^{my}Grid and ToolBus/PathPort Interoperability

^{my}Grid and ToolBus/PathPort are two complimentary bioinformatics software suites. ToolBus/PathPort focuses on data visualization and exploratory analysis, while ^{my}Grid focuses on high-throughput, automated analysis. Both systems are built on Web service standards, allowing them to interoperate at multiple levels.

ToolBus/PathPort provides an integrated computing and visualization software platform for bioinformatics, encompassing data retrieval, sequence analysis, gene prediction and other functions. ToolBus, an interactive client and core of the system, enables data access, analysis and visualization through a rich platform-independent user interface. Appropriate visualization plug-ins are automatically identified in response to data generated during the performance of bioinformatics analyses. Data residing in different viewers may be integrated, compared, and analyzed together. The details of data parsing and format conversions are performed by the system, freeing the researcher to focus on the more important aspects of the analysis. The PathPort suite of Web services provides access to a range of core databases and commonly used bioinformatics tools through a standard SOAP-based interface, allowing interoperability with third-party clients. Users and software developers can easily extend the system to suit their particular needs.

^{my}Grid is a UK e-Science project providing middleware services to support data-intensive, *in silico* experiments in biology. These experiments often involve chaining together disparate analysis tools and database queries, and ^{my}Grid enables the interoperation between them by providing a toolkit for composing, executing and managing workflow experiments. A growing number of bioinformatics resources are being made available with programmatic access in the form of Web services. The ^{my}Grid workflow environment, Taverna, enables the interoperation over these distributed web service resources. Currently, there are over 3000 Web services available to Taverna, including those from Pathport. ^{my}Grid predominantly serves the bioinformatics community, but scientists from other disciplines, such as chemoinformatics and health informatics, are increasingly using this technology to conduct their experiments. The ^{my}Grid user community is expanding and researchers conducting large-scale experiments in areas such as microarray analyses and proteomics are routine users, who often share, reuse and repurpose workflows amongst themselves. The workflows created by Taverna represent the scientific protocols of the experiments they enact, making them a rich resource for scientists in the field.

We will demonstrate the interoperability of these two systems by showing a typical ^{my}Grid *in silico* experiment based on a workflow constructed and executed with Taverna. The workflow will utilize PathPort Web services and will pass results to a ToolBus data viewer.