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VB.Net and iSeries for Dummies

An Introduction to VB.Net for iSeries Developers

Presented by
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Presenter Information



- Richard Schoen
- President of RJS Software Systems, Inc.
- Has developed software for over 22 years
- Started out on the System 34/36 in mid 1980's
- Has been through the pain of learning web dev.
- Knows RPG, CL, VB, C, C#, Java, JSP, ASP
- Develops iSeries, Windows and Linux software for a living
- Cares about iSeries Developers future

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Before We Start



- New .Net track at COMMON
- Let COMMON know if you want more .Net classes

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Overview

- This session will be a chance for iSeries developers to learn more about how VB.Net technologies can be used to quickly create Windows applications that can access iSeries programs and data.
- Build value into your iSeries system by showing the network guys how the iSeries can be used as a database backend for Windows desktop applications.

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Agenda

- Why modernize ?
- Why learn a new development language ?
- Available PC/Web development environments
- Why Microsoft .Net technology ?
- Overview of Microsoft Visual Studio 2005
- Build Sample VB Application
- Using IBM Java Toolbox in .Net development

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Before We Start

- Disclaimer to protect the presenter from flying pencils and other objects
- We are not bashing any technologies
- We are not advocating for or against any technologies (other than .Net ☺)
- We are discussing a particular development methodology that could help existing RPG or VB developers become proficient with PC development faster

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Why modernize ?

- Your company just hired a young CFO or CIO who only knows Windows
- Your company has a mixed camp of iSeries and PC developers
- Your company wants to share information with customers and suppliers
- Want to update iSeries user interfaces
- Dispell misconceptions that the iSeries is not player in the windows/web environment
- Utilize existing database info on the iSeries
- Utilize existing and new RPG/CL/COBOL code

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Why modernize ?

- Don't throw away years of working app code
- Times have changed. Multiple system platforms in most shops today.
- Every iSeries developer should minimally know HTML and Javascript
- HTML is DDS for the web
- Javascript provides logic for web pages
- No matter what Web technology you use, HTML and Javascript are part of it
- Learn a Windows/Web development technology
- Your career depends on it

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**Example Scenario 1
The New CIO**

- New 30-40 something CIO/CEO is hired
- Hates green screen applications
- Wants to dump the iSeries because it's legacy technology (whatever that is ©)
- Has the PC/network guys on his side
- Looking at SAP, Oracle or some other PC server based software with a several million dollar and several year implementation price tag.
- Is convinced the iSeries is a dinosaur
- CIO/CEO will probably be gone in a few years moving up the ladder

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Possible Way to Address Scenario 1



- Sit down with the CIO/CEO and talk about their concerns
- After hearing the concerns, discuss how you can build GUI Windows or Web apps for inquiry
- Build him that cool, gee-whiz drill down application to view sales summary info
- Talk to the PC/network guys about how iSeries can be used from languages like .Net
- A little GUI can go a long way in PR value

Example Scenario 2 iSeries vs the Network Guys




- Company has a split camp of Windows Developers and iSeries developers
- Windows team is convinced that all iSeries systems should be re-written and removed from the iSeries
- They are convinced they can't access the iSeries database
- Convinced that iSeries is the devil

Possible Way to Address Scenario 2




- Sit down with the Windows development team to discuss app needs
- Teach them how to access the iSeries directly from Windows or Web apps
- Talk about how the teams can work together to re-use existing, centralized iSeries program logic
- This educates the Windows team on the iSeries
- This allows iSeries developers to hone their skills by learning new technologies
- Everybody can win

Educating on iSeries Value 

- As iSeries professionals it's up to us to educate our management on the platform
- Discuss how it plays well with other systems
- Discuss how it can be used with .Net, Java, PHP and other languages
- Discuss how it can run multiple platforms in one box: Windows, Linux, OS/400, Domino, Websphere
- Open the communications lines
- Illustrate by writing a prototype application that actually use the new technologies.

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PC Development Environments Today 

- Java/JSP/Websphere/Eclipse/WDSC
- Microsoft Visual Studio (ASP.NET/VB.Net/C#)
- RPG/Cobol/CGI/RPG Smart Pages
- PHP/Zend Core
- Ruby on Rails
- Several other open source variants
- Several tool vendors as well
- Differing opinions on which is best

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Two Top Environments 

Websphere Developer/WDSC/Eclipse


- Can be used to develop - Java/JSP/etc.
- Can develop gui and web java apps

Microsoft Visual Studio

- Can be used to develop - ASP.NET/VB.Net/C#
- Can develop gui and web apps
- Can also be used to develop java when used with Mainsoft tools. <http://www.mainsoft.com>

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What is VB.Net technology ?



- Acronym: Visual Basic for .Net
- Used for desktop application development
- Can be used in web application development
- Can be used in for web service development
- VB.Net is part of the Microsoft .Net Framework
- Microsoft .Net Framework improved upon Sun Java runtime for Windows and Web application
- Can use C# or VB for coding business logic
- Can write complete desktop applications much faster
- Mature technology – Around since 2002

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Why use .Net technology ?



- VB.Net is easy to learn. Very english-like code
- Can get started with very little code
- Don't need a lot of experience to get started with desktop apps
- Provide quick wins with management
- Can use existing iSeries programs and data in windows/web apps
- Can consume web services
- No initial XML knowledge needed for using web services
- FREE Development Environment (Visual Studio Express)
- Can get started with very little code

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Prerequisites for VB.Net Development




- Microsoft Visual Studio 2003 or 2005
- FREE version of Visual Studio 2005
<http://msdn.microsoft.com/vstudio/express>
- iSeries Access/400 ODBC or ADO.Net provider

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Introduction to Visual Studio 2005 Environment 

- Free version called Visual Studio Express
- Start the environment
- Discover the Toolbox
- Discover Project Types
- Discover Solution Explorer
- Discover the Error List
- Discover the ToDo-List

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Introduction to Visual Studio 2005 Environment 


- Most important controls to learn
- Label – fixed/static text
- Text box – data entry field
- Button – execute/run an action.
- Menu – execute/run an action via pulldown menu
- DataGrid – Subfile for VB.Net Holds multiple rows of data that can be viewed or manipulated.
- Focus on these until you get comfortable

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3rd Party VB.Net Visual Web Components 


- Infragistics Netadvantage
<http://www.infragistics.com>
- Telerik
<http://www.telerik.com>
- Componentsource
<http://componentsource.com>

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Connecting to the iSeries from .Net 


- iSeries Data can be accessed via any of the following CA/400 database drivers
- ODBC driver
- OLEDB driver
- ADO.Net driver
- Why are there 3 drivers ?
- Evolution

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Using ODBC, OLEDB or ADO.Net database driver ? 


- ODBC driver is oldest method of access
- OLEDB driver is next generation
- ADO.Net driver is managed driver
- OLEDB has ability to access iSeries database or programs very easily
- ODBC, OLEDB and ADO.Net are relatively interchangeable because of .Net data adapters
- Connection Code is almost identical for All 3
- Once you know these, you can connect to other databases such as MySQL, SQL Server, etc..

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Develop a Sample VB.Net Inquiry 


- Let's develop a simple inquiry using file QCUSTCDT in library QIWS on the iSeries
- Will ask for a customer number entry
- Will display a list of all matching customer records in a data grid.
- Very similar to a subfile inquiry

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Using IBM Java Toolbox in .Net Apps 


- JT400 toolbox has a lot of functionality
- Supports SQL DB access via JDBC calls
- Supports Record-Level access to DB
- Supports Remote Program Calls
- Supports Command Line Calls
- Supports Data Area Access
- Supports Data Queue Access
- Supports Reading/Writing PC Files to IFS

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Using IBM Java Toolbox in .Net Apps 

- RJS has “.Net-ified” JT400
- Used a Java runtime product called IKVM
- Compiled JT400 so .Net developers can use it
- The JT400 and IKVM are FREELY available and open source
- RJS has built a higher-level, less code intensive supported commercial offering called RJS iSeries Data Access Provider for .Net
- Provides .Net jump-start to .Net developers
- Provides quick access to all JT400 functionality with minimal learning curve

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Summary/Feedback 

- Discussed reasons for modernization
- Received an overview of the Microsoft VB.Net development environment
- Please let COMMON know if these .Net sessions are relevant
- What other .Net topics would you like to see ? (More advanced, custom controls, db access)
- If you liked the session, please give me high marks on evaluations
- Share the things you don't like as well
- See you in Nashville in 2008

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