Cloud API feature Matrix

Existing APIs for IaaS based Clouds already fulfill some of the Use cases and also address some requirements. The following list of APIs have been evaluated during the creation of the OCCI working group process.

- OCCI - Open Cloud Computing Interface

- EC2 - Amazon Elastic Compute Cloud

- EH - ElasticHosts

- FS - Flexiscale

- GG - GoGrid

- SC - Sun Cloud API

- CS - Rackspace Cloud Servers

- VM - WMware vSphere

While this is not a complete or in depth evaultation of the APIs the following Matrix can used as a basic reference point for API comparism.

Table 1. Cloud API feature matrix

Feature	Requirement	OCCI	EC2	EH	FS	GG	SC	CS	VM
Authentication via HTTP	Client compatibility	OK	N/A	OK	N/A	N/A	OK	N/A	N/A
Authentication via request signing	Untrusted third-party requests	OK	OK	N/A	N/A	OK	N/A	N/A	?
Ephermal compute resources	Lightweight servers	OK	OK	OK	N/A	N/A	N/A	N/A	?
Persistent compute resources	Stopped servers	OK	N/A	N/A	OK	OK	OK	OK	OK
Ephermal storage resources	Temporary Storage	OK	OK	N/A	N/A	N/A	N/A	N/A	N/A
Persistent storage resources	Permanent Storage	OK	OK	OK	OK	OK	OK	OK	OK
Multiple storage resources	Complex architectures	OK	OK	OK	N/A	N/A	N/A	N/A	OK
Multiple network resources	Complex architectures	OK	N/A	OK	N/A	N/A	OK	N/A	OK
Static IPs	Internet-facing applications	OK	OK	OK	OK	OK	OK	OK	OK
Firewalling	Basic network security	?	OK	N/A	OK	OK	N/A	N/A	OK
Load Balancing	Horizontal scalability	?	N/A	N/A	N/A	OK	N/A	OK	N/A
Billing	Business	?	N/A	OK	OK	N/A	N/A	N/A	?
Resource categories	Organization of resources	OK	N/A	N/A	N/A	N/A	N/A	N/A	?

Feature	Requirement	OCCI	EC2	EH	FS	GG	SC	CS	VM
Resource search	Finding Resources	OK	N/A	N/A	N/A	N/A	N/A	N/A	?
Resource tagging	Organization of resources	OK	N/A	N/A	N/A	N/A	OK	N/A	?
Collections (pass-by-reference)	Enumeration	OK	N/A	OK	N/A	N/A	N/A	N/A	?
Collections (pass-by-value)	Serialisation	OK	OK	OK	OK	OK	OK	OK	?

For more details review the API of the different providers. EC2EHFSGGSCCSVM