Dell & Red Hat – Better Together

Red Hat | DELL Technologies

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Organizations are transforming

80% of organizations have a **hybrid cloud** strategy in place today[1]

67% of organizations currently use or plan to use **Kubernetes**[1]

80% say that **IT automation** is "extremely important" to their future success[2]

92% say **digital transformation** will become more important in the next 12 months[3]

Cloud, container, and automation technologies are essential for digital transformation.

- Sources:
- 1 Flexera. "Flexera 2022 State of the Cloud Report," March 2022.
- 2 Harvard Business Review Analytic Services, sponsored by Red Hat. "Taking the lead on IT automation: IT leaders as evangelists for their automation strategies," January 2022
- 3 Harvard Business Review, sponsored by Red Hat. "Digital Transformation Refocused: New Goals Require New Strategies," May 2022.

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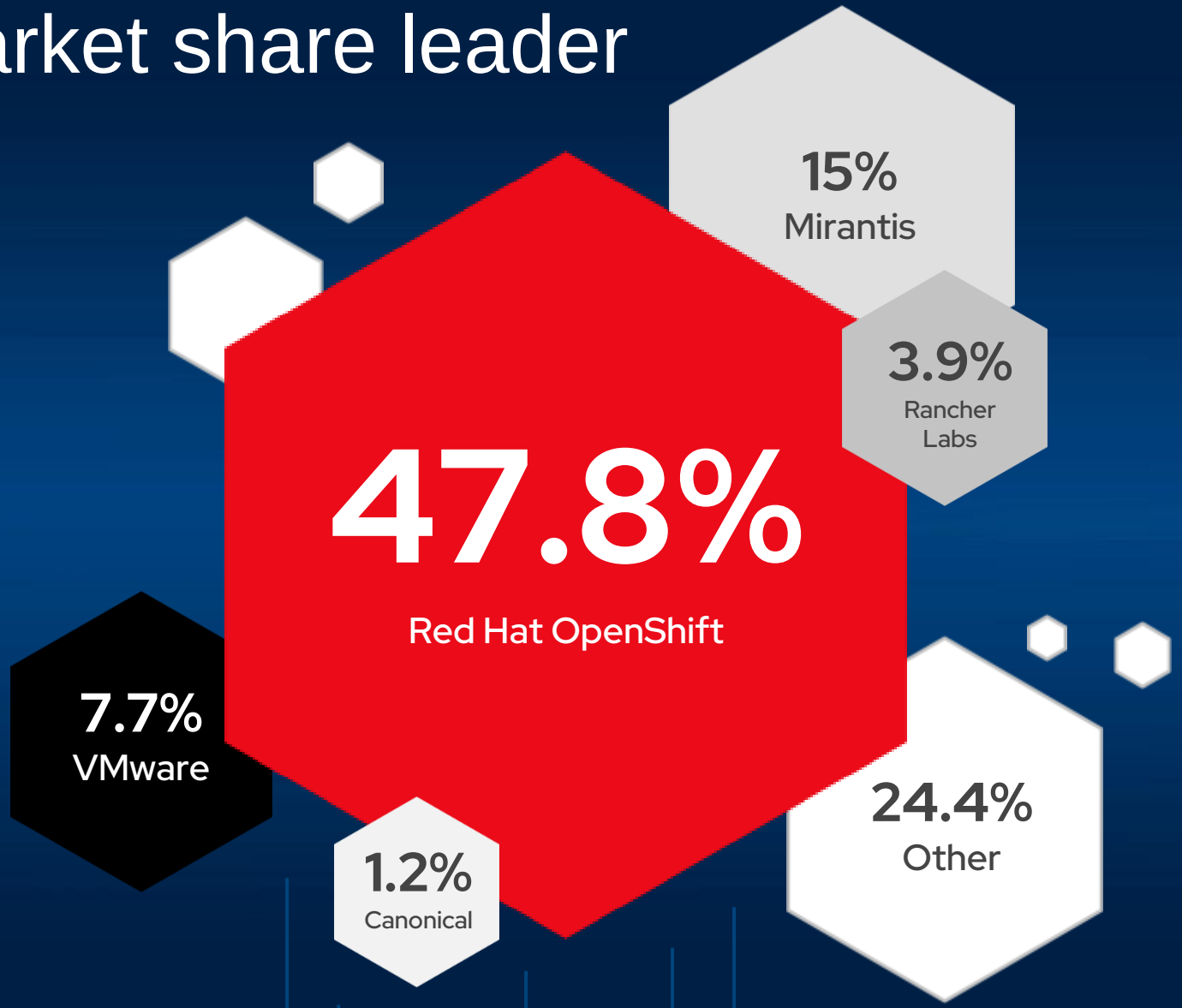
Container platform market share leader

Red Hat OpenShift

Container platform market share leader



Source: Who's Winning in the Container Software Market, IT Pro Today, Jun 29, 2021.

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Barriers to innovating with multicloud

Management complexity

Limited multicloud visibility

Unpredictable cloud costs

Skills gaps

Inconsistent security and compliance

Source: Dell Technologies, Dell Technologies Innovation Index, February 2023

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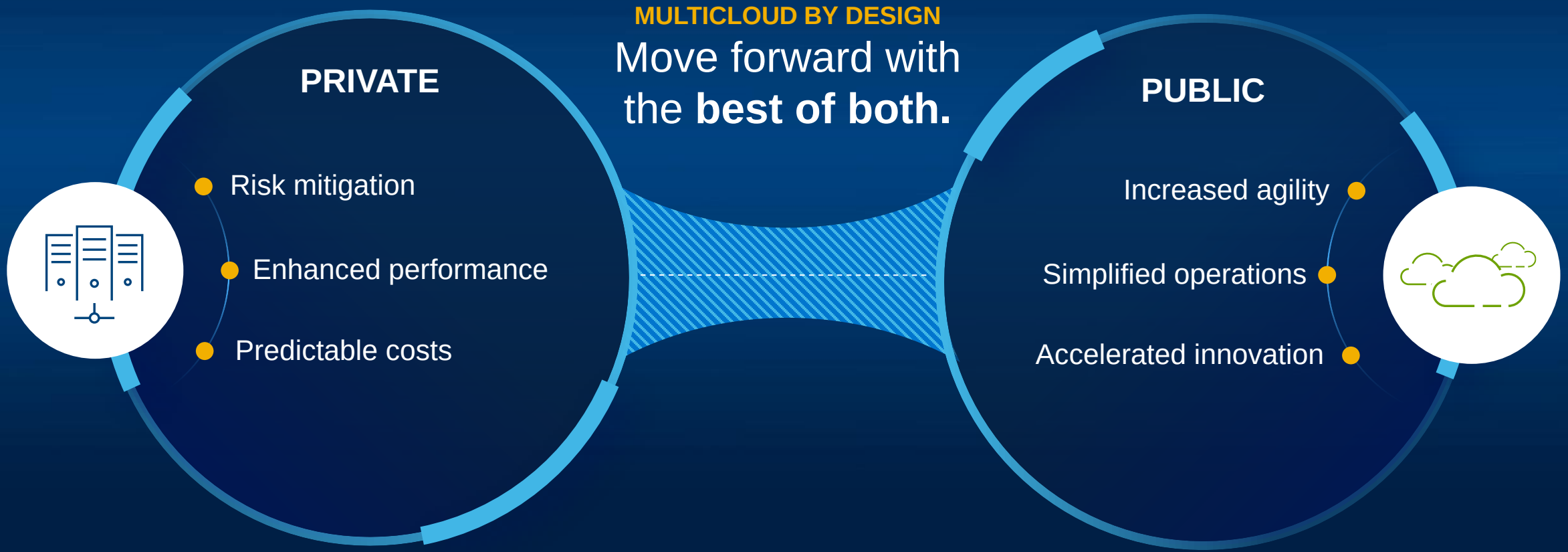
The need for multicloud by design

Organizations need the flexibility to choose the right infrastructure for their workloads



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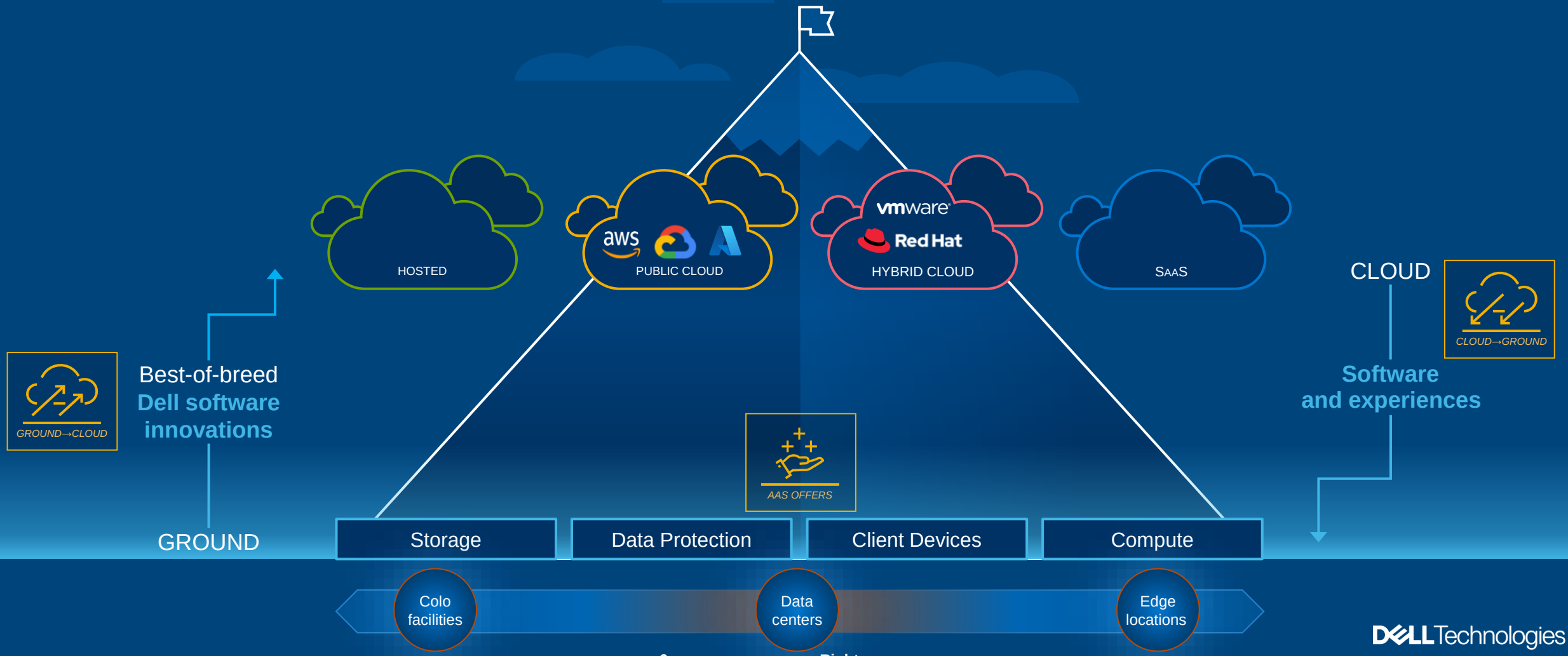
DELL Technologies | APEX

Take advantage of multicloud by design.
Get simplified cloud experiences with technology you trust.



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Combining strengths of the two leaders

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Leader in Infrastructure Platforms and Management

Leading portfolio of HCI, storage, server, networking and data protection

Software-driven innovations in management and orchestration

Broad solutions and services expertise

+

Red Hat

Leader in Container Management

Leadership in container management solutions for the enterprise

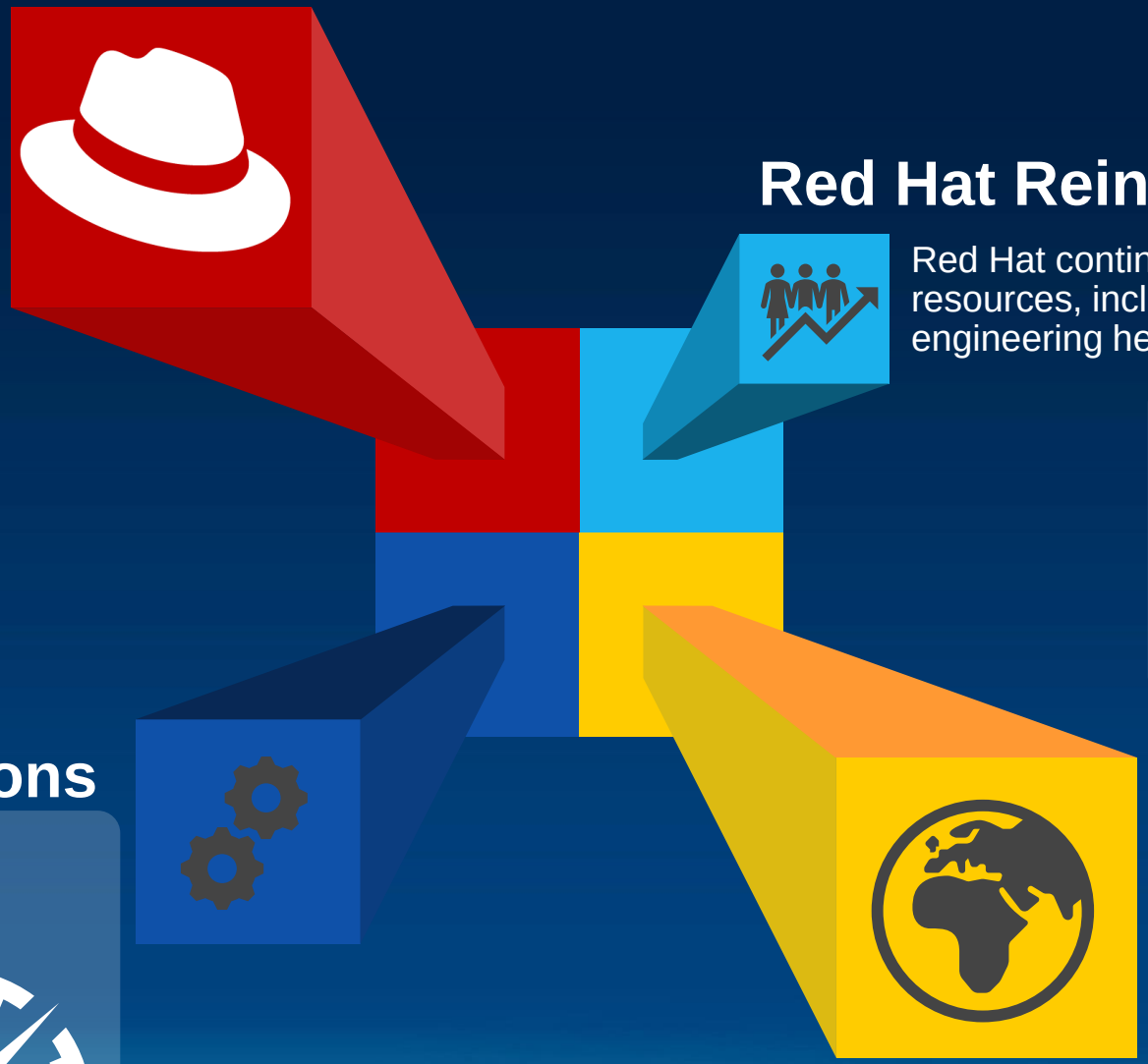
Broad portfolio of enterprise open source software solutions

Market leader in Kubernetes hybrid cloud application platform software

The Dell Technologies Red Hat Alliance is strong

24 Year Partnership

Dell started shipping Red Hat Enterprise Linux on Dell hardware in 1999



Red Hat Reinvestment in Dell

Red Hat continues to reinvest in Dell with resources, including Sales and Sales engineering headcount

91+

Global engineers and specialists who work on Red Hat documentation, certification, validation, and testing of Red Hat solutions at Dell Technologies

Co-Engineered Solutions

Enterprise Ready Solutions, Ready Stacks, White Papers

- *OpenStack*
- *Edge*
- *OpenShift*
- *Ceph*
- *AI/ML*
- *SQL, SAP*
- *Storage*

Red Hat Premier Global Partner

Dell Technologies holds the highest level of partnership with Red Hat

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Red Hat – Multi-Cloud Strategic Portfolio

Allows teams to set up **automation** to provision, deploy, and manage infrastructure across cloud, virtual, and physical environments

OpenShift is a leading enterprise **Kubernetes** platform that enables a cloud-like experience everywhere it's deployed. (On-Prem, Cloud, or Edge)

RHEL is the world's leading enterprise **Linux platform**, certified on hundreds of clouds and with thousands of hardware and software vendors

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RED HAT®
ANSIBLE®
Automation

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Dell Ansible Portfolio

Making Infrastructure automation simpler with Ansible collections, modules and roles

- iDRAC 7/8 and iDRAC 9 with Redfish REST APIs
- OpenManage Enterprise-Modular
- OpenManage Enterprise

Servers

- PowerStore
- PowerMax
- PowerScale
- PowerFlex
- Unity
- VPLEX

Storage

- Enterprise SONiC
- OS10
- OS9
- OS6

Networking

- VxRail
- PowerFlex

Community Supported

CI/HCI

- Data Domain
- Networker

Community Supported

Data Protection

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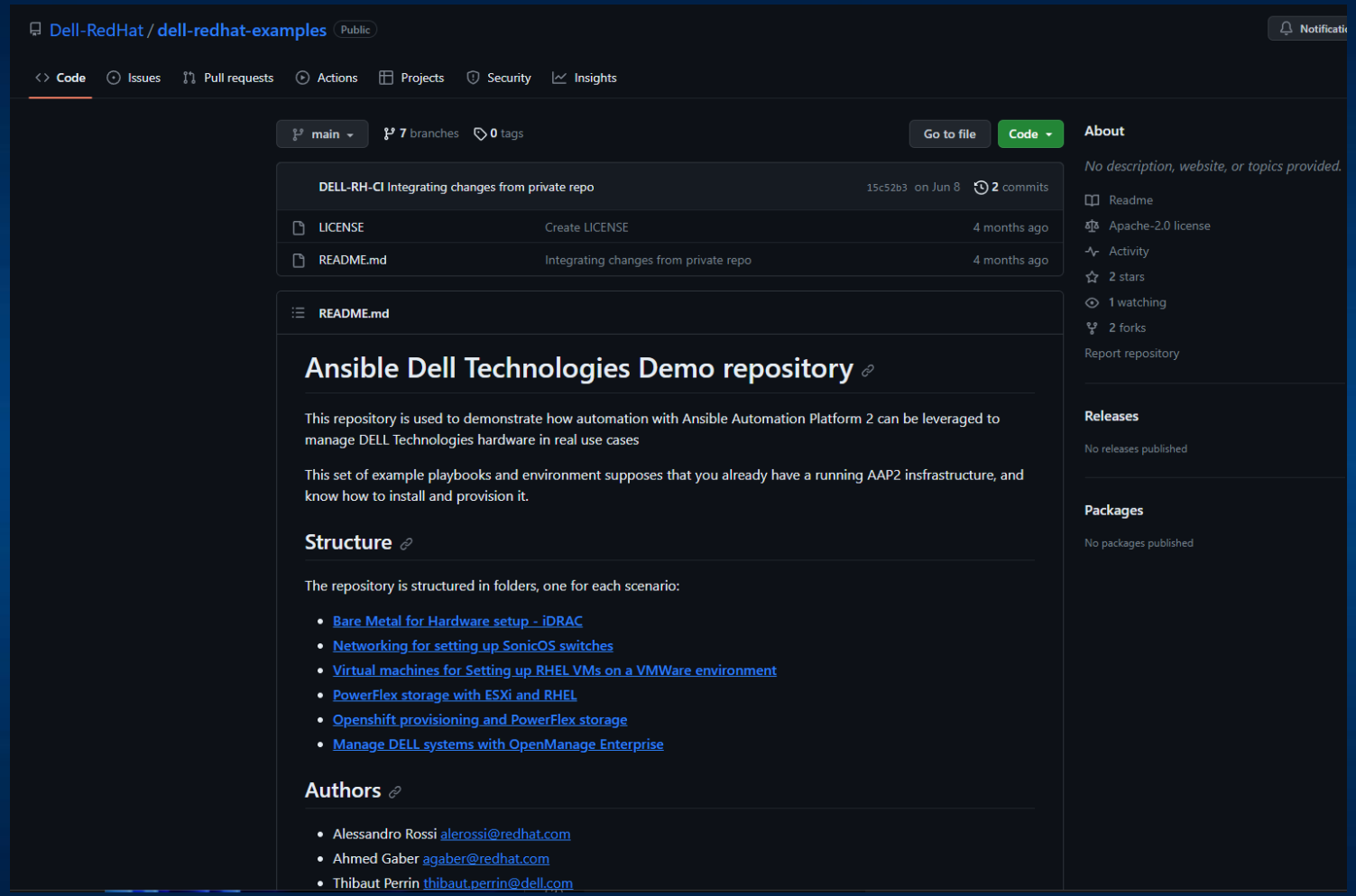
Dell Public repository with real-life examples available



https://github.com/Dell-RedHat/dell-redhat-examples

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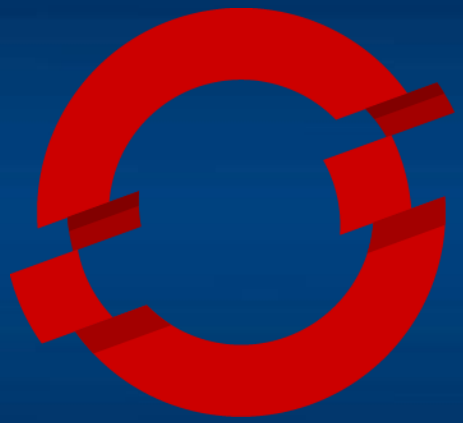

RED HAT®
OPENSHIFT

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Dell Validated Design for Red Hat OpenShift

Red Hat DELL Technologies intel AMD

- **Scalable reference architecture** to simplify and accelerate enterprise-grade container deployments on bare metal
- **Speeds adoption time and minimizes risk** to develop and deploy containerized applications
- Support for OpenShift Platform Plus (OPP) as an option, including:
  - Advanced Cluster Manager (ACM
  - Advanced Cluster Security (ACS)
  - OpenShift Data Foundation (ODF)
  - Quay central image registry
- AI/ML & Analytic Validated Designs on OCP:
  - DataStax Enterprise on Apache Cassandra
  - Edge Analytics for Industry 4.0
  - Real Time Data Streaming
  - Spark on Kubernetes
  - KubeFlow
  - And more!

Key Values:

- **Pre-validated** and documented with design and **Implementation and Deployment guides (With Ansible!) on** Dell Infrastructure
- Optimized for flexibility, scalability, and performance
- Enables enterprises to rapidly adopt DevOps methodology or manage pre-built containerized applications
- **Supports 1-node, 3-node, and 6+ node architectures**, for both **data center and edge applications**
- Select from multiple storage options –including **Dell PowerMax, PowerScale, and PowerStore**, all with access to Container Storage Interface (CSI) and Dell's Container Storage Modules (CSM).
- Leverage key Red Hat capabilities, such **as Zero Touch Provisioning** (ZTP)

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Storage for every Kubernetes workload

LINUX | RED HAT OPENSHIFT | WINDOWS*

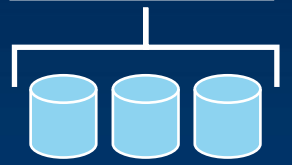
Direct block

CSI Plugin

Storage Volumes

vVOLs

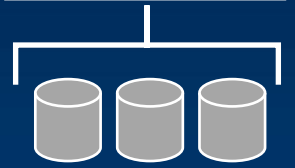
VMware CNS



vVols

File

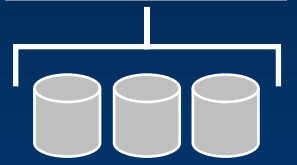
CSI Plugin



NAS shares

Object

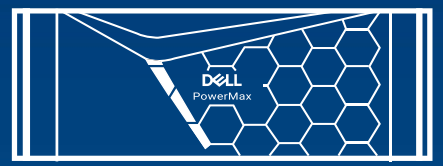
Object Store API



Object end points

PowerFlex
HCI

TBD: Q3



PowerMax
Primary Storage

TBD: Q3

PowerStore
Primary Storage

ObjectScale
S3 Object Storage

PowerScale
Scale out NAS

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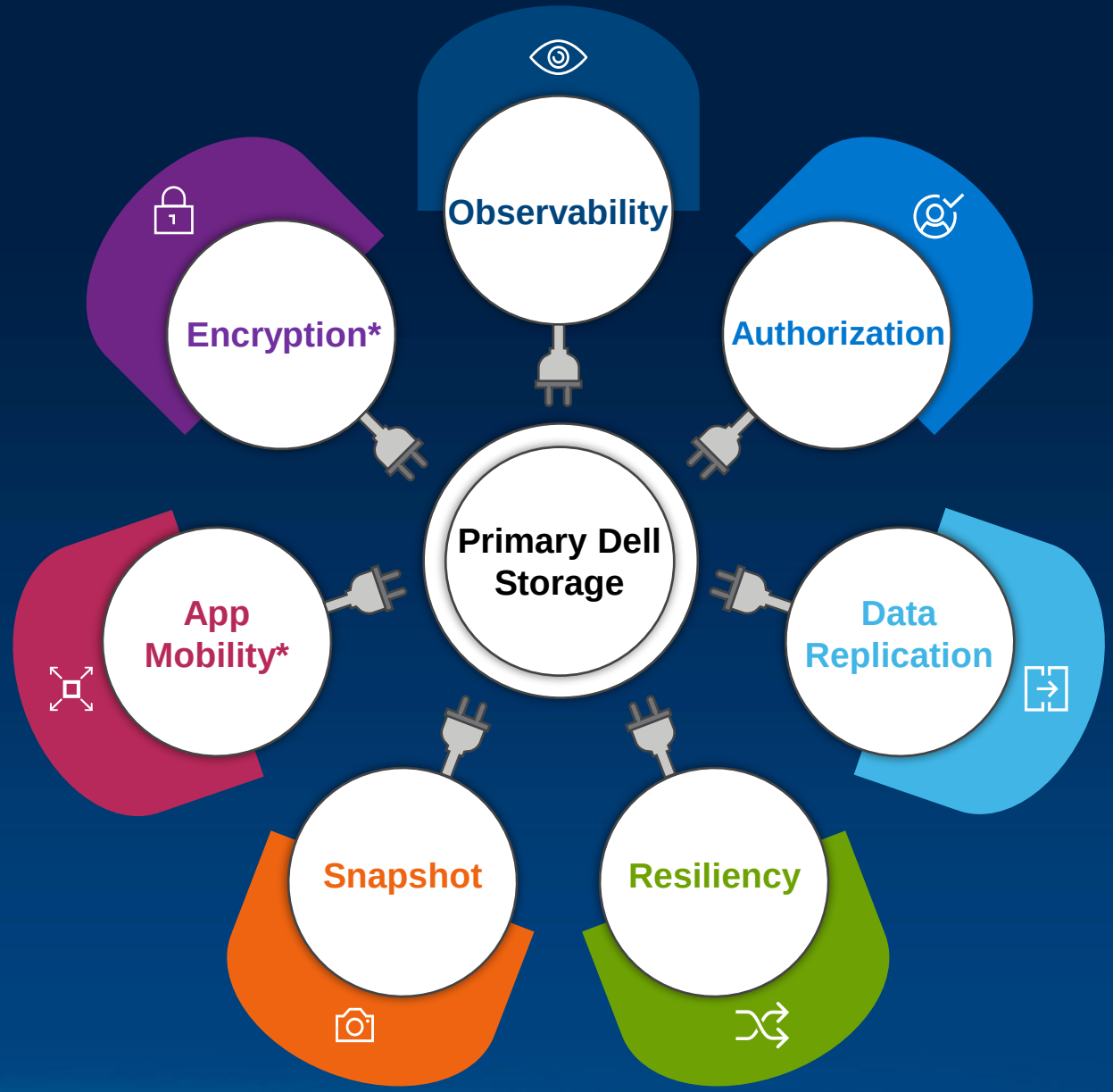
What are Container Storage Modules?

1. Simple, consistent, integrated and automated experience for storage and cloud native stateful applications

2. Builds on top of the Container Storage Interface (CSI) foundation to deliver unique, powerful storage and enterprise capabilities

3. Includes a variety of modules, each with specific functionalities that allow you to get the most out of your storage array



* Currently in tech preview, available on request

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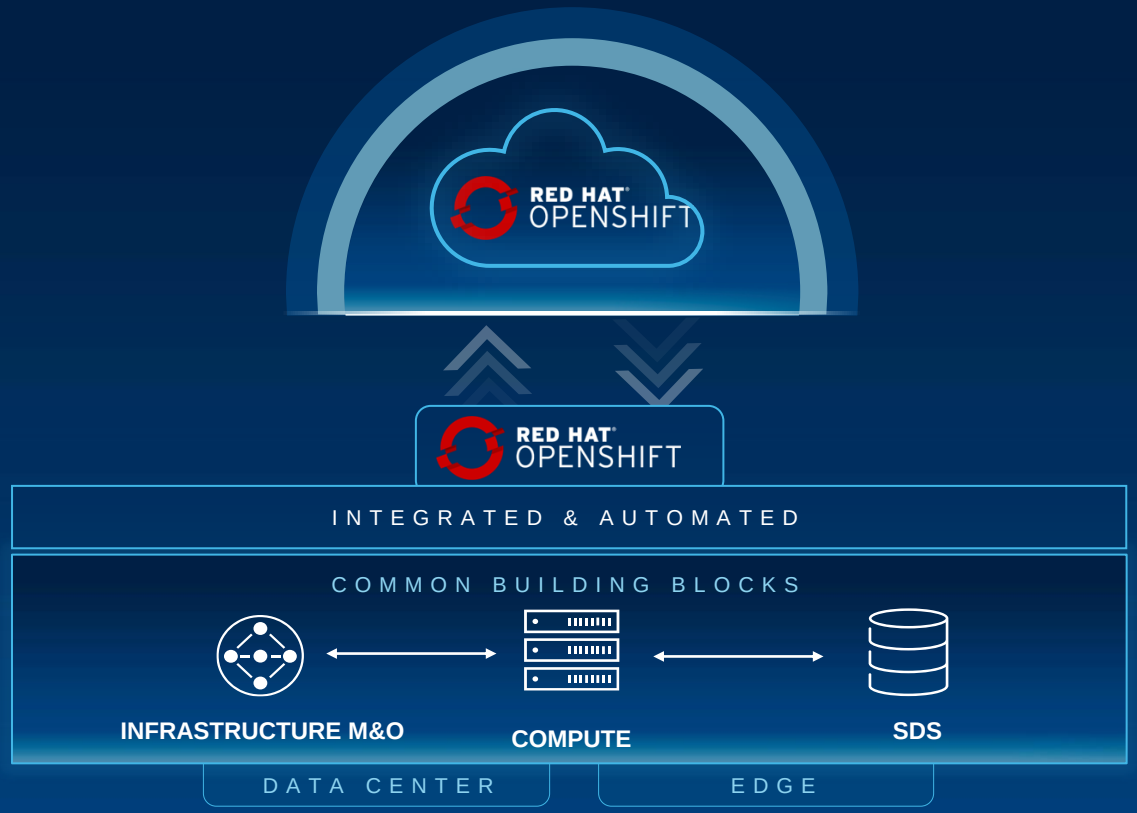
APEX Cloud Platform for Red Hat OpenShift



1 Designed collaboratively to optimize and extend the leading Kubernetes distribution

Extending our 24-year history as a Red Hat Premier Global Partner

Ideal for workloads performance-intensive workloads

Bridge the Cloud Divide

Accelerate time to value with a purpose-built platform

Unleash Application Value

Seamlessly extend applications and data across the IT landscape

Harden Security and Governance

Enhance control with multi-layer security and compliance capabilities

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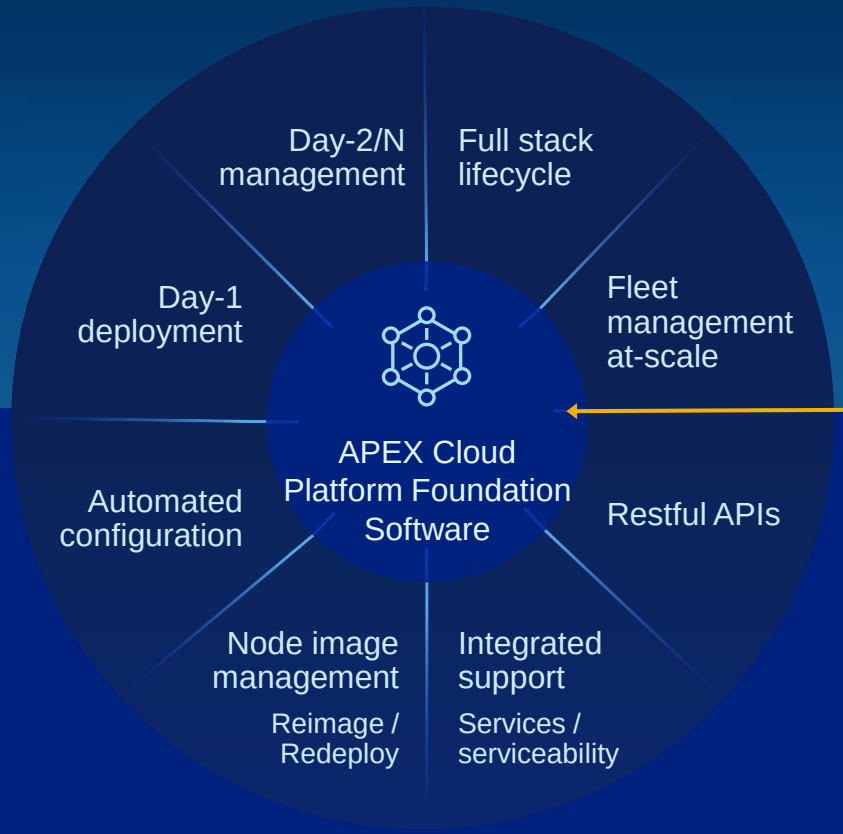
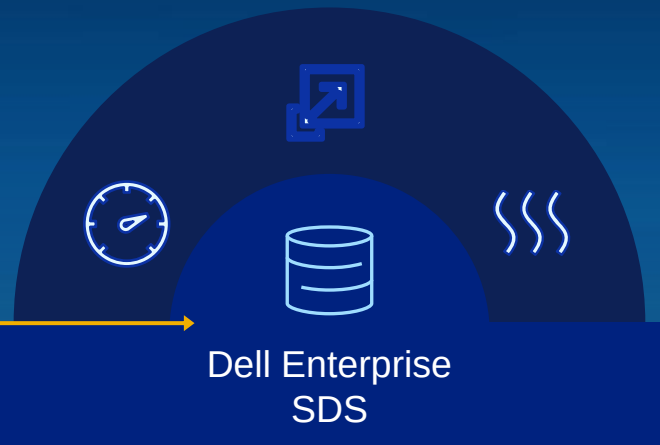
What is an APEX Cloud Platform

Leveraging the best of Dell Innovation to deliver new platforms for Multicloud



Next Generation PowerEdge



Dell Enterprise SDS

- Open ecosystem
- Unmatched linear scalability
- Extreme resilience

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APEX Cloud Platform Advantage

Expanding multi-cloud infrastructure to K8s on bare metal with OpenShift

Typical DIY OpenShift Deployment

- Mostly deploy on hypervisor with virtualization
- Built with loosely coupled components that difficult to deploy and manage
- Another Isolated storage to manage and operate
- Resulting in longer TTV and higher TCO

APEX Cloud Platform for Red Hat OpenShift

OpenShift on Bare metal
Eliminate virtualization layer to reduce both acquisition and operation cost

Fully automated with continuously validated state
Bring cloud like agility and efficiency for cloud native workloads through software driven automation

Common storage across OpenShift ecosystem
Eliminate storage silos across OpenShift ecosystem through optimized and consistent storage improving operational efficiency and enabling enhanced hybrid experience.

New standard in OpenShift hybrid computing
Cloud integrated management & economics set a new standard for edge-core-cloud infrastructure, forming the new de facto building block for OpenShift hybrid cloud ecosystem.

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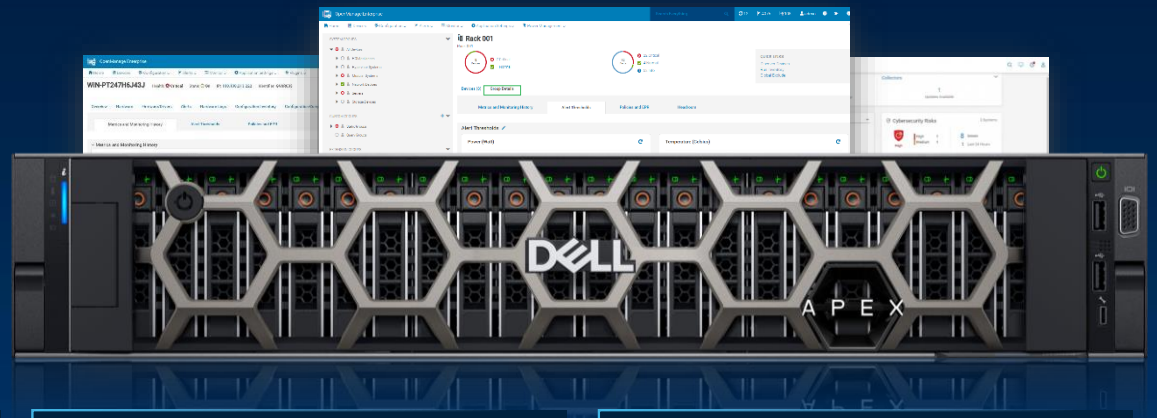
APEX Cloud Platform compute nodes

Purpose-built | Intelligent | Cyber Resilient | Sustainable



Purpose-built

Scale AI, edge & performance anywhere.

Intelligent

Accomplish more with automation & improve operational efficiencies.

Cyber resilient

Accelerate zero trust adoption.

Sustainable

Maximize power efficient performance.

Next Generation Servers

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The Dell Red Hat EMEA Team

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dellredhatemea@dell.com

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