
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
<code>compute</code>	<code>http://purl.org/occi/kind/compute</code>	Information processing resources
<code>network</code>	<code>http://purl.org/occi/kind/network</code>	Interconnection resources
<code>storage</code>	<code>http://purl.org/occi/kind/storage</code>	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-CPU-Arch	Enum (x86, x64)	CPU Architecture (e.g. x64)
OCCI-Compute-CPU-Cores	Integer	Number of CPU cores (e.g. 1, 2)
OCCI-Compute-CPU-Speed	Float (10 ⁹ Hertz)	Clock speed in gigahertz (e.g. 2.4)
OCCI-Compute-Memory-Size	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)

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: <ul style="list-style-type: none"> • 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)

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..