Capitalizing on BASIS's Open Architecture

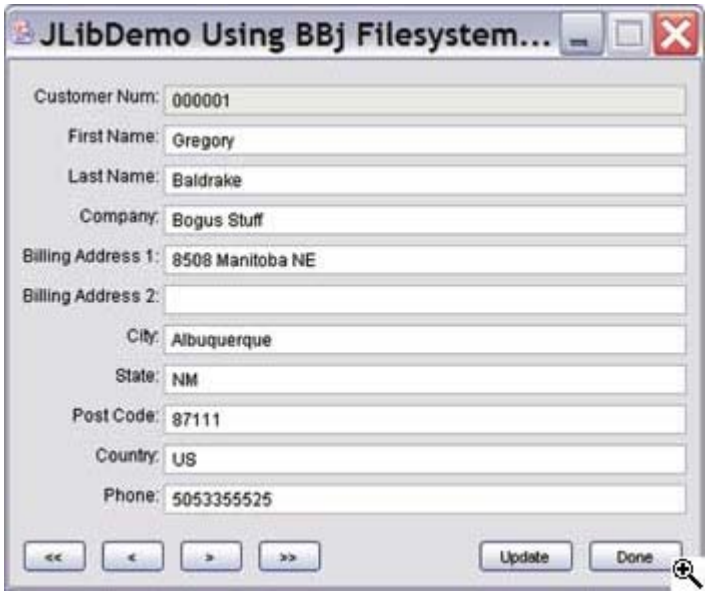
By Dr. Kevin King

Specialized application development provides an organization with rich functionality. However, many of these specialized applications require access to the organization's legacy data. This article provides an overview of how BASIS's open architecture facilitates XP Office Suite, Cold Fusion, WAP-enabled phones, CGI Scripts, and other commercial applications accessing the BASIS filesystem data via existing BASIS tools, such as ODBC, JDBC, and the BASIC Web Utility. Additionally, this article explains how custom C, C++, and Java programs access BASIS data files directly using the BASIS Java and C libraries, JLib and CLib, respectively.

Accessing the BASIS Filesystem

Most Commercial Off-The-Shelf (COTS) software developers write software in a database-independent fashion. This software achieves database independence by using database connectivity standards. Similarly, database developers supply standard database connectivity drivers. This creates synergism in the marketplace between COTS software and database developers, while broadening each of their markets. Moreover, the prevalent connectivity standards include ODBC for Win32 and JDBC for cross-platform data access. Therefore, BASIS empowers its customers with access to these commercial software packages by providing robust ODBC and JDBC drivers for its filesystem.

Figure 1. Java application using JLib to access the BBj Filesystem.



Open Database Connectivity (ODBC)

The BASIS product line continues to support and enhance the BASIS ODBC Driver® for Win32 platforms. The driver allows SQL access to the BASIS filesystem from ODBC-enabled products, such as Excel, Access, SQL Server, Crystal Reports, Cold Fusion, Dreamweaver, and many other COTS software packages. The availability of this standard interface gives organizations the ability to choose any report writer, Web development tool, or desktop productivity suite that suits their needs without imposing any constraints from using the BASIS filesystem. In other words, the BASIS filesystem provides the same access options for COTS software that DB2, Oracle, SQL Server, and MySQL provide.

Java Database Connectivity (JDBC)

In BBj® 1.0, BASIS introduced JDBC drivers to the product line. Support for the JDBC standard continues the BASIS commitment to cross-platform development. With the ever-increasing popularity of Java, many COTS packages added JDBC capability, allowing Java developers to communicate with the most popular data access tools. Now, Linux and other UNIX desktop applications, such as OpenOffice, have the same access to BASIS data that was previously only available to Win32 desktops.

Accessing the BASIS Filesystem With Custom Applications

Even though providing ODBC and JDBC drivers gives organizations an unfettered choice of COTS data access software, some organizations continue to write their own custom data-accessing software using C or Java. While these applications can use the ODBC and JDBC drivers, they benefit from a more direct access to the data. To meet these requirements, BASIS developed JLib and CLib for customers to link into their own custom applications. The availability of these filesystem libraries gives developers the same direct access to the filesystem that BASIS programs use. Therefore, Java and C programmers do not have to write SQL queries and do not pay the non-normalized database penalties associated with ODBC and JDBC access.

Accessing BASIS Data Through Web Services

Technology innovations continually introduce new data access standards. Web services is the newest standard implemented by J2EE and .NET. While ODBC, JDBC, JLib, and CLib provide access to the data in the database or filesystem, they do not give the client application access to the business rules, processing logic, or data integrity of the BASIS programs. With the creation of Web services standards, COTS and custom applications, can now obtain the data by calling programs offered through the Web services interface. BBj version 3.0 and higher supports the Web services interface, which means that COTS and custom applications, written in almost any language, can call BASIS programs like they call libraries written in their respective languages.

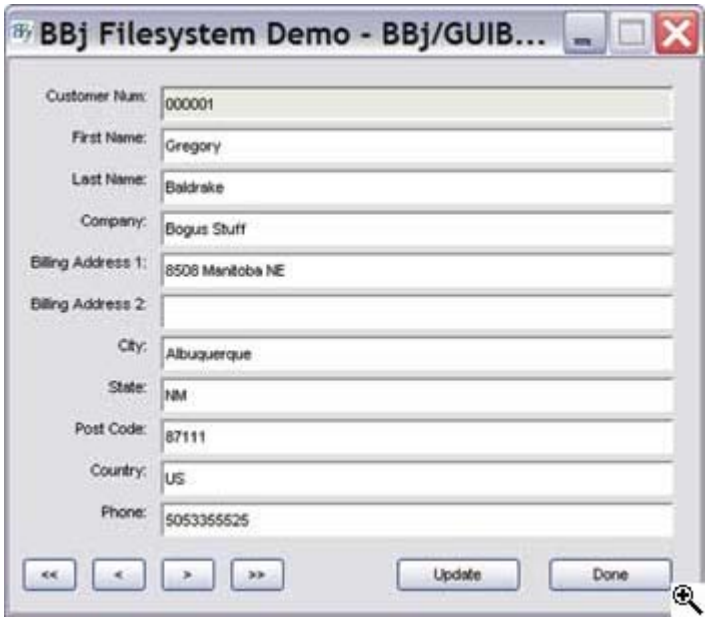


Figure 2. BBj application using the native Filesystem.

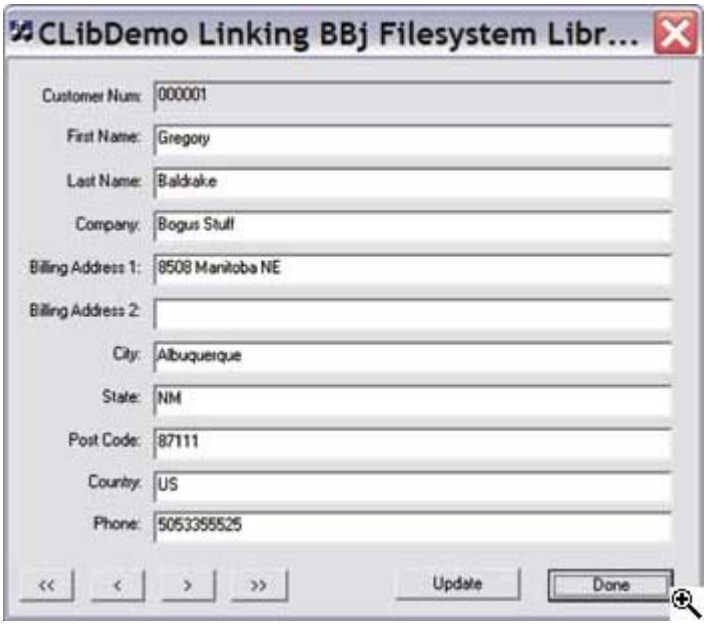


Figure 3. C application using CLib to access the BBj Filesystem.

BASIS Technology Today

In 1985, BASIS began with a vision to reduce Business BASIC developer's dependence on proprietary systems. BASIS's original interpreter was the first step away from those proprietary solutions. Over the past 18 years, BASIS has continually enhanced and expanded its product line to honor the spirit of that vision. Today, BASIS offers technology that provides a more open architecture than the company's founders could have imagined. Now, customers can access the filesystem through ODBC, JDBC, JLib, Clib, and Web services. Please let BASIS know if there are any other interfaces that the company can provide!

Click HERE for the "Capitalizing on BASIS's Open Architecture" source code.