

Dell EMC VxRail

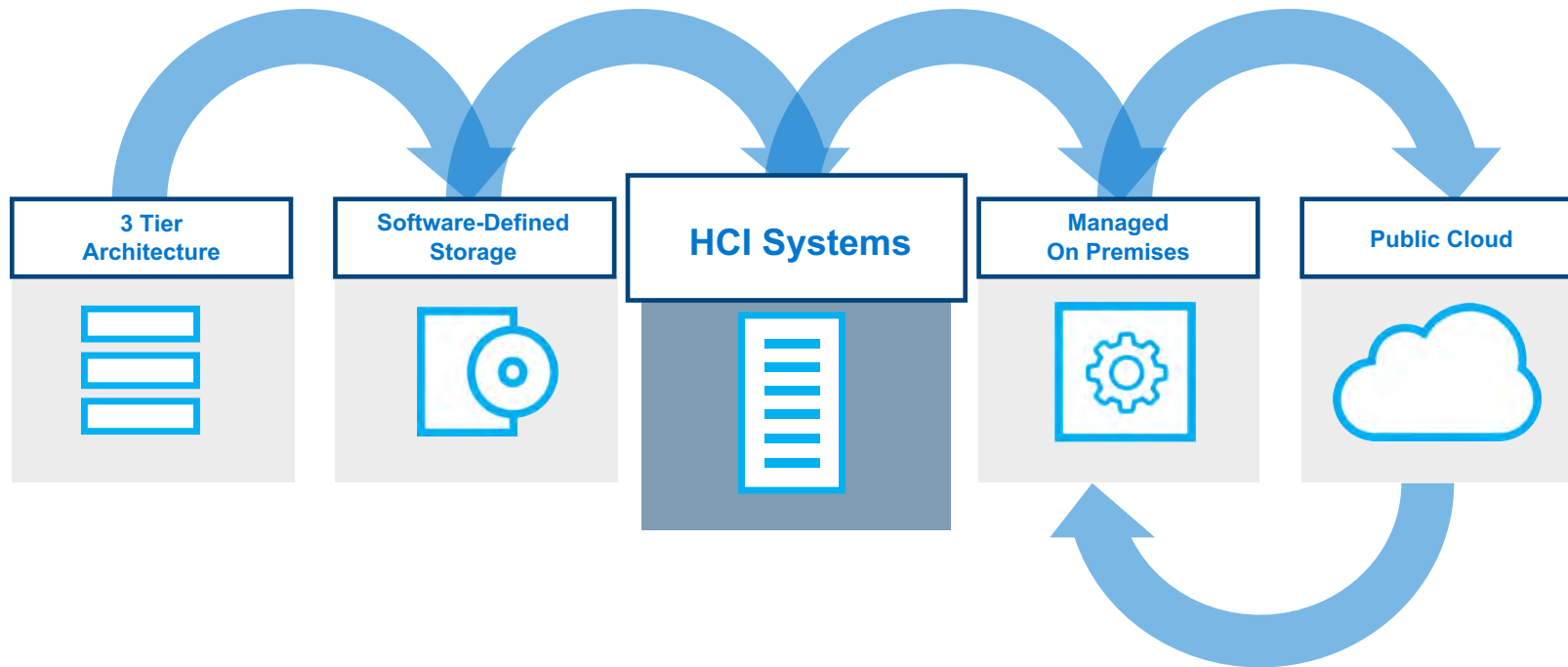
Turnkey HCI platform, proven to accelerate data center modernization, drive IT transformation, and simplify the path to the hybrid cloud



Agenda

- Intro VxRAIL
- Porque VxRAIL?
- VxRAIL para el Core
- VxRAIL para el Edge
- VxRAIL para el Cloud
- Que no pertenece a VxRAIL
- Resumen

It's All Happening at the Same Time



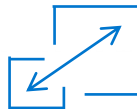
Drivers for HCI Adoption

Improve efficiency | Lower OPEX costs



Agility

Public cloud speed, efficiency, and economics within the data center



Scalability

Start small and easily scale up or scale out while maintaining performance levels



Simplicity

Simplify operations with software-driven automation and lifecycle management

What Workloads are Appropriate for HCI?

TRUE OR FALSE: HCI IS ONLY FOR VDI? FALSE!!

Supports a wide variety of traditional and cloud-native workloads





Dell EMC VxRail Design Principles

The fastest & simplest path to IT outcomes in VMware environments



Turnkey experience



Flexible
licensing



Operational
transparency



Platform
innovation



Lifecycle management



One-click
upgrades



Serviceability



Highly differentiated

VxRail HCI System Software



Full stack
integration



Networking
automation &
LCM



Advanced
analytics



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Turnkey experience



Lifecycle management



Highly differentiated

56%

Faster IT service delivery¹

489%

Five year ROI¹

4x

More cost effective
than public cloud²

1. Based on the IDC whitepaper sponsored by Dell EMC, "Delivering Efficient Business Expansion with Dell EMC VMware-Based HCI, October 2018." Actual results may vary.

2. Based on "The Cost of Using the Public Cloud, Evaluator Group, Jan 2019."

What's New with VxRail?



Turnkey experience



Lifecycle management



Highly differentiated

Dell Tech Cloud
Offers

1

VMware Cloud on Dell EMC offers agility and simplicity of public cloud while retaining the performance and security of private cloud, delivered as a fully managed Data Center As-A-Service solution for edge and core data center locations.

2

VMware Cloud Foundation on VxRail delivers the simplest path to hybrid cloud with full stack integration that is future-proof for next gen VMware cloud technologies



Core



Edge



Cloud

3

VxRail Analytical Consulting Engine (ACE) offers the first and only advanced analytics platform for HCI. Plus, 25GbE switch support in VxRail and Smart Fabric Services keep the network pace with compute and storage

VxRail – Your Platform for Edge, Core, and Cloud



Turnkey experience



Lifecycle management



Highly differentiated

Data Center-as-a-Service:
VMware Cloud on Dell EMC

Upgrade, Refresh or Expansion of
a Modern Data Center



Core

Enterprise Edge:
Starting at 2 nodes



Edge

Custom and Guided
Hybrid Cloud Architecture



Cloud

Cloud Native Adoption
Driver



Dell Tech Cloud Platform:
Automated and
Accelerated Hybrid Cloud



VxRail HCI System Software and VxRail Analytical Consulting Engine (ACE)


What is Inside VxRail?



Powered by VMware vSAN

- Flexible vSAN licensing
 - vSphere ready*
 - vCenter server
 - vRealize log Insight

VxRail HCI System Software

- VxRail Manager
 - VxRail ACE**
(Analytical Consulting Engine) 
 - RESTful APIs
- Automation & orchestration services
 - Backend services and downstream connectors

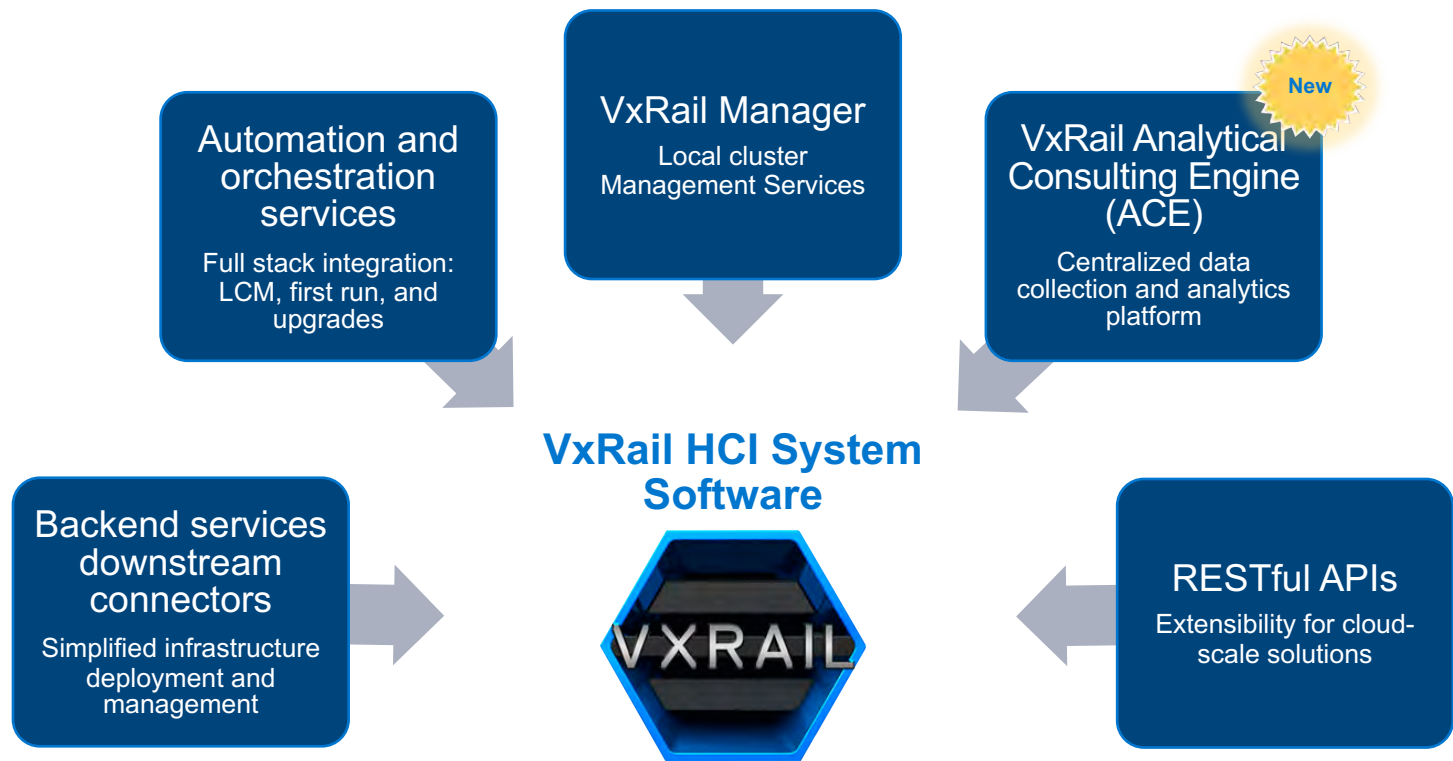
Data Protection Options

- RecoverPoint for VMs
 - VMware vSphere replication

*Compatible with a broad range of customer-supplied vSphere licenses

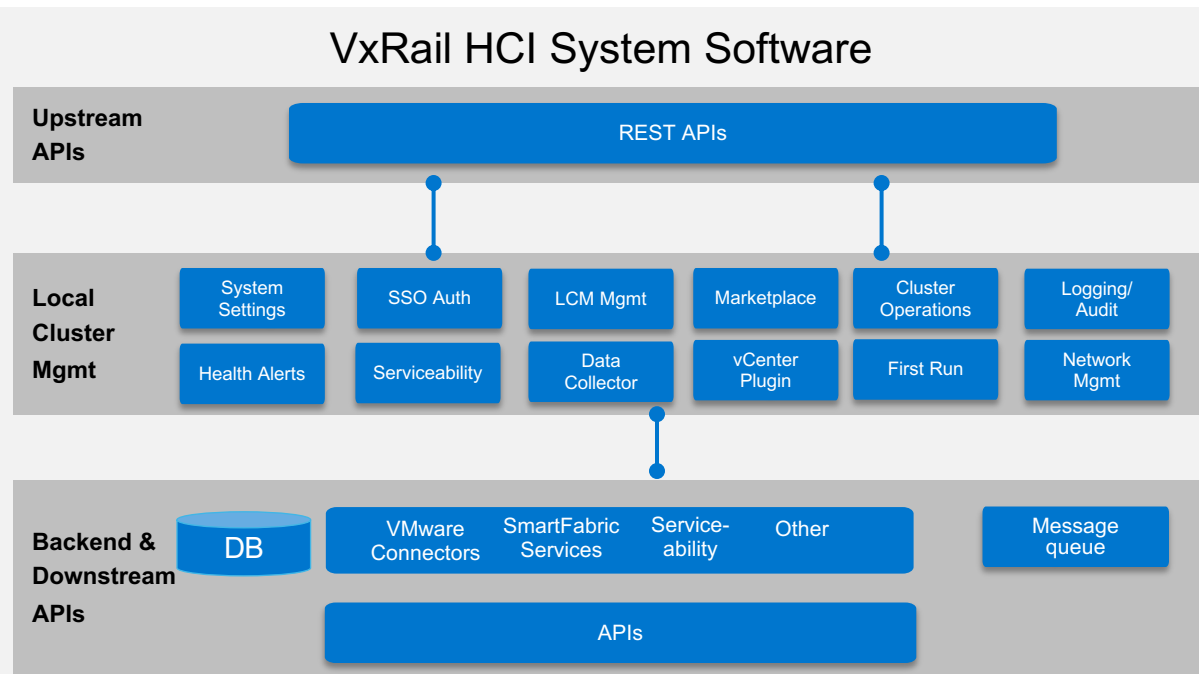
VxRail HCI System Software

Dell EMC value-added capabilities for VMware HCI environments



VxRail HCI System Software Architecture

Orchestration for upstream and downstream connections, including local management services



- **Local management features**

- vCenter Plug-ins
- LCM
- Serviceability via eServices and SRS
- Health alerts

- **Extensibility**

Orchestration APIs for VMware SDDC solutions




- VxRail ACE (Cloud Based)
- Open REST APIs for custom –aaS solutions (i.e. Puppet, Ansible)

VxRail Analytical Consulting Engine (ACE)

Early
Access:
May '19

Centralized data collection and infrastructure machine learning to help customers make better decisions



Trusted
advisor for
environment

Optimize
performance

Intelligently
plan for
upgrades
based on
consumption

Take action
on insights

Intuitive simplicity

- No additional HW/SW
- Knowledge of common issues
- Health score for entire HCI stack with global map view

Insightful intelligence

- Continuous learning of Dell EMC best practices
- Forecasting resource consumption
- One-click resolution*

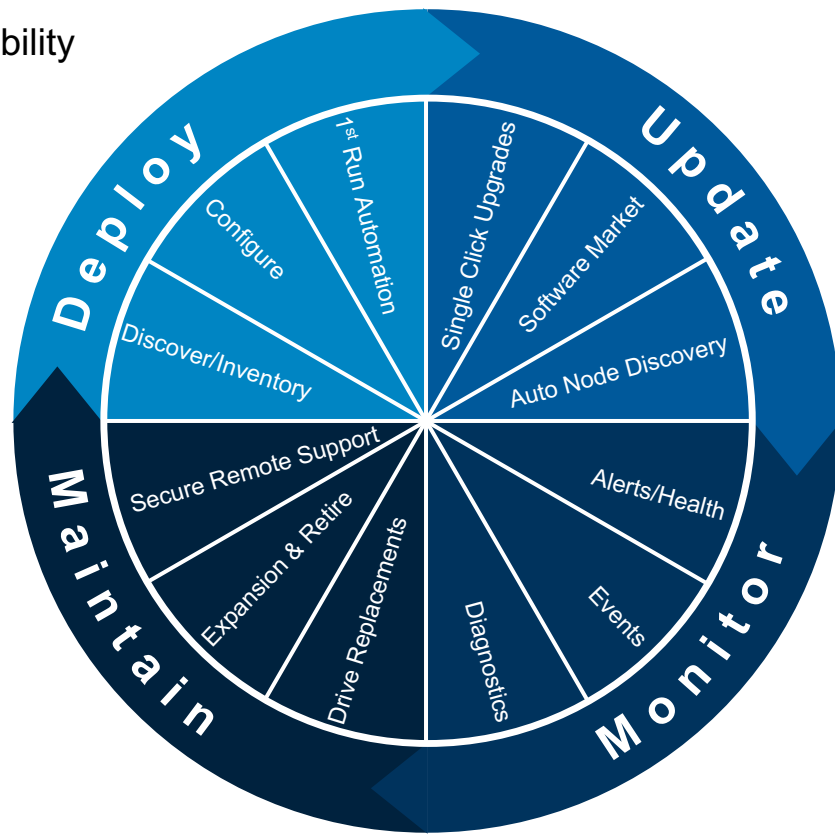
Available May 2019 for all VxRail customers running SRS

*Expected availability 2H 2019.

VxRail Manager

Delivers automation, lifecycle management, and serviceability

- **Deploy** appliances with ease – over 200 automated tasks
- **Update** all software in single click
- **Monitor** using dashboards for health, events, and physical views
- **Maintain** with direct access to support, articles, and community



Operational Transparency Between VxRail and vCenter

Complete VxRail cluster management from vCenter web client

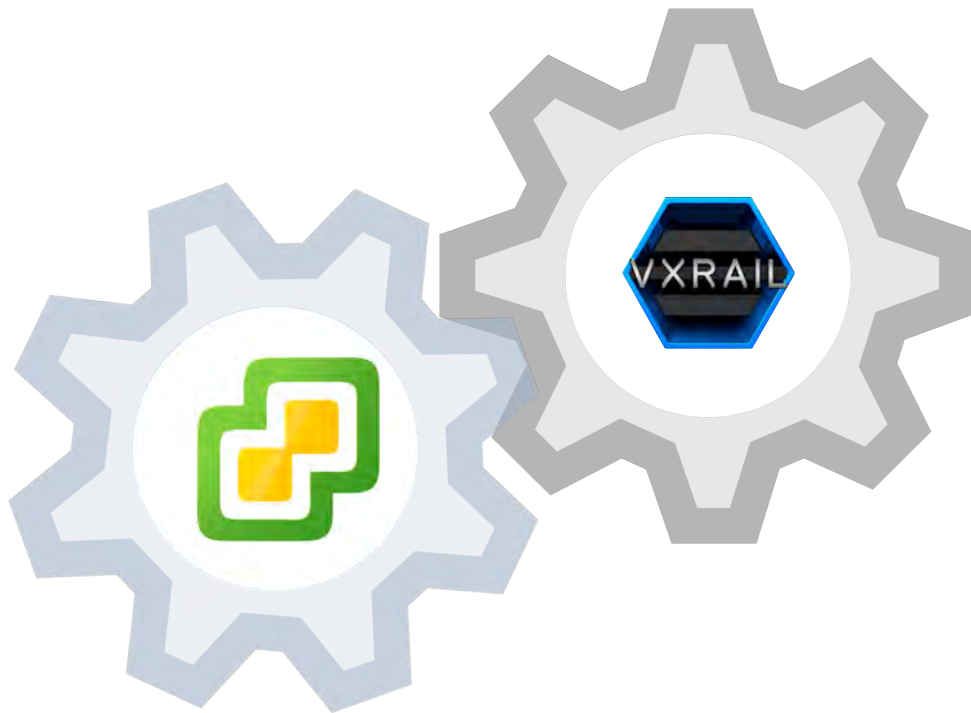
- Dashboard
- Physical view
- Logical view
- Cluster management (add/remove)
- Life cycle management
- eService
- Marketplace
- Network management

Single dashboard view

Customers will have a single view of system health and support resources at a glance, including upgrade availability, expansion status, overall system health, support, community activity, and event history

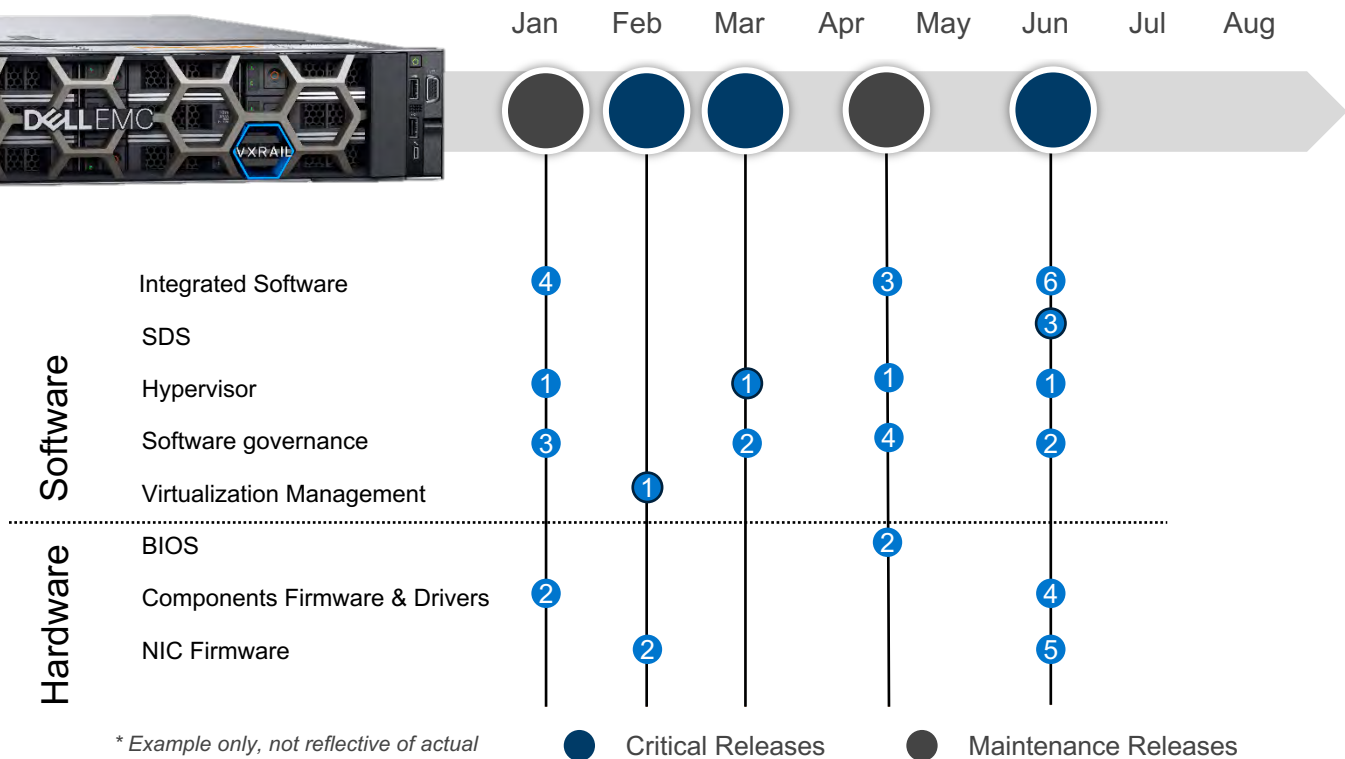
Additional integration with vRealize Suite

vSAN management packs for vRealize Operations, vRealize Orchestrator, and vRealize Log Insight



VxRail Simplifies LCM and Speeds Upgrades

Updates delivered as a single software package within 30 days - no more testing, sequencing, validating



Go from one good known state to the next

Synchronized VxRail & VMware releases get you the latest features and critical updates fast

** Example only, not reflective of actual VxRail software packages*



Critical Releases



Maintenance Releases

SmartFabric Services for VxRail

Autonomous fabric deployment, expansion, and lifecycle management for VxRail

Form VxRail clusters automatically

- Detect VxRail Appliances during installation and cluster expansion
- Create multiple VxRail clusters on the same fabric

Operate networks as HCI user, through VxRail Manager

- Create switch uplinks and HCI infrastructure VLANs
- Manage HCIA and fabric switches lifecycle

Elastic network provisioning

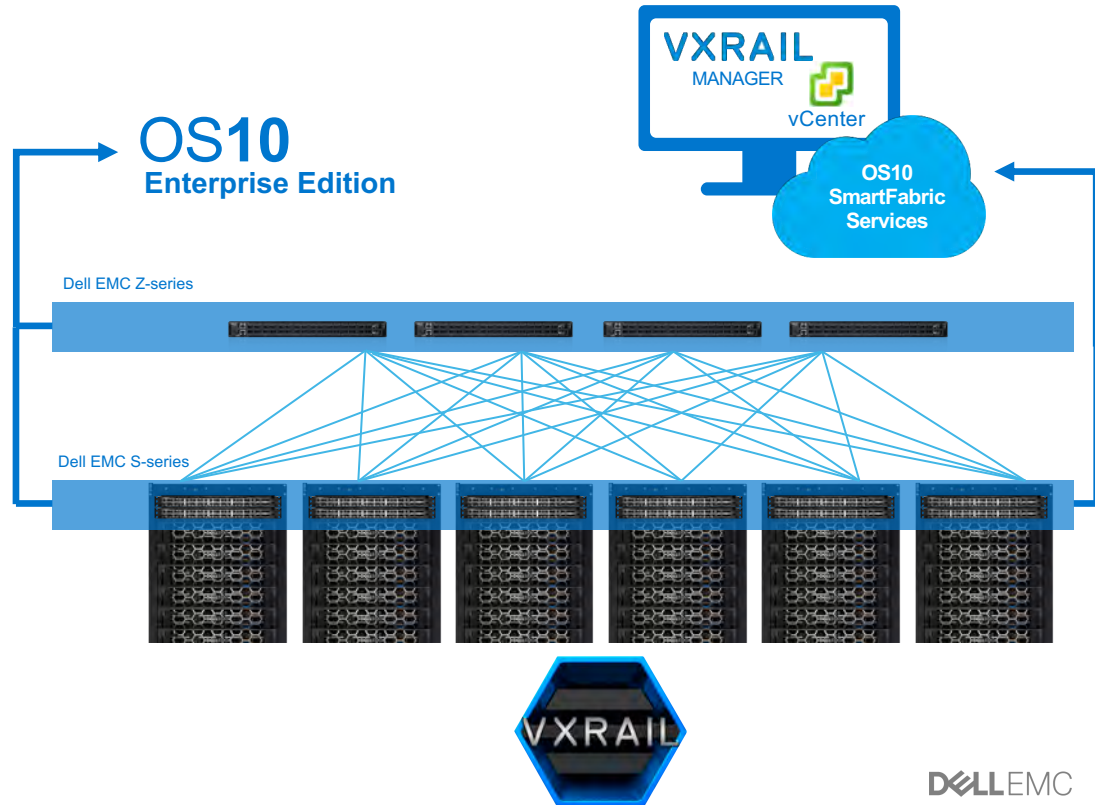
- Network dynamically responds to VM changes
- Policy-based port profile migration

Integrated with VMware applications

- Visibility and control through vCenter and vRealize suite

Enhanced support experience

- World class Dell EMC HCI and fabric services
- Fabric integrated into VxRail services and support experience



Modern and Robust Data Services with vSAN

Software defined, intelligent, and expanding set of services for virtualized workloads



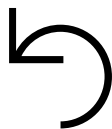
Resiliency



Integrity



Performance
controls



Recovery



Protection



Efficiency

Comprehensive Data Protection

Included and enhanced data protection capabilities

INCLUDED DATA PROTECTION

Active/Active Stretched Clusters

- Continuous Availability for DR

RecoverPoint for VMs

- Any point-in-time recovery
- Starter quantity of licenses included

VMware vSphere Replication

- Specific point-in-time recovery (5min)

ENHANCED DATA PROTECTION OPTIONS



Data Protection Suite for VMware






- Comprehensive backup and granular recovery
- Continuous data protection for any PiT recovery
- Proactive monitoring and real-time analytics
- Metadata only or full-content index search

Data Domain Virtual Edition

- Simple, flexible, cloud-enabled, software-defined protection storage
- Flexible capacity up to 96 TB
- Includes DD Boost, DD Replicator, DD Encryption

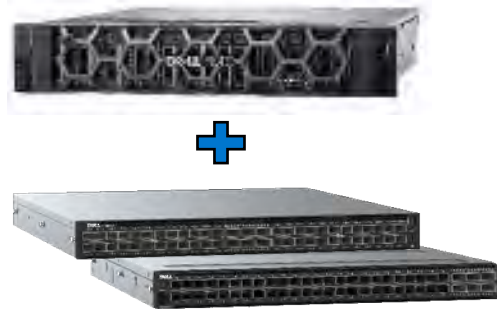


VxRail on Dell EMC PowerEdge

G Series	E Series	P Series	V Series	S Series
				
Compute dense	Low profile	Performance optimized	VDI optimized	Storage dense
G560/F	E560/F	P570/F	V570/F	S570
Full platform refresh to Dell EMC 14G PowerEdge servers based on Intel® Xeon® Processor Scalable Family Higher core counts, faster clock frequency, more memory channels, faster memory, higher endurance and redundant boot devices				
2000W or 2400W PSU Single or Dual socket 2x10GbE SFP+ onboard NVMe cache support	1100W PSU 4x10GbE onboard NVMe cache support 25GbE support*	1100W or 1600W PSU 20 capacity drives 4x10GbE onboard NVMe cache support 25GbE support	2000W PSU Up to 3 GPUs 8 more capacity drives 4x10GbE onboard 25GbE support	1100W PSU 4x10GbE onboard 25GbE support

VxRail Delivery Options

VxRail appliances



Customer choice of BYON networking

VxRail Integrated Rack systems



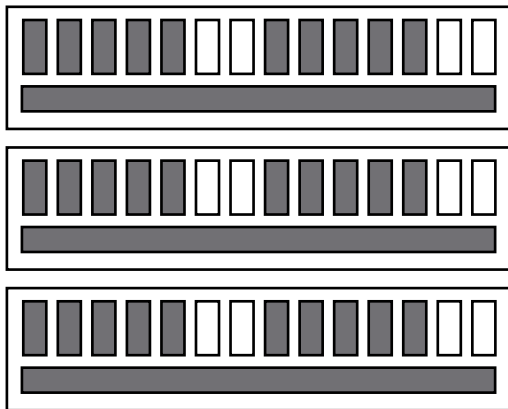
Rack scale integrated options that include integrated networking

Single Node Scaling and Upgrades

Minimizes risk and enables pay as you grow

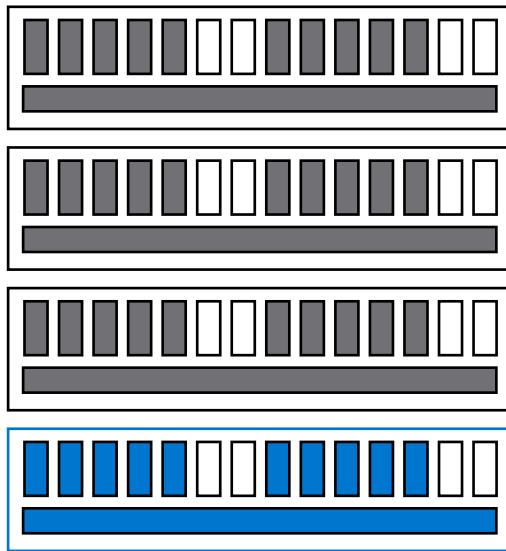
START WITH WHAT YOU NEED

Minimize risk by closely matching your requirements



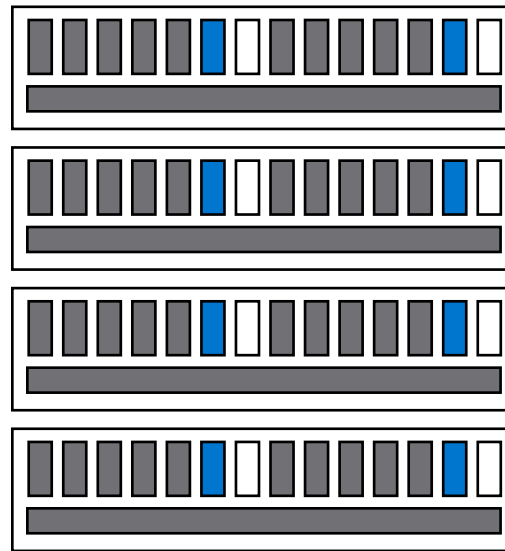
SCALE OUT

Add as few as one node to increase performance and capacity



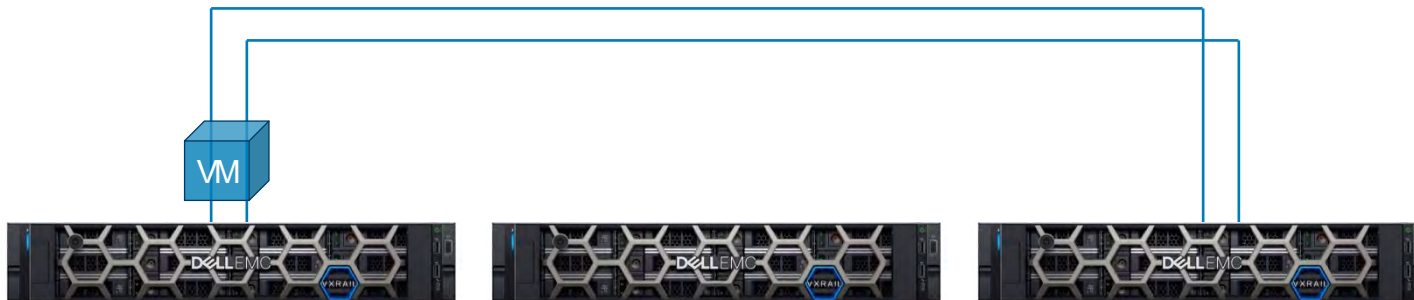
SCALE UP

Incrementally add storage as data grows



Continuously Modernize

Evergreen clusters simplify tech refresh—no forklift migrations



Add new appliance to cluster

vMotion workload to new appliance

Remove old node

Non-disruptively

VxRail in the Future-Proof Loyalty Program

FUTURE-PROOF LOYALTY PROGRAM

Supporting our customers and partners through IT transformation

Investment Protection

Lowering the risk of your investment



3-YEAR SATISFACTION
GUARANTEE



ALL-INCLUSIVE
SOFTWARE



HARDWARE INVESTMENT
PROTECTION



NEVER-WORRY
DATA MIGRATIONS



PREDICTABLE SUPPORT
PRICING

A Path forward

You will be ready for the future

Peace of mind

No hidden costs or fees

vxrail.is/futureproof

SAP HANA TDI Model

Dell EMC VxRail powered by VMware HCI software

Extend and simplify VMware environments

- Managed through VMware vCenter Server with tight integration and lifecycle management functionality

Lifecycle assurance and simplified operations

- Regularly stabilized and optimized infrastructure with firmware/software upgrades

Start small and grow

- Start small – with as few as three nodes - and grow incrementally, scaling capacity and performance easily and non-disruptively

VxRail P570F



2U Socket up to 3TB

Architected to support SAP HANA in-memory database with features such as Intel® Xeon® Scalable processors

- Form Factor: Single-system 2U
- Processors: Single or dual socket, up to 28 cores per CPU
- Memory : Up to 3,072 GB RAM (1,536 per processor) 6 or 12 DIMM configurations only
- Capacity: 76.8 TB SSD

VxRail 2-Node Overview



- 1/3 less footprint than a traditional cluster
- Uses witness host
- Fixed 2-node configuration
- Supports automated LCM

- VxRail E560/F nodes only
- Must use 4-port 10GbE configuration
- Minimum VxRail software version 4.7.100

- Special 2-Node ProDeploy Service
- Specially adapted and automated 1st run experience

Changing Needs of Workloads are Driving Cloud Strategies

Cloud strategies must match the needs of each workload

Existing Workloads

Cost Reduction | Security | Reliability | Control

Cloud Native Workloads

Time to market | Innovation | Scale | Differentiation



Modernize

Optimize workloads using modern infrastructure



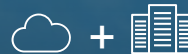
Utilize Hybrid Infrastructure

Shift portions of multi-tier app to public cloud



Refactor

Modify app, new environment, on-prem or in the cloud



Develop for Cloud

New cloud native app deployed on-prem & IaaS



Replace

Move to SaaS version of packaged app

Hybrid Cloud is the New Standard for the Enterprise



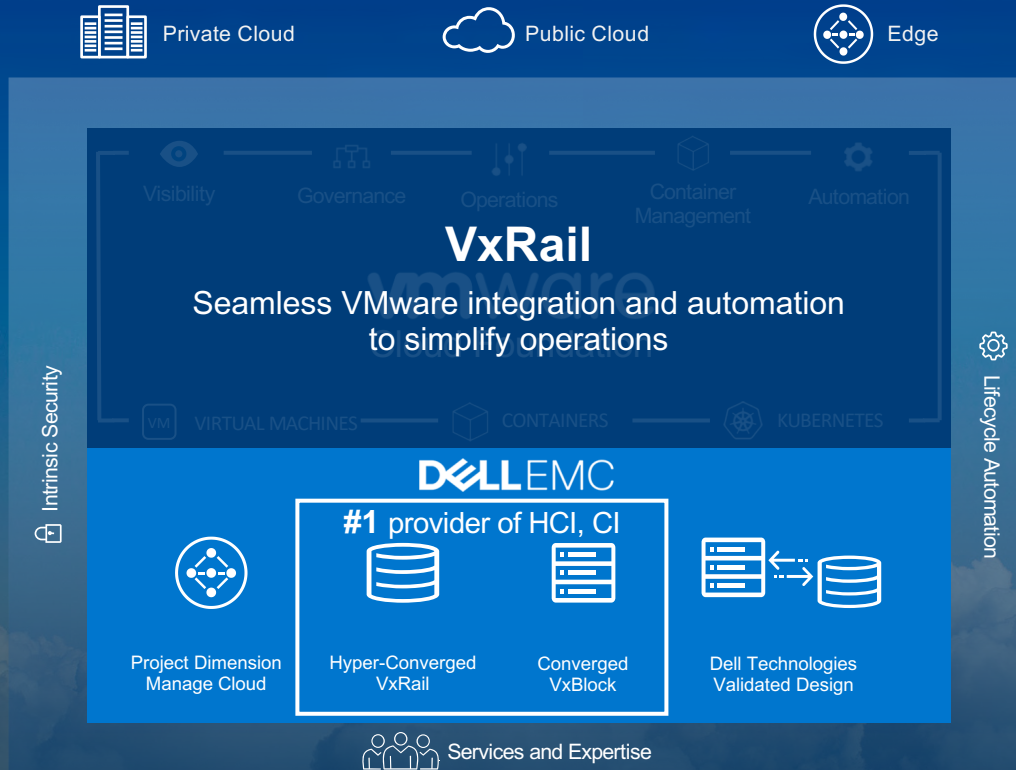
Cloud strategies inclusive
of on-prem data centers



Value consistency of infrastructure
from data center to cloud

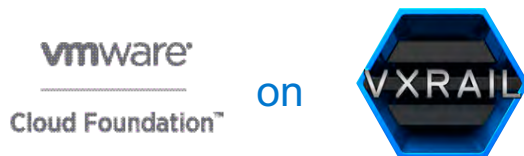
Dell Technologies: Dell EMC Infrastructure

The Foundation of the Dell Technologies Cloud Platform



VMware Cloud Foundation on Dell EMC VxRail

Flagship Dell Technologies Cloud Platform offering



Only

VMware Cloud Foundation infrastructure offering with **full stack integration***

Only

Jointly engineered integrated HCI system with VMware Cloud Foundation

*"The integration between VxRail Hyperconverged appliances and Dell EMC/VMware Cloud stack (like **VMware Cloud Foundation**) as a set of integrated software, provides a roadmap for GraceKennedy to **optimally run our business-critical applications** in private and public environments."*

- Nicole Case, Chief Information Officer,
GraceKennedy Financial Group



Full stack
integration



Future proof for
VMware cloud

ONE

Available single-vendor
support



Automated end-to-end
lifecycle management



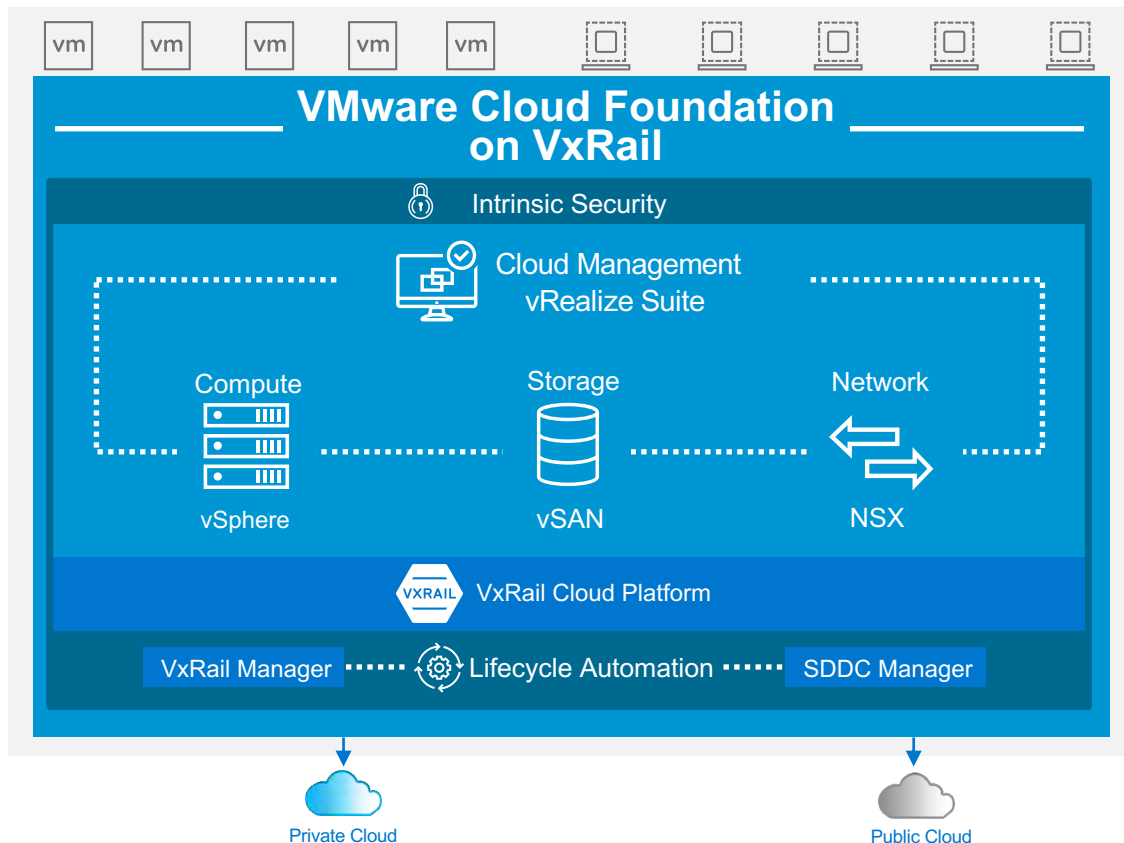
Deployment
flexibility

Learn more DellEMC.com/VxRail

*Based on internal analysis in April 2019

DELL EMC

VMware Cloud Foundation on VxRail



Better together with full stack integration

One, complete, seamless user experience from Core HCI through VMware cloud software stack

Simplest path to hybrid cloud

Fully automated deployment and LCM with consistent operations, including networking

Future-proof for next gen VMware cloud tech

Innovation around VMware SDDC best practices architectural design

VMware Validated Designs on VxRail

Deploy, operate, and maintain a VMware SDDC on the #1 Dell EMC HCI platform



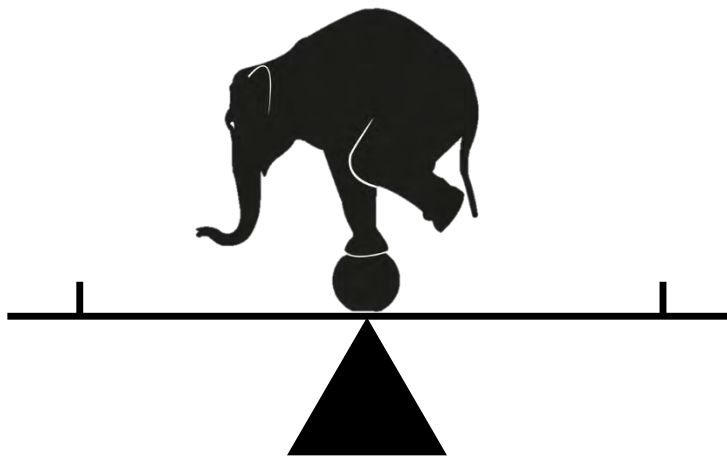
- ✓ Certified since VVD 4.2, with updated Bill of Materials that incorporates new product versions
- ✓ End-to-end validation of HW and SW with interop and scalability testing
- ✓ Day 2 guidance on how to monitor, backup, restore and failover management components
- ✓ Automated SDDC deployment with VMware Cloud Builder and vRealize Life Cycle Manager
- ✓ Upgrade guidance provides the best path to upgrade from previous VVD releases

De-risk
Deployments

Simplify
Operations

Drive IT
Agility

What Doesn't Belong in a VxRail?



EXTREMELY LARGE DATABASES

Creates a compute to storage imbalance that isn't a fit for VxRail



LARGE SCALE FILE DEPLOYMENTS

Isilon SD Edge ideal for small scale or edge to core file deployments



HPC WITH MASSIVE CALCULATIONS

High compute to storage ratio doesn't match a VxRail profile



TRUE ARCHIVING

Long-term cold storage (i.e. Tape) is not a cost-effective use case for VxRail

VXRAIL

FASTEST GROWING HCI SYSTEM¹

**Annual
Revenue**

>\$1B

**Growth
Rate**

178%

Customers

4,700+



1. For Q4 2018 year-over-year among TOP 10 product brands. IDC Converged Systems Tracker, Q4-2018, April 2019.

2. Publicly available
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Opportunities to get Started

New mission-critical workloads	Operational benefits plus the ability to scale easily
Server or storage refresh	Opportunity to modernize and consolidate infrastructure
Larger remote or regional offices	Simplicity enables IT generalists to manage infrastructure
Test/Dev environments with isolated infrastructure	Consolidate Test/Dev and production environments
Hybrid Cloud	Reduce time and cost to transition to hybrid cloud model

DELLEMC