THE ENABLER GROUP

BizTalk Utilities Adapter for SAP

Enabling BizTalk Server interaction with SAP.

The Enabler Group's latest release surpasses other offerings through

- Extensive and detailed documentation on how to configure SAP and BizTalk Server.
- Support for alternative naming conventions within SAP, such as using forward slashes (/) in IDoc Message Types.
- Support for optional structure and table parameters within RFC calls.
- Support for Version 2 of the SAP .NET Connector.

Features

- Utilizes the latest SAP .NET Connector Version 2.
- BizTalk Schema generation of IDocs from Visual Studio .NET.
- The sending and receiving of IDoc documents from BizTalk Server.
- Schema generation of RFCs and BAPIs from Visual Studio .NET.
- Invoking and receiving of RFC and BAPI calls from BizTalk Server.

Benefits

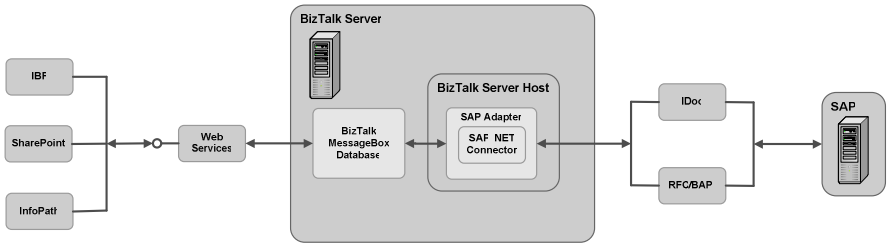
- Automatic Schema Generation of IDocs, BAPIs and RFCs save significant time and effort during development.
- Transaction Support allows for the Commit or Rollback of batched IDocs, BAPIs and RFCs.
- Handling of large data sets in excess of 2GBs in size.
- By hosting the Adapter within the BizTalk Server Adapter Framework, it allows for a reliable solution that can scale out as transaction loads increase or needs change.
- Because the Adapter was developed entirely with .NET Managed Code, the Adapter will outperform most competing products on the market. No outside server products to maintain or call.
- Quickly identify problems and issues with detailed Logging and Tracing. Adapter Events can easily be integrated into monitoring software products such as Microsoft Operations Manager

System Requirements

The following are the minimum software requirements for the Adapter:

- Microsoft Enterprise Instrumentation Framework
- Microsoft BizTalk Server

Usage



The Adapter would typically be used where an external system would need to retrieve or update data to and from a SAP System, or where the SAP System would need to interact with an external system.

While the Adapter has been redesigned and developed to allow for integration into the new BizTalk Server Adapter Framework, it has further been developed in C#.NET, providing a fast optimized mechanism for communicating with SAP Applications from BizTalk Server.

The Adapters are fully integrated into the Visual Studio .NET environment providing Developers with an enhanced experience when configuring BizTalk Server solutions.

The Adapter is extremely easy to install and configure. All tasks performed when configuring the Adapter is Wizard Driven.

Enterprise Instrumentation Framework (EIF)

The Adapter utilizes EIF for writing event and tracing information to the Application Event Log and Windows Trace Files.

The Microsoft Enterprise Instrumentation framework provides unified management, eventing, and diagnostic tracing services for enterprise applications in a production environment. Enterprise Instrumentation enables developers to consistently instrument enterprise applications, which are increasingly decoupled and distributed, and enables support staff to use a "white-box" approach to monitoring and diagnosing application health, faults, or other internal conditions.

Every released software application, regardless of size or complexity, imposes a common requirement on the business that the application serves: it must be managed to ensure that the application provides its services correctly and reliably during its operational lifetime. Instrumentation plays a key role in application manageability, allowing a particular software or hardware element to publish — or be queried for — relevant information. Examples of common instrumentation mechanisms include performance counters, event logs, Windows 2000 Event Trace, and Windows Management Instrumentation (WMI). These mechanisms are often complementary, as in the example of querying an event log through a WMI provider.

Achieving consistent instrumentation across all enterprise applications is a difficult task. Today, enterprises that build applications on Microsoft platforms must instrument their applications by directly writing to event logs, performance counters, third-party instrumentation APIs, or their own common instrumentation wrappers and libraries.

Implementing and supporting the various forms of instrumentation brings additional challenges, given the distributed nature of today's n-tier, Web-enabled applications.

Operations staff must be able to trace specific paths through the system, not just monitor individual events and event sources. Logically related events from physically different servers need to be correlated. The instrumentation itself must be suitable for a production application; instrumentation overhead must minimally affect application throughput. Finally, organizations must be able to leverage as many existing management tools and infrastructure as possible, to monitor and troubleshoot the enterprise applications they support.

Key features of this framework are:

- Unified programming model, suitable for both enterprise developers and system developers.
- Structured WMI event schema, which acts as a supportability contract between Development, Test, and Operations teams.
- Scriptable configuration layer, allowing operations teams to configure how events are raised or logged from an application.
- Support for raising or logging events through WMI, Windows Event Log, and Windows Event Tracing, a high-speed kernel-mode tracing system.
- Correlation of events to business processes or operations with Request Tracing, which allows operations staff to troubleshoot requests across a distributed application.

In Addition, the Adapter incorporates the following enhancements to EIF:

- The Level of Tracing and Eventing for the Adapter can be set by running a Wizard in Administration Microsoft Management Console (MMC) Snap-In. Levels that can currently be set is for Production, Testing/QA and Development.
- Tracing Sessions can be enabled or disabled from the MMC Snap-In.
- Trace Files can be viewed and exported from the MMC Snap-In.

Performance Monitors

The Adapters feature an extensive set of Windows Performance Counters with which the Adapters can be monitored and Fine Tuned.

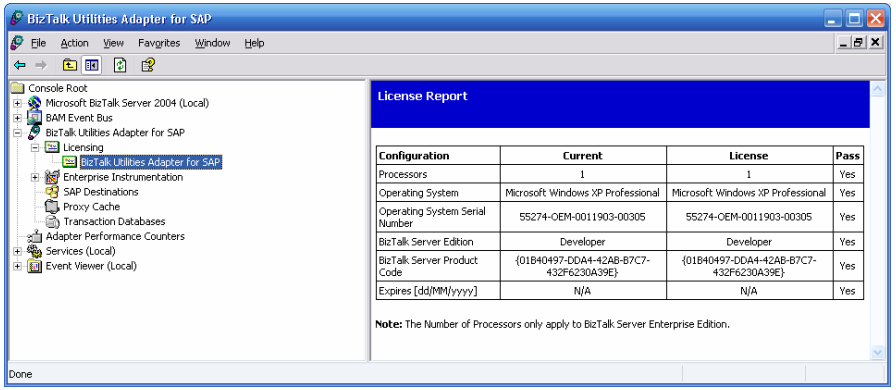
Exception Handlers

Send Adapters are equipped with a feature called Exception Handlers. It allows you to specify how a send Adapter should behave when a particular exception occurs in the transmission of a Message.

In addition a set of Regular Expressions called Matches can be specified that will perform a match on the Message of the Exception and perform a particular action like immediately suspending the Message.

Exception Handlers can be specified on a Port basis or globally for all Send Ports.

Administration Snap-In



The Microsoft Management Console (MMC) Administration Snap-In is used to perform the following tasks:

- Updating of the License File for the Adapters.
- Configuration of Enterprise Instrumentation Settings for the Adapters.
- The Viewing of Trace Sessions and Files.
- Creation, Copying, Deletion and Updating of SAP Destinations.
- Viewing and flushing the SAP Proxy Cache.
- Viewing reports on the Transactional (Trfc) Databases.
- Viewing of Performance Counters for the Adapters.

Archiving

Standard within all of the BizTalk Utilities Adapters, inbound messages can be archived to a File Location or Microsoft Message Queuing (MSMQ). Support for Archiving to BizTalk Server will be added in Future.

IDoc Support

The Adapter provides for the sending and receiving of IDoc to and from BizTalk Server.

IDoc Schema Generation

IDoc Schemas are generated from within Visual Studio .NET from a Wizard. SAP Release 2, 3 and 4 IDoc Schemas can be generated by the Wizard.

For further details see the SAP IDoc Schema Generation document.

IDoc Receive Pipeline

The IDoc Receive pipeline is used to identify, route and validate IDocs received from SAP Systems.

The receive pipeline has the necessary intelligence to route any inbound IDoc, eliminating the need to develop separate pipelines for every message type received from SAP.

For further details see the SAP IDoc Configuration document.

IDoc Receiver

The IDoc Receiver is responsible for receiving IDocs from SAP Systems and submitting them to BizTalk Server.

All IDocs are received within a Trfc transaction context, the transaction is then enlisted within a BizTalk Server transaction, allowing both SAP and BizTalk to elect on the outcome of the transaction.

For further details see the SAP IDoc Configuration document.

IDoc Transmitter

The IDoc Transmitter is responsible for sending IDocs to SAP Systems. It can be defined statically or invoked dynamically by setting the Uri of a Port within your Orchestration to idoc://<SAP Destination>.

All IDocs are sent within a Trfc transaction context, the transaction is then enlisted within a BizTalk Server transaction, allowing both SAP and BizTalk to elect on the outcome of the transaction.

For further details see the SAP IDoc Configuration document.

BAPI and RFC Support

The Adapter allows for the execution of SAP BAPIs and RFCs from BizTalk Server. In addition BizTalk Server can be invoked from SAP using RFC or BAPI calls. Dynamically generated SAP .NET Connector proxies are used to listen for and invoke SAP BAPIs and RFCs.

Proxy Schema Generation

SAP .NET Connector Proxy Schemas are generated from within Visual Studio .NET from a Wizard.

For further details see the SAP Proxy Schema Generation document.

Proxy Receiver

The Proxy Receiver is responsible for receiving SAP RFC and BAPI calls, the messages are then submitted to BizTalk Server for processing and response messages received from BizTalk Server are sent back to the calling SAP System.

The Adapter will determine if the SAP .NET Connector Proxy should be invoked within a Trfc transaction and enlist within a transaction from the SAP System.

For further details see the SAP Proxy Configuration document.

Proxy Transmitter

The Proxy Transmitter is responsible for invoking SAP .NET Connector Proxies. It can be defined statically or invoked dynamically by setting the Uri of a Port within your Orchestration to sapproxy://<SAP Destination>.

The Adapter will determine if the SAP .NET Connector Proxy should be invoked within a Trfc transaction and request a new transaction from the SAP System.

For further details see the SAP Proxy Configuration document.

About the Enabler Group

Established in April 2002, the Group aims to provide best of breed Services and Solutions to the BizTalk Marketplace.

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The Enabler Group is a Microsoft Certified Partner.