Leveraging vSAN as a Path to the Hybrid Cloud World

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#vmworld #HCI1701BU
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Digital Businesses Face Economic Stress

- Digital Transformation
- Budget Constraints
- Fast Pace of Technology
Traditional Infrastructure  Modern Infrastructure
Traditional Apps

APP

Data Center

Modern Apps

APP

Mobile Device

IoT Device

SD-WAN

Branch/Edge

Public Cloud

VMware Cloud

Database

Microservices

Data Center
Failure to Change Puts Businesses at Risk

- Escalated CAPEX and OPEX
- Reduced Business Agility
- Increased Security Exposures
Need to Modernize, But No One Solution Solves Everything
Each environment offers a unique set of advantages, need something future-proof

PRIVATE CLOUD

Cost optimized for data intensive apps
Enterprise IT governance
Data locality and control
Leverages existing tools and operations
Ideal solution for the edge

PUBLIC CLOUD

Flexible, low upfront commitment
Agile and easily scalable
Built for new class of apps
Rich developer services
Fully managed and automated
Why Hybrid Cloud Can Address the Business Challenges

- **Dev Speed**: Improves time-to-production from ~6 months to weeks
- **Consistent Tooling**: Consistency and familiarity of infrastructure and security technologies
- **App Mobility**: Easy workload portability without refactoring between private and public cloud
- **Any App**: Existing and new apps with Containers and VMs
- **Scale**: Achieve massive scale quickly and reliably
Hybrid cloud offers enterprises the best of both worlds — the cost optimization, agility, flexibility, scalability and elasticity benefits of public cloud, in conjunction with the control, compliance, security and reliability of private cloud.

Hybrid cloud computing enables an enterprise to scale beyond its data centers to take advantage of the elasticity of the public cloud. Therefore, it is transformational when implemented because changing business requirements drive the optimum use of private and/or public cloud resources. This ideal approach offers the best possible economic model and maximum agility.

Source: Gartner Hype Cycle for Cloud Computing, July 2018 (p.41)
Hybrid Cloud is the Preferred Enterprise Strategy
Combining the best of both worlds into a single strategy

Source: RightScale 2018 State of the Cloud Report
Now, What?
Digital Business Requires a Digital Foundation

- Any Device
- Any Application
- Any Cloud

Software-Defined Digital Foundation

- Common Infrastructure
- Common Operations
- Intrinsic Security
VMware Cloud Foundation
The simplest path to the hybrid cloud

- Integrated hybrid cloud platform
  - Consistent software-defined infrastructure
  - Cloud management capabilities for self-service automation and operations

- Simplest to deploy and operate
  - Standardized VMware Validated Design architecture
  - Lifecycle automation of the software stack

- Intrinsic security

- Enables path to hybrid cloud
  - Deploy on premises
  - Consume as a service in the public cloud
VMware Delivers the Most Complete Digital Foundation

Common Infrastructure
- #1 hypervisor: vSphere
- #1 HCI software: vSAN
- Advanced NSX networking
- Native services with AWS, IBM Cloud & more
- Broadest deployment options on top servers
- Investment protection for SAN/NAS arrays

Common Operations
- Global management from familiar tool: vCenter
- Policy-based management
- Modern application (CNA/Container) policies
- Automation with blueprints and deploy on demand
- Cloud-based monitoring and analytics

Intrinsic Security
- NSX Micro-segmentation
- Native FIPS 140-2 validated encryption
- Intelligent app-centric security and alerting
- Extend security policies with NSX SD-WAN
- Compliance assessments for HIPAA, DISA, PCI, etc.
VMware Cloud Foundation Everywhere

Enabling consistent infrastructure everywhere

Diverse Clouds • Same People • Same Process • Same Tools

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The VMware Open Ecosystem Offers Flexibility for Customers

### Customer-Managed Private Cloud

<table>
<thead>
<tr>
<th>Category</th>
<th>Vendors</th>
</tr>
</thead>
<tbody>
<tr>
<td>vSAN ReadyNodes</td>
<td>Cisco, Dell EMC, Fujitsu, Hitachi, Intel, Inspur, Supermicro, Lenovo</td>
</tr>
<tr>
<td>Integrated Systems</td>
<td>Dell EMC, Fujitsu, Hitachi, Lenovo</td>
</tr>
<tr>
<td>Engineered Appliances</td>
<td>VMware</td>
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</tbody>
</table>

### Partner-Managed Cloud

- CLOUD PROVIDER PROGRAM
- Azure VMware Solution by CloudSimple
- Azure VMware Solution by Virtustream

### VMware-Managed

<table>
<thead>
<tr>
<th>Private Cloud</th>
<th>Public Cloud</th>
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<tbody>
<tr>
<td>VMware Cloud on Dell EMC</td>
<td>VMware Cloud on AWS</td>
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VMware Cloud Foundation Powers Any Application, Anywhere

**Business-Critical**
- MySQL
- Microsoft Exchange
- SAP
- SQL Server
- Oracle
- InterSystems

**Containers**
- Docker
- Pivotal Container Service
- Kubernetes

**End-User Computing**
- VMware Horizon
- AirWatch

**Cloud-Native**
- Splunk
- MongoDB
- DataStax
- Cloudera
- Hadoop
- Cassandra

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But How?
3 Simple Steps for Your Hybrid Cloud Journey

1. Plan
   What the desired state looks like for your Hybrid cloud platform

2. Start
   with vSAN and get instant TCO savings

3. Transform
   with Cloud Foundation on-prem and hybrid cloud

Transformational Approach

Migration Approach
Why the Business Model Works with vSAN

Mean TCO reduction

Reduction in management OPEX

Reduction in time-to-complete common storage tasks

40%

58%

59%

Source:
1. Shepard, Eric. Learning from Companies That Use VMware vSAN to Address Today’s Most Pressing Data Center Challenges. March 2018. IDC. #US43584118 n=101
2. Fellows, Russ. VMware vSAN vs. All-Flash SAN: An Operational Analysis. April 2017. Evaluator Group
VMware Recognized HCI Leader by Forrester and Gartner

Forrester

#1

Highest Score in the HCI Strategy Category

VMware HCI positioned as a Leader in the Forrester Wave: Hyperconverged Infrastructure, Q3 2018 and scored highest in the Strategy category

Gartner

1st

Software-only vendor Leader in HCI Magic Quadrant

VMware debuted in the Leader Quadrant as MQ rewards software vendors for vision and flexibility

VMware Is The #1 HCI Software Vendor

According to IDC’s 1Q2019 worldwide quarterly converged systems tracker

Hyperconverged solutions running VMware vSAN software achieved 41.1% share and 66.3% growth year over year.

Source: IDC’s 1Q2019 Worldwide Quarterly Converged Systems Tracker, June 25, 2019
Blistering Pace of vSAN Adoption

>20,000 Customers

>50% of Global 2000 uses vSAN

vSAN Customer Adoption
## Large Scale vSAN Deployments

Proof point for enterprise readiness

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Deployment</th>
<th>Why vSAN?</th>
</tr>
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| One of the largest multi-national banks | Finance apps on SQL & Oracle for stock trading, online and mobile apps | - 100+ Petabytes; 5000+ Servers across 3 countries | - Start small & scale as needed  
- 8X performance over traditional SAN  
- Operational simplicity & cost |

| One of the largest transportation companies | Private cloud for online transactional processing & big data with Cassandra | - 20+ PB; 750+ servers | - Scale a private cloud on x86 servers  
- Manage traditional & big data apps  
- vSAN outperformed arrays for all apps |

| One of the largest retailers | Distribution centers for database workloads & retail stores for point of sale apps | - 20+ PB in Dist Centers  
- 5+ PB in Retail Stores | - Management simplicity with vCenter  
- Small footprint & low power needs |
Hybrid Cloud Use Cases with vSAN
Customer-driven Use-cases

Aligning to long term cloud strategy

**Data center extension**
- Footprint expansion / On-demand capacity
- Virtual Desktops & Published Apps
- Test/Dev

**Disaster recovery**
- Primary
- Secondary
- New DR
- Replace existing DR
- Complement existing DR

**Cloud migrations**
- Consolidate
- Migrate
- Application specific
- Data center wide
- Infrastructure refresh

**Next-generation apps**
- Application modernization
- New application build-out
- Hybrid applications

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Playtika

Extend data center footprint to public cloud for new projects

About
One of the world’s largest global online gaming companies that offers free casino-style games to social networks, and provides 24/7 entertainment accessible at anytime.

Challenges
• Data centers reached maximum capacity
• Need to use existing tools and skillsets
• Required live migration from on-premises to cloud

Results
• Uninterrupted testing and development with live migration of workloads
• Minimized complexity and risk of migration
• Able to quickly bring new games to market and drive revenue with agility to burst to cloud

Impact
• SDDC-consistent test/dev environment
• Seamless, uninterrupted live migration using HCX of over 650+ workloads to the cloud
• Data center extension to expand footprint and provide on-demand capacity

Products
- VMware Cloud on AWS
- VMware Hybrid Cloud Extension

Strategic Priorities
- Integrate with Public Cloud
- Speed and agility in a competitive industry

650+ VMs migrated to cloud in just 5 days
Trend Micro protects 500,000+ companies with its Smart Protection Network that processes hundreds of terabytes of data every day to produce critical global threat intelligence to protect over 250 million unique endpoints worldwide.

**About**

**Challenges**

- Need for quick and easy cloud migration
- Scale environment to process exponentially growing number of security threats
- Complex management of infrastructure across clouds and datacenter

**Results**

- Workload migration from on-premises to public cloud
- On demand expansion with no impact to application uptime

**Impact**

- Accelerate migration of workloads to public cloud, saving months of time and reducing OpEx
- Faster and more flexible business innovation cycles

**Location:** North America, Japan

**Industry:** Technology

“We have an amazing team with cloud backgrounds, but transforming existing enterprise apps into cloud-native equivalents is extremely difficult. Even for our private cloud apps, migrating them to public cloud presented risks if they were not carefully re-platformed and re-tested. VMware Cloud on AWS coupled with Trend Micro Deep Security smooths that out, saving us months of time and thousands of man hours.”

Zack Milem, Cloud Solutions Architect, Trend Micro
PHH Mortgage
Cost-effective disaster recovery

About
One of the largest US servicers of residential home loans, mortgage processing and mortgage origination for financial institutions ranging from small banks to some of the largest financial firms

Challenges
• Need to streamline existing footprint, vacate data center and move to consumption-based model
• Avoid DR data center contract renewal
• Very tight time constraints for the project

Results
• Replace existing DR solution by moving 350+ VMs across 2 DCs to cloud
• Move from traditional DC to IaaS
• VMware partner-provided managed and professional services

Impact
• Maintain same day to day environment and infrastructure with minimal complexity
• Curbed CapEx spend and increased agility

Products
• VMware Cloud on AWS
• VMware Hybrid Cloud Extension

Strategic Priorities
• Integrate with Public Cloud
• Speed and agility of cloud migration

350 VMs moved in just few days to shutdown secondary DR site

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Black Mountain Systems
Quick migration of entire data center to cloud without disruption

About
Black Mountain develops software solutions for data aggregation, process management, and business reporting. It removes boundaries between systems, information, and people, enabling clients to focus on high-value activities that drive investment performance

Challenges
• Evacuate an existing co-lo facility due to high costs and issues with SLAs
• Co-lo contract expiration timeline constraints
• Looking to further leverage AWS services to modernize their business

Results
• Successful migration completed ahead of schedule
• Improved cash flow with pay-as-you-go model
• Ability to improve services by running on a faster, more efficient hybrid platform

Impact
• Migrate workloads to the cloud without refactoring
• Applications maintain the expected resiliency
• Ability to leverage existing toolsets and skills
• Cost-effective solution

Products
• VMware Cloud on AWS
• VMware Hybrid Cloud Extension

Strategic Priorities
• Integrate with Public Cloud
• Reduced costs

380 VMs and 30 TBs of storage migrated to cloud in just 20 days
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.

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

Results
- Migrate mission-critical application from on-premises 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

Products
- VMware Cloud on AWS

Strategic Priorities
- Integrate with Public Cloud
- Platform resiliency and reduced migration risk
Call to Action: Modernize Your Business with Hybrid Cloud

Starting with vSAN

Start with VMware HCI Assessment

Contact your VMware Partner, SEs or Rep for a free HCI assessment

Lower your storage TCO by up to 50%
Upgrade your server refresh to HCI

Accelerate your business with new applications
Run cloud-native apps and VMs in the same environment

Build a true hybrid cloud
VMware offers the most public cloud options
Please Fill Out Your Survey

Take a survey and enter a drawing for a VMware store gift card.
Thank you!