redhat.

PUSH INFRASTRUCTURE TO THE EDGE WITH HYPERCONVERGED CLOUDLETS

Edge Computing Beyond Telco

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OpenStack Summit Vancouver May 2018

Video Source: https://youtu.be/S-_nCjFFHMY

DEFINE THE TERM CLOUDLET

WHAT IN THE WORLD DOES THAT MEAN?

"A cloudlet is a mobility-enhanced small-scale cloud datacenter that is located at the edge of the Internet"

https://en.wikipedia.org/wiki/Cloudlet

ALL SHAPES AND SIZES

DIFFERENT VENDORS TARGETING DIFFERENT USE CASES

REQUIREMENTS

- Small Footprint/Portable
- Ruggedized
- Low-Power
- Storage Dense
- GPUs In Box
- Same Bits as Data Center

REMEMBER VERIZON'S EDGY BOX?

BOSTON OPENSTACK SUMMIT 2017 KEYNOTE

"We need to be in the edge, the data center, all over the place,"

- Beth Cohen

[Pushing the Edges with OpenStack]

USE CASES BEYOND TELCO

THE FOLLOWING ARE EXAMPLE USE CASES ONLY AND DO NOT NECESSARILY EQUATE DIRECTLY TO RED HAT CUSTOMERS

DISASTER RESPONSE AND RECOVERY

WE THINK OF DR IN THE DATA CENTER. IMAGINE RESPONDING IN REAL LIFE

Source: https://commons.wikimedia.org/wiki/File:Katrina-14501.jpg

Responsible for:

- Response during
- Recovery after

Limiting Factors:

- Cell towers damaged
- Power out or unstable
- Multiple organizations

Requirements:

- Portable infrastructure
- Application availability for logistics, comms, etc.

MILITARY OPERATIONS

DATA CENTERS IN MOBILE VEHICLES AND REMOTE STATIONS

Source: https://www.army.mil/article/149176/next_gen_command_post

Responsible for:

- Human lives

Limiting Factors:

- Hostile environments
- Limited connectivity
- Small, harsh spaces

Requirements:

- Ruggedized infrastructure
- Application availability for logistics, comms, etc.

ON LOCATION TRAINING

BRING THE CLASSROOM TO THE STUDENTS

Responsible for:

- Student experience
- Sufficient lab resources

Limiting Factors:

- Limited connectivity
- Availability of materials
- Instructor transport

Requirements:

- Low power
- Portable infrastructure
- Multi-tenancy

Source: https://commons.wikimedia.org/wiki/File:System_Administration_Conference_Training.jpg

CYBER SECURITY

DEFENDING COMPROMISED NETWORKS

Source: https://dma.wi.gov/DMA/news/2017news/17134

Responsible for:

- Network integrity
- Detection and defense
- Data security

Limiting Factors:

- Compromised situation
- Unknown enemy
- External connectivity

Requirements:

- Portable infrastructure
- Run tested tools

COMPUTING PLATFORMS FOR DEEP SPACE

OVERCOME PROBLEMS OF SPACE EXPLORATION

Responsible for:

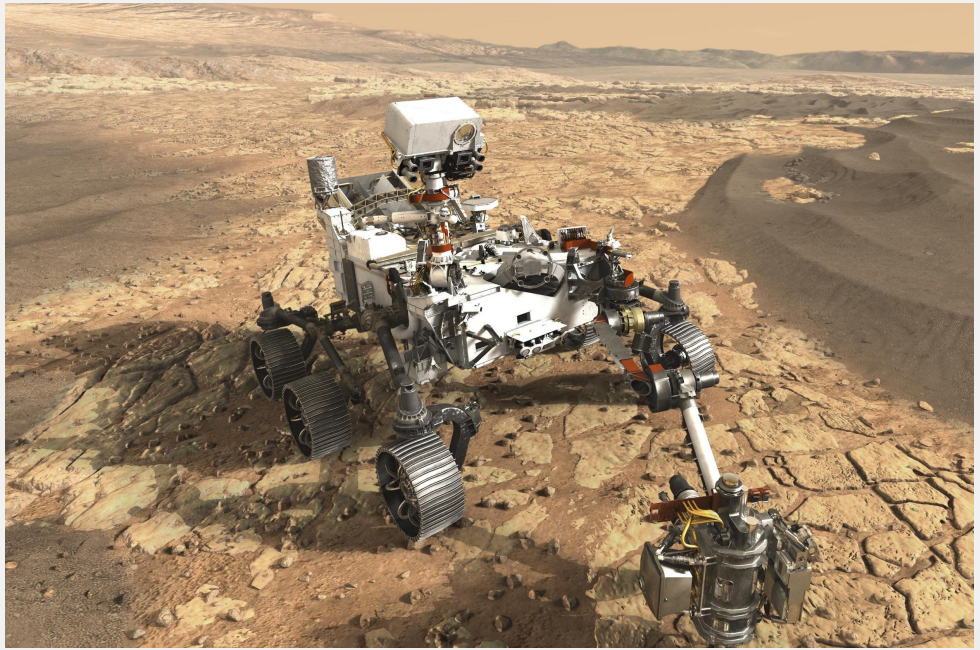
- Space exploration
- Extraterrestrial discovery
- Lives of astronauts

Limiting Factors:

- Effect of zero gravity
- Latency of networks
- Use of Earth technologies

Requirements:

- Efficient use of space
- Survive harsh conditions
- Run tested tools



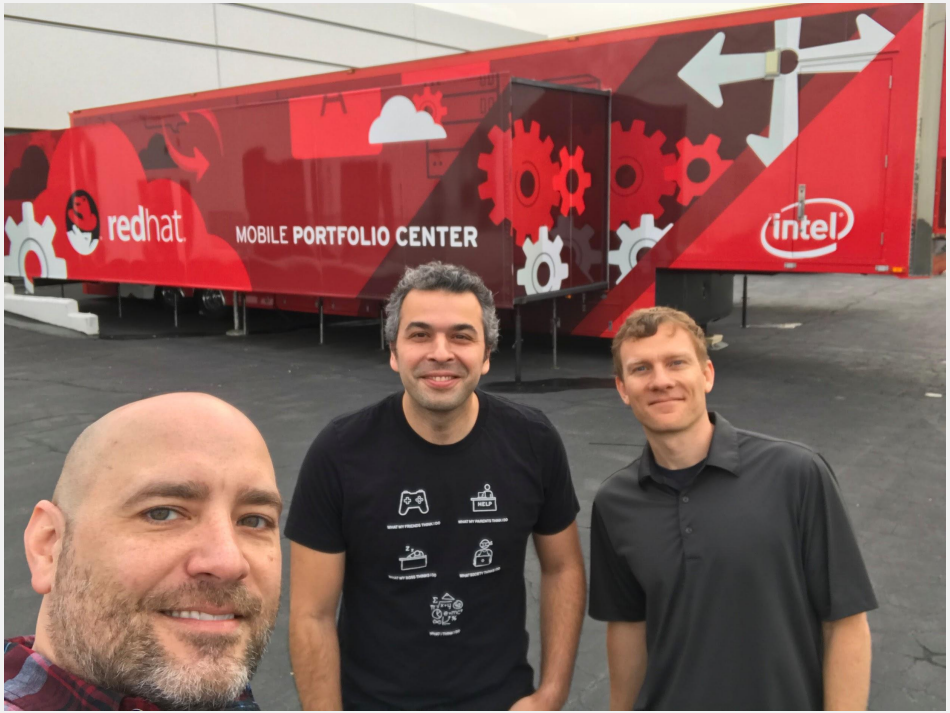
Source: https://en.wikipedia.org/wiki/Mars_2020

GOT ONE YOU CAN TALK ABOUT?

RED HAT MOBILE PORTFOLIO CENTER

MOBILE PORTFOLIO CENTER

Showcasing Red Hat's Entire Portfolio in a Semi Truck



Requirements
- WWAN connectivity
- WIFI access for guests
- Multiple architectures
- Push button deployment
- Operator manuals
- Showcase all RH bits

Hardware
- 3 x Tranquil PC V6XD+

Staffing
- 1 Project Owner
- 1 Project Manager
- 1 Architect Wrangler
- 5 Solutions Architects

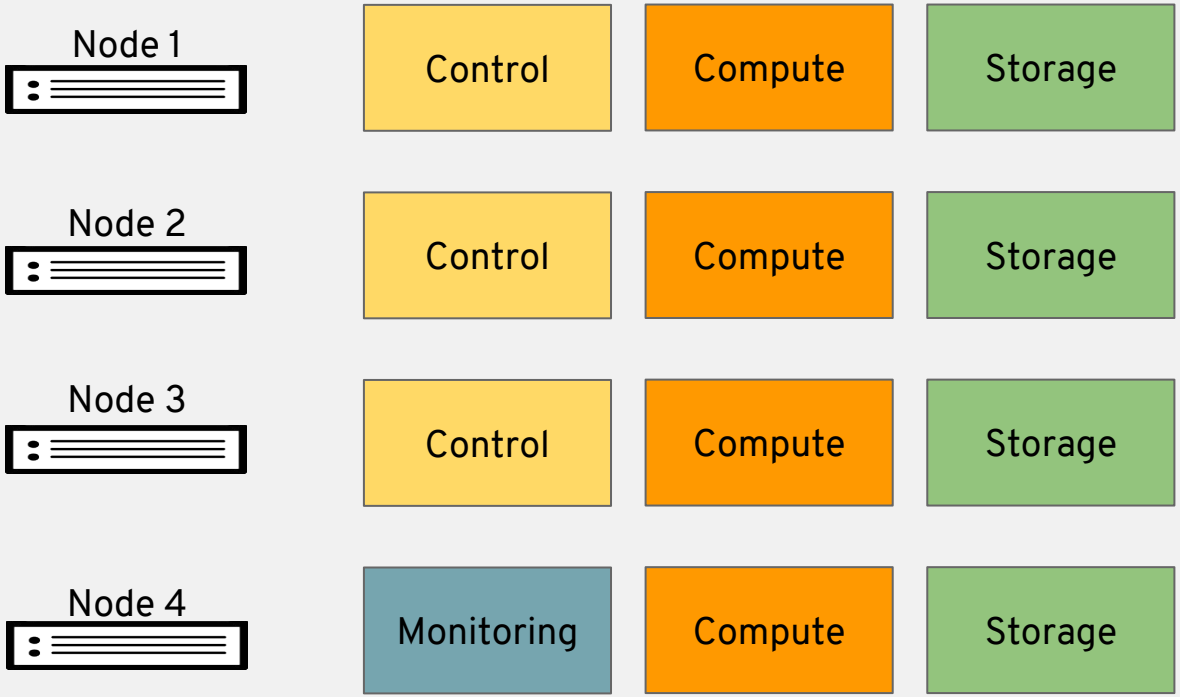
MOBILE PORTFOLIO CENTER

Showcasing Red Hat's Entire Portfolio in a Semi Truck

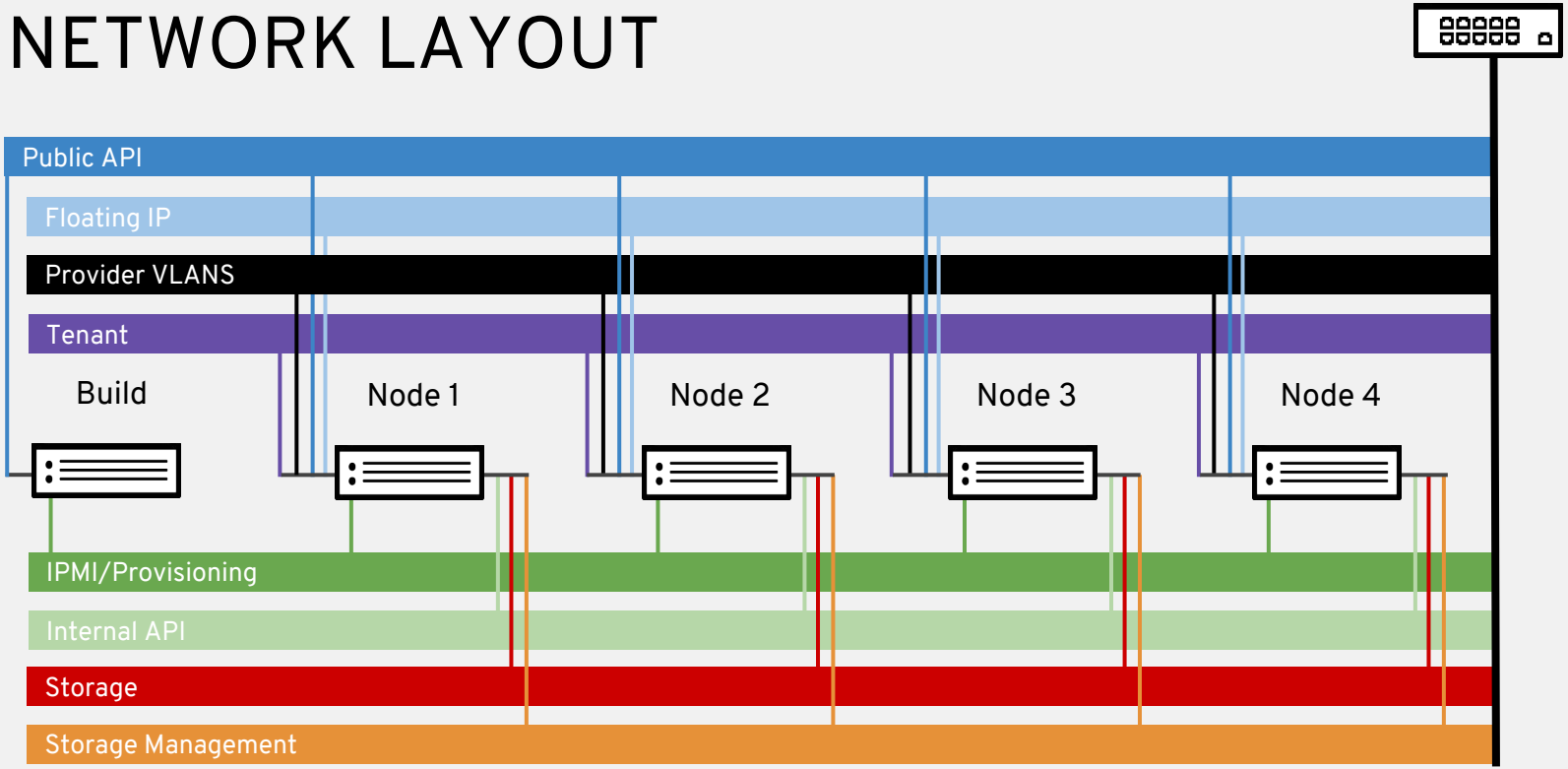
MOBILE PORTFOLIO CENTER

Building a mobile lab

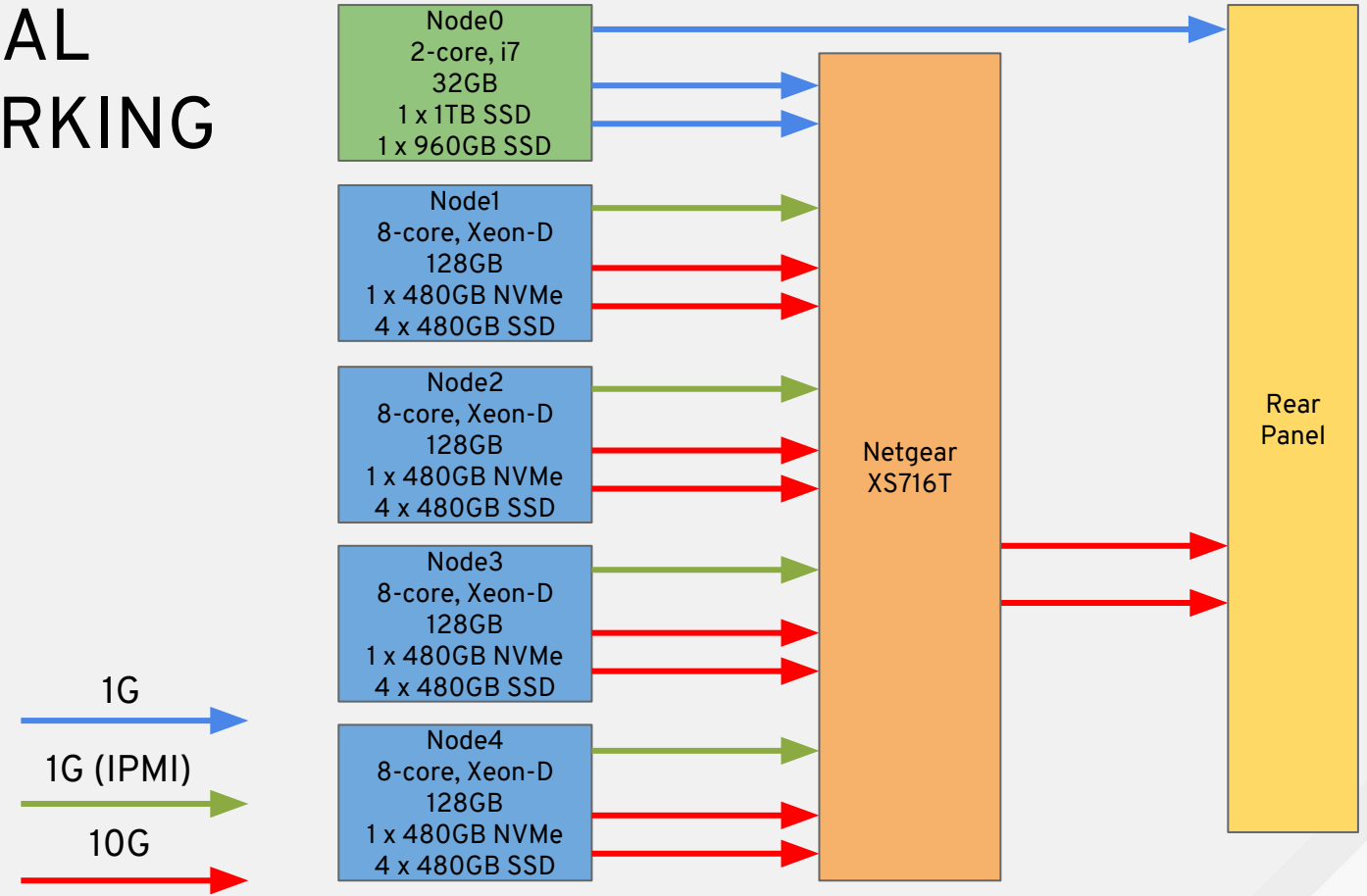
OPENSTACK SERVICE LAYOUT



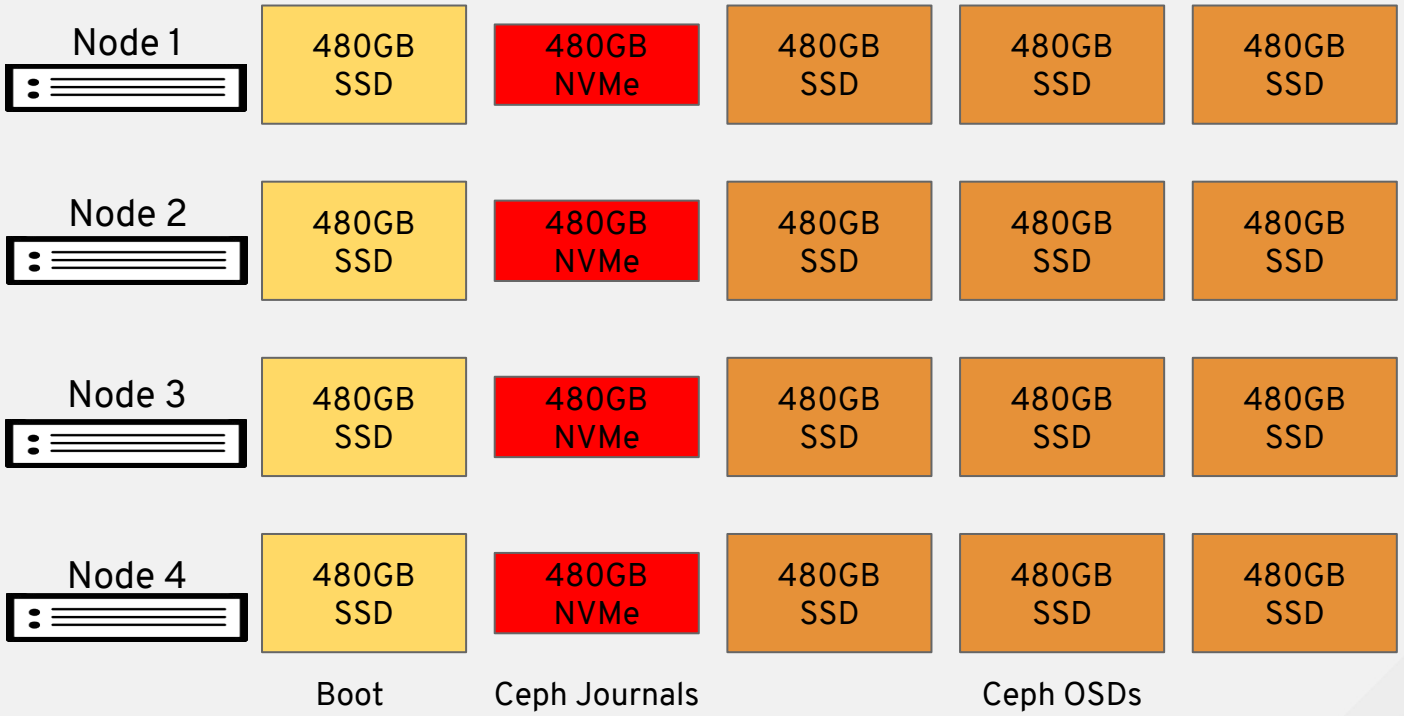
NETWORK LAYOUT



PHYSICAL NETWORKING

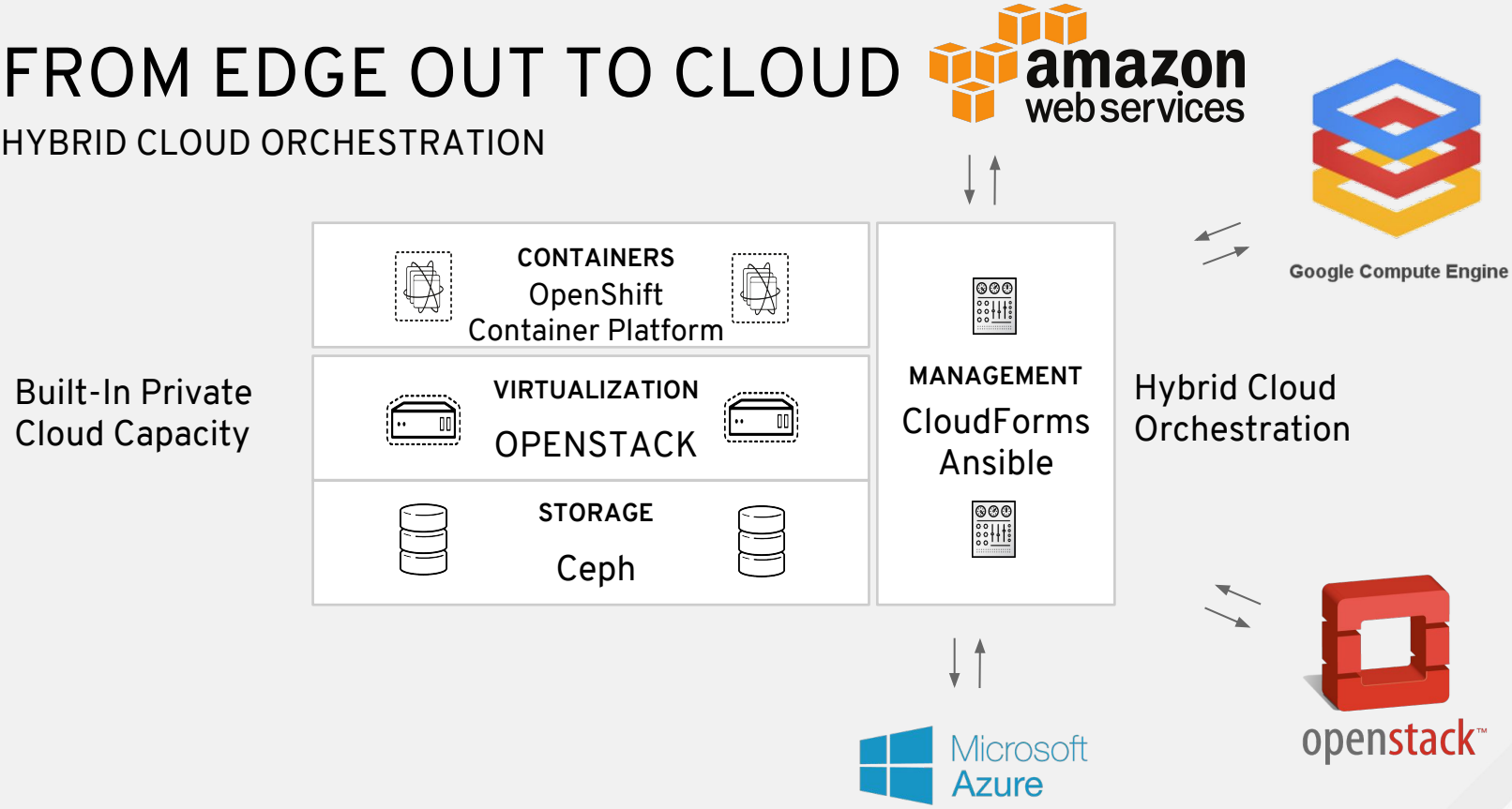


STORAGE LAYOUT



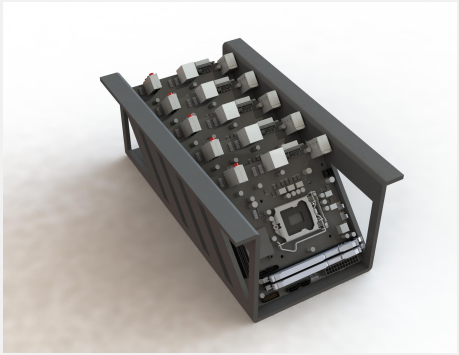
FROM EDGE OUT TO CLOUD

HYBRID CLOUD ORCHESTRATION



DLT Integrated Cloud Environment (ICE) Cube

COMPLETE CLOUDLETS DROP SHIPPED TO YOUR LOCATION



Integrated Cloud Environment

- Semi-rugged
- Carry on size
- Managed service
- Variable cubes
  - Storage cube
  - GPU cube

How to Purchase

- Single SKU from DLT
- DLT Assembles
- Drop ships to location
- Offers managed service

LETS SEE THE KIT

redhat.

THANK YOU

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