

## Easily integrate Web Services into your Omnis applications, or create your own



The concept of a Service Oriented Architecture (SOA) represents the latest step in Business IT to improve the integration of different applications and computing platforms that may exist in an organisation or across distributed networks. One of the most successful realisations of a SOA to date is the use of Web Services, and this technology looks set to influence the future direction of application development for medium size and larger companies.

Omnis Studio fits very neatly into the SOA concept since it is very adept at integrating different technologies, and allowing developers to provide functionality on many different platforms and environments. With the introduction of the Web Services product, Omnis developers will be able to incorporate tried and tested business functionality, provided as Web Services, into their own Omnis applications. In addition, developers will be able to exploit their own Omnis applications by providing existing functionality to many new markets via Web Services.

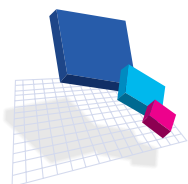
The main benefits of using Omnis Web Services are:

### Integration and data integrity

- Better Integration and Reuse of your code
- Access to business functionality regardless of platform or implementation
- Exchange data across departments or businesses in different locations
- Users can access up-to-date and more accurate data and information on demand via subscription or pay-as-you-go

### Productivity and Innovation

- Reduce complexity and development time
- Quickly integrate functionality into your applications, opening up new and improved business solutions
- Provide new business solutions quickly and easily by reusing functionality in existing applications



### Productivity and Innovation

The definition of a web service is: a standardised way of integrating Web-based applications using the XML, SOAP, WSDL and UDDI open standards over an Internet protocol backbone. SOAP is used to transfer the data (via HTTP/S), WSDL is used for describing the services available and UDDI is used for listing what services are available. Used primarily as a means for businesses to communicate with each other and with clients, Web services allow organisations to communicate data without intimate knowledge of each other's IT systems behind the firewall. (Source: [www.webopedia.com](http://www.webopedia.com))

In the context of Omnis Studio, a web service can be implemented as one or more Omnis methods within a remote task. Such a web service can be accessed by any other application, including Omnis itself, via direct or remote HTTP access via the Omnis Server and a standard Web Server. In addition, the Omnis Web Services product allows Omnis applications to consume or subscribe to any existing Web Service.

The client and server implementation of the Web Services product uses the Omnis Java Objects interface and fully complies with the SOAP, WSDL and UDDI standards.

The following research was published by [www.webservices.org](http://www.webservices.org) in May 2005 and shows that Web Services are becoming increasingly important for medium size and larger companies.

### Why are Businesses implementing Web Services?

- Integrate disparate systems 35.6%
- Expand/add functionality to online business channels 12.6%
- Customer demand for Web Services 11.4%

### What are the benefits of Web Services?

- Better reuse of services 56%
- Better integration between systems 55%
- Better developer productivity 31%
- More innovative solutions 30%

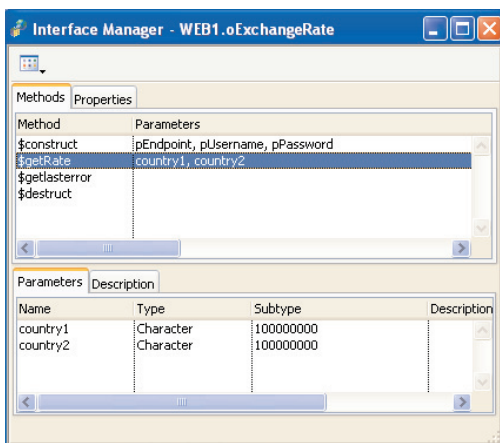
Source (May 2005): [www.webservices.org](http://www.webservices.org) published results of a survey of over 1000 developers and managers representing a wide variety of business sizes and industries. Respondents were asked to describe their current infrastructure, future plans, and opinions on Web services and SOA in general.

# Omnis Web Services: How do they work?

## On the client...

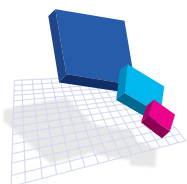
Using Omnis Studio as a Web Services client provides the following features:

- Using an Omnis wizard, an object class can be created in your library which encapsulates the methods for a remote Web Service.
- The Web Service object contains a reference to the WSDL file which can be a local or remote file, such as <http://api.google.com/GoogleSearch.wsdl>
- When you create the Web Services object you have the option to create an Omnis form allowing you to test the web service very easily.
- Methods contained in an Omnis Studio Web Service Object can be viewed in the Interface Manager and called in your own applications just like normal object methods.



The Omnis Web Services wizard creates an object class that encapsulates all the methods in the Web Service, providing easy and dynamic access to functionality

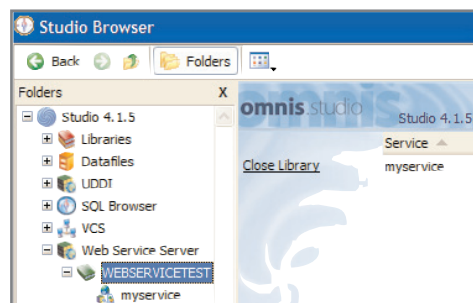
- The Web Service Browser in Omnis lets you search for Web Services on both public and private UDDI registries using a variety of search criteria.
- Remote Web Services listed in the Web Service Browser can be dragged onto your Omnis library, launching the class wizard and allowing you to create a Web Service client object.



## On the server...

As well as using Omnis as a client for Web Services, you can implement your own Web Services and publish them using the Omnis Server via the web.

- Each operation in an Omnis Studio Web Service corresponds to a method in a remote task.
- Parameters and return values for the remote task methods can include aggregate types (lists and rows).
- The WSDL for a server Web Service can be generated automatically.
- You can view any Web Services in open libraries in the Studio Browser and you can test the service operations using an embedded form.



The Studio IDE lets you expose your Omnis code as a Web Service and allows anyone to easily access business functionality via the Omnis Server

- Dragging an Omnis Web Service onto an open library creates a Web Service client object; each method in the object has the same parameter types and return value as the remote task method in the Web Service.
- Omnis Web Services are deployed on the Omnis Server in conjunction with a standard web server; communication is enabled via a special Web Server plug-in (Apache or CGI).
- Alternatively, Omnis has its own built-in HTTP server, which allows requests to be sent directly to Omnis (this method does not support secure connections).
- Functions are provided for converting to and from UTC (Coordinated Local Time) and the local time zone.

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## Software Requirements and Licensing

To use the Omnis Web Services product, you must use the Web Edition of Omnis Studio version 4.2, or higher, and you must obtain the appropriate licences for using and enabling the Omnis Web Services plug-in. When creating a Client to a particular Web Service, you should refer to the relevant product or licensing documentation for details about using the service. To test or use a web service for commercial purposes you may need to register with the service provider to obtain an access ID and/or licence key. Services may be chargeable.