

Semantic Web Services in .NET aspect

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XML Web Services are the new level of service on top of the Internet. To employ their full functionality, suitable standards need to be developed, because the current standards like WSDL, UDDI are lack of expressive power. The goal of Semantic-enabled Web Services is that the properties, interfaces, capabilities and effects of web services are explicitly defined and described in a machine-readable and machine-interpretable way as today's Web was designed primarily for human use, but we are seeking increased automation of Web service interoperation, primarily in B2B and E-Commerce applications.

Tim Berners-Lee, father of the Internet, had two-part vision about making a better way of communication. The Web should be a more collaborative medium and it ought to be understandable and be processable by machines [1].

Web Services provide interoperability solutions, making application integration easier. Because it uses open standards. All of them rely on XML basics, which has widespread support among vendors for its extensibility. Web services are software applications available on the Internet that perform specific functions. They can be described, discovered and accessed by XML-based protocols, referred to WSDL, UDDI, SOAP. It is important that Web Services are completely independent of the presentation and the GUI of application. They send or receive data in XML format, no other way is possible to communicate with them. Because it does not need to focus on presentation, it can be the Business Logic in your distributed application. Other approach is, that XML is the foundation layer of Semantic Web. All standards which providing features for the Semantic Web built on the top of XML. To fit Web Services into the world of Semantic Web advanced features like composition, involving comparison, orchestration of them will be required totally automated way.

Semantic Web Services are harder to build than SOAP services. Using something like Microsoft .NET, you just claim your program is a Web service and it will generate SOAP code for you. However, SOAP may be easier but it has its share of problems: by tying it directly to your function, you risk substantial breakage if anything changes. Semantic Web Services, while requiring some more work at the beginning, make it more likely that your program will last a while and communicate well with others. This paper introduces into the world of Semantic-enabled Web Services by categorising the known issues of realizations.

References

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