Jazz up Your Applications – Seamlessly Embed JasperReports

It is easy to see why BBj® developers are jazzed about the iReport Designer – now they can create and preview professional looking reports against their live data with very little effort. The iReport Designer Wizard steps the developer through the report creation process to deliver useful and, in some cases, critical information. The next step, of course, is figuring out how to embed the newly-created report into an existing application.

So, how do you use JasperReports in BBj?

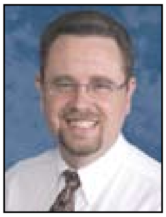
The answer is simple and the focus of this article...use BBJasper – the new utility from BASIS that makes it easy to integrate live reports into existing BBj applications!

BBJasper is a utility distributed in BBj 9.0 and written in BBj as a CustomObject that embeds Java code to wrap and extend the Jasper API. This fully supported, fully documented, and fully modifiable utility delivers a very easy, yet very powerful mechanism to utilize JasperReports in BBj. The BBJasper utility is comprised of three different modules or CustomObjects:

- BBJasperReport
- BBJasperViewerWindow
- BBJasperViewerControl

The BBJasperReport CustomObject allows for creating, displaying, printing, and saving a report from within a GUI, CUI, or background BBj application. To create a report, this API requires a .jrxml or .jasper file and a JDBC connect string. The iReport Designer produces the .jrxml/.jasper file and the JDBC connect string provides the information necessary to acquire the data for the report. Specifying optional report parameters and a locale for report creation provide further report criteria and localization. All of these inputs come together during the fill operation, which takes the design (.jasper or .jrxml) file, obtains the data via a JDBC connection as specified in the connect string, and applies the report parameter and localization. Voilà, a report is born! **Figure 1** is a code sample that displays a BBJasperReport in a BBj window.

BBJasper extends much-needed flexibility in printing the reports. Some common options and preferences include printing to the server or client, displaying an optional dialog to allow the user to change printers and printing preferences, and the ability to save the report in a myriad of formats including HTML, XML, PDF, or XLS. >>



By Brian Hipple
Quality Assurance Supervisor

iReport is a WYSIWYG visual report designer specifically designed for JasperReports. iReport gives administrators and report designers total control over the contents as well as the look and feel of every report. iReport allows users to build, test, and run reports from the desktop environment. iReport is available for Windows, Linux and Mac.

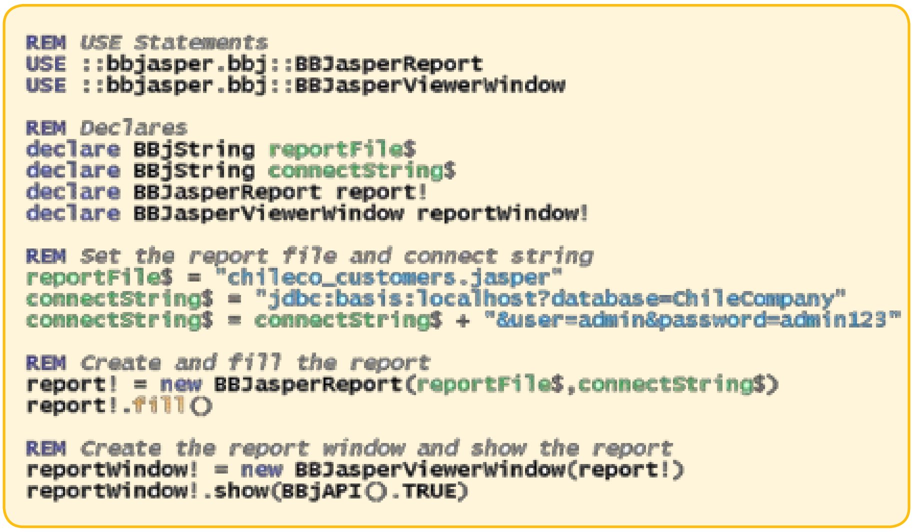
JasperReports is the world's most powerful and widely used embeddable open source Java reporting library for report designers and developers that can be used to generate reports in several formats including, amongst others, PDF, HTML, Microsoft Excel, RTF and XML files. Java applications can use JasperReports to generate dynamic content.

BBJasperViewer is the component that allows JasperReports to be seamlessly embedded and viewed in a GUI BBj Thin Client.

The BBJasperViewerWindow CustomObject provides an API to view the report in a window and is implemented as a BBjTopLevelWindow. As a result, all BBj API functions for a BBjTopLevelWindow are available on this window. Some of the more popular functions include setting the position of the window (x,y), the size of the window (width, height), and modification flags (modal, modeless, close box, resizable, etc). Refer to the online BBj documentation for all available BBjTopLevelWindow online functions.

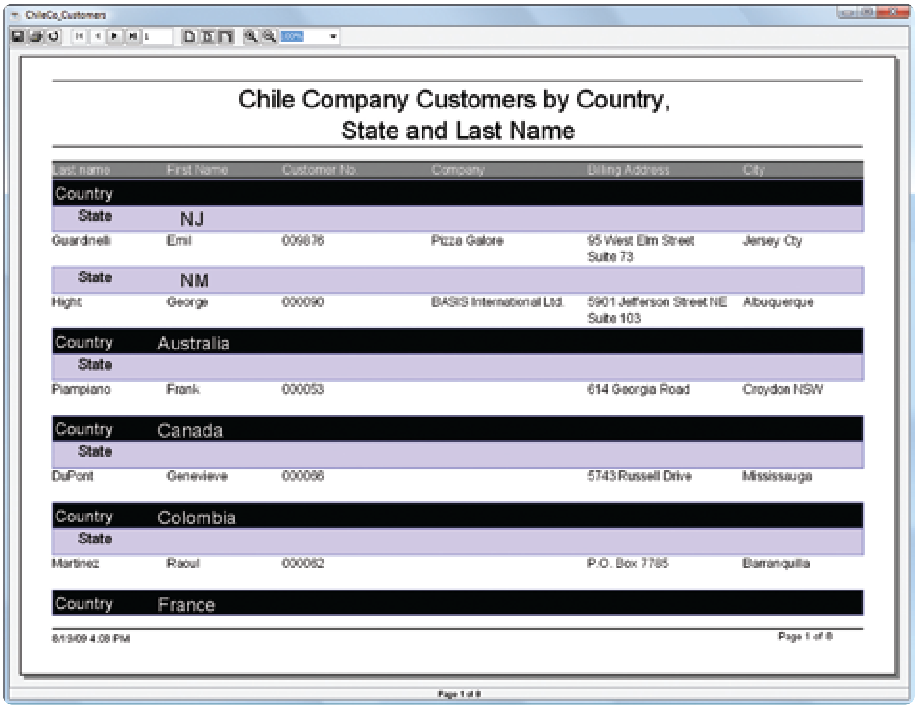
The BBJasperViewerWindow contains a BBJasperViewerControl sized to the window constraints and is also accessible for further customization as shown in **Figure 2.** The BBJasperViewerControl CustomObject offers the ability to view the report in a control inside a pre-existing BBj window – a top level, child, or MDI. Because it is implemented as a BBjControl, all BBj API functions for a BBjControl are available on this control, including the ID of the control, position of the control (x,y), the size of the control (width, height), etc. (see the online BBj documentation for a full list of available BBjControl functions). The BBJasperViewerControl bestows the finest level of control over the viewed report. By default, it includes toolbuttons that enable users to save, print, reload, navigate pages, set viewing options, zoom in and out, and set the zoom ratio. To go beyond these features, developers can even add custom toolbuttons for extended functionality. The truly adventurous at heart can access the underlying Java control as a client object for absolute control manipulation.

Returning to the opening question, ”How do you use JasperReports in BBj?”, there is a more in-depth answer than simply “use BBJasper.” JasperReports does not actually require the BBJasper utility so developers can also use embedded Java and direct calls to the JasperReports Java API. This approach would take precious resources such as time, money, and effort that few in the IT industry can afford in these tough economic times. So the simple answer is the best answer. With very few resources, using the BBJasper utility unleashes the power of JasperReports. So, turn on your imagination and jazz up your application today! ■



```
REM USE Statements
USE ::bbjasper.bbj::BBJasperReport
USE ::bbjasper.bbj::BBJasperViewerWindow

REM Declares
declare BBjString reportFile$
declare BBjString connectString$
declare BBJasperReport report!
declare BBJasperViewerWindow reportWindow!

REM Set the report file and connect string
reportFile$ = "chileco_customers.jasper"
connectString$ = "jdbc:basis:localhost?database=ChileCompany"
connectString$ = connectString$ + "&user=admin&password=admin123"

REM Create and fill the report
report! = new BBJasperReport(reportFile$,connectString$)
report!.fill()

REM Create the report window and show the report
reportWindow! = new BBJasperViewerWindow(report!)
reportWindow!.show(BBjAPI().TRUE)
```

Figure 1. Code sample that displays a BBJasperReport



Chile Company Customers by Country,
State and Last Name

Last name	First Name	Customer No.	Company	Billing Address	City
Country					
State	NJ				
Guardinelli	Emil	009876	Pizza Galore	95 West Elm Street Suite 73	Jersey Cty
State	NM				
Hight	George	000090	BASIS International Ltd.	5901 Jefferson Street NE Suite 103	Albuquerque
Country	Australia				
State					
Piampiano	Frank	000053		614 Georgia Road	Croydon NSW
Country	Canada				
State					
DuPont	Genevieve	000066		5743 Russell Drive	Mississauga
Country	Colombia				
State					
Martinez	Raoul	000062		P.O. Box 7785	Barranquilla
Country	France				

8/19/09 4:08 PM

Page 1 of 8

Page 1 of 8

Figure 2. A BBJasperReport shown in a BBJasperViewerWindow

JasperReports
jasperforge.org/plugins/project/project_home.php?projectname=jasperreports

iReport
jasperforge.org/plugins/project/project_home.php?group_id=83

BASIS online documentation for BBJasperReport, BBJasperViewerWindow, BBJasperViewerControl, BBjTopLevelWindow, and BBjControl at
www.basis.com/onlinedocs/documentation