Data Center Evolution
Dell Private Cloud

Chris Neas – Storage Platforms and Solutions

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A pivotal moment in IT is happening now …

AI impact

Edge, Cloud, Datacenter

Closed or Open Ecosystems

Cost control OPEX & CAPEX

Physical & Cyber Security

… leading customers to re-evaluate their data strategy

"I have concerns about vendor lock-in and rising licensing costs"

81% Believe AI will transform their industry

50% of enterprises to explore re-virtualization[1]

"I have to solve for AI **and** Edge **AND** traditional workloads across multiple ecosystems"

83% of all data is on-premises

50% of all new data is generated at the edge

"I want to make the right choices for today and tomorrow"

83% of enterprise CIOs plan to repatriate workloads

75% more cost effective on-premises

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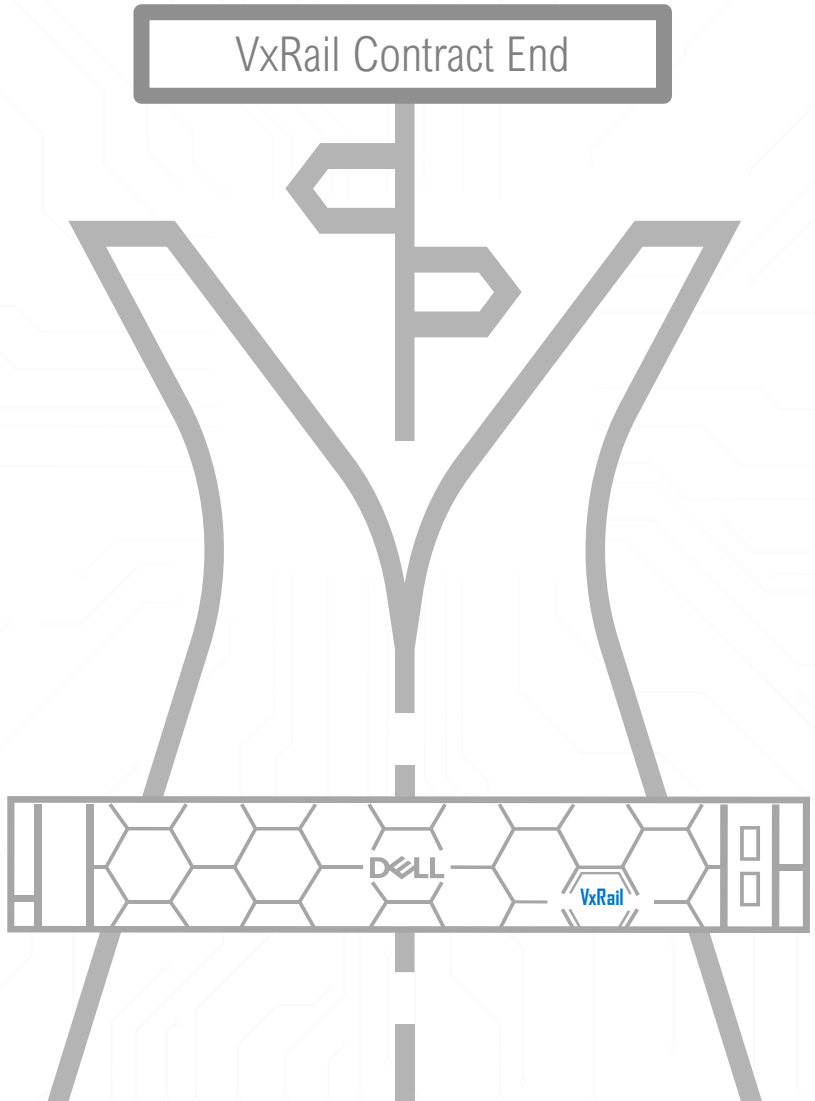
The State of VxRail & VMware

Maintenance & Broadcom Subscription Crossroads

Renew or Refresh Decision



Maintain Route

Status Quo

VxRail Hardware Renewals + Broadcom VCF License

VMware Only, Fixed Compute & Storage Scaling

High 2-3yr Costs: Renew Today, Replace Tomorrow

Modernize Route

Invest in The Future

Lower Infrastructure & Licensing Costs

Hypervisor Freedom, Independent Compute & Storage

High 2-3yr Savings vs. Status Quo

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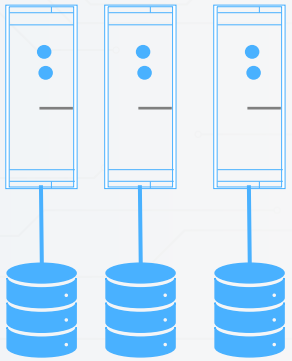
The Modern Data Center Evolution

The Modern Data Center Evolution

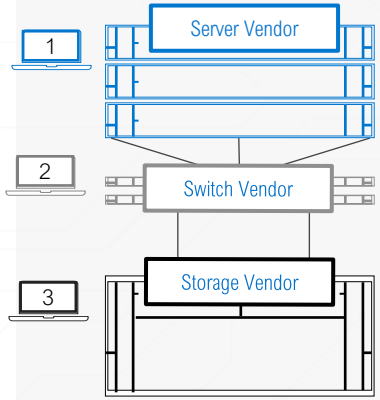
The Modern IT Challenge Requires a Modern Data Center Evolution

1 Direct Attached Storage



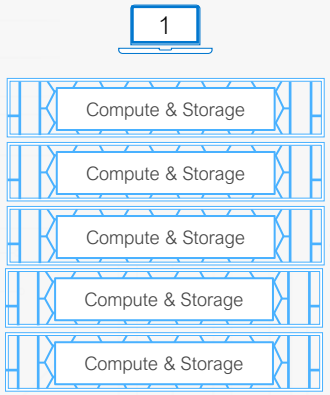
Challenge:
Cannot share or scale storage

2 Mixed Vendor 3-Tier



Challenge:
Management Console & Support Complexity

3 Hyperconverged Infrastructure



Challenge:
Hypervisor Lock, Low Utilization, Fixed Scaling Compute & Storage

YOU ARE HERE

VXRAIL
Renewals, New VCF Subscription, Fixed Scaling Required **Now**

"So, **What's Next?**
We don't want to go backwards, but don't want to accept the HCI flaws…."

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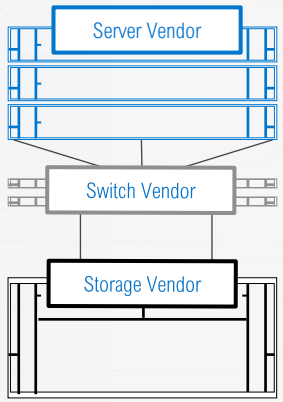
Traditional 3-Tier **Compromises**

Multi-Vendor Server, Network & Storage

Simplicity at the Sacrifice of Flexibility

Mixed Vendor
3-Tier



Flexibility...

Hypervisor Freedom
Freedom to choose & change hypervisor

Independent Scaling
Of Compute & Storage Resources

High Efficiency Low Cost
Server Consolidation & Storage DRR

At Cost of Simplicity

3 Management Points
Complexity to manage vendors

Mixed Vendor Support
And conflicting vision on future state

Limited Automation of Tasks
Without a cohesive vendor software solution

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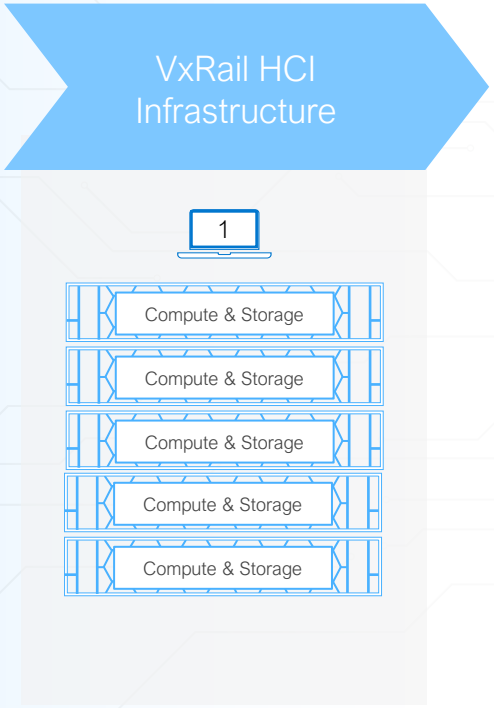
VxRail HCI **Compromises**

Hyperconverged VMware Infrastructure

Flexibility at the Sacrifice of Simplicity



Simplicity…

Single Console
Compute, Network, Storage Consolidation

Automated Operations & LCM
Simplify Deploying Resources, Code Upgrades

Single Vendor Support
With faster time to issue resolution

At Cost of Flexibility

Hypervisor Lock-In
Automating Operations Requires Vendor Lock

Fixed & Inefficient Compute & Storage Scaling
<20% Avg CPU, <35% Avg Ram, <45% Avg Storage*

High Licensing Costs
Require Highest Broadcom Subscription & Core Costs

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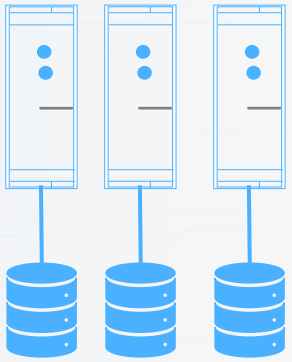
The Modern Data Center Evolution

The Modern Data Center Evolution

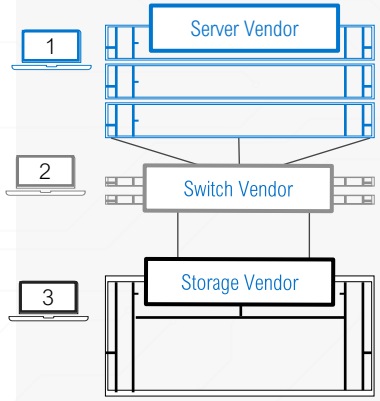
The Modern IT Challenge Requires a Modern Data Center Evolution

1 Direct Attached Storage



Challenge:
Cannot share or scale storage

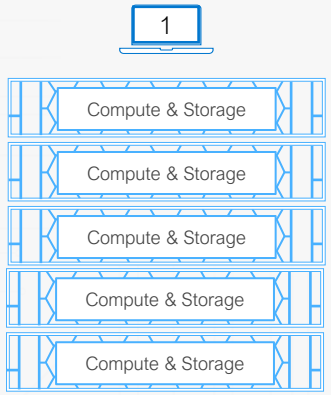
2 Mixed Vendor 3-Tier



Challenge:
Management Console & Support Complexity

3 Hyperconverged Infrastructure

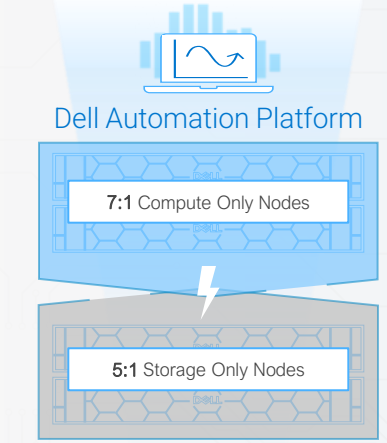
YOU ARE HERE



Challenge:
Hypervisor Lock, Low Utilization, Fixed Scaling Compute & Storage

"Go Forward,
To the next evolution in Modern Data Center!"

4 Disaggregated Dell Private Cloud



Modern Outcomes:
Best of 3-Tier Scale and HCI Operations with Hypervisor Freedom

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Intro To Dell Private Cloud

“3-Tier” Flexibility

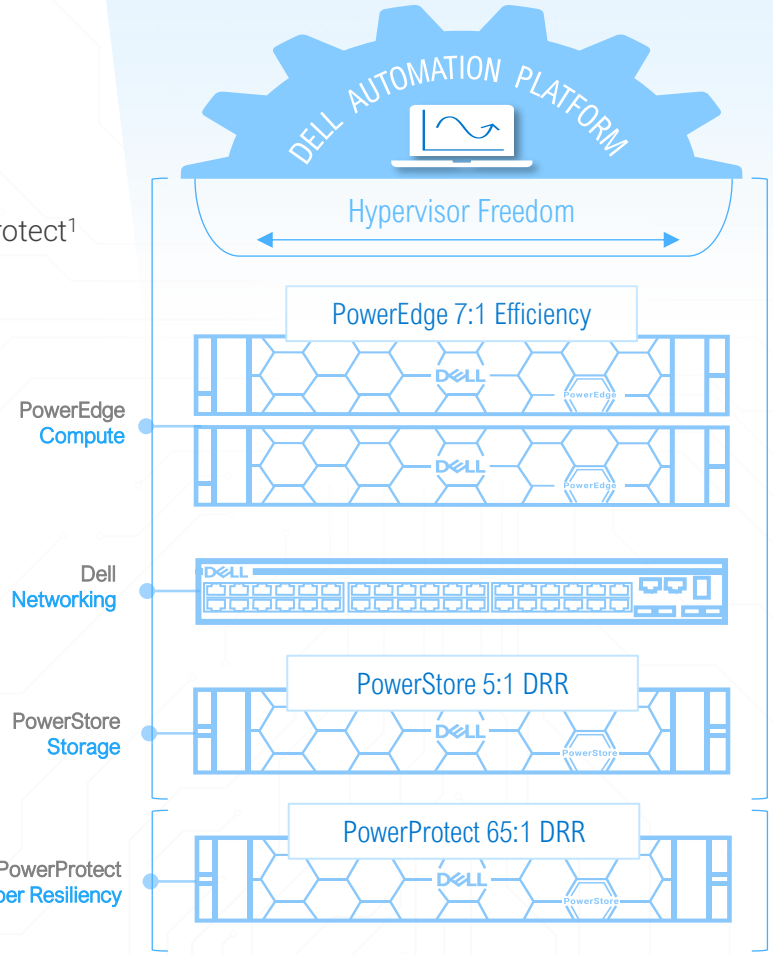
Disaggregated Infrastructure
PowerEdge, PowerStore, Network & PowerProtect[1]

Hypervisor Freedom
Choose & Change Software

Highly Efficient, Low Cost
7:1 Server Reduce & 5:1 Storage DRR

Up to 32% Cost vs. HCI[2]

Best of Both



HCI Simplicity

Single Management Console
Manage Compute, Network, Storage **like HCI**

Automated Operations & LCM
Simplify Deploying Resources & Upgrades **like HCI**

Single Vendor Support
With faster time to issue resolution **like HCI**

[1]Dell PowerProtect can integrate with PowerStore, and Dell AIOPs, but is not managed via Dell Private Cloud
[2]Dell internal analysis – calculations based on comparisons between vSAN Ready Nodes (HCI) and PowerEdge + PowerStore

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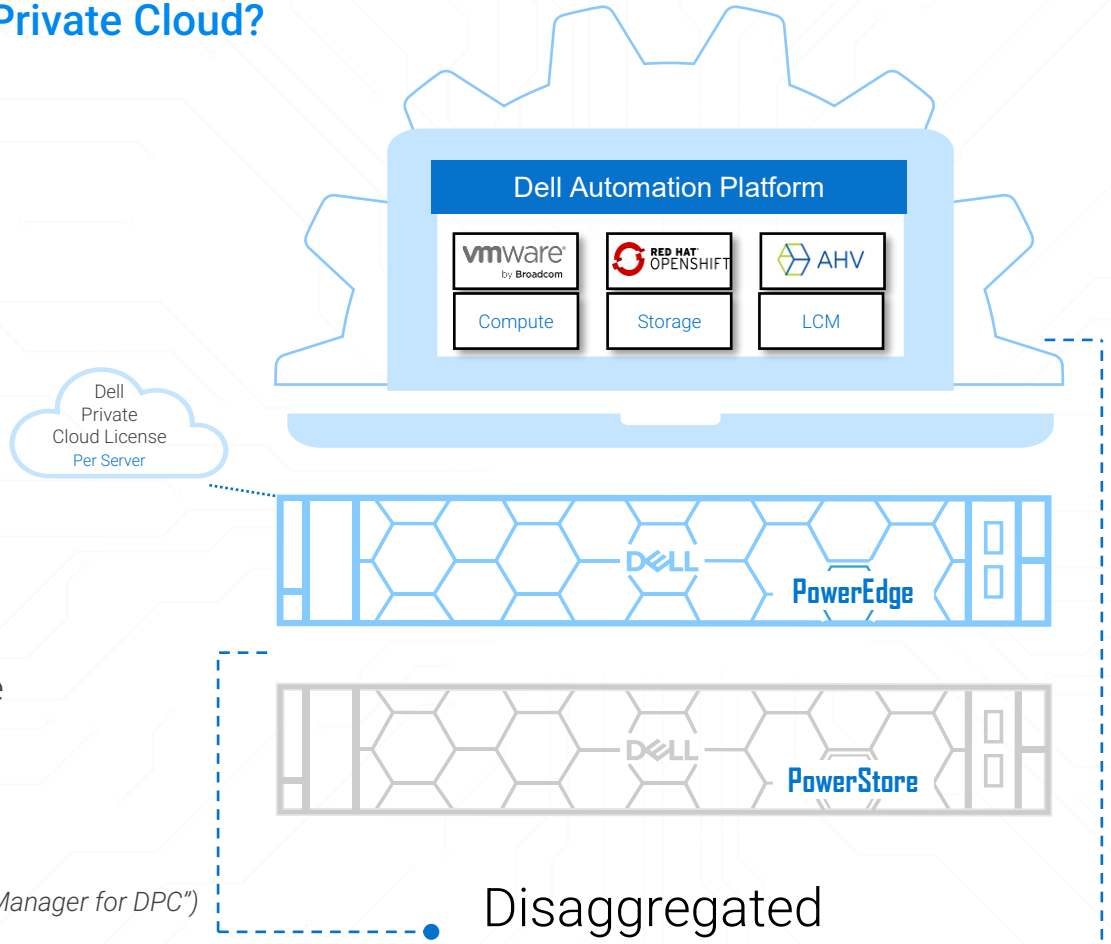
101: What Exactly Is The Dell Private Cloud?

What Makes Up The Dell Private Cloud?

What Is It?

1. PowerEdge Servers
2. PowerStore Storage
3. Dell Private Cloud License
   (Subscription 1-5yr per server)
4. Dell Automation Platform
   (Subscription gets you DAP "VxRail Manager for DPC")



Disaggregated
Servers & Storage Separate

Hypervisor Free
Choose & Change Over Time

What Can It Do?

5. Automates: Deploy, Expansion, LCM
   (Of the components just like VxRail Manager)
6. BYO Virtualization Software
   (No need to pre-buy)
7. Redeploy HW & New Hypervisor
   (Changed your mind? DAP can redeploy HW/SW)
8. Use Existing Gear & Scale Over Time
   *(Use existing PowerEdge/Store, **and/or** can start as PowerEdge/Store only Day 1, add DPC licensing later)*

Like VxRail, **networking** is required but separately purchased. Can "BYON"

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Which way now?

New Position

…unless committed to hyperconverged

Shared Infrastructure

Open and flexible with the freedom of independent compute, network & storage to avoid vendor lock-in

Unlock your data with **Dell Storage**

Hyperconverged

Tightly integrated hypervisor, compute, and storage

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Block & Unified

All segments: Large Enterprise / DTS / Enterprise / ACQ / SMB

Lead with **PowerStore**

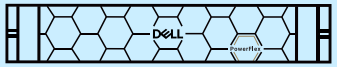
The smart choice for all-flash storage due to its **future-proof architecture, efficiency, and ease of use**:

- Unified, all-flash storage for diverse workloads from virtualization and databases to containers
- Future proof investments with a scale up & out architecture and Lifecycle Extension w/ProSupport
- Automatically lower costs with the Industry's Best 5:1 Data Reduction Guarantee
- Voted #1 in ease of use with AI-driven simplicity and end-to-end ecosystem automations
- Simplify operations with automated provisioning and full lifecycle management through Dell Private Cloud

Unless

- True scale-out, software-defined storage
- Offers extreme performance and petabyte scale

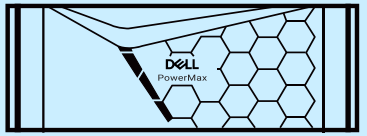
PowerFlex



Unless

- Mission-critical workloads demanding the absolute highest levels of performance and resiliency

PowerMax



Unless

- Require lowest starting price for price sensitive customer
- Block-only storage, simple for server-attach
- Ideal for small to medium scale workloads, edge and select use cases (e.g. HPC and Surveillance)

PowerVault

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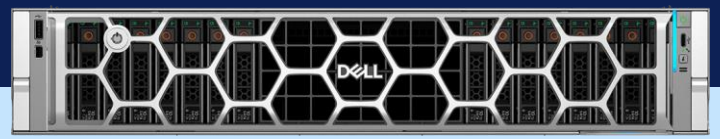
Complete the solution

- A single vendor for storage, server, and cyber resilience delivers
- a **Consistent, Predictable, Reliable** customer experience



Compute

- Add PowerEdge servers, purpose-built for diverse use cases.
- Consolidate up to 7 five-year-old servers into one latest Dell PowerEdge server: Up to 65% lower CPU energy cost & up to 34% savings in licensing costs.[1]

PowerEdge

Cyber resilience

- Discuss how PowerProtect can empower organizations to confidently drive AI innovation with secure, protected workloads
- Remember: Storage Direct Protection allows you to control backups and ~65:1 dedupe directly from PowerStore Manager

PowerProtect

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Before & After Solution Visual

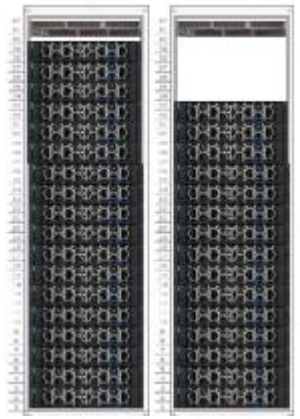
Request a "Before & After" GetEfficient Visual Here

Analysis

SOFTWARE LICENSING IMPACT		COMPUTE IMPACT		STORAGE IMPACT		OUTCOME
vmware by Broadcom 31% Reduction in VCF Cores to License	vmware by Broadcom 100% Reduction in vSan Ent+ License	~2X Compute Node Consolidation	32% Less Memory Required	75% Fewer Drives	5:1 DRR 4X Fewer UseableTBs required	All With More Workload, Architecture & Hypervisor Flexibility

Current State (VXRAIL)

Qty of Nodes	37
CPU	2x 6248R (24C, 3.0GHz)
Total Cores	1,776
Memory (Per Node)	768GB (12x64GB RDIMMs)
Total Memory	28,416GB
Networking	2xDual 10/25G NICs
Effective Storage	372.96TBu @ftt=1r5 + slack



Proposed State (Dell Disaggregated Infrastructure)

Qty of Nodes	19
CPU	2x6548N (32C,2.8GHz)
Total Cores	1,216
Memory (Per Node)	1TB (16x64GB RDIMMs)
Total Memory	19,456GB
Networking	2xDual 10/25G NICs
Effective Storage	100 TB usable 400-500TBe Based on DRR

Internal Use - Confidential

Total Cost of Ownership Comparison

TCO Compare

Comparing Current to Future State Cost Outlooks

Compare the annual cost outlook of the **current state vs. the proposed solution**

Turn **Specs** into **Savings**

vmware by Broadcom **31%** Reduction in VCF Cores to License

~2x Compute Node Consolidation

5:1 DRR **~4X** Less Storage required

Renewal Option

Option: 1
Renew Then Replace

Configuration Note	YEAR 1	YEAR 2	YEAR 3	TOTAL COST
Dell: VxRail Maintenance Renewal	37-node cluster × $7K/node/year	259,000	259,000	REPLACE	518,000
Broadcom: VCF Licensing	$600/core/3yr × 1,776 cores (Yr1&2), Drops to 1,216 cores (Yr3)	1.065,600			1,065,600
Dell: Eventual VxRail Replacement Solution	Replace w/ (19) PowerEdge & (1) PowerStore 3200T	–	–	920,392	920,392
Dell: Optional Future Dell Private Cloud License	$7k Per Server = 3yr Total			133,000	133,000
TOTALS		1,324,600	259,000	1,053,392	2,636,992

VxRail Option

Option: 2
New VxRail

Configuration Note	YEAR 1	YEAR 2	YEAR 3	TOTAL COST
Dell: VxRail Nodes Infrastructure	26-node cluster	1,536,133			1,536,133
Broadcom: VCF Licensing	$600/core/3yr * 1,664 cores	998,400			998,400
TOTALS		2,534,533	-	-	2,534,533

Ready Nodes Option

Option: 3
New vSan Ready Nodes

Configuration Note	YEAR 1	YEAR 2	YEAR 3	TOTAL COST
Dell: vSAN Ready Nodes Infrastructure	26-node cluster	965,295	–	–	965,295
Broadcom: VCF Licensing	$600/core/3yr * 1,664 cores	998,400	-	-	998,400
TOTALS		1,963,695	-	-	1,963,695

Dell Private Cloud Option

Option: 4
New *Dell Disagg Infra + Optional DPC Licensing*

Configuration Note	YEAR 1	YEAR 2	YEAR 3	TOTAL COST
Dell: PowerEdge & PowerStore Infrastructure	Replace w/ (19) PowerEdge & (1) PowerStore 3200T	920,392	–	–	920,392
(Optional) Dell: Private Cloud Licensing	$7k Per Server = 3yr Total	133,000			133,000
Broadcom: VCF Licensing	$600/core/3yr * 1,216 cores	729,600			729,600
TOTALS		1,782,992	-	-	1,782,992

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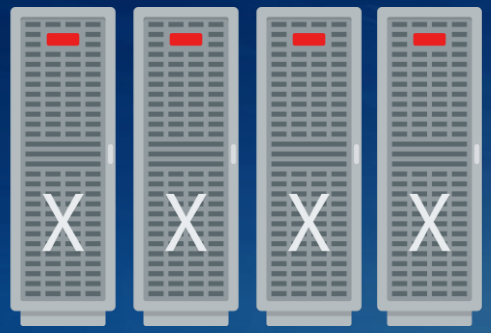
The Infrastructure Problem Statement

Oracle Prod Databases



"I need special performance"

General Workloads & Databases
Multi-vendor 3-tier / HCI

"I need cost effective infrastructure that is easy to manage"

Modern Workload
NoSQL, Analytics, Etc.

"I need to scale-out the infrastructure with the workload"

- Management Complexity
- Performance Inconsistency
- High Cost
- Stranded Resources
- Complex multi-vendor support
- Lifecycle Management Challenges
- Infrastructure Silos

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North America VxRail Transition Program

DELL Technologies PARTNER PROGRAM

Incentives

Earn more with Dell Rebates, MyRewards[1]

Provide customer value for existing VxRail while maintaining revenue & rebate neutrality

Support & Services

Enhance customer success with new no-cost training and migration services credits

Risk Mitigation & Insights

Support customers with risk-free trials, flexible payment options, and TCO insights to drive seamless transitions with Dell solutions

Marketing Enablement

Fuel growth with Marketing Development Funds and refined narratives to inspire customer confidence and success

Incentives: INCREASED

10% incentive for eligible Deals when transitioning VxRail to DPC, PowerStore or PowerFlex

Migration Services: NEW

Empower customers leveraging no cost Dell migration services

Try & Buy: EXISITING

Allow customers to experience Dell solutions risk-free.

Messaging: EXISTING

Updated messaging is available to identify & drive refresh opportunities

Trade in Program: NEW

Receive up to $100/TB VxRail trade in incentive. Approved trade in value applied as revenue tier credit and eligible for Storage+ base rebates

Education Training Credit: NEW

Provide customers with no-cost skills training on Dell Solutions. 1 individual per end-user

Dell Financial Services: NEW

60-month FMV or
48 or 60months w/ deferred payments up to 180 days

Partner MDF: EXISTING

Drive demand and growth by activating Marketing Development Funds

TCO: NEW

6 Node VxRail / DPC Solution TCO

MyRewards promotions are subject to the MyRewards Terms and Conditions and individual Promotion Guides for eligible products, payout, and caps, which can be found in Partner Portal > Program Benefits > MyRewards > Access Incentives Center > Program Information > MyRewards > Promotion Guides > NA. • MyRewards program is eligible for Solution Providers only. Currently, it is not available for Distributors, GSI, NSP, CSP, Federal and Global Alliance partners. • For more information, please contact MyRewards Helpdesk at support@partnerincentives.dell.com

VxRail Transition Program

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Take Action & Get Rewarded!

Explore new VxRail transition resources on the **landing page**

Book a follow-up call with your Dell IPAM to review **VxRail Tech Refresh assets** and receive **exclusive swag**.

Deadline: Schedule your call by **Dec 31**

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Back Up

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Interesting Analysis

VxRail, Ready Nodes, Dell Private Cloud

"The Proposal"

Financial Outcomes

➢ Comparing All Cost Options

- **Dell Infrastructure Savings (not including VCF & DPC Licensing)**
  - ~46% lower vs. Renew Now, Replace Later
  - ~40% lower vs. New VxRail
  - ~5% lower vs. vSAN Ready Nodes
- **Broadcom Licensing Savings**
  - ~37% lower vs. Renew Now, Replace Later
  - ~27% lower vs. New VxRail
  - ~27% lower vs. vSAN Ready Nodes
- **Combine TCO Savings (Broadcom + Infrastructure Savings)**
  - ~32% lower vs. **Renew + Replace**
  - ~30% lower vs. **New VxRail**
  - ~9% lower vs. **vSAN Ready Nodes**

Tech Outcomes

➢ New HCI vs. Disaggregated

- **NODES: 1.4x reduction**
  - (26 → 19) → smaller footprint, fewer servers to manage
- **CORES: 1.46x reduction**
  - (1776 → 1,216) → direct Broadcom licensing savings
- **MEMORY: 1.46x reduction**
  - (26.6TB → 19.5TB) due to vSAN-free architecture
- **STORAGE: Higher storage density per node**
  - Despite ~75% fewer drives, same 450TB effective capacity achieved
  - Saves rack space, cooling, and power
- **DRR: 2.5x improvement in storage efficiency**
  - (2:1 DRR on VxRail vs. 5:1 DRR on PowerStore backend)
- **SCALE: Simplified future expansion**
  - With PowerStore backend and compute/storage decoupling
- **FOOTPRINT: Operational simplicity with 1.4x fewer nodes**
  - Less risk, maintenance, and rack complexity