

3 round stones

Linked Data Patterns

David Wood

david@3roundstones.com

Diverted URI Pattern

Intent:

Resolve a data URI to the most appropriate authority in the context of the request

Motivation:

Linked Data is often mirrored for the purposes of creating visualizations of the data, merging some or all of the data with data from other sources and/or enhancing responsiveness to queries.

Routing a URI to a Handler

URI is unknown; it is not
represented in the local
RDF store

[http://example.com/go?q=http://
dbpedia.org/resource/Linked_Data](http://example.com/go?q=http://dbpedia.org/resource/Linked_Data)

->

http://dbpedia.org/resource/Linked_Data

URI is associated with a view
template; the URI's authority
matches the serving host

`http://example.com/resource/Exelon`

->

`http://example.com/resource/
Exelon?view`

URI is associated with a view template;
the URI's authority matches the
serving host; the URI has a fragment id

```
http://example.com/go?q=http://  
example.com/schema%23MyClass
```

->

```
http://example.com/diverted;http%3A%2F  
%2Fexample.com%2Fschema%23MyClass
```

URI is associated with a view
template; the URI's authority
does not match the serving host

`http://example.com/go?q=http://
dbpedia.org/resource/Exelon`

->

`http://example.com/diverted;http
%3A%2F%2Fdbpedia.org%2Fresource%2FExelon`

Handling a URI with a
Different Authority

URI	Served URL on example.com
http://dbpedia.org/resource/Exelon	http://example.com/diverted;http%3A%2F%2Fdbpedia.org%2Fresource%2FExelon
http://example.com/resource/Exelon	http://example.com/resource/Exelon

Implications

- ◆ URIs containing arbitrary HTTP authorities may be evaluated and contextually resolved by a Web service.
- ◆ The combination of a “go service” and a diverted URL prefix allows both HTTP and non-http URIs to be resolved (e.g. DOI or URN URIs).

Implications

- ◆ A “go service” following the Diverted URI Pattern is not limited to a specific authority. Such a service may redirect to external rendering services using the diverted prefix, thus further reducing the coupling between data URI and rendering services.

Implications

- ◆ Simple URI resolution is diverted for the purpose of making routing and resolution decisions. This involves (possibly substantial) processing at a service host that is in addition to normal URI resolution.
- ◆ URIs require rewriting to be resolvable to an authority of choice.

Callimachus Web Patterns

<http://callimachusproject.org>

[http://code.google.com/p/callimachus/wiki/
WebPatterns](http://code.google.com/p/callimachus/wiki/WebPatterns)

```
:DownloadCSV rdfs:subClassOf msg:Message;
  rdfs:subClassOf [owl:onProperty msg:target; owl:hasValue
    </download_csv> ];
  rdfs:subClassOf [owl:onProperty msg:object; owl:allValuesFrom
    <java:java.io.InputStream> ];
msg:method "GET";
msg:type "application/sparql-results+xml";
msg:header "cache-control:no-store";
msg:header "content-disposition:inline;filename=\"downloaded.csv\"";
msg:transform :TransformIntoCSV;
msg:sparql """"
  SELECT REDUCED ?id ?label
  WHERE { ?id rdf:type eg:MyClass ; rdfs:label ?label }
  ORDER BY ?id
""""
.
```

```
:TransformIntoCSV rdfs:subClassOf msg:Message;  
  rdfs:subClassOf [owl:onProperty msg:target; owl:hasValue  
    </download_csv>];  
  rdfs:subClassOf [owl:onProperty msg:object; owl:allValuesFrom  
    <java:java.io.InputStream>];  
  msg:type "text/csv;charset=UTF-8";  
  msg:xslt <sparql-csv.xsl>.
```



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