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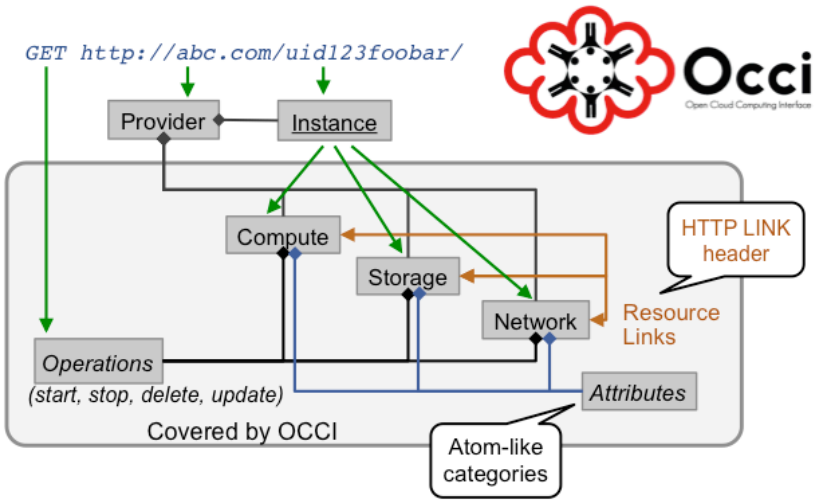
Open Cloud Computing Interface (OCCI)

Purpose: OCCI is an API and RESTful standard protocol for IaaS, PaaS and SaaS cloud management.

Description:

The Open Cloud Computing Interface comprises a set of open community-led specifications delivered through the Open Grid Forum. OCCI is a Protocol and API for all kinds of Management tasks.

OCCI was originally initiated to create a remote management API for IaaS model based Services, allowing for the development of interoperable tools for common tasks including deployment, autonomic scaling and monitoring. It has since evolved into a flexible API with a strong built-in focus on integration, portability, interoperability and innovation while still offering a high degree of extensibility.



The current release of the Open Cloud Computing Interface is suitable to serve other cloud model layers in addition to IaaS, including e.g. PaaS and SaaS. OCCI provides a simple, RESTful API consisting of about fifteen commands. Within a URL, the user can identify a specific cloud provider and the specific resource instances that are to be controlled. These resources can be computers, storage or networks.

Each of these resources has associated attributes. Sets of resources can be linked together and managed as a whole through the typical start, stop, update and delete operations using HTTP GET and POST verbs.

GFD.183 provides the formal definition of the OCCI Core Model. GFD.184 contains extensions for the IaaS domain that define additional resource types, their attributes and the actions that can be taken on each resource type. GFD.185 defines how to interact with the OCCI Core Model using HTTP.

There are now over twenty existing OCCI implementations in a variety of products, including OpenNebula, RESERVOIR, SLA@SOI, INFN, Aurenav, CloudCentral, Emotive, BigGrid, the Claudia Project, SSF, Morfeo, libvirt, jClouds, CompatibleOne, and R2AD™. The OCCI standard will be part of the OpenStack Essex release in March 2012.

Document References:

OCCI Core specification: http://www.ogf.org/documents/GFD.183.pdf
OCCI Infrastructure specification: http://www.ogf.org/documents/GFD.184.pdf
OCCI HTTP Header Rendering specification: http://www.ogf.org/documents/GFD.185.pdf
OCCI Use Cases: http://www.ogf.org/documents/GFD.162.pdf

Further Information:

Contact standards@ogf.org or visit the OCCI web site at http://occi-wg.org