Optimizing ITSM for Cloud Computing

Reginald Lo  
Director, Accelerate Service Management, VMware  
rllo@vmware.com

Session Description

Organizations are launching their private clouds, consuming public clouds, and developing hybrid cloud strategies. In this era of cloud computing, IT needs to transform itself to deliver the agility the business demands and the continuous delivery required by DevOps. This session describes the organizational capabilities adopted by organizations with mature cloud computing programs, explaining how organizations can transform from a project-oriented approach to a service-oriented approach and how ITSM processes can be optimized for cloud computing. Attendees will discover what they need to deliver internal cloud services and become a service broker for external cloud services.  
(Experience Level: Intermediate)

Speaker Background

Reginald Lo is a certified ITIL expert and the director of Accelerate Service Management at VMware. He has helped hundreds of organizations adopt ITSM best practices. Reg was a reviewer for the ITIL 2011 edition and for TIPA, an open framework for assessing ITIL and ISO/IEC 20000 maturity.
Optimizing ITSM for Cloud Computing

Reg Lo
Director, Accelerate Advisory Services
rlo@vmware.com

Agenda

• Introductions
• Why do we need to Optimize ITSM for Cloud Computing?
• Service Strategy & Design
• Service Transition
• Service Operations
• Continual Service Improvement
• Best Practices for Organizing for the Cloud
• Questions & Answers
Introductions

Reg Lo
- Director of Accelerate Advisory services at VMware
- ITIL Expert
- Reviewer for the ITIL 2011 books
- Member of the EDUCAUSE Service Catalog working group
- Helped hundreds of organizations with their ITSM journey

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The Cloud Computing Vision is Characterized by ... 

- Self-Service Service Catalog
- Standardized Services
- Self-Service Management
- Proactive Operations
- Health
- Risk
- Efficiency
- Elastic Capacity
- Pay as You Go

Why do we need to optimize ITSM for the Cloud?

- Are your ITSM processes agile enough for the Cloud?
- Can your ITSM processes handle a fluid and dynamic environment?
- Are your ITSM processes designed to support high-levels of automation and orchestration?
- Do your ITSM processes have an “on-prem” assumption?
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Service Portfolio / Service Catalog
Defining End-to-End Services

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Service Offerings</th>
<th>End-to-End Includes</th>
</tr>
</thead>
</table>
| IaaS            | Windows           | • Network (Firewalls, Load Balancers, ACLs)  
|                 | Linux             | • Architected for Availability and Continuity  
|                 |                   | • Monitoring |
| PaaS            | DBaaS             | • ACLs  
|                 |                   | • Schema |
|                 | Cloud-Native-PaaS | • Monitoring  
|                 |                   | • Logging |
|                 | Environment-as-a-Service | • Integration with DevOps |
| "X"aaS          | Desktop-as-a-Service (DaaS) | • Designed for specific use cases |
Today’s Vicious Circle of Demand and Capacity

Lack of Agility Creates Dysfunction

• Historically, time-to-provision was slow
• App Dev over provisions because
  – Vendor wants to avoid performance issues
  – App Dev wants to avoid lead time to provision additional capacity
• Over provisioning results in idle infrastructure
• Organization bears the cost

Added Controls Slow IT Down More

• Approval gates are added to reduce over provisioning
• Architecture reviews are added because each environment is custom, versus being built with standard services

A New Way of Running IT: Streamlining Demand and Capacity Management

Project Portfolio Management

Review and approve Infrastructure budget of project as part of the PPM process

Cloud Provisioning Process

App Dev can provision standard services without approval as long as it does not exceed approved budget

Use Cloud Management tools to identify over-provisioned servers

Optimize work loads based on real-world data

Leverage the benefits of elastic capacity
IT Financial Management

• More steps in the path to maturity
  
  - Show-back
  - Charge-back
  - Unit Cost Transparency

• Cost optimization across clouds isn’t easy

Private

$/VM

Reserved vs On-Demand Costs

Hybrid

Public

$/CPU Hour

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Optimizing Change Management

If automation reduces risks, do we still need the same Change Management oversight?

Standard changes
- Provisioning
- Expanding capacity
- Automated availability and performance actions
- Installing physical infrastructure

Normal Changes
- Launch a new “X”aaS service or new capability
- Upgrading cloud management tools

Re-thinking Configuration Management

How do you discovery CIs in the Public Cloud?

Is periodic discovery not frequent enough for the Software Defined Data Center?

Is it worthwhile tracking capacity bursts?
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Choosing a Request Portal

- Are the requestor of cloud services different to the requesters of end user computing services?
- Can the portal handle day 2 self-service cloud management activities?
Service Broker Model
*Agility via automating delivery of personalized services*

- Abstraction to “Model once–deploy anywhere”

Personalize Services through
- Business Policies
- Machine Policies
- Application Policies
- Reservation Policies

Incident & Problem Management

<table>
<thead>
<tr>
<th>Cloud Operations Management Tools</th>
<th>Less Incidents manually entered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater resiliency</td>
<td>Less Incidents</td>
</tr>
<tr>
<td>Automation and simplification</td>
<td>Shift-left to less expensive resources</td>
</tr>
<tr>
<td>Problem Management</td>
<td>Inputs into service design</td>
</tr>
</tbody>
</table>
Automating Event Management

**Event**
- Hardware failure
- Malware detected
- High CPU utilization

**Automated Response**

- **Automatically activate VM on alternative infrastructure** → **Automatically create Incident ticket in ITSM tool**

- **Isolate VM using network virtualization** → **Activate VM based on last good copy** → **Automatically create Incident ticket in ITSM tool** → **Conduct forensics on infected VM**

- **Check policy for number of VMs, activate another VM to burst capacity** → **Automatically create Incident ticket in ITSM tool** → **Investigate cause of high CPU utilization**

Emphasis Shifting to Earlier in the Service Lifecycle

- **Strategy**
- **Continual Improvement**
- **Design**
- **Operations**
- **Transition**

- **Management & Automation**

**Any IT Service on Demand**

**Unprecedented Service Quality**

**Policy-Based Management**

**Extensibility & Integration**
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New Cloud Functions
New Operating Model for the Cloud

New Cloud Roles
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Thank you for attending this session.

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