Driving Solutions: Best Practices for Cloud Automation & Integration

Accelerating Your Success™
“Today, there is a six (6) week SLA for VM provisioning – it's easy to provision a VM, the other elements change – storage, network and other infrastructure components – still take the same ole’ effort”

- Cameron Haight, Gartner
What vendors are you dealing with?
• Lots of conflicting messages from vendors about cloud
  – Every vendor has their own “stack” of cloud products
  – Which one is best for me?
  – Public, Private or Hybrid Cloud?

What about all the existing investments in operations over the last few years?

How do I manage my cloud?

How do I build a private cloud?

What services should we offer?
The Approach

Automate everything you can in the data center
### Automate Tasks

- Replace routine manual tasks
- Free up resources for new projects

### Automate IT Processes

- Standardize on best practices
- Increase IT agility and quality
- Define the services

### Automate Service Delivery

- Automate provisioning and private cloud
- Cut service delivery time from months to hours

... in Three Steps
Areas to focus on for highest ROI:

- Automated script execution
- Element provisioning
- Patch management
- Password resets
- Problem resolution
- Compliance reporting
- Configuration management

Results:

- Server-to-Admin ratio increased from 30-to-1 to 200-to-1
- Time to roll out new desktop functionality reduced from 10 months to 8 days
- Time to update server configurations decreased from 2 weeks to 15 minutes
Automate IT Processes
Combine Multiple Tasks to Automate Workflows

Areas to focus on for highest ROI:

- Application release management automation
- Infrastructure / application provisioning
- New employee onboarding
- Change management
- Disaster recovery

Results

- Reducing time to repair from 2-3 hours to seconds
- 80% improvement in application deployment time
- Saved $5M annually by automating 65% of alerts from infrastructure
Areas to focus on for highest ROI:

- Self service consumption of business and IT services
- Service Catalog and self service portal
- Cost management with chargeback / show back based upon consumption

Results

- Service Delivery time reduced from five months to two hours
- 40% reduction in TCO for maintenance and support
- New revenue sources enabled
Maturing Capabilities for Cloud

Automation
- Patching, Provisioning & Auditing
- Configuration Management
- Virtualization Enablement & Management

Service Management
- Discovery
- Service Desk
- Service Catalog
- CMDB

Infrastructure Management
- Service and Application Management and Monitoring

CLOUD
- Public
- Private
- Hybrid
Build in the Cloud

1. Select:
   - Resources
   - Components
   - Service level

2. Validate:
   - Resources
   - Rules
   - Services

3. Build:
   - Infrastructure
   - Software
   - Configuration

4. Discovery & Asset Mgmt.

5. Populate configuration data

6. Apply service templates for monitor

7. Deliver managed solution

Fully integrated code set & automated installation tasks with minimal configuration
Change in the Cloud

1. Request Change:
   - Resources
   - Components
   - Service level

2. Validate Change:
   - Rules
   - Permissions
   - Approvals

3. Execute Change:
   - Infrastructure
   - Software
   - Configuration

4. Update service Discovery and Asst Mgmt.

5. Update configuration data

6. Update service templates for monitor

7. Document Change

8. Complete Request

Fully integrated code set & automated installation tasks with minimal configuration
Manage in the Cloud

Event Trigger:
- Rule Trigger
- Error Condition
- Manual

Match Event to Policy:
- CLIP
- OO Flow
- Manual

Validate Change:
- Rules
- Permissions
- Approvals

Execute Change:
- Infrastructure
- Software
- Configuration

Complete Request

Document Change

Update service templates for monitor

Update CI data into CMDB

Update service Discovery and Asset Mgmt.

Fully integrated code set & automated installation tasks with minimal configuration
Let’s Take a Look

Cloud Use Cases
Automated Processes
- Opens change ticket and obtains appropriate approvals
- Provisions storage
- Creates virtual machine
- Deploys OS and applications
- Configures VLAN
- Configures application
- Updates and closes ticket
- Updates CMDB

Proven Customer Success
Provision and configure 600 Windows servers

| 3-4 months | 2 weeks | 85% improvement |
Add Capacity by Bursting to Amazon EC2

Automated Processes

- Automate entire end-to-end processes for provisioning, managing and troubleshooting cloud resources
- Workflows may be launched directly from change requests, triggered by specific events or invoked on-demand
- Scale in and out virtual infrastructure for optimal cloud resource consumption and power utilization
Avnet End to End Automation
Foundation for Private Cloud

User Request Service via Portal / Catalog
(HP, BMC, VMware, Cisco, Adaptive Computing, CA, Custom)

User has access to Virtual Machine

Orchestration

Change Ticket Opened
(HP, BMC, CA, Service Now)

Provision VM
(VMware, Citrix, Microsoft, OpenStack)

Provision Storage
(HP, NetApp, EMC)

Monitoring
(HP, BMC, MS, IBM, CA)

Network Automation

Server Automation
- Mount Storage
- Install Baseline Patches
- Install Monitoring/Backup/Security
  - Install Apps
  - Install DB/Middleware

Update CMDB

Close Ticket & Notify User
# The Reality of Private Cloud

<table>
<thead>
<tr>
<th>Cloud / Burst Service</th>
<th>Federally</th>
<th>Service Provider</th>
<th>Enterprise</th>
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<td>MOAB</td>
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<td>Remedy</td>
<td>HP CSA</td>
<td>HP SMv7</td>
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<td>Remedy</td>
<td>HP CSA</td>
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<td>BMC</td>
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<td>HP</td>
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<td>HP</td>
<td>HP</td>
<td>Cisco/HP</td>
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<td>Server Infrastructure</td>
<td>Cisco UCS, HP Blade</td>
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<td>Storage Management / Automation</td>
<td>Compellent</td>
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<td>NetApp</td>
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<td>Storage Infrastructure</td>
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<td>Juniper</td>
<td>HP 3COM</td>
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<td>IP Address Management</td>
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<td>Billing / Chargeback</td>
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“Automation is essential to cloud delivery”
Leverage our Expertise

Put Avnet Services to work!
Who is Avnet Services?

- Investments in **12 acquisitions** in ~2 years
- **2,000+ specialists** in service delivery, globally
- **1.2M sq. ft.** of operations space around the world
Avnet Services Capabilities

- Business Solutions
  - Portals and Collaboration
  - Commerce
  - Mobility
  - Social Media
  - Business Process Management
  - Digital Experience Design
  - Data Mining & Analytics

- IT Solutions
  - Project & Portfolio Management
  - Integration & Automation
  - Application Lifecycle Management
  - Security & Configuration Management
  - IT Governance & Process (ITIL)
  - Operations Management
  - Service Automation & Management

- Lifecycle Solutions
  - Call Center
  - Field Installation & Maintenance
  - Spare Parts Logistics
  - Depot Repair
  - ITAD Services
  - End-of-Life & Recycling Options

- Education Solutions
  - Vendor Accredited Training
  - Industry Training
  - Custom Training
  - Curriculum Development
  - Vendor Certification

- Managed Services

- Cloud Services
  - Mobility
  - Social Media

Accelerating Your Success

Avnet
Technology Solutions
## Service Capabilities & Solutions

<table>
<thead>
<tr>
<th>Design</th>
<th>Deploy</th>
<th>Train</th>
<th>Support</th>
<th>Manage</th>
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<tbody>
<tr>
<td>Demos &amp; POCs</td>
<td>Installation &amp; configuration</td>
<td>Documentation</td>
<td>Documentation</td>
<td>Product administration</td>
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<td>Assessments &amp; health checks</td>
<td>Integration to existing systems</td>
<td>Partner Training</td>
<td>Operational content</td>
<td>Remote Application Testing</td>
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<tr>
<td>Architecture development</td>
<td>Customizations</td>
<td>Product Training</td>
<td>and content updates</td>
<td>Managed Administration</td>
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<td>Proposal &amp; RFP support</td>
<td>Data migration &amp; integration</td>
<td>(packaged &amp; custom)</td>
<td>HP certified level 1 &amp; 2</td>
<td>(ExpertAdmin)</td>
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<td>Requirements gathering</td>
<td>Testing &amp; validation</td>
<td>Avnet University</td>
<td>product support</td>
<td>Managed Performance Testing</td>
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<td>Value-Add Products</td>
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<td>HP Product Support</td>
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<td>On-demand consulting (Flex-Paks)</td>
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How We Can Help

CLOUD

- IaaS private cloud, asset reuse
- PaaS, Private cloud, asset reuse
- Management and Orchestration of converged hardware

END TO END APPLICATION LIFECYCLE

- Discovery and Virtualization of applications
- Operations Management Strategy Assessment/Single Pane of Glass

OPERATIONS IMPROVEMENT

- Operations Automation - Incident/Change (CLIP) or Provisioning Automation
- Configuration Management Process Integration / CMDB design

STRATEGY

- Maturity and Capability Assessment
- Cloud Solution Design
- Cloud Service Definition Workshop
- Blue prints & Roadmap
- Day 2 Consulting adoption management

ITIL ACCELERATORS

- Event Integration
- Data Integration
- Process Integration
- Cloud Map Integration
• **HP Software**: CSA Portal, OO, SA, SiteScope, uCMDB, Service Manager

• **Third Party Software**: BMC Remedy and Atrium, Vmware vCloud Director and vCenter, Adaptive MOAB Suite

• **Five (5) use cases / scenarios on-demand**
  – Self-provision a LAMP stack on a DB and app server
  – Self-provision a Windows server using ITIL best practices (SM and uCMDB)
  – Self-provision and monitor a Linux server(SiteScope and uCMDB)
  – Self-provision a PaaS (Oracle/JBoss) stack (CSA and DMA)
  – Closed Loop Incident Processing (CLIP)

• Nearly **1,000 OO workflows** to demonstrate IT automation

• VMware / CSA integrations
  – vCD / OO
  – vCO / OO
“Customers that reported successful automation implementations shared a consistent tip – Just Get Started!”

Source: Dimensional Research: Real-Life Benefits of IT Automation
• Setup a virtual workshop to review your most common requests that are giving you the largest challenges
• Avnet will inventory your current tools and processes
• Avnet will provide insight into the anticipated savings and define the next steps
• Simply contact us to get started

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