How I Learned to Stop Worrying and Love the Public Cloud

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• This presentation may contain product features that are currently under development.
• This overview of new technology represents no commitment from VMware to deliver these features in any generally available product.
• Features are subject to change, and must not be included in contracts, purchase orders, or sales agreements of any kind.
• Technical feasibility and market demand will affect final delivery.
• Pricing and packaging for any new technologies or features discussed or presented have not been determined.
How I Learned To Stop Worrying And Love The Cloud

Mathew Lodge
VP, vCloud Air

Massimo Referre
Sr Architect, vCloud Air
IT in the 1950s
April 26, 1956 – A Revolution Begins
Big Winners… and Losers

Port of San Francisco

Port of Oakland
Lessons from Tectonic Shifts

Standardize

Automate
Benefits for Your CIO of Standardizing and Automating

- **Labor**: 100% (67% legacy)
- **Software**: 17% (17% cloud provider)
- **Hardware and Facilities**: 7% (7% legacy, 4% cloud provider)
- **Telecom**: 5% (5% cloud provider)

Source: TMT Value Migration Database, Gartner IT Key Metrics Data 2009; McKinsey

Cloud Provider:
Source: VMware analysis; Cloud service providers and Web 2.0 companies
Standardize and Automate to Stop Worrying

1. Stop worrying about private cloud
   - Start automating using standardization
   - Immediate relevance improvement

2. Stop worrying about insecurity of public cloud
   - Start defining what “secure” means
   - Be secure but agile

3. Stop worrying about cost reduction
   - Focus on business value
   - Can’t save your way to greatness
1: Stop Worrying About Private Cloud
Private Cloud is Really, Really Hard

Service Operations Maturity

Features & Extensibility

- Accounting
  - Contract Management
  - Billing & Invoice Mgmt
- Continuity Management
- Capacity & Availability Management
- Config & Release Management
- Change Management
  - Incident/Problem Management
  - Service Catalog
- Cloud Stack
- Event Management
- Knowledge Base mgmt
- Monitoring
- Notification System
- IPAM
- Financial Chargeback
- Entitlement Tracking
- Ops Service Level Reporting
- Order Processing
- Security & Compliance
- Deployment automation
- Cloud Stack
- IPAM
Automation Provides 80% of the Value of Private Cloud

• Business user wants to get a VM for tests he / she needs to perform
  – VM needs to be accessible from the Internet
  – User needs the VM … yesterday.
  – “Please don’t ask me too many techie details, I just want a VM”
Automation Using vCloud Air and vCenter Orchestrator
Automated Deployment In Minutes

A: Deploy VM from Catalog
B: Set NAT rules
C: Set Firewall rules
D: Send email to end user

“Hey!? Can I have a VM?”
Happy Customer in Minutes

vCloud Air

vCloud API

Internet

RDP / SSH

EDGE GATEWAY

VM

vCloud Air Catalog

vCO

vCO plugin for vCD

vCenter
Taxonomy of the Simple vCO Workflow

- Get GWIP
- Instantiate a vApp
- GetVAppIP
- Add a NAT rule EDIT
- Add a firewall rule
- Create Output
- Send notification
IT Runs the Workflow Inside the vSphere Web Client
IT Fills in the 4 Inputs
The Workflow Runs and IT Can Monitor in vSphere Client
Workflow Sends an Email to the User With the Details

Your vCHS VM is Ready - Enjoy

IT Department <IT@yourcompany.com>

to me

The internal coordinates of your VM are **192.168.109.2:3389** and your external coordinates are **23.92.224.68:999**

Click here to Reply or Forward
User Can RDP Into the VM

This is the Internet IP of the VM
The VM as Seen by the User
2: Stop Worrying About Public Cloud Security
Your Data Center is Not Hogwarts

How some see their datacenter security

“How 90% of all companies have at least one data breach a year”

Ponemon Institute

How it actually is
Three Security Questions for Everywhere, Private & Public

Do you have the right physical and logical controls? [Doing the right things]

Are those controls in place and functioning correctly? [Doing the things right]

Can you demonstrate the above? [Audit / Pen test]
Do the Heavy Lifting With Security Standards

Applicable standards

- ISO 27001:2005
- SOC 1 Type 2 (SSAE 16)
- SOC 2 Type 1
- SOC 2 Type 2
- HIPAA and HITECH Security Rule
Taxonomy of a Data Center

Compute

Storage

You (and me)

Network

Internet
Private Network Integration Options

Your Data Center / Private Cloud

IPSec VPN

Direct Connect (private WAN)

vCloud Hybrid Service
Security the SDN Way – Better than Your Own Data Center?

- Create routed and fully isolated networks
- Software-defined networking services included at no extra cost:
  - Routing and bridging
  - Firewall
  - NAT
  - Load Balancer with health monitoring
  - IPSec VPN
  - DHCP
- Bring-Your-Own 3rd Party Appliances:
  - F5, RSA, Cisco, Riverbed, others
Example: Hybrid SharePoint Deployment
How to Load Balance a “Service” in vCloud Air

vCloud Air virtual data center

Front-End Network (192.168.109.0/24)

Private Network (e.g. VDI) (172.16.0.0/16)

INTERNET

On-prem Network (192.168.0.0/24)

1.1.1.1

192.168.0.1

192.168.0.103

2.2.2.2

192.168.109.1

172.16.0.1

192.168.109.5 192.168.109.6 172.16.0.3

3.3.3.3

192.168.109.0/24

172.16.0.0/16

INTERNET

CONFIDENTIAL
How to Load Balance a “Service” in vCloud Air
(From The Corp Network)

vCloud Air virtual data center

Front-End Network
(192.168.109.0/24)

Private Network (e.g. VDI)
(172.16.0.0/16)

INTERNET

VPN

On-prem Network
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192.168.109.1

172.16.0.1

172.16.0.3

3.3.3.3
How to Load Balance a “Service” in vCloud Air (From The Corp Network)
How to Load Balance a “Service” In vCloud Air (From The Internet)
3: Stop Worrying About Cost Reduction
Examples of Not Saving Money

Seven Corners
Global travel/medical insurance company
Cloud driver: Reduce claims processing from 30 minutes to 15 seconds
Secondary benefit: $900k cost avoidance

Sega
Game development company
Cloud driver: Cut game testing time 17%
Secondary benefit: fewer bugs, happier customers
Five Ways to Get Started Tomorrow

- Development / Testing
- Extend Existing Applications
- Disaster Recovery
- Modernize Enterprise Applications
- Next Generation Applications
Example: Global Expansion

• Atlanta-based retailer
• Has operations in the UK
• Need local capacity for performance
• What can they do?
Example: Global Expansion

- Option 1: subscribe to a traditional public cloud which is
  - Incompatible with what you have in-house
  - Operationally different compared to what you have in house
  - Eventually you create a wall between on-prem and off-prem

- Option 2: buy local colo and install vSphere hosts there
  - Must manage remotely
  - Not very flexible if the remote business operations expand / shrink
  - Creates a remote site to be managed from the rack all the way up
Example: Global Expansion

• Option 3: vCloud Air
  – Compatible with what you have in-house
  – Managed as if it was in-house
  – Expands and shrinks based on your needs
  – Forget about…
    • “There is a broken disk in London”
    • “We need to re-patch that pNIC in London to a different switch port”
    • “We need to add 4 new hosts, will they fit in the cage?”
Global Expansion: Logical View

vCOps UI

Atlanta DC

vSphere

VM Templates

vSphere UI
Global Expansion: Logical View

VM Templates
Catalog Sync via vCloud Connector

Atlanta DC
VPN
London DC

vCops UI
vSphere UI

vCops Management Pack for vCloud Air
Deploying a Template in the Vsphere Environment in Atlanta
## Browsing the Available Vcloud Air Resources Available

<table>
<thead>
<tr>
<th>Name</th>
<th>Region</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>M579570327-5454</td>
<td>UK - Slough</td>
<td>Disaster Recovery Cloud</td>
</tr>
<tr>
<td>M598551135-4965</td>
<td>UK - Slough</td>
<td>Shared Cloud</td>
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<td>US - Nevada</td>
<td>Dedicated Cloud</td>
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<td>US - Texas</td>
<td>Disaster Recovery Cloud</td>
</tr>
</tbody>
</table>
Catalog Sync via vCloud Connector
VM Deployment Into Vcloud Air from Copy of On-prem Template
Establish VPN Connectivity

On prem Internet Gateway (Atlanta)

vCloud Air Edge Gateway (London)
The Organizational Journey (Gartner View)
Don’t Let This Happen to You

Strike Enters 5th Week

Container Work Is Main Issue

SAN FRANCISCO—The longshore strike goes into its fifth week as this issue of The Dispatcher goes to press. All West Coast ports are down, the pickets are still walking, with approximately 340 ships idled up and down the coast.

In an exchange of letters last week between Harry Bridges, chairman of the ILWU Coast Negotiating Committee and PMA president Edmund J. Flynn, Bridges stipulated that the ILWU is willing to resume negotiations with the Pacific Maritime Association providing that the Container Freight Station Agreement, as it applies on and after June 30, 1974, is continued in full force and effect.

The text of the letters follows.

Mr. Harry Bridges, President
Interested in participating in the vCloud Air OnDemand Beta Program?

The Product Team from vCloud Air is now accepting candidates interested in participating in the Fall 2014 beta program.

Visit vmware.com/go/ondemand to sign up
Learn the fundamentals on vCloud Air by attending any or all of our **5 Starting Point** breakout sessions within the Hybrid Cloud Track.

Attend any of these breakout sessions and earn a free vCloud Air “Dilbert” t-shirt.

<table>
<thead>
<tr>
<th>Starting Point</th>
<th>Session ID</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>Dev/Test</td>
<td>HBC2577</td>
<td>Hybrid Sandboxing – Create the Ultimate On and Off Premises Test/Dev Factory</td>
</tr>
<tr>
<td>Extend Existing Applications</td>
<td>HBC2066</td>
<td>Architect the Hybrid Cloud for Exchange and Lync</td>
</tr>
<tr>
<td>Disaster Recovery</td>
<td>HBC 1534</td>
<td>Recovery as a Service (RaaS) with vCloud Hybrid Service</td>
</tr>
<tr>
<td>Modernize Enterprise Applications</td>
<td>HBC 2609</td>
<td>Smells Like Team Spirit: Achieve Hybrid Operations Nirvana with vCloud Hybrid Service</td>
</tr>
<tr>
<td>Create Next Generation Applications</td>
<td>HBC 1917</td>
<td>Build Your First Mobile Application...In the Cloud...In 60 minutes</td>
</tr>
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</table>
## Hybrid Cloud Hands on Labs

Check out the Expert Led and Self Paced vCloud Air Hands on Labs

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<th>Session ID</th>
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<tr>
<td>HOL: Expert-Led Workshop ELW-HBD-1481</td>
<td>Hybrid Cloud Jumpstart Workshop</td>
</tr>
<tr>
<td>HOL: Expert-Led Workshop ELW-HBD-1484</td>
<td>Disaster Recovery to the Cloud Workshop</td>
</tr>
<tr>
<td>HOL: Self Paced Lab SPL-HBD-1481</td>
<td>vCloud Hybrid Service - Jump Start for vSphere Admins</td>
</tr>
<tr>
<td>HOL: Self Paced Lab SPL-HBD-1482</td>
<td>vCloud Hybrid Service - Networking &amp; Security</td>
</tr>
<tr>
<td>HOL: Self Paced Lab SPL-HBD-1483</td>
<td>vCloud Hybrid Service - Manage Your Cloud</td>
</tr>
<tr>
<td>HOL: Self Paced Lab SPL-HBD-1484</td>
<td>Disaster Recover to the Cloud</td>
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Learn the fundamentals on vCloud Air by attending any or all of our 5 Starting Point breakout sessions within the Hybrid Cloud Track as well as our Hands on Labs.

Try any of these HOLs and earn a free vCloud Air “Dilbert” t-shirt.
Hybrid Cloud Theater Schedule - VMware Booth (Solutions Exchange)

In addition to the breakout sessions within the Hybrid Cloud track, check out our THEATER schedule for the week from the VMware booth at the Solutions Exchange

Sunday  5:00pm - What is this Hybrid Cloud Thing Anyway?

Monday 12:15pm - Getting Started with Hybrid Cloud - 5 Use Cases
Monday 1:30pm - vCloud Air OnDemand
Monday 3:45pm - What is this Hybrid Cloud Thing, Anyway?
Monday 5:30pm - Hybrid Cloud DevOps: How to keep your Devs from Running Wild

Tuesday 12:15pm - Project NEE - Delivering Hands-on Education at Cloud Scale
Tuesday 1:00pm - vCloud Air Network
Tuesday 2:45pm - Disaster Recovery with vCloud Air
Tuesday 4:00pm - Getting Started with Hybrid Cloud - 5 Use Cases
Tuesday 5:30pm - Hybrid Management on vCloud Air

Wednesday 10:15am - vCloud Air OnDemand
Wednesday 12:45pm - The Internet of Things: Virtual Machines, vCloud Air, vCenter Operations and the Intel IoT Gateway
Wednesday 2:15pm - Disaster Recovery with vCloud Air
Wednesday 3:30pm - Another Day in Paradise....Going Full Hybrid with vCloud Air
Wednesday 4:30pm - RAD in the Hybrid Cloud
Thank You
Fill out a survey

Every completed survey is entered into a drawing for a $25 VMware company store gift certificate
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