VMware’s Journey to the Cloud: The Transition to the Software Defined Data Center

August 2013
VMware IT SDDC Scope and Objective

Goal: Transition all Dev/Test environments to IT Software Defined Data Center by leveraging the Cloud Automation Platform

- Phase 1 Scope: Transition all Dev/Test environments to internal OneCloud
  1. Leverage vCloud Automation and Management Platform to drive end-to-end provisioning, including QA verifications – goal is 24 hours
  2. Automate provisioning of all SDLC project Dev/Test instances
  3. Migrate all non-SDLC Dev/Test instances to OneCloud
  4. Develop new IT SDDC processes – Change, Incident/Problem, Patch, Support, SLA, etc.
  5. Decommission all physical and virtual Dev/Test instances after migration
  6. Depreciate or re-purpose all decommissioned infrastructure assets
  7. Develop IT business model for SDDC, including financial cost and metrics
Phase 2 Scope: All Prod environments to OneCloud

1. Migrate all Prod onto OneCloud and leverage vCloud Hybrid Service stack with vCloud Automation and Management Platform
2. Include software-defined networking
3. Ensure OneCloud available capacity for 2014 for all of IT Prod
VMware IT SDDC Business Justification

- **Business need**
  - Acquire and demonstrate real-world experience in a live Software Defined Data Center

- **Solution**
  - Create an internally deployed Software Defined Data Center by migrating all IT infrastructure to VMware’s internal OneCloud
IT SDDC Journey at VMware

**Conceptualize**
- POC
- Cloud Automation Platform Foundation
- 3 Simple Apps
- 20+ VM’s
- “vFred”

**Self-Managing Cloud Platform**

**Mature**
- Cloud Automation Platform
- 30+ Apps
- 120+ VM’s
- Dev / Test
- “vFred/IT Corp Cloud”

**Self-Managing Cloud Platform**

**Optimize**
- Cloud Automation & Management
- Policy based provisioning
- Storage Mgmt.
- Security Mgmt.
- VM Identity Mgmt.
- 50+ Apps
- 1500+ VM’s
- All Non-prod Environments
- One Cloud

**Self-Managing Datacenter**

**Optimize**
- Cloud Automation Scaling/Upgrades
- Policy based provisioning
- Storage & Network Mgmt. & Security Mgmt.
- 70+ Apps
- 2000+ VM’s
- All Non-prod & Prod Environments
- One Cloud / VPC

**Optimized**
- Cloud Automation Scaling/Upgrades
- Cloud Storage & Network Mgmt. & Scaling
- Cloud Security Mgmt.
- Cloud Performance Mgmt.
- Usage & Charge-back
- Analytic and Correlations
- 80+ Apps
- 2000+ VM’s
- All Non-prod & Production Environments
- One Cloud / VPC

**Done**
- Service Catalog
- Performance Management
- Monitoring
- Provisioning/Scaling/Upgrade Automation
- Management
- Cloud Security
- Cloud Network Virtualization
- Cloud Storage Virtualization
- Self-Managing Cloud Platform

**In-progress**
- Cloud Automation
- Policy based provisioning
- Storage Mgmt.
- Security Mgmt.
- VM Identity Mgmt.
- 50+ Apps
- 1500+ VM’s
- All Non-prod Environments
- One Cloud

**Data Collection**
- Strategy Complete & Deploy DCIM and Other Tools
- Strategy Execution & Review

**Service Catalog**
- Big Data Operational and Biz Analytic and Correlations
- Performance Management

**Monitoring**
- Provisioning/Scaling/Upgrade Automation
- Management
- Cloud Security
- Cloud Network Virtualization
- Cloud Storage Virtualization
- Cloud Virtual Infrastructure

**Cloud Virtual Infrastructure**
- Self-Managing Cloud Platform
- Self-Managing Datacenter

**Cloud Platform Foundation**
- Data Collection
- Strategy Complete & Deploy DCIM and Other Tools
- Strategy Execution & Review

**Provisioning Automation**
- Management
- Cloud Virtual Infrastructure

**Self-Managing Cloud Platform**
- Monitoring
- Provisioning/Scaling/Upgrade Automation
- Cloud Security
- Cloud Storage Virtualization
- Cloud Virtual Infrastructure

**In-progress**
- Data Collection
- Strategy Complete & Deploy DCIM and Other Tools
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**Done**
- Service Catalog
- Performance Management
- Monitoring
- Provisioning/Scaling/Upgrade Automation
- Management
- Cloud Security
- Cloud Network Virtualization
- Cloud Storage Virtualization
- Cloud Virtual Infrastructure

**Self-Managing, Capacity On-demand Software Defined Datacenter**
IT SDDC vCAaMP – Release 1

VM Provisioning
- Create & configure VM
- Configure networking
- Configure storage

Wait Time
- Tickets and routing
- Approvals
- Queue time

Application Provisioning
- Install and configure Apps, DB, web
- IP address mgmt.
- Load balancing

- ~80% reduction in average provisioning time!
- Reduced costs by ~TBD%
- Predictable Development and Test environments provisioned
- Future environments provisioning planned on OneCloud
- Standards and best practices
- Operationalization in progress
VMware OneCloud Multitenant Core

SuperCore – Mgmt. Stack
- ESX
- ESX
- ESX
- vCD
- vCD
- vSM
- vCenter

Multitenant Core vCloud
- Core 1 – Mgmt. Stack vApp
  - vCenter
  - vCD
  - vCD
  - vSM
- Core 2 – Mgmt. Stack vApp
  - vCenter
  - vCD
  - vCD
  - vSM

Core 1
- Tenant Org 1
- Tenant Org 2
- Tenant Org 3

Core 2
- Tenant Org 4
- Tenant Org 5
- Tenant Org 6
Benefits

- Realize all benefits of a Software Defined Data Center – Increased agility, improved IT efficiency, improved reliability, and freedom to focus more on end users, applications, and IT innovation
- Blueprint repeatable, defined processes for migrating to and operating in the SDDC
- Slash provisioning times from an average of 6-8 weeks to a few days
- Eliminate IT’s CAPEX costs by moving the infrastructure to OneCloud
- Reduce IT’s OPEX costs through greater efficiency and agility
For More Information

Please contact:
Sunyo Suhaimi, IT Cloud Transformation Program Director
ssuhaimi@vmware.com
The Transition to the Software Defined Data Center

VMware, Inc.
3401 Hillview Ave
Palo Alto, CA 94304

Tel: 1-877-486-9273 or 650-427-5000
Fax: 650-427-5001