Release Bulletin
PocketBuilder™ 2.0

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2. Product summary

Sybase PocketBuilder™ is a smart-client application development tool for Windows CE platforms. It enables developers to build handheld applications in an object-centric, graphical, desktop environment, then deploy the same applications to a supported device or emulator.

PocketBuilder version 2.0 (Build 659) is compatible with the following desktop platform and operating system configurations:

- Microsoft Windows 2000 with Service Pack 2 or later
- Microsoft Windows XP

The principle runtime platform for applications that you develop with PocketBuilder is Windows Mobile CE 2003 Second Edition (WM 2003 SE) on Pocket PC and Smartphone devices. Support is also maintained for the Windows CE 3.0 platform on Pocket PC devices. Device and emulator support is listed in “Device and emulator support” on page 3.

New features are described in “Changed functionality in this version” on page 4. For a more comprehensive product summary, see the *Introduction to PocketBuilder*.

2.1 Version contents

2.1.1 Software used for database connection

PocketBuilder 2.0 has been tested with SQL Anywhere® Studio 9.0.1. The SQL Anywhere Studio setup includes Adaptive Server® Anywhere (ASA), a transaction-based, relational SQL database for the desktop and for Windows CE platforms. It also includes UltraLite®, a relational database expressly designed for small mobile and embedded devices.

The developer edition of SQL Anywhere Studio is part of the PocketBuilder install.

2.1.2 Software used for database synchronization

PocketBuilder is integrated with MobiLink software, which can be used for two-way database synchronization between a mobile remote database and a central consolidated database. You can install MobiLink from the SQL Anywhere Studio 9.0.1 installation program.

2.2 Deployment and debugging support

2.2.1 Device and emulator support

PocketBuilder includes virtual machines (VMs) for deployment to Pocket PC and Smartphone devices and emulators with any of the following operating systems:

- arm for ARM- and XScale-based devices supporting either Microsoft Windows CE 2002 or the WM 2003 SE operating system

  Supported devices include HP iPaq, Dell Axim, Toshiba e740, and Symbol PPT-8800.
- sparm for Smartphone 2003
- x86 for the Microsoft Pocket PC 2002 and Pocket PC 2003 emulators
- spx86 for Microsoft Smartphone emulators

You can download the supported emulators from links on the Microsoft Mobile and Embedded Application Developer Center at http://msdn.microsoft.com/mobility/downloads/sdks/default.aspx.

2.2.2 Debugging support

Debugging support for PocketBuilder applications is currently available only for the desktop. Remote debugging from Windows CE devices will be supported in a future release.

3. Special installation instructions

PocketBuilder is the new product name for Pocket PowerBuilder™. It is possible to keep versions of Pocket PowerBuilder on the same machine or Pocket PC device as PocketBuilder 2.0, because the DLLs have been renamed. You must remove any beta version of PocketBuilder, however, before you install PocketBuilder 2.0.

If you keep a version of Pocket PowerBuilder on your Pocket PC device or emulator when you install PocketBuilder 2.0, applications that you have created in Pocket PowerBuilder will still run using the Pocket PowerBuilder VM.

If you do not remove the Pocket PowerBuilder AppList utility from a Pocket PC device or emulator, it will display applications that you deploy with PocketBuilder 2.0 as well as with Pocket PowerBuilder. The PocketBuilder applications might not work correctly if they are launched from a Pocket PowerBuilder version of the AppList, although they work as intended when launched from the 2.0 AppList.

For information about installing or removing PocketBuilder or Pocket PowerBuilder, see the *Installation Guide.*

4. Changed functionality in this version

New objects and controls

This release of PocketBuilder includes several new objects that provide an interface to functionality that is native to the Pocket PC or Smartphone platform. In earlier versions of Pocket PowerBuilder, the following objects and controls were introduced: HPBiometricScanner object, NotificationBubble object, POOM objects, Signature control, SymbolBarcodeScanner object, and Toolbar control, as well as support for the Pocket PC Today screen.

Table 1 lists new objects in the current release of PocketBuilder. For more information, see the chapter on “Working with Native Objects and Controls for the Windows CE Platform” in the *User’s Guide,* or see the online Help.

Table 1: Native objects for WIndows CE platforms

Object	Description
CallLog and CallLogEntry	Provides the nonvisual interface to the entries in the call log on a Smartphone or PocketPC-Phone Edition platform.
Camera	Provides the nonvisual interface for a PocketBuilder application's connection to a digital camera device.
DialingDirectory and DialingDirectoryEntry	Provides the nonvisual interface to the entries of phone books on a Smartphone or PocketPC-Phone Edition platform.
GPS, SerialGPS, and related objects	Provides the nonvisual interface to a PocketBuilder application's connection to a Bluetooth unit global positioning system device.
PhoneCall	Provides a nonvisual interface that allows a PocketBuilder application user to place a voice or data phone call from a Smartphone or Pocket PC-Phone Edition platform.
SMSSession and related objects	Provides the nonvisual interface for a PocketBuilder application's connection to the SMS messaging system on a Pocket PC or Smartphone device.
SocketBarcodeScanner	Implements all the methods and properties of the BarcodeScanner base class. It dynamically loads Socket support DLLs for Socket's In-Hand Scan Card scanner devices.

Emulator support

PocketBuilder 2.0 adds UI support for the Smartphone 2003 and Smartphone emulators and retains support for the Pocket PC 2002 and 2003 emulators. Several of these emulators are available in Software Development Kits on the Microsoft Web site at http://msdn.microsoft.com/mobility/downloads/sdks.

Changes to the Project painter

The Project painter has been redesigned to accommodate the following new features:

- A Smartphone device target
- Additional PocketPC emulators and Smartphone emulators
- Signing of applications and CAB files
- Selection of certificates for signing
- Certificate management

Changes to wizards

Export CE to Desktop The PocketBuilder wizard for exporting targets and converting them to PowerBuilder® targets has an additional Create Unicode Libraries check box that lets you export the target for compatibility with PowerBuilder 10. By default, the Export CE to Desktop wizard converts PocketBuilder targets to PowerBuilder 9 targets.

Import Desktop to CE The wizard for importing PowerBuilder targets and converting them to PocketBuilder targets has also been modified to process Unicode targets from PowerBuilder 10 and ANSI targets from PowerBuilder 9, but these changes are internal to the wizard and are not visible in the user interface.

Template Application wizards The Template Application wizard has been split into separate wizards for creating Pocket PC and Smartphone applications. Each of the new wizards generates windows, menus, and scripts that are specific to the target platform indicated in the wizard name.

New system functions

The following system functions have been added in PocketBuilder 2.0:

- FocusToPreviousInstance
- GetScreenOrientation
- SetScreenOrientation

New edit control property

The SingleLineEdit, MultiLineEdit, EditMask, DropDownListBox, ListView, and TreeView controls all have an InputEditMode property that you can set on the Other tab of the Properties view for the control in the PocketBuilder IDE. Using the InputEditMode property for edit controls, you can set the SIP type or the edit mode for each edit field in a PocketBuilder 2.0 application that you deploy to a Pocket PC or Smartphone.

You can also use the InputEditMode property for editable DataWindow columns. You assign the InputEditMode property on the Edit tab of the DataWindow painter properties view if you select Edit or EditMask as the Edit style type.

Support for additional PowerScript objects

PocketBuilder 2.0 provides support for PowerScript® objects that were not supported in previous Pocket PowerBuilder releases. These objects are the ContextInformation object, the ContextKeyword object, and the Inet object, which are all children of the Service object.

Functions of the ContextInformation object return the following values:

- GetShortName returns “PocketPC” on a Pocket PC and “PocketSM” on a Smartphone device

- GetName returns “PocketBuilder Runtime”
- GetHostObject returns an empty object—it fails the isValid(obj) test

The InternetResult object is also enabled for the current release.

Default window size

PocketBuilder 2.0 defaults all Main! type windows to full screen size at runtime. The DefaultSize check box for window size at design time has been replaced by a drop-down list. The drop-down list includes the following items:

- PDA Portrait 240 x 320 QVGA
- PDA Landscape 320 x 240 QVGA
- Smartphone Portrait 176 x 220
- Smartphone Square 220 x 220
- VGA Landscape 640 x 480
- Design Size Default
- Unconstrained

The sizes displayed next to the selections in the preceding list are in pixels. The Design Size Default value sets the window displayed in the Window painter to the size selected on the Size tab of the Options dialog box. The Unconstrained value lets you set the design-time window size on the Other tab of the Properties view for the current window or by dragging the window handles in the Layout view.

Support for multiple user checkouts from source control

In PocketBuilder 2.0, you can add a setting to the Library section of the *PK.INI* file that allows you to check out an object from source control that is checked out nonexclusively by another user. To do this, you must add the following instruction to the *PK.INI* file:

```
[Library]
SccMultiCheckout=1
```

After you add this *PK.INI* setting, PocketBuilder shows a red check mark as part of a compound icon to indicate that an object is checked out to another user in a shared (nonexclusive) mode.

5. Known problems

5.1 Menu issues

5.1.1 GetAsBitmap function not documented in online Help

The system function, GetAsBitmap is not currently documented in the online Help. This function converts the current image of an object derived from the GraphicObject baseclass to a standard Windows bitmap. You assign the visual object that you want to capture in the first argument to the GetAsBitmap fucntion, and reference the bitmap you want to create as a Blob datatype in the second argument to the function. The bitmap can then be saved to a file or set in a picture control. The function returns 1 for success and a negative number if an error occurs.

The *GetObjectAsBitmap.PKT* target in the PocketBuilder Code Examples\misc directory demonstrates how to use this function.

5.1.2 Using accelerator keys in a top-level menu item

In the PocketBuilder Menu painter, you can use the ampersand character (&) to designate accelerator keys in menu items. Because Windows CE does not support menu accelerators, however, when you deploy an application with accelerator keys to a Windows CE device or emulator, the menu item name for top-level menu bar items displays in an abbreviated form. To see the full menu item labels, do not use the ampersand character in menu item names.

5.1.3 Disabling menu bar items on Windows CE devices

Clearing the Enabled check box of a menu bar item in an application that you deploy to a Windows CE device or emulator does not disable the menu item at runtime. You can disable the menu bar item at runtime only by modifying the Enabled property in PowerScript. For example, if you have a Rows menu bar item, you can disable the Rows>Insert, Rows>Update, and Rows>Delete menu items simply by setting the Enabled property as follows:

```
m_mymenu.m_rows.enabled = false
```

For a submenu item, clearing the Enabled check box in the Menu painter does disable the submenu item at runtime, even on Windows CE platforms.
[CR 321150]

5.2 Emulator issues

5.2.1 Default shutdown of Pocket PC or Smartphone emulators

By default, when you shut down a Pocket PC 2002, Pocket PC 2003, or Smartphone 2003 emulator, the emulator does not save its state. You lose any files you exported to the emulator prior to the shutdown, including the PocketBuilder VM.

To avoid this, you must select Save Emulator State after you click the Emulator>Shut Down menu item. If you shut down the emulator without saving its state, you need to re-export the CAB file with the PocketBuilder VM to the Windows directory on the emulator, then run the CAB file again.

5.2.2 Default memory configuration on the supported Pocket PC emulators

If you run ASA applications on the Pocket PC 2002 emulator, you must change the default memory configuration. You can increase the memory available to the emulator by increasing the Memory value for the following registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows CE Tool\
Platform Manager\
{F384D888-F9AA-11D1-BB9E-00A0C9C9CCEE}\
{DE9660AC-85D3-4C63-A6AF-46A3B3B83737}\
{F384D894-F9AA-11D1-BB9E-00A0C9C9CCEE}\
{67C8D913-F0CF-486A-8CF0-CE7D116225E8}
```

There is a similar, but different, setting for the Pocket PC 2003 emulator. Sybase recommends that you increase this value from 16MB to 64MB.

5.3 Documentation issues

5.3.1 GetAsBitmap function not documented in online Help

The system function GetAsBitmap is not currently documented in the online Help. This function converts the current image of an object derived from the GraphicObject baseclass to a standard Windows bitmap. You assign the visual object that you want to capture in the first argument to the GetAsBitmap fucntion, and reference the bitmap you want to create as a Blob datatype in the second argument to the function. The bitmap can then be saved to a file or displayed inside a picture control. The function returns 1 for success and a negative number if an error occurs.

The GetObjectAsBitmap.PKT target in the PocketBuilder *Code Examples\misc* directory demonstrates how to use this function.

5.3.2 Help topic unavailable for two system functions in PocketBuilder browser

You can access the online Help topic for an item in the PocketBuilder browser by right-clicking the item and selecting Help from the pop-up menu. For system functions FocusToPreviousInstance and GetSpecialFolder, the specific topic help is not available in this manner. You can, however, access help on these functions from the Content or Index tabs of the online Help.

5.4 Other issues

5.4.1 DialingDirectory object functions

The UpdateEntry function currently works for a SIM directory only, not for a POOM directory. The AddEntry function is not currently implemented either for a SIM or a POOM directory. [CR 371011]

5.4.2 Code Example window references wrong DLL

Two Code Example libraries, *dbpaint.pkl* and *mlmaint.pkl*, include a window (w_editdsn) that has a local external function declared as follows:

```
FUNCTION long ODBC_WriteDSN (ref s_dsn mydsn) library
  "pkodb10u.dll" alias for "ODBC_WriteDSN"
```

The reference to "pkodb10u.dll" should be changed to "pkodb20.dll" to reflect the PK 2.0 ODB driver library. [CR 370949]

5.4.3 Import of graph DataWindow triggers error

Importing a PowerBuilder 10 DataWindow with a graph column causes a syntax error. The error references the property, postnulldata, which is set to 0. This property is disabled in PowerBuilder 10 and is not recognized as a valid property in PocketBuilder. You can fix this error before you import the DataWindow by editing the DataWindow syntax and removing the following property assignment statement: `plotnulldata="0"`. [CR 370508]

5.4.4 Smartphone CAB files do not include DLL for ODBC connections

Because Smartphone applications typically use UltraLite, the CAB files that you generate from the Project painter for deploying applications to a Smartphone device or emulator do not include the *PKODB20.DLL* file required for ODBC database connections. If you use an ODBC connection to an ASA database in an application, you must manually copy the *PKODB20.DLL* file from the PocketBuilder 2.0\WinCE\sparm directory to the Smartphone device where you deploy your application, or from the PocketBuilder 2.0\WinCE\spx86 directory to a Smartphone emulator.

UltraLite connections do not require the *PKODB20.DLL* file. The *PKUL20.DLL* file required for UltraLite connections is included automatically in the CAB files that you generate from the Project painter. [CR 371146]

5.4.5 Calling a deeply recursive function can cause a stack overflow

The Windows CE platform does not have any built-in protection to manage memory during calls to functions that call themselves (recursive functions). Calls to deeply recursive functions can cause the operating system to crash due to stack overflow.

5.4.6 Writing to a file with the SetProfileString function

You can write to a file with the SetProfileString function, but only if the file name you pass in the first function argument refers to a file that already exists and is a valid Unicode file. A valid Unicode file must have at least one character written to the file. The following code sample uses regular file functions to create a valid Unicode file by adding a comment to the top of the file:

```
integer li_file
integer li_ret
li_file = FileOpen(gs_FileName,  LineMode!,  Write!, &
    LockWrite!,  Replace!)
li_ret = FileWrite( li_file, "; my comment" )
FileClose(li_file)
```

The ProfileInt and ProfileString functions also require references to valid Unicode files. [CR 328631]

5.4.7 Restarting a debugging session

When you debug an application for the second time in the same PocketBuilder session, certain actions, such as changing a watch variable, can cause PocketBuilder to crash. You can avoid crashing by closing and restarting PocketBuilder before running the debugger a second time. [CR 325369]

6. Product compatibilities

6.1 SQL Anywhere Studio

PocketBuilder 2.0 has been tested with Sybase SQL Anywhere Studio 9.0.1; however, you can use Sybase SQL Anywhere Studio 8.0.2 Build 4229 or later for database and MobiLink integration support. UltraLite support is available only with version 9 or greater.

6.2 ActiveSync software

Microsoft ActiveSync is required for transferring applications to your mobile device. ActiveSync 3.7.1 is available as a free download on the Microsoft Web site at http://www.microsoft.com/mobile/pocketpc/downloads/default.asp.

7. Migration information

Migration of a Pocket PowerBuilder 1.x application occurs automatically when you open the application in PocketBuilder 2.0.

7.1 Conversion of PowerBuilder applications

You can use the Import Desktop to CE wizard to convert an existing PowerBuilder 7, 8, 9, or 10 application to a PocketBuilder 2.0 application. For more information, see Appendix B in the *User's Guide*.

8. Technical support

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you have any questions about this installation or if you need assistance during the installation process, ask the designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

9. Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Technical Library Product Manuals Web site to learn more about your product.

- The Getting Started CD contains release bulletins and installation guides in PDF format and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD you need Adobe Acrobat Reader, which is downloadable at no charge from the Adobe Web site, using a link provided on the CD.
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4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.

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