IBM WebSphere Adapters V7.0

WebSphere Adapter for Siebel Business Applications

This presentation covers the WebSphere® Adapter for Siebel V7 overview and features.

Table of contents

- Overview and architecture
- Installation
- Configuration properties
- Outbound operations
- Inbound operations
- Business objects
- Transaction and security
- New in V7.0
- Summary and references

WebSphere Adapter for Siebel Business Applications

The agenda for this presentation is shown here.

Overview and architecture

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This section is an overview of the WebSphere Adapter for Siebel. If you are just interested in what is added or changed in V7, skip to the "New in V7" section.

Siebel application overview

- Siebel application architecture is a layered structure containing
  - 1. User interface objects layer
  - 2. Business objects layer
  - 3. Data objects layer
- Business Object layer includes business services, business components, business objects and integration objects
- A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality
- Adapter supports Business Objects/Components, Business Services and integration objects in this release
- The adapter uses the Java™ APIs provided by the Siebel Java Data Bean to communicate with the Siebel Object Manager for data exchange

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Siebel application architecture has three layers. The User Interface Object layer deals with visual elements. The second layer is the Business Objects layer, which includes the business services, business components, business objects, and Siebel integration objects. A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality. The third layer is the Data objects layer. In this release, the WebSphere Siebel adapter supports business object components, business services and any integration objects through the business services. To allow external applications to exchange data with the Siebel application, Siebel provides a set of interfaces known as Siebel Object Interfaces. The APIs, in the Siebel-provided Siebel Java Data Bean jar file, handle the exchange of data by using the Siebel business objects and business components. The adapter uses the jar file to communicate with the Siebel Object Manager for data exchange.

Siebel business service (1 of 2)

- A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality
- A business service is much like an object in an object-oriented programming language.
- Siebel business services are not tied to specific objects, but rather operate on objects to achieve a particular goal
- Business service has properties and methods (with arguments) and maintains a state

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Siebel business service is like an object in an OO programming language, with a set of functions that can be invoked. Siebel business service is not tied to a specific object but operates on one or more objects to achieve a particular function.

Siebel business service (2 of 2)

- Siebel business services are based on following types of higher level classes:
  - CSSEAIDataSyncService – data synchronization services
  - CSSService – Any business service.
    - This is typically extended by other services
    - An example is the CSSEAISiebelAdapter class which inherits from CSSService class and maps to the EAI Siebel Adapter business service.
  - CSSEAIDTEScriptService – data transformation services
  - CSSEAISiebelAdapter – EAI Siebel Adapter
- These business services includes
  - generic business services such as the 'EAI Siebel Adapter',
  - Applications Services Interfaces such as 'Siebel Contact'
  - and other built-in or custom business services

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Siebel business services are based on the four types of higher level classes shown on this page.

The CSSEAIDataSyncService is used for data synchronization services.

The CSSService represents any business service. Other services extend this class.

The CSSEAIDTEScriptService is used for data transformation services.

The CSSEAISiebelAdapter is used by the "EAI Siebel Adapter" which is a generic business service in Siebel.

The adapter only supports business services that are of the specified class types discussed here. Any service that does not fall into one of the four classes is not supported by the adapter.

Siebel business objects and components

- Siebel business components are logical abstractions of one or more database tables
  - Defines structure, behavior and information related to a particular subject
- Business objects are customizable, object-oriented building blocks of Siebel applications.
  - Define the relationships between different business component objects and contain semantic information

Opportunity Business Object

Opportunity	→	Account
	→	Product
	→	Contact
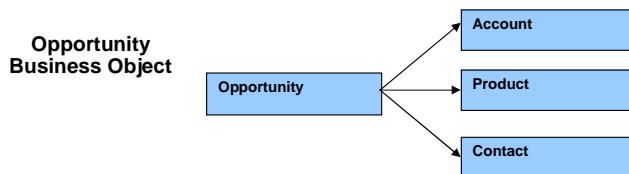
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Siebel business components are logical abstractions of one or more database tables and define the structure and behavior related to a subject. Business objects are customizable, object-oriented building blocks of Siebel applications. Business objects define the relationships between different business component objects and contain semantic information. Siebel business object groups one or more business components into a logical unit of information. In the picture shown, opportunity business object consists of account, contact, and product business components. The opportunity business component, which is the primary business component, dictates the information of the other business components in a parent-child relationship.

Section

Prerequisite steps and dependencies

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This section covers the prerequisite steps that must be taken on the EIS and the dependency files that you need to connect to the EIS at design time and by the adapter at runtime.

Prerequisite: Setup for event triggering

- Create an Event Siebel Business Component in Siebel EIS for the event store table
  - Schema and steps to create the Event Siebel Business Component are included in user documentation
- Add the event generation triggers to the Siebel business objects that need to be monitored
  - Creating, updating, or deleting records in the Siebel Business application is treated as an event
  - This will allow generation of the events for the component when the operation is performed
  - Siebel supports Visual Basic scripts and Siebel eScript embedded in the Siebel business component event handlers to populate the event store table
- Sample event business component and Siebel scripts is provided with the adapter

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The setup in Siebel EIS is setting up the Custom event project needed to store the events. There are two main tasks. First, the Custom Event project must be created. This is where the generated events are stored within Siebel. The adapter looks at this event project for new events or for changing the status of existing events. Sample event project is provided in the samples directory. The schema of the custom event project must be the one provided in the user guide. The name of the custom event project can be changed, but the schema must be the one expected by the adapter. The event generated triggers must be inserted in the components whose events can be monitored by the adapter. Siebel supports Visual Basic scripts or Siebel eScripts. Sample triggers are provided by the Adapter. To Create the Event table in Siebel, you must be familiar with Siebel tools.

Specify dependencies

- Select the Siebel Adapter entry in the External Service Wizard

- Add EIS external dependencies needed by external service wizard to connect to EIS
  – External dependencies for Siebel 7.7 and 7.8 are Siebel.jar and Siebel_enu.jar
  – External dependencies for Siebel 7.5 are SiebelJI_Common.jar, SiebelJI_enu.jar and SiebelJI.jar
  – You are prompted for these files in the wizard.

- For deploying the application using the Siebel adapter
  – Copy the dependent jar files to this directory:
    • For WebSphere Process Server Test Server: *<WPS_INSTALL>*\lib directory

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The adapter requires the dependant files to communicate with the Enterprise Information System (EIS). At design time, you can now browse and select the dependent files in the external service wizard. For runtime usage of these dependent files by the adapter, you must place the files in the locations shown in the slide.

Deployment in WebSphere Process Server

- Add the Siebel dependent jar files to the WebSphere Process Server class path
  - *<WPS_INSTALL>*\lib directory

- Install EAR file in WebSphere Process Server using the administrative console or command line tool "wsadmin"
  - For most install steps, defaults are fine

- If needed, modify any RAR properties (from Your application -> Connector Modules -> CWYEP_SiebelAdapter.rar)
  - Custom RAR properties
  - Managed Connection Factory for outbound connection to EIS
  - Activation Spec for inbound event from EIS

- Start the Enterprise application using Administrative console or wsadmin

This page outlines the high level flow of deploying the business process application built in WebSphere Integration Developer to a WebSphere Process Server. Adapter's external dependencies must be satisfied. The J2C authentication alias for the outbound request must be specified. The database that holds the Event table must be created for adapters that require them. Siebel Adapter requires it, whereas for the other adapter, the table is optional. Add necessary Siebel dependent jar files to the WebSphere Process Server class path. Installation of the application containing the WebSphere Adapter for Siebel to the WebSphere Process Server is similar to installing any other enterprise application. Either the administrative console or command line tool, wsadmin, can be used for application installation. Once installed, the administrator can modify the adapter properties. The last task is to start the application, either in the console or through wsadmin.

Section

Configuration properties

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Common properties were covered in the WebSphere Adapter common details presentation. This section covers the Siebel specific attributes.

WBPMCv70_IEA_AdapterSiebel.ppt

Managed connection factory properties (outbound)

Property	Description
User Name	User name to login to the Siebel EIS
Password	Password for the corresponding user name
Siebel Connect String	Connection string needed to connect to Siebel EIS For Siebel 7.5 (uses default port 2320, hence no port # specified) Protocol://machinename/enterprisename/objectmanager/servername Example: siebel://mysiebel.ibm.com/siebel/SSEObjMgr_enu/sebldev1 For Siebel 7.7 (uses port 2321 which is not a default): protocol://machinename:portnumber/enterprisename/objectmanager
Language	Language to be used - Example: enu
resonateSupport	Specifies whether the adapter should use Attach/Detach calls on the SiebelDataBean. Default: True

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Some of the specific Siebel Adapter custom properties are shown here. The Siebel connect string has its own format, as shown in the table with examples. Resonate Support is a feature exposed by the Siebel Application to allow for more efficient use of Siebel Connections. Instead of doing expensive logon and logoff operations on the connection, a Siebel Client can detach and attach a Siebel Java DataBean (connection). This is transparent, and happens when the application server does a clean up of the connection then later on attempts to re-establish a connection. If resonateSupport is set to true, then instead of doing a logon or logoff during this phase, the adapter will attach then detach.

Activation specification properties (for inbound)

Property	Description
User Name	User name to login to the Siebel EIS
Password	Password for the corresponding user name
Siebel Connection String	Connection string needed to connect to Siebel EIS For Siebel 7.5 (uses default port 2320, hence no port # specified): Protocol://machinename/enterprisename/objectmanager/servername Example: siebel://mysiebel.ibm.com/siebel/SSEObjMgr_enu/sebldev1 For Siebel 7.7 (uses port 2321 which is not a default): protocol://machinename:portnumber/enterprisename/objectmanager
Siebel Repository	Name of the Siebel repository – Example: "Siebel Repository"
Language	Language to be used - Example: enu
Event Component Name	Specifies the name of the Siebel Component for the event table
resonateSupport	Specifies whether the adapter should use Attach/Detach calls on the SiebelDataBean. Default: True

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The properties for the inbound Activation Specification are shown in the table. They are same as the outbound except for a new one called the Event Component Name, which specifies the name of the Siebel custom event component that has been created to store the events from the Siebel components.

Section

Outbound operations

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This section covers the outbound operations.

Supported interfaces

- Business object interface
- Business service interface

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WebSphere Adapter for Siebel Business Applications supports the exchange of information between your existing applications and Siebel Business Applications. The adapter supports Siebel entities, including business objects, business components, and business services.

Outbound – high level flow

- Adapter models Siebel function calls as Business Objects

- SCA client passes the business object to the adapter through the JCA CCI Record object
  – business object is wrapped in the JCA CCI Record

- Adapter extracts the business object and determines if the business object represents a business service or a business component.
  – If it is a business service, the adapter converts the business object data to the appropriate Siebel function call.
  – If it is a business object, the resource adapter Creates/updates/deletes in the Siebel application based on operation specified in functionName

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The high level flow of the outbound operations is specified on this page. The adapter models the Siebel function calls as Business Objects. The SCA client wraps the business object inside the JCA CCI Record object, since the J2C specification does not support business objects being passed as a parameter. The client creates an interaction specification which specifies the function name, which must be a valid method of the business service. The business service is in the metadata of the incoming business object. In case of business components, the function name in the interaction spec will contain one of the valid operations. The adapter extracts the business object from the Record, and determines if the business object represents a business service or a business component. If the business object represents a service, the function name specified in the interaction specification is used as a business service method. If it is a business component, it will use it as an operation such as create, update, or delete. The Adapter uses the Siebel Java Data Bean JAR file to communicate with the Siebel Business services.

Siebel business service: 'EAI Siebel adapter'

- It is a general purpose business service that allows reading and writing integration objects

EAI Siebel Adapter method	Description
Synchronize	Makes the values in the application match those in the business object
Insert	Creates the integration object
Update	Updates the integration object, and synchronizes all children
Upsert	Performs synchronize, but no deletes are done.
Delete	Performs a delete of the integration object
Query	Retrieves the integrations objects that match the input business object
QueryPage	Performs a query but only returns the number of matched records.
Execute	Performs a combination of operations on the components of the integration object

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This table lists the methods supported by the EAI Siebel Adapter. As indicated earlier, the EAI Siebel Adapter is a general purpose business service that allows the reading and writing of other Siebel integration objects.

Siebel application services interfaces

- Built-in business services that provide integration object specific services – Some examples are as follows:
    - Siebel Account – Integrates with the Account Interface integration object
    - Siebel Contact – Integrates with the Contact Interface integration object

Built in business service method	Description
QueryByExample	Retrieves the integration object based on non key values
QueryById	Retrieves the integration object based on the primary row ID
InsertOrUpdate	Inserts or updates the integration object depending on if it already exists

The methods for the built-in business service are listed in the table. For the EAI Siebel Adapter general purpose business service, either the QueryByExample or QueryById method can be used to retrieve the specific Siebel integration object.

Siebel business object/component support

- Incoming business component will represent the primary business component of a business object

Operation	Description
Create	'Create' operation will create the business component
Update	'Update' will update the Siebel application with the incoming object.
Retrieve	In order to see the values of the business component 'Retrieve' operation can be used.
RetrieveAll	'RetrieveAll' can retrieve multiple instances of the same business component and will populate it as the container BG and return it back.
Delete	'Delete' will delete the business component and its children from Siebel. By default it is a cascade delete in Siebel.
Exists	'Exists' operation will check for the existence of the incoming business objects in Siebel. Output business object 'ExistsResult' is returned with the Boolean value populated.
ApplyChanges	'ApplyChanges' will update the business component based on the delta information

The operations supported for Business objects and components are shown in this slide. Incoming business component will represent the primary business component of a business object. It is a hierarchical object if the business component has different child relationships defined. The adapter will support the operations shown in this table.

Section

Inbound operations and event manager

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This section covers the inbound operations.

Inbound operations: High level flow (1 of 2)

- Inbound operations are based on events being triggered when any record in the Siebel Business application is created, updated or deleted
- Event notification requires the creation of event in the Siebel database
  - "IBM Events" Siebel business component is the default table used to track events happening in the Siebel EIS
    - the component and table name can be customized, but not the schema.
  - Event component lists the type of event, the corresponding business graph and the status of the event
  - Triggers will need to be placed on the base Siebel business objects
    - Siebel supports Visual Basic scripts and Siebel eScript embedded in the Siebel Business Component event handlers to populate the event table

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Inbound operations are based on events being triggered when a Siebel record or object is created, modified or deleted. The Siebel developer must create a custom Siebel business component to store the events that are being triggered as a result of the updates to the Siebel records. The schema for the custom Siebel business component cannot be changed. A sample custom Siebel business component, called, "IBM Events" is provided with the adapter. Triggers must be inserted in the Seibel business object that is to be watched for events. Sample triggers are also provided. Siebel supports Visual Basic scripts and Siebel eScript for writing event triggers.

Inbound operations: High level flow (2 of 2)

- Adapter polls the Siebel event component for new events and fetches the events
  - "Once and only once" event delivery is supported through XA transactions using the Event Persistence database
- If the event corresponds to business component, adapter retrieves the business component and creates a business graph that is sent to the endpoints
- If the event corresponds to business service, adapter retrieves the integration object and creates the business graph which is sent to the endpoint
- The endpoint can then look in the business object within the graph and start the logic to handle the event

WebSphere Adapter for Siebel Business Applications

The adapter polls for the events looking in the custom Siebel business component that was created to store events within Siebel. The adapter uses its own event staging table and the custom Siebel business component for events to support "once and only once" event delivery. The details of the "Once and only once" event delivery are covered in the common adapter details presentation. When a new event is detected by the adapter, based on the event status, the adapter retrieves it and stores it in its event persistence table. If event corresponds to business component, the adapter retrieves the business component by making use of the retrieve operation and creates a business graph which is sent to the endpoint. If event corresponds to business service, the adapter retrieves the integration object represented by the event in case of business service and creates a business graph that is published to the endpoint.

Event table schema

Fields	Description	Example
XID	This field replaces the EDT table	
Object Key	The unique identifier which identifies the business object row for which the event was created.	AccountId=1-20RT
Object Name	The business graph for which the event was detected.	EAIAccountInterfaceBG
Event Type	The type of the event	Create
Priority	Event priority	1
Status	Event Status. Initially set to READY_FOR_POLL.	0
Description	Any comment associated with the event – Not required	Account Interface Event
Event Id	Id of the event row.	
Event Timestamp	The time stamp for the event. Format MM/dd/yyyy HH:mm:ss	02/24/2007 11:37:56

Listed on this page is the table schema for the custom Siebel business component that was created to store events within Siebel. These events are created by the triggers inserted in Seibel business object that need to be watched for events.

Section

Features common to both inbound and outbound

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This section covers some details of Business objects.

Select input and output for business service methods

- Select input and output attributes for business service methods
  - When invoking a Siebel Business Service the adapter now supports input and output arguments with any name
  - You can manually select the output and input arguments using external service wizard

In versions before V6.2, in order to use the business service interface for the Siebel adapter, the business service method's complex attribute had to be named "SiebelMessage" for the adapter to invoke that service. The Adapter looks for the SiebelMessage attribute in the business service method and uses it as the input and output arguments for that service. There is no way for you to be able to manually select which attribute is the input and which is the output. In V6.2, you now have the ability to manually select the input and output arguments using the external service wizard. This eliminates the restriction of having to name the complex attributes to just SiebelMessage. You can have any custom name for your attributes in the business service method.

Business service method sample

Shown on this slide is the screen capture of the attributes for the Insert method of a business service. You can see that the method has two complex types – SiebelMessageIN and SiebelMessageOUT. In versions before V6.2, you would not have been able to configure the adapter for this service as the complex type is not named "SiebelMessage".

External service wizard
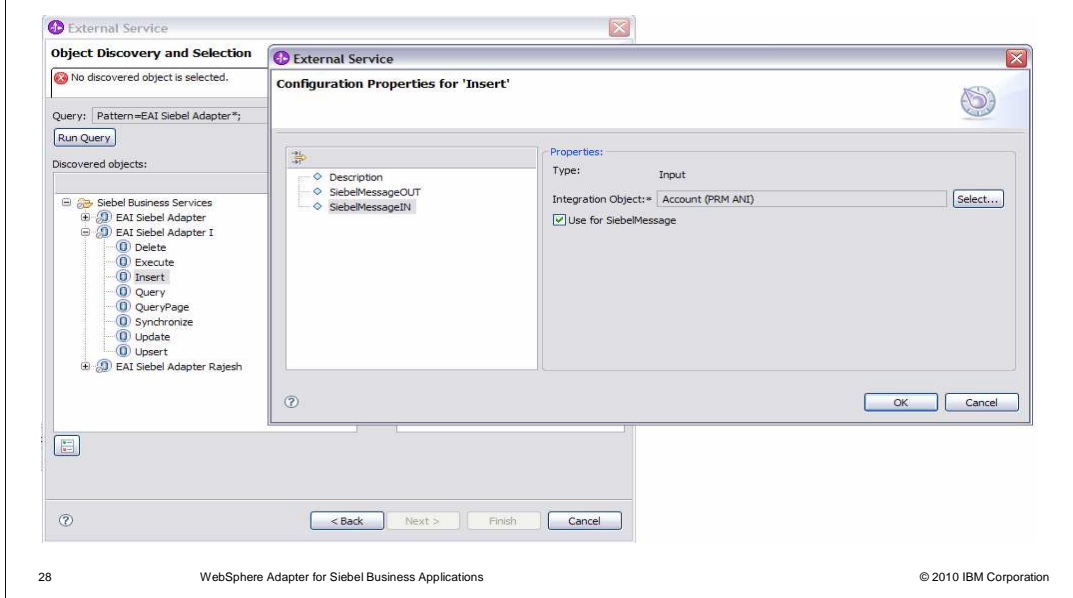
Shown in this slide is the panel where you are prompted to select the input and output attributes for your business service method.

Other enhancements

- Primary business component automatically added when dependent business component is selected for import
  - Not visible in the import list in external service wizard
  - Business object definition automatically created for the primary component

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The primary business component is required for you to be able to work with the dependent business components. In a case where you just selected the dependent business component but the primary component was not added to the import list in the external service wizard, the adapter automatically generates the business object definitions for the primary component as well.

Section

Business objects

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This section covers some details of Business objects.

Naming convention for business objects generated for business services

- The name for the business objects used for business services is a concatenation of several words:
  - Prefix - an optional prefix, which is placed at the start of the business object name
  - Business service name – the business service for the business object. You can specify if want to ignore the business service name while the objects are being generated
  - Integration object – the underlying integration object for the Siebel message container business object
  - Integration component – the underlying integration component for the Siebel message container business object
  - Method name – the method that this business object was generated against

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During the generation of the Business Objects for any services selected using the Enterprise Service wizard, the names of the Business Objects are based on the convention shown on this page. The generated Business Objects will have long names, since the name contains the Business Service name, integration object, integration component and method name.

Naming convention of business object generated for Siebel business objects

- The naming convention for the business objects includes the concatenation of several words:
  - Prefix - an optional prefix, which is placed at the start of the business object name
  - Business object name – the Siebel business object name under which the business components are grouped
  - Business component name – the underlying integration object for the Siebel message container business object

During the generation of the Business Objects using the Enterprise Service wizard for the Business Objects and Business Component support, the names of the Business Objects are based on the convention shown on this page. It contains the prefix, Business object name, and business component name.

Section

Transaction and security

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This section covers the transaction and security support.

Transaction and security

- Transaction
  - Siebel application does not support local or XA transaction
  - Hence this feature is not supported by the adapter
- Security
  - For outbound and inbound, use the WebSphere Process Server J2C Authentication Alias to specify User ID and password to connect to the Siebel application

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Siebel application does not support any transaction, and hence there is no end to end transaction available from the adapter to and from the Siebel application. On the security front, for the outbound and inbound requests, the J2C Authentication Alias within the WebSphere Process Server can be used. The authentication alias name can be specified in WebSphere Integration Developer. The administrator must have that J2C Authentication Alias defined within the Process Server with its user ID and the password to authenticate the Siebel application. Pre-defined J2C Authentication Alias "**SCA_Auth_Alias**" can be used for authentication.

Section

New in V7.0

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This section covers the new features or enhancements introduced in V7.0.

WBPMCv70_IEA_AdapterSiebel.ppt

Features new in version 7

- Support for fault business objects
  - No manual configuration required
- Discovering business objects without the primary business component.
- Adding Multi Value Link (MVL) fields to the generated business object

Siebel adapter supports generating fault business object definitions automatically, after running the Enterprise Metadata Discovery service wizard. You no longer need to edit the import and other generated artifacts to specify bindings. The adapter with this version supports discovering of business objects without any primary business component defined so you can use them while configuring inbound or outbound operations. If the business object in Siebel has a multi value field defined, the adapter will no longer create a separate business object for the multi value fields but will embed the multi value fields directly in generated business object.

Section

Summary and references

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This section covers the summary and references.

Summary and references

- Summary
  - Discussed Siebel Adapter in details covering the architecture, installation, configuration properties, and operations
  - Looked at supported transaction and security
  - Provided steps in migration
- References
  - Information center
  - User guide

WebSphere Adapter for Siebel Business Applications

In summary, this presentation covered the details of WebSphere Adapter for Siebel including the architecture, configuration properties, and its inbound and outbound operations. The presentation has also provided information on transaction and security. More information on WebSphere Adapter for PeopleSoft can be found in the user guide and the information center for the adapter.

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