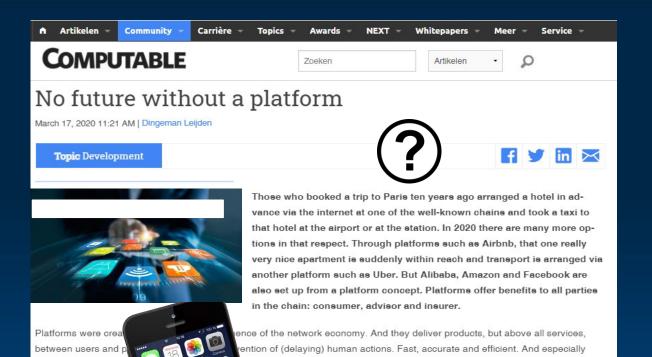
De toekomst van Cloud is hybride, Dell APEX cloud platform for Azure

PAUL BOOTSMA - DELL TECHNOLOGIES







ols

cheap.

Thus, more and more

and carry out all kind

more and more insuran

what the customer wa

vesting more and more

reinvent themselves in

NO E











Marktplaats

arging on all sides that mutually communicate and interact with each other

platforms. You can also see this development in the insurance sector:

use technology is changing the way insurers operate, and it focuses on

customer satisfaction are the new yardstick. Insurers are therefore in-

gical functions, and the operational branches will therefore have to



Where can my workloads live?



Compliance



Governance



Data Gravity



Performance



Cost



Preference

Barriers to innovating with multicloud



Management complexity



Limited multicloud visibility



Unpredictable cloud costs



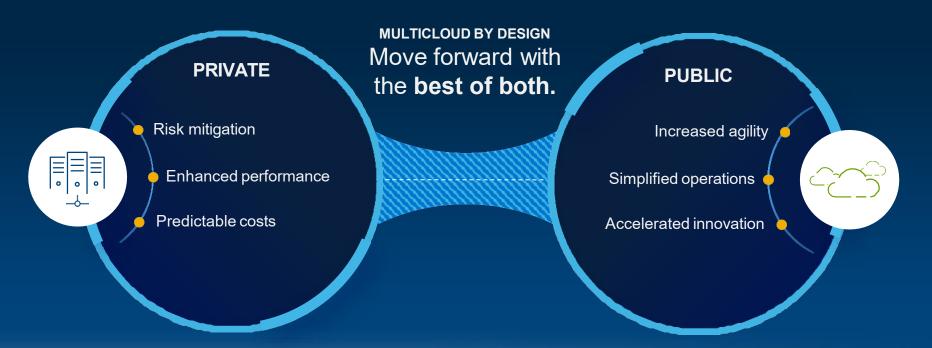
Skills gaps



Inconsistent security and compliance

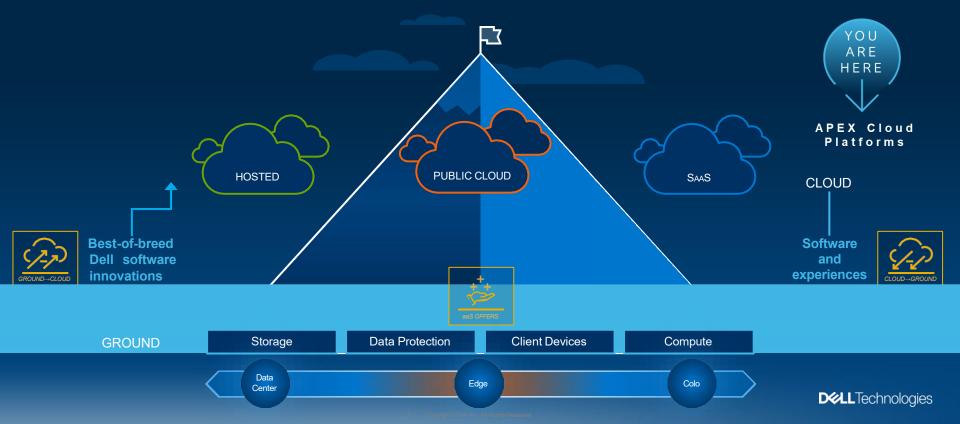
The need for multicloud by design

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



D&LLTechnologies **A P E** X

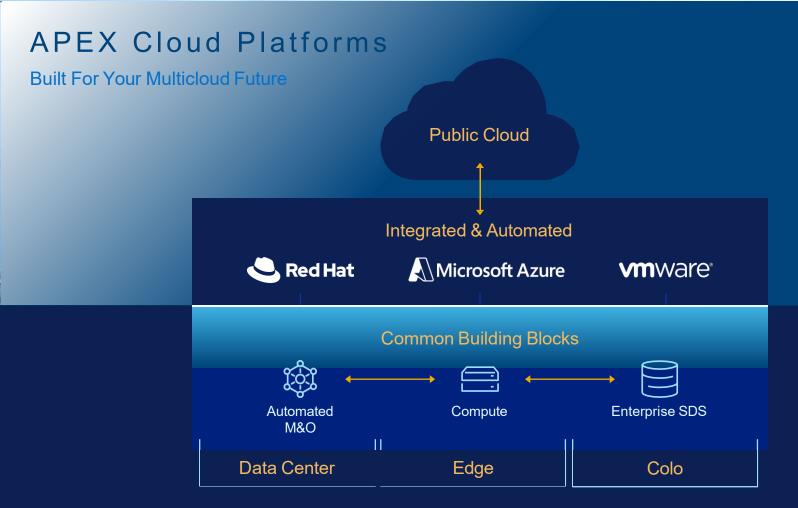
Take advantage of multicloud by design.
Get simplified cloud experiences with technology you trust.



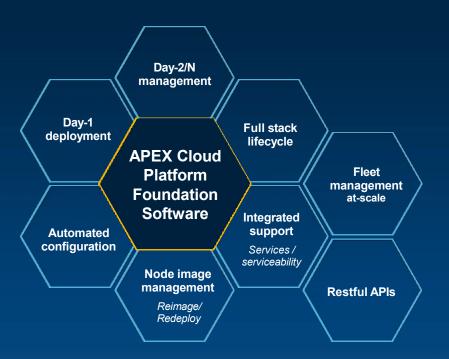
In Market Offerings **Public Cloud Different Outcomes Red Hat** Microsoft Azure **vm**ware[®] VxRail HCI **OMIMSWAC** Plugin System Software VxRail PowerEdge **AX Nodes** vSAN **PowerFlex** S2D

PowerFlex

Compute



APEX Cloud Platform Foundation Software





Accelerate time to value with guided deployment wizard.



Streamline operations and lifecycle management with extensive integrations and automation.



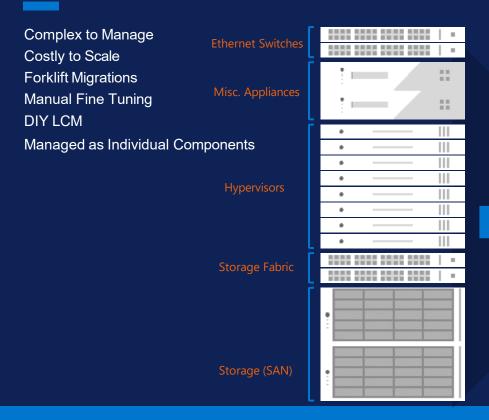
Bridge the skills gap with management through familiar ecosystem User Interface.



Realize greater cloud and IT automation extensibility with APIs



Integrated full stack support & services experience.



APEX Cloud Platforms

Fully Tested, Validated and Automated LCM
Non-disruptive Migrations
Full Stack Integration
Managed as One
Scalability

10/25GB Ethernet Switches

Standard x86 servers

+

Local drives

+

HV, SDS & SDN Software

Traditional "Three Tier" Infrastructure

Hyper-Converged Infrastructure (HCI)

Internal Use - Confidential 12 of 23 © Copyright 2021 Dell I r

Dell APEX cloud platform for Azure







Dell ACP for Azure introduction video

Hybrid Infrastructure with Microsoft Azure



Azure Arc

- Extend Azure management and governance capabilities on-premises
- Monitor & Manage any workload @ any landingzone
 (Windows, Linux, HyperV, ESX, AWS, GCP, Azure, ...)



Azure Stack Hub

Bring Azure Services
On Prem

Cloud-native integrated system

- Disconnected scenarios
- Data sovereignty
- Application modernization

Dell EMC Integrated System for Azure Stack Hub



Azure Stack HCI

Modernize Hyper-V Infrastructure with HCI

HCI connected to Azure

- Scalable virtualization and storage
- · Remote branch office
- High-performance workloads

APEX Cloud Platform for Azure



Azure Stack Edge

Azure ML/IoT services at the edge

Cloud-managed appliance

- · Machine learning at the edge
- Edge compute and IoT solutions
- Network data transfer to cloud

Azure Subscription



Azure Stack HCI hardware solution categories

Fastest time to value with turnkey solutions

 Highest level of automation and integration based on deep collaboration between Microsoft and hardware partners

· Available to purchase as Solution as a Service

Dell Apex first and only to offer a Premier

Solution for Microsoft Azure Stack HCI

Premier solutions

appliancelike experience

"Full"

Single purpose-built with pre-installed software Simpler to deploy and procure as all components are included

 Optimized component selection for efficient delivery of Azure services on-premises and optimal performance Integrated systems

Broadest choice of hardware components

- Simplest path for OEM to enter the Azure Stack HCI ecosystem
- Minimal one-time validation requirements
- Hardware-level support only

Validated nodes

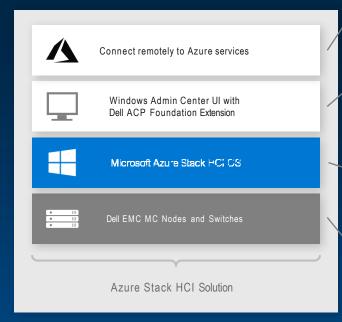
Reference architecture "like"





Inside Azure Stack HCI

Dell ACP for Azure = Microsoft Azure Stack HCI on MC Nodes



Learn more at
DellEMC.com/AzureStackHCI













Site Recovery

Backup

File Syno

Update Mgmt.

Monitor

Security Center



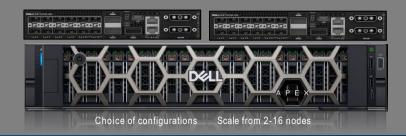


Hyper-V



Storage Spaces Direct Software Defined Networking

No additional licensing needed for this software defined abstraction



Azure Stack HCI pricing and licensing



€ 10

per month

Per physical processor core

Azure Hybrid benefit

Condition:

Windows Server datacenter

+ Software Assurance

• Azure Stack HCI OS : € 0

• Azure Kubernetes service : € 0

• Windows server Subscription : € 0

· CALs not required

Azure Benefit

Extended Security Updates : € 0 Azure policies : € 0

Azure Update Manager : € 0

Links:

- Azure Hybrid benefits
- Azure Benefits
- Azure Stack HCI pricing





Single control plane with Azure Arc

Azure Arc enabled infrastructure Connect and operate hybrid resources as native Azure resources

Azure Arc enabled services Deploy and run Azure services outside of Azure while still operating it from Azure













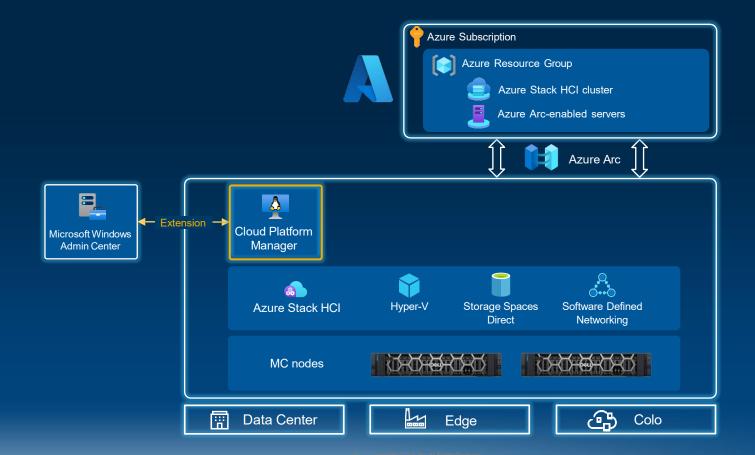




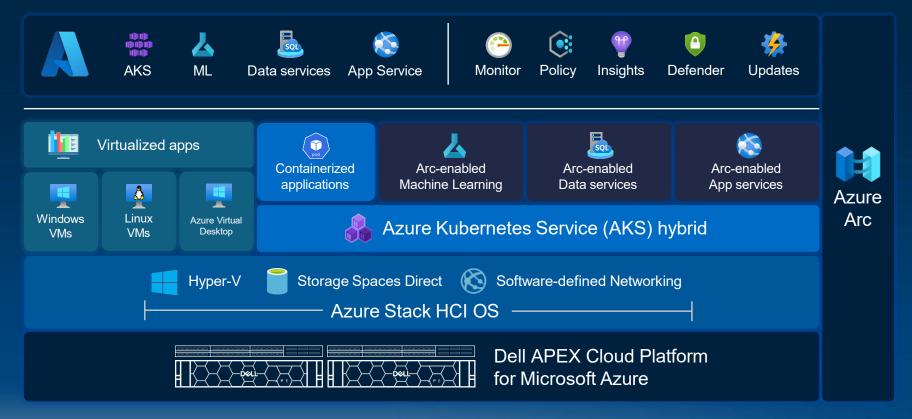




Start with Apex Cloud platform for Azure, Day 1

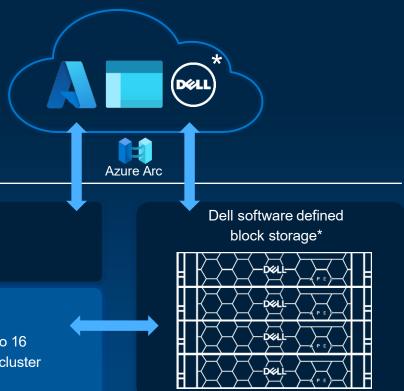


Agile hybrid infrastructure with Azure Arc, Day 2



Next generation capabilities for Azure hybrid

High-level solution architecture





Microsoft Windows
Admin Center

Azure Stack HCI

Cloud Platform Foundation Software

Deployment automation

Serviceability integrations

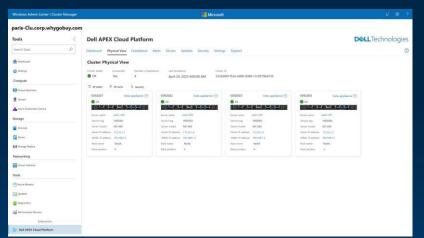
Full stack lifecycle management
Physical hardware monitoring and views
Intrinsic infrastructure security management

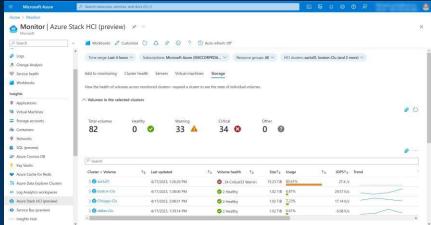


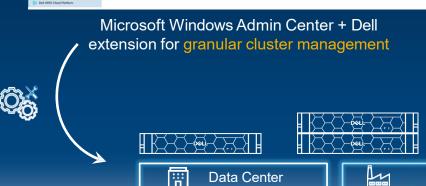
From **1** to 16 nodes per cluster

Consistent hybrid management experience

Combine the power of APEX Cloud Platform Foundation Software and Azure Arc-enabled infrastructure











D¢LLTechnologies

Full stack, Automated Lifecycle Management

APEX Cloud Platform release terminology

Update Type	Typical Cadence	Description		
Baseline updates	Quarterly	Baseline updates include new features and improvements. They typically require host system reboots and might take longer.		
Patch Updates	Monthly	Patch updates primarily contain quality and reliability improvements. Some patches require host system reboots, while others don't. To fix critical bugs or security vulnerabilities, patches might be released sooner than monthly.		
Hotfixes	On-demand	Hotfixes address blocking issues that could prevent regular patch or baseline updates.		

- √ Updates appear in Dell extension 4 hours after release
- ✓ Uses Dell's single consolidated workflow for all updates
- ✓ Includes end-to-end platform APEX Cloud Platform Foundation Software, Azure Stack HCI Solution, and hardware updates
- ✓ Keeps platform in a validated known good state

- ✓ No interruption to workloads running on the platform
- ✓ Avoids potential update failures with comprehensive health checks before and during an update
- ✓ Improves reliability with automatic retry and remediation of known issues

Live Optics

Thoroughly analyze the workloads running in your current environment.

Provided free of charge and runs agent free to gather server and storage capacity and performance data.

Rich reporting and powerful visualizations help you make informed decisions.



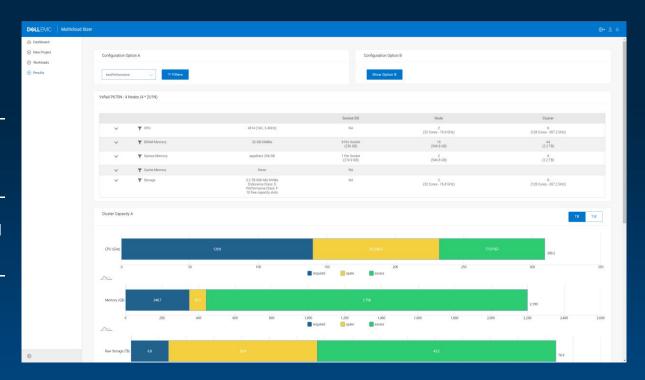
Power Sizer Tool

Helps right-size APEX Cloud Platform based on current requirements and future growth predictions

Results from Live Optics guide inputs into the sizer

Produces minimum and recommended cluster configurations based on inputs

Only accessible by Dell account teams and channel partners



Get Efficient tooling

Helps building your business case from a power, cooling, CO₂ emissions and space perspective

Results from Live Optics (or RVtools) and PowerSizer guide inputs into the Get Efficient tooling

Data Center GetEfficient Summary **KPIs** €180K €476K LESS CARBON EMISSIONS LESS RACK SPACE SAVINGS OVER 5 YEARS SAVINGS OVER 5 YEARS **POWER & COOLING** 50% YoY INCREASE (AVG.: 0,691 € / kWh) FIXED ENERGY RATE: 0,262 € / kWh **Proposed Solution Current Solution** PowerEdge R750 & PowerStore 500T PowerEdge R630 & VNX 5600 Power (kW): 4.78 Power (kW): 12,64 Cooling (BTU/h): 43K

Rack Space (U): 80

Carbon Emissions (kgCO₂/Yr.): 65K



Annual Power & Cooling Costs: €58K – €153K* *Yearly costs, average over the next 5 years. Constant energy rate to 50% YoY increasing

5-year Power & Cooling Costs: €294K - €765K*

* Constant energy rate to 50% YoY increasing energy rate.





Cooling (BTU/h): 16K



Carbon Emissions (kgCO₂/Yr.): 25K



Rack Space (U): 22



Annual Power & Cooling Costs: €22K – €58K* *Yearly costs, average over the next 5 years. Constant energy rate to 50% YoY increasing

5-year Power & Cooling Costs: €111K – €289K* * Constant energy rate to 50% YoY increasing energy rate



Dell Services for APEX Cloud Platform for Microsoft Azure

The capabilities you need to design and implement a multicloud architecture

Dell Infrastructure Services:

Best practices to deploy, support and assist in your IT needs

- Dell ProDeploy for Infrastructure: set up for multicloud success from day one
- Dell ProSupport for Infrastructure: single source of solution-level support
- Optional Services: keep your internal staff focused on priorities with services like:
 - Residency
 - Onsite Diagnosis
 - Data Sanitization
 - Data Destruction
 - Keep Your Hard Drive
 - Keep Your Component
 - Education Services

Dell Professional Services:

Deep expertise for wherever you are in your cloud journey

- **Strategy:** determine your cloud path
- Implementation: validate operational readiness
- Adoption: act on operational plans
- Scale: fine-tune your cloud



Dell ProDeploy for Infrastructure Suite

Maximize technology on day one with practical choices for hardware and software and versatile delivery options to fit every budget and operating model

ProDeploy

Minimum required for Dell APEX Cloud Platform for Microsoft Azure

24X7 Onsite hardware installation and remote configuration

ProDeploy Plus

24X7 onsite hardware installation and configuration, extended planning, and additional deployment hours for customerdirected tasks



Faster deployment with ProDeploy or ProDeploy Plus₁



Less projectplanning time vs. in-house administrators₁



Fewer support calls in the first 90 days₂

Dell ProSupport Infrastructure Suite

- Single source of solution-level support for Dell APEX Cloud Platform for Microsoft Azure
- Includes single source support for the solution including collaborative support for MS Azure HCl¹

ProSupport

Next Business Day or 4-hour response

Minimum required for Dell APEX Cloud Platform for Microsoft Azure: NBD

Comprehensive 24x7 proactive and predictive support for Dell Hardwariesঝারাওচftware

ProSupport Plus

4-hour with Mission Critical support

Adds Mission Critical support, including a 6-hour repair objective for hardware issues and Service Account Manager

Benefits of support services²



Maximized workload availability



Increased IT staff productivity



Increased employee satisfaction with IT and support

1Specifically for APEX Cloud Platform for Microsoft Azure, we offer collaborative support for Microsoft HCI software on both ProSupport and ProSupport Plus. 2Source: commissioned study conducted by Forrester Consulting on behalf of Dell Technologies Services, "IT Leaders Need IT Services To Achieve Business Outcomes", Marc

Technical Use Cases Azure Stack HCL



Windows Server / Hyper-V Refresh from Server 2008/2012/2016/2019 to Azure Stack HCI.



Trusted enterprise virtualization using secure software defined infrastructure



Virtual Desktop Infrastructure (VDI) with edge-local access



Remote Office and Branch Office (ROBO) and IOT/ Edge Infrastructure



High performance, latency sensitive applications such as Microsoft SQL Server.



Tightly integrated Kubernetes



DELL APEX CLOUD PLATFORM FOR AZURE

10 November 2023

Paul Bootsma, Azure Stack specialist at Dell Technologies

	FRIENDSHIP FOYER	UIVERZAAL	VRACHTRUIM	VERTREKHAL	BRIEFINGROOM
08:30 - 09:00	Ontvangst & inschrijving				
09:00 - 09:20		Opening			
09:30 - 10:10		Werkplek Panelsessie	Infradax Overheid Advanced Datacleaning 1/2	Veeam Dataprotectie & recovery	Dynamics Experts
10:20 - 11:00		Security Panelsessie	Infradax Overheid Advanced Datacleaning 2/2	JSR Slimmer Samenwerken	Dell Technologies Datacenter als datawarehouse
11:10 - 11:30	Koffiebreak				
11:30 - 12:10		Datacenter Panelsessie	Infradax Overheid ICT-regievoering	Holm Security Vulnerability Management	Microsoft Microsoft 365
12:20 - 13:00	Lunch groep 1		Cumlaude.ai		
13:10 - 13:50	Lunch groep 2		Microsoft Business Applications		
14:00 - 14:40		Al Panelsessie	HPE Hybrid Cloud	Fortinet Networking & Security	
14:50 - 15:10	Koffiebreak				
15:20 - 16:00			Arctic Wolf Detectie en Respons	KPN (Tele)communicatie	
16:10 - 17:00	Borrel				











