DMTF Cloud Management WG Charter

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Ver : 1.1g

The information provided below is subject to change and reflects the current state of the Initiative proposal within the DMTF.

Management Problem(s) and Environment

A new computing paradigm is quickly emerging called Cloud Computing. Vendors have embraced the need to provide interoperability between enterprise computing and cloud service providers.

Virtualization technology and the evolution from software packages that can be created and deployed as a collection of virtual images is becoming the primary focus for delivering and managing software solutions into enterprise customers today. As these customers look to also take advantage of cloud computing, extensions are needed to enable interactions between private clouds within enterprises and between private and public cloud providers to exploit this emerging business model.

The Cloud Management WG will focus on addressing the management interfaces between the cloud service consumer / developer and the cloud service provider. The working group will also need to address the security mechanisms required to enable interoperability.

WG Scope & Charter

The CMWG will develop a set of prescriptive specifications that deliver architectural semantics as well as implementation details to achieve interoperable management of clouds between service requestors/developers and providers. This WG will propose a resource model that at minimum captures the key artifacts identified in the Use Cases and Interactions for Managing Clouds document produced by the Open Cloud Incubator.

The starting point of the CMWG work will be the deliverables from the Open Cloud Incubator as well as other initiatives and existing DMTF specifications including the Common Information Model (CIM), Open Virtualization Format (OVF), WBEM Protocols, member submissions and investigation of opportunities for collaboration with other industry standards bodies.

The scope of this activity is focused on mainly cloud resource management aspects of Infrastructure as a Service (IaaS) and will include constraints and policies, SLAs, QoS, etc. along with modeling considerations for managing utilization, provisioning, monitoring/reporting and auditing. The cloud resources being managed include: computing (virtual machines), storage, and network. The primary

focus of this WG will be modeling the management of cloud services and the operations and attributes of the cloud service lifecycle as well as any required protocol mappings. The following specific mappings are chartered for this group:

a. HTTP REST-based protocol mapping spec

b. SOAP-based protocol mapping spec

c. WS-Man based protocol mapping spec with input from the WS-Management WG per the Coordination with other WG Models

The CMWG will also need to work closely with the SVPC Working Group on the evolution of their model as middleware and applications are brought into the composite image, including the aspects of personalization and policy controls for those elements within an OVF package. The CMWG will investigate mappings to DMTF's OVF and SVPC, SNIA's Cloud Data Management Interface (CDMI), TMF's Information Framework (SID) and other infrastructure (server, storage, network) models which may be prevalent in the industry.

It is expected that the CMWG will need to develop new modeling constructs, including federation/model interchange, to aggregate or roll-up the various domain models including compute, network, and storage

Business Justification

This effort will enable new enterprise-to-cloud computing management that will support this emerging market. This initiative would provide benefit to our members on several fronts:

1. Enable the use of cloud computing within enterprises and improve the interoperability between cloud platforms via open cloud resource management standards.
2. Increase awareness and support by management systems vendors that develop products to manage cloud resources
3. Enable cloud service portability.
4. Provide management consistency cross cloud and enterprise platforms.

Expected WG Input

The Open Cloud Incubator has produced the following documents which may be of interest to the CMWG to build on:

1. Use Cases and Interactions for Managing Clouds (whitepaper from the cloud incubator) DSP IS0103
2. Architecture for Managing Clouds (whitepaper from the cloud incubator) DSP IS0102
3. Other notes and white papers as necessary

WG Deliverables

1. Cloud Service Management Models
2. Cloud Management Interface Requirements
3. Cloud Management Interface Specifications on Protocol, Operations, Security & Message:
    a. HTTP REST-based protocol mapping spec
    b. SOAP-based protocol mapping spec
    c. WS-Man based protocol mapping spec
4. Other notes and white papers as necessary

WG Timeline

The CMWG is expected to complete public drafts of the Cloud Service Management Model and one or more Cloud Management Interface Specifications during 2011 and finalized within 2012.

Alliance Partnerships

1. Cloud Security Alliance
2. Open Grid Forum
3. Storage Networking Industry Association
4. TeleManagement Forum
5. Others – TBD

Reliance/Coordination with other WGs

1. The Systems Virtualization, Partitioning, and Clustering Working Group including all profiles and the OVF specification. Coordination with DMTF marketing committee on various messaging opportunities.
2. Infrastructure Subcommittee
3. Security Working Group
4. WS-Man Working Group
5. Others TBD