A conversation based approach for modeling REST APIs

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Modeling RESTful Web APIs

- Conversation Model
- Domain Model
- Resource Model
- Representations
- Relationships
- Resources
- Methods
Redirect?

GET /booking/42?payment HTTP/1.1
HTTP/1.1 302
Link: </payment?booking=42>; rel="payment"
GET /payment?booking=42 HTTP/1.1
HTTP/1.1 200

Long Running Request?

POST /slow HTTP/1.1
HTTP/1.1 202 Accepted
Location: /slow/42
...
GET /slow/42
HTTP/1.1 200
...
GET /slow/42
HTTP/1.1 303 See Other
Location: /result/42
GET /result/42
HTTP/1.1 200
<table>
<thead>
<tr>
<th>Request Method</th>
<th>Request URI</th>
<th>HTTP Status Code</th>
<th>Response Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>GET</td>
<td>/</td>
<td>HTTP/1.1 302</td>
<td>Location: /blog</td>
</tr>
<tr>
<td>GET</td>
<td>/blog</td>
<td>HTTP/1.1 200</td>
<td>Link: &lt;/blog/add&gt;; rel=&quot;create&quot;</td>
</tr>
<tr>
<td>POST</td>
<td>/blog/add</td>
<td>HTTP/1.1 201</td>
<td>Created</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Location: /blog/my-post/</td>
<td></td>
</tr>
</tbody>
</table>
RESTful Conversation

Conversation abstraction to simplify descriptions of RESTful Web APIs
Model-Driven Service Engineering

"Collection" is a conversation type aggregating multiple interactions with one or more resources.

The conversation type can be reused and instantiated multiple times across the API description.

**Conversation Types**

- Redirection
- Long Running Requests
- Collection
- Try-Confirm/Cancel
Next Steps

- Model conversations themselves (all possible interactions with 2 or more participants)
- Use a suitable notation (BPMN Choreographies?)
- Uncover recurring conversation patterns

Question

- Which modeling language would you use to precisely describe conversations?