Practical Guide to Cloud Management Platforms


Webinar July 26, 2017
## Speakers

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Details</th>
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<tbody>
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<td>Mike Edwards</td>
<td>Mike Edwards&lt;br&gt;Cloud Computing Standards expert&lt;br&gt;Bluemix PaaS Evangelist at IBM</td>
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<tr>
<td>Karl Scott</td>
<td>Executive Consultant&lt;br&gt;IT transformation, cloud, security&lt;br&gt;Satori Consulting</td>
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The Cloud Standards Customer Council

**THE Customer’s Voice for Cloud Standards!**

- Provide customer-led guidance to multiple cloud standards-defining bodies
- Establishing criteria for open standards based cloud computing

### 2017 Projects
- PG to Cloud Management Platforms
- Hybrid Integration Ref. Architecture
- API Management Ref. Architecture
- Security for Cloud Services Ref. Architecture
- Data Residency discussion paper
- Blockchain Ref. Architecture
- Cognitive Computing Ref. Architecture
- And more!

### 2015 Deliverables
- Web App Hosting Ref. Architecture
- Mobile Ref. Architecture
- Big Data & Analytics Ref. Architecture
- Security for Cloud Computing, V2
- Practical Guide to Cloud SLAs, V2
- Practical Guide to PaaS

### 2013/2014 Deliverables
- Convergence of Social, Mobile, Cloud
- Analysis of Public Cloud SLAs
- Cloud Security Standards
- Migrating Apps to Public Cloud Services
- Social Business in the Cloud
- Deploying Big Data in the Cloud
- Practical Guide to Cloud Computing, V2
- Migrating Apps: Performance Rqmnts
- Cloud Interoperability/Portability

### 2016 Deliverables
- Prac Guide to Hybrid Cloud Computing
- Public Cloud Service Agreements, V2
- Cloud Security Standards, V2
- IoT Ref. Architecture
- e-Commerce Ref. Architecture
- Impact of Cloud Computing on Healthcare, V2
- Enterprise Social Collaboration Ref. Architecture

### 2017 Projects
- PG to Cloud Management Platforms
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Defining Cloud Management Platforms

**Functionality**
- Access and authorization management
- **Resource management** across environments
- **Financial management** relating to subscribed cloud services
- **Service catalogs** to support self-service provisioning or resource approvals
- **Cloud brokerage** – rules-based guidance for asset placement decisions
- **Integration** with the relevant target cloud environments & enterprise systems

**Integration Points**
- Service delivery systems
- Identity and access management
- ERP and financial systems
- Automation Tools
- Infrastructure monitoring
- **Business process rules systems or other business systems**

*CMPs incorporate self-service interfaces, provision system images, enable metering and billing, and provide for some degree of workload optimization through established policies* *

*Gartner IT Glossary – Cloud Management Platforms*
Challenges

- **Governance** – hybrid cloud increases the challenge to effectively maintain visibility of cloud resources, to manage spend (including chargebacks), and to ensure quality of service.

- **Security and protection of PII and other sensitive information** – security and protection of personally identifiable information (PII) and other company confidential information are challenging when applications and data are spread across multiple cloud services.

- **Compliance** – maintaining compliance with internal security policies, industry mandates, standards and regulations becomes more challenging with hybrid cloud environments.

- **Performance** – hybrid cloud environments can introduce latency and impact the performance of applications and services.
Functions of a Cloud Management Platform

- **User Portal**
- **Admin Portal**
- **Service Catalog**
- **Analytics & Reporting**

**General Services**

**Governance**

- **Service Level Mgmt**
- **Service Monitoring**
- **Capacity Management**

**Service Management**

- **Metering**
- **Cost Allocation**
- **Chargeback**
- **Invoicing**
- **Forecasting**

**Financial Management**

- **Tagging**
- **Provisioning**
- **Orchestration**
- **Migration**

**Resource Management**

**Integration**

- **On-premises Private Cloud**
- **CSP Hosted Private Cloud**
- **CSP1**
- **CSP2**
- **CSP3**

**Hybrid Cloud**

- **Incident Management**
- **Configuration Management**
- **Event Monitoring**
- **Asset Management**
- **Financial Management**
- **Service Level Management**
- **Enterprise Management**
Functions of a Cloud Management Platform

Integration
- CMPs must integrate with internal & external systems
- CMPs must support published APIs and provide for customization
- Key area of integration include:
  - On-premises private cloud
  - CSP hosted private cloud
  - Public cloud service
  - Enterprise management
Functions of a Cloud Management Platform

General Services
- **Portal**: central point of access for CMP functions and enable self-service
- **Service Catalog**: presents available cloud services spanning all target cloud environments
- **Analytics & Reporting**: insight into the use of cloud services
Functions of a Cloud Management Platform

- **Service Management**
  - CMP *service level management* ensuring availability & performance service levels
  - CMP *monitoring and reporting* for all managed cloud services
  - CMP *capacity monitoring* of resources to ensure appropriate decisions are made when evaluating workload placement
Financial Management
- Automating cloud resource consumption tracking and spend is critical
- Real-time analysis & reporting along with predictive analytics to contain costs
- Financial capabilities include:
  - Metering
  - Cost allocation
  - Chargeback/Showback
  - Invoicing
  - Forecasting
Functions of a Cloud Management Platform

**Resource Management**
- CMP provide visibility to cloud virtual resources & deliver services on-demand when needed
- Resource management capabilities include:
  - Discovery
  - Tagging
  - Provisioning/De-provisioning
  - Orchestration
  - Cloud-to-cloud migration
  - Asset & license management
Functions of a Cloud Management Platform

Governance
- Hybrid cloud services must be managed in accordance with organization policies
- Governance capabilities include:
  - Policy based management
  - Compliance
Functions of a Cloud Management Platform

Security
- Hybrid cloud services managed in accordance with organization policies
- CMP manages use of **encryption** in target cloud services
- **Role based access control** is essential for CMP platforms
  - Entitlements defined for all roles - end users, cloud admins, developers & managers
### Evaluation Criteria: Technology & Architecture

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<tr>
<th>Criteria</th>
<th>Considerations</th>
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<td>CSP &amp; Cloud Infrastructure</td>
<td>- Single pane of glass view of all cloud services &amp; cloud workloads&lt;br&gt;- Integration and abstraction for each public, private, or hybrid cloud service&lt;br&gt;- Support for industry standards helps ensure continued interoperability</td>
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<td>Agent vs. Agentless Architecture</td>
<td>- Additional management features supported on agent based instances&lt;br&gt;- Customers must understand deployment requirements &amp; functional implications to new and existing cloud services</td>
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<td>Available Cloud Ecosystem Tool</td>
<td>- Built-in integrations with existing IT service management tools important for end-to-end interoperable solutions&lt;br&gt;- Lack of built-in tool integrations may require development of these interfaces with added cost and risk</td>
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<td>API Robustness</td>
<td>- APIs should support a wide range of tasks including cloud instance management, security &amp; user admin, logging and reporting, workflow automation and integration with other tools</td>
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<td>Security Design</td>
<td>- Engage with the information security or risk assessment team&lt;br&gt;- Understand how candidate CMP vendors approach security in the development of their offerings</td>
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## Evaluation Criteria: Operational

<table>
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<tr>
<td><strong>CMP Hosting Environment Requirements</strong></td>
<td>▪ Choice impacts TCO, skill requirements, network connectivity profile and ability to directly control cloud infrastructure</td>
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<td><strong>Operations &amp; Service Management Capabilities</strong></td>
<td>▪ Support for self-service provisioning and delegated operational &amp; cost control for tenant resources</td>
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<td><strong>CMP Administrative Capabilities</strong></td>
<td>▪ Security management, operational visibility, automation control, operational metrics &amp; reporting, tenant resource quota assignments, governance control</td>
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<tr>
<td><strong>Automation, Workflow &amp; Provisioning Orchestration</strong></td>
<td>▪ Facilitate automation, orchestration of application provisioning and execution of scripts, notifications when pre-configured events triggered</td>
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<td><strong>Consumption &amp; Chargeback Support</strong></td>
<td>▪ Monitor real-time resource consumption and provide cost modeling and metrics to support billing</td>
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| **Infrastructure Optimization**              | ▪ View/optimize cloud resource or cost footprint  
▪ Support cross-cloud migrations when pursuing optimization strategy                                                                       |
| **Product Support & Patch/Release Cycles**   | ▪ Understand vendor patch release cycles & frequency of releases  
▪ Impact of SaaS CMP offerings less than on-prem CMP deployments                                                                              |
## Evaluation Criteria: Business & Acquisition

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| **Total Cost of Ownership**                  | ▪ Calculate initial acquisition & recurring operations costs  
 ▪ Include additional required integration costs  
 ▪ Exit strategies from the CMP solution should also be considered |
| **Product Licensing / Service Subscription Model** | ▪ Open source and licensed products for on-prem and SaaS will differ  
 ▪ T&C of product support, licensing agreements and SLAs should be carefully scrutinized |
| **Vendor Financial Stability**               | ▪ CMP market evolving - vendor consolidation, acquisitions and marketplace instability likely to be experienced  
 ▪ Switching CMP platforms likely to be costly |
| **Availability & Comprehensiveness of Product Training and Professional Services Offerings** | ▪ Important in the product selection phase  
 ▪ Wise investments in each category can often save considerable configuration and deployment time |
## Deployment Considerations

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Considerations</th>
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| Establish Partnerships              | - Project success is a team effort: vendors along with tenant and user communities  
- Partnerships for deployment must extend into the enterprise itself  
- Form the team and establish a common vision and goals |
| Set Reasonable Objectives           | - CMP deployment progresses in phases  
- Define use cases focused on business priorities  
- Work on incrementally accomplishing priorities with partners  
- Establish change management for phased additions to CMP solution |
| Understand Role & Impact of CMP within Cloud Ecosystem | - Integrate with other tools in the infrastructure that supports service management, DevOps, configuration management and financial management  
- SaaS or on-prem deployment solution may impact existing connectivity and service level commitments |
| Identify Risks & Opportunities Early | - Monitor deployment & operations risks and improvement opportunities  
- Leverage lessons learned, contain cost overruns, and modify plans when needed  
- Understand alternatives when assumptions and outcomes change |
## Cloud Management Platform Landscape

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Offerings</th>
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<td>BMC</td>
<td>Control-M</td>
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<td></td>
<td>Cloud Lifecycle Management</td>
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<td></td>
<td>Cloud Operations Management</td>
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<tr>
<td>Cisco</td>
<td>CloudCenter</td>
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<td>CloudBolt Software</td>
<td>CloudBolt</td>
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<td>Cloudify</td>
<td>Cloudify Platform</td>
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<td>DivvyCloud</td>
<td>BotFactory</td>
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<td>Embotics</td>
<td>vCommander</td>
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<td>HP</td>
<td>Cloud Service Automation</td>
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<td>IBM</td>
<td>Cloud Orchestrator</td>
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<td>Cloud Automation Manager</td>
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<td>Cloud Brokerage</td>
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<td>Infosys</td>
<td>Cloud Ecosystem Hub</td>
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<td>Morpheus</td>
<td>Morpheus</td>
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<td>Red Hat</td>
<td>CloudForms</td>
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<td>RightScale</td>
<td>Cloud Management Platform</td>
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<td>Optima</td>
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<td>Scalr</td>
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<td>Servicenow</td>
<td>Now Platform</td>
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<td>T Systems</td>
<td>Cloud Integration Center</td>
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<td>VMWare</td>
<td>vRealize Suite</td>
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Call to Action

▪ **Join the CSCC Now!**
  – To have an impact on customer use case based standards requirements
  – To learn about all Cloud Standards within one organization
  – To help define the CSCC’s future roadmap
  – Membership is free & easy: [http://www.cloud-council.org/become-a-member](http://www.cloud-council.org/become-a-member)

▪ **Get Involved!**
  – Join one or more of the CSCC Working Groups
    [http://www.cloud-council.org/workinggroups](http://www.cloud-council.org/workinggroups)

▪ **Leverage CSCC Collateral**
  – Visit [http://www.cloud-council.org/resource-hub](http://www.cloud-council.org/resource-hub)
Additional Resources from the CSCC

- Practical Guide to Hybrid Cloud Computing

- Cloud Customer Architecture for Hybrid Integration
  [http://www.cloud-council.org/deliverables/cloud-customer-architecture-for-hybrid-integration.htm](http://www.cloud-council.org/deliverables/cloud-customer-architecture-for-hybrid-integration.htm)

- Security for Cloud Computing: 10 Steps to Ensure Success v2

- Cloud Security Standards: What to Expect and What to Negotiate v1

- Practical Guide to Cloud Service Agreements v2

- Migrating Applications to Public Cloud Services: Roadmap for Success

- Cloud Customer Architecture for Big Data & Analytics v2

View all papers [www.cloud-council.org/resource-hub](http://www.cloud-council.org/resource-hub) and companion webinars [www.cloud-council.org/events](http://www.cloud-council.org/events)
Thank You!

Join the conversation

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