Developing e-Framework SUMs from technical documentation

Grid Enabling MIMAS Services project (known as GEMS project)
GEMS-I A grid enabled Census data querying service

<table>
<thead>
<tr>
<th>Version &amp; Status</th>
<th>Date</th>
<th>Author</th>
<th>Current affiliation</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>V 2.2 Initial Draft</td>
<td>June 2008</td>
<td>M. Argüello Casteleiro</td>
<td>ESRC National Centre for e-Social Science (NCeSS), University of Manchester, UK</td>
<td>JISC-funded e-Infrastructure Use Cases and Service Usage Models (eIUS)</td>
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<td></td>
<td></td>
<td>Pascal Ekin</td>
<td>ESRC National Centre for e-Social Science (NCeSS), University of Manchester, UK</td>
<td>Grid Enabling MIMAS Services (GEMS I &amp; II)</td>
</tr>
</tbody>
</table>

Business Processes

1) Authentication and Authorization (security is omnipresent)
2) Connecting the SQLServer databases holding the 2001 aggregate Census data directly to the Grid via the National Grid Service (NGS¹)
3) Grid-enabling the current data access system (Casweb²) to facilitate ease of use

<table>
<thead>
<tr>
<th>Technical specification of the functionality provided (source: GEMS Website³)</th>
<th>Service Genres</th>
<th>Business Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upload query results to a Grid/File Transfer Protocol (FTP) server</td>
<td>o Data transfer</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>View SQL generated by user interface for further integration into an OGSA-DAI client</td>
<td>o Generate dataset query&lt;br&gt;o View dataset query</td>
<td>1, 3</td>
</tr>
<tr>
<td>Redirect query results to a grid service/OGSA-DAI activity for further processing</td>
<td>o Data transfer</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Bulk upload query results to a user specified OGSA-DAI enabled database</td>
<td>o Data transfer</td>
<td>1, 3</td>
</tr>
<tr>
<td>Integration of table metadata into query results</td>
<td>o Data integration</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Transform query result into a variety of formats (e.g. CSV, HTML) by employing built in Java/SAX transformation code</td>
<td>o Convert formats</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Convert query results from a target to a user selected source geography</td>
<td>o Convert formats</td>
<td>1, 2, 3</td>
</tr>
</tbody>
</table>

¹ National Grid Service (NGS), http://www.grid-support.ac.uk/
² Casweb, http://casweb.mimas.ac.uk/
³ GEMS, http://pascal.mvc.mcc.ac.uk:9080/gems
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**GEMS-I**
A grid enabled Census data querying service

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**e-Framework SUM diagram**

- **Summary of Business Process Requirements:**
  - User activates his/her login into GEMS-I
  - Connecting the SQL Server databases holding the 2001 aggregate Census data directly to the Grid via the NGS
  - Grid-enabling the current data access system (Caseweb) to facilitate ease of use

- **Business Process Names:**
  - Login
  - DGSA-DAI activities
  - Grid-enabling Caseweb

- **Service Names:**
  - Federated Identity and Access Management SUM
  - Data transfer
  - Generate dataset query
  - Convert formats
  - View dataset query

- **Data Sources:**
  - Census 2001
  - Census Metadata

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