Web services is a standards-based approach for integrating applications. Web services allow different programs, constructed in different languages, on different platforms to communicate with each other. In the same way that the HTTP standard turned the world’s information systems into a single, searchable, content library, the web services standard is leading a leading technology shift that can turn the world’s applications into a single, function call library.

BusinessObjects Data Integrator has pioneered the use of web services in its enterprise-class architecture. The industry’s first real-time and batch extraction, transformation, and loading (ETL) platform, Data Integrator simplifies and accelerates data movement and sharing across the enterprise. Its use of web services allows called resources to interact with and modify data.

Unique to the market, Data Integrator can:

- Publish any job as a callable web service (call-in functionality)
- Call external web services from within its jobs using a built-in web services adapter (call-out functionality)

Customer and Industry Feedback

“As the leading producer of beer, soft drinks, isotonic drinks, water, and iced tea for South American markets, Ambev’s operations require data integration across a wide variety of systems, divisions and companies. The ability to access Data Integrator jobs and services as web services from remote sites across the Internet without having to develop custom data integration will greatly speed deployment and reduce costs of data integration projects.”

Leandro Balbinot, Director of Data Warehousing and Enterprise Architecture, Ambev

“Exposing batch and real-time data integration functions as Web services is increasingly important for companies as they seek to integrate more closely with suppliers, partners and customers. Utilizing ETL services via standard Web protocols can speed the deployment of data integration solutions both within and among companies.”

Doug Laney, Vice President, META Group.

Data Integrator is the first data integration software provider to embed web services capabilities into an extraction, transformation and loading (ETL) tool

Data integration (DI) web services enable companies to exchange data with legacy applications and with customers, partners, and suppliers via a central directory. This allows them to seamlessly connect to a wider number of internal systems, customers, partners, and suppliers. With DI web services organizations can combine and consolidate information without having to develop custom and proprietary data integration adapters. Web services can be developed for data warehouse updates and real-time application-to-application data integration.
**Working with Web Services**

If you have an application that also supports web services you can use that application to automatically launch Data Integrator batch jobs and use real-time services. Or you can use it to publish your application’s functionality to be used by Data Integrator data flows.

Web services are modular business applications based on open standards (WSDL, SOAP, and XML Schema primarily) that allow integration among different applications and environments through the Internet. Web services allow parts of existing applications to be used by other applications. For business intelligence (BI), Web services can be used to:

- Access legacy systems
- Conduct machine-to-machine interaction over the web internally or externally
- Allow applications constructed in different languages and/or on different platforms to communicate with each other in an enterprise environment

Data Integrator supports three XML web service technologies:

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<tr>
<th>Web Services Technologies</th>
<th>Description</th>
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<td>SOAP</td>
<td>Communication protocol</td>
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<td>WSDL</td>
<td>Web services metadata</td>
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<td>Format for specifying XML metadata</td>
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**SOAP**

In addition to allowing you to invoke real-time services using the Message Client Libraries (which support C++, COM, and JAVA connections), TCP/IP, and proprietary XML using HTTP, Data Integrator supports the Simple Object Access Protocol (SOAP). SOAP is the industry standard from the World Wide Web Consortium (WC3) and is used to invoke network resources using XML over HTTP, HTTPS, and other standard protocols. Data Integrator supports SOAP version 1.1 over HTTP and HTTPS protocols.

**WSDL**

Web services description language (WSDL) is a sub-set of XML. It defines the web services interfaces, transport mechanisms, and messages. Data Integrator publishes its jobs in WSDL so they can be called by your external applications. All comments entered into the job descriptions box in the Data Integrator designer graphical user interface are also published with each job in WSDL. The WSDL file generated by Data Integrator includes tags (such as services, bindings, ports, and operations) that support the use of the SOAP protocol. Each tag has names associated with it that Data Integrator provides.

**XML Schema**

WSDL uses XML Schema to define input and output message formats. XML Schema has become an industry standard for formatting XML messages, replacing Document Type Definitions (DTD) formats. For call-in functionality, if a real-time service was defined with DTDs, Data Integrator translates the DTD format into the XML Schema format. For call-out functionality, the web services adapter imports metadata into Data Integrator using the XML Schema format only.