PowerBuilder 10.5 Launch and Learning Event

Sponsored by ISUG and Sybase

Sybase® PowerBuilder

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Agenda

§**PowerBuilder 10.5 Overview**

PowerBuilder Controls

Database Connectivity Enhancements

User Interface Enhancements

Language Enhancements

DataWindow Enhancements

Web Services Enhancements

§**PowerBuilder 11**

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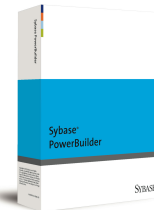
PowerBuilder 10.5 Overview

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PowerBuilder Controls

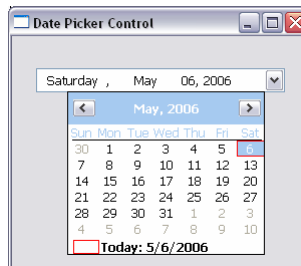**SYBASE®**

DatePicker Control

§ New control and/or enhancement to EditMask

§ New DataWindow edit mask style

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New Rich Text Edit Control

§ Provides a modern look and includes new features, including the ability to name and use formatting styles

§ Most of the properties and functions of rich text objects in previous versions of PowerBuilder continue to be supported by the new rich text editor

§ Obsolete properties and functions are ignored on rich text objects imported from previous versions of PowerBuilder

§ The new rich text editor supports a subset of the RTF specification version 1.6

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Rich Text Editor User Interface Changes

Rulers, Toolbars, and Status bars

§Like the earlier rich text editor, the new editor includes a toolbar and ruler that you can hide or display at design time or runtime

§If you enable the PopMenu property on a RichTextEdit control or rich text DataWindow, end users of your PowerBuilder applications can also opt to display or hide the toolbar or ruler

§The new editor includes a status bar that you can enable at design time or runtime, or that the users of your rich text applications can opt to display or hide

§The rich text editor no longer includes a separate tab bar. End users of a rich text control can set tabs for the control in the Tabs dialog box or directly on the ruler

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Rich Text Editor User Interface Changes

Toolbar Items

§The toolbar has a contemporary flat-style look

§ It includes drop-down lists for:

§ formatting style

§zoom percent

§Toolbar buttons for adding bullets or sequential numbers to paragraphs

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Obsolete Properties

The following properties are not supported in the new rich text editor:

§ ReturnsVisible
§ SpacesVisible
§ TabBar
§ TabsVisible
§ UndoDepth

If you set these properties on a RichTextEdit control, they are ignored by the new editor

The maximum undo depth in the new rich text editor is 50
§ This value cannot be changed at either design time or runtime

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Migration issue

§ When you migrate applications created in older versions of PowerBuilder, the InputFieldsVisible property in RichTextEdit controls and in RichText DataWindow objects is automatically set to "false" in the migrated applications

§ You must set this property to "true" to see data in the input fields. You must set this property and the InputFieldNamesVisible property to "true" to see text labels for the input fields in a rich text control

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Language Enhancements

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Import PBNI Extensions

§ You can now import PowerBuilder extensions into a library in your application using a pop-up menu item, and authors of PowerBuilder extensions no longer need to supply a PBD file with the extension file

§ A PowerBuilder extension is an extension to PowerBuilder functionality created using the PowerBuilder Native Interface (PBNI)

§ Some PowerBuilder extensions are provided with PowerBuilder, including the PBDOM, EJB client, SOAP client for Web services, and UDDIProxy extensions

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Decimal data type upgrade

§ Provide support for 28 digits versus current 18

§ Position for support of .NET which handles 28 digits

§ DataWindow expression support
  § Currently all numerics converted to double before calculations

  § Added Decimal() DataWindow function for conversion

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Byte data type

§ The Byte datatype is the same as the Uint datatype except that it has a more restricted range: from 0 to 255

§ For interaction with Java components or Web services, the PowerScript Byte datatype maps directly to Byte datatypes in the Java and C# or .NET languages

New Methods:

§ Byte (stringorblob)

  § Converts a numeric datatype, including a string whose value is a number, into a Byte datatype, or obtains a Byte value stored in a blob

§ GetByte (blobvariable, n, b)

  § Extracts data of type Byte from a blob variable

§ SetByte (blobvariable, n, b)

  § Sets data of type Byte for a blob variable

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Database Connectivity Enhancements

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Database Connectivity Enhancements

§Database Tracing Enhancements

§ADO.NET support for ASE and Oracle

§ASE 15 Support

§Support for ASE 15 Temporary Tables

§NCharBind Database parameter for Oracle

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Database Tracing Enhancements

§ PowerBuilder 10.5 includes accuracy and ease-of-use enhancements to the main database trace utility, PBTRA105.DLL, and provides a second trace utility, PBTRS105.DLL

§ The newer utility logs the date and time (rather than the time elapsed) of each SQL statement issued to the database

§ This utility can use a timestamp from the time zone of the DBMS server machine, allowing clients in separate time zones to merge trace output files in a meaningful fashion

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ADO.NET support for ASE and Oracle

§ PowerBuilder 10.5 provides native access to Adaptive Server Enterprise and Oracle using ADO.NET

§ Connect to a database using the ADO.NET data providers and perform operations using native syntax

§ Create a new connection or share an existing connection object for transaction management

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ADO.NET support for ASE and Oracle

Data Provider	Namespace
.NET Framework Data Provider for OLE DB	System.Data.OleDb
.NET Framework Data Provider for SQL Server	System.Data.SqlClient
Oracle Data Provider for .NET (ODP.NET)	Oracle.DataAccess.Client
Sybase ADO.NET Data Provider for ASE	Sybase.Data.AseClient

Support is provided in the PBADO105.DLL file and the Sybase.PowerBuilder.Db.dll and Sybase.PowerBuilder.DbExt.dll .NET assemblies

The ADO.NET drivers distributed with PowerBuilder are built with a specific version of the ADO.NET assemblies provided by Sybase and Oracle

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ASE 15 Support

Scrollable cursors
- § ASE allows both scrollable and nonscrollable cursors, which can be either semi-sensitive or insensitive
- § "Scrollable" means that you can scroll through the cursor result set by fetching any, or many, rows, rather than one row at a time
- § you can also scan the result set repeatedly
- § The CursorType database parameter lets you specify the type of cursor to use

Unitext support
- § PowerBuilder supports the variable-length unitext datatype, which can hold up to 1,073,741,823 Unicode characters (2,147,483,646 bytes)
- § You can use unitext anywhere you use the text datatype, with the same semantics
- § Unitext columns are stored in UTF-16 encoding, regardless of the Adaptive Server default character set
- § The Unitext datatype uses UTF-16 encoding to support Unicode text and maps to the PowerScript string datatype

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ASE 15 Support

Bigint support

- § PowerBuilder supports the 64-bit integer signed and unsigned bigint datatypes, which map to the PowerScript longlong datatype

Unsigned integer datatypes (int and smallint)

- § PowerBuilder also supports two other unsigned integer datatypes introduced in Adaptive Server 15.0
- § In this release, the unsigned integer datatypes are supported when connecting to Adaptive Server using the SYC and JDBC drivers
- § These datatypes allow you to extend the range of the positive numbers for the existing integer types without increasing the required storage size
- § That is, the signed versions of these datatypes extend both in the negative direction and the positive direction
- § However, the unsigned versions extend only in the positive direction

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ASE 15 Support

§ To use Adaptive Server 15, you must install Open Client version 15 on the client computer and set the Release parameter to 15 to establish an Open Client 15 client context

§ You can specify the Release parameter on the Connection page of the Database Profile Setup dialog box for Adaptive Server or in code:

SQLCA.DBParm="Release='15'"

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ASE 15 Support (Continued)

§ The Open Client 15 client context can be used with Adaptive Server 11.x, 12.x, and 15.x

§ In PowerBuilder 10.5, the SYC driver links to the appropriate version of the client libraries dynamically and the Open Client context is released when all connections are closed

§ If you open multiple connections, the first Open Client context etablished is used for all connections

§ If you need to establish a new Open Client context in the development environment, close all open connections and establish a new connection with the Release parameter set to the context you require

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PowerBuilder 10.5 and 11.0 Features

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Support for ASE 15 Temporary Tables

§ PowerBuilder 10.5 allows you to create and edit temporary tables in the Database painter, SQL painter, or DataWindow painter when you use the PowerBuilder SYC native driver to connect to an Adaptive Server database

§ Temporary tables persist for the duration of a database connection, residing in a special database called "tempdb"

§ You add a temporary table to the tempdb database by assigning a name that starts with the # character when you create a new table in a PowerBuilder painter. (Temporary tables must start with the # character.)

§ After you create a temporary table, you can create indexes and a primary key for the table
  § If you define a unique index or primary key, you can execute INSERT, UPDATE, and DELETE statements for a temporary table
  § Selecting Edit Data from the pop-up menu of a temporary table retrieves data that you store in that table

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Support for ASE 15 Temporary Tables

You can create DataWindow objects that access temporary tables in a PowerBuilder runtime application, but your application must first explicitly create the temporary tables, along with the appropriate keys and indexes, using the same database transaction object used by the DataWindow

You can use the EXECUTE IMMEDIATE Powerscript syntax to create temporary tables at runtime:

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NCharBind Database parameter for Oracle

§ The NCharBind database parameter for Oracle 9i and Oracle 10g improves performance by allowing you to specify whether string variables should be treated as Char or NChar datatypes

§ The default is to treat string variables as Char datatypes

§ You can set this parameter on the Transaction tab page in the Database Profile Setup dialog box for Oracle9i and Oracle 10g

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DataWindow Enhancements

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Treeview Presentation Style

Designed similar to group DataWindow

§Property support
  §Node lines
  §Icons
  §Grid style
  §Indention size
§Event support
  §Expanding / Expanded
  §Collapsing / Collapsed
§Function support
  §Expand (multiple variations)
  §Collapse (multiple variations)

Employee ID	First Name	Last Name	Zip Code
Finance			
Female			
Active			
757	Denis	Higgins	02173-
1293	Mary Anne	Shea	02173-
390	Jo Ann	Davidson	02192-
1390	Jennifer	Litton	01742-
1336	Janet	Bigelow	02154-
879	Kristen	Coe	02132-
148	Julie	Jordan	01890-
Male			
Total Count of Employee: 9			
Marketing			
Female			
Male			
Active			
888	Doug	Charlton	01742-
318	John	Crow	02172-
1191	Matthew	Bucceri	02173-
1576	Scott	Evans	01742-
1607	Mark	Morris	02154

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TreeView Presentation Style Properties

§CollapsedTreeNodeIconName
§DefaultExpandToLevel
§ExpandedTreeNodeIconName
§Indent
§ShowConnectLines
§ShowLeafNodeConnectLines
§ShowTreeNodeIcon
§StateIconAlignMode
§TreeNodeIconName

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TreeView Presentation Style Functions

§Expand
§Collapse
§ExpandAll
§CollapseAll
§ExpandAllChildren
§CollapseAllChildren
§ExpandLevel
§CollapseLevel
§IsExpanded

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Enhanced Drop Down DataWindows in Web DataWindows

§ When you tab to a column that uses the drop-down DataWindow edit style, you can use the arrow keys on the keyboard to change its value

§ If you click the column, the drop-down DataWindow displays so that you can scroll to a different value and click to select it

§ Previously, clicking the column in a Web DataWindow displayed all the rows in the DataWindow

§ You set the display properties for the column on the Edit page in the Properties view in the DataWindow painter

§ The Width of DropDown property sets the width of the drop-down display to a size that is a percentage of the width of the column

§ For example, 300 sets the display width to three times the column width

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Drop Down Calendar Edit Mask

§ The drop-down calendar DataWindow option is available for use on any DataWindow column with an EditMask, and a Date, DateTime, or TimeStamp datatype

§ The DDCalendar EditMask property option allows for separate selections of the calendar month, year, and date

§ This option can be set in a check box on the Edit tab of the DataWindow painter Properties view when a column with the EditMask edit style is selected

§ It can also be set in code, as in this example for the birth_date column:

dw_1.Modify("birth_date.EditMask.DDCalendar='Yes'")

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HTMLGen Paging Property

§ To set the HTMLGen.Paging property, select HTML/XHTML in the Format To Configure drop-down list on the Web Generation page in the Properties view in the painter and then select a value from the Paging Method drop-down list

§ You can also set this property in code

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XMLGen Paging Property

Value	Numeric Value	Description
Postback!	0	Paging operations are posted to the server
Callback!	1	Paging operations use client-side script callbacks
XMLClientSide!	0	Paging operations are performed on the client by retrieving the full XML result set and performing an XSLT retransformation of the cached stylesheet

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New Ink Control Properties

§ The SaveInk method saves overlay ink to a file or blob from an InkPicture control in a DataWindow

§ The SaveInkPic method saves a picture, and optionally overlay ink, to a file

§ ResetInk clears the ink from the control

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dbAlias DataWindow Object Property

§ The dbAlias DataWindow object property allows you to get column names that use the alias for a table name in a script

§ Use this property if you have defined an alias for a table name in the SELECT statement for a DataWindow object and you want to obtain the column name with the table alias so that you can manipulate the update WHERE clause dynamically

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DataWindow Enhancements

Autosize Height for All DataWindow Bands
§ All Bands Supported (not just detail band)

§ Band will resize for Nested DataWindows

Limitations of the Height.Autosize property
§ The Height.Autosize property is not supported on DataWindows with Graph, Label, OLE, or Rich Text presentation styles.

§ Nested report overflow to the next page is supported in Detail bands only.

§ Bands cannot be autosized if autosizing would preclude the display of at least one Detail band row per page.

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Suppress Group Headers on Page Break

§ A new property to suppress the group headers that display in a grouped DataWindow object after a page break

§ Does not suppress group headers that display on a group break

§ If you have more than one group header, you can enable the new property on one group header and leave it disabled on another group header

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Suppress Group Headers on Page Break

§ You enable the suppress group header property by selecting the Suppress Group Header check box in the Properties view for a group header band. You can verify the property setting at runtime with one of the following methods:

string s

s = dw_1.describe("datawindow.header.1.SUPPRESS")

s = dw_1.object.datawindow.header.1.suppress

You can modify the property setting at runtime by one of the following methods:

dw_1.modify("datawindow.header.1.SUPPRESS=no")

dw_1.object.datawindow.header.1.suppress=no

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Suppress Margin Border Line in Print Preview Mode

§ By default, a blue line displays in Print Preview mode to show the location of the margins

§ You can hide this line by clearing the Print Preview Shows Outline check box on the Print Specifications page in the Properties view in the DataWindow painter

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Rich Text DataWindow Presentation Style Changes

§ In PowerBuilder 10.5, the Preview view of the DataWindow painter for a RichText DataWindow is "WYSIWYG" (what you see is what you get) and read-only

§ When you set content in Detail view for the DataWindow header and footer, the Preview view displays the header and footer at the same time as the DataWindow row details

§ In previous versions of PowerBuilder, you were required to open the Print Preview view to preview the document body and page margins simultaneously

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Rich Text DataWindow Presentation Style Changes

§ With the focus in the Preview view of the DataWindow painter, you can still select the File>Print Preview menu item to preview the document before it is sent to the printer

§ Since the preview is WYSIWYG, the panel to control margins in the Print Preview view has been removed

§ In previous builds of PowerBuilder, the panel for the page margins also included buttons to scroll through the pages of the DataWindow document

§ In PowerBuilder 10.5, you must press the Page Up and Page Dn keys to change pages in the Print Preview view

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User Interface Enhancements

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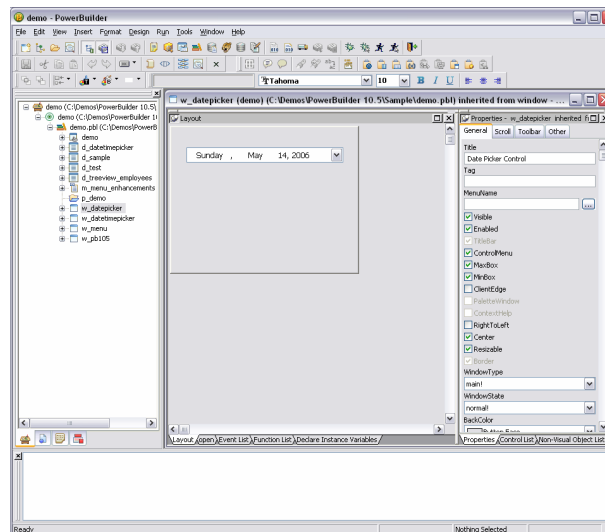

New Bitmaps and Icons
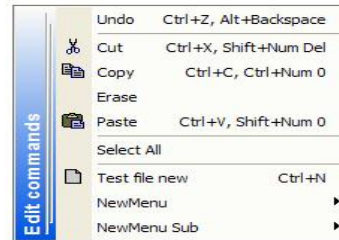
§ Provide updated look to IDE

§ Allow use in application

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Menu Enhancements
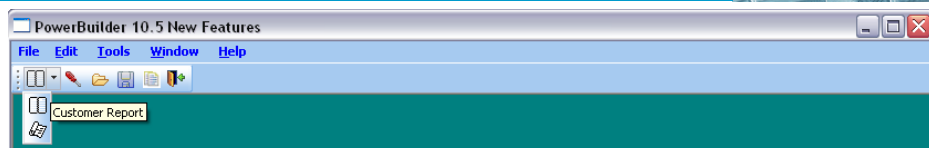
§Styles
   §Traditional
   §Contemporary
§Style attributes
   §Shadow
   §Bitmaps (16x16 and 32x32)
   §Titles
   §Main background color
   §Bitmap background color
   §Highlight color

	Edit commands		
	Undo	Ctrl+Z, Alt+Backspace	
✂	Cut	Ctrl+X, Shift+Num Del	
▤	Copy	Ctrl+C, Ctrl+Num 0	
	Erase		
▣	Paste	Ctrl+V, Shift+Num 0	
	Select All		
▯	Test file new	Ctrl+N	
	NewMenu	▶	
	NewMenu Sub	▶	

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Toolbar Enhancements

PowerBuilder 10.5 New Features

File Edit Tools Window Help

Customer Report

§Styles
   §Traditional
   §Contemporary
§Style attributes
   §Titles
   §Main background color
   §Bitmap background color
   §Highlight color
   §Text color
§Allow toolbars to be attached to top-level non-MDI Windows

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Web Services Enhancements

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Web Services Enhancements

Adding .NET's Web Services SDK
§ Better data type support
§ Security and Authentication

EasySOAP Implementation
§ Will be left intact, but not enhanced

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.NET Web Service Engine

§ Can handle the XML-type array datatype

§ Supports the transmission of security constraints in the header sections in the SOAP message envelope

§ Supports the latest Web service standards

To use this engine, you must have the wsdl.exe Web service tool on the development computer

§ Required to parse WSDL files and generate C# code for a .NET assembly

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.NET Web Service Engine

The wsdl.exe file installs with the .NET SDK

It is not required on deployment computers
§ Deployment computers must have the .NET 2.0 Framework to consume a Web service that depends on the .NET Web service engine

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PowerBuilder 11 and .NET

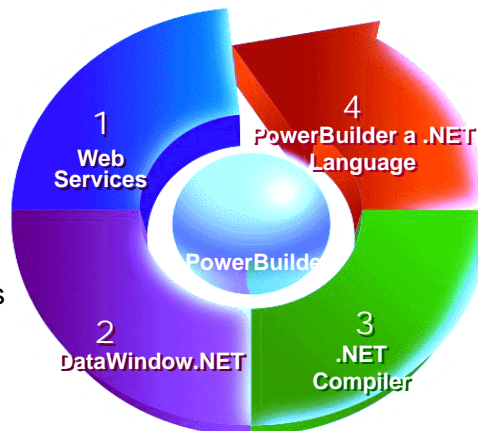**SYBASE**

PowerBuilder's 4-Phase .NET Initiative

PowerBuilder's .NET Integration

- § Goals
    - § Build .NET classes
    - § Consume .NET classes
    - § Inherit from .NET classes
    - § Implement .NET interfaces
- § Phased approach
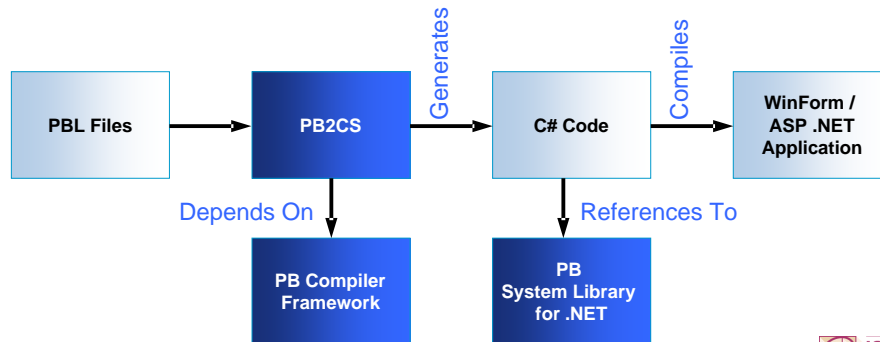   - § .NET Deployment (PB11)
    - § .NET Targets

1 Web Services
4 PowerBuilder a .NET Language
PowerBuilder
2 DataWindow.NET
3 .NET Compiler

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PowerBuilder .NET Compiler Internals

.NET Integration

§ Compiler steps: Relies on redistributing .NET SDK's C# compiler

```
                      Generates              Compiles
┌──────────┐      ┌──────────┐      ┌──────────┐      ┌──────────────┐
│ PBL Files│ ───► │  PB2CS   │ ───► │ C# Code  │ ───► │  WinForm /   │
│          │      │          │      │          │      │  ASP .NET    │
└──────────┘      └──────────┘      └──────────┘      │ Application  │
                       │                 │            └──────────────┘
                Depends On          References To
                       ▼                 ▼
                  ┌──────────┐      ┌──────────────┐
                  │PB Compiler│      │     PB       │
                  │Framework  │      │System Library│
                  │           │      │  for .NET    │
                  └──────────┘      └──────────────┘
```

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.NET Compiler

.NET WinForm Support

§ Implemented using .NET Windows Forms controls
§ PB Runtime Assemblies rather than "old school" PBVM
§ Your applications deployed as .NET Assemblies
§ Leverages DataWindow .NET technology

Deploy PowerBuilder Applications to the Web Quickly, Easily

§ Transforms your applications into ASP .NET 2.0 code
§ Supporting most features of PowerBuilder

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.NET Compiler

.NET Smart Client Support

§ Solve the biggest headache of all – Application Deployment
  § The Best of the Rich Client World
  § The Ubiquity of the Web
§ Always up-to-date applications via Smart updates
§ Install as much or as little as you want on a client PC
§ Utilize network resources
§ Maximize performance using client resources
§ Communicate Utilizing Web Services

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PowerBuilder .NET Compiler Demo

**ASP .NET Deployment of a
PowerBuilder Application**

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PowerBuilder .NET Compiler Demo

**Windows Forms Deployment of
a PowerBuilder Application**

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PowerBuilder Roadmap

PowerBuilder 10.5
- DataWindow Enhancements
  - TreeView Presentation Style
  - Auto-size Height for All DataWindow Bands
- UI Enhancements
  - DateTime Picker
  - Menus and Toolbars
  - New Icons and Bitmaps
- DB Services Enhancements
  - Native driver for ASE 15.0
- Web Services Enhancements
  - Support Complex Data Types
  - Security / Authentication

PowerBuilder 11.0
.NET Compiler
- ASP .NET Deployment
- WinForms Deployment
- Smart Client Support
**Web DataWindow
Enhancements**

PowerBuilder Application Server Plugin
- Deploy PB NVOs directly to 3rd Party Application
  Servers
  - WebSphere
  - WebLogic
  - JBoss
  - Oracle
  - Geronimo

Q1	**Q2**	**Q3**	**Q1**
2006	2006	2006	2007

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Asia Pacific Resources

www.ap.sybase.com/forum

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Q & A

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