



Business Connectivity Services (Evolution of BDC!)

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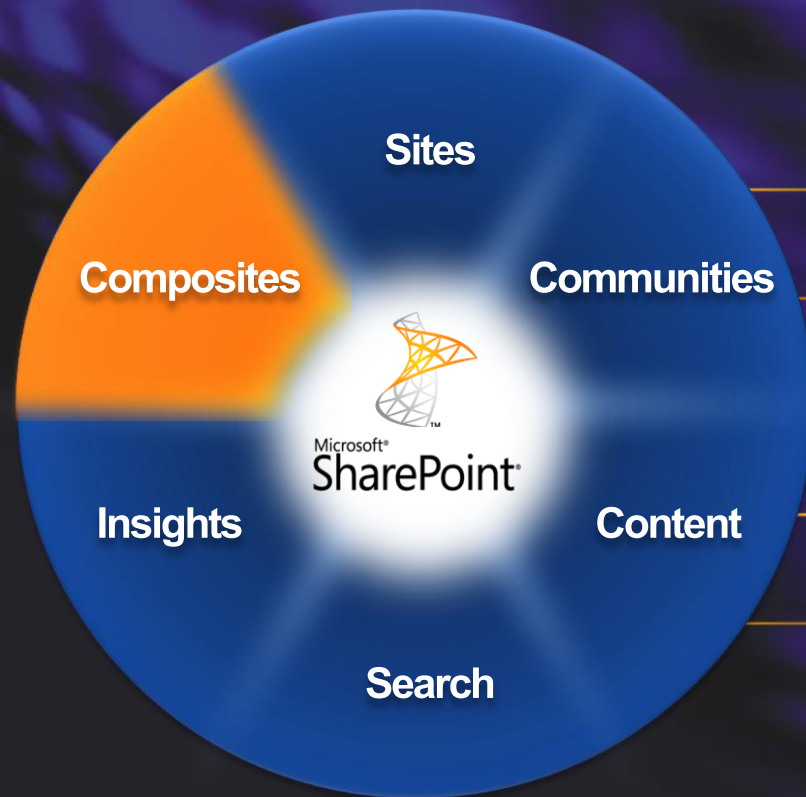
Agenda

- Challenges with Back-End Data
- Introducing Business Connectivity Services
- Investment Areas
 - Presentation
 - Connectivity
 - Tooling

Feedback

- Read/Write
 - Read is nice... Write back would be even more powerful
- Tooling Support
 - Need an easier way to create, debug and maintain application definition XML files
- I wish it was baked into the Platform
- Wouldn't it be nice to offline?

SharePoint 2010 Composites



Rapidly create no-code collaborative solutions

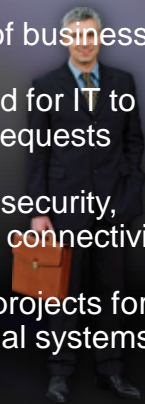
Unlock the value of your enterprise data

Maintain control over end user solutions

Challenges With Back End Data

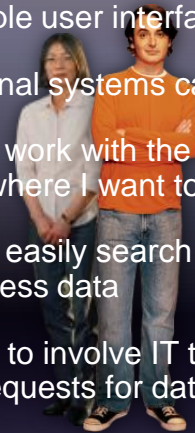
End User Challenges

- Islands of business data
- Overhead for IT to service all user requests
- Manage security, auditing, connectivity
- One off projects for connecting to external systems



IT Challenges

- Multiple user interfaces
- External systems can be difficult to use
- Can't work with the data when and where I want to
- Can't easily search for business data
- Need to involve IT to service my requests for data access



Challenges With Back End Data

Bring external data into SharePoint and Office



Provide External Data in a Centrally Managed Way



Business Connectivity Services

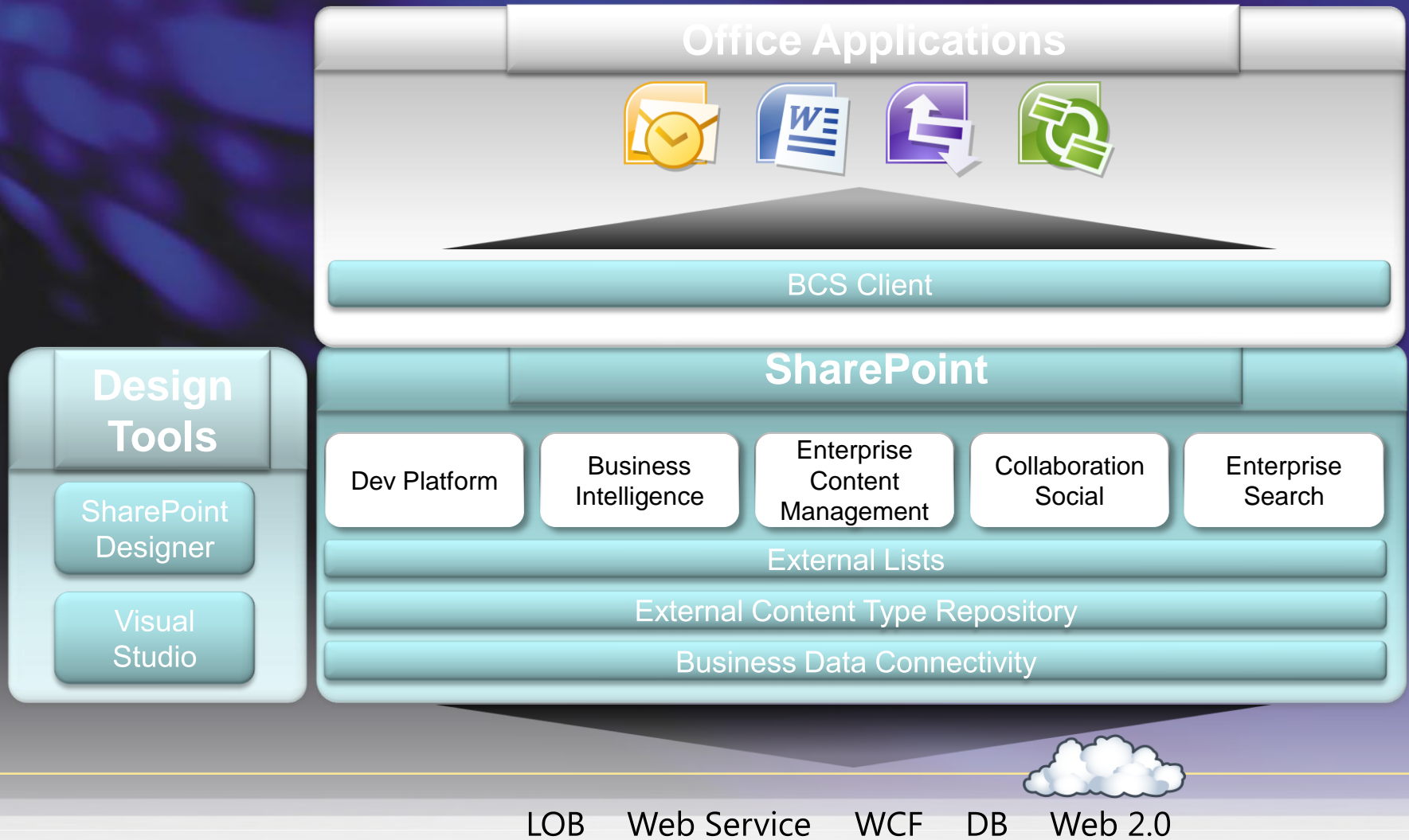
Investment Areas

Presentation

Connectivity

Tooling

Business Connectivity Services



External Content Type (ECT)

The building block

- Superset of entity capabilities; describes:
 - Structure of the external system (Fields, Methods, Connection)
 - How this data behaves within SharePoint and Office
- Manage and reuse from a central location
- Added to the Business Data Connectivity service through:
 - SharePoint Designer
 - Visual Studio 2010
 - Import into the Business Data Connectivity service as part of a model

External Content Type (ECT)

The building block

- BCS-enabled solutions rely on ECTs to integrate external data into SharePoint and the Office client applications
- Can be reused in
 - External List
 - Search
 - Outlook
 - SharePoint Workspace
 - Word
 - InfoPath
 - Access
 - Other Office applications via code

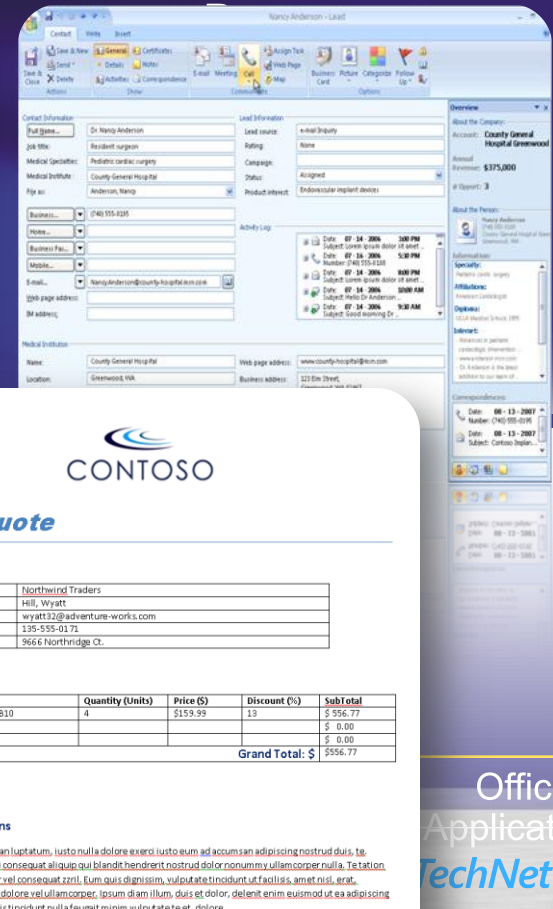
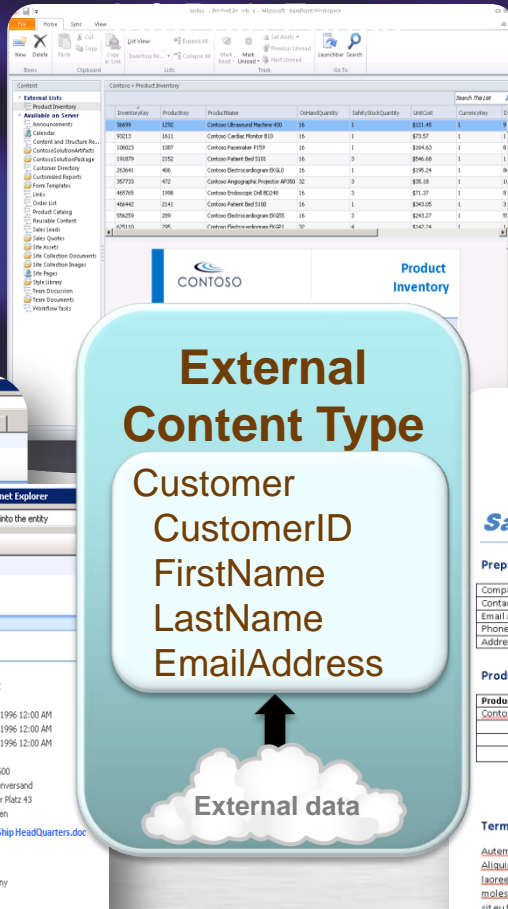
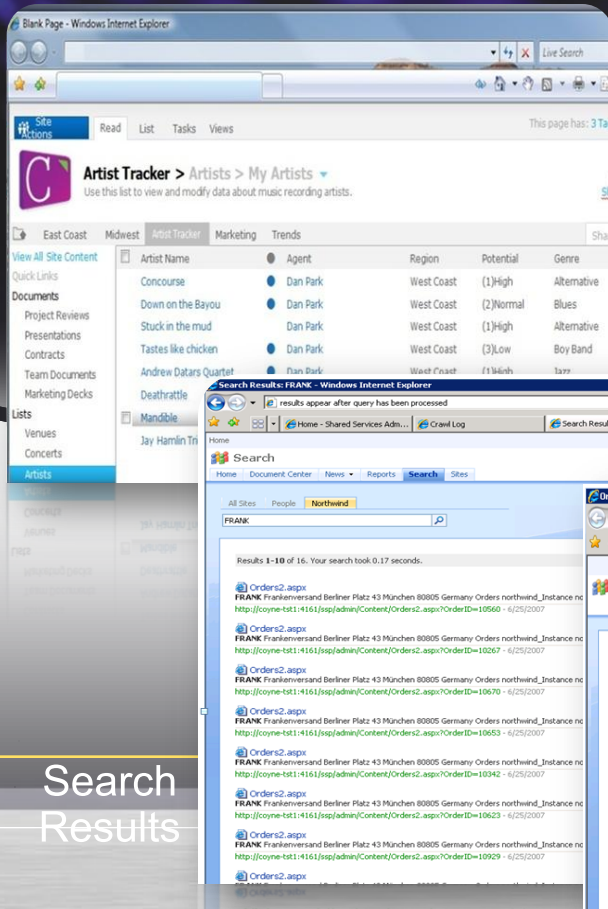
External Content Type

The building block

SharePoint External Lists

SharePoint Workspace with

Outlook Forms and Task



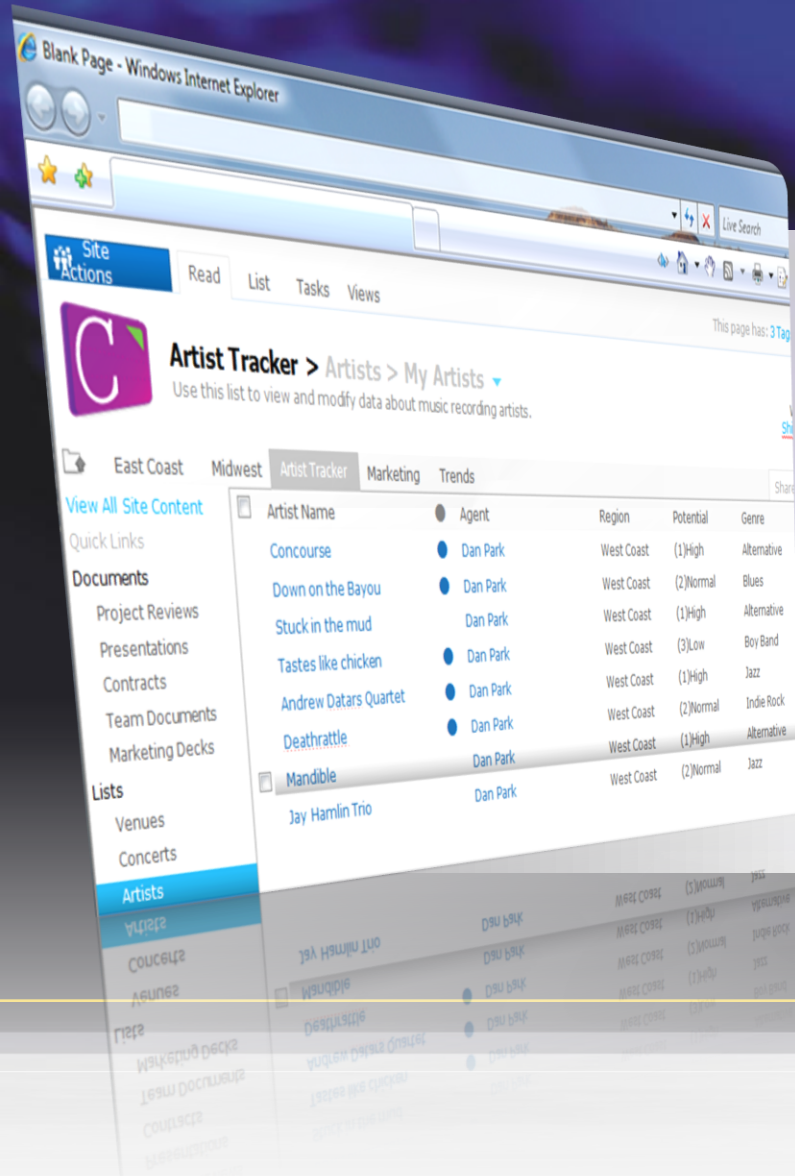
Presentation

External Lists in SharePoint

Presentation

Connectivity

Tooling



- Expose external data as a native SharePoint list
 - Full CRUD capability
 - Familiar UI and navigation
 - Sort, Filter, Group
 - Programmatic access via SPList OM
 - Profile page available for each item in the list
 - Form
 - Auto-generated OOB
 - Upsize to InfoPath
 - Offline-able

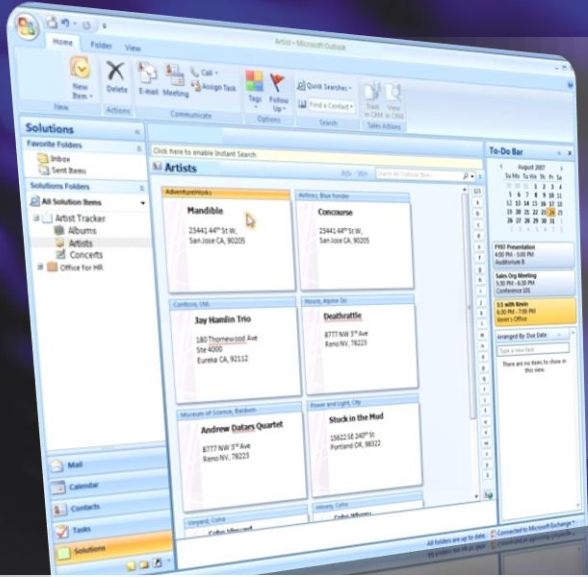
Presentation

Offline External List

Presentation

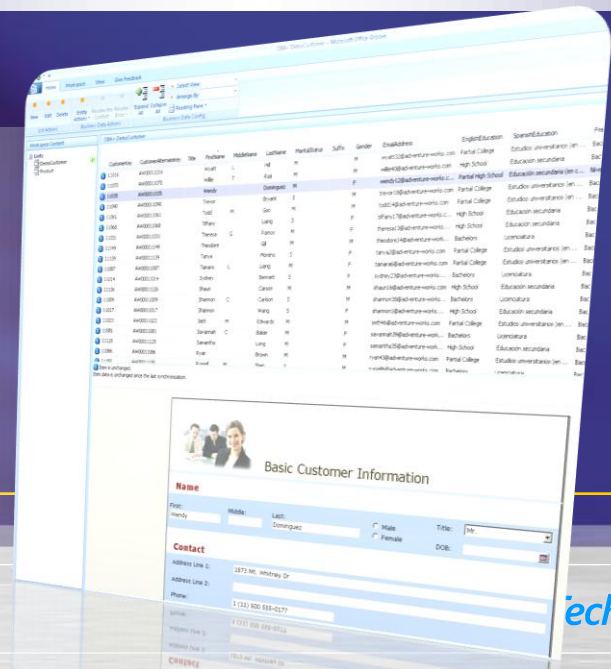
Connectivity

Tooling



- Connect to Outlook as
 - Contacts
 - Tasks
 - Calendars
 - Posts

- Download to SharePoint Workspace as
 - Lists
 - Word doc libraries with external data columns



Presentation

Surfacing External Data

- **External Data Columns**

- Add data from external content types to standard SharePoint lists
- Can be made available as Content Controls in Word

- **Web Parts**

- Scenario: Use for Dashboard pages**

- External Data List , External Data Item
- External Data Item Builder
- External Data Related List
- External Data Connectivity Filter
- Chart Web Part

- **External Data Search**

- Integrate External Data into search results

Demo

Bring Customer data into SharePoint and Outlook

- External Content Type
- External List
- Outlook integration

Connect Product data to SharePoint Workspace

- External List
- InfoPath Forms
- SharePoint Workspace integration

Create a document in Word with external data

- External Data Column
- Word Content Controls

Connectivity

Connecting to External Data

- Business Data Connectivity enhancements
 - Read/write capability
 - Claims aware
 - Connect via ADO/SQL, WCF/WS, .Net Assembly and Custom Connectors
 - Batch and bulk operation support
- BDC used for Search indexing connectors
 - Added blob, incremental crawl and item level Security
- Symmetrical server and client runtimes
 - Connect from client or server directly to external data
- Rich client cache
 - SQL CE database is used to cache external data
 - Allows for “cached mode” behavior on external data

Tooling

Presentation

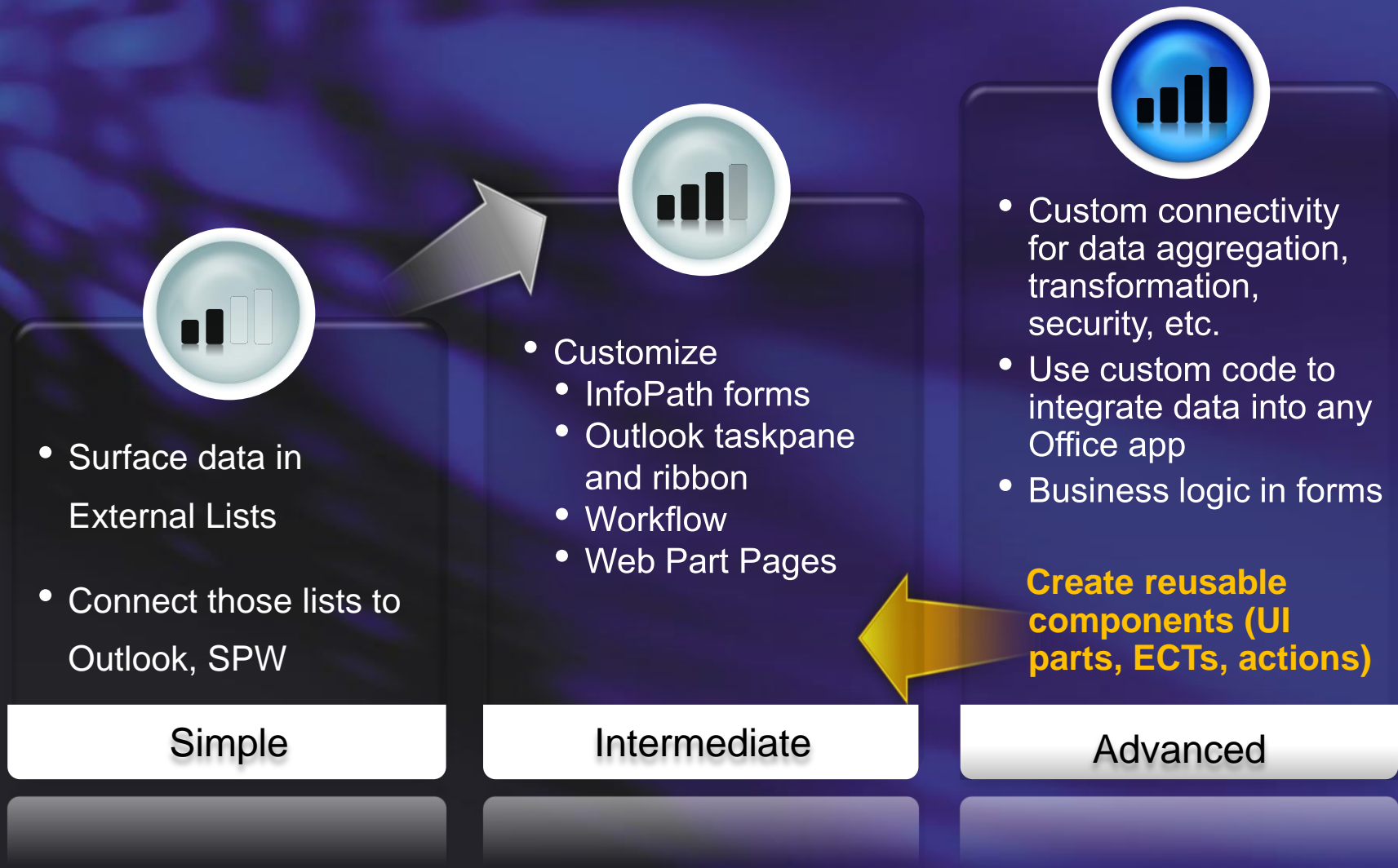
Connectivity

Tooling

Easily create and customize solutions

- Assembly
 - No-code solutions in SPD
 - External Content Type definitions
 - Form layout and validation
 - Workflow integration
- Build
 - Pro-Dev Solutions in Visual Studio
 - Create reusable components (UI parts, ECTs, actions)
 - Custom Office Integration (add-ins)
 - Custom connectivity
 - .Net Assembly Connector
 - Custom Connector
 - Code-based business logic

Solution Types



Tooling

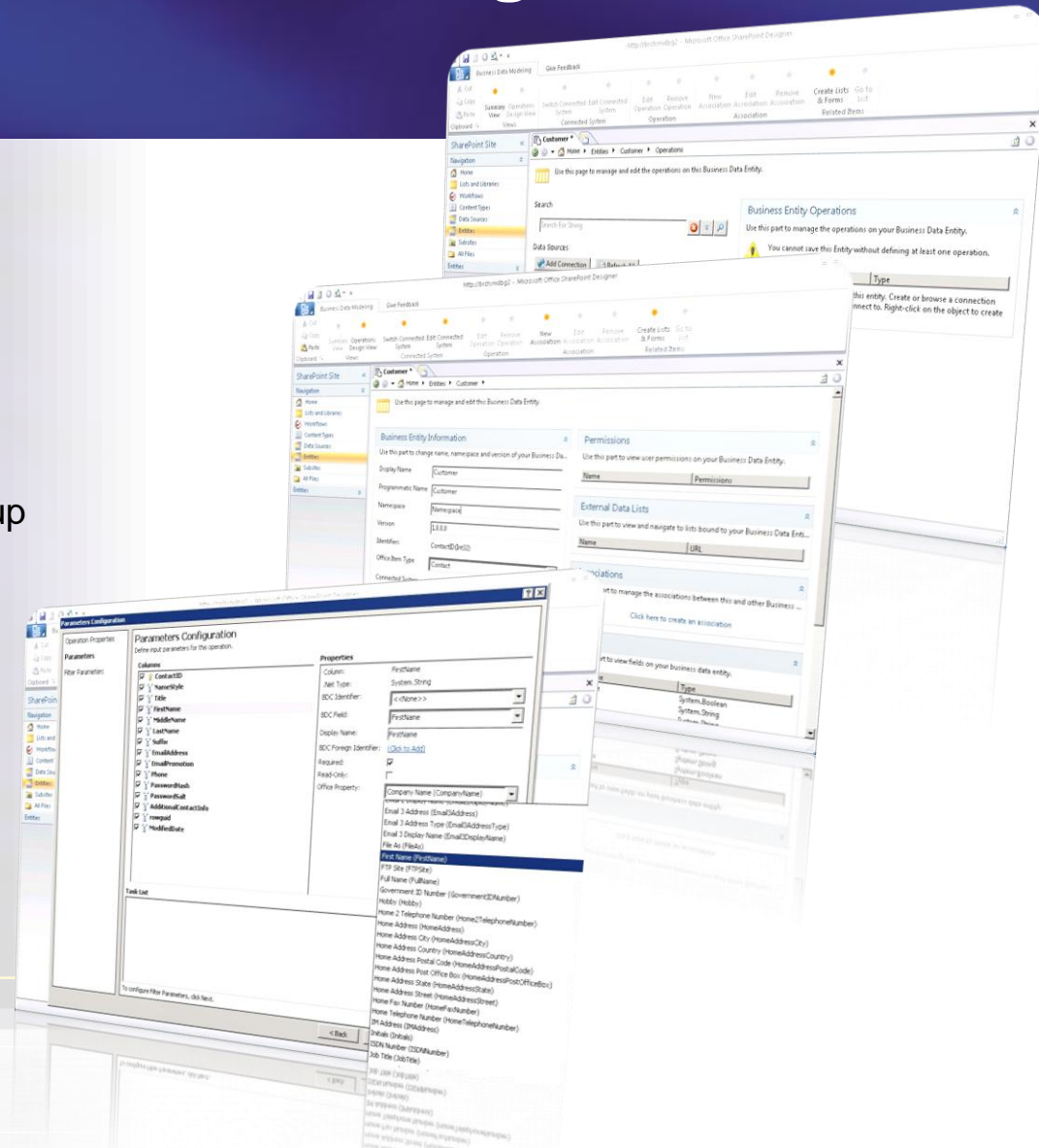
Solutions using SharePoint Designer

Presentation

Connectivity

Tooling

- Discover
 - Database
 - Web services
 - .NET type
- Map operations
 - Create, read, update, delete, lookup
- Connect to SharePoint/Office
 - External List
 - Contact
 - Task
 - Appointment
 - Post



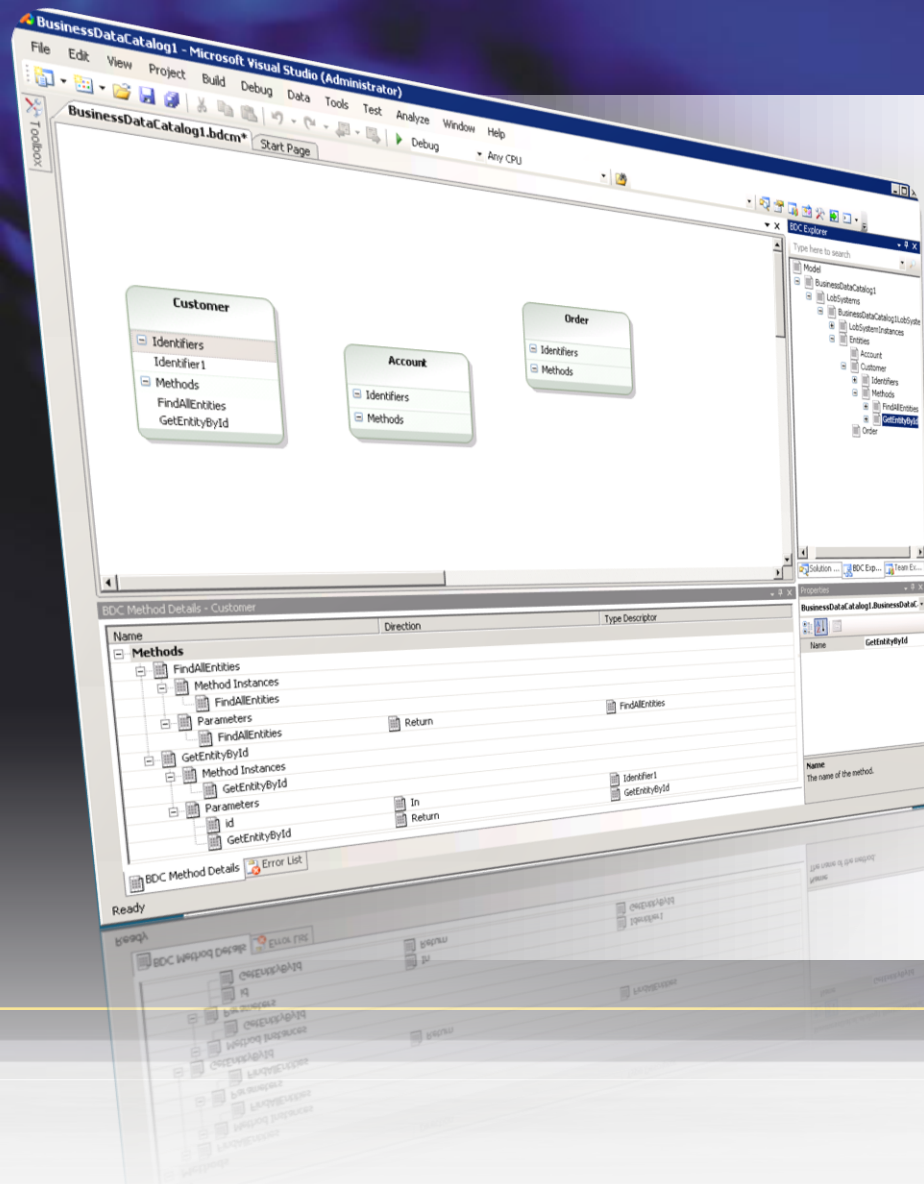
Tooling

Building Apps using VS

Presentation

Connectivity

Tooling



- Simple drag and drop experience
- Create connectivity packs in Visual Studio to
 - Aggregate data across multiple back-ends
 - Perform custom data transformations
 - Execute custom business logic/rules (e.g., trigger workflow)
- Upsize IT solutions created in SharePoint Designer
- Bring external data into other Office clients with VSTO Add-Ins (e.g., Excel)

Lifecycle Management

Presentation

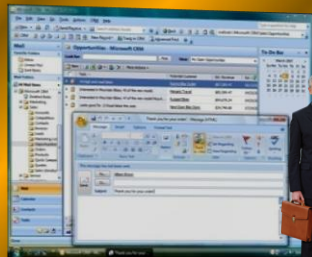
Connectivity

Tooling

- Part of WSP-based SharePoint application packaging, deployment, and administration
- Deploy solution to Server and Client
 - Artifacts are packaged into a single versioned unit
 - Solution Package is published to SharePoint
 - Deployed to Office Client using ClickOnce
- Application upgrade management

Business Connectivity Services

Key Takeaways



- Bring External Data into SharePoint and Office
- Client/server connectivity with
 - Read/write
 - Online/offline
- Tools for rapid assembly of business solutions declaratively
- Baked into the Platform

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