Adapter Pack Integration Capabilities

Different scenarios for connectivity

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MVP BizTalk Server

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- Blog “SOA Thoughts, EAI Challenges”, “BizTalkAdminsblogging.com”
- BizTalk Forums Moderator
- TechNet Wiki Ninja
- Author BizTalk Server 2010 Cookbook (April 2012)
- Technical Reviewer PACKT Publishing
  - BizTalk Server 2010 Patterns
  - Microsoft BizTalk Server 2010 (MCTS)
Current Enterprise IT Landscape

- Many applications
- Connected
Microsoft integration stack

BizTalk Server

.NET/WCF/AppFabric

Other
Shift to cloud: extended landscape

Cloud services

Many applications

Connected
Shift to cloud: new technologies

- BizTalk Server
- .NET/WCF/AppFabric
- Other
- Service bus
One commom package
History and evolution
Adapter Pack – Introduction

• Adapter Pack provides versatile and consistent interoperability with LOB systems like SAP, Siebel, Oracle, and TIBCO.
• It is a collection of key Line-of-Business (LOB) application adapters that enables any Windows application to integrate with LOB applications using the Windows Communication Foundation (WCF) programming model.
• Introduced with BizTalk Server 2006 R2.
• Adapter Packs has been evolving last years with more adapters and enhancements to support latest versions of LOB systems and SQL Server.
Adapter Pack – History

• First adapter Microsoft supported was SAP
• 2005 Microsoft acquired eight adapters from iWay before major release of BizTalk 2006
• Adapters (Amdocs, JD Edwards, Oracle Corp., PeopleSoft, Siebel Systems Inc. and TIBCO)
• Based upon BizTalk Server Adapter Framework
• Subsequent adapters in later packs are based on WCF
## BizTalk Adapters for Enterprise Applications

<table>
<thead>
<tr>
<th>Adapter</th>
<th>Supported Version</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>J.D. Edwards Enterprise One</strong></td>
<td>8.10, 8.11, and 8.12</td>
<td></td>
</tr>
<tr>
<td>J.D. Edwards OneWorld XE</td>
<td>B7.3.3.3 with Service Pack 23, and B7.3.3.4 with Service Pack 23</td>
<td>Provides access to Oracle Database tables, views, stored procedures, functions, and PL/SQL packages and is based on ODBC.</td>
</tr>
<tr>
<td><strong>Oracle Database</strong></td>
<td>8i, 9i, and 10g</td>
<td>Provides access to Oracle Database tables, views, stored procedures, functions, and PL/SQL packages and is based on ODBC.</td>
</tr>
<tr>
<td>Oracle E-Business Suite</td>
<td>Oracle E-Business Suite Application 11.5.10.2</td>
<td>Provides access to Oracle eBusiness Suite applications and is based on ODBC.</td>
</tr>
<tr>
<td><strong>PeopleSoft Enterprise</strong></td>
<td>People Tools 8.17.02, 8.43, 8.45, 8.46, and 8.48</td>
<td></td>
</tr>
<tr>
<td><strong>TIBCO Enterprise Message Service</strong></td>
<td>TIBCO Enterprise Message Service (EMS) version 4.2</td>
<td></td>
</tr>
<tr>
<td>TIBCO Rendezvous</td>
<td>TIBCO Rendezvous version 7.3</td>
<td></td>
</tr>
</tbody>
</table>
Adapter Framework

**LOB Adapter Process Flow**
Run-time and Design-time Components

- **BizTalk Server or Development Workstation**
  - Deveny.exe
  - VS.NET IDE
  - NET Remoting

- **BrowserAgent.exe**
  - Queries LOB system for metadata then generates XSD for BizTalk

- **RuntimeAgent.exe**
  - Executes RPC calls to LOB System at runtime

- **Remote Communication Protocol**

- **LOB System**
  - LOB Service/Listener
  - Business Logic/Component Library
  - fn

- **DB**
WCF LOB SDK

Windows Communication Foundation (WCF) Line-of-Business (LOB) Adapter SDK provides for a simplified programming model on top of the

- WCF Channel Model by adding metadata browsing, searching and retrieving functionality,
- and development tools for generating and testing adapter code.
Adapter Pack - Evolution

Evolve with Microsoft Platform (Operating System, SQL Server, Visual Studio)

BizTalk Adapters for Enterprise Applications
- BTS 2006
- BTS 2006 R2
- BTS 2009
- BTS 2010
  - .NET 1.1, 2.0
  - or .NET 3.5 or
  - .NET 4.0

Adapter Pack 1.0
- BTS 2006 R2
- WCF-Based
- WCF LOB
- Adapter SDK
  - .NET 3.0

Adapter Pack 2.0
- BTS 2006 R2
- BTS 2009
- WCF LOB
- Adapter SDK SP2
  - .NET 3.5 SP1

Adapter Pack 2010
- BTS 2010
- WCF LOB
- Adapter SDK SP2
  - .NET 4.0
Adapter Pack – Ease of Installation

Start
Prepare
Read the WCF LOB Adapter SDK installation guide.
Read the BizTalk Adapter Pack installation guide.

Install
Step 1: Install Microsoft WCF LOB Adapter SDK.
Microsoft WCF LOB Adapter SDK is installed with all the required components.

Step 2: Install Microsoft BizTalk Adapter Pack.
Microsoft BizTalk Adapter Pack is installed. You may run the setup again to change or repair the installed adaptors.

Step 3: Install Microsoft BizTalk Adapter Pack (x64).
Microsoft BizTalk Adapter Pack (x64) is installed. You may run the setup again to change or repair the installed adaptors.

Step 4: Install Microsoft BizTalk Adapters for Enterprise Applications.
Microsoft BizTalk Adapters for Enterprise Applications is installed. You may run the setup again to change or repair the installed adaptors.
Adapter Pack – Ease of Configuration
Integration scenario’s

- Oracle On-Premise
- Connect for Services
- SQL Azure
Integration with Oracle 11gXE

• Both Adapter Pack 2.0/2010 support connectivity with Oracle 11g (XE)
• With BizTalk Adapter OracleDb Binding you can:
  • Perform Table Operations
  • Invoke functions, functions with Record Types, or with REF CURSORs
  • Invoke Overloaded Procedures, Procedures with BFILE Parameters, Stored-Procedures
  • Polling
  • Execute Statement
• Oracle Data Access Components for Oracle Client 11.1.0.6 with Patch Set 11.1.0.7, Oracle Data Access Components for Oracle Client 11.1.0.7
• Install prior to client Oracle Services For Microsoft Transaction Server in case you need to perform transactions on Oracle database
Demo – Integration with Oracle 11g XE

- OracleDbBinding Configuration
- Port Configuration
- Query Messages
(AppFabric) Connect for Services

- Allows developers to use BizTalk Mapper and Adapter Pack capabilities in their solutions, without depending on BizTalk runtime itself.
- Developer can connect to backend Line of Business (LOB) systems like SAP, Oracle database, Oracle E-Business Suite, Seibel, and SQL Server without writing custom code for LOB connectivity.
- Within project the developer uses Windows Workflow Foundation (WF) activities to programmatically access BizTalk Server's LOB connectivity and data transformation capabilities (BizTalk Mapper).
- (AppFabric) Connect for Services’ feature extends the reach of LOB Services and BizTalk application into Windows Azure AppFabric. LOB Service or BizTalk application runs on-premise, but can be accessed securely and easily through the Cloud.
Service Bus Connect Capabilities

Connectivity

Messaging
Service Bus Relay

Relay

Rendezvous address

Client

msg

Outbound Connection

Service

msg

Outbound Connection

NAT
Firewall
Dynamic IP
Demo – Connect for Services

- Adapter Service Project
- Walkthrough configuration
- Windows Azure ServiceBus
SQL - Azure

- Not documented as supported connectivity with SQL Azure is possible.
- Not every feature is supported in SQL Azure like:
  - Common Language Runtime (CLR)
  - Database file placement, mirroring
  - Distributed queries, Distributed transactions (No MSDTC)
  - Filegroup management
  - Global temporary tables
  - SQL Server configuration options
  - SQL Server Service Broker (Query Notifications)
  - System tables, Trace Flags
Demo – Integration SQL Azure

- Consume Adapter Service
- SQL Azure Instance
- BizTalk Configuration
Considerations

- Right client software to support connectivity with LOB system
- Apply hotfixes for Adapter Pack
- Multiple client software can interfere with each other:
  - Client for old version of LOB with new versions
  - GAC can cluttered with different assemblies
  - Machine.config pointing to wrong client assembly (e.g. Oracle.DataAccess)
Resources

- BizTalk Server Adapter Pack 2010 Wiki
- Microsoft BizTalk Adapter Pack 2010 Documentation
- Working with BizTalk Adapter Pack 2.0 BizTalk Hotrod 8
- Installing BizTalk Adapter Pack 2010 on x64
- BizTalk Server Adapters and Adapter Pack Forum
- Installing and Configuring Microsoft BizTalk Adapters for Enterprise Applications
- Installing Microsoft BizTalk Adapter Pack 1.0
- Installing Microsoft BizTalk Adapter Pack 2.0
- Installing Microsoft BizTalk Adapter Pack 2010
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Thank you.