Integration Options and Best Practices for Microsoft SharePoint

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Learning Points

• What are different ways to embed Business Objects into Microsoft SharePoint?

• How do I embed Business Objects into other applications?

• What are my options for linking directly to reports?
Return on Investment

- IT perspective
  - Embedded BI combines enterprise data and applications that reside on the company Intranet into a tight infrastructure

- IT enables a secure, yet open application integration architecture to provide flexibility for various access options for the business
  - Framework makes it easy for IT and business to integrate information

- Eases requirements on IT for resources when the business can take care of some of their own changes.
Return on Investment (cont.)

• Business perspective
  • Embedded BI provides easy access to data and applications through personalized views
  • Business consumes content in a self-service mode of operation and they choose the way that they want to see their information
  • BI content is available within the normal business workflow
  • Training and roll-out costs are less due to not having to learn a separate BI interface
What We’ll Cover

- Understanding embedded business intelligence (BI)
- Defining technical solutions that fit the business requirements
- Business Objects integration capabilities with Microsoft SharePoint
- Case studies embedding BI into applications
- Demo: Navigating through embedded BI frames
- Wrap-up
What We’ll Cover

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Definitions

- Operational BI
  - Data to optimize daily business operations
  - BI value is improved with drill-down analysis and interactivity

- Embedded BI
  - Is an implementation approach – not a separate type of BI – for building certain types of operational BI applications
  - Can easily utilize data that is held within the application itself as well as other locations
  - Leading practice is to expose BI content to various application access options and enable seamless application integration
Because late deliveries went up 60%.
Because we sold less in the Western region.
Because sales of product X dropped.
Because customer complaints increased.

Why are sales below target?
Why did we sell less in the West?
Why did X sales drop?
Why did complaints go up?

ACTION: FIX THE DELIVERY PROBLEM.
Case Study – State Department of Transportation

• Business Need
  • Department decided to use SharePoint as the primary access to content and applications within the environment
    • Ability was needed to deliver Business Intelligence content within the site instead of having links that redirected users to another application

• Solution
  • Utilized Embedded BI to include folder and content listings directly within a frame in SharePoint
    • Users can view reports within a familiar interface, without having to go to a separate application
    • SSO was also utilized so that users would not have to log on multiple times
Business Need

- HR needed to be able to grant all employees access to reports on the HR SharePoint intranet site
  - Access to a single listing of reports is all that is wanted
  - Many users do not get into Business Objects today

Solution

- Use Embedded BI to include the listing of reports in a frame in SharePoint
  - As new reports are added to the same folder on Business Objects, they automatically show within the frame
  - Users did not need additional training, since they were already familiar with SharePoint
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Ask What Business Requirements Exist

- What business decisions are best addressed with embedded BI?
  - What operational problems exist?
  - What data will result in improved decisions?
  - How timely does the data have to be?
  - How fast does the data have to be delivered in order to have value?

- Ask what business processes occur, and why they do

- Technology is a component of the overall solution – it is not the entire solution
Define Technical Solutions Based on Business Needs

- Must fit into existing infrastructure
- Security
- Must be a foundation for reusable, shareable services
- Web services, Java, proprietary interfaces
- Deployment options
- Performance to handle mixed workload of transactions, queries, and drilldown
- Performance expectations of end user, that is, usability
- Scalability
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Integration Options

• SAP BusinessObjects SharePoint Portal Integration Kit

• SAP BusinessObjects Integration Options for Microsoft SharePoint (IOMS)

• OpenDocument

• Software Development Kit (SDK)
SharePoint Portal Integration Kit for XI 3.1

- SharePoint version
  - SharePoint Server

- 32-bit or 64-bit platform architectures

- Only 32-bit version of SharePoint is supported

- Web Parts provided:
  - ListWeb Part
  - Crystal Report Viewer Web Part
  - Document Viewer Web Part
Integration for Microsoft SharePoint for XI 3.1

- SharePoint version
  - SharePoint Server 2007
  - Windows SharePoint Services 3.0

- 32-bit or 64-bit platform architectures

- Only 32-bit version of SharePoint is supported

- SharePoint 2010 is 64-bit only, and is therefore not supported by this version of the IOMS
  - Discussions abound online about workarounds and forthcoming releases to address this gap
Web Parts provided:

- Content Explorer Web Part
- User Actions Web Part
- Advanced Search Web Part
- Dashboard Web Part
- Document Viewer Web Part
- Xcelsius® Viewer Web Part
- Crystal Report Viewer Web Part
- Analytical Report Viewer Web Part
Integration for Microsoft SharePoint for BI 4.0

- SharePoint version
  - SharePoint Server 2007 or 2010
  - Windows SharePoint Services 3.0

- 64-bit platform architecture only

- Requires .NET Framework 3.5
Integration for Microsoft SharePoint for BI 4.0 (cont.)

- Web Parts provided:
  - Content Explorer Web Part
  - Advertisement Web Part
  - Display Search Results Web Part
  - Recently Viewed Web Part
  - Recent Searches Web Part
  - Document Viewer Web Part
  - Xcelsius® Viewer Web Part
  - Crystal Report Viewer Web Part
  - Analytical Report Viewer Web Part
OpenDocument

- Used to open reports via a URL
  - Links sent in emails
  - Links placed in applications to provide direct access to a report
  - Link one report or dashboard to another report or dashboard

- .NET and Java versions available in XI 3.1

- Java only supported so far in BI 4.0

- Have various variables that can be passed in for parameter values, display of the report, etc.
OpenDocument Syntax

- **4.0 URL Syntax**
  - `<servername>` -- Web Server where OpenDocument is hosted
  - `<port>` -- port number of Web Server if not port 80
  - XI 3.1 does not include “BOE” in URL – if upgrading to 4.0 from 3.1, then will need to either update existing URLs, or place a redirect on the Web server
Other OpenDocument Considerations

• Spaces and other special characters need to be removed from the URL
  • Some special characters can be substituted
    • Example: A plus sign (+) for a space ( )
    • Others must be URL-encoded before submitted

• OpenDocument URLs are case sensitive

• Web browsers have a limit on the number of characters a URL can have
  • For example, versions of Internet Explorer have a limit of 2,083. The final encoded URL must fit within this to run properly
Session Management in OpenDocument

• Several ways users can be authenticated through OpenDocument
  • Prompt the user (default) – Must type in username and password
  • Pass in login token – Use the token parameter in the URL
    • Creating a new token uses an additional license
Several ways users can be authenticated through OpenDocument (cont.)

- Pass in session – Use the `serSes` parameter in the URL (4.0 only)
  - Using the Serialized Session will not take an additional license, but does expire if the original session times out or the user logs off it
- Configure single sign-on (SSO) using Vintela (Active Directory) or SiteMinder (LDAP)
Several SDKs are available from Business Objects ranging from going against the BI platform, Crystal Reports, Web Intelligence, Universe Design, etc.

Can do much of what you would through other interfaces, but instead do it in code. Examples include:

- Log into system – All authentication types supported
- Run/view reports
- Create/modify reports
- Schedule reports
- Admin functions – Create/modify users
Software Development Kit (SDK)

• Write custom applications to pull content from the BOE environment

• Advantages:
  • More flexible, since writing functionality in-house
    • Can do things that Business Objects does not do "out of the box"
  • Can code to more closely meet the needs of the business
  • Sample code available from Business Objects for simple tasks
Software Development Kit (SDK) (cont.)

• Write custom applications to pull content from the BOE environment (cont.)

• Disadvantages:
  • Takes longer, because of writing all the functionality, instead of just calling pre-built functionality
  • Must troubleshoot and fix any issues
  • Beyond simple tasks, can take a while to learn all of the functionality of the SDK
  • Some functionality is not publicly published by Business Objects (e.g., Crystal Dynamic Cascading Prompts)
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Case Study – Utility Company

• Business Need
  • An ability to provide reports to client around gas usage and invoicing
    • Required by law to include certain data every month, as well as just wanting to provide additional information as a customer service

• Solution
  • Custom Web interface created to integrate within existing Web site – Users didn’t know they were navigating BOE
  • As an additional feature a “magic print button” was created, which allowed them to select any number of reports and have them run together into a batch
    • Once the batch was ready, it was delivered to the screen as a single PDF for printing
Case Study – Hospital and Clinical System

• Business Need
  • Healthcare organization opted to use SharePoint as central system for accessing all content and applications in the environment
    • Doctors and other professionals routinely needed access to dashboards for data on an ongoing basis, but were not regular Business Objects users

• Solution
  • Links were added to SharePoint so that ReportLauncher would open Xcelsius Dashboards
    • Additional links were also available on the dashboards to drill down further into Web Intelligence (WebI) reports
  • SSO is utilized for authentication to Active Directory
Case Study – PSC

• Business Need
  • Clients need the ability to have a user interface for accessing reports on Business Objects

• Solution
  • Utilizing the SDK, a Web interface is built to provide users an intuitive interface to access the BI environment
  • Additional functionality is built in to allow for integration with additional programs – Either embedded within the application, or launched as a separate application
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Navigating Through Embedded BI Frames

Demo
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Key Learnings

- Leading practice is to embed BI into other applications like SharePoint
- Leading practice is to add drilldown and interactivity because users want them
- Balance business requirements and technical realities
- Significant value can be received from embedded BI by helping address operational issues in a timely fashion
- IOMS is a better option than the SharePoint PIK because of additional functionality available
- Multiple options exist for SharePoint integration
- Better options for general application integration and embedding BI into other applications exist
Additional Resources

• SAP developer site – SAP BusinessObjects Enterprise and Edge – SDK Application Development
  •  www.sdn.sap.com/irj/sdn/boe-sdk

• SAP BusinessObjects XI 3.x and Lower Developer SDK Library
  •  www.sdn.sap.com/irj/sdn/bi-sdk-dev?rid=/webcontent/uuid/5001d5de-f867-2b10-00bf-8d27683c85a0

• SAP BusinessObjects BI 4.x Developer SDK Library
  •  www.sdn.sap.com/irj/boc/sdklibrary
Additional Resources (cont.)

  • [www.gartner.com/technology/media-products/reprints/oracle/article180/article180.html](www.gartner.com/technology/media-products/reprints/oracle/article180/article180.html)

• Business Objects forum – [www.forumtopics.com/busobj](www.forumtopics.com/busobj)
  • Under the Forum Index ➔ SDK (VBA/ASP/JSP)
  • SDK Development Questions and discussion
Additional Resources (cont.)

• SAP BusinessObjects Integration Option for Microsoft SharePoint Software Administrator Guide (SAP AG).

• SAP BusinessObjects Integration Option for Microsoft SharePoint Getting Started Guide (SAP AG, May 2010).
Additional Resources (cont.)

• Portal Integration Kit Administrator’s Guide for Microsoft SharePoint (SAP AG, September 2008).

• Portal Integration Kit User’s Guide for Microsoft SharePoint (SAP AG, May 2010).
Additional Resources (cont.)


- Viewing Reports and Documents Using URLs (SAP AG, March 2010).
Questions?

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