



Project Update

Issue 2, October 2007

Dear colleagues and associates,

The STASIS project has just celebrated its first birthday and we hope you are interested in an update on our progress. As a reminder, the overall goal of STASIS is to provide semantic utilities which facilitate the trading of enterprises electronically.

During the past six months the project has been reviewed and all deliverables have been approved without change so a personal thanks to the entire STASIS crew. The main focus of current activity has been on the research deliverables focusing on semantic annotation, extraction and mapping source information from EDI, Flat-File, XML and RDB sources. These aspects, along with an update of the STASIS architecture, are presented to you in this newsletter.

Stuart Campbell, Project Manager

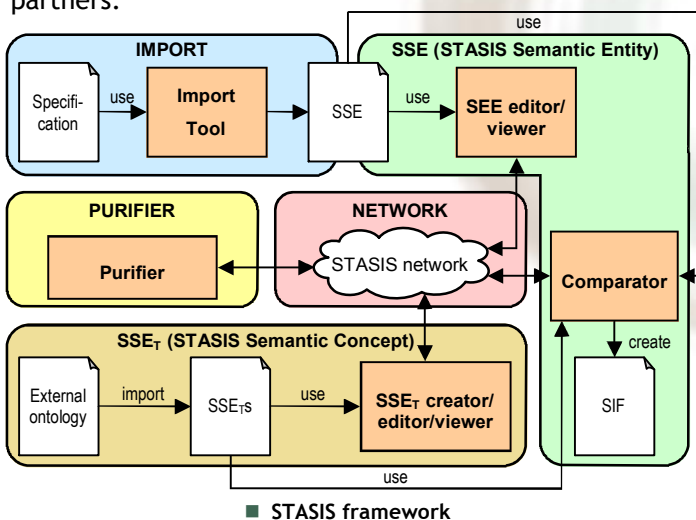
Research Focus

Since our last newsletter the main focus of our work has been upon four interrelated research deliverables that will underpin future work within STASIS. Now complete, these deliverables will be made available via our web site in due course.

Architectural Framework Specification

This deliverable describes the overall architecture of STASIS and will act as the foundation for the design and development phases of the project.

The STASIS framework consists of a set of tools, services and repositories that will help organisations establish meaningful semantic interactions by allowing them to specify and link their own semantics with those of their partners.



Broadly speaking, the framework consists of:

- **Network** - a flock of beacons (distributed repositories) which store semantic information
- **Analyzer** - allows users to import new or existing structures (e.g. XML, EDI, flat file, RDB) and extract

semantic information into the framework

- **Comparator** - allows users to identify semantic “compatibilities” in the framework and to extract cross references between organisations
- **Viewer** - allows users to examine particular semantic structures and how they are being used
- **Editor** - allows users to maintain information already stored in the framework
- **Purifier** - locates and informs users of inconsistencies in stored information
- **Shared services** (e.g. searching, information retrieval, query distribution, result handling)

This deliverable builds upon other research deliverables and the *Vision and Technical Consensus Statement* and *Requirements Report* (available for download at www.stasis-project.net/deliverables).

Semantic and Ontology Language Specification

This deliverable reports the findings of research aimed at identifying a semantic language suitable for representing ontologies, and relationships between ontologies and data sources, in STASIS.

The chosen language, OWL DL, is presented with several examples that show the language at work on significant sample cases. The examples highlight specific complex features and their treatment in concrete terms, offering further evidence supporting the adoption of the language and providing guiding examples for future implementation.

Techniques for Semantic Extraction and Integration

This deliverable primarily explores semi-automatic techniques for extracting metadata, which is used to describe information (in whatever format) being imported into STASIS.

In addition, the semantic language recommended in the *Semantic and Ontology Language Specification* is validated to ensure that it can meet the needs of STA-



SIS. A semantic annotation method, which will be used to establish relationships between entities in STASIS, is also specified, with examples given for clarity.

Methodologies for Semantic Mapping Report

This deliverable feeds upon the *Semantic and Ontology Language Specification and Techniques for Semantic Extraction and Integration* report.

Analogous to the model-view-controller paradigm, it covers the three main aspects of mapping: mapping representation (model), mapping user interface (view) and mapping process (controller).

Firstly, an outline of various mapping representations is given and the approaches, expressiveness and applicability to STASIS of each are considered. The reasoning behind the recommendation of the "Alignment Format" as the STASIS mapping language is then given.

Secondly, different forms of user interface for the mapping process are presented and the suitability of each for STASIS is discussed. Recommendations for STASIS user interface features are then given.

Finally, processes for mapping schema and ontology alignment are developed. The functionality constituting these processes is described and interfaces defined.

STASIS Workshop

The first STASIS workshop will be held at I-ESA 2008 in Berlin, March 25th 2008 (www.aidima.es/iesa2008/).

Bringing together ICT innovators from industry and academia, from Europe and China, we will present practical approaches to enhance the agility of business processes through semantic technologies.

Please mark this date in your diary and check the STASIS web site over the coming months for further news.

If you are involved in a semantics-based IST project and are interested in presenting at the workshop, we would be delighted to hear from you. Full contact details can be found at www.stasis-project.net/contact/

1st Year Achievements

STASIS has been running for over a year and a great deal has been achieved. The research phase is now complete and we have a clear project vision and solid base to build upon as we move into our second year.

We have established a project web site and wiki (wiki.stasis-project.net) and have been actively promoting STASIS at many workshops and conferences and also engaging with other FP6 projects. We have also enjoyed a successful 1st Project Review where all deliverables were approved without change.

Our achievements are due in no small part to the active engagement of the majority of partners and the great team spirit that has evolved.

Latest Dissemination Activities

Research Papers

In September STASIS presented a paper entitled "Automatic mapping of heterogeneous business structures and terminologies" at SWAE (Semantic Web Architectures for Enterprises) 2007 in Regensburg, Germany.

This month, at eChallenges 2007 in The Hague, The Netherlands, STASIS presented a paper entitled "Improving Business Information Exchange using Semantics".

Both papers are available from the respective conference proceedings. See dbgroup.unimo.it/swae07/ and echallenges.org/e2007/ for further information.

European Services, Software and Grid Technology Days

In September STASIS was presented at the Framework 6 ESSG Concertation Event in Brussels, which brought together projects from the Software and Grid Technologies units. At the event we established links with the Ontologies Group, which is of particular relevance to STASIS.



■ Family photo taken outside Tsinghua University, Beijing, 2007

Looking Ahead

As the research deliverables are now complete and the STASIS architecture has been defined, we are moving into the next phase of the project where the Functional and Technical Specifications will be developed.

The *Functional Specification* will expand upon the components introduced in the *Architectural Framework Specification*, and detailed functionality will be specified for each. In addition, potential technologies that could be utilised to realise this functionality will be considered.

The *Technical Specification* will describe the interfaces between the components. It will consider the constraints and limitations of the technology used and it will specify communication protocols, parameters and response values of all interface methods.

