OMNIS Web Client™

Technical background

Overview

The OMNIS Web Client™ is a Remote Form Control, an ActiveX or Netscape plug-in that is downloaded to your PC and installed like any other web plug-in. At around 500K, its download time is acceptable for Internet use. This is of course a one time operation.

The OMNIS Web Client runs a new OMNIS class called a Remote Form Class. You develop remote form classes using OMNIS Studio. Remote forms contain special C++ based external Web Components, including buttons and lists, tabs and sidebars, and more. The component architecture is open for any developer to build new components, and they support event handling.
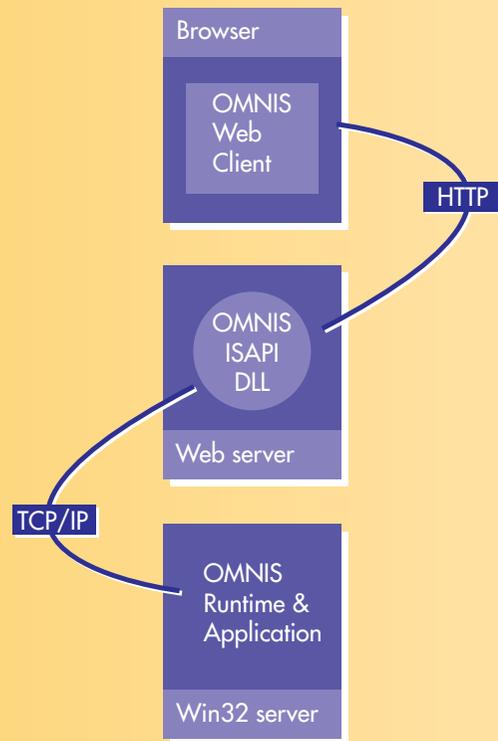
On the web server you have a server extension which uses either ISAPI or CGI. This mediates between the remote forms and web components used in a web page on the client and the data needed from your OMNIS Studio server database.

Communication between client and server is based on standard HTTP or HTTPS.

Architecture

Standard Web architecture supports the OMNIS Web Client. As such, the interface to the application comprises HTML pages accessed via a web server. In addition to these, there is an OMNIS Studio runtime which runs adjacent to the web server, and the thin client, an Active X or Netscape plug-in which can be embedded in HTML pages. To provide the bridge between the web server and the OMNIS Studio runtime, there is an ISAPI DLL or a CGI program. Thus requests from clients are addressed to the server extension, which handles the interface to the OMNIS Studio Runtime that runs the 4GL application.

The OMNIS Web Client can operate in two ways:

1. By embedding the Active X or Netscape plug-in in a simple HTML page. This acts as a container for a form developed using OMNIS Studio.

2. By using a standard HTML form addressed to the ISAPI DLL or CGI program.

If desired, the standard Web architecture allows a browser to use secure sockets to communicate with the Web server.
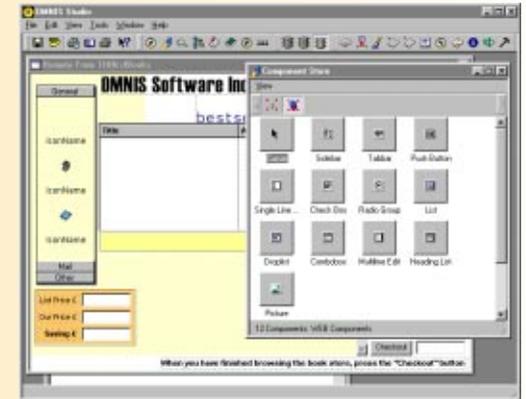
Development

Developers use the OMNIS Studio development environment to develop their application.

The web user interface is designed as a remote form class which is analogous to a normal application window, but which is designed to be instantiated by the Active X or Netscape plug-in on the client. Remote forms support standard controls such as single and multi-line edit fields, push buttons, check boxes, radio buttons, lists, drop down lists, and combo-boxes on forms. Background objects such as text labels and pictures, and page, side bar and tab bar controls can be used to further enhance a form.

In addition to the standard form controls provided with the product, developers can implement their own form controls written in C++, using the open external component interface.

The OMNIS Component Store contains many Web components, wizards, and form controls.

Controls on forms have methods to process events, for example a click on a button. Since an event on the client can cause code to run on the server, developers can specify which events do this, in order to reduce network traffic. A future version of the product will include optional client-side scripting, which allows the developer to provide some processing on the client without involving the server, to enhance performance.

Forms can be tested locally by the developer, without the need for a Web server. OMNIS does not require compilation, so development can be interactive.

OMNIS Studio also provides a remote task class. A remote task acts as a container for all of the instances of a client, and represents a single logical connection from client to server. The remote task class also provides the interface from standard HTML forms. The form can contain application specific parameters and parameters which identify the remote task class. When the client submits the form, OMNIS Studio creates a new instance of the remote task class, and passes the form parameters to the instance constructor. The constructor generates an HTML page dynamically, using the OMNIS Studio HTML report generator, and returns this page to the client.

Deployment

Server
The standard server environment comprises a Web Server (purchased from a third-party) and an OMNIS Studio runtime. These need not run on the same machine, but typically they would be on the same LAN, as communication between the Web Server and the OMNIS Studio runtime uses TCP/IP, and is not encrypted.

Client - embedded ActiveX or Plug-in
To run remote forms embedded in an HTML page, the client needs either the Active X (for Internet Explorer) or the Netscape plug-in (for Netscape). The Active X and Netscape plug-in come with a number of additional DLLs. A number of these provide the form and GUI engine. The remainder are external component DLLs which provide the controls and background objects used on forms.

Web browser running a Bookstore solution; the form contains Sidebar, data and picture fields, lists, etc.

Typically, the Web Server would provide an HTML page from which the client can download the Active X or plug-in. The product ships with an installer ready to download. There are also instructions to developers, to enable them to produce their own installer, containing additional custom controls. The installer can detect whether or not the Active X or plug-in is already on the client system, and only install updated versions or new external component DLLs.

Client - HTML Form
There are no special requirements for the client when it uses an HTML form to access the OMNIS Studio runtime on the Web server. It simply needs an HTML page containing an HTML form. The form parameters identify the remote task class, and application specific information.

Requirements

Server
A third-party web server, an Intel machine running Windows NT, Windows 95 or

Windows 98, and supporting either ISAPI DLLs or CGI programs.

An Intel machine running Windows NT, Windows 95 or Windows 98 to run the OMNIS Runtime. This can be the same machine as the machine running the Web server. Versions of the OMNIS runtime suitable for running on the Power Mac under Mac OS X and under Linux are currently under investigation.

Client
An Intel machine running Windows NT, Windows 95 or Windows 98, or Power Mac, with Internet Explorer or Netscape browser.

Development
An Intel machine running Windows NT, Windows 95 or Windows 98, or Power Mac machine.

Contact us

For more information about OMNIS Studio and the Web Client, including pricing and availability, please go to our web site at www.omnis-software.com. Alternatively, call your local sales office.

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www.omnis-software.com