

Web Services Quick Start

Cape Clear Software

This document provides a quick guide for managers to the standards, terminology and products within the Web Services market.

What are Web Services?

- Web Services are standards-based software components that communicate via ubiquitous Internet protocols.
- They are based on standards guided by the W3C, and enjoy widespread industry support (from Microsoft, IBM, Sun and others).
- They allow developers to build software applications using any platform, object model, and programming language they choose.

Are there any current examples?

- Many Web Services applications have already been implemented, but most are “inside the firewall”, running on corporate intranets.
- Microsoft’s Hailstorm initiative (.NET My Services) is a collection of generic Web Services aimed at consumers.
- There are live examples at www.xmethods.com or www.capescience.com.

What are the key standards?

- eXtensible Markup Language (XML)
- Simple Object Access Protocol (SOAP)
- Web Services Description Language (WSDL)
- Universal Description, Discovery, and Integration (UDDI)
- HTTP, HTTPS, and SMTP are key underlying technologies to the above.

What is XML?

- XML (the Extensible Mark-up Language), is called extensible because it does not have a fixed format, like HTML.
- XML is not a single, predefined mark-up language; rather it is a *meta-language* (a language for describing other languages), which lets you design your own mark-up. XML allows users to create their own customized mark-up applications for exchanging information in their domain.
- XML is a public format; it is not the proprietary product of any company.

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Why use XML?

- XML promises to simplify and lower the cost of data interchange and publishing in a Web or intranet environment.
- XML uses text-based syntax that is readable by both computers and humans, which makes it easier for software developers to learn and use.
- XML offers data portability and reusability across different platforms and devices, including future platforms and devices.
- XML is predicted to play a dominant role as a data interchange format in business-to-business (B2B) Web applications such as e-commerce, supply-chain management, workflow, and application integration.
- XML is also useful for structured information management, including information contained in databases. XML supports media-independent publishing, allowing documents to be written once and published in multiple media formats and devices.

What is SOAP?

- Simple Object Access Protocol (SOAP) is an XML-based message format for communication between applications.
- The SOAP specification, controlled by W3C, defines encoding rules for standard data types to ensure compatibility and interoperability between different programming languages, operating systems and hardware platforms.
- The SOAP specification has been deliberately kept as simple and concise as possible to ensure it can be easily understood, developed, and adopted.
- The current version of SOAP is SOAP 1.1. The next version, 1.2, is currently in draft format. It is important to select vendors and products that explicitly support the Microsoft SOAP used in .NET.

What is WSDL?

- Web Services Description Language (WSDL) provides a means of describing Web Services.
- The WSDL specification is an open standard controlled by the W3C.
- WSDL is similar to CORBA IDL, or a J2EE remote interface, in that it describes an interface for a service.
- WSDL files are published in the UDDI repository. This repository allows businesses to locate services and interact with other “Web Services” systems.

What is UDDI?

- UDDI is a repository-based directory service for automated lookup of Web Services.
- The UDDI repository stores information about business entities and the services they offer.

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- Applications interact with a UDDI repository using SOAP messages.
- UDDI can be considered the “yellow pages” of the Internet – a way of looking up businesses and the services they provide.

Where do I start?

- Conduct research on the Web Services vendors to determine which product supports your current IT infrastructure.
- A small project, for internal use in your intranet, is often the best way to start introducing Web Services into your organization.
- The best initial projects involve the reuse of existing back-end systems – with Web Services used to expose them in a new way. This approach will focus your staff on Web Services benefits (and new integration options) rather than on new development efforts.

What do I look for in a Web Services platform?

- Ensure that your current technology (Java, J2EE, CORBA, .NET, XML) is supported by the Web Services vendor.
- Ask for case studies and reference customers.
- Ask about SOAP interoperability, especially with Microsoft SOAP.
- Ask about tools support to boost productivity and rapid development.

Reference Information

The good source for general news on Web Services

www.webservices.org

A good site for technical articles on Web services

www.webservicesarchitect.com

An introduction to Web Services

<http://www.capeclear.com/products/webservices/>

Developer resources for Web Services

www.capescience.com