Detailed Walk Through of the VMware Cloud on Dell EMC Service

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The Key Role of On-Premises Infrastructure

- Regulatory and privacy requirements
- Sensitive data located on-premises
- Custom security standards
- Need to prove compliance to auditors

- Low data latency requirements
- Workloads with local data processing
- Data Center workloads tightly integrated with backend systems

- Keep control over critical workloads
- Leverage existing IT investments
- Maximize value of existing talent and processes

Data Sovereignty

Workload / Data Proximity

Command and Control
The Dell EMC and VMware Partnership

- VMware is the industry leader for compute, storage, and networking infrastructure software in the data center.

- VMware infrastructure runs over 25 Million workloads on Dell EMC solutions today.

- Dell EMC VxRail is the only fully integrated, pre-configured, and pre-tested VMware hyper-converged appliance on the market.

- Dell EMC Enterprise Class services enable an organization for end-to-end data protection and enterprise integration.
VMware Cloud on Dell EMC

Cloud infrastructure delivered as-a-service on-premises

Co-engineered and delivered by Dell Technologies; ongoing service fully managed by VMware

VMware SDDC including compute, storage and networking

Built on VxRail – Dell EMC’s enterprise-grade cloud platform

Hybrid control plane to provision and monitor resources

Subscription model
How does VMware Cloud on Dell EMC work?
Cloud Consumption Model Delivered as-a-service

** HW + SW **
- VMware branded service
- VMware takes first level support call from customer
- Operated by VMware cloud SREs

** Services **
- VMware support
- Dell EMC supply chain
- HW + SW rack & Stack
- Shipping and on-site activation

** Support **
- VMware support
- Dell EMC support with 4-hour on-site break fix service

All inclusive Service - HW, SW, Support, and Managed Services

- ✓ VMware branded service
- ✓ Jointly operated with the HW partner
- ✓ VMware is the “single point of contact”
- ✓ Freedom from asset ownership
- ✓ Subscription based pricing
- ✓ Choice of payment terms
Advantages of VMware Cloud on Dell EMC

Cloud Advantages

- **Increased Agility**
  Self service provisioning and elasticity of resources

- **Simplified Operations**
  Offload management and automated version mgmt

- **Accelerated Innovation**
  Increased developer velocity and access cloud services

On Premises Advantages

- **Mitigate Risks**
  Comply with data residency and regulatory requirements

- **Controlled Costs**
  Predictable cost model and resource transparency

- **Increased Performance**
  Low data latency and high-performance networking
Integrated Backup and Disaster Recovery

- Certified to deliver data protection and disaster recovery with Dell EMC PowerProtect Cyber Recovery solution and Veeam.
- Ensure all data is managed efficiently with unified secondary storage strategy, with global deduplication and integrated with existing data center processes.
- Ensure immutable security against modern malware threats, including Ransomware and other data-targeted efforts.

✓ Realtime Backup
✓ Disaster Recovery
✓ Data De-duplication
✓ Regulatory Compliance
Optimized for Advanced and Distributed VDI Workloads

- Delivers powerful infrastructure for virtual desktops and applications to power remote workspaces.
- Certified support for VMware Horizon to deliver enterprise class security and compliance with organizational requirements.
- High performance for strong workspace density and end user experience for the most demanding applications.

✓ Secure On-Premises VDI
✓ 100% Certified Horizon Support
✓ Enterprise Class

Hybrid Cloud Control Plane

VMware Cloud on Dell EMC

Desktop
Laptop
Tablet

VMware Cloud on Dell EMC
Automatic Expansion of Capability as Customer Needs Grow

- Expansion up to 15 hosts within the Data Center deployment via the cloud portal.

- Automatic migration of workloads via VMware HCX under technical preview. VMware HCX enables customers to migrate hundreds of live workloads at once, with no downtime, to dramatically reduce time to deployment and simplify operational complexity.

- Sophisticated sizing tool for current and future capacity planning needs.
Where Should You Deploy VMware Cloud on Dell EMC?

**Data Center**

- Maintain on-premises security of data and proximity to users
- Avoid CapEx infrastructure investment
- Divert management cost to growth – VMware fully manages hardware

**Edge**

- Bring Enterprise-class compute power to the network edge.
- Allows data to be processed near where its generated or requested
- Fully managed nature of service avoids costly localized IT service / support.
VMware Cloud on Dell EMC – On Premises Data Centers
Refresh, Expand, Consolidate, Relocate

VMware Cloud on Dell EMC ideal for:

- **Refresh / Modernization**
  - Infrastructure built around Dell EMC VxRail
  - Delivered infrastructure is Hyper Converged
  - Latest Intel SP Processor technology
  - Shift from CapEx to Opex

- **Expansion**
  - Expand Data Center resources: No CapEx or additional management responsibility
  - Allows gradual expansion of nodes or slow refresh

- **Consolidation / Budget Reduction**
  - Migrate workloads to modern, OpEx expensed service

- **Relocation**
  - VMware is partnered with Equinix – Deploy this service in a ‘CoLo’ facility that offers premium connectivity services
<table>
<thead>
<tr>
<th>Edge Use Cases</th>
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</thead>
<tbody>
<tr>
<td>Geographically diverse manufacturing environments with Compute intensive needs</td>
</tr>
<tr>
<td>Profession-diverse private practice offices with application compute and storage needs</td>
</tr>
<tr>
<td>Healthcare facilities (hospitals, clinics) with patient-oriented compute / storage hungry application needs</td>
</tr>
<tr>
<td>‘Brick and Mortar’ retail storefronts running product tracking and/or customer-oriented digital promotion or services applications</td>
</tr>
</tbody>
</table>

- **Manufacturing Edge**
- **Practice Offices**
- **Healthcare**
- **Big Box Retailers**
VMware Cloud on Dell EMC – Manufacturing Edge
Providing Compute Power for Intelligent, Real-Time Factory Automation

VMware Cloud on Dell EMC: Ideal for Remote Factory Automation
• Compute power necessary to run next-generation Industrial automation
• Compute and storage to leverage IoT in the factory environment for instrumentation and/or production process tracking of assemblies
• Ability to make real-time manufacturing / process changes and decisions and track production
• Ability to optimize and automate supply chain process
• Fully managed, proactively monitored infrastructure including support and break-fix service
VMware Cloud on Dell EMC – Practice Offices
Provides Compute Power for Today’s Digitally-Rich Private Practices

VMware Cloud on Dell EMC: Power for Today’s Private Practices

- Typically private Dentistry, medical, legal, Counselling, Civil Engineering businesses
- Compute needs for billing, patient or customer records, record compliance, imaging, Engineering applications
- Often a franchise or chain business
- IT needs typically met by a third-party IT service and support provider - so accustomed to full IT support
- Typically running business-specific applications not seen in corporate IT.
VMware Cloud on Dell EMC – Healthcare
Ensuring Always On Health Care Access

VMware Cloud on Dell EMC: Perfect for Healthcare Edge Compute

• Power to allow application access patient records, imaging, telemetry from a single device anywhere and anytime
• Allows recording of patient telemetry records to meet regulatory or health organization policies and provide enhanced patient record depth.
• Allows use of IoT for tracking equipment, expendable patient medicals supplies, and simplifying supply chain and patient billing processes
• Ability for remote or satellite clinics continue to fully serve patients in the event communications link is lost
VMware Cloud on Dell EMC – Edge Compute for Big Box Retailers
Digitally Improving Customer Shopping Experience

VMware Cloud on Dell EMC: Ideal for Compute-Hungry Retailers

• Provides edge infrastructure as a fully managed service – eliminating need for 3rd party IT services
• Built on Enterprise-scale Dell EMC VxRail architecture
• Resources to host Inventory Tracking (IoT), supply chain control and other automated functions
• Provide the infrastructure to host a digitally rich, visually enhanced mobile-involved shopping experience for customers. This includes:
  • Store Navigation to locate products
  • On demand product availability, information, reviews, comparisons, automated warranty registration.
  • Digitalized product visual advertisement and promotions
  • Proximity sensed personalized shopper experiences
VMware Cloud on Dell EMC Experience Walkthrough – 3 Steps

Order ▶ Deploy ▶ Support

Note: Screens shown are for illustrative purposes and may not reflect updates to screens and products shown.
The IT Architect can add new VMware Cloud locations to their architecture.
The IT Architect can specify the location of where they want to provision the SDDC.
The IT Architect selects the rack configuration
Introduction of New Full-Height ‘R2’ Rack Option

**R1 Rack**
- Best suited for small satellite data center or edge applications.
- UPS included for locations that lack power backup or experience unreliable power.
- Compact: fits in small areas.
- Power Support: 1xNEMA L5-30 (100-120VAC) or 1xNEMA L6-30 (200-240VAC)

**R2 Rack**
- Best suited for Enterprise-scale deployments.
- Will accommodate up to 24 instances.
- PDU power inputs consistent with Enterprise data center power connectivity.
- Power Support: 4x NEMA L6-30 (Single Phase 200-240VAC) or 2x IEC 309 60A (Three Phase 200-240VAC)

**R1 Half Rack**
- **UPS A & B**

**R2 Full Rack**
- Redundant VeloCloud SD-WAN Appliances (Remote Management Access)
- Management Plane Switch
- Redundant Top of Rack (ToR) Server
- Aggregation Switches
- ‘Dark’ Node for Expansion
- Configured Number of VxRail Instances (Appliances)
- Uninterruptable Power Supply (R1 Only)
- Redundant Smart Power Distribution Units (in rear). R1: Floor power. R2 Floor/Ceiling Power
- Rack Enclosure: R1: 24 RU, R2: 42 RU

Note: For the latest specifications and options – please see the [VMware Cloud on Dell Data Sheet](#)
The IT Architect selects the host type, and No. of Hosts.
### VMware Cloud on Dell  EMC Host Comparison

<table>
<thead>
<tr>
<th>Instance Type</th>
<th>G1s.small</th>
<th>M1s.medium</th>
<th>M1d.medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chassis Form Factor</td>
<td>VxRail E560 IU</td>
<td>VxRail E560 IU</td>
<td>VxRail E560 IU</td>
</tr>
<tr>
<td>CPU Sockets x Cores</td>
<td>1 x 24</td>
<td>1 x 24</td>
<td>2 x 24</td>
</tr>
<tr>
<td>vCPU</td>
<td>48 (24 Cores)</td>
<td>48 (24 Cores)</td>
<td>96 (48 Cores)</td>
</tr>
<tr>
<td>CPU Frequency</td>
<td>3.1 GHz – All Core Turbo</td>
<td>3.1 GHz – All Core Turbo</td>
<td>3.1 GHz – All Core Turbo</td>
</tr>
<tr>
<td>RAM</td>
<td>256GB</td>
<td>384GB</td>
<td>768GB</td>
</tr>
<tr>
<td>vSAN Disk Groups</td>
<td>1 (800GB SAS SSD)</td>
<td>2 (800GB SSD)</td>
<td>2 (1.6TB NVMe)</td>
</tr>
<tr>
<td>Storage (All Flash Capacity)</td>
<td>11.5TB (Raw - SATA)</td>
<td>23TB (Raw - SATA)</td>
<td>23TB (Raw - NVMe)</td>
</tr>
<tr>
<td>Networking (NIC)</td>
<td>2 x 10GbE</td>
<td>2 x 10GbE</td>
<td>2 x 25GbE</td>
</tr>
</tbody>
</table>

Note: For the latest specifications and options – please see the [VMware Cloud on Dell Data Sheet](VMware Cloud on Dell Data Sheet)
New M1d.medium Instance (Host) Type

New M1d.medium Memory/Storage Optimized Host Type:

- Ideal for memory / storage hungry workloads
- Specs:
  - Dual Intel ‘Cascade Lake’ SP CPUs
  - 3.1 GHz All Core Turbo
  - 2 x 24 Core (96 vCPUs))
  - 768 GB RAM
  - 23 TB (Raw) NVMe Flash Storage
  - 2x 1.6 TB NVMe vSAN groups
  - 2x 25 Gbps NIC
  - E560F 1U VxRail Chassis Form Factor
Capacity and Performance for the most Advanced Workloads

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**VM Density (Medium VMs (# of 4 vCPU / 8 GB / 500GB))**

- M1d.medium: 24
- M1s.medium: 12
- G1s.small: 12

**Resource Intensive Workloads (8 vCPUs / 128GB / 500GB)**

- M1d.medium: 6
- M1s.medium: 3
- G1s.small: 2

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Assumptions:
- vCPU : physical Cores overcommit ration 2:1
- No memory overcommitment
- RAID1 storage, 50% of the total capacity
The Network Administrator can configure network requirements for the SDDC.
The IT Architect selects the term commitment, confirms pre-requisites, and reviews the order.
## Subscription Options for VMware Cloud on Dell EMC

### Paid Pilot, 1 Year, and 3 Year Term Subscription Options

<table>
<thead>
<tr>
<th>Plan</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paid Pilot</strong></td>
<td>- Allows customers to try service for 2 months and seamlessly convert to longer term</td>
</tr>
<tr>
<td></td>
<td>- Includes VMware VCF software and fully managed Dell EMC VxRail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Pricing for pilot is low. Account team discount is at their discretion</td>
</tr>
<tr>
<td><strong>1 Year Commitment</strong></td>
<td>- 1 Year term subscription commitment by customer</td>
</tr>
<tr>
<td></td>
<td>- Includes VMware VCF software and fully managed Dell EMC VxRail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Pricing reflects a lower price than pilot, however, is more expensive than 3 Year Term</td>
</tr>
<tr>
<td><strong>3 Year Commitment</strong></td>
<td>- 3 Year term subscription commitment by customer</td>
</tr>
<tr>
<td></td>
<td>- Includes VMware VCF software and fully managed Dell EMC VxRail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Pricing reflects a % discount over the shorter 1 Year term</td>
</tr>
</tbody>
</table>

Note: For the latest subscription and pricing information – please see the VMware Cloud on Dell EMC [Pricing and Packaging Guide](#)
Simple Pricing Model for Term Service Subscriptions

No Hidden Costs – No Upfront CapEx Expense

Node / Instance Cost Component

- Monthly Node base cost determined by type of Node and term: 1 or 3 years
- Node cost includes:
  - VxRail Node
  - VCF software for that node
  - Share of rack infrastructure cost
  - Share of fully managed support and service

Subscription Term Component

- 1-Year or 3-Year Subscription Terms
- 3-Year term commitment pricing generally is 33% less than 1-Year
- Monthly ‘Cloud-like’ Billing

White Glove Customer Experience

<table>
<thead>
<tr>
<th>Monthly Node Cost</th>
<th>Number of Nodes</th>
<th>Total monthly Subscription cost – includes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 (1 Year Subscription)</td>
<td>or</td>
<td>Infrastructure hardware</td>
</tr>
<tr>
<td>36 (3 Year Subscription)</td>
<td></td>
<td>VCF Software and updates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Security Updates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24x7 Fully managed service/support</td>
</tr>
</tbody>
</table>
The IT Architect confirms the order
The IT Architect completes the order, and receives an anticipated delivery date.
The IT Architect is informed that the order has been processed.
The IT Architect is informed that the equipment is shipped.
Service Infrastructure Build and Deployment

• After VMware Cloud on Dell EMC order is placed:
  • Customer Infrastructure is built in the Dell EMC Order Fulfillment Center
  • It is pre-loaded with VMware VCF Software
  • Customer network configuration is pre-configured
  • System is run through a battery of tests
  • System is packaged for delivery and shipped to customer site

• A Dell EMC Technician arrives on site to install Infrastructure
  • Rack is uncrated and moved into position
  • Power and networking connections are made
  • Testing of the network connections and system are completed
  • Infrastructure is formally handed off to customer and becomes ‘live’
  • VMware begins management of the infrastructure
  • Customer can begin migrating workloads to their new service infrastructure

There is no additional cost for deployment - Cost is included in subscription
The IT Architect receives the appliance and needs to activate the system.
Once Activated, the IT Architect has the ability to start deploying workloads.
Using the same familiar vSphere interface, the IT Architect can setup the needed VMs and Containers.
Using HCX migration, the IT Architect can easily migrate workloads to the new appliances.
VMware Cloud on Dell EMC Experience Walkthrough

Order  Deploy  Support
Understanding the Hybrid Cloud Control Plane

Current State
Multiple Control Planes

Hybrid Cloud Control Plane
✓ VMware Managed
✓ Full Transparency of Operations
✓ Single Pane of Glass

Cloud Connectivity

Compute | Storage | Networking
Atlas UX User Interface Portal Update – Hybrid Cloud Control Plane

- User interface for VMware Cloud on Dell EMC in Cloud Service Portal (CSP) has been enhanced
- Provides an enhanced ordering process with help throughout the process
- Management and request screen have been redesigned to provide more status information and make it easier to communicate with support and scheduling techs
- New resources section allow customers to learn more about attributes of the services, error condition, software configuration...etc
- VMware Cloud on Dell EMC user portal is now in parity with VMware cloud on AWS user portal
Leveraging the Hybrid Cloud Control Plane, the IT Architect can observe the health of the system.
Leveraging the Hybrid Cloud Control Plane, the IT Architect can see the status of tickets proactively being worked on by VMware managed services.
The IT Architect can easily see maintenance windows for the system to be updated and patched as to not interfere with critical periods.
## Frequently Asked Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>This offering includes physical infrastructure – Do I need to pay for this up front?</strong></td>
<td>VMware cloud on Dell EMC subscription includes a custom-sized, modern physical infrastructure for the term of the subscription</td>
</tr>
<tr>
<td><strong>Which public cloud will my data and applications be hosted in when I sign up for VMware Cloud on Dell EMC?</strong></td>
<td>Your applications and data will remain on-premises running on the services infrastructure you spec and order</td>
</tr>
<tr>
<td><strong>What are the limits of what VMware is managing as part of this service?</strong></td>
<td>VMware manages the health of physical hardware and lifecycle of software. Customer manages their workloads and data</td>
</tr>
<tr>
<td><strong>What happens if I need to increase infrastructure capacity?</strong></td>
<td>A Dell field technician will come onsite to add additional instances. Monthly subscription bill increases simply based on number and node type added</td>
</tr>
</tbody>
</table>
Learn more about VMware Cloud on Dell EMC

Additional Resources are available

• VMware.com Product Page: [Here](#)

• VMware Cloud on Dell EMC Overview Video: [Video](#)

• VMware Cloud on Dell EMC Solution Brief: [Brief](#)

• VMware Cloud on Dell EMC Overview Deck: [Deck](#)
Thank You