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series

**PowerBuilder Today and Tomorrow:  
Mobilizing Your Applications and  
Bringing Power to .NET**

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# techcast series



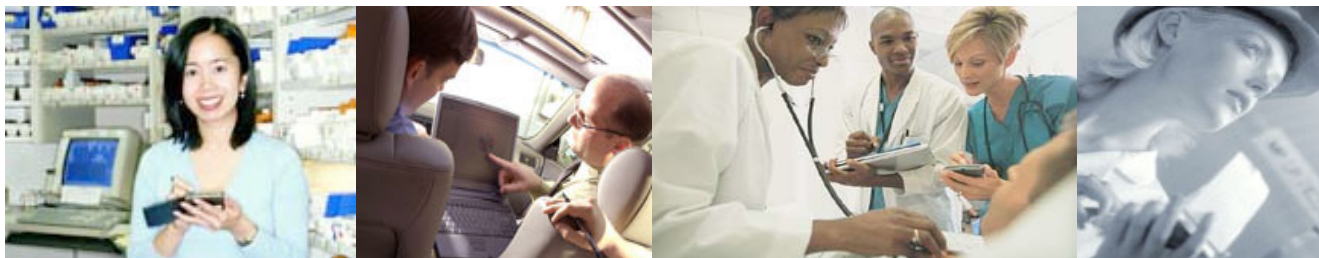
**John Strano**  
**Technology Evangelist**  
**Sybase, Inc.**

**PowerBuilder Today and Tomorrow:  
Mobilizing Your Applications and  
Bringing Power to .NET**

**Look how far we've come...**

***...Wait 'til you see where we're going.***





**Developers**

Traditional

Mobile

.NET

**Tools**

PowerBuilder

PocketBuilder

DataWindow .NET

**Devices**

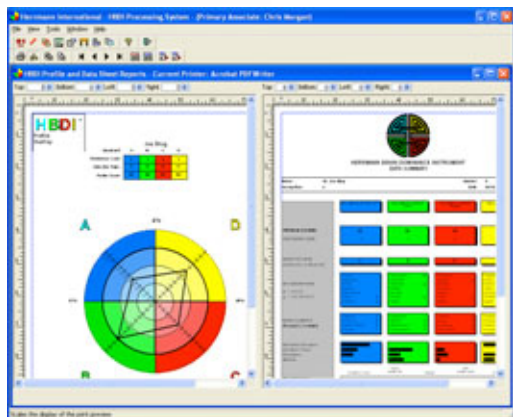


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**DATAWINDOW .NET FUTURES**

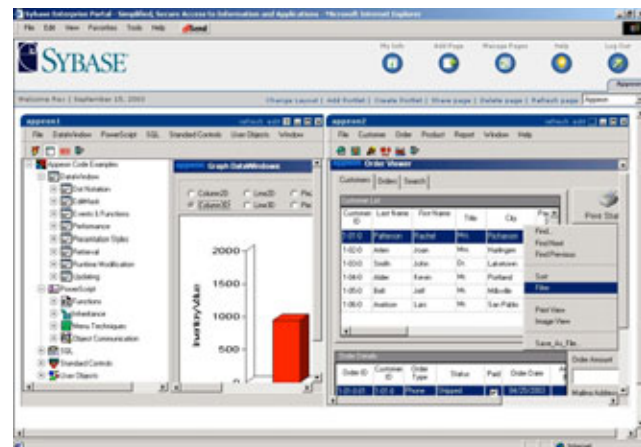
- Expand DataWindow technology to multiple platforms



PowerBuilder



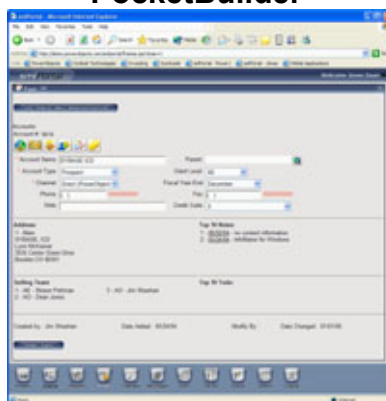
PocketBuilder



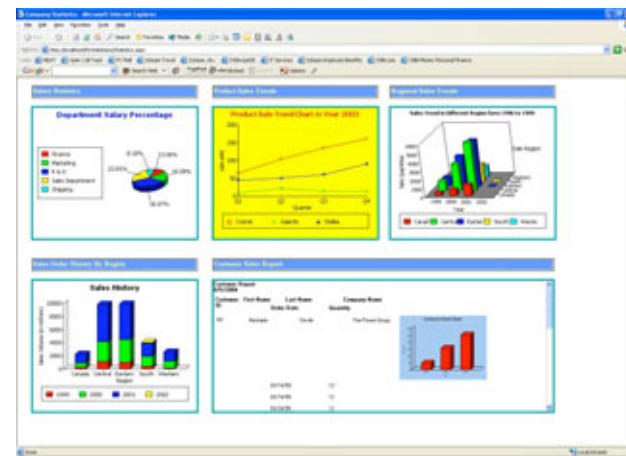
Enterprise Portal (Apeon)



WinForms

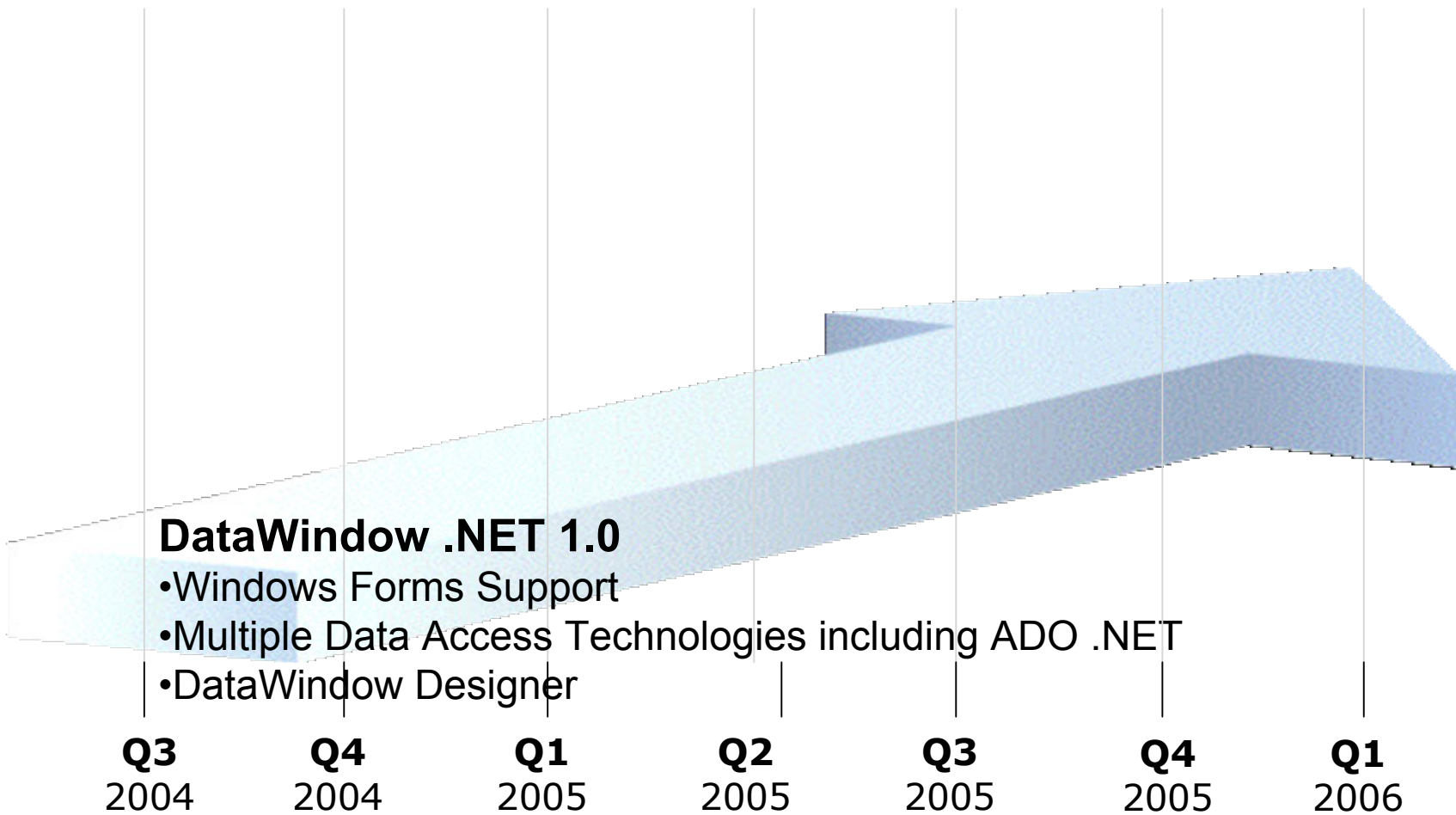


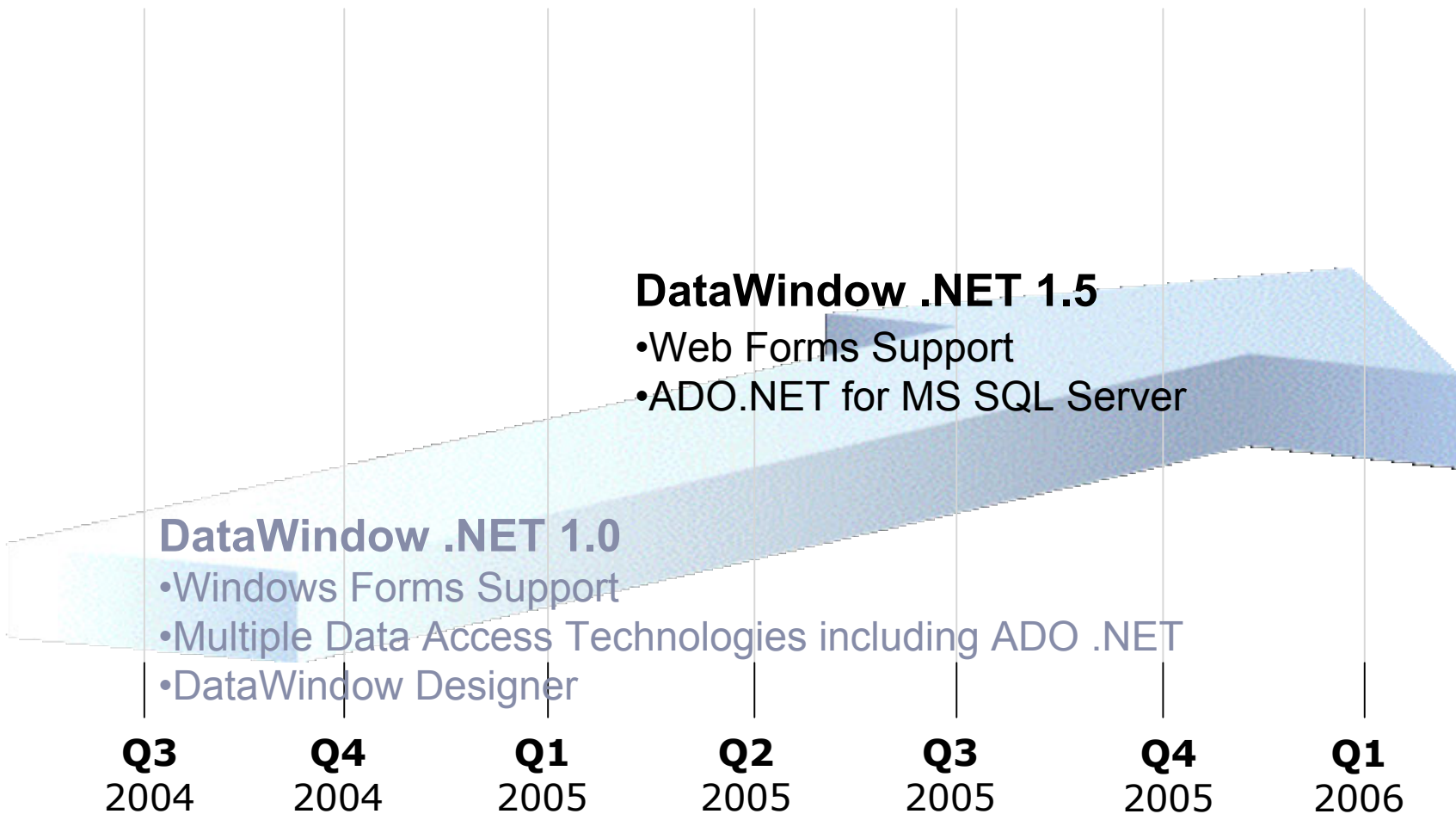
JSP



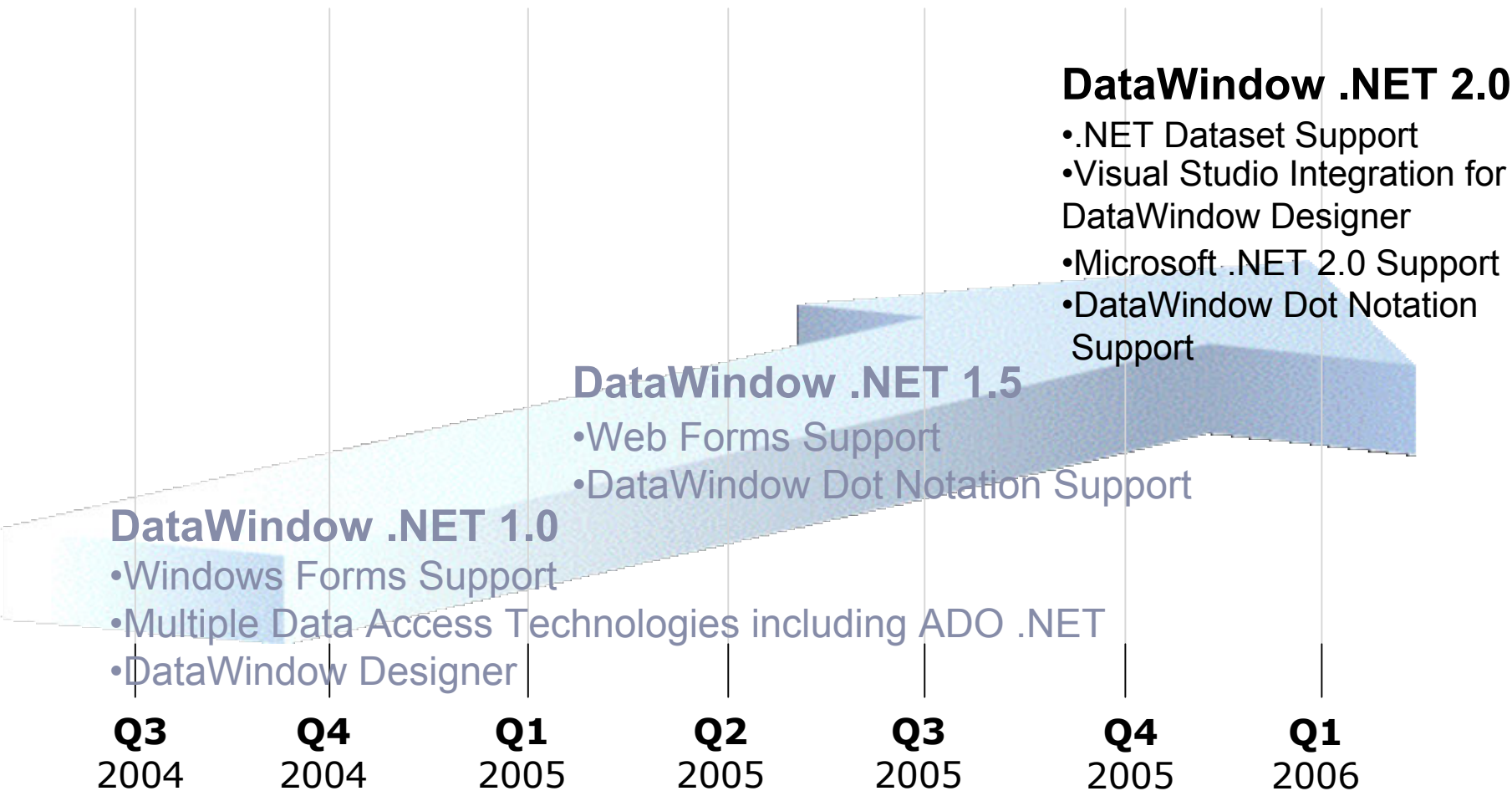
WebForms

- **Reduce the time it takes to develop .NET applications**
- **Reduce risk by using proven technology**
- **Develop in any .NET language**
- **Data entry forms and reports**





## DataWindow .NET 1.5 in Action



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**POWERBUILDER FUTURES**

## PowerBuilder 10.0

### DataWindow.NET 1.0

- DataWindow.NET
- Iterative Design/Coding w/ PowerDesigner Integration
- Unicode Enabling
- XML Web DataWindow
- MobiLink Support
- Web Services Enhancement
- JSP Direct Deployment to EP
- 508 Accessibility

## PowerBuilder 11.0 ...and Beyond

- .NET Compiler :  
WebForms & WinForms
- Rich Internet Architecture (RIA) Support
- PowerScript Enhancements
- UI Enhancements
- DataWindow Enhancements:  
UI and Functionality
- SOA Support via Enhanced Web Services

### NVOs to J2EE App Servers

### PBVM Linux

- PowerBuilder 9 Q1 2005
- PowerBuilder 10 Q1 2005

**Q3**  
2004

**Q4**  
2004

**Q1**  
2005

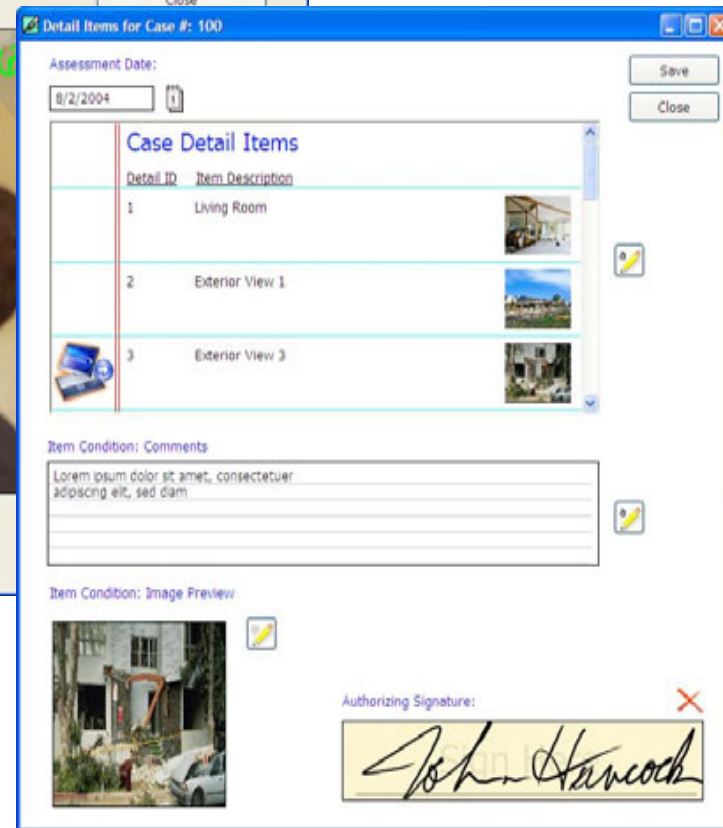
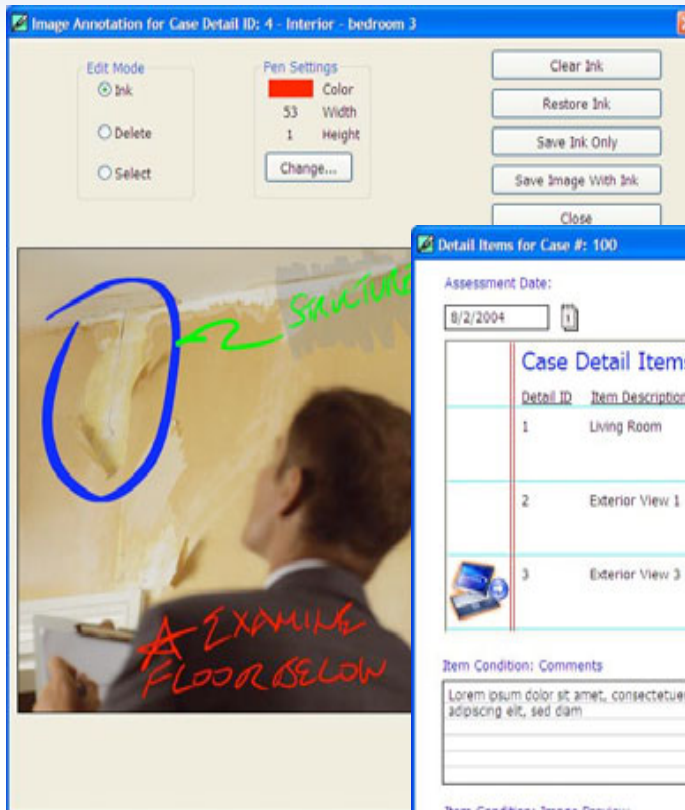
**Q2**  
2005

**Q3**  
2005

**Q4**  
2005

*...and a preview of what's just around the corner...*

- **TabletPC Support**



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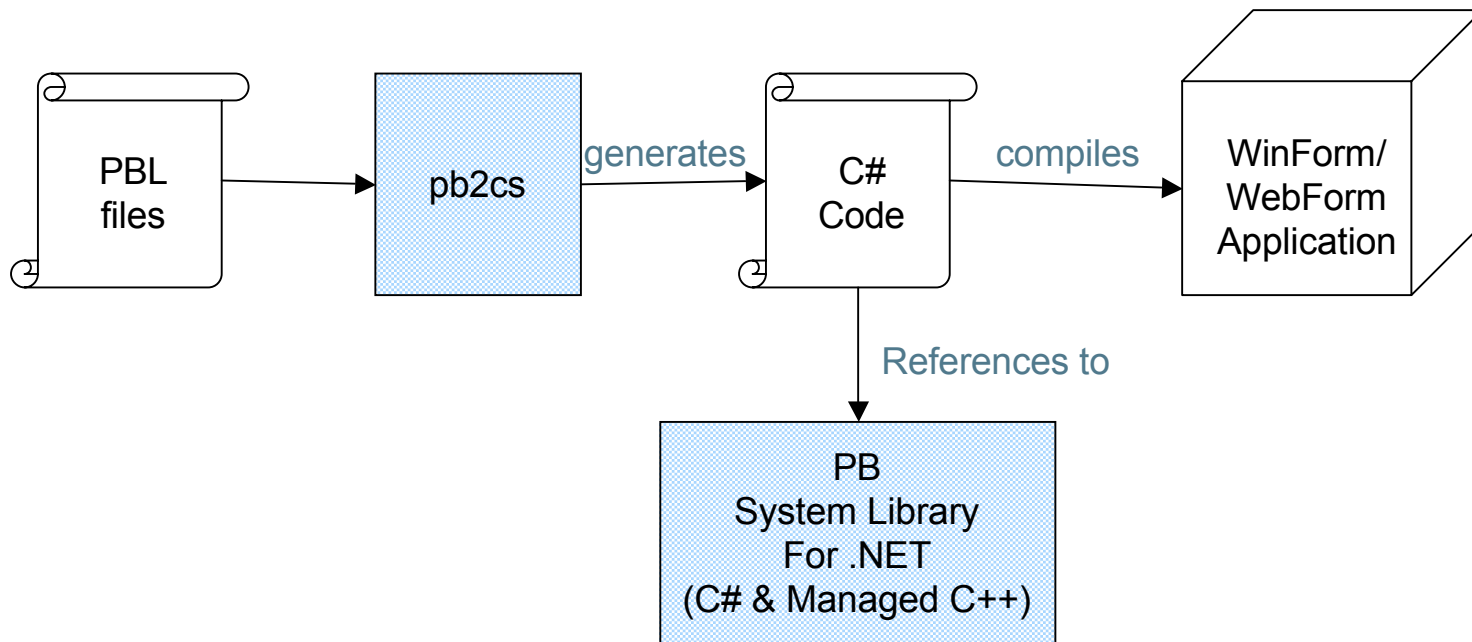
**POWERBUILDER 11 PREVIEW:  
.NET TRANSFORMER**

# Agenda

- **Overview of the PB to .NET compiler**
- **Mapping PB features to .NET**
- **PB WebForm for .NET**

## Objectives of the PB to .NET Compiler

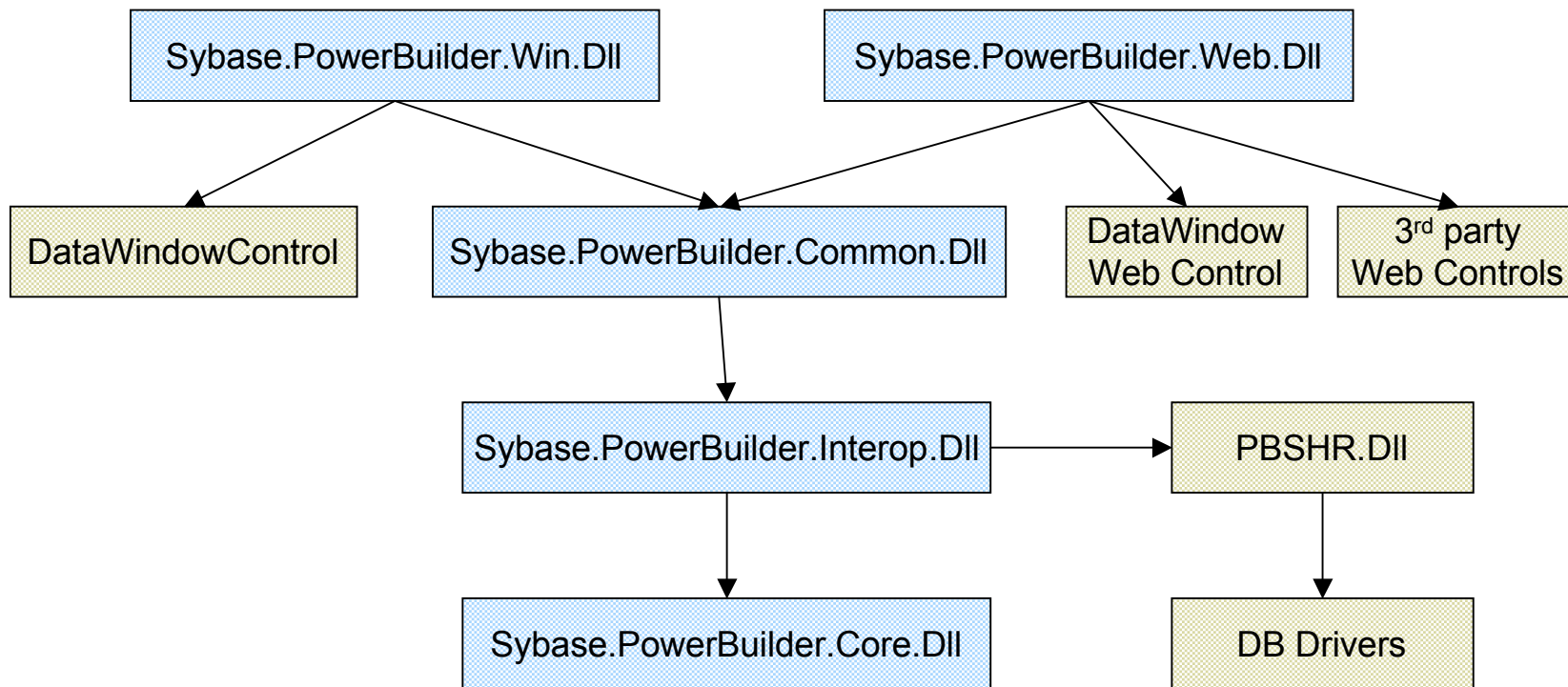
- **Compile PB applications as ASP.NET applications**
- **Compile PB applications as Windows Forms applications**
- **Compile PB NVOs as .NET Web Services**



Main modules of the PB to .NET compiler

## PB System Library for .NET

- **Implements all PB system classes and system functions in .NET programming languages**
- **No PBVM involved**
- **PBDWE.DLL, PBSHR.DLL, and DB drivers are needed**



- **PB Features**
  - Data types (including nullness of variables)
  - Arrays
  - System classes and system enumerations
  - Event handling
  - Method invocation (dynamic/post)
  - Operators and expressions
  - Statements
  - Embedded SQL
  - DataWindow (dot notation)
  - External functions
  - COM
  - EAServer integration
  - PBNI

- **PowerBuilder .NET transformer in action**

- **Standard types: blob, boolean, char, date, datetime, decimal, double, int, long, real, string, time, uint, ulong, and longlong**
- **Any**
- **Cursor and procedure**

PB data type	.NET counterpart	.NET data type used
any	PBAny	object
blob	PBBlob	byte[]
boolean	PBBoolean	bool
char	PBChar	char
date	PBDate	DateTime
datetime	PBDateTime	DateTime
decimal	PBDecimal	decimal
double	PBDouble	double
int	PBInt	Int16
long	PBLong	Int32
real	PBReal	float
string	PBString	string
time	PBTime	DateTime
uint	PBUInt	UInt16
ulong	PBULong	UInt32
longlong	PBLongLong	Int64

# System-Defined Visual Classes

- **Visual classes for WinForm**
- **Visual classes for WebForm**
- **Visual classes for mobile devices (post-PB11)**

- **PB events → .NET events**
- **PB event IDs → .NET delegates**
- **PB event handler → function that is registered to an .NET event**

- **Embedded SQL – PSQL class**
- **Dynamic/post method invocation – .NET reflection**
- **COM**
- **EAServer integration**
- **PBNI**
- **External functions**

- **Implemented using .NET Windows Forms controls**
- **No PBVM involved**
- **Make use of DataWindow.NET (supports dot notation)**

- **Generate .asmx file for PB NVOs**

- **Rich internet application**
- **Implemented on top of ASP.NET**
- **Supporting most features of PowerBuilder**

- **Local printing: A PostScript or PDF file is generated at the server side, which is then downloaded to the client side for printing**

- **ActiveX**
  - Visual – callable but not visible
  - Non-visual – callable
- **File operations – happen at server side**
- **Registry – probably not supported**
- **Clipboard**
- **Drag & drop**
- **Hot keys, shortcut keys, and accelerate keys**
- **Mouse move event**

- **What you can do with it in PB11**
  - Deploy PB applications as WebForm/WinForm applications.
  - Deploy PB NVOs as .NET Web Services
- **What you can do with it beyond PB11**
  - Use .NET classes in PB
  - Debug WinForm/WebForm applications in PB IDE

## Q & A