IBM Business Process Manager V7.5
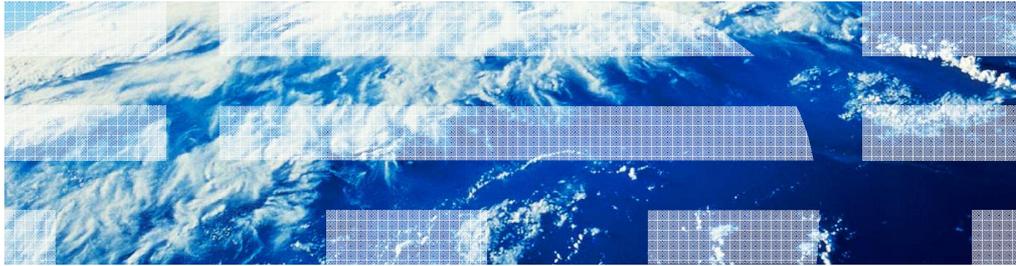
IBM WebSphere technology adapters V7.5

This presentation provides a general overview of the IBM WebSphere Adapters V7.5

Goals and Agenda

- Agenda
  - Application adapters
    - SAP
    - PeopleSoft
    - Siebel
  - Summary

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This presentation covers new features and enhancements in WebSphere applications adapters V7.5. They include SAP, PeopleSoft, and Siebel adapter. The Oracle EBS adapter is covered in a separate presentation. The JD Edward adapter is not included here as there is no V7.5 enhancement in that adapter.

Section

SAP adapter

This section provides new features and enhancements specifically for SAP adapter V7.5

SAP adapter - generate unique file names for duplicate BAPI business objects (1 of 2)

- Requirement
  - During metadata discovery, if customer selects three BAPI's and each of these BAPI has some common segment which gets generated
  - Due to conflict in the BO name, the adapter generates random numbers at the end of each of these BO
    - Avoid duplication in the BO names
  - If iterative discovery is used to discover new objects or remove few of the existing BO's, the random numbers generated after iterative discovery is not same as that of earlier
    - This can also happen, if in the new discovery the objects are selected in a different order

- Business Impact:
  - Changes in BO names during iterative development can lead to issues if you use maps to connect the BO's to his target application BO's
  - New generated BO's will have different names and hence the mapping fails

This enhancement allows users to generate unique file names for duplicate BAPI business objects. There is a high chance for duplicate or common segments getting selected during the metadata discovery process. When a customer selects three BAPI's and each of these has some common segment, this feature is required. Due to this conflict in the BO names, current implementation generates random numbers and attaches the same to the end of the BO's name to avoid duplication which can cause problems when the iterative discovery changes the order during its course.

SAP adapter - generate unique file names for duplicate BAPI business objects (2 of 2)

- How does it work?
  - Remove hash codes from the end of BO names
  - Add the hash codes at end of all XSD names and namespaces
  - Generate in a way which is unique and constant for a particular BO structure

Current adapter behavior will generate two BOs for it

Child BO for BAPI	Complex Type	File Name
BAPI_CUSTOMER_GETDETAIL1	SapReturn	SapReturn
BAPI_CUSTOMER_GETDETAIL2	SapReturn+HashCodeOf("SapReturn")	SapReturn+HashCodeOf("SapReturn")

With new implementation BO's is reused

Child BO for BAPI	Complex Type	File Name
BAPI_CUSTOMER_GETDETAIL1	SapReturn	SapReturn+HashCodeof("RETURN"+"BAPIRETURN1"+"OUT")
BAPI_CUSTOMER_GETDETAIL2	SapReturn	SapReturn+HashCodeof("RETURN"+"BAPIRETURN1"+"OUT")

NAMESPACE OF BO WILL BE SAME AS FILE NAME

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Remove the hash code from the end of BO names and add it at the end of XSD names and namespaces. This fashion BO conflicts resolved without duplicating BO's with hash code at the end. Proposed behavior generates only one BO. Still here you might notice the logic of hash code padding over file names. This is to help differentiate the BO's used for alternate purpose of in and out, which is used by appropriate reference BO's by altering the namespace through the file name.

SAP adapter - enable Tivoli ITCAM monitoring for CEI ARM or a chain of interceptors (1 of 2)

- Requirement
  - Enable the CEI, ARM or a chain of interceptors based on the runtime.
  - Enable Tivoli-ITCAM monitoring infrastructure to get a detailed information from the monitoring perspective

- How does it work?
  - A chain is initialized at startup and then each interceptor in the chain gets invoked
    - CEI
    - ARM
  - New ActivationSpec/MCF property takes the fully qualified name of the interceptors
  - Add custom class to implement Interceptor interface
  - Emit its common base events and generate sufficient data so runtime can enable Tivoli monitoring to receive this data.

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This feature enables selectively enabling CEI, ARM based on the runtime or business need. Solution is to implement through chain of interceptor concept, which allows runtime to decide over enabled interceptors dynamically from the chain. Chain interceptor solution allows users to introduce custom interceptors, provided it implements adapters interceptor interface.

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SAP adapter - enable Tivoli ITCAM monitoring for CEI ARM or a chain of interceptors (2 of 2)
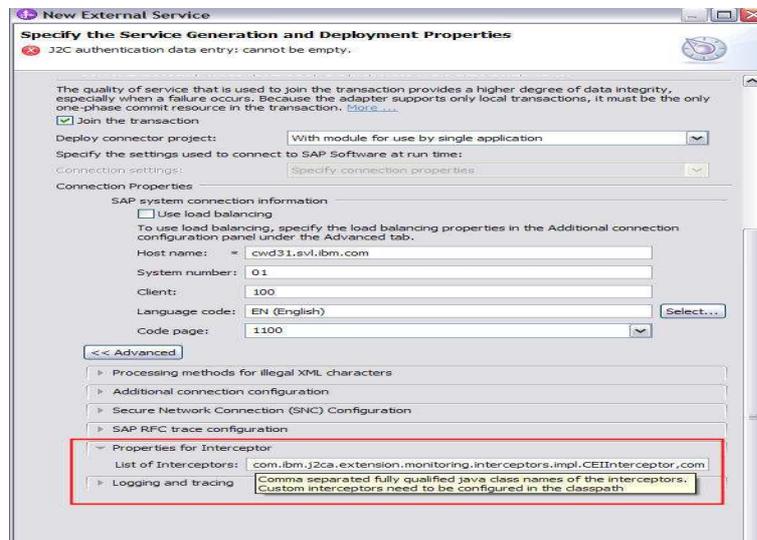
UI design change

This screen capture shows the recent changes which facilitates users to alter the interceptors and logging and tracing. One can alter or extend the interceptor chain to facilitate emitting events to respective end points through new interceptors, provided it implements adapter interceptor interface. With this new introduction of custom interceptors its expected to place the corresponding class files or archives containing class file under the class path to facilitate loading the same at runtime.
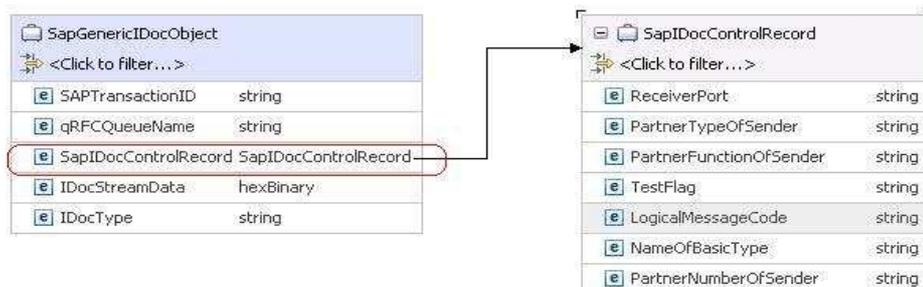
SAP adapter - support for providing Control Record structure for ALE pass through Generic IDoc (1 of 3)

- Need:
  - Previously, IDoc Control Record is part of the Binary data
  - Provide fully Parsed Control Record Structure as part of the Generic Ale pass through interface.
  - Requires this for routing purposes

- Business Impact:
  - Customers can use Control Record Structure to perform routing at the end point, based on the type of IDoc and with logical partner interface

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Currently IDoc control record is part of the binary data this gives raise to a need of providing fully parsed control record structure as part of generic ALE pass through interface to make customer routing decision. By providing support for control record structure in ALE pass through generic IDoc customer can make use of them at the end point to make routing decision based upon type of IDoc and logical partner interface.

SAP adapter - support for providing Control Record structure for ALE pass through Generic IDoc (2 of 3)
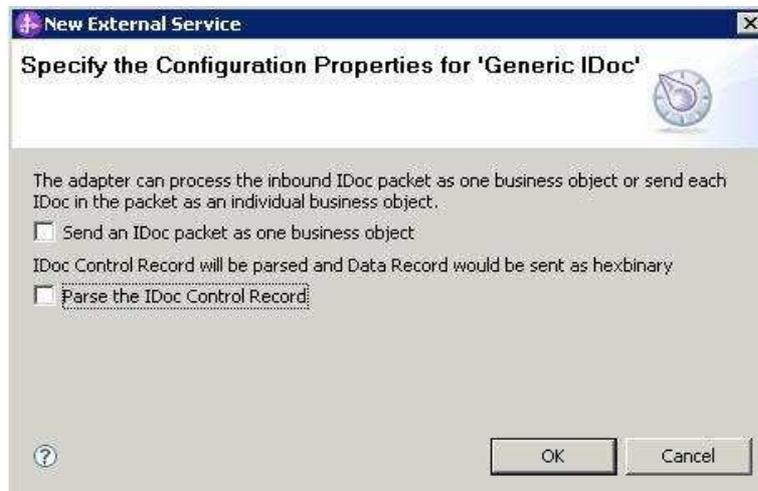
- How does it work?
  - Applicable only for ALE pass through inbound interface
  - Provide extra capability to user to parse the Control Record
  - Data record sends as a hexBinary
  - If user wants to parse the Control Record, option to send packet IDoc is disabled
    - Adapter to send single IDoc to endpoint

SapGenericIDocObject	
<Click to filter...>	
e SAPTransactionID	string
e qRFCQueueName	string
e SapIDocControlRecord	SapIDocControlRecord
e IDocStreamData	hexBinary
e IDocType	string

SapIDocControlRecord	
<Click to filter...>	
e ReceiverPort	string
e PartnerTypeOfSender	string
e PartnerFunctionOfSender	string
e TestFlag	string
e LogicalMessageCode	string
e NameOfBasicType	string
e PartnerNumberOfSender	string

BO design changes

The enhancement of providing IDoc control record is applicable only for ALE pass through scenarios. This feature provides an user flexibility of sending a single IDoc to the end point and parsing the control record. Here, the data record is sent in hexbinary format. In case the user wants to parse the control record then option of sending IDoc in packets is disabled and adapter will send single IDoc to the end point. The screen capture shows a generated sample IDoc control record.

SAP adapter - support for providing Control Record structure for ALE pass through Generic IDoc (3 of 3)

New External Service

Specify the Configuration Properties for 'Generic IDoc'

The adapter can process the inbound IDoc packet as one business object or send each IDoc in the packet as an individual business object.

☐ Send an IDoc packet as one business object

IDoc Control Record will be parsed and Data Record would be sent as hexbinary

☐ Parse the IDoc Control Record

OK   Cancel

UI design changes (Inclusion of check box for parsing control record)

This screen capture provides options to allow users enabling requesting parsed IDoc control record and then facility to send IDoc packet as one business object.

SAP adapter - support for JCo API traces to be traced into SAP adapter traces

- Need:
  - SAP Adapter traces are currently traced into the runtime / broker's log file
  - Enable the JCo traces / RFC traces to be generated into the specified folder
  - It can be difficult to trace the adapter -> JCo call -> adapter flow

- How does it work?
  - Provide an option for you to generate/write the JCo traces into the same broker's trace log
  - When the folder specified for generating traces is empty
    - JCo traces is traced to the adapter trace file / by providing a new option to trace the JCo traces to adapter trace file

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This is a customers' requirement to separate the SAP adapter traces from the runtime log files. During these times, it can become difficult to trace the call from adapter to JCo or vice-versa. With this enhancement, the adapter enables JCo API traces into SAP adapter traces. This feature provides an option for the user to generate the JCo traces into the same runtime logs or as a separate trace file, the choice is up to the customer.

SAP adapter - support for CPIC traces

- Requirement
  – Provide support for capturing CPIC traces
  – CPIC Trace Level - Common Programming Interface - Communication (CPIC) tracing.

- Business Impact
  – These traces are mostly asked by SAP Support for analysis of customer problems

- How does it work?
  – This is the communication layer under JRFC (or JCo).
 – Choose a trace level from zero to three where three is the highest and most detailed level of tracing

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There is a need to provide support for capturing CPIC traces and varying them at CPIC trace level. This feature of enabling CPIC traces emerges to help analysis of integration problems by the SAP analyst. This is the communication layer under JRFC or JCo helps record the traces at detailed level. The trace level of CPIC varies from zero to three where three is the detailed level of tracing.

Section

PeopleSoft adapter

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This section provides new features and enhancements specifically for PeopleSoft adapter V7.5

PeopleSoft adapter – support RecordNotFoundFault fault

- Adapter generate RecordNotFoundFault fault when there are no record found during RetrieveAll operation by selecting the option 'Show error on empty result set'
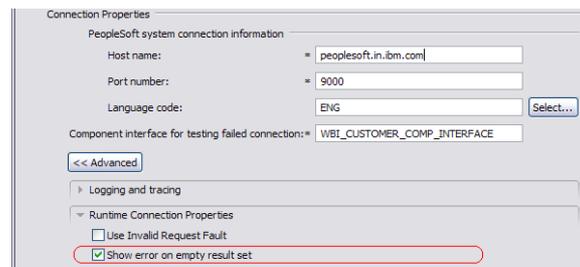
With V7.5, PeopleSoft adapter provides an option for users to select 'Show error on empty result set' if the user wants an adapter to generate a RecordNotFoundFault fault when no records are found during RetrieveAll operation. If you set this property to False, the RetrieveAll operation returns an empty business object when no records are found and generates a RecordNotFoundFault when True is selected.

Section

Siebel adapter

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This section provides new features and enhancements specifically for Siebel adapters V7.5

Siebel adapter - support for multiple output argument for Siebel Business Service Interface (1 of 2)

- Many Siebel business services which returns different integration objects in response based on different input parameters

- Allow user to work with such Business Service by generating multiple Integration Objects

- Enable user to integrate with such Business Service's using the new wrapper check box property introduced in the adapter

- Generate a wrapper business object to contain all possible Integration Objects as output parameters

- Applicable only for outbound operation

There are many Siebel Business Services which returns different Integration Objects in response based on different input parameter. Previously, WebSphere adapter for Siebel allowed to discover only one integration object per business service. There was not any option to select more then one integration object for such business services. In V7.5, you now have the ability to manually select multiple integration objects for the discovered business service as per requirement. When this property is enabled, adapter generates a wrapper business object to contain all possible integration objects. This feature is applicable only for outbound operation.

Siebel adapter - support for multiple output argument for Siebel Business Service Interface (2 of 2)

- To enable this feature, check *Use wrapper for multiple integration objects*
- Add multiple integration object for the selected Business Service as per requirement
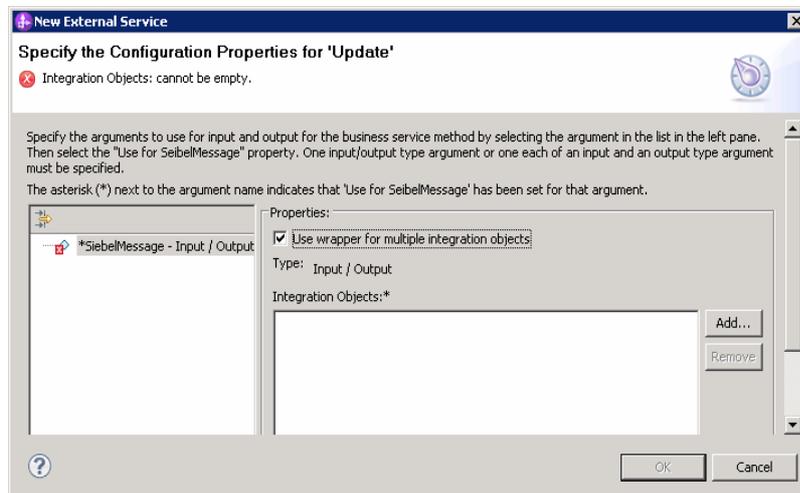
The screen capture of the new check box is shown here. It is introduced in the external service wizard to generate a wrapper business object. With this feature, you can enable to add multiple integration objects for the discovered business service. After enabling the check box property, select the "SiebelMessage" property. One input/output type argument or one each of input and output type argument must be specified using the Add button.

Siebel adapter - filtering using operation name along with object name (1 of 2)

- Support filter based polling based on inbound operation name

- Event Type Filter is enhanced with additional capabilities

- Allow the events to be filtered by business object type along with their operations name

- Syntax
  - BOName1:Operation1|Operation2, BOName2:Operation1|Operation2|Operation3
    - "," is used for separating the business objects. The objects not in this list are ignored.
    - ":" is used for separating the business object name and the operation name.
    - "|" is used for separating the supported operations for Create, Delete, and Update

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Before V7.5, WebSphere adapter for Siebel was allowed to filter the polled event only on the basis of business object name. There was not any option to add a filter based on inbound operation. In V7.5, you can now specify the operation name along with the business object type as filtering criteria. You can also specify multiple operation per business object type separated using pipe symbol. Refer to syntax mentioned here.

Siebel adapter - filtering using operation name along with object name (2 of 2)

- How does it work?
  - Example
    - To receive all events of the Customer and Order business objects
      - Customer:Create|Update|Delete,Order:Create|Update|Delete

        OR
      - Customer,Order
    - To receive all events of the Customer business object and the Create and Delete events of the Order business object
      - Customer,Order:Create|Delete
    - To receive the Create and Delete events of all the business objects
      - *:Create|Delete

Event delivery configuration

Type of delivery: ORDERED

☑ Ensure assured-once event delivery (may reduce performance)

☐ Do not process events that have a time stamp in the future

Event types to process:

Adapter Instance for event filtering:

The business object types that this adapter should publish. Types not in this list will be ignored. Leave blank to include all event types.

Number of connections for event delivery

Minimum: 1

Maximum: 1

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Shown on this slide is the screen capture of the "Event types to process" property where you can specify the filtering criteria for polling events using operation name along with respective business object types. Some examples are shown here for your reference. First example also presents an alternative way to filter all the operation related to Customer and Order business object type. Second example shows how you can retrieve all the event from Customer business object and create and delete operation events from Order business object type. Third example shows an alternative way to receive all business objects related to particular operations.

Siebel adapter - simplifying the configuration of code page property (1 of 2)

- In the previous versions if the JVM's codepage property was not supported by Siebel dependency JAR files
  - User has to manually set the supported codepage value for JVM in order to establish the connection with Siebel server
- With help of this feature user can easily select the codepage property for discovery and runtime without any manual changes to JVM settings
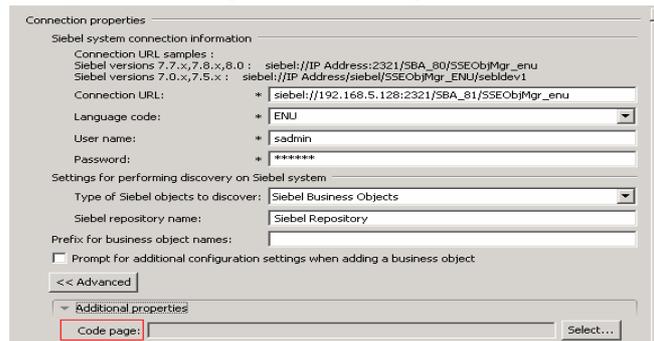
In previous release, if JVM codepage was not supported by the Siebel dependency files then you had to manually configure the JVM property for it. In V7.5, you can now select this property for discovery as well runtime from adapter external service wizard. This slide shows the screen capture for connection properties screen used for objects discovery.

Siebel adapter - simplifying the configuration of code page property (2 of 2)

- Service Generation and Deployment Properties (runtime)
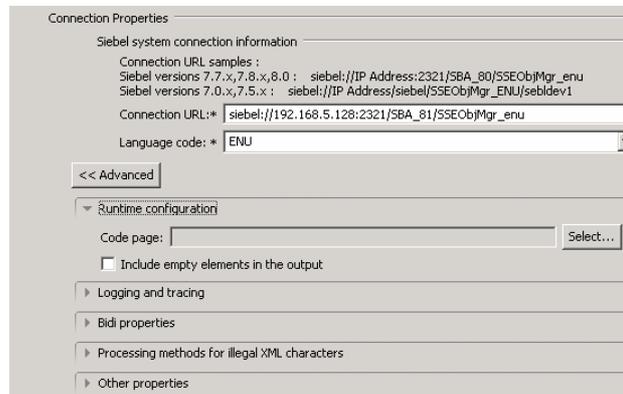
This slide shows the screen capture for the service generation and deployment screen where you can select the codepage property which is used by adapter at runtime while connecting to Siebel server

Section

Summary

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The next section provides the summary of new and enhanced features in WebSphere application adapter V7.5

BPMv75_WebSphereAdapters_Application.ppt   Page 22 of 25

Summary

- Summary
  - Provided list of specific enhancements in application adapters
    - SAP
    - Siebel
    - PeopleSoft

- References
  - IBM WebSphere adapters V7.5 information center
    - http://publib.boulder.ibm.com/infocenter/dmndhelp/v7r5mx/index.jsp?topic=/com.ibm.wsadapters.jca.doc/welcome_wsa.html

  - WebSphere Adapters Support
    - http://www.947.ibm.com/support/entry/portal/Overview/Software/WebSphere/WebSphere_Adapters_Family

In summary, this presentation has covered details of the new and enhancements for IBM WebSphere application adapters in V7.5 release. You can also review the references here to find more details about adapters support and information center.

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