

Dell Technologies Sales Team



Christoph Hesse
Senior Manager
☎ +49 89 4208 - 3150
✉ Christoph.Hesse@ingrammicro.com



Thomas Mack
Supervisor Sales
☎ +49 89 4208 - 2537
✉ Thomas.Mack@ingrammicro.com



Wir unterstützen Sie kompetent und persönlich!



Dell Technologies Pre-Sales Team



Michael Fischhold
System Engineer
☎ +49 89 4208 - 2797
✉ Michael.Fischhold@ingrammicro.com



Nikola Grujicic
System Engineer
☎ +49 89 4208 - 1035
✉ Nikola.Grujicic@ingrammicro.com



Philipp Lehnart
System Engineer
☎ +49 172 - 285 0691
✉ Philipp.Lehnart@ingrammicro.com



Özhan Bakar
Technical Sales Consultant
☎ +49 89 4208 - 2728
✉ Ozhan.Bakar@ingrammicro.com



Katrin Klose
Technical Sales Consultant
☎ +49 89 4208 - 3351
✉ Katrin.Klose@ingrammicro.com



Max Riedel
Senior Sales Consultant
☎ +49 89 4208 - 1684
✉ Max.Riedel@ingrammicro.com



Natasa Stojanovic
Sales Consultant
☎ +49 89 4208 - 3285
✉ Natasa.Stojanovic@ingrammicro.com

Dell Technologies Außendienst



Manfred Honsdorf
Key Account Manager
☎ +49 172 - 102 9012
✉ Manfred.Honsdorf@ingrammicro.com



Martin Schnelldorfer
Senior Key Account Manager
☎ +49 152 - 288 88301
✉ Martin.Schnelldorfer@ingrammicro.com



Hristiana Staenova
Sales Consultant
☎ +49 89 4208 - 3747
✉ Hristiana.Staenova@ingrammicro.com



Gabriele Yordanova
Sales Consultant
☎ +49 89 4208 - 3755
✉ Gabriele.Yordanova@ingrammicro.com



Martina Geßl
Senior Sales Consultant
☎ +49 89 4208 - 1470
✉ Martina.Gessel@ingrammicro.com



Atilla Kubaraci
Sales Consultant
☎ +49 89 4208 - 3055
✉ Atilla.Kubaraci@ingrammicro.com



Jutta Obermeier
Technical Sales Consultant
☎ +49 89 4208 - 1035
✉ Jutta.Obermeier@ingrammicro.com



Felix Schüller
Sales Consultant
☎ +49 89 4208 - 3171
✉ Felix.Schueler@ingrammicro.com



Michael Stalmach
Sales Consultant
☎ +49 89 4208 - 3234
✉ Michael.Stalmach@ingrammicro.com



Markus Ungnadner
Sales Consultant
☎ +49 89 4208 - 34611
✉ Markus.Ungnadner@ingrammicro.com

Dell Technologies Business Management Team



Martina Kern
Senior Business Development Manager
☎ +49 89 4208 - 1306
✉ Martina.Kern@ingrammicro.com



Thorsten Lieser
Business Development Manager
☎ +49 89 4208 - 2136
✉ Thorsten.Lieser@ingrammicro.com



Rouven Scharrenberg
Business Development Manager
☎ +49 89 4208 - 2071
✉ Rouven.Scharrenberg@ingrammicro.com



Ludwig Steffel
Product Manager Marketing
☎ +49 89 4208 - 1785
✉ Ludwig.Steffel@ingrammicro.com



Ramona Klux
Marketing Manager
☎ +49 89 4208 - 3386
✉ Ramona.Klux@ingrammicro.com

✉ DellEMC@ingrammicro.com
☎ 089 4208 - 2020

The Dell Technologies Tanzu advantage

Philipp Lehnart

Adv. Systems Engineer Dell EMC BU
Philipp.Lehnart@ingrammicro.com

INGRAM micro[®]

Christian Stein

Adv. Systems Engineer
Christian.Stein@dell.com

DELL Technologies

Modernizing applications is the key to transformation



78%

Improving application portfolio is a TOP priority¹



48%

Have NOT made improvements in the last year or more¹

In the next 5 Years

500M

Apps will be developed



The same number of
apps developed in the last

40



Years

Cloud-native technologies are the new standard

90%

of new enterprise applications
will be delivered using cloud-
native approaches by 2022²

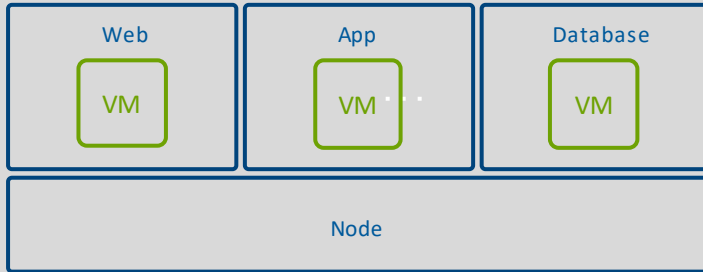
*Containers with
Kubernetes
orchestration deliver
cloud-native patterns*

500M

apps will be built using
cloud-native practices
by 2025²

Applications have evolved quite significantly in the last few years
Enterprises used to rely on **monolithic applications** with one application doing everything

An application used to consist of a few VMs



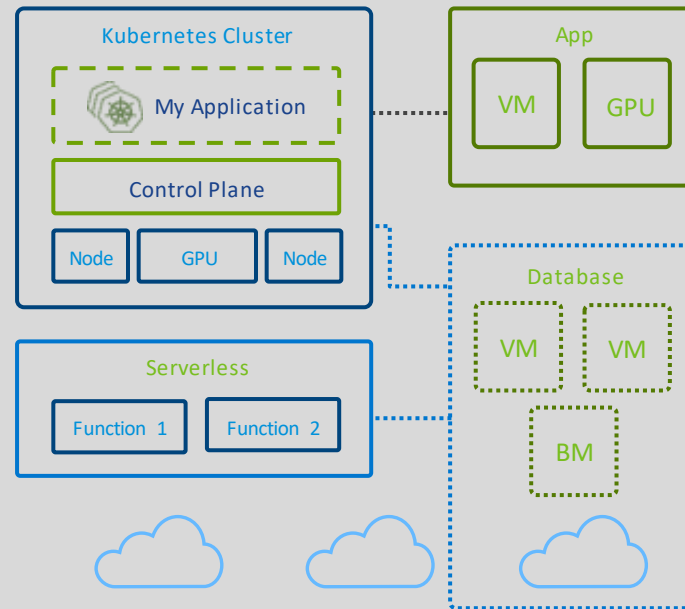
Modern enterprises are building heterogenous applications

Need for greater agility, scale, and performance are accelerating the shift to modern apps

An application used to consist of a few VMs



Modern apps are like distributed systems

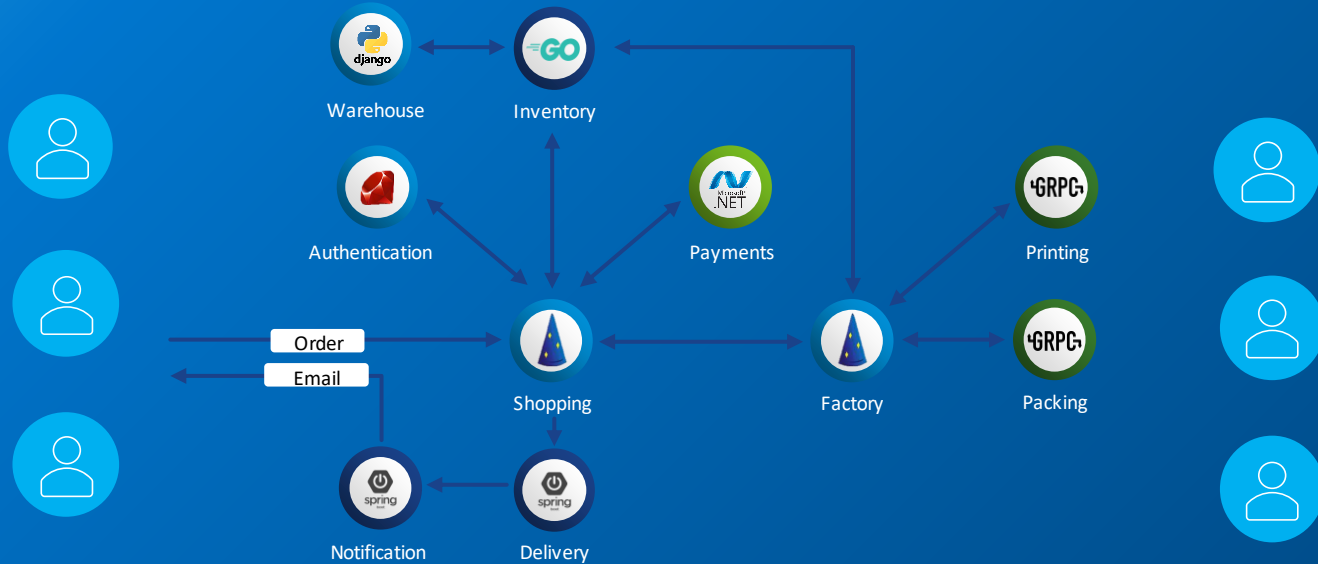


Modern, Cloud Native Software Development can be Limitless

More choice

Greater velocity

Better resiliency



What Industry Experts Say - Kubernetes and App Modernization

According to a survey conducted by IDC on container infrastructure software, **80+%** of respondents are using a Kubernetes based platform.¹

By 2023, about 54% of container instances will be deployed primarily in the data center.²

By 2025, more than 85% of global organizations will be running containerized applications in production, which is a significant increase from fewer than 35% in 2019.³

By 2025, nearly two-thirds of enterprises will be prolific software producers with code deployed daily.

Source:

¹ IDC Container Infrastructure Software, [Doc# US46485520](#), April 2020

² IDC Container Infrastructure Software Market Assessment: x86 Containers Forecast, 2018-2023, [Doc# US46185620](#), April 2020

³ IDC WW Semiannual IT Spending Guide: Line of Business, 09 April 2018 (HW, SW and services; excludes Telecom)

⁴ Gartner (July 2020): CTO's Guide to Containers and Kubernetes: 10 Frequently Asked Questions

82% Average Reduction in 'Path to Production' Time

Software Development Lifecycle

On-going Ops



Provisioning
90% faster

From 65 to 6 days



37% more time
coding

From 56% to 77%



Releasing
61% faster

From 14 to 5 days



Operating (Day 2)
69% more efficient

From 79 to 24 hours

Average results of total time to execute from Pivotal customer case studies, exclusive of highest and lowest measures

VMware Tanzu Portfolio

Build

Modern Applications

Bitnami | Pivotal

Run

Enterprise Kubernetes

vSphere With Kubernetes | VMware PKS

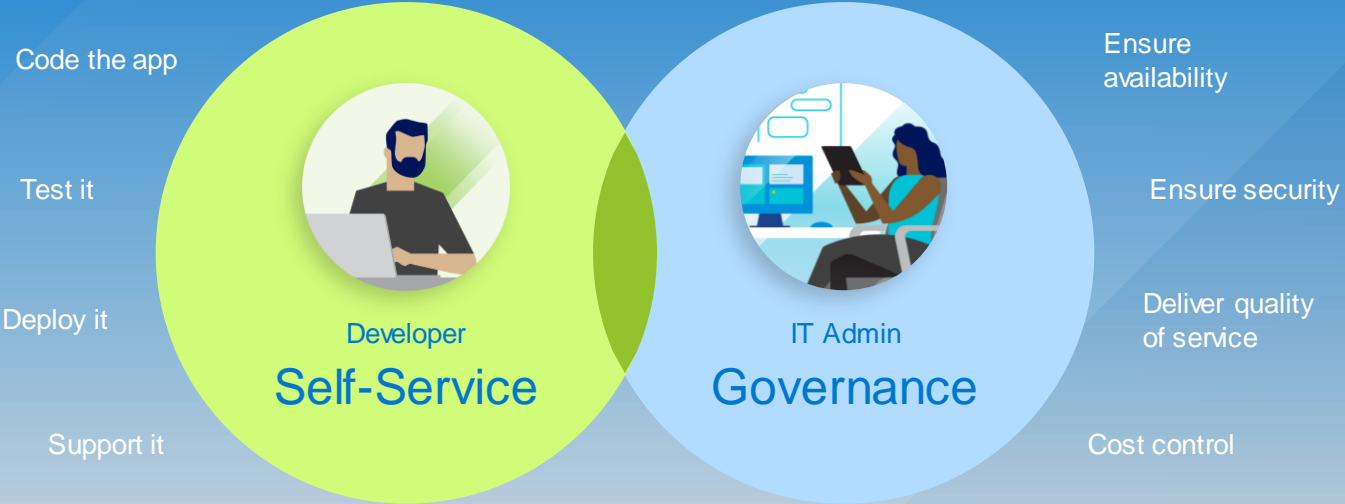
Manage

Single Control Point

Multi-cloud
Multi-cluster
Multi-team

Different Priorities for Modern Apps

Self Service vs. Governance



Different Priorities for Modern Apps

Changes vs. Reliability

The more new features,
the better

In production
as fast as possible

Fail faster,
fail better

Speed, Agility,
Autonomy,



Developer

Changes



IT Admin

Reliability

Maintain
Stability & Reliability

Sees changes
as risks

Resilience &
Recoverability

Keep
Control

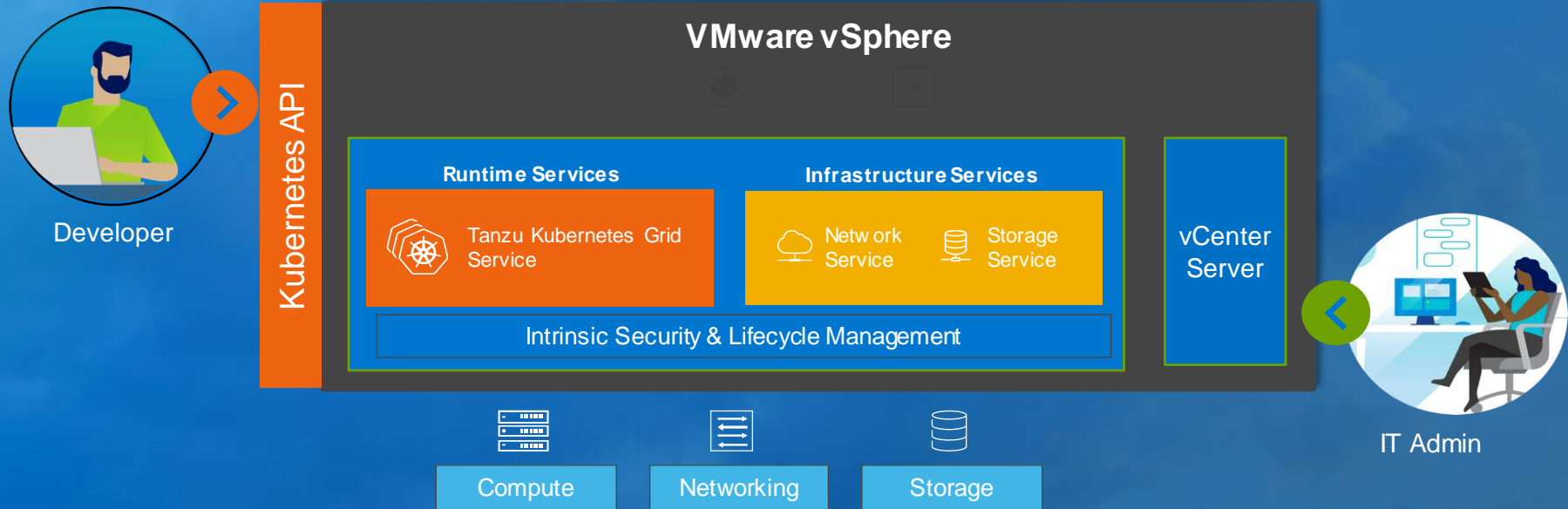
Cultural Challenges

Different Focus & Expectations



Run: vSphere with Tanzu delivers Kubernetes

Modernize the 70 million+ workloads running on vSphere



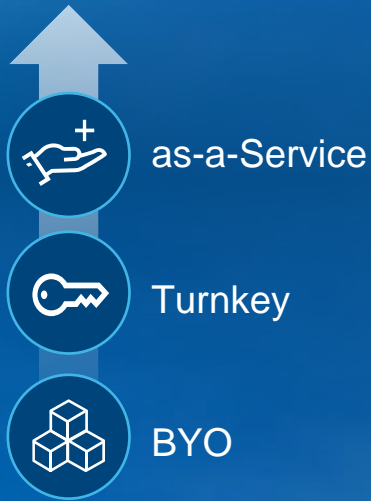
Deliver Developer-ready infrastructure

Align Dev Ops and IT Teams

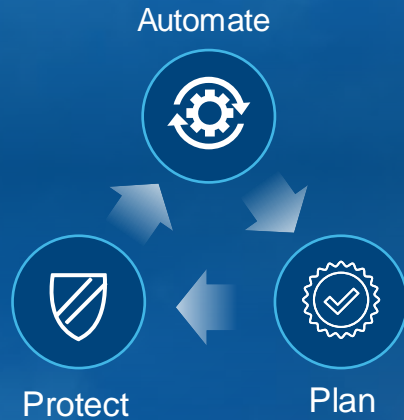
Simplify cloud operations

The Dell Technologies Tanzu advantage

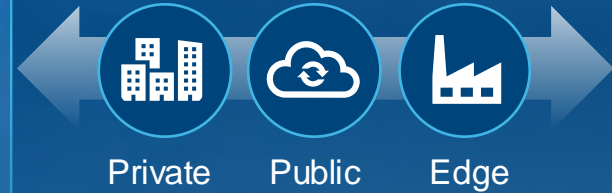
Implement Tanzu on your terms



Modernize at the speed of business

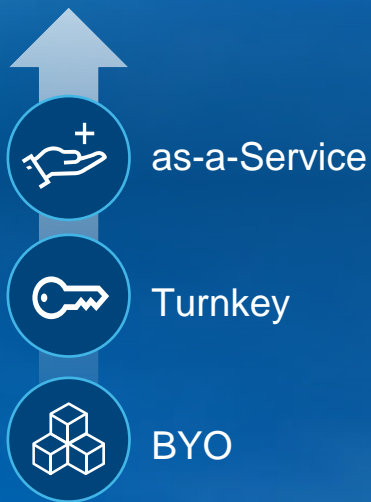


Deliver container innovation anywhere

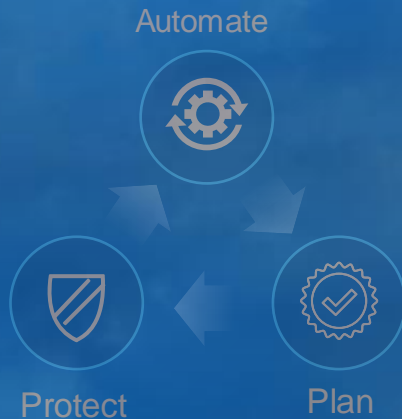


The Dell Technologies Tanzu advantage

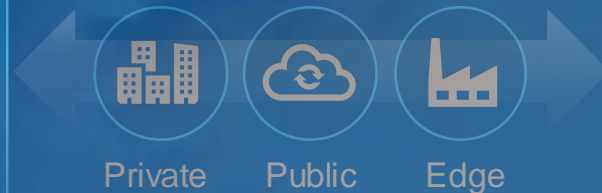
Implement Tanzu on your terms



Modernize at the speed of business



Deliver container innovation anywhere

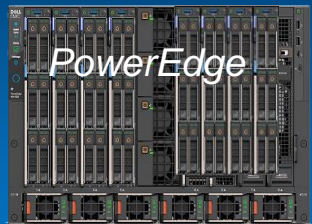


Implement Tanzu on your terms

Infrastructure that aligns with your need for Tanzu support



vSphere with Tanzu on Best of Breed



PowerEdge



PowerMax



PowerStore

Tanzu Architecture for VxRail

Purpose-built reference arch



vSphere with Tanzu on VxRail

Rapid, standard VxRail deployments



Dell Technologies Cloud Platform

Turnkey hybrid cloud



VMware Cloud on Dell EMC

Datacenter as a service



Level of stack integration



vSphere with Tanzu on Best of Breed

Dell EMC PowerEdge servers + Dell EMC Storage + Dell EMC Networking



Customize your modern applications platform
Get scalable, flexible architectures, intelligent automation and management, and multi-layer security, plus powerful purpose-built storage and open networking.



Rapid time-to-value with pre-tested infrastructure and deployment guidance



Superior performance with independent scaling of storage and compute



Leverage existing investments for modern apps environments

PowerEdge for the modern, evolving data center

The #1 server in the world



68x faster
Complete hypervisor and firmware updates using vLCM and OMIV in under 4 minutes vs. 3.5 hours manually



180+
vSAN Ready Node configs
One of the broadest vSAN Ready Node offerings



Scalable business architecture

Maximize performance across the widest range of applications with **highly scalable architectures**



Intelligent automation

Automate the entire server lifecycle from deployment to retirement with **embedded intelligence**



Integrated security

Protect your customers and your business with the PowerEdge **Cyber Resilient architecture**

*Source: New VMware vSphere 7.0 features reduced the time and complexity of routine update and hardware compliance tasks, August 2020. <https://www.principledtechnologies.com/Dell/vSphere-7.0-update-compatibility-check-0820-v3.pdf>

Dell EMC Storage: persistent modern app storage

Seamless support for VMware Tanzu

World's fastest storage array*

PowerMax is the world's fastest storage array and it brings that performance to Tanzu. It also scales to 64,000 vVols per array.



Only storage array to run vSphere apps
PowerStore not only runs VMs and Containers it runs vVols natively.



Transparent storage infrastructure

Storage that **works seamlessly** with virtual machines and containers supporting VMware **Cloud Native Storage** interface



Policy-driven dynamic provisioning

Storage Based Policy Management (SPBM) can be used for the deployment and management of **vVols and VMFS** datastores



Advanced storage efficiency

Persistent volumes can be **de-duplicated and compressed** increasing the effective storage capacity, sometimes by **4:1** or greater

* Based on Dell EMC internal analysis of max bandwidth (64K blocks) of the PowerMax 8000 (350GB/s) versus max bandwidth of competitive mainstream arrays, August 2020. Actual performance will vary

VMware Tanzu on VxRail

Kubernetes at the Speed of Cloud – The fastest way to deploy Tanzu



ACCELERATE ADOPTION

Automate Kubernetes infrastructure deployment and provisioning to accelerate developer productivity

15 minutes
to add new VxRail nodes to a cluster



RAPID K8s EVOLUTION

Lock step support for latest VMware Kubernetes advancements

30 day
Synchronous release with VMware



K8s YOUR WAY

Choice of infrastructure delivery options across private, public and edge based on your needs

Only
Vendor offering fully integrated RA, cluster, and private cloud offerings

1. Based on internal testing AD#: G20000139
2. Based on VMware validation #G20000312. .

Dell EMC VxRail

Turnkey HCI platform with fastest and simplest path to IT outcomes

- » Single click, automated lifecycle management maintains Continuously Validated States for all clusters
- » First HCI system fully integrated with VMware Cloud Foundation SDDC Manager, delivers a simple and direct path to the hybrid cloud
- » Automates 99% of network fabric configuration steps across multiple racks



The VxRail Advantage

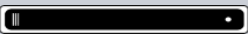





VxRail HCI System Software: Drives operational efficiencies, enables **52%** lower cost of operations compared with refreshing legacy environments.¹

VMware Cloud Foundation on VxRail: Delivers unique integrations with Cloud Foundation to offer a seamless, automated upgrade experience.

VxRail ACE: Analytics Consulting Engine delivers AI/ML based predictive analytics and lifecycle management orchestration.

Flexible deployment options: Appliance to integrated rack with network flexibility, 2-node enterprise edge, data center clusters or as turnkey on-premises cloud.

VxRail on latest generation Dell EMC servers

E665/F/N & E560/F/N	P570/F & P580N	V570/F	D560/F	S570	G560/F
					
Our everything platform	Performance focused	Optimized for VDI	Durable & rugged	Storage dense	Compute dense
<p>Single socket 2nd Gen AMD EYPC™ 8 to 64 cores Or Single or dual Intel® Xeon® Scalable Gen 1 and Gen 2 4 to 56 cores</p> <p>* Up to 3TB of Optane Persistent Memory</p>	<p>Single, dual, and quad Intel® Xeon® Scalable Gen 1 and Gen 2 processors, with up to 112 cores</p> <p>Up to 6TB of Optane Persistent Memory</p>	<p>Dual Intel® Xeon® Scalable Gen 1 & 2 only</p> <p>Up to six GPUs with five different NVIDIA Tesla and Quadro GPU options</p>	<p>MIL-STD 810G certified to withstand extreme heat, sand, dust and vibration</p> <p>Short depth only 20" Certified cold start down to -15C & to run at up to 45C</p>	<p>Only series with 3.5" HDD Hybrid only</p>	<p>Eight Intel® Xeon® Scalable Gen 1 or Gen 2 processors in 2U</p>
<p>R6515 10 x 2.5" all NVMe or 8 x 2.5" all flash / hybrid</p> <p>R640 10 x 2.5" drives</p>	<p>R740XD / R840 24 x 2.5" drives</p>	<p>R740XD 24 x 2.5" drives</p>	<p>XR2 8 x 2.5" drives</p>	<p>R740XD 12 x 3.5" plus 2 x 2.5" drives</p>	<p>C6400 with C6420 node 24 x 2.5" drives</p>
<p>10GbE or 25GbE Optane/NVMe/SAS cache All NVMe capacity FC HBA</p> <p>* NVIDIA T4 GPU * 48V DC PSU option</p>	<p>10GbE or 25GbE Optane/NVMe/SAS cache All NVMe capacity FC HBA</p> <p>48V DC PSU option</p>	<p>10GbE or 25GbE SAS cache only FC HBA 220V – 240V AC only</p>	<p>10GbE or 25GbE Optane/NVMe/SAS cache</p>	<p>10GbE or 25GbE SAS cache only FC HBA 48V DC PSU option</p>	<p>10GbE Optane/NVMe/SAS cache 220V – 240V AC only</p>

* E560 only, not available on E665

VxRail Configuration Flexibility for Your Workload

E, P, V, D, S, G Series based on the latest Dell EMC PowerEdge servers

Processor

Single, dual or quad, Gen 2 and Gen 1 Intel® Xeon® Scalable with 4 to 112 cores per system
Or
2nd Gen AMD EPYC™ 7002 Series with 8 to 64 cores in a single socket

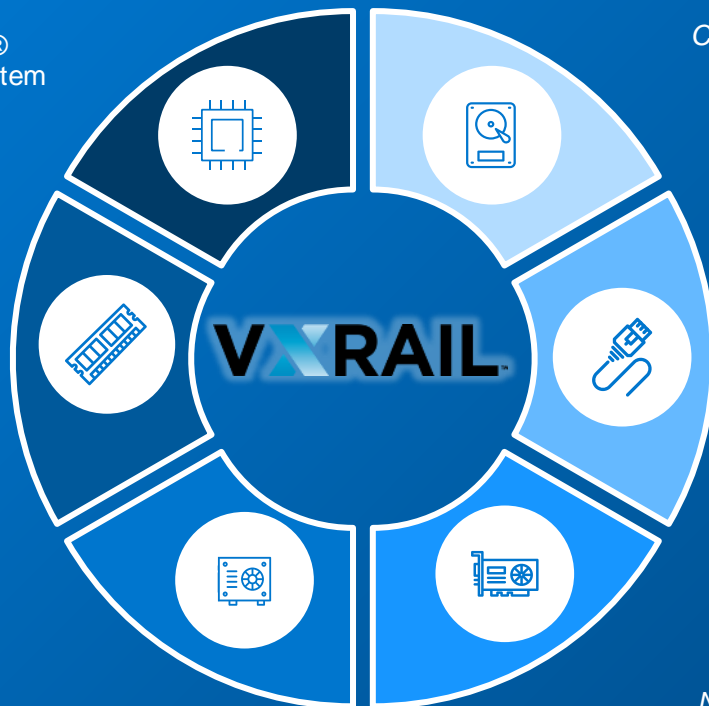
RAM

16GB RDIMM
32GB RDIMM
64GB RDIMM/LRDIMM
128GB LRDIMM

Intel Optane Persistent Memory:
128GB & 256GB

Power supply

550W, 1100W, 1600W	100-240V AC
1600W, 2000W, 2400W	200-240V AC
1100W	48V DC



Options vary by series

Storage

Cache Drives: Optane 375GB, NVMe 1600GB
SAS 400GB, 800GB, 1600GB

Capacity NVMe: 1TB, 4TB
Capacity SSDs: 1.92TB, 3.84TB, 7.68 TB
HDDs: 1.2TB to 8.0TB

Base networking

SFP28, SFP+, RJ45

2x 25GbE
4x 10GbE
2x 10GbE
4x 1GbE (4x 10GbE auto-negotiate)
Optional add-on NICs, FC HBA

GPUs

NVIDIA Tesla T4, V100/V100s or M10
NVIDIA Quadro RTX6000 or RTX8000

Note: GPU software & drivers sold separately

INRAM

DELL Technologies

VxRail Sizing Tool

ID: TestCluster1

VxRail Sizing Tool

v2.24

[Help](#)
[Report Bug](#)
[Sign Out](#)
CS

Project

Workloads

Results

You can adjust the configuration using the 'Filters' button.

Configuration Option A

Lowest Price ▼ ☰

Save | Export | Import

Hide Option

Configuration Option B

Lowest Price ▼ ☰

Min Spare Capacity %: 25 [Show Filters](#)

VxRail S570 - 4 Nodes (4 x 2U1N)

	Socket/DG	Node	Cluster
CPU: 5218 (16C, 2.3GHz) ▼	NA	1 ▼ (16 Cores - 36.8 GHz)	4 (64 Cores - 147.2 GHz)
Memory: 32 GB DIMMs	6 Per Socket (192 GB) ▼	6 (192 GB)	24 (768 GB)
Persistent Memory: None ▼			
Cache: 400 GB ▼ WI SAS ▼ (1% ratio)	NA	1	4
Storage: 8 TB 7.2K ▼ HDD ▼ 6 free capacity slots	6 Per DG (48 TB)	6 (48 TB)	24 (192 TB)

This configuration is 1.5% more expensive than Option B.

Min Spare Capacity %: 25 [Show Filters](#)

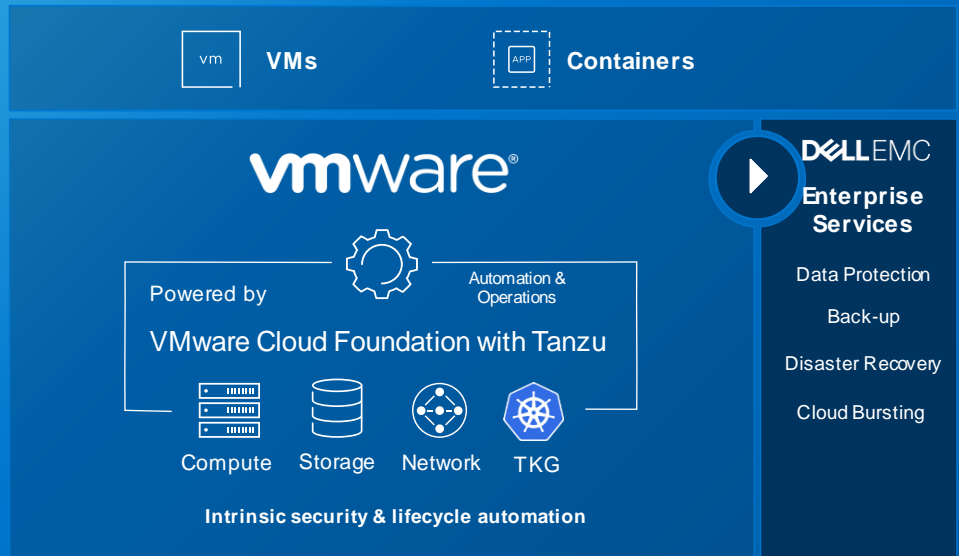
VxRail S570 - 4 Nodes (4 x 2U1N)

	Socket/DG	Node	Cluster
CPU: 4216 (16C, 2.1GHz) ▼	NA	1 ▼ (16 Cores - 33.6 GHz)	4 (64 Cores - 134.4 GHz)
Memory: 32 GB DIMMs	6 Per Socket (192 GB) ▼	6 (192 GB)	24 (768 GB)
Persistent Memory: None ▼			
Cache: 400 GB ▼ WI SAS ▼ (1% ratio)	NA	1	4
Storage: 8 TB 7.2K ▼ HDD ▼ 6 free capacity slots	6 Per DG (48 TB)	6 (48 TB)	24 (192 TB)

This configuration is 1.5% cheaper than Option A.

VMware Cloud on Dell EMC: A fully managed modern apps platform

Dell Technologies Cloud Data Center-as-a-Service



- Delivered as-a-service on-premises
- Co-engineered and delivered by Dell Technologies; ongoing service fully managed by VMware
- VMware SDDC including compute, storage, networking
- Built on VxRail – Dell EMC’s enterprise-grade cloud platform
- Hybrid cloud control plane to provision and monitor resources
- Tanzu Kubernetes Grid (TKG) Verification



Dell Technologies Cloud

Pre-integrated components from a rich open source ecosystem



CUSTOM CLOUD-NATIVE STACK

Image Registry

Scheduling, Orchestration,
Container Management

COMPLEX

Framework Lifecycle Management

Monitoring,
Logging,
Analytics

MANUAL Monitoring, Healing
Management

Security and Networking

UNIQUE

Persistence

BRITTLE

HCI Infrastructure

VS

DELL TECHNOLOGIES CLOUD PLATFORM

App

App

App

COMPLETE

Kubernetes cluster

Virtual machines

Native pods

TURNKEY

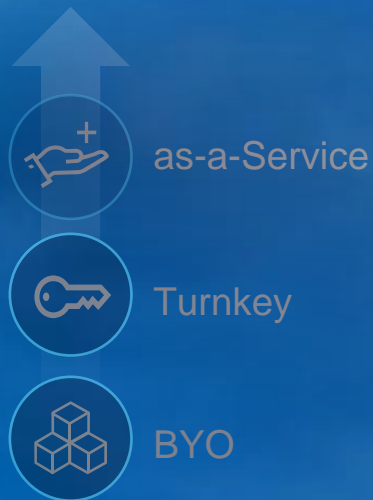
VMware Cloud Foundation

STANDARD

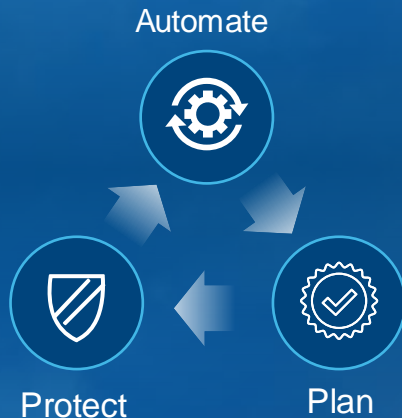
VXRA TRUSTED

The Dell Technologies Tanzu advantage

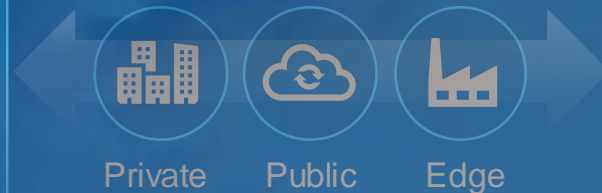
Implement Tanzu on your terms



Modernize at the speed of business



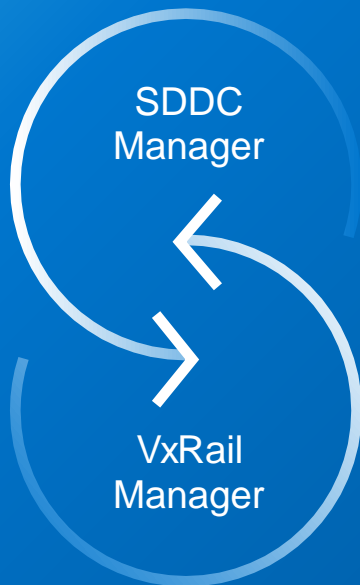
Deliver container innovation anywhere





Automate full stack operations

Reduce TCO and streamline operations by eliminating manual steps



DevOps Automation

Automate workload provisioning

Developer self service

Automate self-service provisioning

One-click updates

Automated Life Cycle Management

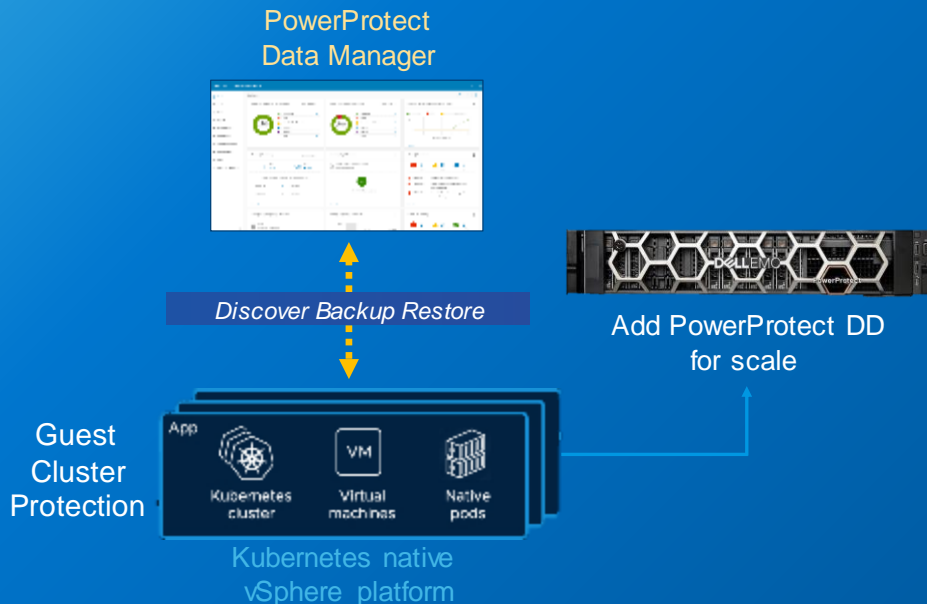
Automate scale and configuration

Add a node in 15 minutes

VxRail is the only jointly engineered HCI system with deep VMware Cloud Foundation integration. LCM through SDDC Manager—without 3rd party tools

Enterprise protection

Enterprise protection for Tanzu on-prem and in the cloud



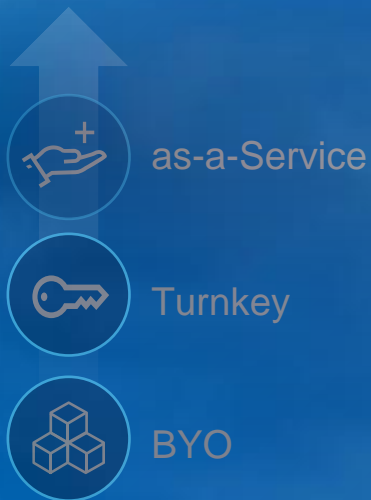
With VMware running Kubernetes everywhere, enabling the protection of Tanzu is essential for business operations.

BENEFITS

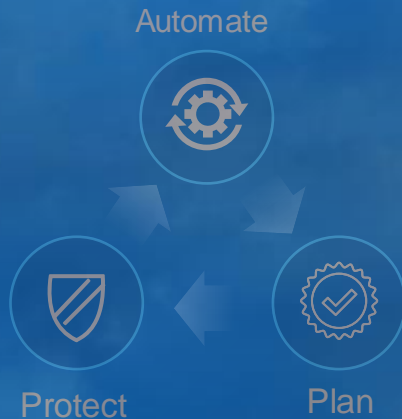
- Peace of mind protection for modern workloads
- Unified protection across VMs and containers
- Central UI and self-service capabilities for IT ops and backup admins
- Feature-rich for enterprise-grade protection
- Ensure business continuity and disaster recovery
- Lockstep innovation through collaboration with VMware

The Dell Technologies Tanzu advantage

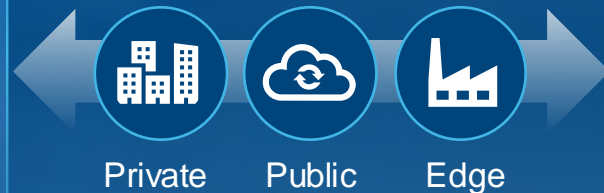
Implement Tanzu on your terms



Modernize at the speed of business

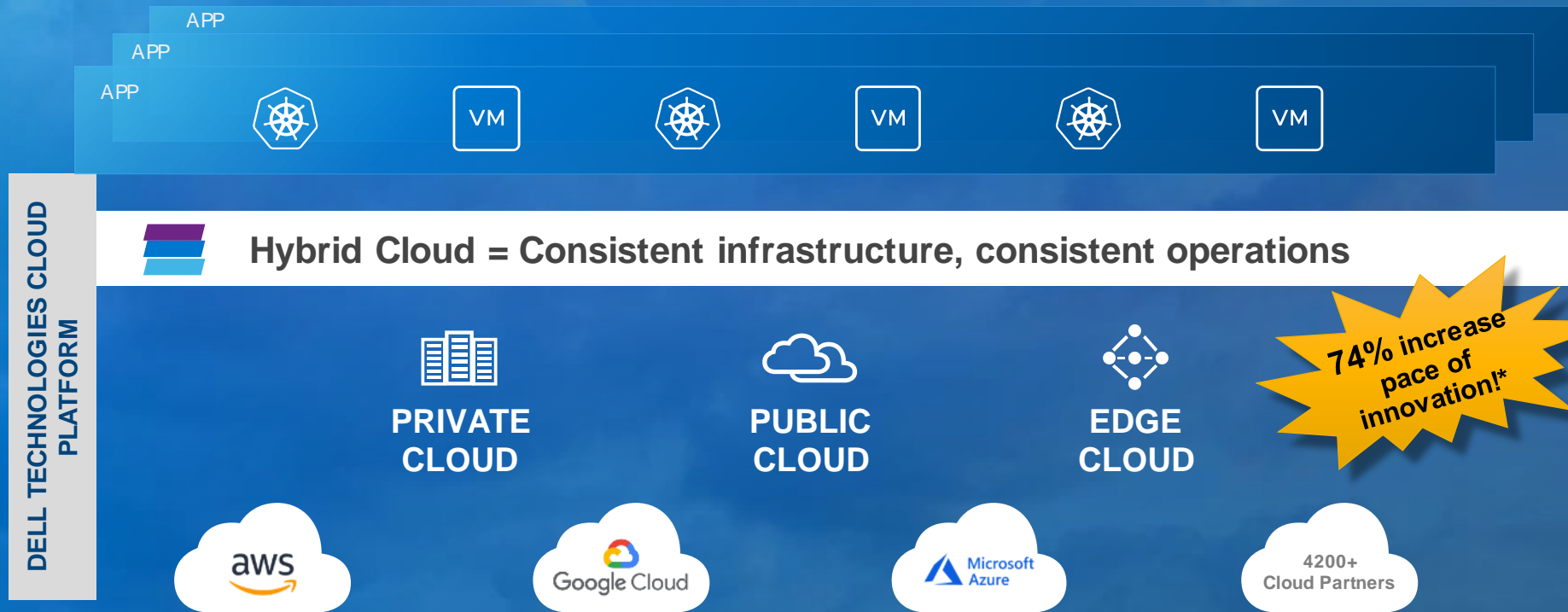


Deliver container innovation anywhere



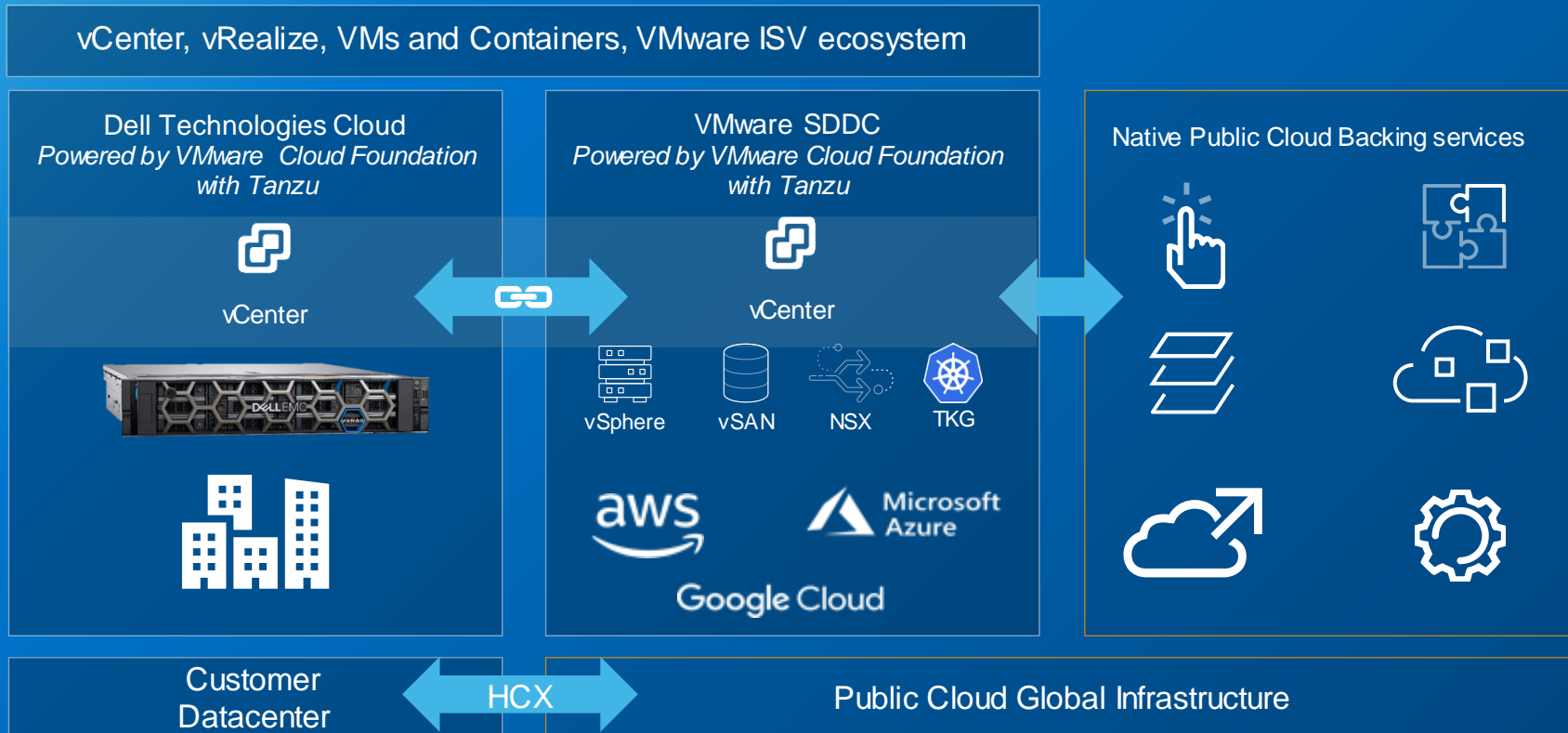
Modern apps multi-cloud agility

Consistency across private, public and edge cloud deployment options

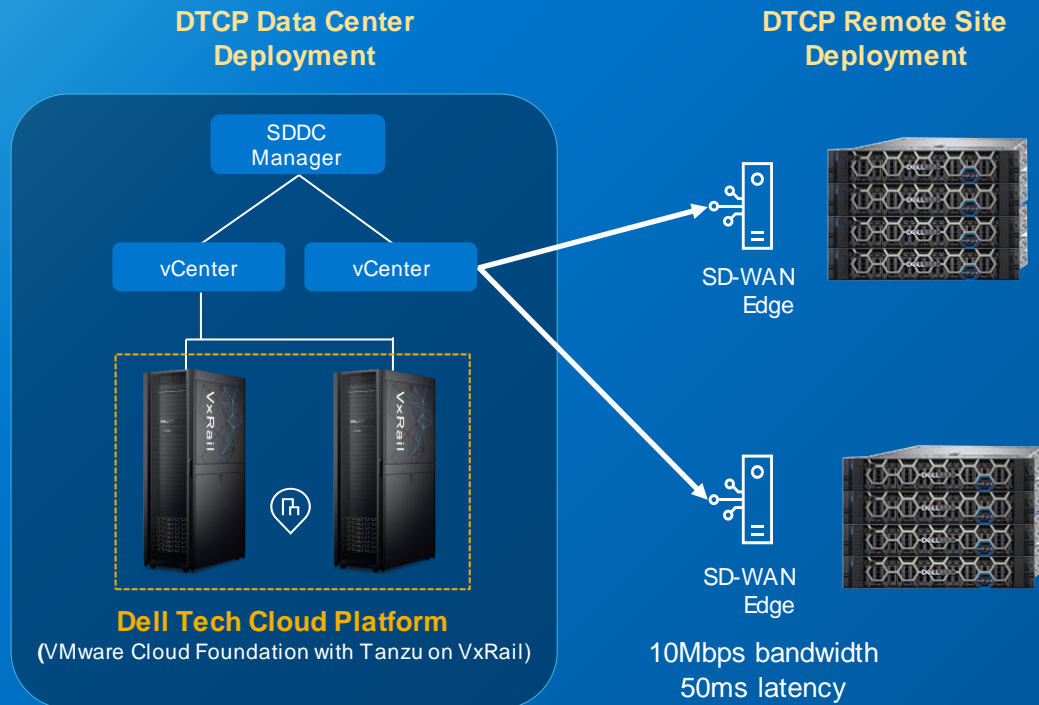


* Source: ESG "The Cloud Complexity Imperative: Why Organizations Must Unify and Simplify the Management of their Sprawling Multicloud Environment", February 2020

Container innovation in hybrid cloud



Remote Tanzu clusters at the edge



Run containers and VMs through VMware Cloud Foundation with Tanzu at the edge

Consistent operations and integrated full stack HW & SW upgrades across the core and edge

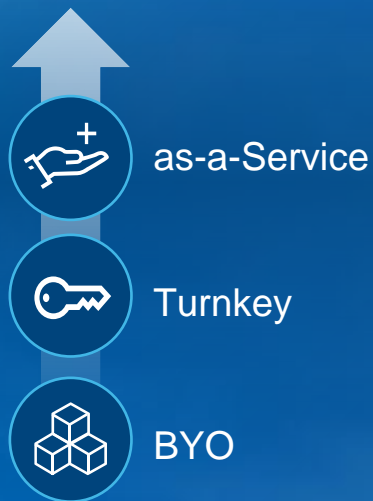
Extend the existing VCF operational capabilities to remote locations

Leverage SD-WAN networking appliances for all-in-one WAN transformation

The Dell Technologies Tanzu advantage

Agile infrastructure for modern apps

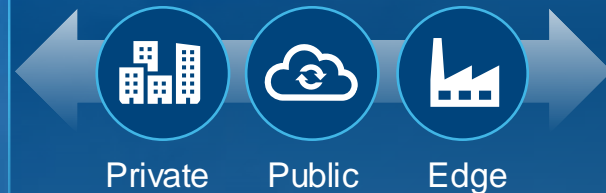
Implement Tanzu on your terms



Modernize at the speed of business



Deliver container innovation anywhere



Dell Technologies Sales Team



Christoph Hesse
Senior Manager
☎ +49 89 4208 - 3150
✉ Christoph.Hesse@ingrammicro.com



Thomas Mack
Supervisor Sales
☎ +49 89 4208 - 2537
✉ Thomas.Mack@ingrammicro.com



Wir unterstützen Sie kompetent und persönlich!



Dell Technologies Pre-Sales Team



Michael Fischhold
System Engineer
☎ +49 89 4208 - 2797
✉ Michael.Fischhold@ingrammicro.com



Nikola Grujicic
System Engineer
☎ +49 89 4208 - 1035
✉ Nikola.Grujicic@ingrammicro.com



Philipp Lehnart
System Engineer
☎ +49 172 - 285 0691
✉ Philipp.Lehnart@ingrammicro.com



Özhan Bakar
Technical Sales Consultant
☎ +49 89 4208 - 2728
✉ Ozhan.Bakar@ingrammicro.com



Katrin Klose
Technical Sales Consultant
☎ +49 89 4208 - 3351
✉ Katrin.Klose@ingrammicro.com



Max Riedel
Senior Sales Consultant
☎ +49 89 4208 - 1684
✉ Max.Riedel@ingrammicro.com



Natasa Stojanovic
Sales Consultant
☎ +49 89 4208 - 3285
✉ Natasa.Stojanovic@ingrammicro.com

Dell Technologies Außendienst



Manfred Honsdorf
Key Account Manager
☎ +49 172 - 102 9012
✉ Manfred.Honsdorf@ingrammicro.com



Martin Schnelldorfer
Senior Key Account Manager
☎ +49 152 - 288 88301
✉ Martin.Schnelldorfer@ingrammicro.com



Hristiana Staenova
Sales Consultant
☎ +49 89 4208 - 3747
✉ Hristiana.Staenova@ingrammicro.com



Gabriele Yordanova
Sales Consultant
☎ +49 89 4208 - 3755
✉ Gabriele.Yordanova@ingrammicro.com



Martina Geßl
Senior Sales Consultant
☎ +49 89 4208 - 1470
✉ Martina.Gessel@ingrammicro.com



Atilla Kumbaraci
Sales Consultant
☎ +49 89 4208 - 3055
✉ Atilla.Kumbaraci@ingrammicro.com



Jutta Obermeier
Technical Sales Consultant
☎ +49 89 4208 - 1035
✉ Jutta.Obermeier@ingrammicro.com



Felix Schüller
Sales Consultant
☎ +49 89 4208 - 3171
✉ Felix.Schueler@ingrammicro.com



Michael Stalmach
Sales Consultant
☎ +49 89 4208 - 3234
✉ Michael.Stalmach@ingrammicro.com



Markus Ungnadner
Sales Consultant
☎ +49 89 4208 - 34611
✉ Markus.Ungnadner@ingrammicro.com

Dell Technologies Business Management Team



Martina Kern
Senior Business Development Manager
☎ +49 89 4208 - 1306
✉ Martina.Kern@ingrammicro.com



Thorsten Lieser
Business Development Manager
☎ +49 89 4208 - 2136
✉ Thorsten.Lieser@ingrammicro.com



Rouven Scharrenberg
Business Development Manager
☎ +49 89 4208 - 2071
✉ Rouven.Scharrenberg@ingrammicro.com



Ludwig Steffel
Product Manager Marketing
☎ +49 89 4208 - 1785
✉ Ludwig.Steffel@ingrammicro.com



Ramona Klix
Marketing Manager
☎ +49 89 4208 - 3386
✉ Ramona.Klix@ingrammicro.com

✉ DellEMC@ingrammicro.com
☎ 089 4208 - 2020

DELLTechnologies