Cloud flexibility AND on-premises control

VMware Cloud on Dell EMC

Cloud Infrastructure Business Group, Marketing
November 2021
Today Enterprise’s Multi-Cloud Reality

Build and run diverse applications in optimal cloud

- Re-platform
- Re-factor
- Deploy hybrid
- Build cloud-native
- Replace with SaaS

Multiple Public Cloud
Private and Local Clouds
Distributed Edge Clouds
Explosive Customer Momentum Behind Local Cloud Market

Proven customer outcomes...

- Protect sensitive customer information
- Deliver better service to front-line workers at the edge
- Address latency demands of life critical workloads
- Avoid costly and complex refactoring of applications

...for enterprise and edge workloads....

Advanced VDI | Data Center & App Modernization | Data Latency & Sovereignty

...across all industries

Government | Insurance | Healthcare | Finance
Local Cloud Market Grows at a Five-year CAGR 151.8%*

Local Cloud: the next BIG thing

Customers need cloud model on-premises

$7.6+ billion in revenue* by 2025

IDC refers to the Local Cloud market segment as “Dedicated Cloud Infrastructure as a Service”
What is Local Cloud? Cloud Flexibility and On-premises Control

**Local Cloud**

*the best of both worlds*

**PRIVATE CLOUD**
- Increased performance
- Controlled cost
- Mitigated risk
- Customer on-premises or co-location

**PUBLIC CLOUD**
- Increased agility
- Simplified operations
- Accelerated innovation

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VMware’s Local Cloud Strategy

**Consumption choice**

Cloud service options

**VMware Cloud™**

Multi-cloud advantage

**Infrastructure choice**

Ecosystem flexibility

**Customer outcomes**

Freed from the burden of managing infrastructure

Accelerate application delivery

Control cost, risk and performance
VMware Current Offerings within the Local Cloud Market

- **VMware Cloud on Dell EMC**
  - VMware Managed
  - Available since 8/26/2019

- **APEX Cloud Services with VMware Cloud**
  - Dell Managed
  - Availability targeted for CYQ1 2022

- **VMware Cloud on AWS Outposts**
  - AWS Managed
  - Recent availability announced 9/5/2021
Introducing VMware Cloud on Dell EMC

A proven and robust Local Cloud solution

**Fully managed:** infrastructure solution for compute, storage, and networking.

**Backed SLAs:** managed for tight security requirements, through automated patching and system maintenance.

**Self-service:** operated and controlled through VMware Cloud Console.

**Subscription-based:** operated in a cloud model, delivering subscription financials and on-demand services.
### Hardware + Software

- VMware branded service
- VMware takes first level support call from customer
- Operated by VMware cloud SREs

### Services

- VMware branded service
  - 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 Infrastructure as a 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 subscription payment terms

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VMware managed SDDC:

Unifies containers, Kubernetes, and virtual machines

Automates the orchestration of advanced compute, storage, and networking resources

Provides life cycle management and consistent infrastructure and operations for multi-cloud

On-premises or colocation facility
Delivered as a Cloud Service

Service delivered and supported by VMware and Dell

Updates, upgrades and patches of the SDDC managed by VMware

Mature service operations and response teams in place to provide world-class experience
Free from the Burden of Managing Infrastructure

Order
Access via the VMware Cloud Console and step-by-step guidance on configuration options

Activate
Technician installs pre-loaded infrastructure at location. Customer activates the SDDC to go live

Consume
As-a-service to set-up VMs and containers; migrate workloads and expand capacity as required

Cloud simplicity with VMware Cloud on Dell EMC
Shift Infrastructure Cost from CapEx to OpEx

<table>
<thead>
<tr>
<th>1 Year Commitment</th>
<th>3 Year Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1 Year term subscription commitment by customer</td>
<td>• 3 Year term subscription commitment by customer</td>
</tr>
<tr>
<td>• Includes VMware Cloud managed SDDC and fully managed Dell EMC VxRail Infrastructure</td>
<td>• Includes VMware Cloud managed SDDC and fully managed Dell EMC VxRail Infrastructure</td>
</tr>
<tr>
<td>• Pricing reflects a lower price than pilot, however, is more expensive than 3 Year Term</td>
<td>• Pricing reflects a ~33% discount over the shorter 1 Year term</td>
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</table>

Subscription choice for VMware Cloud on Dell EMC
VMware Cloud Console – Integrated Cloud Control Plane

Easy access to and simplified ordering of the VMware Cloud on Dell EMC service

Unified access to tools and workload services including Tanzu Kubernetes, HCX, and vRealize Suite

Automated Life Cycle Management, Availability and Security

Dashboard access to health, performance, and status information

Request additional capacity as needed
Flexible for Any Workload

### Rack Specifications

**Number of VxRail E560F Nodes**
- 3 → 12 or 26

**Power Requirements**
- 4 x 30amp single-phase
- 2 x 60amp three-phase

**Power Source Location**
- Floor or ceiling

**Top of Rack Switches**
- 2 x 25GbE

**Secure Management**
- SD-WAN by VeloCloud - Edge (HA pair)

### Host Configuration

<table>
<thead>
<tr>
<th>CPU Sockets &amp; Core</th>
<th>M1d.xSmall</th>
<th>G1s.small</th>
<th>M1s.medium</th>
<th>M1d.medium</th>
<th>M1d.xlarge</th>
<th>X1d.xlarge</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTL Cores &amp; vCPU</td>
<td>56 / 112</td>
<td>28 / 56</td>
<td>28 / 56</td>
<td>56 / 112</td>
<td>56 / 112</td>
<td>56 / 112</td>
</tr>
<tr>
<td>CPU Frequency</td>
<td>2.2 GHz All Core Turbo*</td>
<td>2.2 GHz All Core Turbo*</td>
<td>2.2 GHz All Core Turbo*</td>
<td>2.2 GHz All Core Turbo*</td>
<td>2.2 GHz All Core Turbo*</td>
<td>2.2 GHz All Core Turbo*</td>
</tr>
<tr>
<td>Physical Memory</td>
<td>768 GB</td>
<td>256 GB</td>
<td>384 GB</td>
<td>768 GB</td>
<td>768 GB</td>
<td>1536 GB</td>
</tr>
<tr>
<td>vSAN Disk Groups x Cache</td>
<td>2 x 800GB SSD SAS</td>
<td>2 x 800GB SSD SAS</td>
<td>2 x 800GB SSD SAS</td>
<td>2 x 1.6TB NVMe</td>
<td>2 x 1.6TB NVMe</td>
<td>2 x 1.6TB NVMe</td>
</tr>
<tr>
<td>Capacity Storage</td>
<td>3.8 TB SSD</td>
<td>11.5 TB SSD</td>
<td>23 TB SSD</td>
<td>23 TB (NVMe)</td>
<td>61.44 TB SSD</td>
<td>61.44 TB SSD</td>
</tr>
<tr>
<td>NIC (Gbps)</td>
<td>2 x 25 (R2)</td>
<td>2 x 10 (R1) or 2 x 25 (R2)</td>
<td>2 x 10 (R1) or 2 x 25 (R2)</td>
<td>2 x 25 (R2)</td>
<td>2 x 25 (R2)</td>
<td>2 x 25 (R2)</td>
</tr>
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</table>

vCPU is based upon 2 hyper-threads per core. All hosts are based upon Cascade Lake Processors operating at all core turbo frequency of 2.2 GHz. The hosts support the Intel Advanced Vector Extensions 512 (AVX-512) instruction set, offering up to 2x the FLOPS per core of a Broadwell Processor. In addition to AVX-512, there is support for the new Neural Network Instructions (AVX-512 VNNI) which will speed up machine learning operations like convolution and inference.

Exact configurations are subject to ongoing refinements.
VMware Cloud Universal

- Easily convert infrastructure entitlements between on premises and public cloud.
- Subscription solution with OpEX financial treatment
- Credits can be deployed for Tanzu Standard
- Rich set of enterprise-class VMware compute, storage, networking and management capabilities
- Easily convert infrastructure entitlements between on premises and public cloud
- Subscription solution with OpEX financial treatment

VMC on Dell is part of VMware Cloud Universal
Why Do Customers Need Multi-rack Support?

Customer needs to deploy large-scale workload that requires capacity beyond a single-rack

Customer needs to accommodate additional workloads being migrated to the Local Cloud model

Customer needs capacity expansion after initial order to address business and application growth

Multi-Rack
Add capacity at initial order or to a MR-aware single-rack in the future

Simply order via VMware Cloud Console, VMware will ship, deploy and activate

Specify instances and clusters within and across racks based on workload needs

Fully managed as a single SDDC
Why Do Customers Need Tanzu services?

VMware Cloud™ with Tanzu® services

Modernize your development environment and accelerate application delivery

Ease the burden of administering and managing containerize workloads

Deliver Kubernetes as-a-service quickly and easily to developer teams

Centrally manage all Kubernetes clusters across any cloud securely and efficiently
VMware Cloud™ with Tanzu® services on Dell EMC

Tanzu services for VMware Cloud on Dell EMC (included in subscription)
Easy path to enterprise-grade Kubernetes on a fully managed, multi-cloud ready IaaS and CaaS platform

- VMware Tanzu Kubernetes Grid
  Managed Kubernetes service
- VMware Tanzu Mission Control Essentials
  Multi-cloud Kubernetes Management plane

VMware Tanzu Standard (upgrade purchase)
Provides an enterprise-grade Kubernetes runtime for multi-cloud deployment with a global control plane for consistent and secure management at scale.

Deploy and run Kubernetes multi-cloud
Operate all clusters consistently at scale
Enhance security and governance
Global and Vertical Regulatory Certification and Compliance

Certification for VMware Cloud on Dell EMC ensures compliance for:

the implementation, management, and maintenance for information security within an organization

The information security needs specific to various regions and industries
Managed Infrastructure for VDI

- Prescriptive infrastructure for VDI
- Vendor managed lifecycle & maintenance
- Refresh hardware to improve performance

Cloud Operating Model for on Premises Databases

- Keep data local to the applications
- On premises data governance and security
- Leverage existing 3rd party licensing

Data Analytics at the Edge and Remote Sites

- Analytics at the data source
- Host containers and VMs at the Edge
- Jumpstart innovation with insight
Customer 1 - State Government *

- A fully managed cloud solution on premises and a steppingstone to future cloud expansion
- Migrated their Microsoft SQL server workloads off their existing UCS infrastructure and onto VMware Cloud on Dell EMC
- Alleviated the need to manage infrastructure on-premises
- Avoided the cost and complexity of moving their Microsoft license to the Public Cloud

Motivated to get out of the business of managing infrastructure

* VMware customer who chooses to remain anonymous
Customer 2 - Financial Company*

Enabled moving their Microsoft VDI environments to a fully managed solution with a cloud procurement model.

Obtained the benefits of the public cloud operating model.

Maintained sensitive customer information on-premises.

Avoided Microsoft licensing cost in the public cloud.

Executive mandate to move to a public cloud operating model with minimal cost and risk.

* VMware customer who chooses to remain anonymous.
 VMware Cloud on Dell EMC enabled the shift to an Opex model and move their EMR to the cloud

- Moved away from the day-to-day management of physical infrastructure

- Addressed the need for latency-sensitive EMR workloads kept on-premises

- Alleviated the challenge of talent, budget, and time constraints

Needed a fully managed infrastructure capable of handling their Emergency Response Systems (EMR)

* VMware customer who chooses to remain anonymous
Advantages of VMC on Dell EMC

Cloud Advantages

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

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

**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
The Local Cloud economics speak for themselves

25% Average TCO savings

50% Average licensing cost avoidance

UP TO 44% Lower workload migration costs
Thank You