

Build the cloud you need for your business with Dell Private Cloud

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Cloud architecture options

Architecture	VMware Centric	Red Hat Centric	Nutanix Centric	Microsoft Centric	Open-Source DIY
Public Cloud Integration	VMC Cloud on AWS/GCP/AZ GCP AWS Azure	GCP AWS Azure	GCP AWS Azure	Azure	GCP AWS Azure
Business Management	VMware Cloud Health	RH Insights	PRISM	Azure Portal	Prometheus, Elastic, Grafana
Self Service Portal	Aria Automation VCF for VxRail	ServiceNow or Remedy, and / or Morpheus	Nutanix XC Plus for Nutanix	Dell AX System for Azure Local	ServiceNow or Remedy, and / or Morpheus
3 rd Party Integration	Dell Private Cloud for VMWare	Dell Private Cloud for Red Hat OpenShift	Dell Private Cloud for Nutanix	Dell Private Cloud for Azure Local (coming soon)	PowerEdge PowerStore, PowerFlex PowerSwitch
Automation/Orchestration	Aria Automation / Aria Orchestrator	RH Ansible	PRISM	Arc	
Container Platform	VMware Tanzu	RH OpenShift	Nutanix Kubernetes Engine	Azure AKS	Rancher, Canonical, Native K8s, etc.
Virtualization Layer	VMware SDDC vSphere, vSAN, NSX	RH OpenStack	Acropolis	Azure Stack HCI	KVM, Hyper-V, OpenStack
Infrastructure	Hyperconverged Infrastructure Traditional Infrastructure				

On-premises | Colo | Managed | Other options

Dell Private Cloud

Traditional architectures require tradeoffs



3-Tier

Flexible, but complex

- ✓ Independent scaling to match workload needs
- ✓ Efficient and optimized use of resources
- ✓ Flexible to avoid vendor lock-in
- ✗ 3 management points
- ✗ Mixed vendor support
- ✗ Limited automation of tasks



Hyperconverged

Simple, but locked-in

- ✓ Simple to order, onboard and deploy
- ✓ Automated lifecycle management
- ✓ Streamlined, single stack support
- ✗ Hypervisor lock-in
- ✗ Fixed & inefficient compute and storage scaling
- ✗ High licensing costs

Disaggregated infrastructure: A no compromise solution

Combine the flexibility of 3-Tier and the simplicity of Hyperconverged



Disaggregated

Flexible and simple

- ✓ Independent scaling to match workload needs
- ✓ Efficient and optimized use of resources
- ✓ Flexible to avoid vendor lock-in
- ✓ Simple to order, onboard and deploy
- ✓ Automated lifecycle management
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Del Private Cloud: Accelerate with a no compromise architecture

Disaggregated Infrastructure

Flexible + Simple

- Independent scaling to match workload needs
- Efficient and optimized use of resources
- Flexible to avoid vendor lock-in
- Simple to order, onboard and deploy
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Dell's unified approach

Dell Private Cloud



AIOps APIs Security
  

Shared Resource Pools

 Compute

 Networking

 Storage

powered by
Dell Automation Platform

supported by
Dell AIOps

powered by
Dell PowerEdge

powered by
Dell Storage

Dell Private Cloud: High Level Architecture

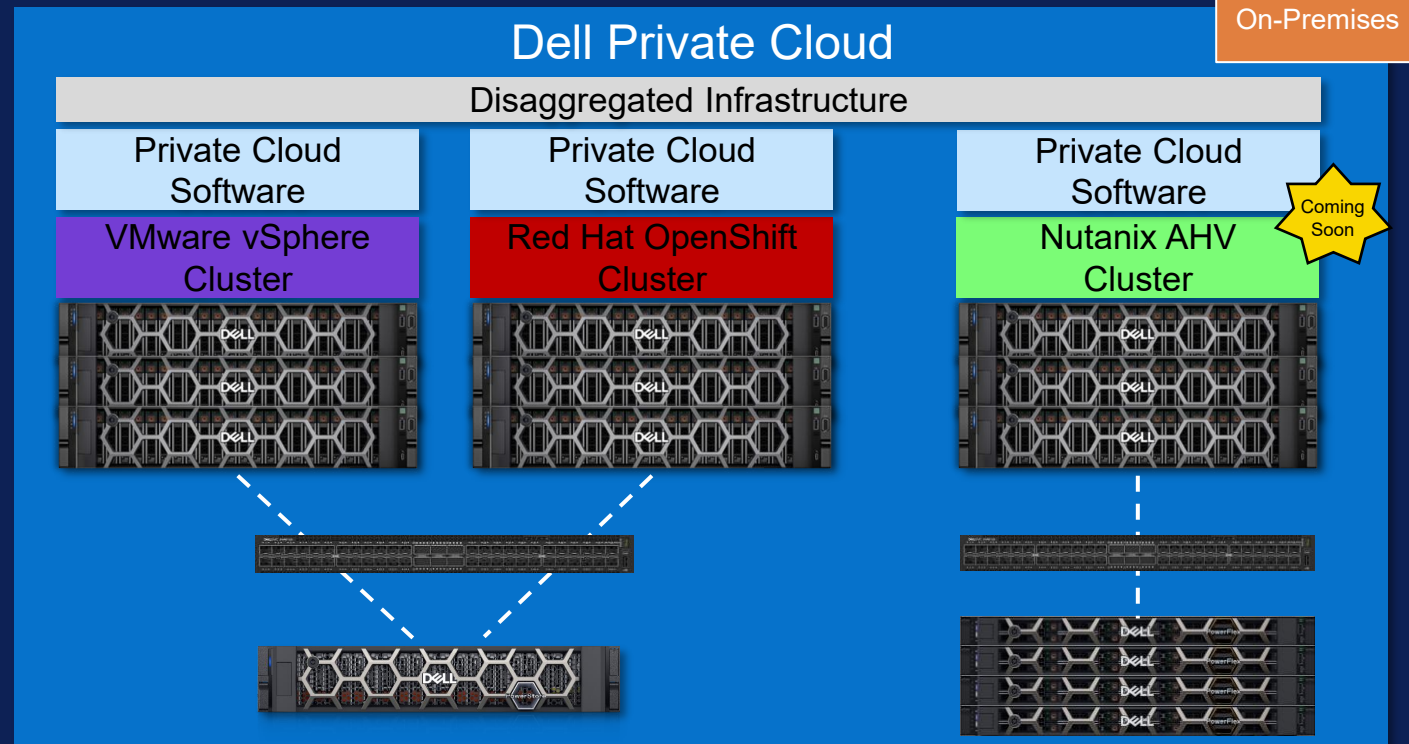
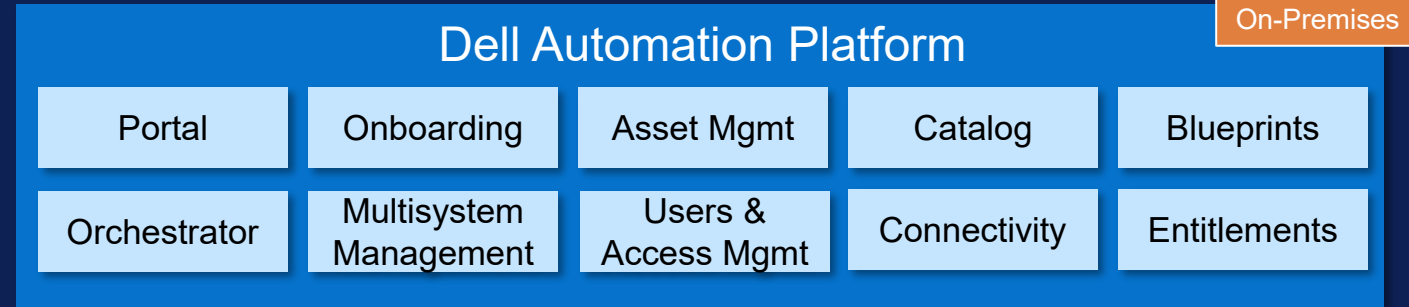
Delivered through Dell Automation Platform

Dell Automation Platform

- Secure, zero touch onboarding of infrastructure
- Catalog of Dell-curated blueprints
- Blueprint driven, automated cluster deploy of customer choice of OS with Dell compute & storage
- Decommission and reclaim and reuse compute
- Multisystem management operations (storage upgrades, compute scale up/out, etc)

Dell Private Cloud Software

- Private Cloud extension integrated into vCenter, Red Hat Web Console, and Nutanix Prism
- Physical view and health of infrastructure
- Known Good State of hardware and software
- Full stack update of OS, HW, and Dell IP
- Zero Day OS patching with granular system updates
- Drift detection and pre-checks
- Automated payload pre-staging for updates
- Consolidated HW & SW alerts and logs (OS and hardware)
- Dial home with automated SR creation and auto parts dispatch
- Automated add/remove drive
- Node and cluster shutdown
- Role based access controls
- Security Credential Management
- Single point of contact support (ProSupport Plus)



What makes up Dell Private Cloud

VMWare Example

Dell Automation Platform

- Control plane and an orchestrator that manages the Dell infrastructure for Dell Private Cloud
- Deploy the vSphere/OpenShift cluster
- Run the PowerStore system update

Dell PowerEdge servers – nodes in the vSphere/OpenShift cluster

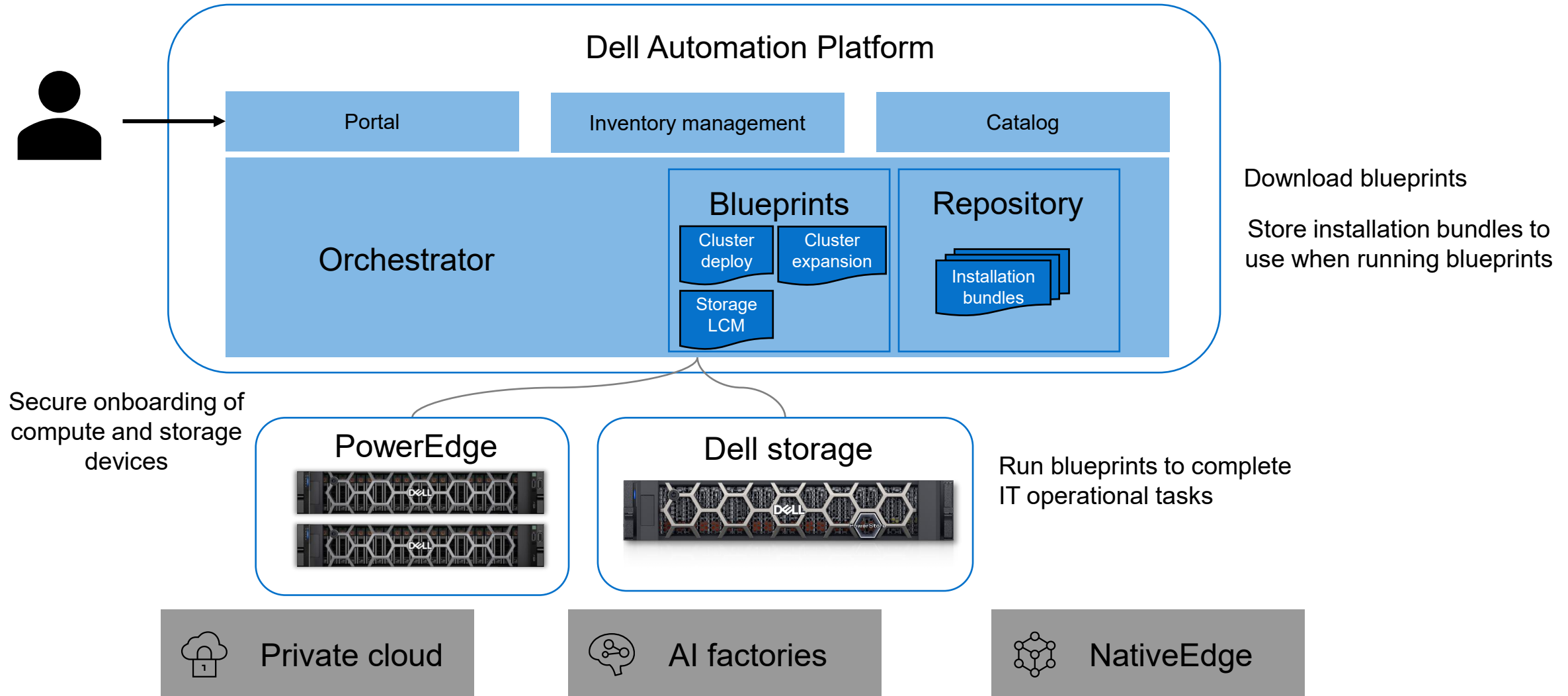
Dell PowerStore – provides the primary datastore for the vSphere/OpenShift cluster

Blueprints – a build scheme and declarative representation of an environment, which includes infrastructure, applications, and their configuration which the Orchestrator automates

Dell Private Cloud VM – delivers the value-added Dell Private Cloud management experience

- Extension to vCenter UI or OpenShift Web Console for Physical Views, lifecycle management, and serviceability capabilities
- Hardware Support Manager plugin to update PowerEdge firmware on a cluster update

Dell Automation Platform architecture



What is a blueprint?

Build scheme that the Orchestrator automates:

- Defines resources and their connections between each other
- Makes declarative statements to execute configuration operation based on user-provided inputs
- Outputs a sequence of steps that can be automated to complete a complex operation

Construction of a blueprint

- Dell tests and validates blueprints to support Dell Private Cloud deployments
- YAML file written in TOSCA (The Topology and Orchestration Specification for Cloud Applications)

Blueprints for Dell Private Cloud including:

- Cluster deploy
- Cluster expansion
- PowerStore update

The screenshot displays the configuration page for a blueprint named 'PC_VMWare_Cluster_Deploy'. The description states: 'The blueprint will install and configure DPC and its components.' A deployment status indicator shows '1' completed deployment. The interface is divided into 'General', 'Inputs/Capabilities', and 'Sources' tabs. The 'Sources' tab is active, showing a list of source files: 'validate_storage_hardware.py', 'verify_files.py', 'verify_hw_validation_result.py', a 'templates' folder containing '00_validation.yaml', '01_baremetal.yaml', '02_esxi_imaging.yaml', '03_cluster_provision.yaml', '04_powerstore.yaml', and '05_dpc_manager_init.yaml', and a 'top_level' folder containing 'inputs.yaml' and 'inputs_hidden.yaml'. On the right, the 'data_types' section shows a TOSCA template snippet:

```
data_types:
  dpc.vmware.host:
    properties:
      service_tag:
        type: string
        description: "Service Tag"
      hostname:
        type: string
        description: "ESXi Hostname"
        default: ""
      mgmt_ip:
        type: string
        description: "Management IPv4 Address"
  management_account_credential:
    type: string
    description: "ESXi management Account Credential secret name. The secret is pre-created that contains the secret name."

```

Dell Private Cloud – Licensing Overview

Dell Automation Platform

Platform License	No-cost subscription added to sales order
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Dell Private Cloud

Private Cloud Software	Subscription, licensed per PowerEdge node Licenses are portable between Private Clouds
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Disaggregated infrastructure

PowerEdge	Requires iDRAC Enterprise or Datacenter license per node
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Dell Storage	Use standard storage licensing (e.g. PowerStore, PowerFlex) No additional Private Cloud licenses required
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VMware

Bring your own license (no Broadcom approval required)

vSphere cluster	Any ELA, VCSP, Omnissa bundle, or perpetual license, VVF and VCF* subscription (vSphere Enterprise Plus minimum)
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vCenter Server	Customer-managed vCenter with licensing
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Red Hat

Bring your own subscription

OpenShift cluster	OpenShift Container Platform Plus, OpenShift Container Platform, OpenShift Kubernetes Engine (OKE), OpenShift Virtualization Engine (OVE)
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OpenShift add-on subscriptions (optional)	Advanced Cluster Management for Kubernetes (ACM) for OKE, ACM for OVE, AI Accelerator, Red Hat OpenShift AI, Ansible
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*VCF licensing can be used but VCF is not currently deployed or managed with Dell Private Cloud

Specs for Dell Private Cloud

With Dell Automation Platform

Dell Automation Platform Orchestrator

Virtual Appliance 16 vCPU cores
32GB memory
2TB capacity
SUSE Linux Enterprise 15

Disaggregated infrastructure

PowerEdge R670 or R770
1 or 2 socket Intel Xeon Scalable CPUs (16+ cores)
BOSS-N1 (2x 960GB M.2 configured for RAID 1)
iDRAC Enterprise or Data Center license
OCP 3.0 and PCIe
GPU support

PowerStore '000

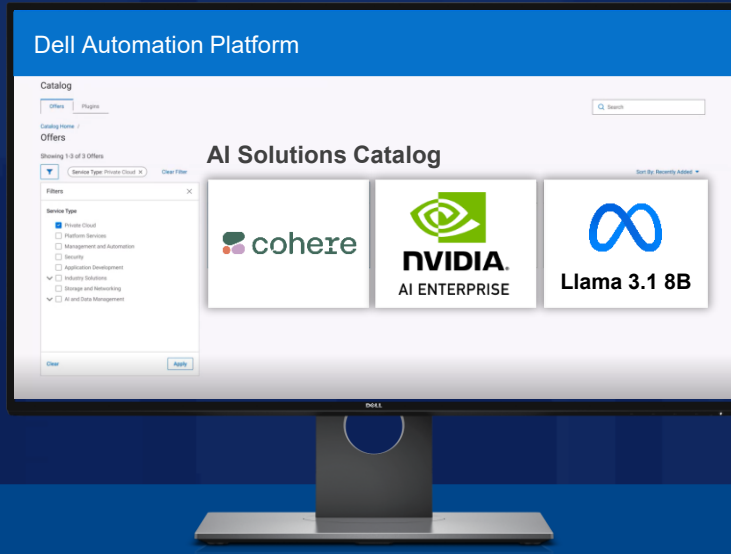
Bring Your Own Networking

OpenShift deployment

OpenShift cluster requirements Cluster size – 3 minimum
Cluster deployment– all nodes have homogeneous hardware configuration
Networking – 10GbE minimum
Software – Red Hat OpenShift 4.19

Dell AI Factory

Simplify deployment of AI Solutions



Dell Automation Platform

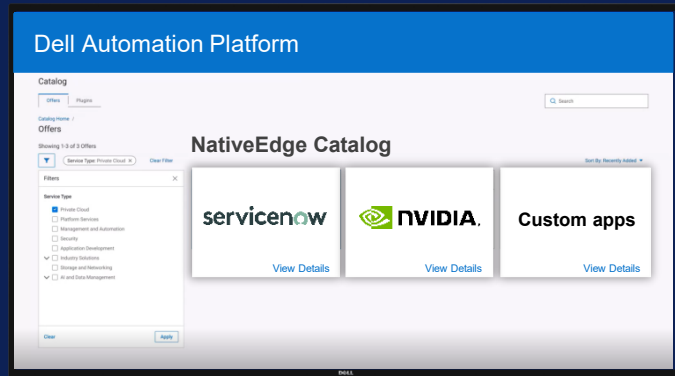


Faster time to value, lower risk

- A catalog of optimized solutions from Dell and our network of partners
- Simplify AI deployments with validated and optimized configurations for your system
- Automated deployment of AI solutions reduces time, effort, and mistakes
- Optimized hardware with GPU accelerated compute
- Accelerate AI outcomes from strategy to scalable operations with Dell Services

Dell NativeEdge

Full-stack solution purpose-built for the edge and distributed data centers



Innovate wherever you operate

- **Centralize operations:** No local IT skillset required with zero-touch deployment and automated lifecycle management
- **Enhance security:** Safeguard data, applications, and infrastructure with a zero-trust framework
- **Adapt to any environment:** Support VMs and containers with flexible and scalable configuration options
- **Reduce costs:** Boost efficiency through automation, streamlined management, and low entry cost
- **Optimize for AI:** Orchestrate AI workloads and frameworks with ease using pre-validated blueprints

Dell Automation Platform

Portal | Catalog | Orchestrator

NativeEdge OS

KVM hypervisor | Container run-time

SINGLE NODE

HA CLUSTERS



Scale out SDS



3RD PARTY &
BROWNFIELD



Less than
1 min.

to deploy infrastructure
and applications¹

Up to
68%

time savings by automating
edge application orchestration¹

The world's
**Most
Secure**
edge operations²

¹ Enterprise Strategy Group by TechTarget Technical Validation commissioned by Dell Technologies, "Dell NativeEdge - Edge Operations Software Platform," February 2025.

² Based on Dell Technologies internal analysis, May 2025.

Thank you

