Linked Data Patterns

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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://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/diverted;http%3A%2F%2Fdbpedia.org%2Fresource%2FExelon
Handling a URI with a Different Authority
<table>
<thead>
<tr>
<th>URI</th>
<th>Served URL on example.com</th>
</tr>
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</table>
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
: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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