



Galileo Web Services

Product Information

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Web Services Product Information

By standardizing communications to the Apollo and Galileo GDSs, Web Services offer a number of potential benefits for designing, implementing, and marketing travel-related applications. By combining existing Galileo products with new technology standards, Web Services offers a more streamlined and robust method for designing travel applications.

The benefits of Web Services include:

- Platform independence.
- Encapsulated business logic that streamlines transactions to the GDS.
- More connectivity options.
- GDS communications components hosted by Galileo International.

Platform independence

Because our product adheres to cross-platform Web Services industry standards, we don't restrict the environment for developing or deploying client applications. Web Services client applications can be deployed in any environment that supports HTTP (Hypertext Transfer Protocol), including Windows® and UNIX, without requiring bridges or specialized interfaces. In addition, a wide variety of languages and development developer toolkits can be used to design and deploy client applications for Web Services.

Encapsulated business logic that streamlines transactions to the GDS

As Web Services technology evolves, more and more Web Services will encapsulate the business logic needed to communicate with the GDS into a more streamlined, intuitive framework. As a result, developers can focus on writing their applications rather than communicating with the GDS. The streamlined usability of Web Services could potentially reduce development time by 30 to 70%, depending on the type of application and development environment.

Note: The Reservation Builder eBL and Trip Planner eBL are no longer being sold. The Trip Planner and Reservation Builder eBL functionality does not work in the EMEA (Europe, Middle East, and Africa) markets. Customers that currently use these products will continue to be supported.

More connectivity options

Client applications can connect with our Web Services platform using either the Internet, or on a very limited basis, a dedicated connection. Customers can select the type of connectivity that is most appropriate for their business requirements and resources.

GDS communications components hosted by Galileo

Previously, developers needed to include complicated code in their applications to identify and route transactions to the GDS. Galileo's XML Select API product streamlined communications with the GDS for customer-hosted applications. Web Services hosts any required components at Galileo International and internally identifies and routes, transactions to the GDS.

Web Services Product Overview

What Are Web Services?

Web Services are essentially a series of standards that allow disparate systems to communicate with each other using a common framework. Web Services and client applications do not require a specific kind of infrastructure; their language, platform, and other structures need only be compatible with Web Services technology. Web Services represent an evolution in communication between applications, rather than a revolution. By combining existing technologies and setting common standards, systems that use Web Services have a single, explicitly defined method for communicating with each other.

Our Web Services products use common technology industry Web Services to support data transfer between client travel applications and the Apollo® and Galileo® GDS core systems. Our Web Services product is a collection of services that provide access to key functionality on the GDS.

The Web Services available through our Web Services provide access to a wide variety of travel-related functionality. Our Web Services product offering is divided into two different types of Services that transact with the GDS, each using two different models for organizing data:

XML Select Web Service

The XML Select Web Service mirrors the host functionality of the GDS. Individual transactions can be strung together to create a business process. These transactions are the same transactions found on our Galileo's XML Select API product. For example, the XML Select Web Service contains individual transactions for air availability, air pricing, fare, selling a segment, reserving an itinerary, selecting a seat, and ending a transaction.

Encapsulated Web Services

The other Web Services in our product offering provide a higher level of abstraction by encapsulating a specific business process into a single transaction. For example, Reservation Builder eBL has a Create Trip function that combines over 20 individual transactions into a single call to the Web Services.

Note: The Reservation Builder eBL and Trip Planner eBL are no longer being sold. The Trip Planner and Reservation Builder eBL functionality does not work in the EMEA (Europe, Middle East, and Africa) markets. Customers that currently use these products will continue to be supported.

Support Options for Web Services

Several support options are available during the development of new and modification to existing applications. We support the functionality of Web Services only; the programming technique, language, and environment is not supported.

Online Help

A web site that providing theoretical and practical information for using Web Services is available including:

- A general overview of Web Services.
- Descriptions of each Web Service.
- Recommendations and requirements for application design, capacity planning, and security.
- Getting started guides and sample transactions.
- Detailed information about how to use each web service, including the individual transactions within the XML Select Service.
- A troubleshooting guide.

The Web Services Help can be accessed by clicking "Documentation" on the Web Services Sample Site, and is available to prospective and licensed customers.

Web Services Sample Site

We offer a Sample Web Site that provides you the ability to learn and work with samples of actual Web Services transactions. <http://testws.galileo.com/gwssample/>

The Sample Site provides you with:

- Test access for Web Services requests for air, car, and hotel.
- Use Getting Started code for C+, Java, VB NET, and Perl in sample applications.
- An overview the Web Services architecture.
- Access to the Web Services Help System for details, instructions, and reference information
- Ability to view and copy sample code for several languages and platforms.

Access to some features on the Sample Site is restricted:

- All users can access the sample requests and read the *overview*
- Prospective customers, who receive a preliminary user name and password can also review the *Documentation* section, including the Web Services Help System.
- Licensed customers, with a user name and password, can also access the sample code in the *View Code* section.

Types of Web Services

Our Web Services products use common Web Services technologies to support data transfer between client applications and the Apollo® and Galileo® core systems, providing key functionality on the GDS. Our product offering is divided into two different types of Services that transact with the GDS, each using different models for organizing data.

XML Select Web Service

The XML Select Web Service mirrors the host functionality of the GDS. Individual transactions can be strung together to create a business process. These transactions are the same transactions found on our Galileo's XML Select API product. For example, the XML Select Web Service contains individual transactions for air availability, air pricing faring, selling a segment, reserving an itinerary, selecting a seat, and end transacting a file.

Encapsulated Web Services

The other Web Services in this product offering provide a higher level of abstraction by encapsulating a specific business process into a single transaction. For example, Reservation Builder eBL has a Create Trip function that combines over 20 individual transactions into a single call to Web Service.

As Web Services evolves, additional GDS business functions will be abstracted and encapsulated into separate Web Services. The baseline XML Select Web Service will be maintained, but alternative Web Services will provide more business processes in the *encapsulated business logic*. We currently offer the following Web Services:

XML Select Web Services

Based on our XML Select product, this Web Service provides the same functionality within Web Services technology. Additionally, the XML Select Web Service also supports terminal transactions, which can be used for functions not currently supported through structured data (XML Select transactions). Business functions include transactions for:

- Air, car, hotel, and cruise shopping, availability, and booking.
- Faring and fare manipulation.
- Using sessions.
- Manipulating PNRs/Booking Files, itineraries, and segments.
- PRO-File/Client File manipulation.

Encapsulated Web Services

Reservation Builder eBL

This service supports booking, canceling, and modifying trips in one call to the core GDS.

The Reservation Builder eBL is no longer being sold. The Reservation Builder eBL functionality does not work in the EMEA (Europe, Middle East, and Africa) markets. Customers that currently use these products will continue to be supported.

Trip Planner eBL

Encapsulates shopping, evaluating, and ranking air, car, and hotel selections for a specific trip in one call. Returns data for complete trips with alternatives, prices and rankings against preferences and profiles.

The Trip Planner eBL is no longer being sold. The Trip Planner functionality does not work in the EMEA (Europe, Middle East, and Africa) markets. Customers that currently use these products will continue to be supported.

Flight Information eBL

Provides the current status of a flight including actual and scheduled departure, arrival and departure times, arrival gates; and cancellation or delay information.

Itinerary eBL

Retrieves detailed itinerary information in one display.

Travel Codes Translator eBL

Provides encoding of standard industry city, state, country and airport codes.

Image Viewer eBL

Provides images and descriptions of over 33,000 hotel properties, with additional properties being added regularly.

Cruise Modify eBL

Provides the ability to cancel and modify a cruise and look up penalty details using Web service technology.

Technical Specifications

Planning for an application that includes Web Services requires familiarity with the technology and developer skill sets. Forecasting the expected transaction traffic is an important step in the application planning.

Web Services Standards and Protocols

Web Services conforms to the following industry standards and protocols.

Message Envelope - SOAP 1.1	http://www.w3.org/TR/SOAP/
Message Transfer - HTTP 1.1	http://www.w3.org/Protocols/
Encryption - SSL 3.0	http://home.netscape.com/eng/ssl3/index.html
Web Service Description Language - WSDL 1.1	http://www.w3.org/TR/wsdl
Discovery and Integration - UDDI 1.0	http://www.uddi.org
Data Transfer - XML 1.0	http://www.w3.org/XML

Tools and Environments

Any development tools or environments that are compatible with the above standards and protocols can be used. These tools and environments include, but are not limited to:

- Microsoft.NET
- IBM WebSphere® Studio Application Developer
- Apache Axis (replacing Apache SOAP)
- The Mind Electric GLUE™
- SOAP::Lite for PERL

Developer Skills

Developers should have familiarity with XML, as well as the standards and protocols listed in this section. When using the XML Select Web Service, knowledge of the GDS business model is also helpful.

Connectivity

Web Services can be supported through an Internet connection. Internet connections must be secured via an SSL (Secured Socket Layer) protocol, as well as the security functions provided for Web Services. Because Web Services formats and standards are not limited to use on the Internet, the same protocols apply to the message, regardless of the type of network connection.

Security

The Web Services servers are secured, and access is only granted to the specific web services for which clients are licensed. Internet connections to Web Services must also be encrypted via an SSL (Secured Socket Layer) protocol.

Capacity Planning

All capacity planning decisions should initiate from the projected scope and requirements of the client application. Capacity relates to the functionality of two basic components:

- The design and required functionality for the client application.
- The size and type of network connection.

The expected volume of Web Service calls is the key factor in capacity planning. Issues for determining expected volume include:

- The expected look-to-book ratio between requests to the GDS and actual bookings.
- The expected number of sessioned vs. sessionless transactions.
- The types of Web Service calls planned, and their expected message sizes.