OCCI Infrastructure

OCCI Infrastructure defines three kinds and various extensions relating to management of cloud infrastructure services (IaaS).

Table 1. Common Attributes

Attribute	Type	Description
`occi.infrastructure.hostname`	String	Valid DNS hostname for the resource (may be FQDN)

Kinds

Cloud infrastructure can be modeled using three primary kinds: `compute`, `network` and `storage`.

Table 2. Kinds

Kind	URI	Description
`compute`	`http://purl.org/occi/kind/compute`	Information processing resources
`network`	`http://purl.org/occi/kind/network`	Interconnection resources
`storage`	`http://purl.org/occi/kind/storage`	Recorded information resources

Compute

A compute resource is capable of conducting computations (e.g. a virtual machine).

Table 3. Compute Attributes

Attribute	Type	Description
`occi.compute.architecture`	Enum (x86, x64)	CPU Architecture (e.g. x64)
`occi.compute.cores`	Integer	Number of CPU cores (e.g. 1, 2)
`occi.compute.speed`	Float (10^9 Hertz)	Clock speed in gigahertz (e.g. 2.4)
`occi.compute.memory`	Float (10^6 bytes)	RAM in megabytes (e.g. 8192)
`occi.compute.memory.speed`	Float (10^9 bytes/second)	RAM speed in Gbit/s (e.g. `17` for PC-8500 DDR3 per Wikipedia)
`occi.compute.memory.reliability`	Enum (standard, checksum)	Qualitative measure of RAM reliability (e.g. ECC)
`occi.compute.status`	Enum (active, inactive, standby)	Status of the compute resource

Network

A network resource is capable of transferring data (e.g. a virtual network or VLAN).

Table 4. Network Attributes

Attribute	Type	Description
`occi.network.vlan`	Integer (0..4095)	802.1q VLAN ID (e.g. `4095`)

Attribute	Type	Description
`occi.network.label`	Token	Tag based VLANs (e.g. `external-dmz`)
`occi.network.address`	IPv4 or IPv6 Address (in CIDR notation)	IP gateway address or network address where there is none (e.g. `192.168.0.1/24`, `2001:db8:a::123/64`)
`occi.network.allocation`	Enum (`auto`, `dhcp`, `manual`)	Address allocation mechanism: • `auto` is handled automatically by infrastructure and/or guest agent • `dhcp` uses network-based allocation protocol(s) • `manual` requires preconfiguration or manual allocation

TODO: Tidy up network interface addressing.

Storage

A storage resource is capable of mass storage of data (e.g. a virtual hard drive).

Table 5. Storage Attributes

Attribute	Type	Description
`occi.storage.reliability`	Enum (transient, persistent, reliable)	Qualitative device persistence (e.g. transient)
`occi.storage.size`	Integer (10^9 bytes)	Drive size in gigabytes (e.g. `40`, `0.00144`)
`occi.storage.speed`	Integer (10^6 bytes/second)	Drive speed in MB/s (e.g. `600` for SAS/SATA-600 Wikipedia)
`occi.storage.status`	Enum (online, offline, standby, degraded)	Currenty status of the storage resource

Extensions

Various extensions provide for more advanced management functionality such as billing, monitoring and reporting.

Bibliography

Normative References

Informative References

[Wikipedia] *Wikipedia: List of device bandwidths.* `http://en.wikipedia.org/wiki/List_of_device_bandwidths`. .