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IBM WebSphere Partner Gateway V6.1 Advanced and Enterprise Editions

Web services SOAP support

***Includes new “SOAP with attachments”
support***



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This presentation covers the basic Web services SOAP message support including the newly added SOAP with attachments in WebSphere® Partner Gateway V6.1.

Agenda

- Overview
- Identifying Web service request
- Use cases
- Configuration
- Best practice and problem determination
- Summary and references

The agenda starts with the overview of Web services SOAP document support, how to identify a Web service request, some use cases, configuration for handling Web service document followed by best practice and problem determination.

Section

Overview

This section provides the overview of this function.

Overview of Web services support

- WebSphere Partner Gateway acts as a proxy for Web services passing the request to the Web service provider and returning the response synchronously from the provider to the requester
- An external partner can request a Web service provided by an internal partner (some backend process like WebSphere Process Server, WebSphere Message Broker)
- Similarly, an internal partner can request a Web service provided by any external partner



WebSphere Partner Gateway acts as a proxy or gateway between the Web service requestor and the provider. This allows an external partner to call an internal partner through Web service invocation, or an internal partner to send a Web service request to an external partner.

Web service request can only flow from an external partner to an internal partner, or from an internal partner to an external partner. It cannot flow from one external partner to another external partner.

New V6.1 support – SOAP with attachments

- WebSphere Partner Gateway V6.0 supports SOAP over HTTP but does not SOAP with attachments
- **WebSphere Partner Gateway V6.1 adds support for SOAP with attachments**
- **Value proposition**
 - ▶ With this support, WebSphere Partner Gateway V6.1 can support business scenarios in which small or large attachments may need to be sent along with the SOAP message



Attachments may need to be sent along with the business message which is contained in the SOAP message. SOAP with attachments functionality provides the capability to send attachments along with the SOAP message.

WebSphere Partner Gateway V6.0 supported sending SOAP message but did not support SOAP with attachment. WebSphere Partner Gateway V6.1 supports SOAP with attachments functionality.

SOAP with attachments support

- Based on WS-I Attachments Profile 1.0
- Supports WSDL 1.1 and WS-I Basic Profile 1.0
- Supports large files as attachments can be huge
- Supports for HTTP and HTTP/s for SOAP with attachments
- Supports only pass-through mode (action)
- Does not support validation for conformance
- Supports authentication of external partners
- Supports one-way (request only) or synchronous reply/fault
- Supports 7-bit, 8-bit, binary, base64 and quoted-printable encodings
- Supports both rpc and document style SOAP messages
- SOAP attachments are not decoded or processed by WebSphere Partner Gateway

Web service configuration in V6.1 is same as V6.0

6

WebSphere Partner Gateway V6.1: SOAP with Attachments

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This page shows all the details of the SOAP with attachment support.

The Web service support is based on standards, namely the WS-I Attachments Profile 1.0 and WS-I Basic Profile 1.0. This allows interoperability with the standards based external and internal partners.

WebSphere Partner Gateway V6.1 supports SOAP with attachments functionality and provides functionality to receive, authenticate and send SOAP message to a destination using HTTP or HTTPS transports. Authentication of the incoming request is done if the message is sent by an External Partner.

The encoding of the SOAP message can be 7-bit, 8-bit, binary, base64 and quoted-printable encodings.

Both the rpc and document style SOAP messages are supported. However, the document style SOAP message is used as part of the WS-I Basic profile.

SOAP attachments are not decoded, validated or processed by WebSphere Partner Gateway.

The configuration of Web services support in WebSphere Partner Gateway V6.1 has not changed from V6.0. These steps and the console user interfaces are shown later in this presentation.

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SOAP with attachments - Sample

```

MIME-Version: 1.0
Content-Type: Multipart/Related; boundary=MIME_boundary; type=text/xml;
start="<claim061400a.xml@claiming-it.com>"
Content-Description: This is the optional message description.
SOAPAction=InsuranceClaim

--MIME_boundary
Content-Type: text/xml; charset=UTF-8
Content-Transfer-Encoding: 8bit
Content-ID: <claim061400a.xml@claiming-it.com>
<?xml version="1.0" ?>
<SOAP-ENV:Envelope
xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
<SOAP-ENV:Body>
..
<theSignedForm href="cid:claim061400a.tiff@claiming-it.com"/>
..
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

--MIME_boundary
Content-Type: image/tiff
Content-Transfer-Encoding: binary
Content-ID: <claim061400a.tiff@claiming-it.com>
...binary TIFF image...
--MIME_boundary--

```

Content Type should be Multipart/Related

Type should be text/xml

SOAP message identified by SOAPAction

Boundary parameter not needed

SOAP message is the Root MIME part

SOAP attachments are the other MIME parts

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An example of SOAP with attachments is shown here.

SOAP w/attachment message is in MIME format and is defined in the SOAP with attachments specification. The specification link is provided in the Reference section of this presentation.

SOAP w/Attachment are packaged as a MIME multipart message. The Content type should be **multipart/related** and Type should be **text/xml**. SOAP messages are identified using the *SOAPAction* header.

SOAP message is the root MIME part and SOAP attachments are rest of the MIME parts. The SOAP message may or may not be the first part in the message. It depends on whether the “start” element is provided or not. If the start parameter is given. the MIME part containing the content-id given by the start parameter is considered the root part containing the SOAP message, as shown in the example on this page. If start parameter is not present, then the first MIME part is considered as the root part containing SOAP message

Boundary parameter is not necessary. If boundary parameter is not there, it is determined from the message.

Section

Identifying Web service requests

Next section shows how WebSphere Partner Gateway identifies the incoming Web services request from an external partner or the internal partner.

Identifying requests from internal partner

- Web service requested by internal partner and provided by external partner
- Public URL used by the internal partner to invoke the Web service should contain the query string “**?to=<participant's_business_ID>**”
 - Example: http://<IP_address:port>/bcgreceiver/Receiver?to=123456789



Web services request coming from internal partner are not authenticated by WebSphere Partner Gateway. However, WebSphere Partner Gateway need to know the external partner to which the request needs to be forwarded. This is done through the use of the public URL used by the internal partner to send the request to WebSphere Partner Gateway. The URL must contain the query string `?to=<participant's_business_ID>`, as shown in the example on the page

Identifying requests from external partner

- Web service requested by external partner and provided by internal partner
- External Partners need to be identified and authenticated in one of the 2 ways:
- Using HTTP Basic Authentication with User ID of the form: *<participant's_business_ID>/<console_user_name>* and password equal to the console user name's password
 - ▶ Example: **123456789/joesmith.joespassword**
- Present an SSL client certificate that has been previously loaded into WebSphere Partner Gateway for the external partner

The requests from external partner is identified and authenticated in one of the two ways: You can either use the HTTP Basic authentication or SSL client certificate.

WebSphere Partner Gateway identifies the incoming message to be a Web service request from the "SOAPAction" element in the message. WebSphere Partner Gateway then looks whether the sender is the internal partner from the public URL, as discussed in the last page. If not, it assumes its from an external partner.

WebSphere Partner Gateway will look for HTTP Basic authentication of the form as shown on the page. The HTTP Basic authentication value contains the external partner's business ID and its user and password as stored in WebSphere Partner Gateway.

If there is no HTTP basic authentication present, it will look for the SSL signature in the SOAP message and use it against the client certificates stored in WebSphere Partner Gateway to find the external partner.

If WebSphere Partner Gateway is not able to identify or authenticate the external partner, a SOAP exception known as fault is sent back

HTTP basic authentication - Example

- External partner's ID (DUNS, Freeform or other), user ID and its password are Base64 encoded and then passed in the SOAP message as Authorization property on HTTP connection
 - ▶ Encoded string input is PartnerID/userID:password

Sample Java code

```
String toEncode = businessID + "/" + user + ":" + pwd ;
httpConn.setRequestProperty("Authorization", "Basic " + (new com.ibm.misc.BASE64Encoder()).encode(toEncode.getBytes()));
```

SOAP over HTTP message (partial)

```
POST /bcgreceiver/Receiver HTTP/1.1
Content-Length: 946
Content-Type: multipart/related; type="text/xml"; boundary="----=_Part_0_729729216.1171462831125"
SOAPAction:
```

Authorization: Basic OTg3NjU0MzlxL2FkbWUOmFkMTIzbWlu

```
User-Agent: Java/1.5.0
Host: localhost
Accept: text/html, image/gif, image/jpeg, *, q=2, */*; q=2
Connection: keep-alive
.....
```

11

This page expands on the HTTP Basic Authentication for external partner. The sample Java code shows the formation of the HTTP basic authentication value from the participant's business ID, its user and password. The HTTP connection's "Authorization" property is set with the value. The value is string "Basic" followed by Base 64 encoding of the business ID, user and password. The encoding is done for the string containing the business ID followed by "/" and then user followed by a colon and then the password. Part of the SOAP over HTTP message from the sample Java code, is shown with the HTTP connection Authorization property and the value.

Section

Use cases

This section will provide some of the use cases to explain how SOAP w/attachments is handled by WebSphere Partner Gateway V6.1.

Use cases

1. External partner sends one-way SOAP with attachments document to internal partner (back end process)
2. External partner sends SOAP with attachments document to internal partner and a synchronous SOAP message with attachments response or fault is sent back by the internal partner
3. Internal partner sends one-way SOAP with attachments document to an external partner
4. Internal partner sends SOAP with attachments document to an external partner and a synchronous SOAP message with attachments response or fault is sent back by the external partner

13

WebSphere Partner Gateway V6.1: SOAP with Attachments


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There are 4 main use cases.

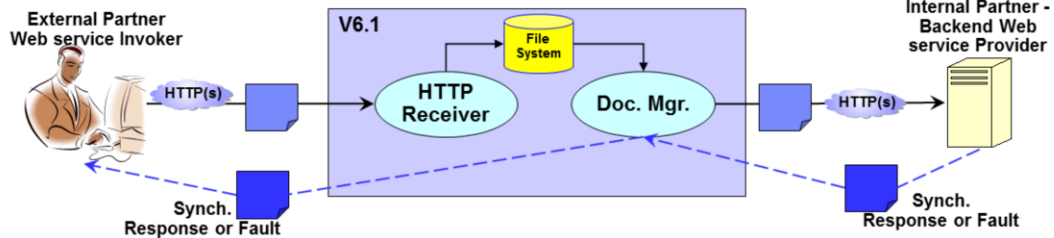
In case 1, an external partner sends a one-way Web service SOAP request with or without attachments to the internal partner. Case 2 is an extension of Case 1 where a synchronous response or fault is sent back by the internal partner.

Cases 3 and 4 are the opposite of cases 1 and 2. In case 3, the internal partner sends a one-way Web service SOAP request with or without attachments to an external partner. Case 4 is an extension of Case 3 where a synchronous response or fault is sent back by the external partner.

Use cases 1 and 2

 = SOAP message with or w/o Attachments

External partner sends 1-way or 2-way SOAP w/attachments message to internal partner
For 2-way, external Partner expects a synchronous SOAP message with or w/o attachments response or a fault



- Internal Partner (Back end) Web service provider's WSDL is uploaded into WebSphere Partner Gateway hub
- WSDL is downloaded from hub with modified endpoint to point to HTTP Receiver and provided to the external partner as a public WSDL
- External partner sends SOAP message (with or w/o attachment) to the hub with appropriate authentication information using HTTP Basic Authentication or SSL client certificate
- Hub extracts the root message from the SOAP message and authenticates the external Partner
- Hub determines the routing connection from the external partner to the internal partner for the appropriate WSDL file
- Hub invokes the internal partner's Web service using the same SOAP message
- Any expected SOAP response (with or w/o attachment) or fault is returned by the backend to the hub which in turn sends the HTTP SOAP response to the external partner

14

WebSphere Partner Gateway V6.1: SOAP with Attachments

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This slide provides more details on use cases 1 and 2 where the request is initiated by an external partner to the internal partner. The diagram shows the flow of the SOAP message as it traverses through WebSphere Partner Gateway.

The administrator uploads the WSDL file that defines the internal partner's Web service provider. The upload of WSDL will also create the Web service document definitions within WebSphere Partner Gateway.


For the external partner, WebSphere Partner Gateway is the end point. The administrator can download the WSDL file from WebSphere Partner Gateway with the public endpoint of the WebSphere Partner Gateway HTTP receiver. This is also referred to as the public WSDL and is given to the external partner to be used to create the Web service invocation.

External partner sends SOAP message (with or w/o attachment) to WebSphere Partner Gateway with appropriate authentication information using HTTP Basic Authentication or SSL client certificate, as described earlier. Within WebSphere Partner Gateway, the root part of the SOAP message is extracted, and the external partner is identified and authenticated. If WebSphere Partner Gateway is not able to identify or authenticate the external partner, a SOAP exception known as fault is sent back.

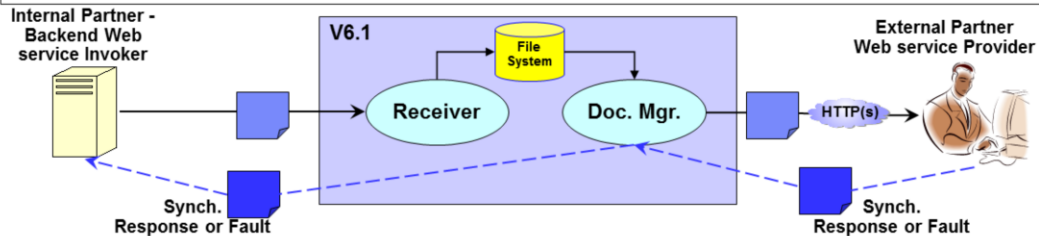
Given the external partner, the incoming SOAP message is then compared with all the Web services document defined within hub to find the appropriate routing information and participant connection between the external partner and the internal partner.

WebSphere Partner Gateway then invokes the internal partner's Web service using the same SOAP message. Any expected SOAP response (with or without attachment) or SOAP fault is returned by the backend to WebSphere Partner Gateway which in turn sends the HTTP SOAP response to the external partner over the same HTTP connection.

Use cases 3 and 4

 = SOAP message with or w/o Attachments

Internal partner sends 1-way or 2-way SOAP w/attachments message to external partner
For 2-way, Internal partner expects a synchronous SOAP message with or w/o attachments response or a fault



- External partner (Web service provider) WSDL is uploaded into WebSphere Partner Gateway hub
- WSDL is downloaded from hub with modified endpoint to point to HTTP Receiver and provided to the internal partner as a public WSDL
- Internal partner sends SOAP message (with or w/o attachment) with a "to" property on the URL identifying the target external partner
- Hub extracts the root message from the SOAP message and authenticates the external partner
- Hub determines the routing connection from the Internal partner to the external partner for the appropriate WSDL file
- Hub invokes the Web service of the external partner using the same SOAP message (with or w/o attachment)
- Any expected SOAP response (with or w/o attachment) or fault is returned by the external partner to the hub, which in turn sends the SOAP response to the internal partner (based on the destination)

15

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This slide provides more details on use cases 3 and 4 where the request is initiated by the internal partner to an external partner. The diagram shows the flow of the SOAP message as it traverses through WebSphere Partner Gateway.

The administrator uploads the WSDL file that defines the external partner's Web service provider. The upload of WSDL will also create the Web service document definitions within WebSphere Partner Gateway.

For the internal partner, WebSphere Partner Gateway is the end point. The administrator can download the WSDL file from WebSphere Partner Gateway with the public endpoint of the HTTP receiver. This is also referred to as the public WSDL and is given to the internal partner to be used to create the Web service invocation.

Internal partner sends SOAP message (with or w/o attachment) to WebSphere Partner Gateway, identifying the external partner's business ID through the "to" query string in the URL. Within WebSphere Partner Gateway, the root part of the SOAP message is extracted.

Given the external partner, the incoming SOAP message is then compared with all the Web services document defined within hub to find the appropriate routing information and participant connection between the internal partner and the external partner.

WebSphere Partner Gateway then invokes the external partner's Web service using the same SOAP message. Any expected SOAP response (with or without attachment) or fault is returned by the external partner to the hub, which in turn sends the HTTP SOAP response to the internal partner over the same HTTP connection.

Section

Sample configuration

The next section covers the configuration to set up WebSphere Partner Gateway to receive and send Web services SOAP messages through the hub.

Configuration – General steps

- Create partners (internal and externals)
 - ▶ Create destinations for the partners
 - ▶ Upload external partner's client authentication certificate, if doing SSL authentication
- Create hub HTTP receiver for incoming request
 - ▶ Add "SoapSyncHdlr" Handler to the receiver
- Get WSDL from the provider
- Create document flow definitions manually or by uploading WSDL into WebSphere Partner Gateway
- Enable business-to-business capabilities for the two partners
- Create interactions
- Create participants connection
- Hub is ready to receive SOAP with attachments documents from partner

Web service configuration in V6.1 is same as V6.0

17

WebSphere Partner Gateway V6.1: SOAP with Attachments

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Web service configuration in WebSphere Partner Gateway V6.1 hub is the same as V6.0. Here the general configuration steps to process Web services SOAP messages in hub are shown.

The internal and external partners need to be created with their destinations. If SSL client certification authentication of external partner is needed, the partner's certificate needs to be uploaded into hub.

Next the hub's HTTP receiver needs to be created and Soap Sync handler needs to be added to the receiver. The handler processes any synchronous response or fault back to the Web service requestor.

The Web service provider's WSDL file is uploaded into hub. The upload will create the document flow definitions within hub. Alternatively, they can be manually created. The manual process is described in the WebSphere Partner Gateway Information center. The next steps are the enabling of the Business-to-business capabilities of the two partners, creating interactions for the document flow and then creating the participant connection between the source and the target partners.

Once this basic configuration is done, the hub is now ready to receive the Web services SOAP messages with or without attachments.

The next few pages go into more details and shows screen captures of the configuration process within hub.

Configure destinations

- For the partner providing the Web service, the destination would be HTTPS
- For partner receiving response, the synchronous response is send on the same connection as the request
 - ▶ For non- synchronous response, it could be any of destination types, like HTTP or file system or other destination specified on the source side of the participant connection

More on configuring the partner destinations is shown here.

For the Web service provider partner, the destination transport would be HTTP or HTTPS. The partner sending the Web service request will receive the response through the same connection. Hence most likely this too will be HTTP.

Although the destination for a partner receiving the response could be of any transport protocol, it is unlikely to be anything besides HTTP. This is because in a synchronous request-reply scenario, the response will be sent to the invoker in the same connection as the request. If the receiver was not set as synchronous, and if a web service response was sent, it would be sent to the destination set at the source side of the Participant Connection.

Configure HTTP receiver for incoming request

Receiver Name: `http_rcvr`

Status: Enabled Disabled

Description:

Transport: `HTTP/S`

Receiver Configuration

Operation Mode: `Production`

URI: `/bcgreceiver/Receiver`

Sync Routing: *Global Http/S Transport Attributes*

Maximum Synchronous Timeout (Seconds): `300`

Max Sync Sim Conn: `100`

Handlers

Configuration Point Handlers: `Sync Check`

Handler Selection

Available List

Selected handler:

- `com.ibm.bcg.server.sync.RnifSyncHdr`
- `com.ibm.bcg.server.sync.As2SyncHdr`
- `com.ibm.bcg.server.sync.CxmlSyncHdr`
- `com.ibm.bcg.server.sync.RnifSyncHdr`
- `com.ibm.bcg.server.sync.DefaultAsynchronousSyncCheckHandler`
- `com.ibm.bcg.server.sync.DefaultSynchronousSyncCheckHandler`
- `com.ibm.bcg.server.sync.EBMSyncCheckHandler`

Configured List

Selected handler:

- `com.ibm.bcg.server.sync.SoapSyncHdr`

The hub's HTTP Receiver panel is shown here. Important to note are the URL and the handler.

The receiver URL is used for the incoming Web services request. The SOAP Sync handler is added to handle synchronous response or fault.

Configuration – Uploading WSDL

- Obtain WSDL file representing Web service provider and upload in WebSphere Partner Gateway
 - ▶ Hub Admin → Document Definition → Upload/Download Packages
 - ▶ Select “Package Type” of **WSDL** file



The panel to upload Web service provider’s WSDL is initiated by selecting the upload/download packages option in the panel shown here. The function can be performed by the hub administrators only.

Configuration – Upload WSDL file (cont.)

- Specify the WSDL package and file name
- Specify the Web service provider URL
 - ▶ For request being called by External partner, this needs to be URL for the HTTP receiver – example: `http://<host>:<port>/bcgreceiver/Receiver`
 - ▶ For request being called by Internal partner, this needs to be URL for the HTTP receiver with the “to” query string – Example: `http://<host>:<port>/bcgreceiver/Receiver?to=123456789`
- Commit to database

Provide valid xml document in 'zip' format or valid 'wsdl' file for Upload

WSDL Package: Yes No

File:

Web Service Public URL: (required for 'wsdl' file upload)

Commit to database: Yes No

Overwrite data: Yes No

Messages:

NOTE: To enable this web service you will need to create a Destination for this URL (the web service provider endpoint), through the management console, and set up Partner Connections with it as the destination: 'http://localhost:58080/DocumentWebProject/services/DocumentService3SOAP'
 Upload successful. No warnings. Data committed.

WSDL file to upload

URL Endpoint used by the Requestor – this will be the Receiver HTTP endpoint

Message on upload status

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Part of the WSDL upload panel is shown here. You can either import a single WSDL file or if the WSDL file includes other imports, then it can be zipped and a .zip file can be provided. The primary file within the zip must have file type of “.wsdl”.

The public URL of the WSDL needs to be specified. The URL contains the hub’s HTTP receiver. This is the endpoint given to the Web service requestor. Download of WSDL from hub will have this endpoint in the public WSDL file.

The examples of the URL sent by the external and internal partners are shown,

If the request is being sent by the internal partner, the URL needs to identify the external partner Web service provider by adding the “to” query in the URL, as shown.

Web service document definitions

- Uploading WSDL file will create the Web service document definition within hub
- Next steps would be to enable Business-to-business capabilities of the hub for these document definitions, create the interaction and participant connection

Document Definitions

0 1 2 3 4 All

Package: AS

Package: None

Protocol: Binary (1.0)

Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)

Protocol: Web Service (1.0)

Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)

Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)

Action: {http://tempuri.org/DocumentService3/}:getDocument (1.0)

Activity: addDocument (1.0)

Action: addDocument (1.0)

Web service Document Definition from the WSDL file

22

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WebSphere Partner Gateway created the document definitions from the uploaded WSDL file. The panel shows the document flow definitions created from the WSDL.

Enable business-to-business capabilities

- For each Partner, enable the Business-to-business capabilities for the Web service document definitions

The screenshot shows the 'B2B Capabilities' configuration page for a partner. The page title is 'Profile: Partner, B2B Capabilities'. Below the title is a table with columns: 'Set Source', 'Set Target', 'Enabled', 'Edit', and 'Document Definition'. The 'Document Definition' column is expanded to show a tree view of document types and activities. A yellow callout box points to the 'Enabled' column, stating: 'Partner's business-to-business capabilities must be enabled'.

Set Source	Set Target	Enabled	Edit	Document Definition
<input type="checkbox"/>	<input type="checkbox"/>			Package: AS
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Package: None
<input type="checkbox"/>	<input type="checkbox"/>			Protocol: Binary (1.0)
<input type="checkbox"/>	<input type="checkbox"/>			Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)
<input type="checkbox"/>	<input type="checkbox"/>			Protocol: EDI-Consent (ALL)
<input type="checkbox"/>	<input type="checkbox"/>			Protocol: EDI-EDIFACT (ALL)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Protocol: Web Service (1.0)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Activity: addDocument (1.0)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Action: addDocument (1.0)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enabled		Action: {http://tempuri.org/DocumentService3/}:getDocument (1.0)
<input type="checkbox"/>	<input type="checkbox"/>			Protocol: cXML (1.0.000)

Just like any document definition defined in WebSphere Partner Gateway, those Business-to-business capabilities need to be enabled for the partners. The panel shows where it can be done within WebSphere Partner Gateway.

Configure – Create interaction

Account Admin | Viewers | Tools | **Hub Admin** | RosettaNet

Hub Configuration | Console Configuration

Event Codes | Receivers | **Document Definition** | XML For...

Create Interaction Welcome, Hub Administrator

• Manage Interactions • Help

Select one Document Definition each from the Source and Target column, and then fill in the data fields.

Source *		Target *	
0	1	0	1
Package: AS	Package: AS	Package: AS	Package: AS
Package: None	Package: None	Package: None	Package: None
Protocol: Binary (1.0)	Protocol: Binary (1.0)	Protocol: Binary (1.0)	Protocol: Binary (1.0)
Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)	Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)	Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)	Protocol: &FUNC_ACK_METADATA_DICTIONARY (ALL)
Protocol: Web Service (1.0)	Protocol: Web Service (1.0)	Protocol: Web Service (1.0)	Protocol: Web Service (1.0)
Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)	Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)	Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)	Document Type: {http://tempuri.org/DocumentService3/}:DocumentService3 (1.0)
Activity: addDocument (1.0)	Activity: addDocument (1.0)	Activity: addDocument (1.0)	Activity: addDocument (1.0)
Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)
Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)	Activity: {http://tempuri.org/DocumentService3/}:getDocument (1.0)
Protocol: cXML (1.2.009)	Protocol: cXML (1.2.009)	Protocol: cXML (1.2.009)	Protocol: cXML (1.2.009)

Transform map
Select Transform Map

Action *
Pass Through

24

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Once the Business-to-business capabilities are enabled for the partners, the interaction between the source and target partner need to be created.. Web services flow is supported for pass through only. The panel shows the creation of that interaction and the pass through action.

Configure – Create participant connection

The screenshot shows the 'Manage Connections' page in the IBM WebSphere Partner Gateway V6.1. The interface includes a navigation bar at the top with 'Account Admin', 'Views', 'Tools', 'Hub Admin', 'RosettaNet Partner Simulator', 'System Administration', and 'Wizards'. Below this, there are tabs for 'Profiles', 'Connections', 'Alerts', and 'Exclusion List'. The 'Partner Connections' section is active, showing 'Connection Profiles'. The language and format locales are set to 'en_US'.

The main area is titled 'Manage Connections' and features a 'Source' dropdown menu set to 'Partner' and a 'Target' dropdown menu set to 'Community Manager'. There are 'Search' and 'Reset' buttons between the dropdowns. Below the dropdowns, there is a table with columns for 'Enabled', 'B2B Capabilities', 'Connection Details', and 'B2B Capabilities'. The table contains two rows of connection profiles, each with an 'Activate' button. A yellow callout box with the text 'Activate the connections' points to the 'Activate' buttons in the table.

At the bottom of the page, there is a footer with the text 'WebSphere Partner Gateway V6.1: SOAP with Attachments' and '© 2007 IBM Corporation'. The page number '25' is also visible in the bottom right corner.

The last step is enabling the participant connection between the source and target partner, as shown in the panel on the page. As part of this step, the appropriate destinations must be selected. By default, the connection will be done over the default destinations of the partners. Any attributes for the source or target partner can also be set through the participant connection.

Once this is done, WebSphere Partner Gateway is now ready to act as a proxy for Web services SOAP message between the partners.

Section

Best practice and problem determination

The next section will cover some of the best practice and problem determination for Web services support in WebSphere Partner Gateway.

Best practices

- Use correct content-type and type
- Provide boundary parameter
- Use supported encodings
 - ▶ For compatibility with WebSphere Application Server, 7-bit, 8-bit and binary encodings only should be used for SOAP message
 - WebSphere Application Server does not support base64 and quoted-printable encodings for SOAP message
- For integration with WebSphere Application Server, WS-I swaref feature can be used as it is supported by the application server

When creating the Web service SOAP message, the partners need to ensure that it follows the WS-I attachment formats and syntax. Some of the things to watch out for are listed here. Things like having correct content-type and type, or providing boundary parameter or using the supported encoding.

WebSphere Application Server does not support base64 or quoted-printable encoding. Hence when using web service being hosted by WebSphere Application Server, those encodings should not be used.

Events

Message Code	Message Text
240081	<p>Unable to parse the message</p> <ul style="list-style-type: none"> ▪Cause: Boundary could not be determined. ▪Action: Ensure that the boundary parameter contains the correct boundary string. Ensure that if boundary parameter is not given, the first non-empty line in the message should be the boundary, starting with "--".
240079 (New)	<p>Unsupported encoding {0}</p> <ul style="list-style-type: none"> ▪Cause: Encoding of SOAP message is not supported. ▪Action: Ensure that the encoding used for SOAP part is supported.
240080(New)	<p>Root part not found. No part found with content-id {0}</p> <ul style="list-style-type: none"> ▪Cause: No part with the content-id given by start parameter is found. ▪Action: Ensure that the content-id given in the start parameter is the content-id of the MIME part containing the SOAP message.

Listed in the table are the 3 events related to Web services SOAP support. When WebSphere Partner Gateway detects error conditions like unable to parse the message or the use of unsupported encoding or it could not find the root part in the SOAP body, appropriate error handling and logging is done. The events can be used in alerts and can be viewed in the event viewer.

Message and trace setting

- Message/Trace components
 - ▶ For entire hub "com.ibm.bcg.*"
 - ▶ For SOAP components
"com.ibm.bcg.soap.*"
- Can have different log level details for message and trace
- Trace and message outputs are in separate configurable files
 - ▶ Default Trace: bcg_server.log
 - ▶ Default message: SystemOut.log

Logging and Tracing > server1 > Change Log Detail Levels

Use log levels to control which events are processed by Java logging. Click Components log detail level for individual components, or click Groups to specify a log detail level for group of components. Click a component or group name to select a log detail level. Log are cumulative; a level near the top of the list includes all the subsequent levels.

Configuration Runtime

General Properties

Change Log Detail Levels

Components

Groups

=info: com.ibm.bcg.=severe;
com.ibm.bcg.soap.ChannelParse=severe

- com.ibm.bcg.shared.*
- com.ibm.bcg.soap.*
- com.ibm.bcg.soap.ChannelParse
- com.ibm.bcg.timing.* No Logging
- com.ibm.bcg.translation.* Messages Only
- com.ibm.bcg.util.* All Messages and Traces
- com.ibm.bcg.validation
- com.ibm.debug.*
- com.ibm.ejs.*
- com.ibm.ertools.*
- com.ibm.events.*
- com.ibm.io.*
- com.ibm.isclite.*
- com.ibm.iscportal.*
- com.ibm.portal.*
- com.ibm.uddi.*
- com.ibm.websphere.*
- com.ibm.wpic.*
- com.ibm.ws.*
- com.ibm.ws390.*
- com.ibm.wsspi.*
- com.ibm.xml.*

Message and Trace Levels

- Message Levels
 - fatal
 - severe
 - warning
 - audit
 - info
 - config
 - detail
- Trace Levels
 - fine
 - finer
 - finest

29

WebSphere Partner Gateway V6.1: SOAP with Attachments

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WebSphere Partner Gateway V6.1 uses the underlying WebSphere Application Server V6.1 logging and tracing facilities.

Tracing provides more details on what is happening inside the WebSphere Partner Gateway hub components. The output log and trace files are used extensively for debugging and problem determination purposes.

Hub components are enabled for internal logging and tracing. The panel shown is the WebSphere Application Server V6.1 administrative console logging and tracing panel. Here, you can turn on or off the logging and tracing of hub components. If you want to trace only the hub components involved in processing the Web services SOAP message, you can use the com.ibm.bcg.soap component trace string.

The details of WebSphere Partner Gateway logging and tracing is covered in a separate presentation.

Section

Summary and references

The next section covers the summary and references.

Summary

- WebSphere Partner Gateway V6.1 now supports SOAP with attachments and over HTTP and HTTPS
- It supports large files
- Web services configuration in WebSphere Partner Gateway V6.1 is same as V6.0

WebSphere Partner Gateway V6.1 supports SOAP with attachments and can include quite large file sizes. Besides the new support of attachments, the WebSphere Partner Gateway V6.1 Web services support and configuration is the same as in V6.0.

References

- WebSphere Partner Gateway documentation
<http://www.ibm.com/software/integration/wspartnergateway/library/infocenter>
- WebSphere Partner Gateway Support – Technotes, Fix packs, SupportPacs
<http://www.ibm.com/software/integration/wspartnergateway/support/>
- WebSphere Application Server documentation
<http://www.ibm.com/software/webservers/appserv/was/library/>
- IBM Education Assistant
<http://www-306.ibm.com/software/info/education/assistant/>
- Redbooks
<http://www.redbooks.ibm.com/>
- SOAP with attachments specification
<http://www.w3.org/TR/2000/NOTE-SOAP-attachments-20001211>
- WS-I Attachment Profile 1.0 –
<http://www.ws-i.org/Profiles/AttachmentsProfile-1.0-2004-08-24.html>

The references are listed on this page.

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