Finally, Thin Client!
by Adam Hawthorne

BASIS' new product generation, BBj™, will have full support for thin client applications! End users of BBx® or BBj products can run their applications on a server while the GUI or character-based front end runs o n a workstation. Business Basic developers can write BBx programs just as they normally would and simply deploy them as thin client applications. And the same technology is used in BBj's integrated development environment (IDE), the BBjDE™, so developers can build these thin client products using a thin client IDE. With BBj, both developers and end users will be able to manipulate the graphical front end on a less powerful desktop/workstation computer and perform the interpr eting of BBj on a faster, more powerful server.

BBj is being developed using Java™, so the operating systems of servers or clients can be Linux, UNIX or Microsoft Windows, supporting any number of development or production environments. Extending this solution with a PRO/5 Data Server® allows the three-tiered approach that is becoming so popular: a thin client connected to an application server that in turn uses a data server for its database.

BBj will require only a Java Runtime Environment (JRE), but the BBj Thin Client™ technology itself needs no other application. No Microsoft Terminal Server or Citrix Server will be required. All the capability will be imp lemented in BBj itself, and no modification to BBj source code will be necessary to run the code in either local or thin client modes. All one needs to do is start our BBj AppServer™ on the application server, start the BBj Thin Client with the correct BBj program name and ensure that the BBj program is in the correct directory on the server.
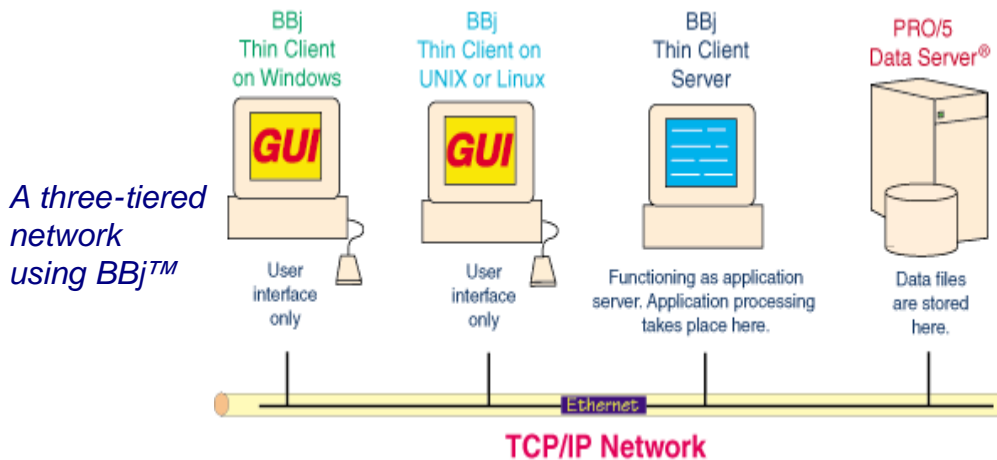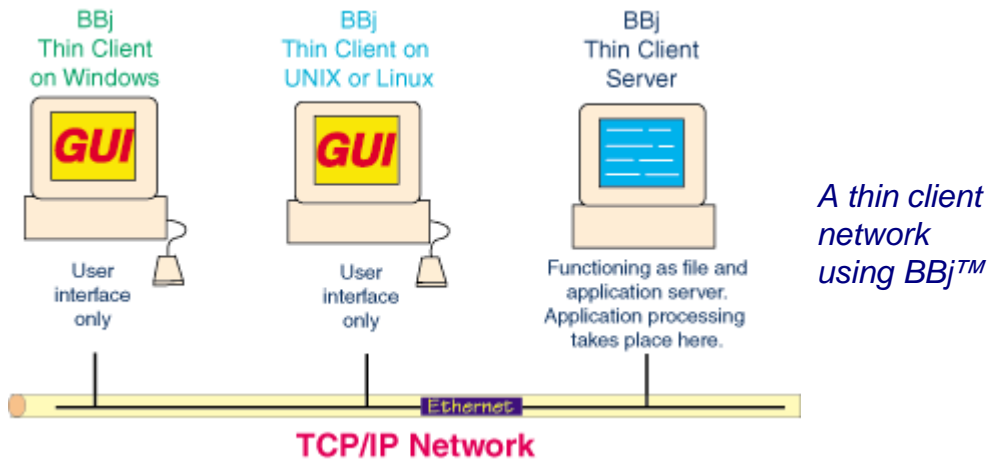
The new BBjDE will have thin client extensions as well as the SYSWINDOW and the SYSGUI. This will allow a Business Basic developer to develop his or her code on one machine while running it on a completely different machine and so take advantage of a fast, localized server to increase productivity.

Running BBj In A Web Browser

One of the more exciting aspects of the thin client solution is that because BBj is written in Java, the BBj Thin Client can run from a Web browser. Although the process is a little more complicated than simply running a program, it is still straightf orward. If one has a computer that is running a Web server, one can write a small Java applet that encapsulates the thin client application included with BBj. The code for this is fewer than 20 lines long:

```
import java.awt.*;
import com.basis.bbj.comm.BBjClient;

 public class MyApplet
 {
     BBjClient myClient;
     public void init()
     {
         int port = 1234; // The port the server is started with.
         String hostname = getCodeBase().getHost();
         myClient = new BBjClient(hostname, port, "myfile.bbj");
     }
     public void start()
     {
         myClient.run();
     }
 }
```

A thin client network using BBj™

A three-tiered network using BBj™

Once you have compiled this code into a Java class file, you must write an HTML page in which to embed the applet and copy the class file and the HTML file to a public directory on the Web server. Then you have to start the BBj AppServer on the Web ser ver and make sure the target BBj program is accessible to the BBj AppServer. Once this is done, anyone with a Web browser can access the HTML page and run the program specified in the applet. This is exciting stuff! BBj can now be used for all sorts of e- commerce applications, from providing clients with demos to running global distribution networks on the World Wide Web. The long-awaited thin client solution will finally be here with the release of BBj.

Adam Hawthorne joined BASIS in 1999 as a Software Engineer. Adam has six years of software development experience, programming in Java™, C, C++, Perl, SCHEME, LISP and shell programming. Adam was extensively involved in writing the code that gives BBj™ its thin client capabilities.