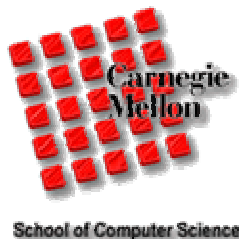


Carnegie Mellon University

Katia Sycara



Carnegie Mellon University
<http://www.cs.cmu.edu/~softagents>



- It is a US EU initiative, comprised of EU and US researchers and industry members whose mission is threefold:
 1. to create infrastructure that combines Semantic Web and Web Services technologies to enable maximal automation and dynamism in all aspects of Web service provision and use, including (but not limited to) discovery, selection, composition, negotiation, invocation, monitoring and recovery.
 2. to coordinate ongoing research initiatives in the Semantic Web Services area
 3. to promote the results of SWSI work to academia and industry
- **SWSI deliverables include proposals to standards bodies, reviews of industry white papers, technical notes**

- **SWSI has a number of committees:**
 - architecture (SWSA) (M. Burstein and C. Bussler)
 - language (SWSL) (D. Martin and M. Kifer)
 - an industrial board (M. Ushold, J. Davies and B. Groszoff)
 - an advisory board (M. Greaves, EC PM)
 - an executive committee (D. Fensel, K. Sycara)
- **URL: <http://www.swsi.org/>**
- **Mail list: General announcements and discussions:
www-ws@w3.org
Mail archives: lists.w3.org/Archives/Public/www-ws/**
- **Additional mailing lists for the various committees**

Face to Face Meetings

- **December 17-18 2002: Innsbruck, Austria.**
- **April 10-12 2003: Miami, Florida, USA.**
- **October 19, 2003: Sanibel Island, Florida, USA**

Results to date

- **Semantic Web Services Language (SWSL)**
- **Semantic Web Services Architecture (SWSA)**
- **Industrial Board**

Activities conducted via weekly telecons, public & private mailing lists

- Public discussion list: www-ws

<http://lists.w3.org/Archives/Public/www-ws/>

- Membership list:: <http://www.daml.org/services/swsl/team.html>
- Top-level URL: <http://www.daml.org/services/swsl/>
- F2F meeting primary goal: achieve substantial agreement on requirements document
- Produced Mission Statement and Workplan
- Presentations of selected relevant technologies (e.g., PSL, F-Logic, BPEL4WS)

**Requirements document under development at
<http://www.daml.org/services/swsl/requirements/>**

■ **Requirements being organized under 4 headings:**

- **General requirements**
- **Advertising, discovery, matchmaking**
- **Negotiation and contracting**
- **Process modeling (including composition, monitoring and execution) Also aiming to produce a paper from this document**

■ **Collecting use cases**

- **Use case repository established; starting to grow:
<http://www.daml.org/services/use-cases/language>**

■ **Discussion of general language requirements; e.g.**

- **Monotonic vs. non-monotonic logics**
- **Comparative approaches (FOL, F-Logic, Ontology-based)**

- **Discussion of general architecture requirements**
- **Collecting Use Cases**
 - **Use case repository www.daml.org/services/use-cases/architecture**
- **Diverse Set of Usage Scenarios to Capture Major areas of use of semantic web services**
 - **B2B and Enterprise Integration Systems**
 - **Grid Computing**
 - **Ubiquitous Computing**
 - **B2C and End User (personal agent) Web Services**
 - **Agent-based Systems in large organizations**

- a) **Service request planning and response interpretation (based on process descriptions)**
- b) **Choreography (protocol) interpretation and execution**
- c) **Semantic translation/mediation (e.g., of message content, process descriptions or advertisements)**
- d) **Candidate service identification (matchmaking) and selection**
- e) **Automated Process composition**
- f) **Process mediation and delegation**
- g) **Service process status tracking**
- h) **Ontology management and access**
- i) **Security (including identification, authentication, delegation and policy-based authorization)**
- j) **Reputation services**
- k) **Service failure handling and compensation**
- l) **Negotiation and contracting**
- m) **Server executable process management (service factories, instantiation, migration)**

- **Discovery and Invocation for B2C Web Services**
- **Discovery and Security/Privacy Policies in Ubiquitous Computing**
- **Semantics for Composition, Service Resource Management in Grid Computing**
- **Contract Negotiation and Ontology, Ontology Map Management for Interoperability maintenance in B2B**



Mission:

- provide feedback to results of SWSI Language, Architecture
- focus: use cases, applications, requirements
- keep aligned with industry/government needs
- disseminate results to user communities
- more generally, share SWSI-relevant info

Accomplishments to date:

- 41 participants from 39 companies recruited
- webpages on SWSI site
- mailing list, with web archive

What you can do:

- join/recruit as participants: ⇒ listed publicly on website
- attend upcoming SWSIP F2F's (informal spirit):
 - ◆ Sun 10/19 eve after main SWSI f2f, place TBA
 - ◆ Tue 10/21 lunchtime at main ISWC lunch area

Semantic Web Science Association

Activities

- **Responsible for the International Semantic Web Conference**
 - **ISWC2002 Sardinia, Italy, June, 2003**
 - **ISWC2003 Sanibel Island, Florida, USA, October 2003**
 - **ISWC2004 Hiroshima, Japan, late October 2004**
 - **A set of great proposals for ISWC 2005 in Europe**

- **Creation of a Semantic Web Services Interest Group (SWS-IG) within the Web Services Activity**
- **Review deliverables of W3C and non-W3C working groups related to Web services.**
- **Discuss implementation and deployment of Web services and Web services technologies.**
- **Explore pre-standardization research issues for next-generation Web services, e.g. relationship with autonomous agent technology, distributed query protocols, etc.**

SWS-IG mission (cnt)

- **Share experiences with creation and deployment of Web services created using SOAP, WSDL, REST, RDF and other Semantic Web technologies (e.g. DAML-S), and others.**
- **Discuss appropriate use of Semantic Web technologies in the discovery, composition, relocatability and other aspects of Web services needs.**
- **Provide guidance and advice, when requested, to the Web services Working Groups on charter requirements for mapping to RDF languages.**
- **Membership: open to the public**
- **Lists: public-sws-ig@w3.org**

Participation of OWL-S coalition members in various W3C working Groups

- **Web Services Architecture**
 - ◆ The need for semantics recognized in the architecture document
 - ◆ Mapping of WSA to OWL
- **Web Services Description**
 - ◆ Mapping of WSDL to RDF
- **Web Services Choreography**
- **SWSI as a member of W3C**

- **Owl- S Standardization Strategies**
 - **OWL-S as a standard (follow the OWL standardization) in W3C**
- **“Fragmented” infusion of semantics in different parts of web services standards (e.g. wsdl, choreography, possibly chartering a new group on discovery)**
- **Interactions with various standards organizations**
- **Interactions with industry**

- **Participation and tutorials on OWL-S at the Web Services Military Users Group**
- **Semantic Web Conference**
- **Tutorials on OWL-S and Semantic Web services in industrial and scientific conferences**
- **Workshops at various conferences (e.g. AAMAS, IJCAI, Spring Symposium)**
- **Start building the business case for semantics in Web Services**
 - **“Complete, do not compete” (e.g. OWL-S grounding layered on top of WSDL, OWL-S/UDDI matchmaker)**
 - **“A little semantics goes a long way” (e.g. WS Security, WS Management)**