Five Cool Things to Know and Use for Smart Client Development with Microsoft Visual Studio 2008 and the Microsoft .NET Framework 3.5

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AGENDA

Demos

- WinForms and WPF Interop
- Managed Extensibility Framework
- Client Application Services
- ADO.NET Sync Services
- VSTO v3.0 (Customising Office)

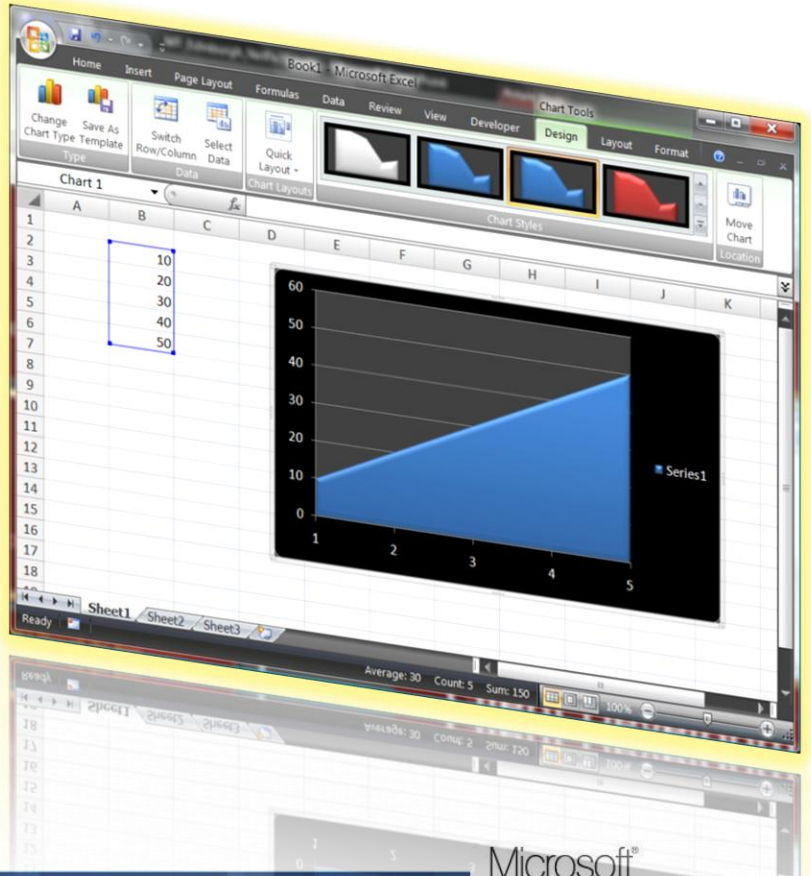
“In an ideal world, once developers master a new technology such as WPF they’d leave the previous framework behind. Everything would be written using the latest, most capable toolkit, and no one would ever worry about legacy code.” — **Matthew MacDonald**

Why interop?

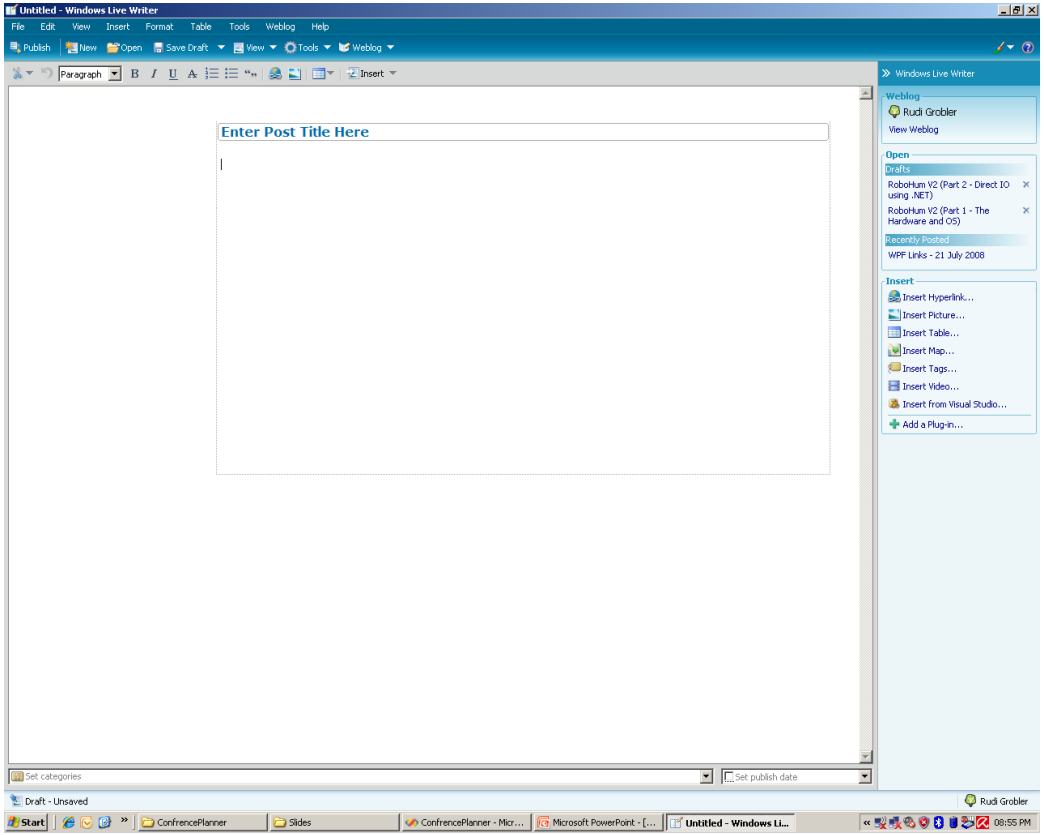
- WPF using WinForms?
  - Leverage existing code investments
  - Compensate for missing features in WPF
- WinForms using WPF?
  - Add some WPF “shine”
  - Some control not available (ie. FlowDocument)

WinForms hosting WPF

demo



Why create a extendable application?



MEF

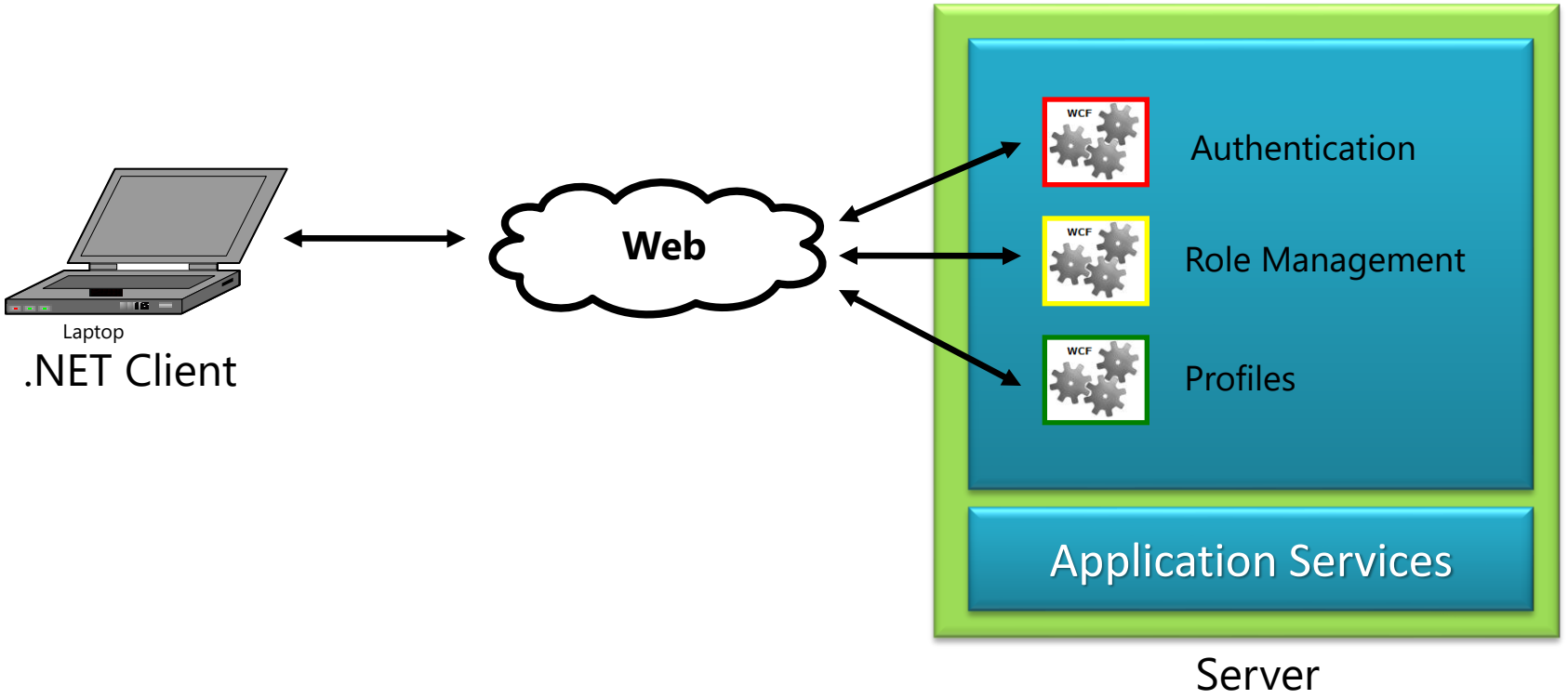
Makes Extensibility Fabulous

Managed Extensibility Framework

demo

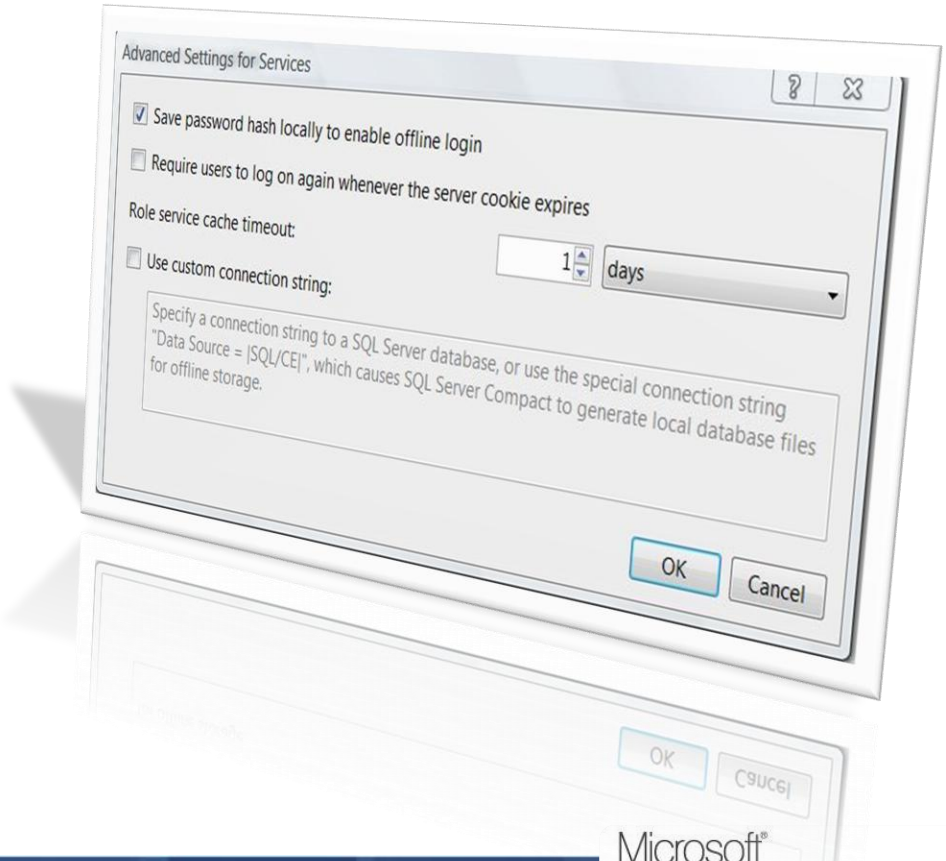
Client Application Services

- Leverage existing infrastructure
  - Authentication, Roles & Profiles



Client App Services

demo



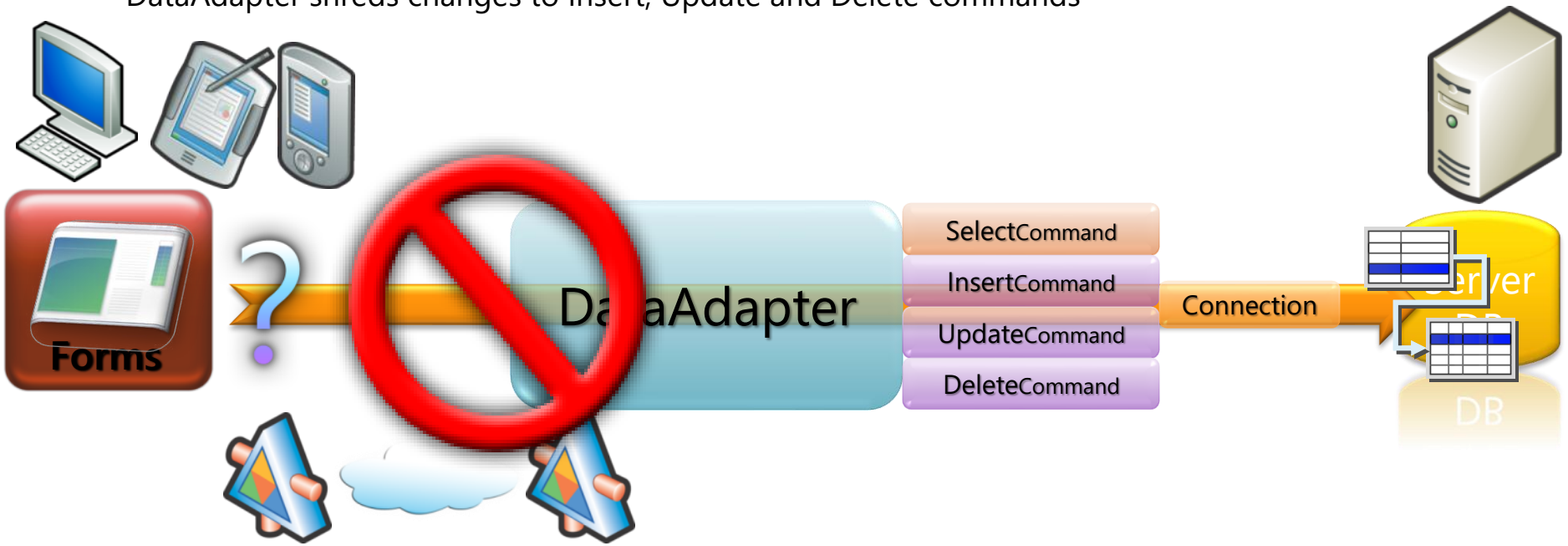
Tenent of a Smart Client

Offline Capable

Because they are running on the local machine one of the key benefits that smart client applications offer is that they can be made to work even when the user is not connected. For applications running in occasional or intermittent connectivity situations, such as those used by traveling workers or even those running on laptops, tablets, PDA's, and so on, where connectivity cannot be guaranteed at all times, being able to work while disconnected is essential. Even when the client is connected, the smart client application can improve performance and usability by caching data and managing the connection in an intelligent way.

ADO.NET Data Access

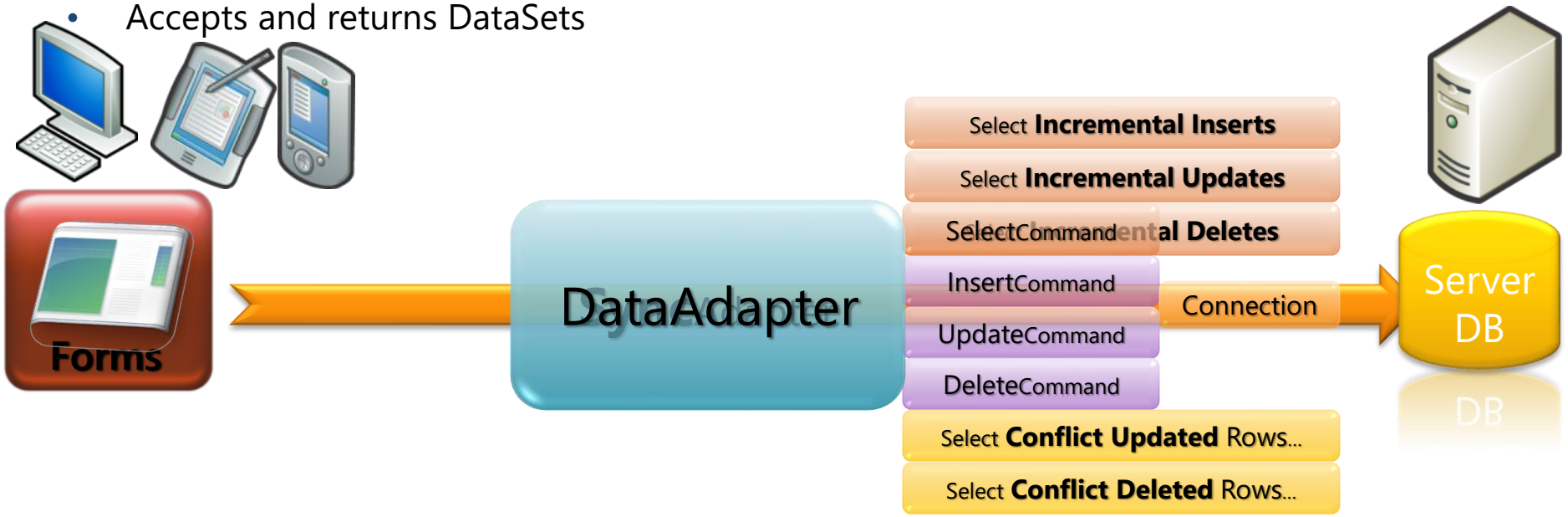
- Request made of the server
- DataAdapter.SelectCommand executed returning a result via DataSet
- Changes made in-memory, to the DataSet and sent back
- DataAdapter shreds changes to Insert, Update and Delete commands



- Communicate over services
- All operations round trip to the server
- Minimal leverage of the client – memory based operations
- Fragile to network instability

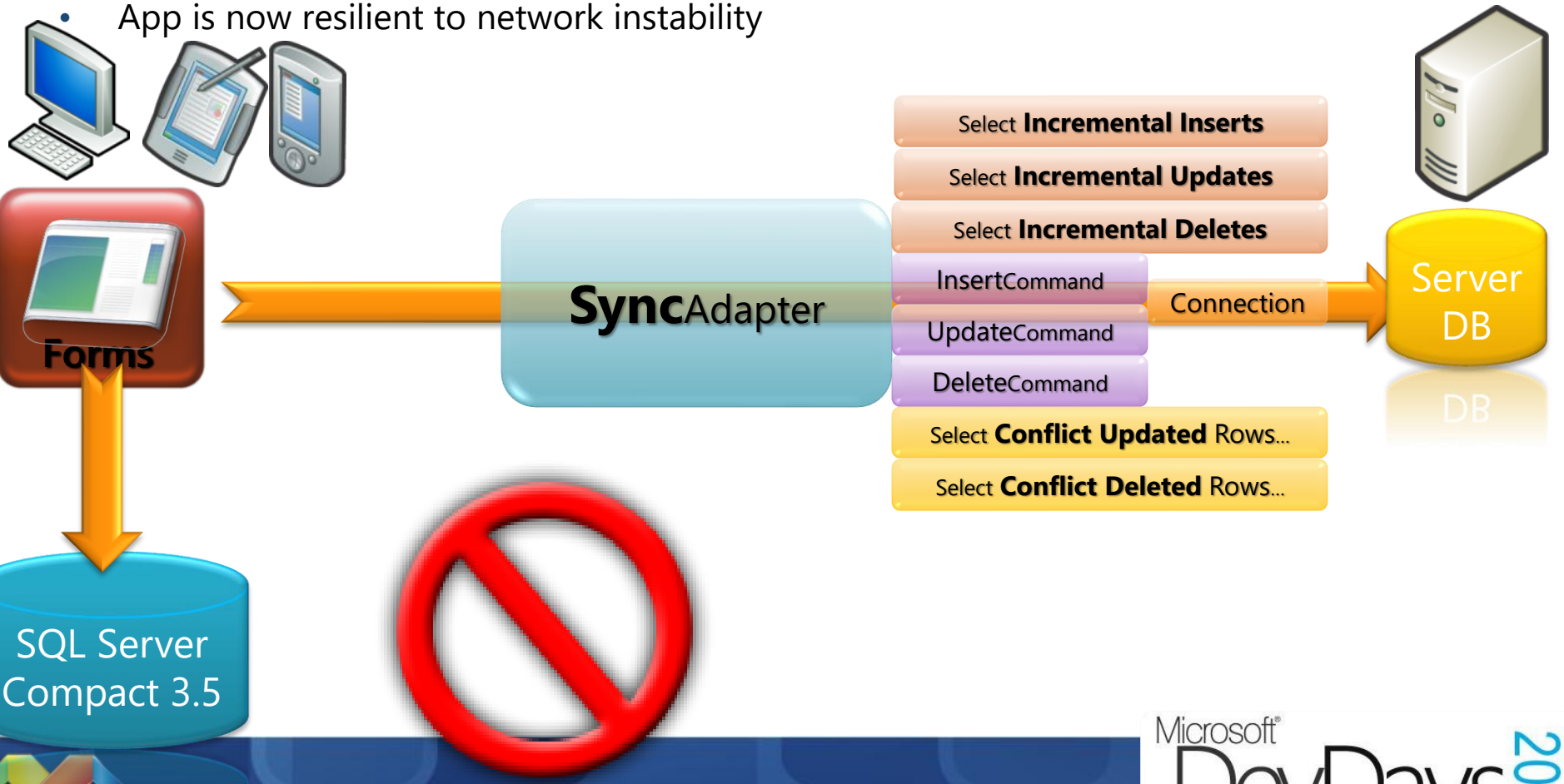
Sync Services for ADO.NET

- Builds on DataAdapter
- Adds Incremental Commands
- Adds Conflict Commands
- Accepts and returns DataSets



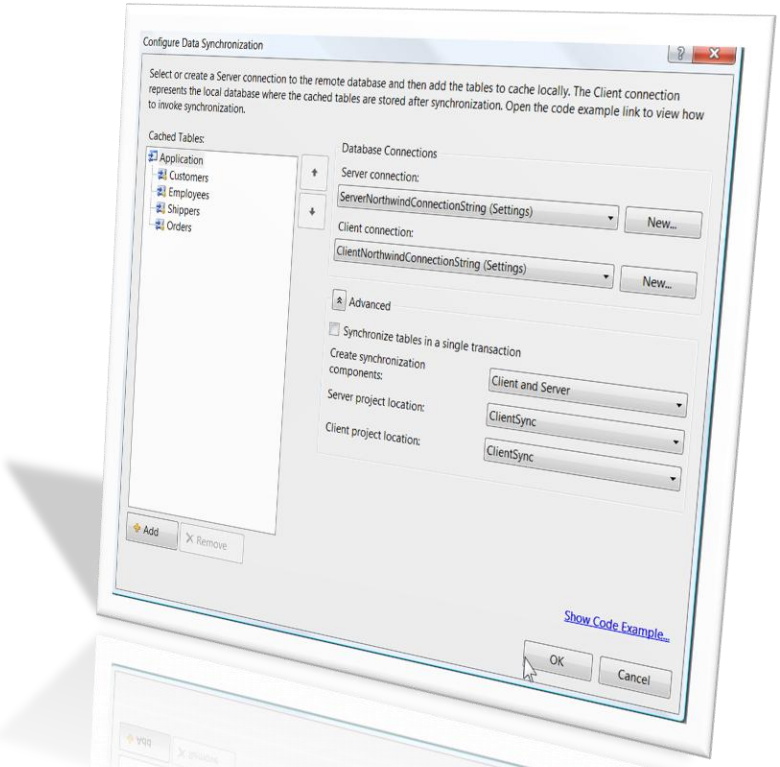
Sync Services for ADO.NET

- Local storage to capture background sync operations
- Sync moves data between the local store and the remote service
- Application still works with data, but the data is now local
- App is now resilient to network instability



ADO.NET Sync Services

demo



Tenent of a Smart Client

Utilizes Local Resources

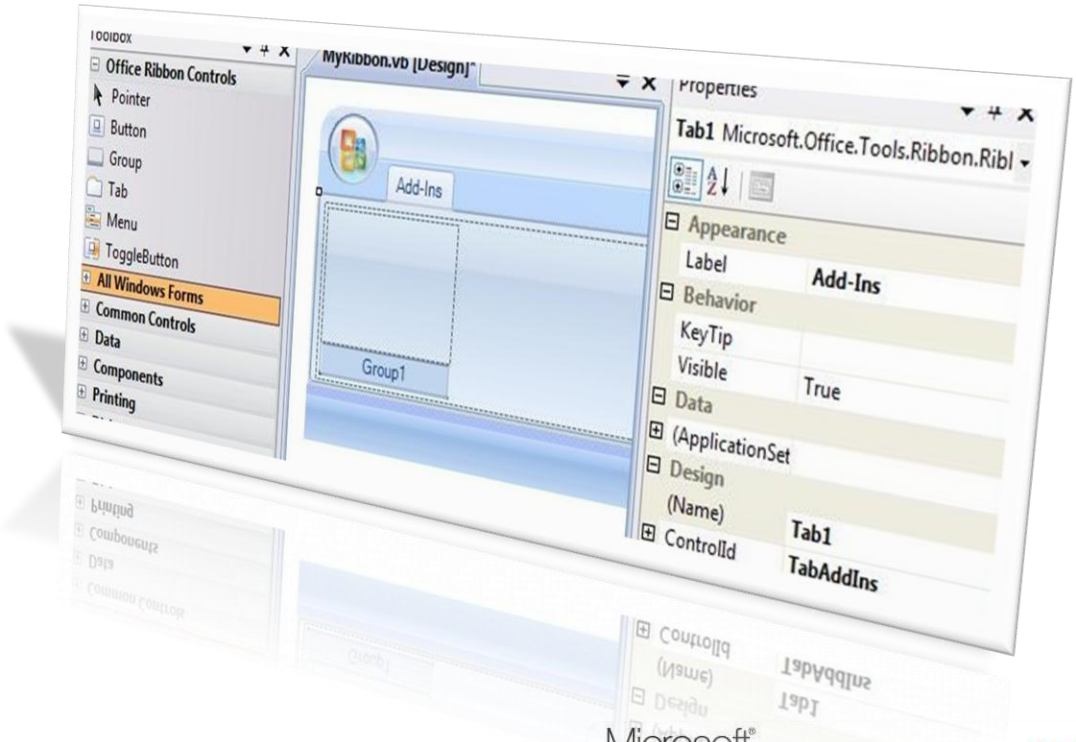
A smart client application always has code artifacts on the client that enable local resources to be utilized. What do we mean by local resources? We mean everything from hardware to software resources. A smart client may take advantage of the local CPU or GPU, local memory or disk, or any local devices connected to the client, such as a telephone, bar-code/RFID reader, and so on. But it may also take advantage of local software, such as Microsoft Office applications, or any installed line-of-business (LOB) applications that interact with it.

Visual Studio Tools for Office v3.0

- 2003 & 2007 Support
- 2007 Customisations
  - Document Level
  - Application Level
  - Office Ribbon Designer
  - Outlook Form Region Designer
  - Action & Custom Task Panes
  - Word Content Controls
  - ClickOnce Deployment and improved Security

VSTO Customisations

demo



REVIEW

- ADO.NET Sync Services v1.0
- WinForms and WPF Interop
- Client Application Services
- Managed Extensibility Framework
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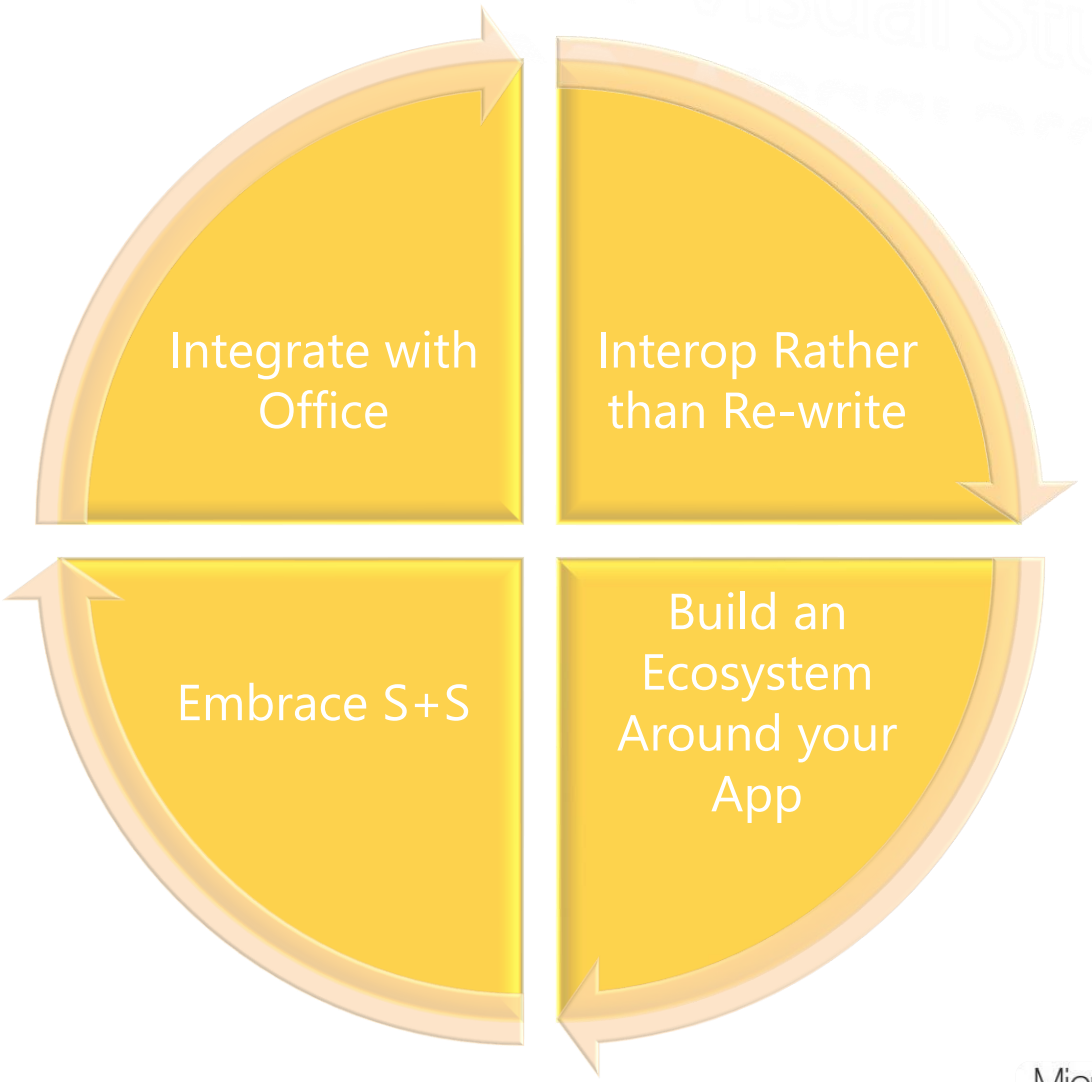
Summary


Integrate with Office
Interop Rather than Re-write
Embrace S+S
Build an Ecosystem Around your App

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