

# What Are Web Services?

The term Web services describe a standardized way of integrating Web-based applications. Web services technology represents an important way for businesses to communicate with each other and with clients as well. It is a truly distributed computing model in which applications talk to one another. Web services do not provide the user with a GUI. Instead, Web services share business logic, data and processes through a programmatic interface across a network. The applications interface with each other, not with the users. Developers can then add the Web service to a GUI such as a Web page or an executable program to offer specific functionality to users.

Web services' distributed computing model allows application-to-application communication. For example, one purchase-and-ordering application could communicate to an inventory application that specific items need to be reordered. Because of this level of application integration, Web services have grown in popularity and are beginning to improve business processes. In fact, some even call Web services the next evolution of the Web.

Perhaps the best example of the growth of Web services is eBay. eBay has been aggressively developing its Web services platform by extending application programming interfaces that essentially turn its Web site into a platform.

Online retailing giant Amazon.com is another example. Companies such as Microsoft and Sun Microsystems have been helping developers build and deploy Web Services and clients for close to four years now. Sun's J2EE platform, for example, is where developers build on the building blocks in order to access Amazon's selling platform.

Web services are built on several technologies that work in conjunction with emerging standards to ensure security and manageability, and to make certain that Web services can be combined to work independent of a vendor. The term Web service describes a standardized way of integrating Web-based applications using the XML, SOAP, WSDL and UDDI open standards over an Internet protocol backbone.

## **XML**

Short for Extensible Markup Language, a specification developed by the W3C. It is designed especially for Web documents. It allows designers to create their own

customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

### **SOAP**

Short for Simple Object Access Protocol, a lightweight XML-based messaging protocol used to encode the information in Web service request and response messages before sending them over a network. SOAP messages are independent of any operating system or protocol and may be transported using a variety of Internet protocols. It is a kind of envelope that carries information about Web Services messages.

### **WSDL**

Short for Web Services Description Language, an XML-formatted language used to describe a Web service's capabilities as collections of communication endpoints capable of exchanging messages. WSDL is an integral part of UDDI, an XML-based worldwide business registry. WSDL is the language that UDDI uses. WSDL was developed jointly by Microsoft and IBM.

### **UDDI**

Short for Universal Description, Discovery and Integration. This is where the WSDL is stored. It lists what services are available and how they are stored, managing information about service providers, service implementations, and service metadata. Think of it like the Yellow Pages.

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