



Dell Technologies Merging Data Center & Cloud Native

Powered by Dell's Modern Data Center



Dell Technologies
Merging Data Center
& Cloud Native
powered by
Dell's Modern
Data Center

Stephen Tuomey
Datacenter Account Executive – Federal Distribution
stephen_tuomey@federal.dell.com



carahsoft®

For more information, contact Carahsoft or our reseller partners:
Dellgroup@carahsoft.com | 866-Dell-2-Go

Dell Technologies

Merging Data Center & Cloud Native

powered by
Dell's Modern
Data Center

Stephen Tuomey
Datacenter Account Executive – Federal Distribution
stephen_tuomey@federal.dell.com


DELLTechnologies



Dell Technologies

Accelerating IT from Ideas to Innovation

Strategic Partnerships highlighting technology leaders and innovators

-  **DELL**EMC
- Tracewell
- Hugging Face
- RSA
- Thales
- Open Source
- VMware
- Microsoft




Cloud Native Applications

Artificial Intelligence

DevSecOps


Containers



Modern Data Center



Multicloud



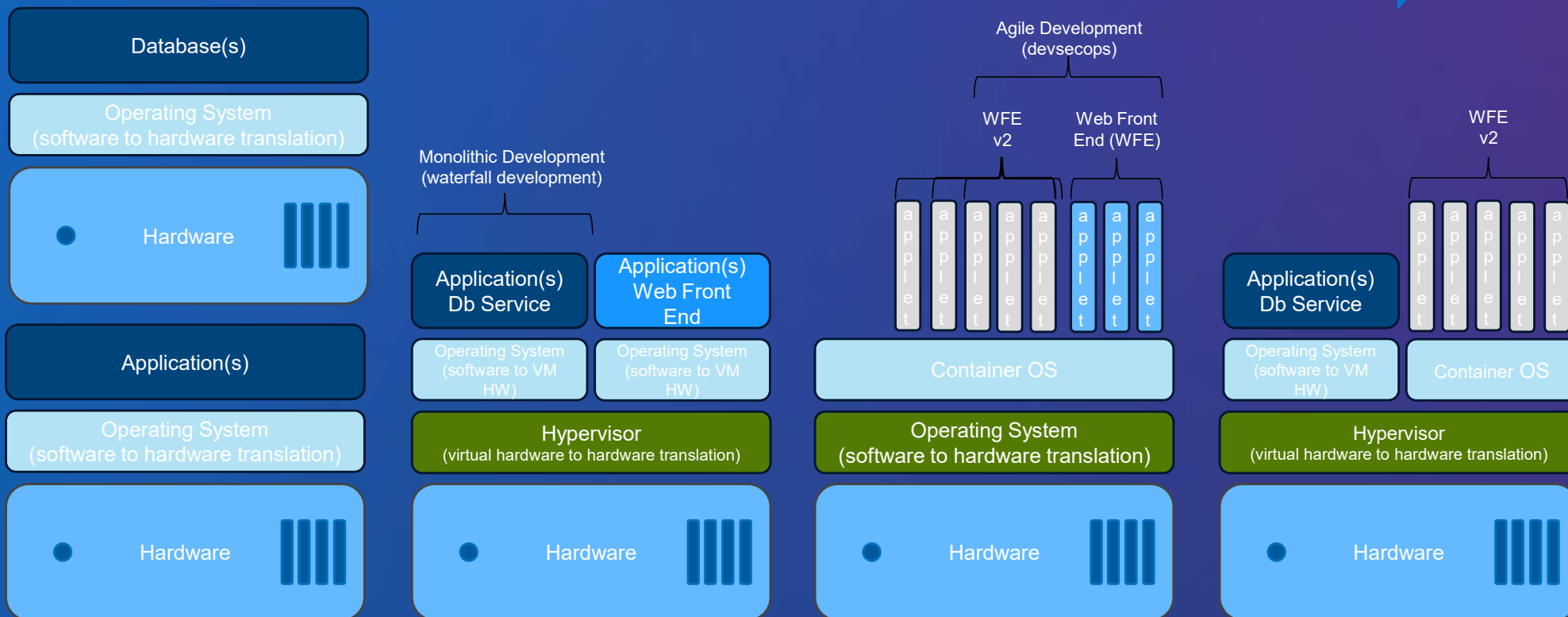
Edge



Security

Information Systems – Modern Data Center

Modernization



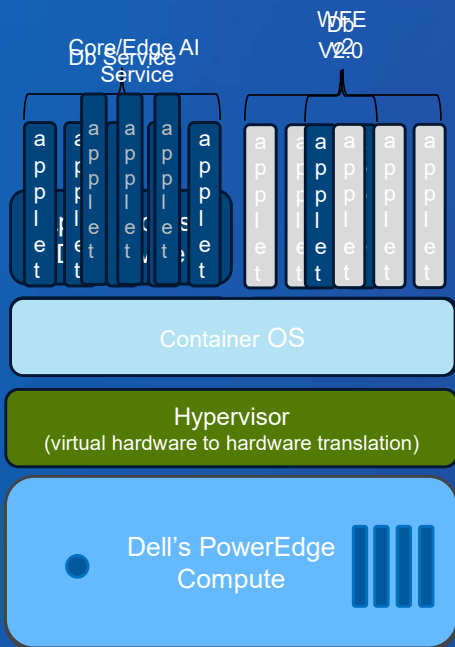
Hardware Based Systems

Virtual Machine Based Systems

Container Based Systems

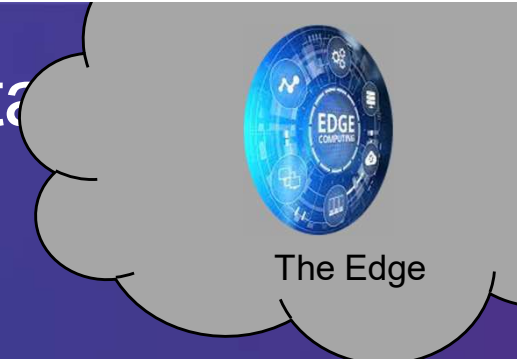
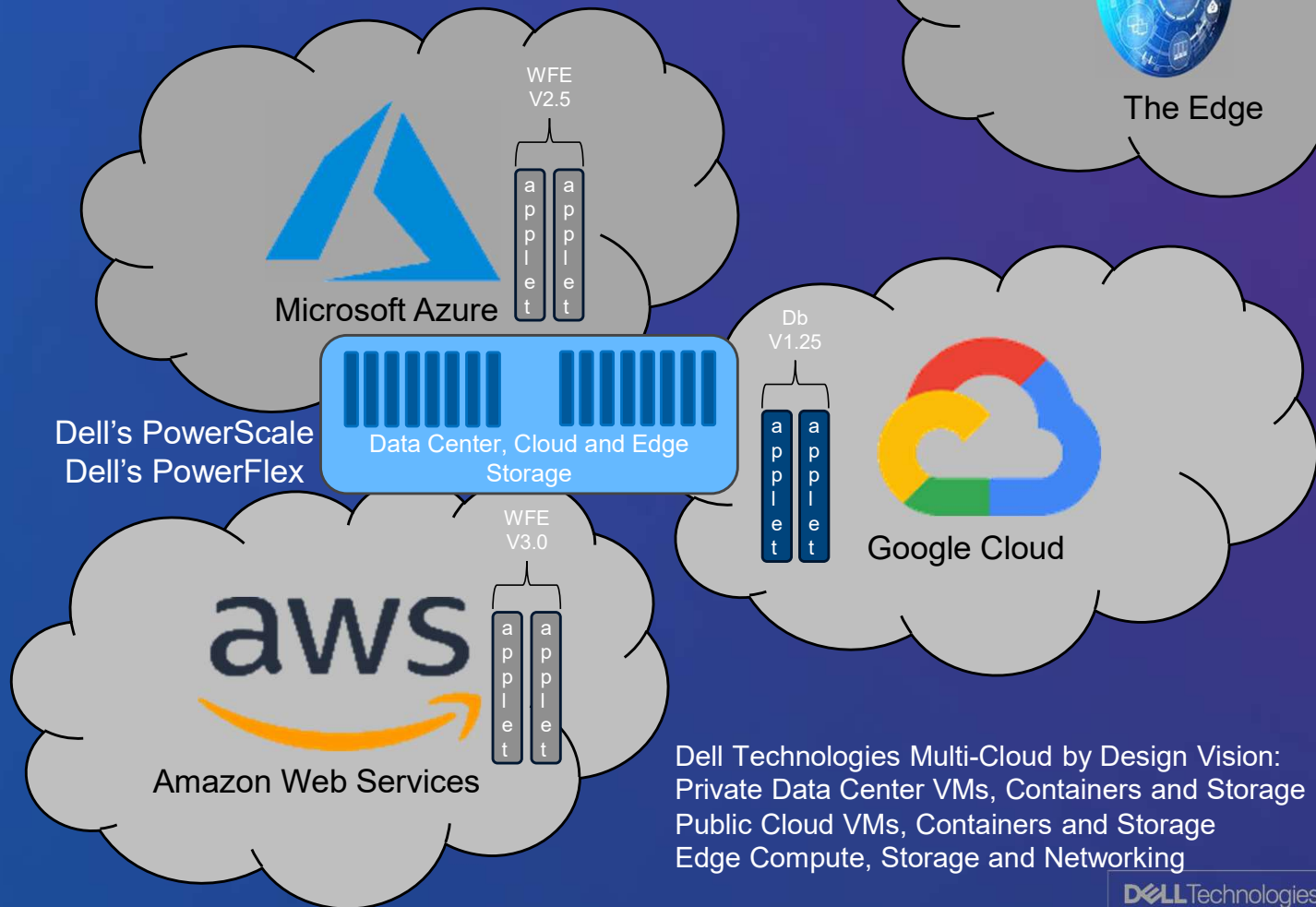
Dell's HCI Systems

Dell Technologies – Merging All of the Data



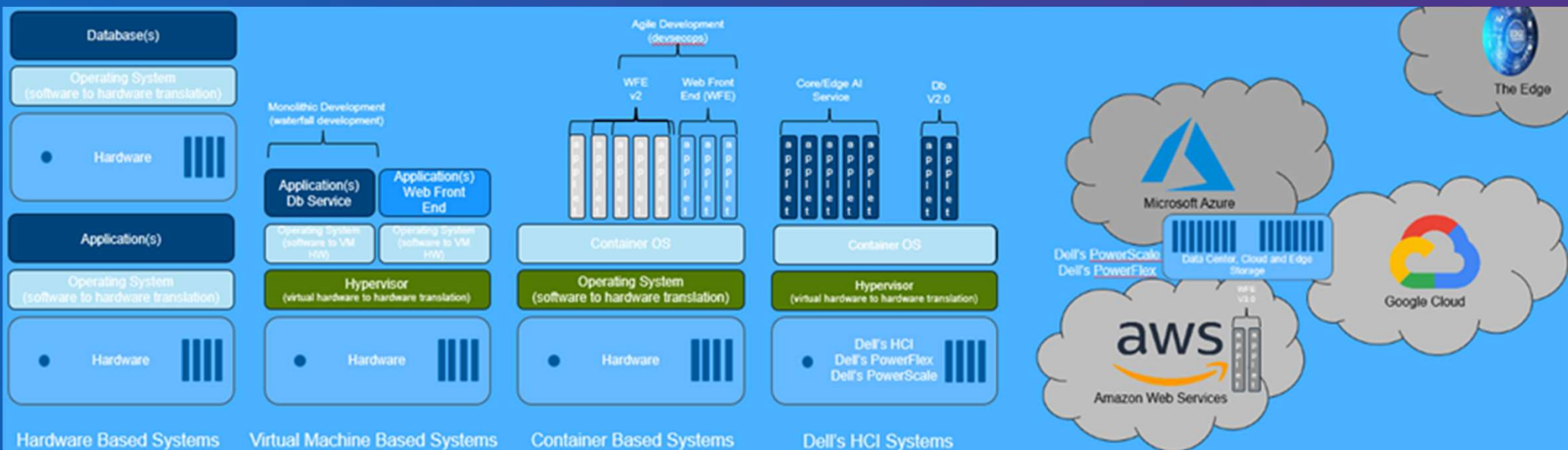
Dell's HCI Systems

Modernized
Data Center



Dell Technologies Multi-Cloud by Design Vision:
Private Data Center VMs, Containers and Storage
Public Cloud VMs, Containers and Storage
Edge Compute, Storage and Networking

Information Systems – Our Customer's Data Center(s)



How do we navigate our customer's IT / Mission / Operational situation ?

Overcoming the Challenges

COMPLEX

Hyperscalers don't typically advocate for multi-cloud

Moving to Multi-Cloud by default creates

CHALLENGES

LIMITED

No vendor can be best at everything

SILOED

Public clouds are closed ecosystems

INCOMPATIBLE

Interoperability issues lead to lock-in

CHAOTIC

Repatriation is a reality if rising costs outweigh benefits

RISKY

Scattered data expands the attack surface

UNGOVERNABLE

Inability to meet compliance requirements

SLOW

Some critical apps not ideal for public cloud

CUMBERSOME

Traditional models don't measure up to new expectations

UNPRODUCTIVE

Lengthy planning and overprovisioning

SUBOPTIMAL

On-premises vs. public cloud tradeoffs

COST INEFFICIENT

CAPEX rigidity or data gravity issues

SIMPLICITY

Take advantage of cloud experiences everywhere

CHOICE

Achieve better outcomes

CONSISTENCY

Simplify IT operations

FREEDOM

Avoid vendor lock-in

AGILITY

React quickly to capture new opportunities

ADAPTABILITY

Align technology with needs

FLEXIBILITY

Deploy resources in more ways

PREDICTABILITY

Pay-as-you-go transparency

Dell APEX delivers multicloud by design

MODERN
CLOUD

+

MODERN
CONSUMPTION

CONTROL

Minimize risk and maximize performance on your terms

SECURITY

Protect against cyberattacks

GOVERNANCE

Ease compliance obligations

PERFORMANCE

Achieve the speed you need

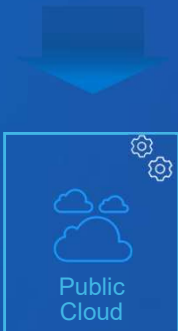
Dell's Vision – The Power of Choice: Deployment Models

All-In Public Cloud

When good enough works

STANDARD WORKLOADS

- Mobile applications
- Web / content hosting
- Analytics
- Software Development / DevOps



Application interdependencies across multicloud workload deployments, re-platforming costs, vendor lock-in risks

Multicloud

It's all about the workload



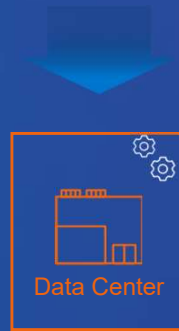
HEAVY WORKLOADS

- Traditional Workloads
- OLTP, DBMS, HPC
- Interdependent Workloads
- Repatriation Targets



STANDARD WORKLOADS

- Mobile applications
- Web / content hosting
- Analytics
- Software Development / DevOps



Control SLAs and control costs through dedicated – or sovereign - infrastructure. But application interdependencies, data egress, and network challenges drive risk

- Cost containment
- Performance, latency
- Security, compliance issues

Multicloud Sovereign-Adjacent

It's all about Interconnection & Locality



WORKLOAD OPTIMIZED

- Put the right workloads, in the right place, at the right time, without fear of crippling application interdependencies



SaaS Providers
Partners
Suppliers

Solving for

- Performance, Latency
- Security, Compliance
- ...while reducing costs

Putting workloads where they work best



Powerful partner ecosystem



Public Cloud Providers



Cloud Service Providers



Data Center Providers



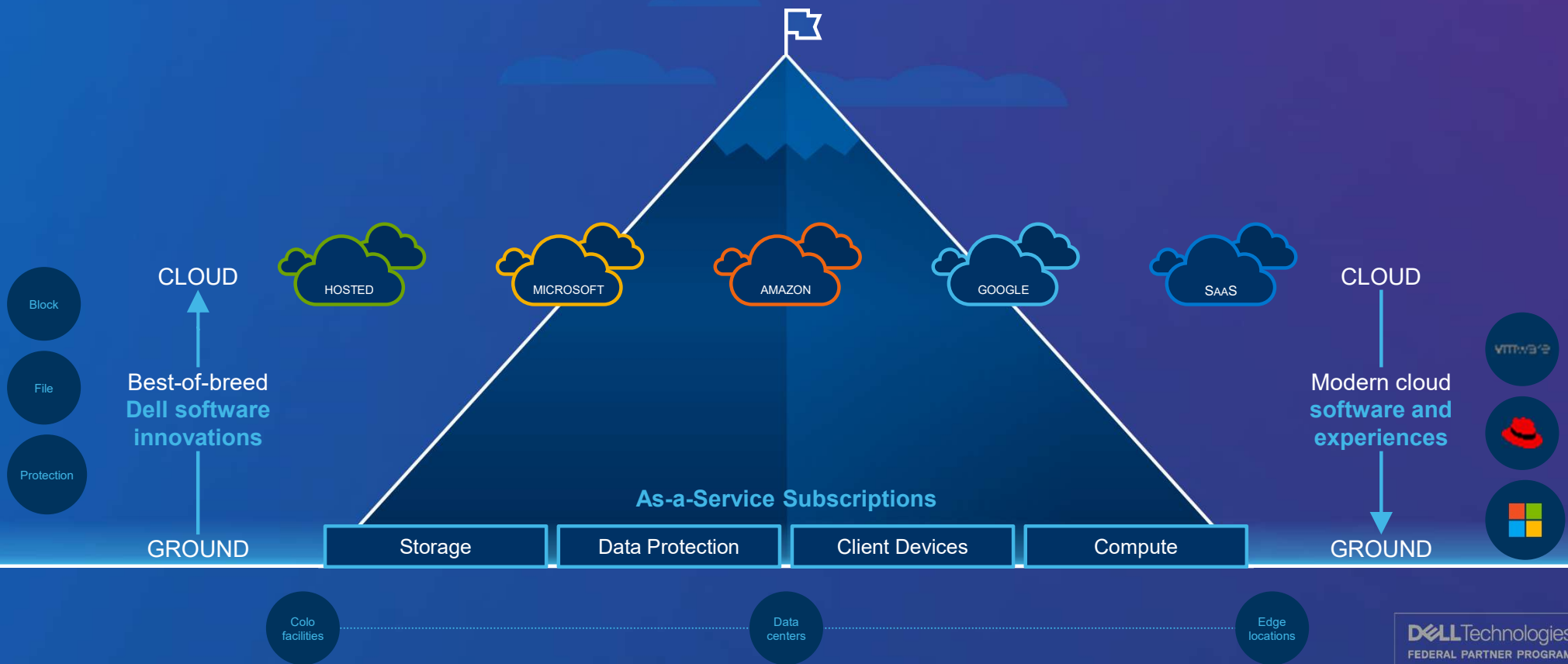
Global Systems Integrators



Telcos

DELLTechnologies | A P E X

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



Dell Technologies HCI and SDS offerings



Modernize IT, simplify operations & lower risk



Unmatched breadth & flexibility



Enable Multi-Cloud for mission agility & IT efficiency

Ready Nodes

Pre-configured & Certified building blocks



Reduce Risk



125+ certified configurations



Dedicated identity modules

Improve Storage Efficiency



System management integration



Current toolsets & processes

Dell Technologies VxRail



Automate



Remove complexity

with automated operations via unique VxRail HCI System Software



Simplify operations

through native integration with vCenter and VMware Cloud Foundation



Optimize infrastructure

with consistent ease of use while lowering exposure with full stack lifecycle management

Innovate



Harness hybrid cloud

with simple and direct path due to unique integration with VMware Cloud Foundation



Empower developers

with lock-step support for VMware Kubernetes advancements – K8s your way



Evolve workloads

with thousands of configuration options and support for mixed generation nodes

Accelerate



Drive productivity

with 6x9s and 92% less unplanned downtime to focus on differentiated IT activities



Surge ahead

by rapidly integrating new VMware updates with 30-day synchronous releases



Accelerate Multi-Cloud

by rapidly enabling VMware on AWS

Simplify IT operations with a common operational model

Dell Technologies
FEDERAL PARTNER PROGRAM

VxRail

The ONLY jointly engineered HCI system with VMware, for VMware, to enhance VMware



EDGE

CORE

CLOUD



VDI



Video
Analysis



SAP HANA



AI/ML



Kubernetes

*Source: IDC Quarterly Converged Tracker, Q2 2021. Hyperconverged Systems product category

Del EMC Solutions for Microsoft Azure Stack

- Two comprehensive hybrid solutions



Consistent Experience Azure Stack Hub



Azure consistent services on-premises



Fully automated lifecycle management



Edge use cases

Cloud Disconnected

Modern Infrastructure Azure Stack HCI



Flexible options



Connect to Azure services



Rich management integration

Cloud Connected

Dell EMC Integrated System for Microsoft Azure Stack HCI



**Full stack
lifecycle
management**

Reduce time to
complete complex tasks



**Flexible
configuration
options**

Meet requirements
of a broad set of
use cases



**Global solution
level support &
services**

Accelerate time to
value



**Pay as you use
consumption
options**

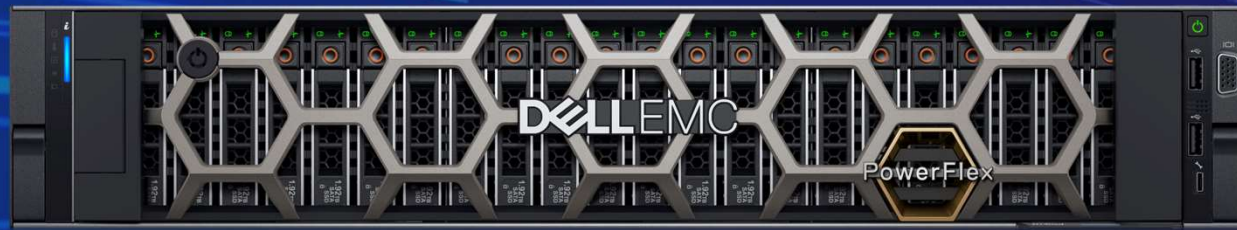
Pay for what you use,
when you use it



All-in-one, validated HCI system

PowerFlex

Flexibility unleashed



Harness Software



Fluidity



Performance



Scale

Embrace Change



Consumption
Options



Platform
Support



Deployment
Architectures



Public Cloud
Offerings

Deliver Predictability



Data
Services



Automation



Workload
Execution

PowerFlex – Broad Platform Support

Deploy any application architecture without compromise



Databases



Analytics



Consolidation



Cloud Native



Next-Gen Databases



AI / ML



Bare Metal



Virtual Machines



Containers



Native Replication
Secure Snapshots
CHAP support

Volume Migration
Quality of Service

Inline Compression
Encryption
Snapshot Scheduler

DELLTechnologies

HCI & SDS Positioning

VxRail Dynamic Nodes
w / PowerStore



VxRail Dynamic Nodes
w / PowerFlex

VxRail



Turnkey HCI system
built with VMware, for VMware,
to enhance VMware

LEAD HCI SOLUTION
Unless Customer Needs:

VMware environment with

- Ability to leverage existing operating models & lifecycle processes
- Flexibility of server platforms
- When you want to manage HCI and Non-HCI as one

- Disaggregated infrastructure for independent scale of compute & storage
- Consolidation of heterogenous virtual & physical workloads into a single platform
- A specific workload performance envelope (i.e. Oracle on bare metal)

- To be standardized on Microsoft Hyper-V
- A consistent Azure experience on-premises

Dell EMC vSAN Ready Nodes
(building block)



PowerFlex
(SDS)



Azure Stack Family
(Microsoft)



Dell Technologies
FEDERAL PARTNER PROGRAM

PowerStore

Data-centric



Intelligent



Adaptable



Designed for the Data Era



Any Workload

Physical and virtual Apps and DBs, Containers and File



Performance Optimized

Scale up and scale out with end-to-end NVMe*



Efficiency Without Compromise

Always-on inline data reduction



Programmable Infrastructure

Streamlines development and automates workflows



Autonomous Appliance

Built-in automation and ML optimizes system resources



Flexible Architecture

Enables speed and application mobility



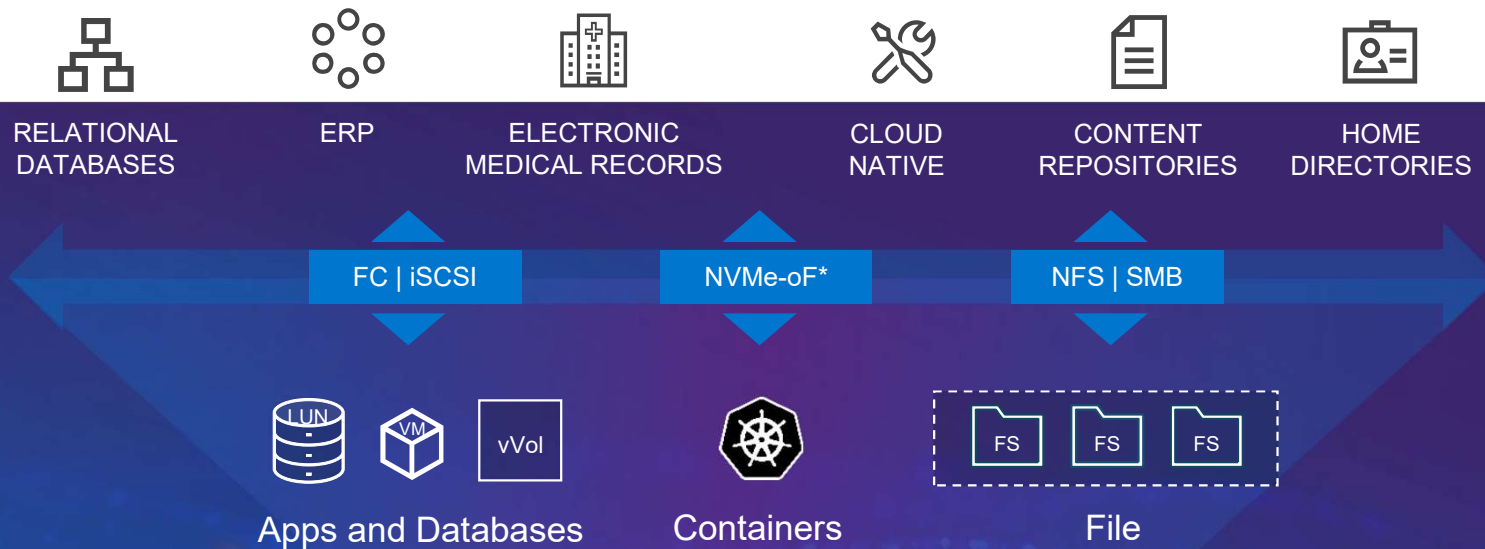
Flexible Deployment

Modernize the core, edge, and cloud without disruption

DELLTechnologies
FEDERAL PARTNER PROGRAM

PowerStore – Any workload

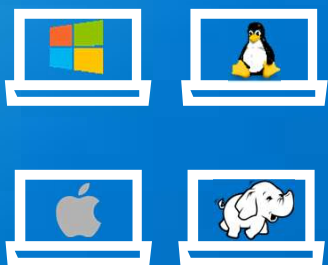
Traditional and modern workloads



PowerScale: Any data, anywhere

- Enterprise class unstructured data services with simultaneous multi-protocol support

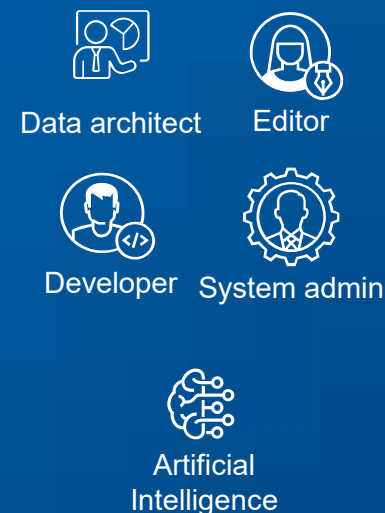
Any client



Access to all data at the same time

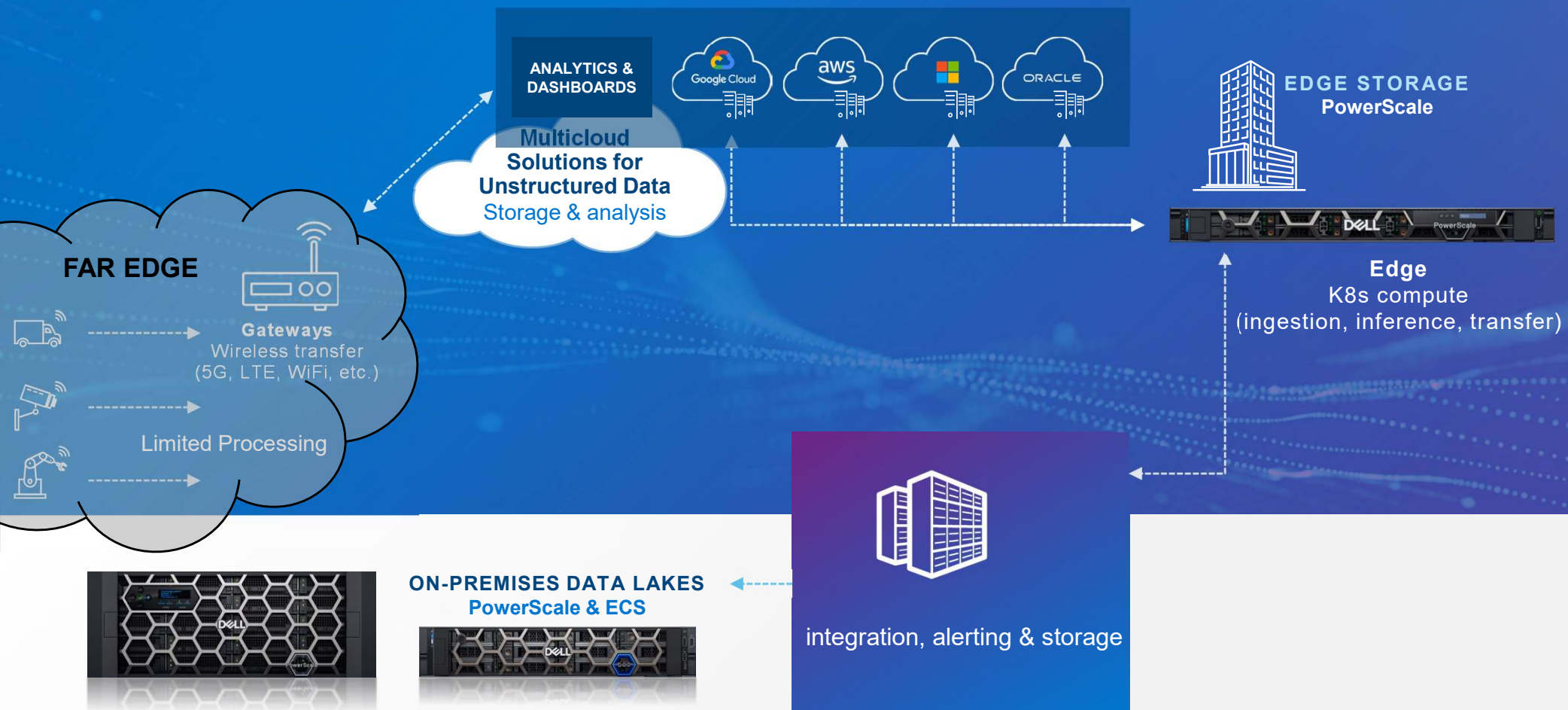


Any user



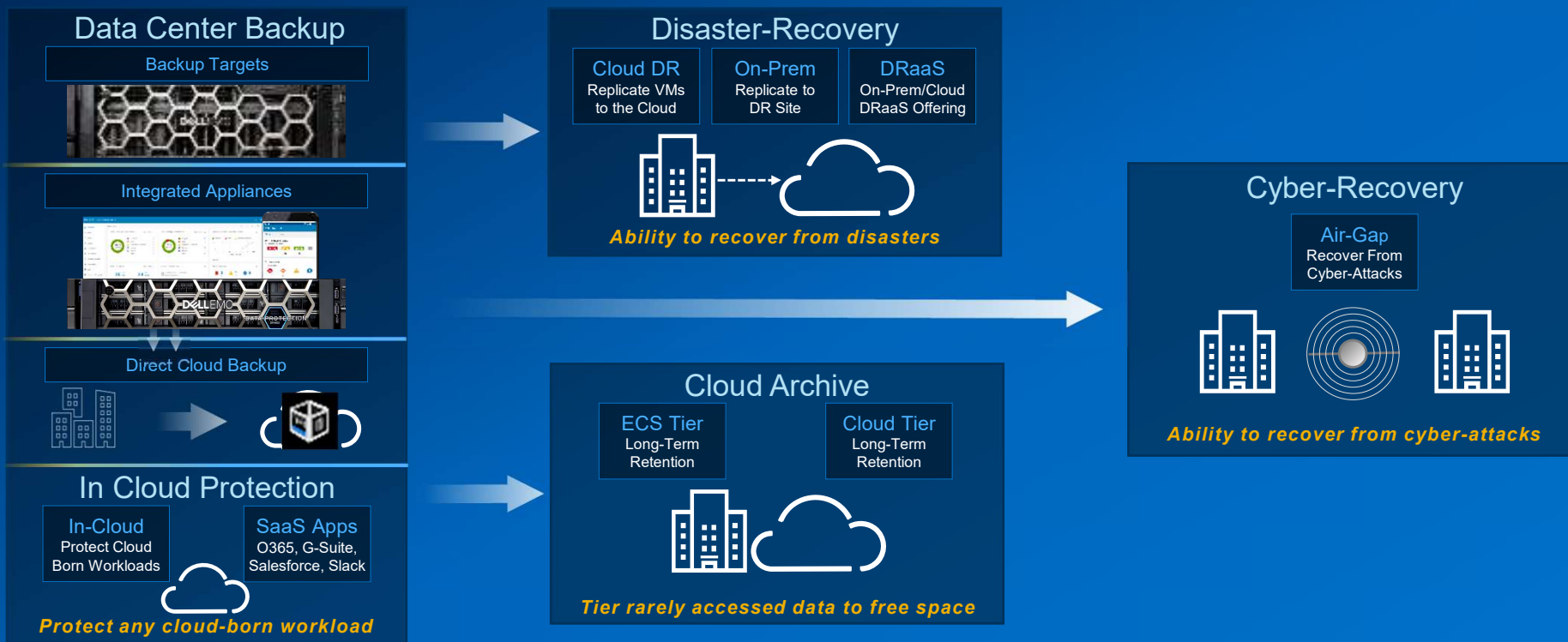
Empower users to get what they need

From Edge, to Core, to Multicloud



Dell Technologies Data Protection Solutions

Comprehensive portfolio built to protect proven & modern workloads



Cloud Smart Discovery

Using data to make intelligent decisions about your cloud strategy

- IO distribution
- Memory provisioning
- xCPU provisioning
- VM IO bandwidth
- Compare cost – private cloud vs. public cloud



Dell Technologies Cloud Smart Assessment

What we learned from your data

IO distribution

VMs with high IO require better storage. IO workloads above 1000 IOPS may overwhelm storage. Consider a hybrid cloud strategy.

vCPU

vCPU utilization can indicate wasted resources. An in-depth data analysis and design, vCPUs should be right sized.

Memory provisioning

Peak memory utilization is high. This may indicate that memory resources are taxed. Consider a memory optimized solution, potentially for a sub-set of VMs.

VM IO bandwidth distribution

VMs that exhibit high MB/s and/or IOPS above 500, should be matched to an appropriate cloud model, such as private or hybrid.

APEX Private Cloud

Instance type	Storage type
Compute optimized	All flash

Block Group 1

Instance capacity	Storage capacity	Nodes / height	Sockets	Power requirements	Total Memory
C-50 (Primary)	90 TB	3 / 3U	3	1224 W	1728 GB
C-50 (Secondary)	60 TB	1 / 1U	2	652 W	768 GB
Total	150 TB	4 / 4U		1876 W	2496 GB

Pricing is based on Australia region net pricing.

The chart shows three data series over a 5-year period: 'Benefits / avoided costs' (blue bars), 'Proposed solution costs' (purple bars), and 'Cumulative net benefits' (yellow line). The net benefits line shows a steady upward trend, indicating that the proposed solution becomes increasingly cost-effective over time.

A P E X

Move from multicloud by default to multicloud by design

Dell Technologies

Thank you for viewing this Dell Technologies presentation! Carahsoft is the distributor for Dell Technologies public sector solutions available via GSA, ITES-SW, MHEC, and other contract vehicles.

To learn how to take the next step toward acquiring Dell Technologies' solutions, please check out the following resources and information:



For additional resources:
carah.io/DellResources



For additional Dell Technologies solutions:
carah.io/DellSolutions



To purchase, check out the contract vehicles available for procurement:
carah.io/DellContracts



For upcoming events:
carah.io/DellEvents



For additional public sector solutions:
carah.io/DellSolutions



To set up a meeting:
Dellgroup@carahsoft.com or **866-Dell-2-Go**