

# OpenEdge GUI for .NET - Overview Adoption & Migration Strategies

**Mike Fechner**

**Senior Architect & Director, Consultingwerk Ltd.**


**[mike.fechner@consultingwerk.de](mailto:mike.fechner@consultingwerk.de)**

# Agenda

- Review GUI for .NET
- Adoption challenges
- Adoption strategies
  - Parallel use of ABL GUI and GUI for .NET
  - Embedding of ABL GUI into GUI for .NET (and vice versa)
  - New development using GUI for .NET
- Conclusion

# OpenEdge GUI for .NET

*A Microsoft® .NET™ based  
Windows graphical user  
interface that can **replace** or be  
**integrated** into an existing  
OpenEdge GUI application*



# OpenEdge GUI for .NET

- State of the art UI on the Windows desktop
- Integrated feature of OpenEdge 10.2A and 10.2B
- Supported by both GUI clients (fat client and WebClient), no separate license required
- Access any .NET class (with a few restrictions like no multi-threading etc.), no .NET access on the Windows AppServer
- Visual Designer is as comfortable as Microsoft Visual Studio (in fact it uses the same technology)

# OpenEdge GUI for .NET

- Use object oriented language features to access and extend .NET classes
- DataBinding delivers data in the form expected by .NET Controls
- Distribution and support of Infragistics NetAdvantage Controls (OpenEdge UltraControls)
- Much tighter coupled access to .NET than ever with Active X Controls

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# Adoption challenges

- Need to support pre 10.2A users as well
- Thousands of existing screens
- Training requirements
- New tool: OpenEdge Architect

# Adoption challenges

- New language elements
- New programming paradigm (object orientation)
- What are our architecture requirements?
- Where's the ADM3? Or at least a working sample?
- I've never used Office 2007, but my customers want the ribbon...
- Dockable panes, Explorer Bars? What are you talking about?
- Where the heck is the "orb" in Office 2010?

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# Parallel use of ABL GUI and GUI for .NET

- Progress Client supports widgets and .NET controls at the same time
- Procedures may interact with classes
- Classes may run procedures
- Procedures may create .NET Controls and subscribe to events
  
- Restriction: The (one and only) WAIT-FOR Statements needs to be .NET style
- Requires modification in menu.w program

# Enable ABL UI menu.w to support .NET Forms

~~WAIT-FOR CLOSE OF THIS-PROCEDURE.~~

```
/* Create a dummy .NET object to allow .NET WAIT-FOR */  
DEFINE VARIABLE oObject AS System.Object NO-UNDO .  
oObject = NEW System.Object () .      Only required for OE10.2A
```

```
/* .NET WAIT-FOR not associated to a .NET Form */  
WAIT-FOR System.Windows.Forms.Application:Run () .
```

```
/* Use this method to terminate the WAIT-FOR (i.e. in ON  
CLOSE OF THIS-PROCEDURE Trigger)*/  
System.Windows.Forms.Application:Exit() .
```

# Rewrite menu.w using .NET Form first

- ... because it's easy (usually not much business logic) and fun (use all the new UI elements)
- First impression of the application (no demo to prospects without the application menu)
  - menu treeview, drag and drop to organize favorites
  - Outlook navigation pane
  - Ribbon, ...
- Useful for integration of first real .NET Forms

```
/* .NET WAIT-FOR associated to the menu Form */  
WAIT-FOR System.Windows.Forms.Application:Run  
    (oMenuForm) .
```

# Parallel use of ABL GUI and GUI for .NET

- ABL has a number of behind the scenes compatibility features
  - ABL windows and .NET Forms in shared SESSION window/Form chain
  - Mixed mode parenting of ABL windows and .NET Forms
- Well documented (but difficult to understand without some OO/.NET background)
- May become important when you care much about the window management in your app
- Use `Progress.Windows.Form` base type

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# Integration of ABL GUI into .NET Forms

- ABL Windows embedded into .NET Forms
- Upgrading the appearance of ABL application by using .NET Controls (menu, toolbar, ExplorerBars, Dockable Panes, Lookups with UltraGrid, ...)
- Step-by-step introduction of additional (Infragistics) Controls to increase users productivity and application look and feel (UltraGrid)
- MDI possible (but not required)
- Possible first step towards the rewrite of the UI

# Embedded ABL Windows

- Core feature of OpenEdge 10.2A
- The Client-Area of a Window-Widget will be embedded into a .NET Control
- ABL „Window“ as a .NET Control
- Originally developed for „Mix & Match“ MDI
- Additional use cases
- Active X Controls contained on the window are well supported (documented in K-base)

# Demo

- WinKit sample MDI Container showing various embedding scenarios
  - AppBuilder view
  - Embedded view (runtime)
- Embedding 1 x 1 (afternoon session)



# Embedded ABL Windows

- Progress.Windows.WindowContainer
  - System.Windows.Forms.UserControl
    - ...
    - **System.Windows.Forms.Control**
- Progress.Windows.MDIChildForm
  - Progress.Windows.Form
    - **System.Windows.Forms.Form**
    - ...
    - System.Windows.Forms.Control

# Embedded ABL Windows

Menu-Bar

Window-Border

The screenshot shows a window titled "Auftragstatus - veryold-order.w" with a menu bar containing "Datei". The main content area is titled "Order" and contains the following fields:

Order Num:	<input type="text" value="0"/>
Ordered:	<input type="text" value="03/11/09"/>
Order Status:	<input type="text" value="Ordered"/>
Cust Num:	<input type="text" value="0"/>
Name:	<input type="text"/>
Sales Rep:	<input type="text"/>
Promised:	<input type="text"/>
Shipped:	<input type="text"/>

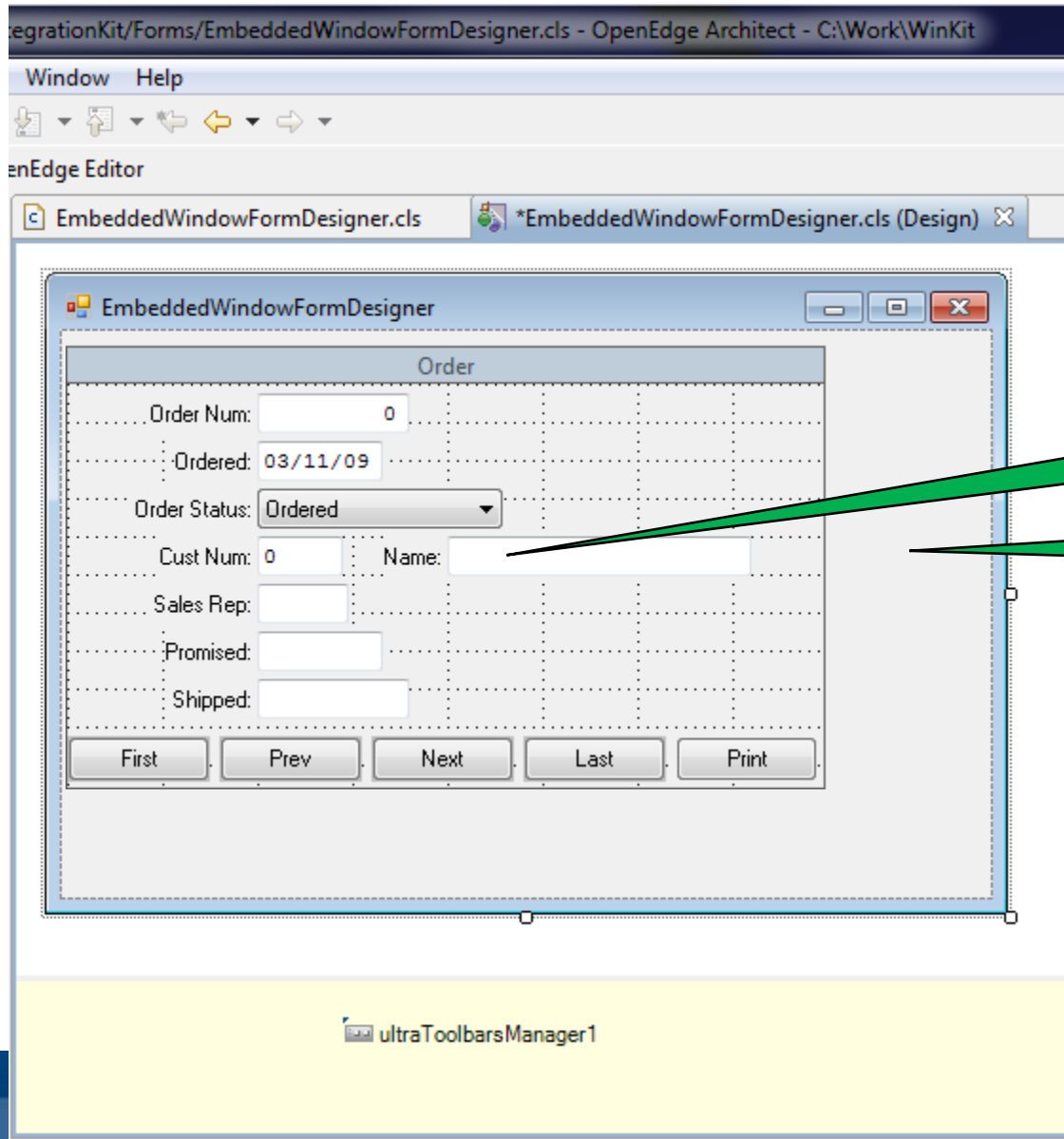
At the bottom of the form are five buttons: "First", "Prev", "Next", "Last", and "Print". Below the buttons is a grey status bar.

Client Area  
(FRAMES)

Message  
Area

Status  
Area

# Embedded ABL Windows



**Client Area  
(FRAMES)**

**Window  
Container**

# Embedded ABL Windows

## ASSIGN

```
oContainer = NEW WindowContainer ()  
oContainer:EmbeddedWindow = hWindow  
.
```

- Window may not yet be REALIZED (i.e. HIDDEN and VISIBLE not yet set, no LOAD-ICON)
- When using AppBuilder generated code this is only possible by using the Method-Library and include files

# WinKit – Window Integration Toolkit

- Consultingwerk service offering
- Workshop to kick start GUI for .NET adoption using embedded ABL windows
- Based on
  - Support classes / helper classes / manager classes
  - Supporting include files, Templates
  - Experience with ABL GUI and GUI for .NET
- Designed to offer foundation for future development using native GUI for .NET
- About to release WinKitLE with reduced functionality as a free tool

# WinKit: Implementation

- Prebuilt components for MDI Container and Child Forms with menu, Outlookbar, Grids, Treeviews,...
- Include Files for use in .w-Files
- MENU-BAR and toolbar (optional) will be rendered using .NET menu/toolbar
- Full automation of ADM2 toolbars/ADM1 panels
- Completion of embedding in .NET Container (core-feature of 10.2A, 10.2B)
- Integration of OpenSource resizing library (<http://www.chemistry.no>)

# Standard procedure / approaches

- Include files with Compile-Time check, 10.2A+
- Included into .w File, central locations, easy patterns for „search and replace “
- .NET Controls will be dynamically rendered from existing ABL widgets (Menu, Toolbar)
- Identification of additional ABL Widgets that may be substituted with .NET Controls (low-hanging-fruits first)
- Design specialized .NET Controls Visual Designer

# Standard procedure / approaches

- Keep most of the control in the .w file to reuse existing logic
  - CLOSE OF WINDOW
    - FormClosing Event will always be cancelled as ABL WINDOW-CLOSE Trigger might terminate with RETURN NO-APPLY
  - CHOOSE of MENU-ITEM, BUTTON, ...
    - .NET ToolClick Event Handler executes ABL Event (i.e. CHOOSE on ABL Widget)

# WinKit – Window Integration Toolkit

- Takes away time pressure from Progress ISV
  - Recognizable UI improvements with minimal effort
  - Reduced implementation risk (reduces testing and training)
- Same source code remains usable on V9, V10.0, V10.1 (preprocessor checks around OO code)
- Simplified maintenance
- Developers can still use the well known tools to maintain the (legacy) application
- Technology change at the pace of the team, not the technology

# Enhancing the ABL GUI's appearance

- Don't underestimate the power of new Icons or Images (before showing a prototype to users)
- It's usually worth US\$ 250,- for 10.000s of Icons
- Review colors and fonts of the ABL GUI
- Use Infragistics AppStylist so that .NET GUI may match colors and fonts of ABL GUI (or meet in the middle)






**Ressourcenplanung**

Datei Navigation Zusatzfunktionen

	Mo	Di	Mi	Do	Fr	Sa	So
44	26	27	28	29	30	31	1
45	2	3	4	5	6	7	8
46	9	10	11	12	13	14	15
47	16	17	18	19	20	21	22
48	23	24	25	26	27	28	29
49	30	1	2	3	4	5	6


Vormittag	Datum	Nachmittag
36:33	03.11.2009	47:53
38:53	04.11.2009	46:53
41:53	05.11.2009	41:53
41:53	06.11.2009	41:53
17:23	07.11.2009	03:23
00:00	08.11.2009	00:00
27:53	09.11.2009	41:53
38:53	10.11.2009	47:53

KFZ:  

Kunde-Nr.:  

Kunde:

Bemerkungen:

Aufträge:  

Einlagerungen:  

	1. Kurzhubbü	2. Bühne Mitt	3. AV Bühne	4. Service - E	Flotten / Auß	Fiesta	Hol/Bring
06:00							
06:20							
06:40							
07:00							
07:20							
07:40	█						
08:00	█	█					
08:20	█	█					
08:40	█	█					
09:00	█	█					
09:20		█					
09:40							
10:00	█						
10:20							
10:40							
11:00	█						
11:20							
11:40							
12:00	█						
12:20	█						
12:40	█						
13:00		█					
13:20		█					
13:40		█					

Automatisch

Termin	Auftra
01.11.2009	
03.11.2009	

08:00 (02:20Minuten)

Enter data or press ESC to end.



Firma: demo29.05.09 REIFENSERVICE BEVER

0048admin

03.11.2009

Ver: 7282

## Ressourcenplanung

Datei Terminplaner Navigation Zusatzfunktionen

Termine drucken Aktualisieren Automatisch aktualisieren 1Stunde

RADWECHSEL REIFENWECHSEL VERMESSUNG DURCHSICHT AU / HU KFZ Service! Sonstiges

## Übersicht

## Termindetails

November 2009

M	D	M	D	F	S	S
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

KFZ: K-MF7422

Aufträge: 0

Einlagerungen: 0

Kunde-Nr.: 0

Kunde: test

Bemerkungen:

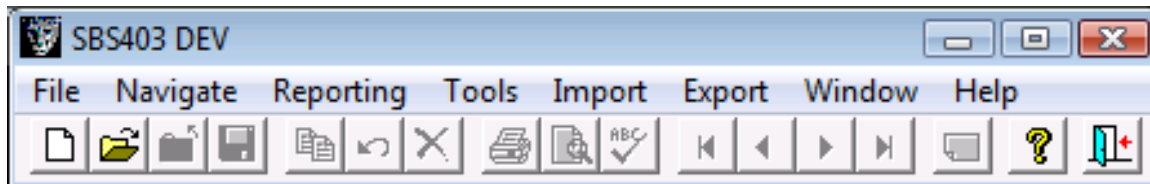
Buttons: Neu, Öffnen, Druck

## Ressourcen

- 1. Kurzhubbühne
- 2. Bühne Mitte
- 3. AV Bühne
- 4. Service - Bühne
- Flotten / Außeneinsa...
- Fiesta
- Hol/Bring

Donnerstag

	1. Kurzhubbühne	2. Bühne Mitte	3. AV Bühne	4. Service - Bühn	Flotten / Außeneins	Fiesta	Hol/Bring
	keine Termin	keine Termin	1 Termin	1 Termin	1 Termin	1 Termin	keine Termin
06:00							
07:00							
08:00				Fechner			
09:00			K-MF7422			K-MF7422 Test 2	
10:00					K-MF7422 test		
11:00							
12:00							
13:00							
14:00							
15:00							



The screenshot shows a window titled "Selector - Company". At the top, there is a "Company Filter:" text box and three checked checkboxes: "Prospective Customers", "Customers", and "Suppliers". Below this is a table with the following data:

Company	Sales Ledger Code	Purchase Ledger Code	Prospect	Customer	Supplier	Active Customer	Active Supplier
0H097000	TEST01		Yes	Yes	Yes	Yes	Yes
Abbey	ABG01			Yes	Yes	Yes	Yes
Abbey Edi				Yes	Yes	Yes	Yes
abbey national	HEX30001			Yes		Yes	
ABC Printing & Company	Jones			Yes	Yes	Yes	Yes
aks company	aka01			Yes		Yes	
another new company	BTL1			Yes		Yes	
APS				Yes		Yes	
Bens company				Yes		Yes	
Bob the supplier					Yes		Yes

At the bottom right of the window, there are two buttons: "New" and "Open".

New Open Copy Delete Notes

First Previous Next Last

Record

Navigation

Reports  
Reporting

Navigation

**Entities**

- Home
- Company**
- Event

---

Entities

New Group

New Group

Selector - Company

Company Filter:   Prospective Customers  Customers  Suppliers

Drag a column header here to group by that column.

Company	Pros	Activ	Acti	Main Site Post Code
0H097000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CW7 3ALXXX
Abbey	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	AB1 2BA
Abbey Edi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SD2 5FG
abbey national	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
▶ ABC Printing & Company	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NG1 3MA
aks company	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NN3 44N
another new company	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
APS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	APS
Bens company	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NN9 6TT
Bob the supplier	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LE16 7PQ
BOS Payment Services	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH12 9HP
Bradbury and Co	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
BT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Butlin and Co.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LE16 8AY
Dave	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Dave 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Eastpoint	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Halifax	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	LK3 5TT
HBOS plc	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	EH1 1YZ
highland company	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Howard Smith (csv)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Howard Smith Demo Bite	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Imported Company 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	bb99 6FS

Main Representative: Mark Bradley

Market: England g

Default Pricing Group: martins test

Default Special Uplift: (None)

Default Special Uplift %: 0.00

Default General Uplift: (None)

Default General Uplift %: 0.00

Round Up: 0

Default Quote Print Price: (None)

Quote Print Run On Price: (None)

Company Code:

Business Unit:

Pecs Code:

Pecs Overall Code:

- Job/Orders Available
- Deliveries Available
- Multiple Jobs on Automatic Invoices
- Multiple Sop Orders on Automatic Invoices

Summary Exchange Values: System Default

Default Sales Nominal:

Vat Code: (None)

Vat Registration Number: ABC135798642

Accounts System: Company 1

Sales Ledger Code: Jones

Settlement Days: 0

Settlement Discount %: 0.00

Invoice Discount %: 0.00

Default Invoice Template: Bob Invoice

Default Credit Template: (None)

Default Quotation Template: (None)

Default Production Delivery Template: Bob del note

Default Currency:

Exchange Rate: 0.00000000

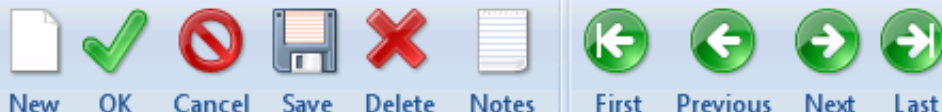
Default Commodity:

Default Delivery Term:

Default Carrier: Standard UPS UK

Warehousing Charges

## Data



New OK Cancel Save Delete Notes

First Previous Next Last

Record

Navigation

Company **Customer Details** Supplier Details Sites Contacts Company Events

Main Representative: Mark Bradley

Market: England g

Default Pricing Group: martins test

Default Special Uplift: (None)

Default Special Uplift %: 0.00

Default General Uplift: (None)

Default General Uplift %: 0.00

Round Up: 0

Default Quote Print Price: (None)

Quote Print Run On Price: (None)

Company Code:

Business Unit:

Pecs Code:

Pecs Overall Code:

 Job/Orders Available Deliveries Available Multiple Jobs on Automatic Invoices Multiple Sop Orders on Automatic Invoices

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Default Invoice Template: Bob Invoice

Default Credit Template: (None)

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Default Production Delivery Template: Bob del note

Summary Exchange Values: System Default

Default Currency:

Exchange Rate: 0.00000000

Default Commodity:

Default Delivery Term:

Default Carrier: Standard UPS UK

Warehousing Charges

Customer

SOP Details

Other Details

Reps

Estimates

Jobs

Master Estimates

Completed Jobs

Brands

Charge Codes

# Agenda

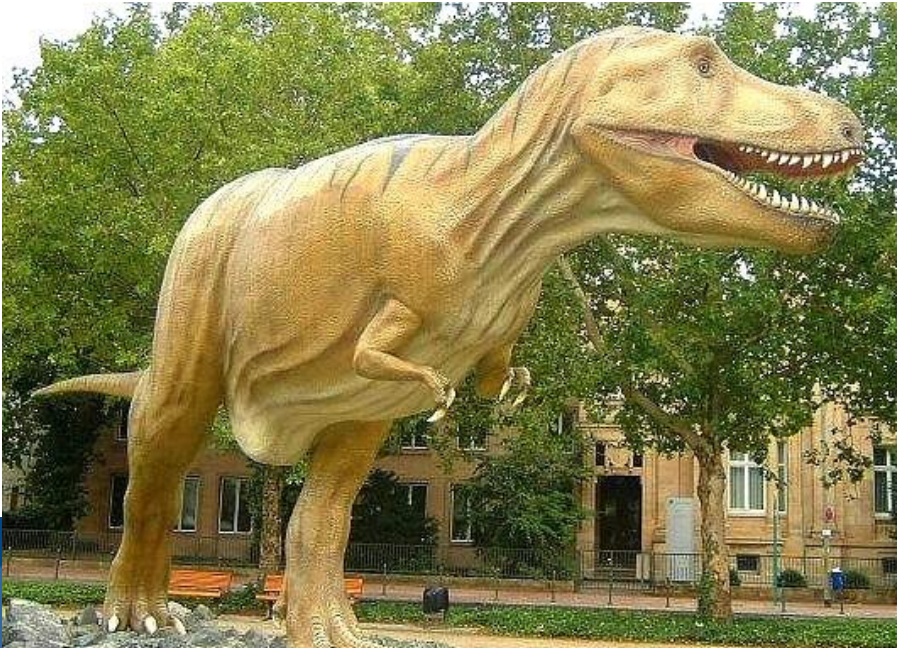
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# New Development using GUI for .NET

- GUI for .NET offers all the tools to build the UI you've ever dreamt of...
- May or may not go along with an architectural change, but architectural change usually recommended (depending on current architecture and goals and priorities)
- The new architecture may be influenced by the ability to reuse existing code
- GUI for .NET can still be used with client/server
- UI is often the main driver for re-architecture

# New Development using GUI for .NET

- Visual Designer is a powerful and complex design time environment
- Infragistics Controls (OE UltraControls) allow design of attractive and productive UI
- Infragistics Controls are a beast to learn, ...



# New Development using GUI for .NET

- No wizards to build OERA-maintenance screens
- No functional design templates “out of the box”
- You will start with no framework, no libraries that work with the .NET UI at all!
- For large projects, that’s far away from productivity

# New Development using GUI for .NET

- Don't underestimate the time required to build (good) reusable components
- Requires at least basic OO understanding
  - type concepts, Interface types, CAST
  - strong typing can be a blessing and a curse
- UI Framework or template building requires OO design skills
- Good Visual Designer integration is challenging
  - Requires understanding of System.ComponentModel, IDesignerHost
  - Controls and Components
  - No XFTR, no ABL Wizards

# New Development using GUI for .NET

- Extension of some .NET classes is key to productive application development
- Controls
  - Specialized UserControls (e.g. Viewer)
  - Grid Controls
  - Lookup Controls
- Components
  - Data Adapter
  - ToolbarsManager
- Don't fight the .NET UI – use it in the way it has been designed by Microsoft and others (Infragistics)

# Demo SmartComponent Library

- Sports2000 Customer Explorer
- OERA client design in less than 5 minutes and with just a single line of manual code (Order/OrderLine maintenance)
- Fully integrated into Visual Designer
- Wizards  
(Import Schema, Create Fields)
- Linking of Components



# New Development using GUI for .NET

- Learn how to translate C#, VB.NET to ABL
- Get used to MSDN, Infragistics Forum, Google and .NET community sites (e.g. Codeproject) to answer how-to questions
- Progress Communities (aka PSDN) is also a great resource, but
  - .NET developers know .NET Controls since 2002
  - ABL developers know .NET Controls since 2009 (YMMV)
- Consider hiring a .NET developer for the UI (but tell him the AppServer is not a SQL server)

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# Conclusion

- GUI for .NET is well integrated in today's ABL and client products
- Fully compatible to classic ABL GUI
- Nobody forces you to rewrite your client (at once)
- Don't underestimate training requirements
  - OO
  - .NET
  - Infragistics
- Consider new architecture (OERA)
- Tools available to support adoption of GUI for .NET

# Conclusion

- You've missed the ability to convert code from AppBuilder .w to Visual Designer .cls file?
- That's because I don't believe in that
  - Access to ABL GUI has too many V6 style possibilities
  - Converted application would not be to much better than embedded ABL windows
- Exception are (repository based) Frameworks, like Dynamics, but that requires a talk of it own 😊

**Questions**



**Thanks**

