OCCI Machine Interface (HTTP)

2009-10-07

Specification

The HTTP binding is the default binding for OCCI:

- The HTTP binding is defined by RFC2616 (HTTP).
- Web Categories [CATEGORY] and Web Linking [LINK] specifications are used for the meta-model.
- Server-side cookies ("Attributes") are used for name-value pairs.
- Collections are transferred as the `text/uri-list` content type (defined in RFC 2169, Appendix A).

In all cases the process defined in RFC2965 is used to set/get `message-header`s, where `[Set-]Attribute:`, `[Set-]Category:` and `[Set-]Link:` are used in place of `Cookie:` and `Set-Cookie:`.

`Set-*` headers may be included on PUT or POST requests (including empty POSTs in order to update the metadata independently of the representation).

Existing values can be discarded by sending a `Set-*` header with the `discard` attribute and updated by providing a new value at the same time. When combined in a single HTTP transaction such updates *should* be atomic.

Example

POST Request

```
POST /compute/123 HTTP/1.1
Host: example.com
Content-Length: 0
Set-Attribute: id="urn:uuid:d0e9f0d0-f62d-4f28-bc90-23b0bd871770"
Set-Category: compute;
  scheme="http://purl.org/occi/kind/";
  label="Compute Resource"
Set-Link: <http://example.com/products/1234>;
  rel="alternate";
  title="Alternate representation"
```

GET Response

```
Attribute: id="urn:uuid:d0e9f0d0-f62d-4f28-bc90-23b0bd871770"
Attribute: title="Compute Resource #123"
Attribute: summary="A virtual compute resource"
Attribute: updated="2009-12-31T12:59:59Z"
Attribute: compute.cores=2
Attribute: compute.speed=3000
Attribute: compute.memory=2048
ETag: "dad86c61eea237932f"
Category: compute;
```

```
  scheme="http://purl.org/occi/kind/";
  label="Compute Resource"
Link: <http://example.com/products/1234>;
  rel="alternate";
  title="Alternate representation"

<?xml version="1.0" encoding="UTF-8"?>
<ovf:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:ovf="http://schemas.dmtf.org/ovf/1/envelope"
<!-- snip -->
```

Bibliography

Normative References

[RFC2616] *RFC 2616 - Hypertext Transfer Protocol -- HTTP/1.1*. http://tools.ietf.org/html/rfc2616. Internet Engineering Task Force (IETF) 1999-06.

[RFC2965] *RFC 2965 - HTTP State Management Mechanism*. http://tools.ietf.org/html/rfc2965 [http://tools.ietf.org/html/rfc2822]. Internet Engineering Task Force (IETF) 2000-10.

Informative References

[CATEGORY] *Web Categories*. http://tools.ietf.org/html/draft-johnston-http-category-header. Internet Engineering Task Force (IETF) Sam Johnston. 2009-07-1.

[LINK] *Web Linking*. http://tools.ietf.org/html/draft-nottingham-http-link-header. Internet Engineering Task Force (IETF) Mark Nottingham. 2009-07-12.

[HTML5-article] *Designing a great HTTP API - why heavyweight XML is not the answer*. http://www.elastichosts.com/blog/2009/01/01/designing-a-great-http-api/ [http://www.smashingmagazine.com/2009/07/29/misunderstanding-markup-xhtml-2-comic-strip/]. . 2009-01-01.