

# Web Deployment Options with BASIS

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**T**he growing use of the Internet, intranet, and extranets in organizations generates an increasing demand for BASIS products running over the Web. As the World Wide Web continues to revolutionize the way organizations conduct business, application developers must respond to the myriad of requests for Web-enabled features. BASIS provides a variety of choices to deploy applications on the Web.

## BASIS in a Browser

Customers have three basic choices for running their applications in a Web browser - terminal emulator, Terminal Server Advanced Client, or an applet hosted in a browser.

### Terminal Emulator

If an application is a pure character application running on a Linux or UNIX machine, then browser deployment is simple and inexpensive. Several companies offer terminal emulators that run embedded in a browser. After selecting the terminal emulator(s), there are two basic steps to follow. First, acquire a terminal emulator that runs in a browser. Second, set up the embedded terminal emulator.

After completing these steps, the customer will have browser access that works exactly like the terminal emulator application running on a PC. Furthermore, the terminal emulator option works for applications running either PRO/5® or BBj®.



Figure 1. Terminal Emulator in a browser.

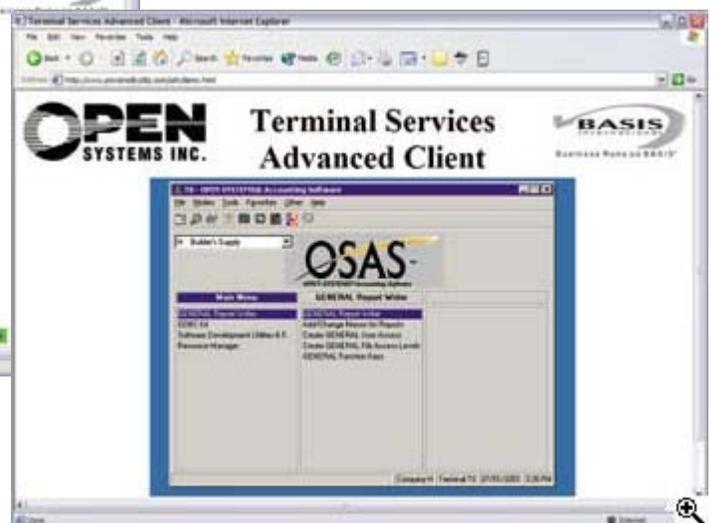


Figure 2. Terminal Server Advanced Client running Visual PRO/5 in a browser.

## Terminal Server Advanced Client (TSAC)

If the customer runs an application on a Windows server, then deploying the application in a browser is even easier than running a terminal emulator in a browser. Simply follow the steps listed below:

1. Setup the Windows Server to run as a terminal server.
2. Download the TSAC ActiveX control for Microsoft® and write a Web page to use the ActiveX control automatically.

Now, both the character and graphical programs run in a browser window exactly like they run on a Windows machine. This TSAC option works for Visual PRO/5® and BBJ-powered applications.

## Applet

With the initial release of BBJ, BASIS provided application developers with a three-tier deployment choice. This means that the customer can deploy the data server, interpreter, and thin client on three different machines. Therefore, the customer can deploy the data server and interpreter on any combination of Windows, Linux, or UNIX servers. Then, the customer can write an HTML page that automatically downloads and installs the preferred JVM on the client machine and runs either a character or graphical application on the thin client embedded in a browser.



**Figure 3.** BBJ Applet running in a browser.

## BASIS Powering HTML to a Browser

Some customers require HTML Web pages populated with data from their BASIS file system. This requirement goes beyond the capacity of an ODBC or JDBC driver, because the customer needs access to the business rules and the data integrity logic of their BASIS-powered programs. BASIS facilitates these requirements using the Java BBjBridge and JSP, Windows Scripting Host and ASP, or the BASIC Web Utility.

## Java Server Page (JSP)

Customers who develop Web pages using the cross-platform Java language and architecture have easy access to their BASIC code. JSP developers make calls to their BBx® programs from the JSP through the Java BBjBridge. The Java BBjBridge enables synergism between a traditional development language and a new Web development paradigm. This synergism occurs when a Java program launches a BBj program, passes information to it, and lets it process the information via the built-in bus. JSP rules then retrieve the output for display on the HTML page.

## Active Server Page (ASP)

Win32 Web servers support active server pages. This server-based Web page construction empowers Web developers with significantly better dynamic page creation capacity. BASIS developers using this Microsoft Web deployment architecture achieve the greatest performance calling Visual PRO/5 programs via the Windows Scripting Host. Using Visual PRO/5 through Microsoft's native tools generally provides the greatest performance on a Win32 platform.

ITEM	ITEM	DESCRIPTION	UNIT	CATE	STOCK	UNIT	COST	VOLUME	BUY	UNIT	PRICE
000001	Jockey - Probs. Adult	CS	EA	1,800.00	112.40	9.00	1.70				
000002	Jockey - Probs. Boy	CS	EA	3,270.00	108.00	9.00	0.70				
000003	Blue Cross Child	PL	EA	11.00	9.40	9.00	2.70				
000004	Pajamas	SP	EA	270.00	82.00	9.00	2.20				
000005	Pajamas	CS	EA	96.00	113.40	9.00	1.70				
000006	Chile One Course Sampler	CS	EA	1,200.00	0.00	9.00	7.20				
000007	Chile T-shirt Small	CS	EA	480.00	113.40	9.00	0.80				
000008	Chile T-shirt Large	CS	EA	480.00	113.40	9.00	0.80				
000009	Chile T-shirt Ladies	CS	EA	480.00	113.40	9.00	0.80				
000010	Chile Ladies Silk Socks	CS	EA	17.50	1.00	9.00	19.00				
000011	Apres Ski Goggles	CS	EA	11.00	0.00	9.00	0.90				
000012	Chile Hat	CS	EA	11.00	0.00	9.00	0.90				
000013	Sopranos Hat	PL	EA	180.00	9.40	9.00	2.70				
000014	Red Chile Beans	CS	EA	77.00	0.00	9.00	14.00				
000015	Green Chile Salsa	CS	EA	77.00	28.10	9.00	2.20				
000016	Jagueno	CS	EA	800.00	28.20	9.00	1.70				
000017	Sardas Chile Probs	CS	EA	30.00	10.40	9.00	0.80				
000018	Fruit Pajamas	CS	EA	99.00	18.10	9.00	2.20				
000019	Chile Pen Sildars	CS	EA	270.00	0.00	9.00	1.20				
000020	Gold Cufflinks	CS	EA	0.00	0.00	9.00	0.00				
000021	Tumbler Probs	CS	EA	80.00	0.00	9.00	22.00				

**Figure 4.** ASP and Windows Scripting Host showing results of a Visual PRO/5 program in a browser.

## BASIC Web Utility (BWU)

The BWU honors BASIS's traditional support for the cross-platform Business BASIC development community. BASIS developers can quickly create comprehensive Web sites using the BWU, without learning much HTML or any other Web-centric language. The BWU works with PRO/5, Visual PRO/5, and BBj interpreters to generate dynamic HTML using BASIS's BASIC language syntax.

**Figure 5.** BASIC Web Utility powering sites on the World Wide Web.



## BASIS Powering Applications Over the Web

During the past decade, the Internet became a ubiquitous connection between Web browsers and the World Wide Web. In recent years, application developers realized the need to connect their customers' applications through the Internet.

### Microsoft Windows Platform

Today, customers using Microsoft clients and servers have several choices for connecting clients and servers over the Internet. Pocket PCs often come with a Terminal Server Client pre-installed. This client enables the PDA direct access to applications running on a Windows Terminal Server anywhere on the World Wide Web. Similarly, the Pocket PC can run terminal emulator software, providing access to

traditional character-based software. Therefore, customers have access to Microsoft's "one-degree of separation," using a combination of Microsoft and BASIS application technologies.

## Java Platforms

Many developers prefer cross-platform solutions to service a wider client base and to reduce unnecessary dependence on a single OS vendor. For those customers, Java supplies Web Start as an analog to the Windows Terminal Server Client. J2EE ships Web Start; a Web-enabled remote client solution. This Java client allows client machines with Internet access to run applications on remote servers and display them locally. Therefore, Web Start provides cross-platform development and deployment architectures formerly available only in the Win32 environment.

Recognizing the important role that the Internet plays in organizations today, BASIS offers a diverse selection of deployment options to give customers a variety of choices. For details on how BASIS enables the latest cross-platform Web deployment option, see "[Writing a Web Service in BBj](#)".

Click [HERE](#) for the "Web Deployment Options with BASIS" source code.



**Figure 6.** Visual PRO/5 application running on a Pocket PC via Terminal Services Client.