BizTalk Server 2006 R2:
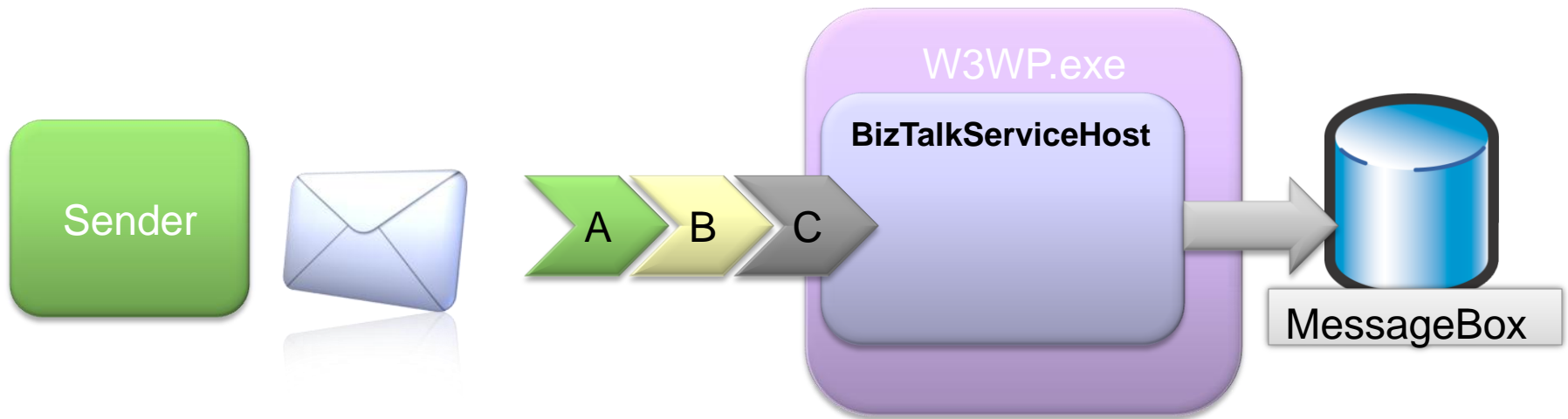# WCF Isolated & Metadata Publishing

Objectives

Understand the Isolated WCF Adapter architecture

Learn how to use the WCF Publishing Wizard

Configure WCF Publishing Wizard for Metadata only

pluralsight
see what you can learn

WCF-WsHttp Receive Adapter

- **An isolated Adapter than lives in the W3WP.exe process**
- **Requires configuration of an Application inside of IIS**
- **BizTalk WCF Service Publishing Wizard tool enables creation of web application**
  - Similar to SOAP Adapter Service Publishing wizard

BizTalk WCF Service Publishing Wizard

- **Generates WCF based ASP.NET application and virtual directory**
  - Like SOAP Adapter Wizard
- **Based on metadata from either**
  - Public PortTypes from an Orchestration assembly
  - Schema types from a BizTalk Assembly
- **Unlike SOAP Wizard – no code is generated**
  - Unnecessary because of WCF ServiceHost architecture and configuration

pluralsight
see what you can learn

Mex endpoint only

- **Wizard can also create application that only exposes a metadata endpoint**
  - ?WSDL or /mex
- **Used for the in-process adapters**
- **Wizard still bases endpoint generation on Orchestration or Schema**
  - Point wizard at Receive Location (used for extracting binding information)
- **Client can generate proxy from WSDL**
- **Client still connects to endpoint hosted in BTSNTSvc.exe**

Wizard generated files

*.svc file
- Links svc endpoint to ServiceHost/ServiceHostFactory

ServiceDescription.xml
- BizTalk specific file - holds description of endpoint for metadata

Web.config
- ASP.NET configuration file with BizTalk specific elements

Web.config - bizTalkSettings

- **webServiceHostFactory : debug attribute**
  - True will cause Debugger.Break on creation of Servicehost
  - False is default
- **isolatedReceiver : disable attribute**
  - True - will stop BizTalk EMP registration, use when BizTalk Receive Location isn't created or enabled
  - False – default
- **btsWsdlExporter : disable attribute**
  - True – will stop strongly-typed WSDL
  - False - default

In-process adapter metadata

- **None of the in-process adapters have metadata endpoints exposed**
- **Only possible with WCF-Custom**
  - WSDL ends up based on loosely typed contract
  - Not usually the contract you want
- **WCF Wizard can generate mex only Web Application Endpoint**
  - Based on Orchestration or Schemas
- **Using SvcUtil.exe and manually distributing metadata is also possibility**

> **Remember that exposed metadata isn't used for message filtering!**

WCF-WSHttp Binding

Message Encoding
- Text (default)
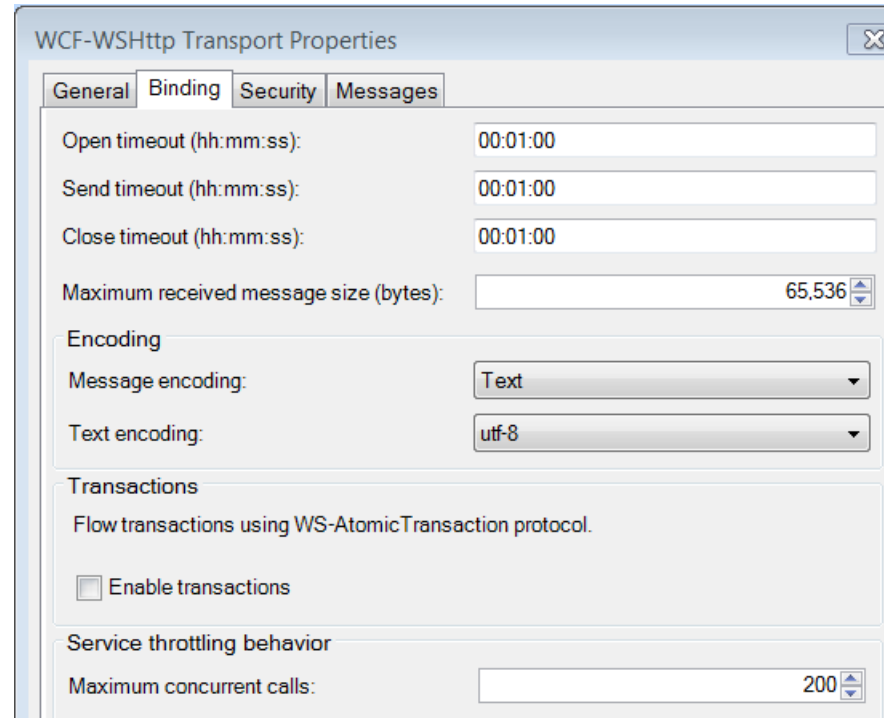- MTOM

Text Encoding
- utf-8 (default)
- utf-16
- unicodeFFFE

Transactions
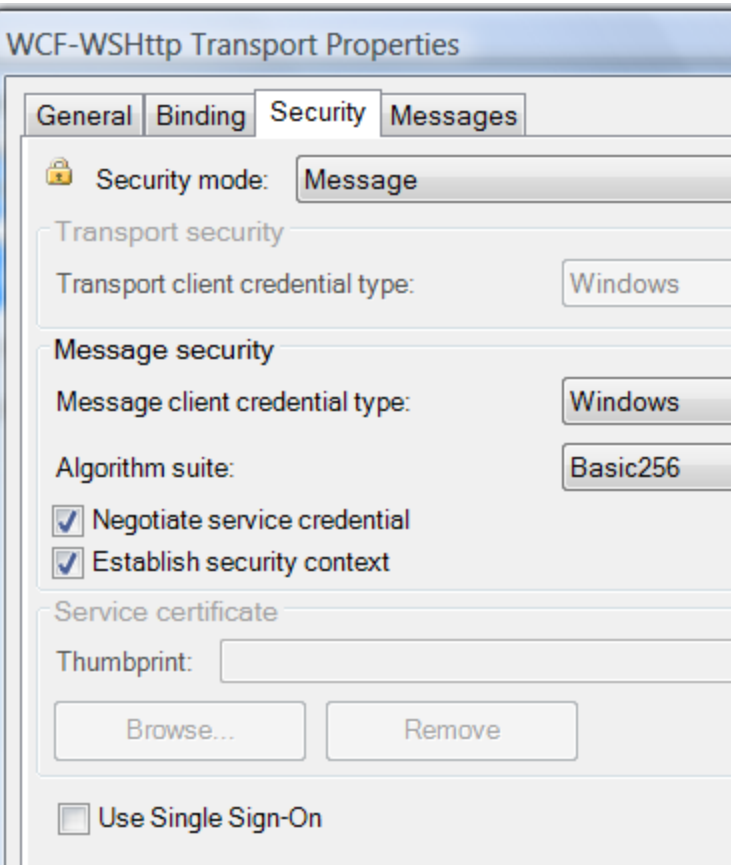- WS-AT only

Throttling
- 200 concurrent calls by default

WCF-WSHttp Transport Properties

General | Binding | Security | Messages

Open timeout (hh:mm:ss): `00:01:00`

Send timeout (hh:mm:ss): `00:01:00`

Close timeout (hh:mm:ss): `00:01:00`

Maximum received message size (bytes): `65,536`

Encoding

Message encoding: `Text`

Text encoding: `utf-8`

Transactions

Flow transactions using WS-AtomicTransaction protocol.

☐ Enable transactions

Service throttling behavior

Maximum concurrent calls: `200`

Configuring MTOM

- **MTOM – Message Transmission Optimization Mechanism**
  - A way of turning binary data into MIME encoded SOAP messages
- **Better performance for larger binary data**
  - General rule of thumb is messages larger than 10k

WCF-WsHttp Security

WCF-WSHttp Transport Properties

| General | Binding | **Security** | Messages |

🔒 Security mode: Message

Transport security

Transport client credential type: Windows

Message security

Message client credential type: Windows

Algorithm suite: Basic256

☑ Negotiate service credential
☑ Establish security context

Service certificate

Thumbprint: [   ]

[Browse...] [Remove]

☐ Use Single Sign-On

Security Mode
- Message (default)
- Transport
- TransportWithMessageCredential
- None

Transport Credential Type
- Windows
- Basic
- Digest
- Certificate
- None

Message credential type
- Windows (default)
- Username
- Certificate
- None

Algorithm Suite
- Basic256
- + Many others

Negotiate Service credential
- Whether to force service authentication

Establish Security Context
- Whether to use Secure Conversation

Service Certificate Thumbprint
- Specify for service authentication

Single Sign-On
- Check for SSO Token (must be using Windows based security)

WCF-BasicHttp adapter

- **Use for exposing BasicHttpBinding based endpoint**
  - Expose to WS_BaseProfile1 based clients (ASMX compatible)
- **Must use WCF Wizard to generate Web Application**
- **Functionally replaces the need for the SOAP Adapter**

WCF-CustomIsolated

- **Custom binding can be hosted in IIS**
- **IIS 6 doesn't support non-HTTP WCF endpoints**
  - IIS7 (Windows Server 2008) will
- **Used for custom binding using HTTP when IIS hosting is preferred over BTSNTSvc.exe hosting**
  - Ease of HTTP endpoint management (SSL etc).

Summary

- **WCF Adapter architecture enables isolated hosting with WCF-WsHttp, WCF-Basic, and WCF-CustomIsolated adapters**

- **WCF Web Services Publishing Wizard generates application endpoint (svc) for clients to call**

- **Wizard also generates MEX endpoint for proxy generation for in-process Adapters**