Virtualizing Business Critical Applications on VMware Cloud on AWS

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Disclaimer

This presentation may contain product features or functionality that are currently under development.

This overview of new technology represents no commitment from VMware to deliver these features in any generally available product.

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Technical feasibility and market demand will affect final delivery.

Pricing and packaging for any new features/functionality/technology discussed or presented, have not been determined.

This information is confidential.

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More applications and solutions will be deployed in the next five years than in the last 40 years.
Modern Applications and Global Infrastructure Requirements

TODAY’S CHALLENGES

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STRATEGY AND VISION
Modern Applications Are Powered by a Compute Fabric

VMware delivers consistent operations and consistent infrastructure on a global scale
Heterogeneous Application Infrastructure Requirements

**Traditional applications**
- Application security
- Maintenance
- Multi-tier hybrid

**Cloud-native applications**
- Container architecture
- Refactor for cloud
- Port to cloud

**Analytics and big data**
- Data security
- Workload management
- Economies of scale

**Intelligent Edge and IoT**
- Lights-out management
- Data security
- Rapid patching
VMware Tanzu Portfolio
Consistent deployment and operation of Kubernetes across environments

VMware Tanzu Mission Control*
[Management and policy for all Kubernetes clusters]

VMware PKS

vSphere*

On-premises
Project Pacific*

Edge

Public Clouds

Bare Metal

* Technology Preview
The VMware Cloud Solution

ANY DEVICE
Security • Cost Optimization • Ease of Access

Traditional Apps
Reduced Costs • Security • Reliability • Control

ANY APP

Cloud-native Apps
Time to market • Innovation • Scale • Differentiation

ANY CLOUD

Virtual machines

Containers

VMware Cloud Services

Visibility • Operations

Automation

Security • Governance

VMware Cloud Infrastructure

Public Cloud IaaS
Consistent Infrastructure and Operations for AWS

Rapidly Extend to the Cloud
- VMware environment with global AWS footprint, reach, availability

Operational Consistency
- Extend on-prem investments in tools, skills and processes to the cloud

Access AWS Native Services
- Expand the value of existing applications
VMware Cloud on AWS Highlights

As-a-Service
VMware’s Cloud Platform delivered on demand

Consistent
Consistent Operations and Compatibility with VMware Infrastructure

Portable
Easy workload portability and hybrid capabilities

Integrated
Direct access to the power of native AWS services

Any App
Existing and new apps with Containers and VMs

VMware delivers true enterprise capabilities on the world’s most popular public cloud.
Available globally across AWS Regions

**Available Regions**

- US West (Oregon)
- US East (N. Virginia)
- US West (N. California)*
- US East (Ohio)
- GovCloud US-West
- Canada (Central)*
- South America (Sao Paulo)*
- Europe (London)
- Europe (Frankfurt)
- Europe (Ireland)
- Europe (Paris)
- Asia Pacific (Sydney)
- Asia Pacific (Tokyo)
- Asia Pacific (Singapore)
- Asia Pacific (Seoul)
- Asia Pacific (Mumbai)

**VMware’s Q4’FY20 Planned**

- Europe (Stockholm)

* Stretched cluster not supported
VMware Award Winning Ecosystem

**Partner Resellers**
Enabled to assist in the architecture of the data center, cloud, and edge technologies

**Technology Partners**
Extend the VMware Solution set with best of breed technology options

**Service Provider Partners**
Deliver a multi-cloud solution, to account for the needs of your business
VMware Cloud Platform Customers

Leaders in every industry around the world run their enterprises on VMware

- Travel
  - Marriott
  - Southwest
  - amadeus
  - IHG

- Manufacturing and Retail
  - Ford
  - Brooks Brothers
  - Amway
  - Villeroy & Boch
  - Columbia

- Health Care
  - Mercy
  - Phoenix Children’s Hospital
  - Nebraska Medicine
  - Cerner

- Financial Services
  - Mizuho
  - Capital One
  - ADP
  - ANZ
  - AmBank Group

- Public Sector and Education
  - Western Carolina University
  - Queens University
  - ARMY
  - Ohio Department of Transportation

- Technology
  - Honeywell
  - Acer
  - NEC
  - Amdocs
  - Western Digital
  - Toshiba

- Telecommunications
  - CenturyLink
  - Deutsche Telekom
  - Vodafone
  - Airtel
  - Swisscom

- Non-Profit
  - Make-A-Wish
  - American Red Cross
  - United Way Australia
Solving for all Key Needs and Operating Demands

App developer
- Container support
- Full-stack support
- DevOps flexibility

IT operator
- Consistent ops
- Portability
- Enterprise control

Security
- Application security
- Micro-segmentation
- Identify policy mgmt

Data science
- Data security
- Time to analysis
- Platform flexibility
VMware Hybrid Cloud Customer Journey

Modernize Applications

**BUSINESS CRITICAL APPS**
- Complete Security
- Application Modernization
- Application Performance

**CLOUD NATIVE APPS**
- Containers and Kubernetes
- Function-as-a-Service
- Cloud Services

**INTELLIGENT COMPUTING**
- Analytics and Big Data
- AI and Machine Learning
- Industrial IoT

Modernize Infrastructure

**DATA CENTER CONSOLIDATION**
- Infrastructure Virtualization
- System Uptime
- CapEX Reduction

**CLOUD MIGRATION**
- Application or Data Center Migration
- On-Demand Capacity
- Disaster Recovery

**INTELLIGENT EDGE**
- Lights Out Management
- Availability and Performance
- Real-Time Compute Services

Transformational Impact
Data Framework Workloads

**SAP WORKLOADS**
- SAP S/4 HANA
- SAP BW/4 HANA
- SAP HANA Data Management

**ORACLE WORKLOADS**
- Oracle Database
- Custom Applications
- Oracle Business Applications

**MICROSOFT SQL WORKLOADS**
- SQL Database
- Custom Applications
- Microsoft Sharepoint
Why is Microsoft SQL Server on VMware a big deal?

- Microsoft SQL is pervasive, with 98 of the Fortune 100 using MS SQL today for custom and packaged applications
- Approximately 100T transactions a day are processed by Microsoft SQL
- Major Upgrade opportunity with Microsoft SQL 2008 and 2008 R2 scheduled to go end of life

VMware Cloud Value Proposition for Microsoft SQL

**Seamless Compatibility**
- SQL Server Database
- SQL Server Applications

**Multi-cloud Portability and Migration**
- Capacity Augmentation
- Application Portability

**Security and Networking**
- Micro segmentation
- Scalable Storage

**Optimization and Performance**
- License Optimization
- vRealize Content Packs
# VMware Cloud Use Cases for Microsoft SQL

## DISASTER RECOVERY
- Application Recovery
- CapEX Cost Reduction
- Redundancy and Failover

## DATA CENTER EXTENSION
- Capacity Scaling to the Cloud
- Development and Testing
- Secondary Applications

## CLOUD MIGRATION
- Microsoft SQL Migration
- Application Modernization
- AWS Services Integration

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Transformational Impact
DEMO

Migrating SQL Workload from On-Premises Datacenter to VMware Cloud on AWS
Western Carolina University
Modernizing their SQL Infrastructure and Virtualized Applications

About
Western Carolina University is a member of the UNC system that was founded to educate the people of the western North Carolina mountains. It now provides residential and online education to more than 11K students from 48 states and 35 countries.

Challenges
• Meet expected enrollment increases while lowering tuition
• Maintain security and high service quality with fluctuating IT budgets
• Support dispersed students and employees with apps and services available anywhere, on any device

Solution
• Virtualize, secure, and automate data centers using VMware vSphere 6.5, VMware NSX, VMware vRealize Operations, and VMware Horizon
• Use VMware Horizon and Workspace ONE to make apps and courseware accessible to remote workers and students on any mobile device

Impact
• Saving $1.5 million+ in hardware, power, and cooling over 10 years
• Provided high availability and disaster recovery
• University computing resources and online course available anytime, on any device, from a secure single sign-on portal, deliver massive infrastructure savings

“At WCU students can get a very high-quality education for their dollar. We couldn’t offer that kind of value without VMware.”
Patrick McGraw, Virtual Infrastructure and Tier 3 Engineer, WCU

Location: United States
Industry: Education

Products
Workspace ONE
NSX
vSphere 6.5
Horizon
vRealize Operations
vRealize Log Insight

Strategic Priorities
Modernize data centers
Secure digital workspace
Data Framework Workloads

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Why is Oracle on VMware a big deal?

- 200,000+ customers running Oracle on vSphere; 85% have not started to move to the cloud*

- Did you know that VMware Cloud on AWS is the only way to lift and shift Oracle RAC clusters to AWS?
VMware Cloud Value Proposition for Oracle

Seamless Compatibility
- Oracle Database
- Oracle Applications

Multi-cloud Portability and Migration
- Capacity Augmentation
- Application Portability

Security and Networking
- Micro segmentation
- Scalable Storage

Optimization and Performance
- License Optimization
- vRealize Content Packs
VMware Cloud Use Cases for Oracle

**DISASTER RECOVERY**
- Application Recovery
- CapEX Cost Reduction
- Redundancy and Failover

**DATA CENTER EXTENSION**
- Capacity Scaling to the Cloud
- Development and Testing
- Secondary Applications

**CLOUD MIGRATION**
- Oracle Database Migration
- Oracle App Migration to the Cloud
- Multi-Cloud Integration

Transformational Impact
### CUSTOMER INFRASTRUCTURE

- **Oracle Business Critical Applications**
  - EBS
  - Siebel
  - Fusion
  - Hyperion
  - Beehive
  - Peoplesoft
- **3rd-Party Data Integrations**
  - Sybase
  - SAP
  - MS SQL
  - DB2
  - Big Data

### IT Integrations
- Compliance
- Custom App
- Security
- Storage

### Oracle Databases
- 11G
- 12c
- 18c non-RAC
- 18c RAC
- TimesTen
- Oracle Big Data

### VMC ON AWS

- **Dev-Test**
  - CI/CD Testing
- **Recovery**
  - DRaaS Failover
- **Secondary**
  - Applications Data Analytics
- **Full Migration**
  - Oracle Apps Big Data
- **3rd-Party Data Integrations**
  - Sybase
  - SAP
  - MS SQL
  - DB2
  - Big Data

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**VMware Cloud on AWS**

- VMware vSAN
- VMware NSX
- VMware vSphere

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**VMware Cloud Reference Architecture for Oracle**

- vSan Operations and Management
- vrealize Operations and Management
- vSphere Stretch Clustering and Enterprise Availability
- vRealize Operations and Management
- vSphere Stretch Clustering and Enterprise Availability
Case Study: Stagecoach

Rapid migration of mission-critical application to cloud

About
Stagecoach is a leading public transport company in the UK that runs over 11,000 trains and buses - transporting over 3 million passengers a day, with 699 million journeys a year in the UK alone, and with 99.5% reliability.

Challenges
• Implement cloud-first directive
• Scale, speed, agility of application deployment
• Need operational consistency and platform resiliency for mission-critical application

Solution
• Migrate mission-critical application from on-premise to cloud
• Leverage native AWS services
• Use Stretched Clusters for VMware Cloud on AWS to ensure application resiliency

Impact
• Rapidly migrated a production application by focusing on the app, not the infrastructure
• Got competitive advantage in bidding for future franchise contracts

Location: Europe
Industry: Transportation

Products
VMware Cloud on AWS

Strategic Priorities
Integrate with Public Cloud
Platform resiliency and reduced migration risk
Business Critical Applications

**SAP WORKLOADS**
- SAP S/4 HANA
- SAP BW/4 HANA
- SAP HANA Data Management

**ORACLE WORKLOADS**
- Oracle Database
- Custom Applications
- Oracle Business Applications

**MICROSOFT SQL WORKLOADS**
- SQL Database
- Custom Applications
- Microsoft Sharepoint
Why is SAP on VMware a big deal?

- VMware and SAP have 100,000 joint customers and 90,000 are not yet HANA customers

- SAP mandates all customers must move to SAP HANA by 2025

- Did you know large HANA virtual machines can sustain vMotion reliably from one host to another even under heavy load. *

* Certification planned in end of 2019
VMware Cloud Value Proposition for SAP

**VMware Compute**
- SAP Certified

**VMware Networking and Security**
- Micro Segmentation
- Application Security

**VMware Storage**
- Data security
- Scalable Storage

**vRealize Suite and Management**
- SAP Applications
- SAP Data Platforms

SAP S/4 HANA Certification
Multi-Cloud and Hybrid Cloud
VMware Cloud Use Cases for SAP

**DISASTER RECOVERY**
- Application Recovery
- CapEX Cost Reduction
- Data Protection (3rd Party)

**DATA CENTER EXTENSION**
- Dev and Test
- SAP HANA Capacity Bursting
- Secondary Applications

**CLOUD MIGRATION**
- SAP HANA Migration
- SAP Intelligence App Hosting
- Multi-Cloud Integration

Transformational Impact
HANA Compatibility

- SAP customers must move to HANA by 2025, but HANA’s higher memory requirements may outstrip their current on-premises infrastructure.
- High-memory VMware Cloud on AWS instances will be HANA-certified.
- I3.metal instance (512 GB) & r5.metal instance certification targeted for Nov 2019, and even larger memory instances in roadmap: 8TB+ memory (U series) support planned early 2020.
Case Study: Beverage Company
Improved SAP Application Infrastructure and Scalability

About
A leading global marketer and distributor of energy drinks was looking to embrace the cloud in order to improve operations and resiliency.

Challenges
• Implement cloud-first directive
• Scale, speed, agility of application deployment
• Need operational consistency and platform resiliency for mission-critical application

Solution
• Use Stretched Clusters to ensure application resiliency
• Reduced infrastructure costs and improved IT agility to respond to issues
• Disaster Recovery

Impact
• Virtualized all SAP Applications both in the Data Center and extended to the Cloud

Location: North America
Industry: Beverage

Products
- VMware Cloud on AWS
- VMware vSphere

Strategic Priorities
- Integrate with Public Cloud
- Platform resiliency and reduced migration risk
Thank You!