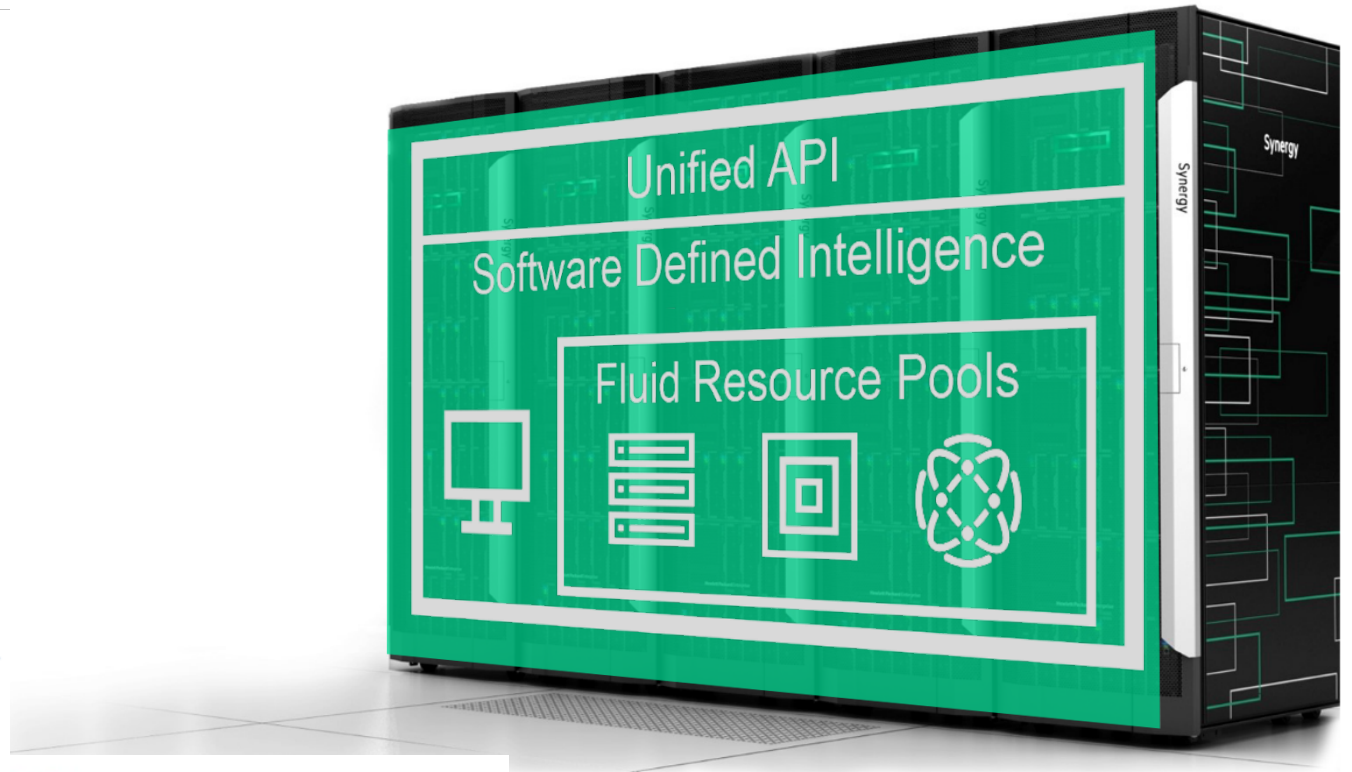
# The Future will be composable

## Future will be Composable



Source: IDC, 2018

[Source: IDC Report Worldwide Composable/Disaggregated Infrastructure Forecast 2018-2023 August 2018](#)



# FORRESTER®

Source: Forrester Report, The Software-Defined Data Center Comes Of Age, October 30, 2017



# Red Hat OpenShift on HPE Synergy



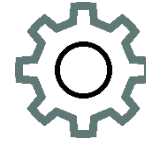
# HPE Synergy: the ideal container platform

Solution for enterprise scale container deployment



## Deploy containers at cloud-like speed

Improve application time to value  
Reduce updates from hours to minutes



## Flex container resources up and down

Allocate resource by business demands



## All-in-one datacenter consolidation platform

Host legacy, cloud native, VMs, bare metal containers apps on common platform



## Advanced container data management

Data protection and storage efficiency for containers



HPE Synergy and  
3PAR



# HPE Synergy : Powering your Hybrid IT transformation

## Composable Frame

### Composer



### Composable Compute



Hewlett Packard  
Enterprise



### Composable Fabric



### Composable Storage



Start small (x1 = 12 slots), then Scale (x21 = 252 slots)  
Manage by 1 API endpoint

### Image Streamer



# OpenShift Deployment on HPE Synergy - Detailed

**Red Hat Ansible Tower**  
 Workflow runs playbooks to deploy RH OCP on Synergy using Ansible Modules for HPE OneView.



*Initiates workflow*

*Deploy OpenShift*

*Deploy OpenShift*

**HPE OneView**

- Server profile template identifies the networks, storage, and deployment plan
- Sets personalization parameters
- Provisions physical infrastructure
- OneView Profile Templates include:
  - Worker Role
  - Master Node
  - Infrastructure Role
  - Load Balancer

**Ansible Playbooks**

- Deploy Red Hat OpenShift Container Platform masters and workers.
- Configure container-native storage using Red Hat Gluster Storage

*Initiates OS deployment plan based on template*

*Allocates required storage*

*Configures paths to storage*

*Golden image clone and server now bootable (RHEL 7.5)*

**HPE Synergy Compute and Storage**  
 Compute node boots directly into a customized running OS ready for RH OCP deployment

*Bootable server with required profile installed*

**RED HAT**  
**OPENSIFT**  
 Container Platform  
 Fully Automated end to end!

- HPE Synergy Image Streamer**
- Creates RHEL 7.5 bootable OS
  - Personalizes OS and prepares for RH OCP per deployment plan
  - Golden Image uploaded RHEL 7.5 (completed during installation phase)



**Hewlett Packard Enterprise**



# HPE Pointnext for OpenShift container solutions

# Typical customer container journey

## Learn and evaluate

- Container implications
- Containers aligned with business objectives and metrics
- App transformation impacts
- App lifecycle processes

## Pilot and PoCs

- Prototype architecture and platform
- Identify optimal PoC application
- Prototype updates and changes to DevOps processes

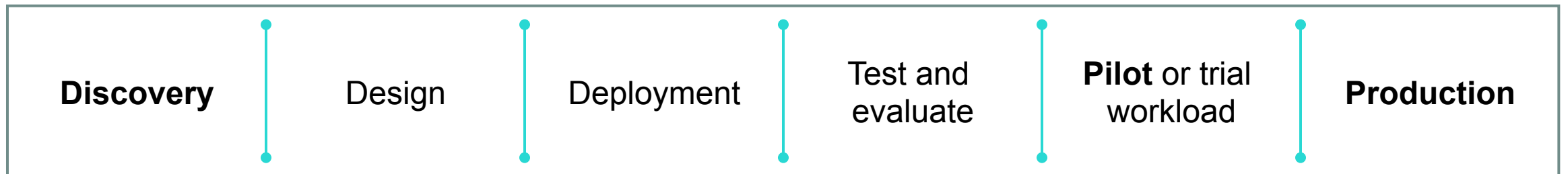
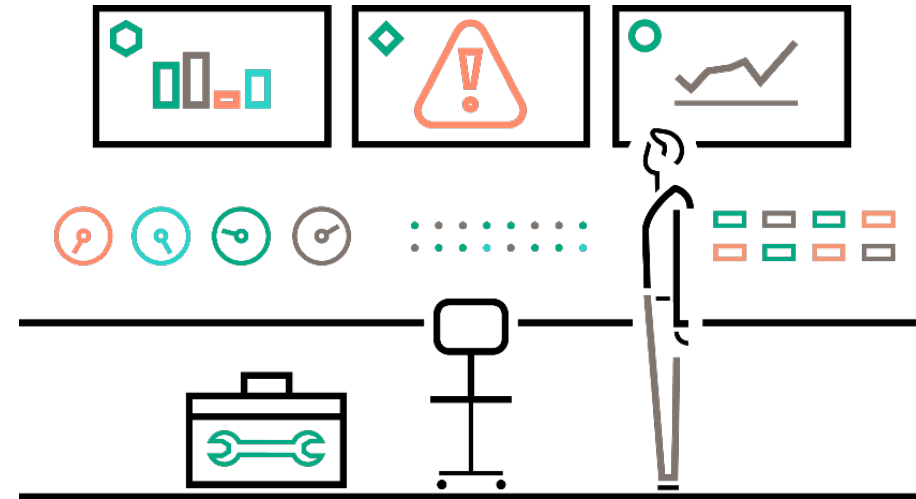
## Production deployment

- Deploy containers at scale
- Update relevant business and IT processes
- Integrate containers with existing infrastructures
- Implement high availability (HA), security, networking, persistent storage, lifecycle, and management

# HPE container services for OpenShift



- Review application requirements
- 2-3 day workshop to gather requirements and define integrations
- Create design
- Deploy container platform environment
- Pilot containerized applications
- Move to production



# Accelerate innovation with HPE Pointnext and Red Hat

Small & large enterprise : benefit with HPE Pointnext and Red Hat Open Innovation Labs from a turnkey solution to **accelerate the adoption of container technologies**

**HPE**  
POINTNEXT

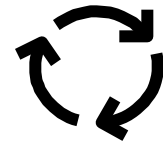


**RED HAT**  
OPEN INNOVATION LABS

**Innovation** : Co-create an innovative or disruptive product

**Transformation** :Migrate a portfolio of existing applications

**Cloud Natives best practices** : Experience State of the Art Application development and DevOPS.



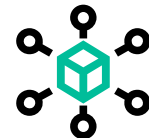
Agile Methods and CI / CD pipeline



Accelerate development and production



Expertise, Transformation, Adoption



Adopt infrastructure as a code



# Customers use-cases



# Dreamworks Animation's Scope

## INFRASTRUCTURE SCALE

- 7-10 feature films, multiple TV series
- 2,000 servers
- 22,000 core render farm, 50,000 total cores
- 1,000 virtual machines (▼)
- 3,000 containers(▲)
- Back-end services receive 3.6 Billion hits per day
- 110,000 transactions per second
- 200 database clusters across 15 types

## SERVICES PLATFORM

### Old School

- Big JAVA clusters
- Monolithic services
- Dedicated hardware and cluster per movie
- 3-5 movies at one time

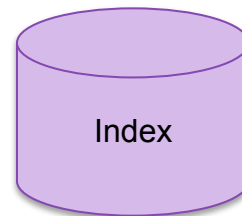
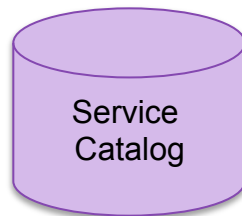
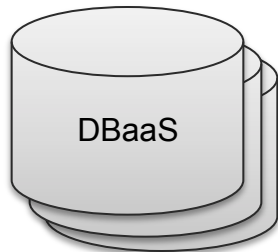
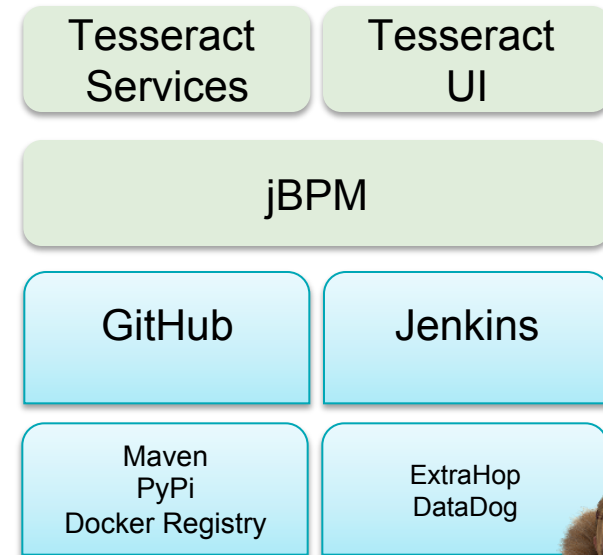
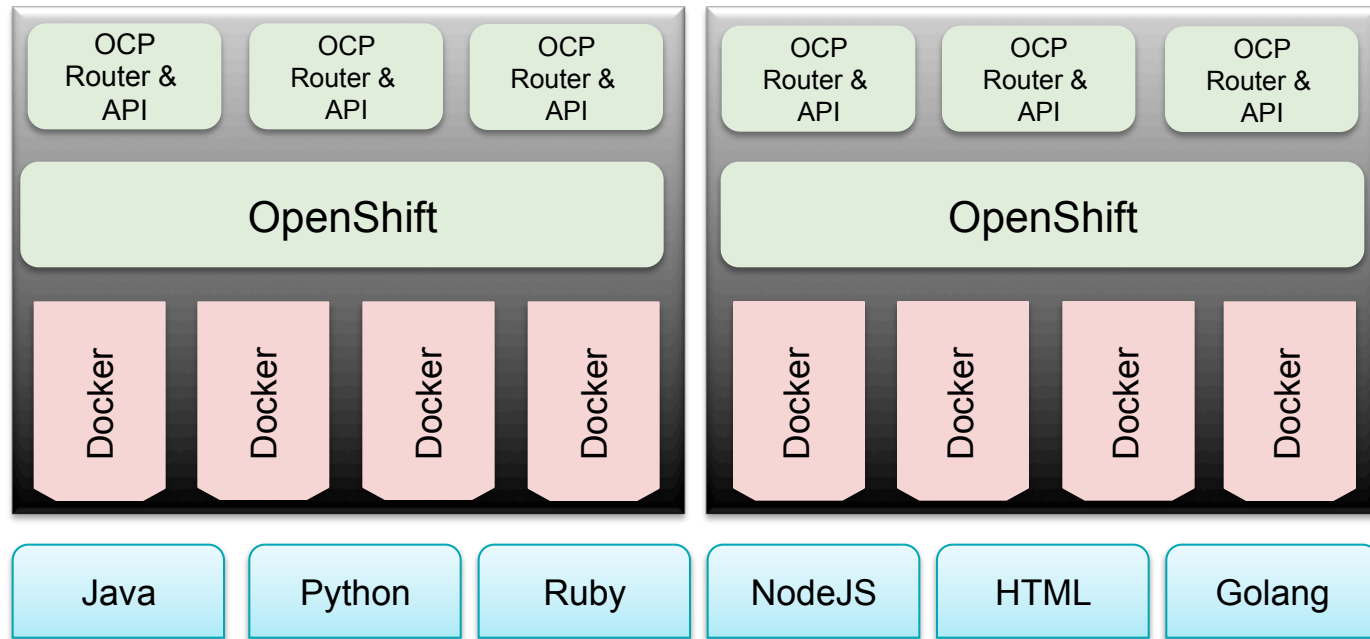
### PaaS "lite"

- Oracle had no PaaS and no Docker story
- SBJVM: VMs, Tarballs and Jenkins



# PaaS and CI/CD Architecture

## Service Proxy & Cache



# Takeaways

## BENEFITS

- More frequent deployments and minimized changes
- Increased isolation due to microservices
- Ability to change tools and technology without impacting the user experience
- All dependencies included in the containerized application
- Freedom for developers to use their language of choice
- Cloud-native applications can be packaged and deployed anywhere

## CHALLENGES

- Scale - From 20 big JVMs to 200 small JVMs to 2000+ pods
- Licenses didn't scale
- Distributed tracing becomes critical
- New skill sets required
- Change management challenges
- Distributed logging is difficult



# European CMS provider

## CHALLENGE

Replace a proprietary solution for video encoding through an open scalable platform.

## SOLUTION

- Proof of Concept comparison between Red Hat OpenStack and Red Hat OpenShift platforms on HPE Synergy for this video encoding solution.
- Usage of HPE Synergy capabilities (including the Image Streamer ) to quickly provision a large pool of Red Hat OpenShift resources.

## RESULTS

- Red Hat OpenStack was a good solution but the customer prefer for this solution Red Hat OpenShift ease of use and support by different video encoding providers.
- Improved performance
- Highly efficient process for provisioning and scaling of resources

## Selected Solution

- HPE Synergy
- Red Hat OpenShift
- Red Hat Ansible Tower



# Conclusion

# Cloud like experience with Red Hat OpenShift & HPE

**Complete Solution  
+  
Strategic  
partnership**

**... software, hardware & services**



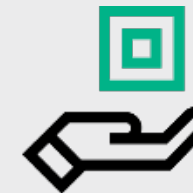
**Flexibility &  
Attractive  
purchase and  
finance terms**

**Flex capacity and other financing  
models  
... it grows according to needs**



**Easy  
Management &  
Support**

**... single point of contact**



# Come visit us + see it live on the HPE booth (27)

The screenshot displays the OneView web interface for a server profile named 'ocp-lbnfs'. A prominent dark grey box in the upper right corner of the main content area contains the text: "Deployment of 13 physical servers complete in under 37 minutes".

The interface includes a sidebar on the left with a list of server profiles. The main content area shows the 'Create' action for the 'ocp-lbnfs' profile, which is completed. Below this, there are several status panels:

- General >**:
  - Description: ocp-lbnfs with OCP-LB-NFS
  - Server profile template: [OCP-LB-NFS](#)
  - Server hardware: [FRM3-BTM: CN754600C1, bay 11](#)
  - Server hardware type: [SY 480 Gen9 1](#)
  - Enclosure group: [EG1](#)
  - Affinity: Device bay
  - Server power: On
  - Serial number (v): VCG40420A6
  - UUID (v): c8df6a78-fb83-4fd3-a70c-2369c2b39447
- Connections >**: Shows 4 OK connections. A circular gauge displays '4 OK'.
- SAN Storage >**: Shows 'managed manually'.
- Local Storage 1 >**: Shows 'Status' with a circular gauge displaying '1 OK'.
- BIOS >**: Shows 'managed manually'.

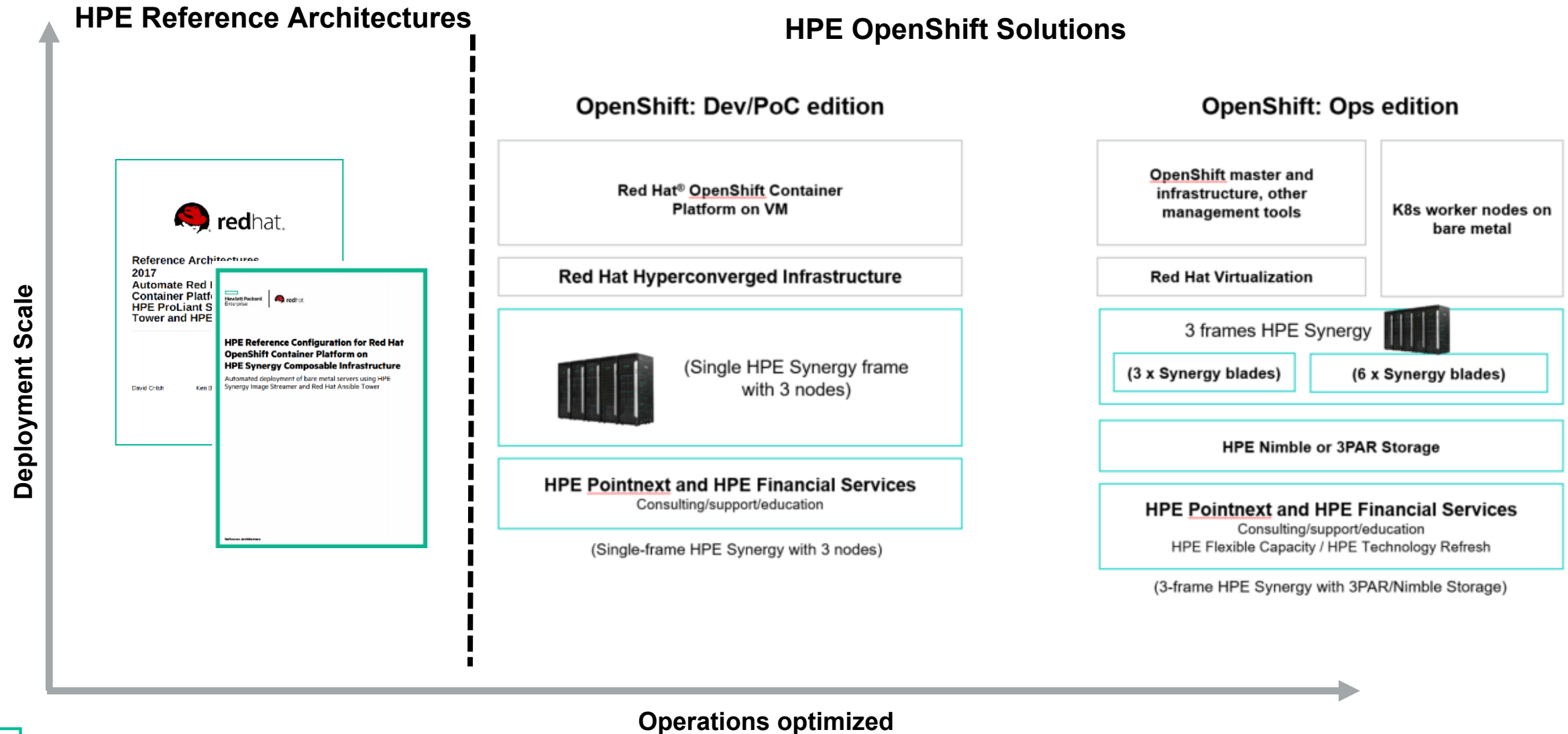
The top navigation bar includes the OneView logo, a search bar, and user information. The browser tabs show 'Ansible Tower' and 'Overview'. The URL is <https://10.6.1.10/ansible-tower/files/show/overview/r/rest/server-profiles/c8df6a78-fb83-4fd3-a70c-2369c2b39447>.



# Q&A

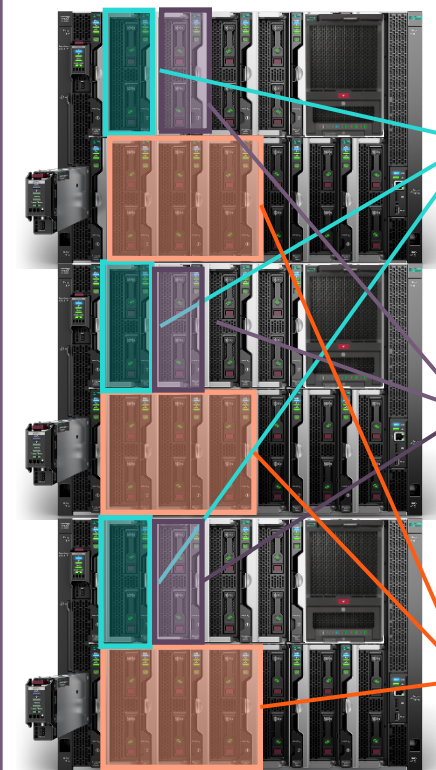


# End-to-end solution

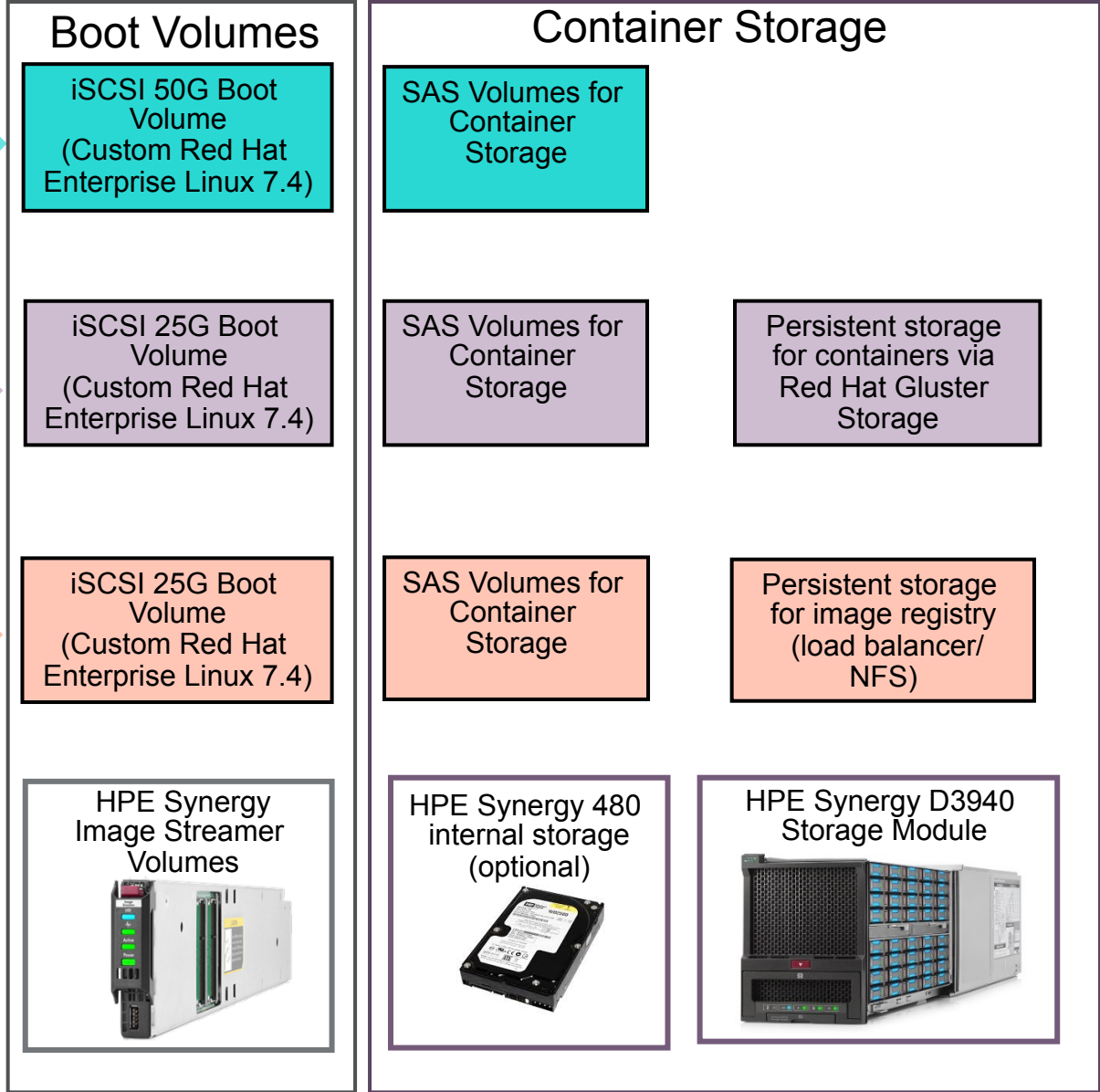
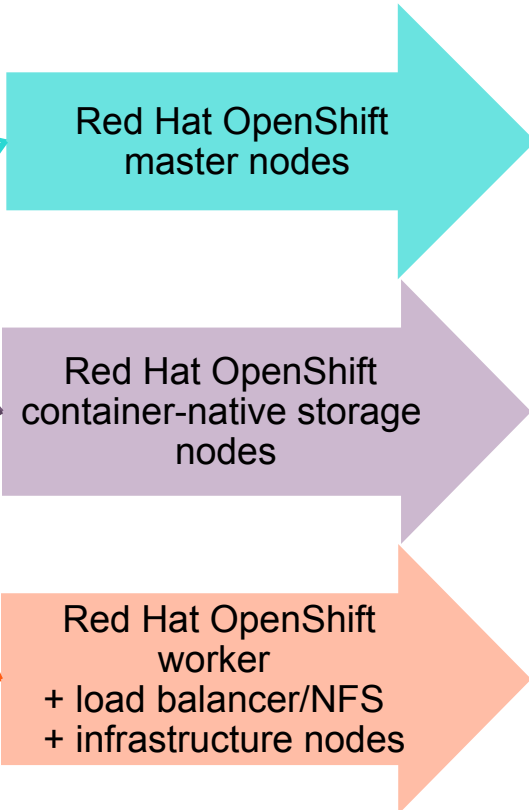


# Available Now - HPE Reference Configuration for Red Hat OpenShift with Gluster FS

3x HPE Synergy 12000



## 3 Frame High Availability solution with Persistent Storage for Containers



### Additional Management Software

- Red Hat Ansible Tower
- Red Hat Satellite
- Red Hat CloudForms

# HPE Synergy : Powering your Hybrid IT transformation

## Composable Frame

Everything needed to run applications, so IT can be quickly setup and consumed  
Auto-integrating makes scaling simple and automated at rack/row scale

## Composer

Integrated software-defined intelligence to self-discover, auto-integrate, provision and scale from racks to rows



## Composable Compute

Provides the performance, scalability, density optimization, storage simplicity, and configuration flexibility



## Composable Fabric

Rack scale multi-fabric connectivity eliminates standalone TOR switches



## Composable Storage

High-density integrated storage to compose any compute with any storage (SDS, DAS, SAN)

