

## Scope

The World Wide Web Consortium's main role is to **standardise Web technologies by creating and managing Working Groups** that produce specifications (called «Recommendations») that describe the building blocks of the Web, and produce them freely available to all, as part of the **Web open platform**.

The goal of WS2 is to support the W3C in administering its Web services related standard activities, their **wide adoption in the European industry**, and their evolution toward achieving efficient and interoperable communications within distributed software, as well as rich and complex interactions, **exploring use of Semantic Web technologies**.

The **impact** foreseen for this project is that it will **enable a wider range of use**, from business processes to collaboration tools, of the current generation of machine-to-machine Web Services interaction, as well as promoting the extension of these technologies based on new requirements from the industry, using recent and **open technology** like W3C Semantic Web technologies. The **input of the European industry** is very important at that point in time, as our industry is well positioned as an advanced user of these Web Services layers, and it was less as a producer of these first bricks (role usually held by American software makers).

## Advances

The project achieved the following objectives:

- Promote Web services and support work on integration of semantics.
- Increase European awareness and raise the European participation level.
- Provide European research and industry with competent partners within the W3C community.

## Positioning in global context

Several toolkit providers integrated the technologies developed in the W3C Web Services activity in their final products, which are widely available on most platforms.

## Contribution to standardization and interoperability issues

The major contributions of the project have been:

- Increase in European participation in W3C Working Groups related to Web Services.
- Launch and support of the W3C Working Group “Semantic Annotations for WSDL”, which produced a W3C Recommendation for “Semantic Annotations for WSDL and XML Schema”.

## Target users / sectors in business and society

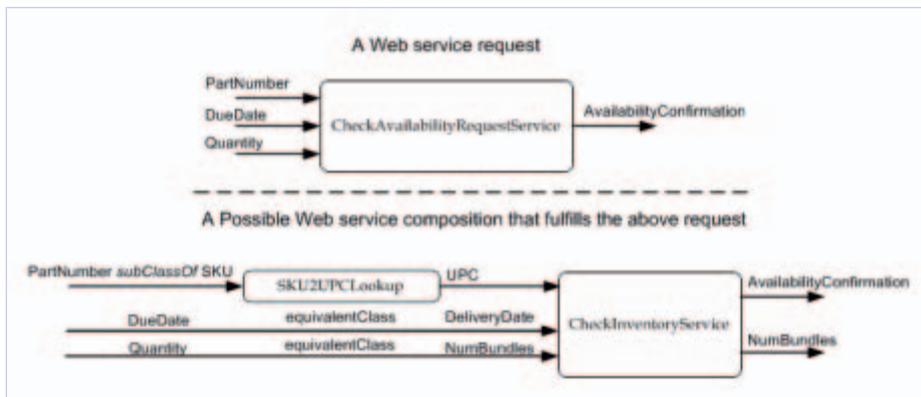
- Software and Application Developers to help them in integrating internal services and services from outside organizations.
- Systems Integrators.
- Technology Providers: several toolkits vendors participated in the working groups.
- Service Providers.

## Overall benefits for business and society

The major advantage of the project has been the outreach to the European community, making them more involved in the work of the W3C, an international organization. As stated in the achievements, we reached between 50% and 70% of European participation (depending on the Groups) in the W3C Web Services activity during the duration of the project. We also produced a fundamental piece of technology, that became a W3C Recommendation, in the Semantic Annotations for WSDL group.

## Examples of use

The overall goal of Web Services has been to improve the interoperability of computer interactions and provide a single scalable stack, offering the best of the Web in simple scenarios, and scaling gracefully to SOAP based Web services with the addition of optional extensions when more robust quality of service features are required. A classical use case for Web Services is the travel agent company wanting to offer the ability to book complete vacation packages, and thus combining several services (plane/train/bus tickets, hotels, car rental, excursions, etc.). The flexibility of the Web Services, through extension such as the Semantic Annotations for WSDL, allows for a better automatic integration of the services.



## Achievements

The Project achieved the following:

- Increase European awareness and take-up of W3C work in relation to Web services:
  - 15 presentations in Europe around Web Services technologies and standardization (France, UK, Sweden, Belgium, Spain, Germany, and The Netherlands).
  - Press releases, press clippings, posters, and flyers related to the Web Services activity.
  - W3C Seminar on Web Services in Paris, France.
- Technology demonstrators on:
  - Using SOAP 1.2 and WSDL 2.0, on the popular W3C validation services.
  - SPDL: a system for allowing web services to provide bindings for SPARQL queries, the query language for RDF.
- Increase European awareness, participation and take-up in W3C Working Groups: we obtained between 50% and 70% of European participation in the three Groups funded by the project.
- Support of various Web Services related Groups: Web Services Choreography and Semantic Web Services Groups. The Choreography produced a specification for Web Services Choreography Description Language, which did not reach the status of W3C Recommendation.
- Launch of the Semantic Annotations for WSDL, which produced a W3C Recommendation for *Semantic Annotations for WSDL and XML Schema*.



title

Web services and semantics

contract number

004308

type of project

Specific Support Action

contact point

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project website and partner list

<http://www.w3.org/2004/WS2/>

EC contribution

694 785 €

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duration

30