

# ***Open Cloud Computing Interface (OCCI) WG Charter***

**Date:** 25 March 2009

**Group abbreviation:** occi-wg

**Group name:** Open Cloud Computing Interface (OCCI) - Working Group

**Area:** Infrastructure

## **Leadership:**

Chair:	Thijs Metsch (Industry)	Sun Microsystems	thijs.metsch@sun.com
Co-chair:	Ignacio M. Llorente (Academia)	Complutense University of Madrid	llorente@dacya.ucm.es
Co-chair:	Alexis Richardson (Consumers)	Rabbit Technologies and CohesiveFT	alexis.richardson@gmail.com
Secretary:	Sam Johnston	Australian Online Solutions	samj@samj.net

## **Mission statement:**

The purpose of this group is the creation of a practical solution to interface with Cloud infrastructures exposed as a service (IaaS). We will focus on a solution which covers the provisioning, monitoring and definition of Cloud Infrastructure services. The group should create this API in an agile way as we can have advantages over other groups if we deliver fast. Overlapping work and efforts will be contributed and synchronized with other groups.

## **Group Chairing:**

The group will be chaired by three parties, representing industry, academia and consumers.

## **Group summary:**

Cloud computing currently is covered by three models offering Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS), which all involve the on-demand delivery of computing resources. There are a growing number of providers offering IaaS solutions for elastic capacity, whereby server "instances" are executed in their proprietary infrastructure and billed on a utility computing basis (typically virtual machines on a per instance per hour basis). There are also a number of commercial and open source products which seek to replicate this functionality in-house while exposing compatible interfaces so as "hybrid cloud" operating environments can be created.

The Open Cloud Computing Interface (OCCI) group will deliver an API specification for remote management of cloud computing infrastructure, allowing for the development of interoperable tools for common tasks including deployment, autonomic scaling and monitoring. The scope of the specification will be all high level functionality required for the life-cycle management of virtual machines (or workloads) running on virtualization technologies (or containers) supporting service elasticity.

## **Charter focus/purpose and scope:**

This group will focus on the creation of an API for interfacing "IaaS" Cloud computing facilities, which is sufficiently complete as to allow for the creation of interoperable implementations.

It will allow for:

- Consumers to interact with cloud computing infrastructure on an ad-hoc basis (e.g. deploy, start, stop, restart)

- Integrators to offer advanced management services
- Aggregators to offer a single common interface to multiple providers
- Providers to offer a standard interface that is compatible with available tools
- Vendors of grids/clouds to offer standard interfaces for dynamically scalable service delivery in their products

The scope will be limited to the high level functionality required for life-cycle management and will be defined in part by the coverage of existing proprietary APIs. Storage details beyond creation and mapping of mount points is specifically excluded. Networking details are similarly excluded beyond creation and mapping of interfaces, assignment of these to public or private networks and assignment of dynamic or static IPs.

The resulting interface will be clear and concise, standards based and thus easily implemented and consumed.

### **Goals/deliverables:**

The primary deliverable is a technical specification of the Open Cloud Computing Interface (OCCI) API. In parallel another document describing the use cases and entities to be managed, their life-cycle and the associated processes to manage will be created. Both documents will be delivered at OGF27.

Reference implementation(s) are specifically excluded, as are details relating to supporting infrastructure (such as storage and network hardware configuration).

### **Inputs:**

There are a number of existing APIs from which we can derive a "consensus", including:

- [Amazon EC2 API](#)
- [ElasticHosts API](#)
- [FlexiScale API](#)
- [GoGrid API](#)
- [Sun Cloud APIs](#)

### **Timetable:**

Meeting	Date	Expected results
<a href="#">OGF25</a>	March 2-6 2009	Cloud Computing API BoF Session
<a href="#">OGF26</a>	May 26-29 2009	Overview & Draft API Presentations
<a href="#">OGF27</a>	October 12-16 2009	Final API Presentation

### **Exit strategy:**

The work of this group will be deemed complete when all the documents are completed.

### **Questions:**

1. *Is the scope of the proposed group sufficiently focused?*

Yes. We will define and standardize an API to access infrastructure Cloud facilities. The main focus of this API will be to address the Infrastructure-as-a-Service model.

2. *Are the topics that the group plans to address clear and relevant for the Grid research, development, industrial, implementation, and/or application user community?*

Yes, many grid deployments today are related to cloud computing offerings. Delivery of an API is beneficial both to grid providers and their users. Grid and cloud are complementary, with the vast majority of cloud offerings today being powered by grid infrastructures

3. *Will the formation of the group foster (consensus-based) work that would not be done otherwise?*

Yes, efforts to date have thus far failed to deliver an API suitable for widespread adoption. Within OGF this initiative is unique and forms a great opportunity to quickly create a standard for research and industry.

4. *Do the group's activities overlap inappropriately with those of another OGF group or to a group active in another organization such as IETF or W3C?*

No, existing efforts to date have been conducted by commercial entities (giving rise to governance concerns) or by ad-hoc standards groups. The specification will complement standard(s) from other groups. Other groups include the DMTF, IETF and CCIF (<http://www.cloudforum.org>) (working on the UCI).

5. *Are there sufficient interest and expertise in the group's topic, with at least several people willing to expend the effort that is likely to produce significant results over time?*

Yes, the group already has sufficient active members to deliver the specification including representatives from academia, industry and consumers. There is a significant body of work already completed from which a "consensus" can be derived. In overall at the BoF session 11 people stated their interests in helping out. Besides that several companies like CohesiveFT, ElasticHost, Enomaly, Flexiscale, GoGrid, Joyent, RightScale, SAP and Sun Microsystems showed interest.

6. *Does a base of interested consumers (e.g., application developers, Grid system implementers, industry partners, end-users) appear to exist for the planned work?*

Yes, there is already a thriving ecosystem of cloud computing providers and consumers who could benefit from this work. Besides the list of companies research projects like [Eucalyptus](#), [SLA@SOI](#), [OpenNebula](#), [RESERVOIR](#) and [Globus Nimbus](#) stated their interest.

7. *Does the OGF have a reasonable role to play in the determination of the technology?*

Yes, the OGF determines standards relating to grid computing. Most cloud computing deployments today are based on grid infrastructures and the two fields are complementary. Furthermore, most actors in the grid space are also active in cloud computing.

**Group status:**

BoF

**Public description (for print & web):**

"Group summary" above.