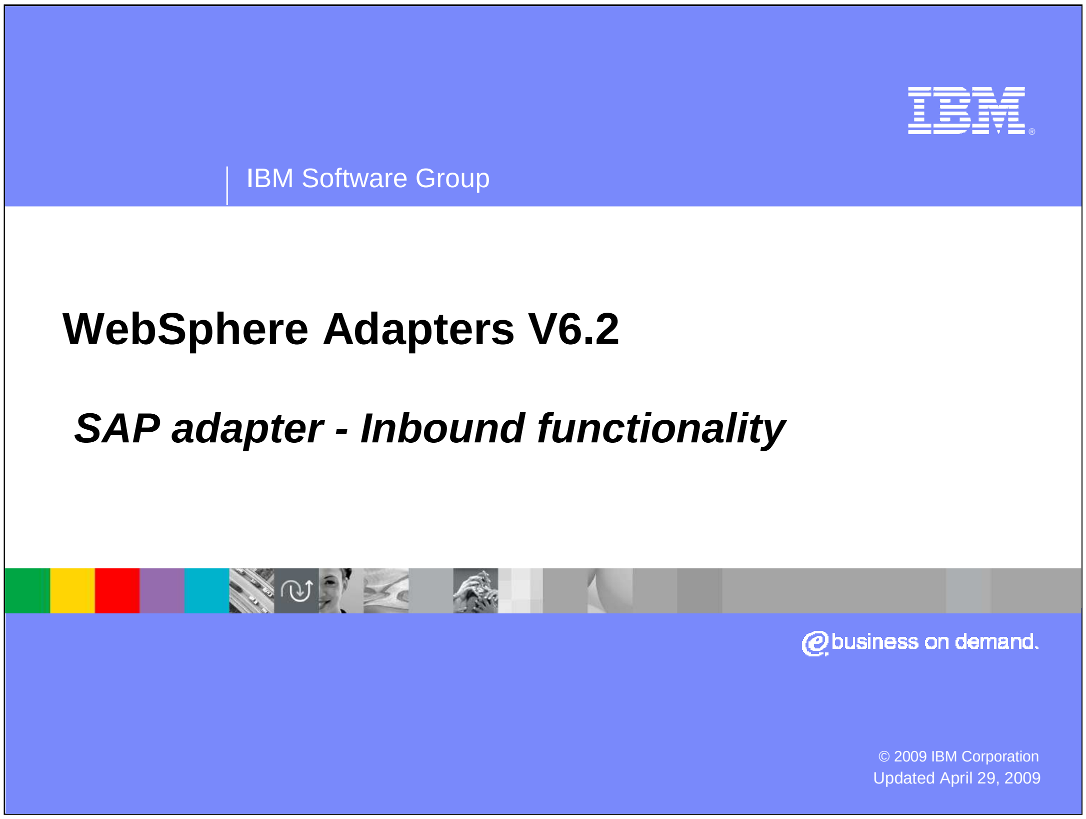

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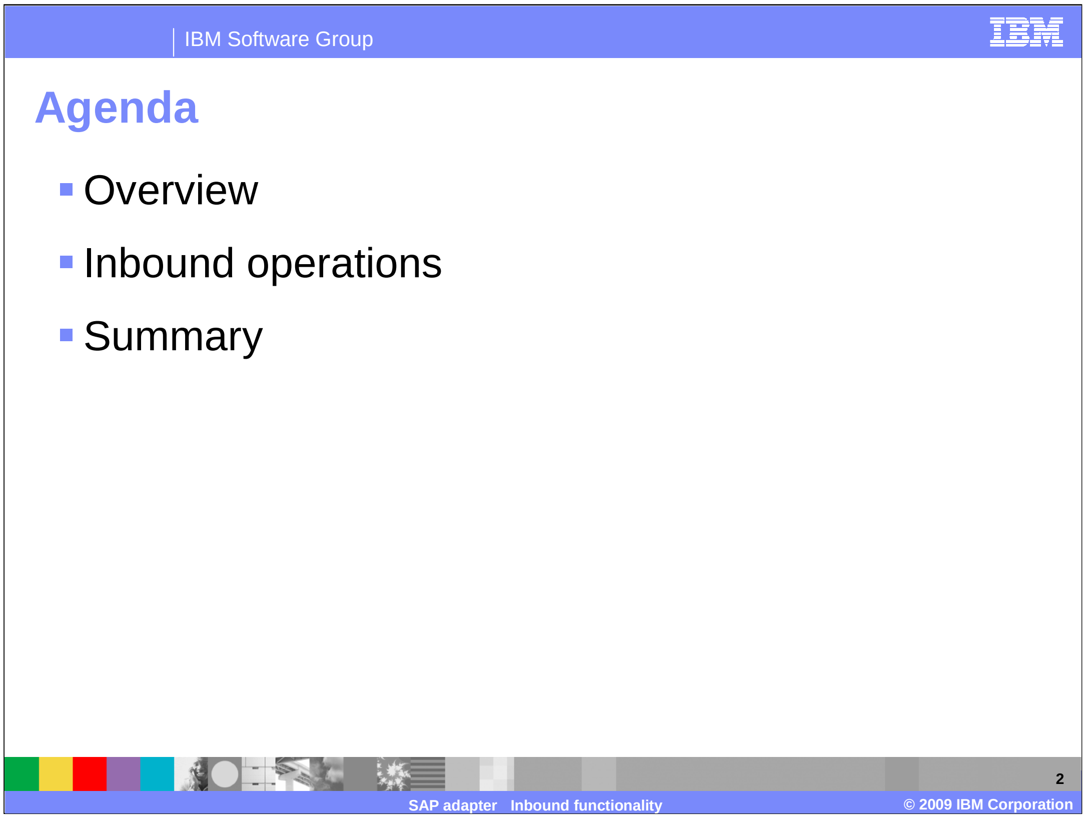
WebSphere Adapters V6.2

SAP adapter - Inbound functionality

business on demand.

Updated April 29, 2009

This presentation covers the inbound functionality of the WebSphere® Adapter for SAP.



Agenda

- Overview
- Inbound operations
- Summary

The agenda for this presentation is shown here.

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Section

Overview

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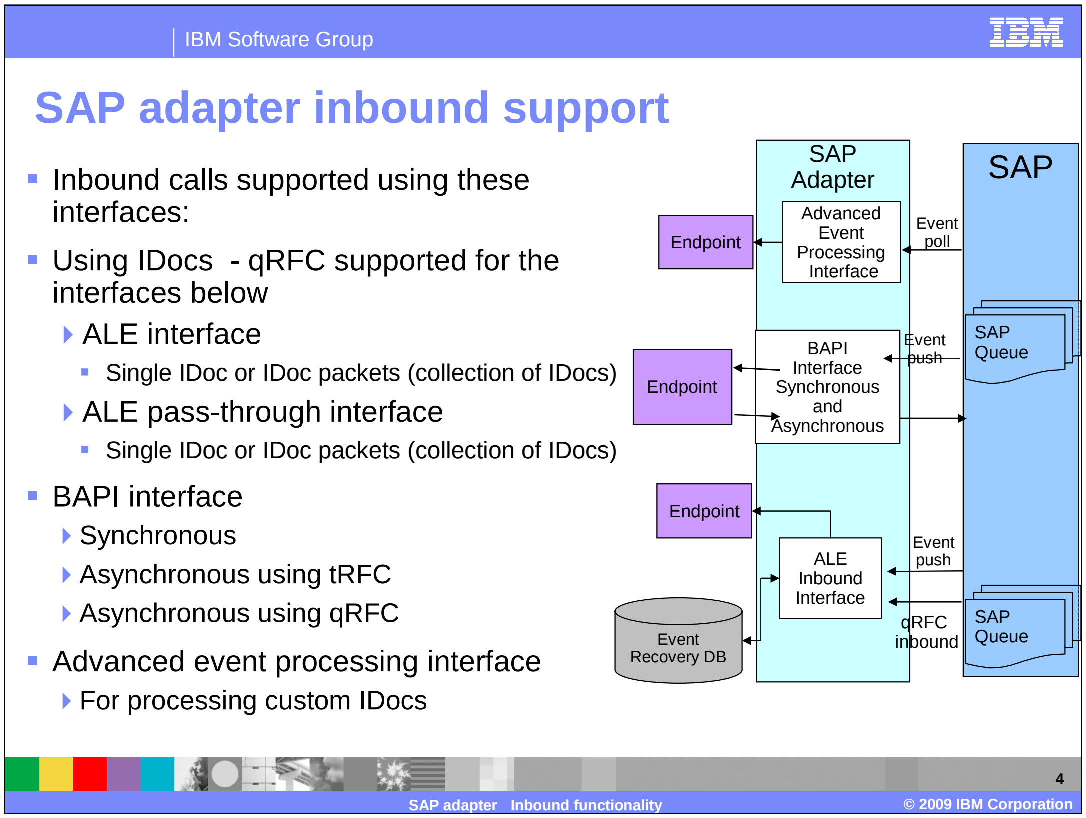
SAP adapter   Inbound functionality

This section provides an overview of the WebSphere Adapter for SAP inbound support.



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SAP adapter inbound support

- Inbound calls supported using these interfaces:
- Using IDocs - qRFC supported for the interfaces below
  - ALE interface
    - Single IDoc or IDoc packets (collection of IDocs)
  - ALE pass-through interface
    - Single IDoc or IDoc packets (collection of IDocs)
- BAPI interface
  - Synchronous
  - Asynchronous using tRFC
  - Asynchronous using qRFC
- Advanced event processing interface
  - For processing custom IDocs

SAP Adapter

SAP

Endpoint

Advanced Event Processing Interface

Event poll

BAPI Interface Synchronous and Asynchronous

Event push

SAP Queue

Endpoint

Endpoint

ALE Inbound Interface

Event push

qRFC inbound

SAP Queue

Event Recovery DB

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SAP adapter Inbound functionality © 2009 IBM Corporation

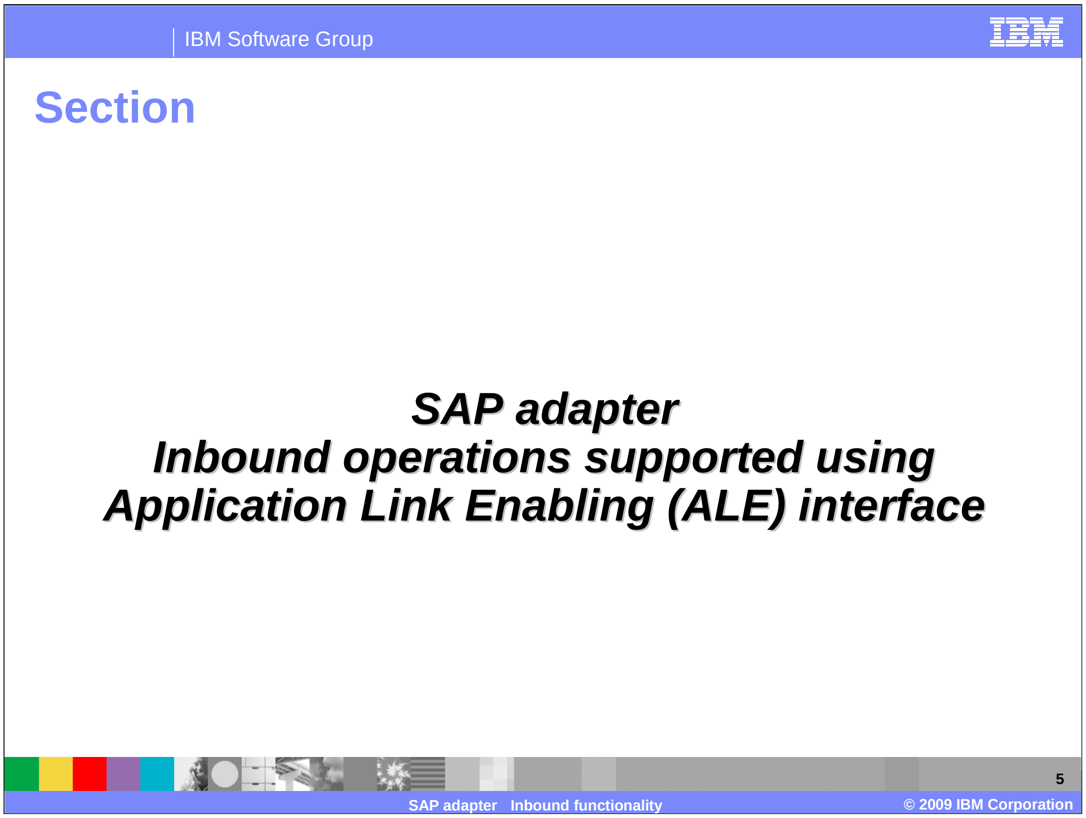
This diagram shows the high level flow and the components for the inbound events from SAP.

Inbound calls are supported by the ALE interface using asynchronous event notification. For the inbound call, the Adapter acts as an RFC server and listens for ALE events from the SAP Application. The adapter uses an event recovery table to manage the inbound events.

Queued transactional RFC (qRFC) support is enabled for the ALE interface in V6.0.2.1. Client applications can specify a queue to which IDocs are delivered, to ensure the order in which the IDocs are delivered and processed by an SAP application.

The Synchronous call back interface introduced in V6.0.2.1 is used to monitor any events related to the invocation on BAPI call on. In V6.2 synchronous call back interface has been renamed to BAPI interface. The adapter supports transactional RFC (tRFC) and queue RFC (qRFC). So adapter now supports both synchronous and asynchronous processing of events.

With the Advanced Event Processing interface, the adapter processes any events related to custom IDocs using the Advanced Business Application Programming (ABAP) handlers.



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Section

SAP adapter
Inbound operations supported using
Application Link Enabling (ALE) interface

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SAP adapter Inbound functionality

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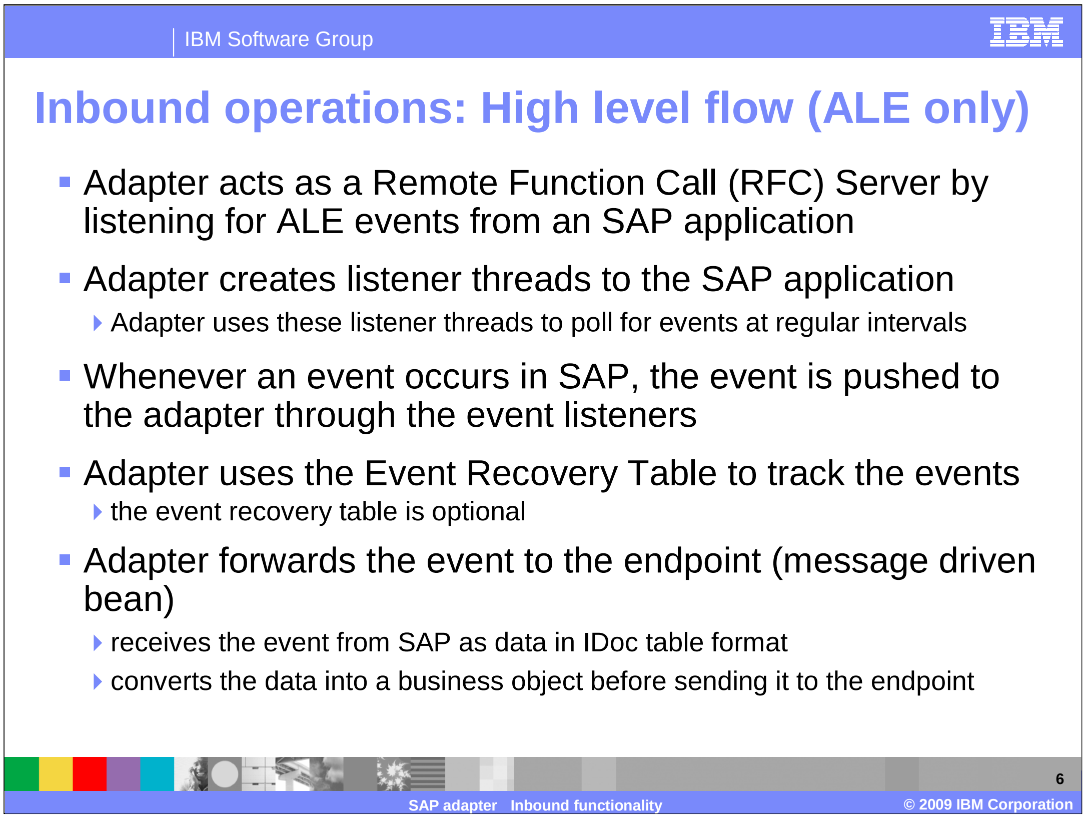
This section covers the inbound operations supported using only the ALE interface.



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Inbound operations: High level flow (ALE only)

- Adapter acts as a Remote Function Call (RFC) Server by listening for ALE events from an SAP application
- Adapter creates listener threads to the SAP application
  - Adapter uses these listener threads to poll for events at regular intervals
- Whenever an event occurs in SAP, the event is pushed to the adapter through the event listeners
- Adapter uses the Event Recovery Table to track the events
  - the event recovery table is optional
- Adapter forwards the event to the endpoint (message driven bean)
  - receives the event from SAP as data in IDoc table format
  - converts the data into a business object before sending it to the endpoint

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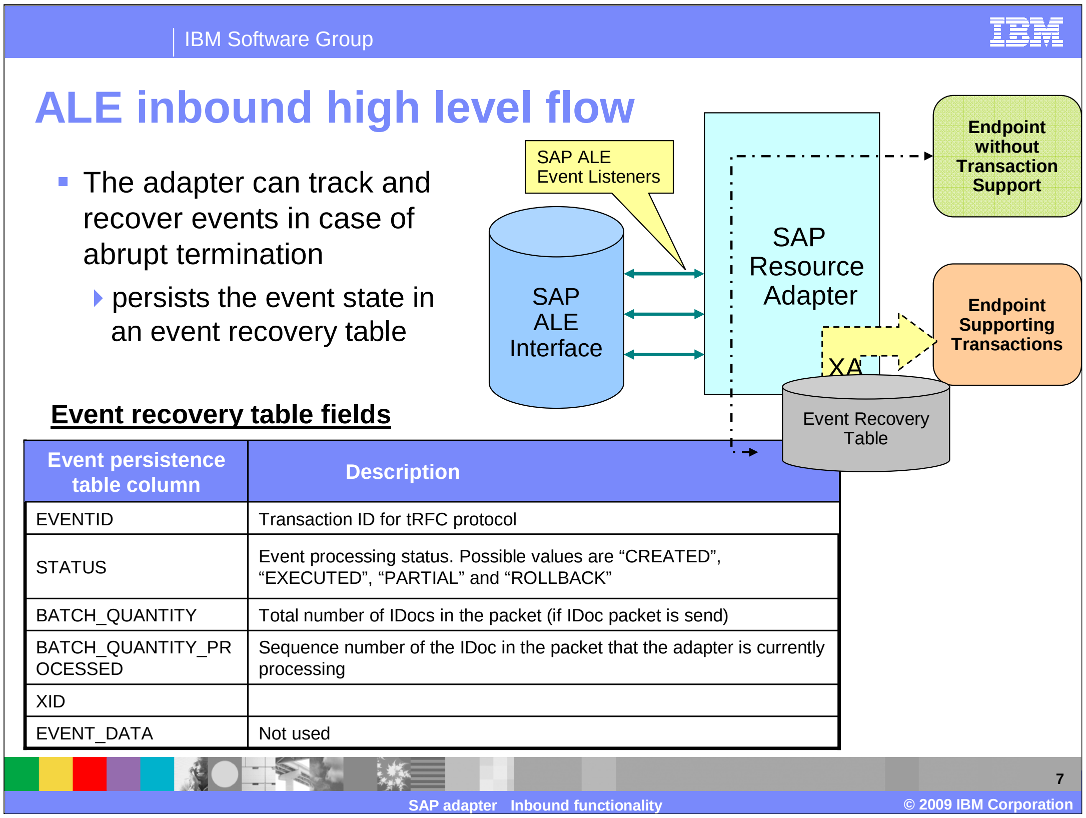
SAP adapter Inbound functionality

The adapter creates listener threads to the SAP system. The listener threads regularly poll for events. So, in a way, the adapter acts as a Remote function call server to the SAP application. Whenever an event occurs in SAP, the event is pushed to the adapter through the event listeners. There is no event store within the SAP application. The adapter uses a persistent event recovery table to track the events. Adapter receives the event from SAP in IDoc table format and which it converts to a business object before sending it to the endpoint.



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ALE inbound high level flow

- The adapter can track and recover events in case of abrupt termination
  - persists the event state in an event recovery table

SAP ALE Event Listeners

SAP ALE Interface

SAP Resource Adapter

XA

Event Recovery Table

Endpoint without Transaction Support

Endpoint Supporting Transactions

Event recovery table fields

Event persistence table column	Description
EVENTID	Transaction ID for tRFC protocol
STATUS	Event processing status. Possible values are "CREATED", "EXECUTED", "PARTIAL" and "ROLLBACK"
BATCH_QUANTITY	Total number of IDocs in the packet (if IDoc packet is send)
BATCH_QUANTITY_PROCESSED	Sequence number of the IDoc in the packet that the adapter is currently processing
XID	
EVENT_DATA	Not used

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SAP adapter Inbound functionality

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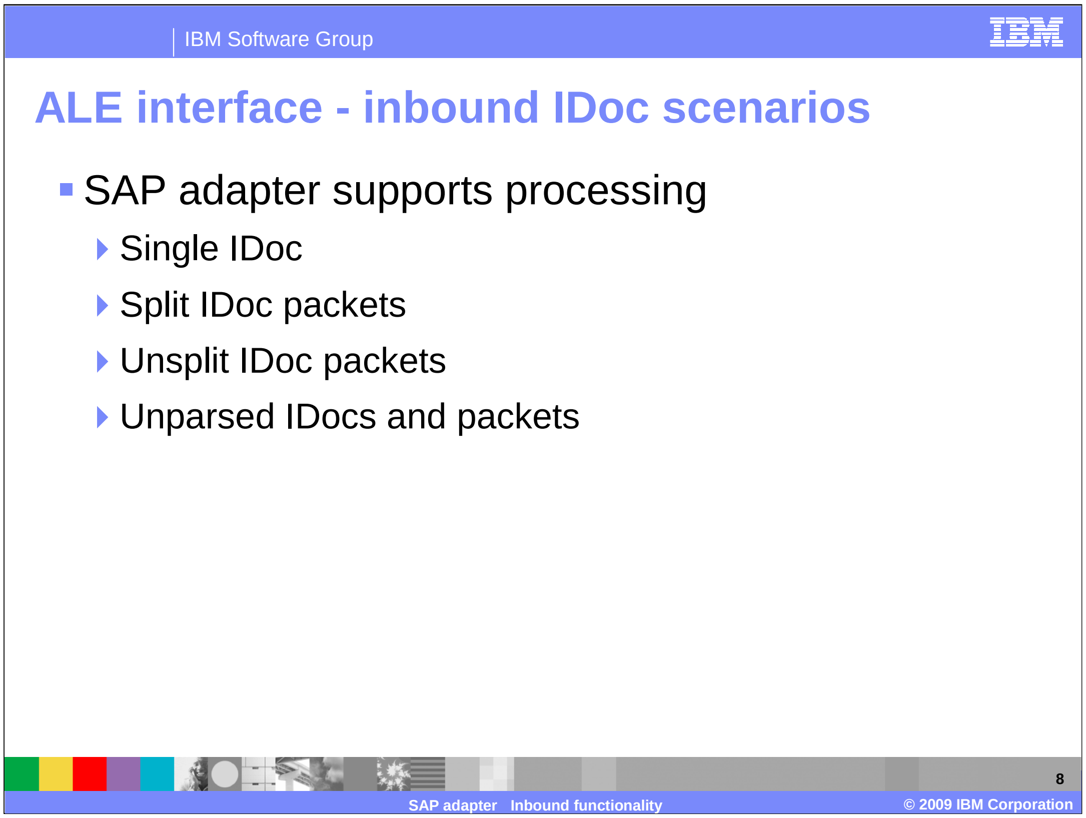
This diagram shows the components involved in end-to-end handling of the events. The SAP ALE event listeners listen for the events. The new event is pushed to the adapter, and the adapter stores it in the persistent event recovery table. The persistent table provides failure recovery to reprocess the events.

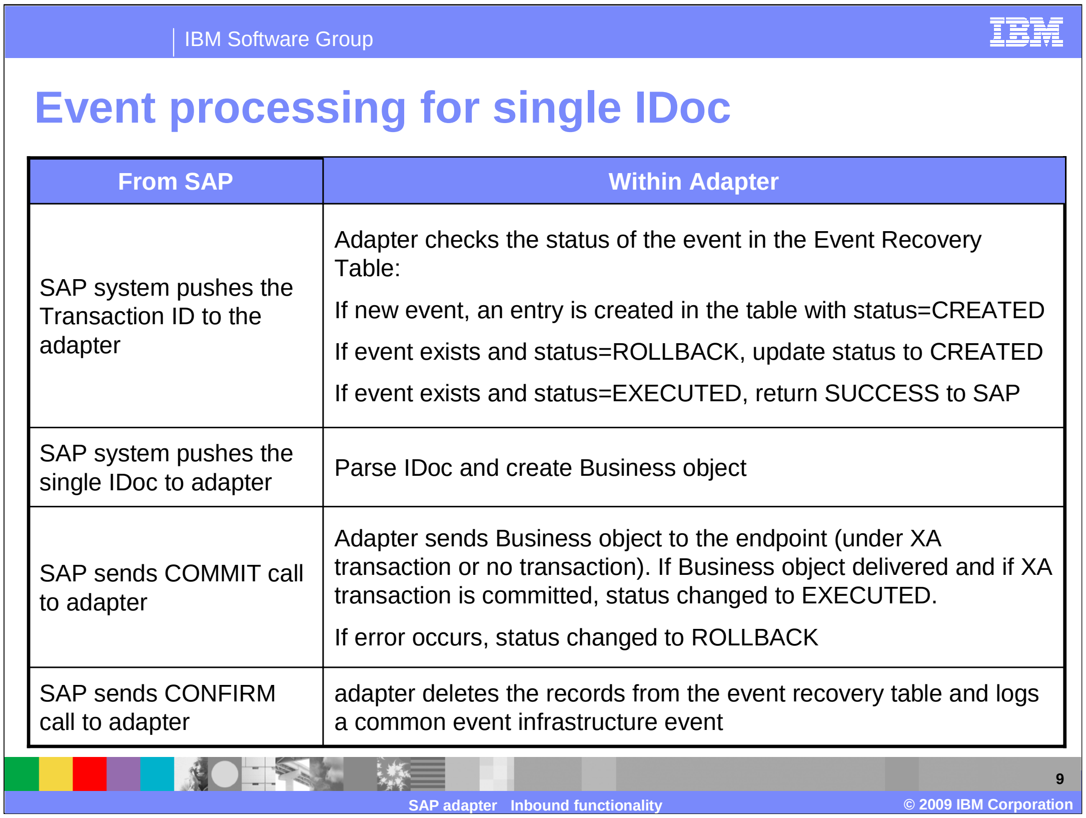
The schema of the event recovery table is shown. The EVENTID field is the unique transaction ID that the SAP application uses for events. SAP will send the same Transaction ID for subsequent processing of the same event. An event can represent an IDoc packet. The table has fields for the total number of IDocs in the packet, the total number of IDocs that are successfully processed and the current IDoc that is being processed.



ALE interface - inbound IDoc scenarios

- SAP adapter supports processing
  - Single IDoc
  - Split IDoc packets
  - Unsplit IDoc packets
  - Unparsed IDocs and packets

SAP adapter supports processing of single IDoc and IDoc packets. By default, the adapter splits IDoc packets into individual IDocs, but the adapter also provides functionality to process the whole IDoc packet without splitting. While processing the IDocs, the adapter parses the incoming IDoc structure and populates the IDoc content into the appropriate business object. In addition, the adapter provides functionality to send the IDoc content without parsing if needed. These topics are covered in more detail in subsequent slides in this presentation.



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Event processing for single IDoc

From SAP	Within Adapter
SAP system pushes the Transaction ID to the adapter	Adapter checks the status of the event in the Event Recovery Table: If new event, an entry is created in the table with status=CREATED If event exists and status=ROLLBACK, update status to CREATED If event exists and status=EXECUTED, return SUCCESS to SAP
SAP system pushes the single IDoc to adapter	Parse IDoc and create Business object
SAP sends COMMIT call to adapter	Adapter sends Business object to the endpoint (under XA transaction or no transaction). If Business object delivered and if XA transaction is committed, status changed to EXECUTED. If error occurs, status changed to ROLLBACK
SAP sends CONFIRM call to adapter	adapter deletes the records from the event recovery table and logs a common event infrastructure event

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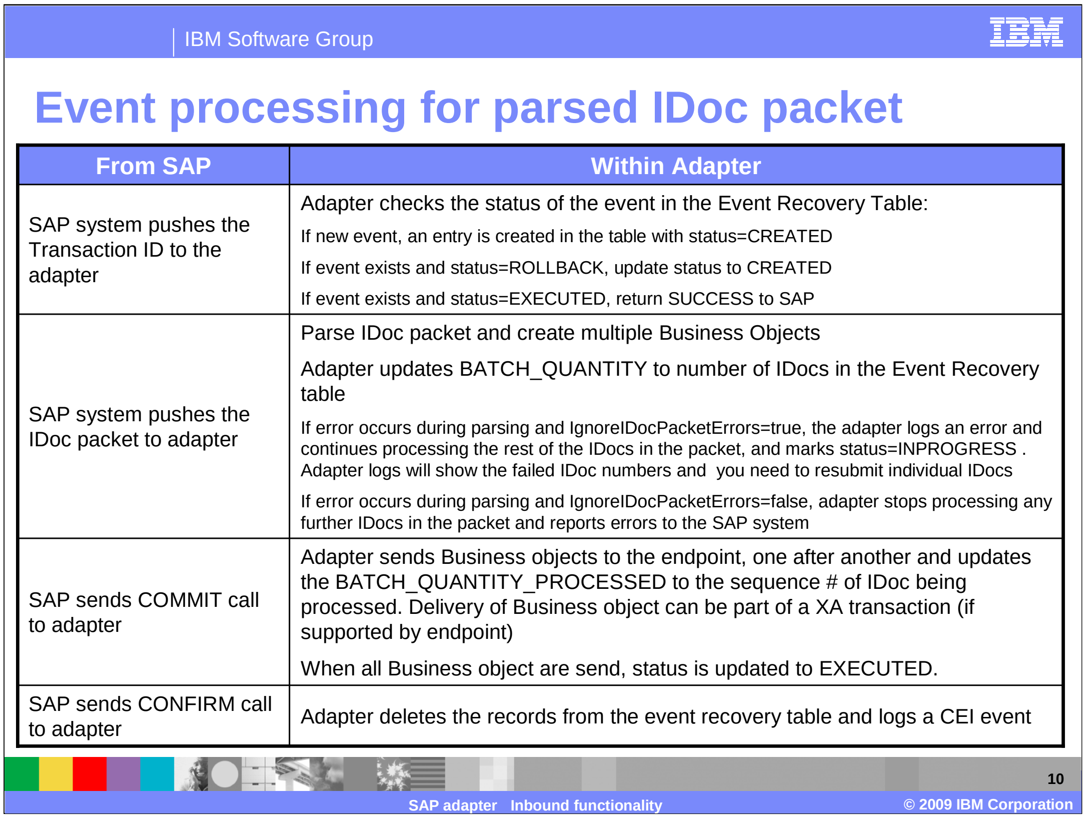
SAP adapter   Inbound functionality

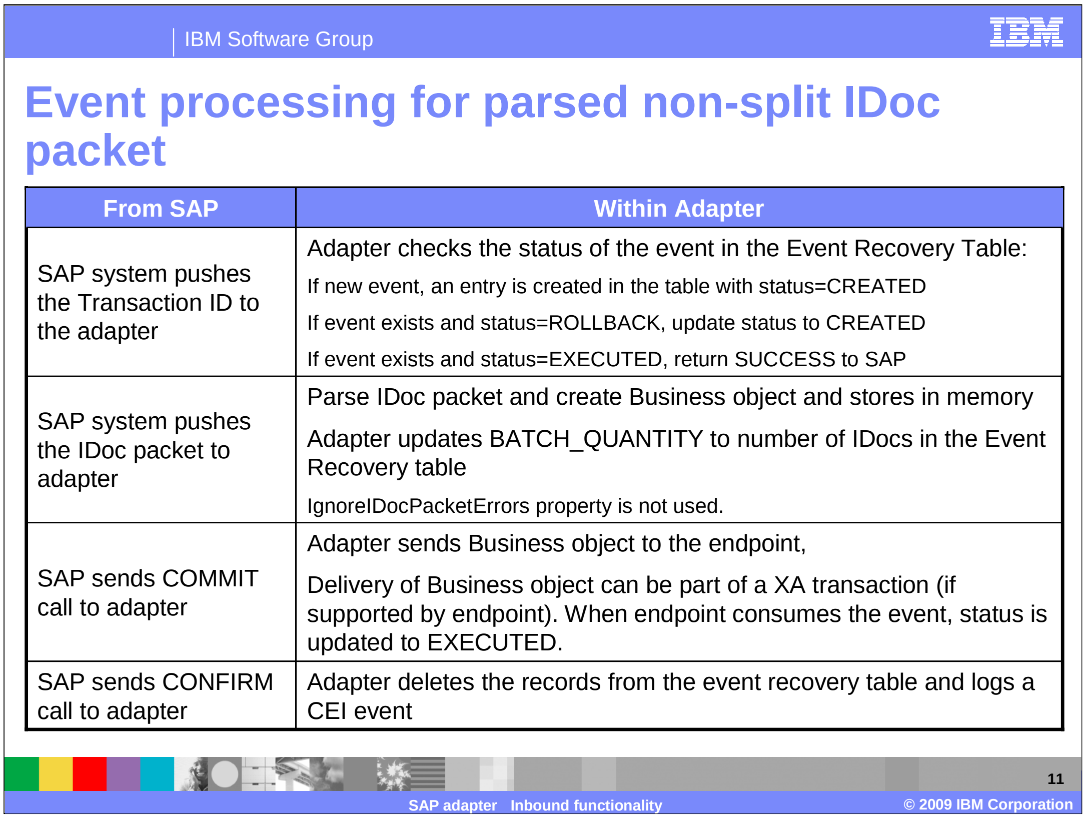
This table shows the actions that occur on the SAP side and within the adapter when processing a Single IDoc. The adapter listens for events occurring on the SAP system and when they occur, the resulting IDoc or IDoc packet is sent to the adapter. If the incoming event relates to a single IDoc, the adapter parses the incoming IDoc and populates its contents to the appropriate business object.



Event processing for parsed IDoc packet

From SAP	Within Adapter
SAP system pushes the Transaction ID to the adapter	Adapter checks the status of the event in the Event Recovery Table: If new event, an entry is created in the table with status=CREATED If event exists and status=ROLLBACK, update status to CREATED If event exists and status=EXECUTED, return SUCCESS to SAP
SAP system pushes the IDoc packet to adapter	Parse IDoc packet and create multiple Business Objects Adapter updates BATCH_QUANTITY to number of IDocs in the Event Recovery table If error occurs during parsing and IgnoreIDocPacketErrors=true, the adapter logs an error and continues processing the rest of the IDocs in the packet, and marks status=INPROGRESS . Adapter logs will show the failed IDoc numbers and you need to resubmit individual IDocs If error occurs during parsing and IgnoreIDocPacketErrors=false, adapter stops processing any further IDocs in the packet and reports errors to the SAP system
SAP sends COMMIT call to adapter	Adapter sends Business objects to the endpoint, one after another and updates the BATCH_QUANTITY_PROCESSED to the sequence # of IDoc being processed. Delivery of Business object can be part of a XA transaction (if supported by endpoint) When all Business object are send, status is updated to EXECUTED.
SAP sends CONFIRM call to adapter	Adapter deletes the records from the event recovery table and logs a CEI event

This table shows the actions that occur on the SAP side and within the adapter when processing an IDoc packet. In case of abrupt interruptions during IDoc packet processing, the adapter resumes processing the IDocs from the current sequence number. The adapter continues updating the CurrIDoc property, even if IgnoreIDocPacketErrors is set to true. This is required in case you terminate the adapter manually while processing an IDoc.



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Event processing for parsed non-split IDoc packet

From SAP	Within Adapter
SAP system pushes the Transaction ID to the adapter	Adapter checks the status of the event in the Event Recovery Table: If new event, an entry is created in the table with status=CREATED If event exists and status=ROLLBACK, update status to CREATED If event exists and status=EXECUTED, return SUCCESS to SAP
SAP system pushes the IDoc packet to adapter	Parse IDoc packet and create Business object and stores in memory Adapter updates BATCH_QUANTITY to number of IDocs in the Event Recovery table IgnoreIDocPacketErrors property is not used.
SAP sends COMMIT call to adapter	Adapter sends Business object to the endpoint, Delivery of Business object can be part of a XA transaction (if supported by endpoint). When endpoint consumes the event, status is updated to EXECUTED.
SAP sends CONFIRM call to adapter	Adapter deletes the records from the event recovery table and logs a CEI event

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SAP adapter Inbound functionality

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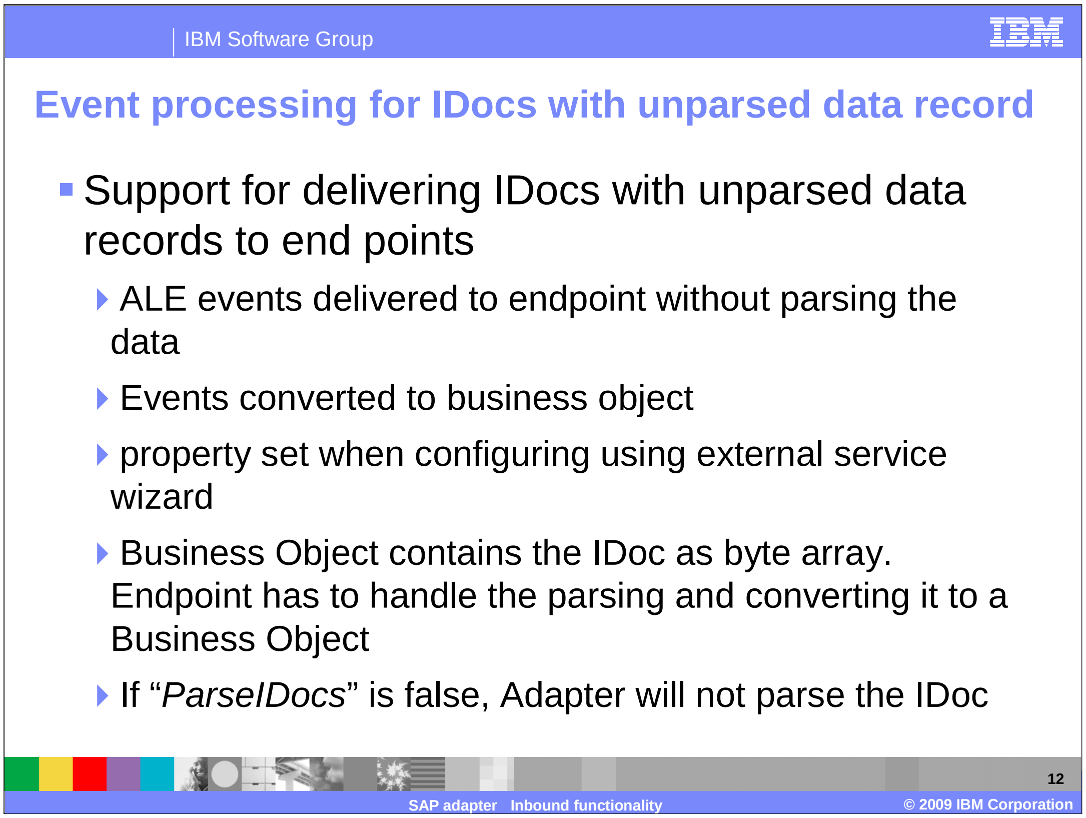
This table shows the actions that occur on the SAP side and within the adapter when processing a non-split IDoc packet. One case scenario for this feature is for maintaining the transaction of data if inventory levels for a set of materials need to be updated at one time. This feature will most likely increase memory usage since the whole IDoc packet is stored in memory. The adapter can handle processing an IDoc packet as one unit of work if all the IDocs in the packet are of the same IDoc type

The event processing is similar to a single IDoc with respect to the event recovery mechanism. The IDoc packet is considered a single unit of work. So, a failure registered by the endpoint for any one IDoc fails the whole packet. A failure requires all the IDocs in the IDoc packet to be sent to the endpoint again.



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Event processing for IDocs with unparsed data record

- Support for delivering IDocs with unparsed data records to end points
  - ALE events delivered to endpoint without parsing the data
  - Events converted to business object
  - property set when configuring using external service wizard
  - Business Object contains the IDoc as byte array. Endpoint has to handle the parsing and converting it to a Business Object
  - If “*ParseIDocs*” is false, Adapter will not parse the IDoc

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SAP adapter Inbound functionality © 2009 IBM Corporation

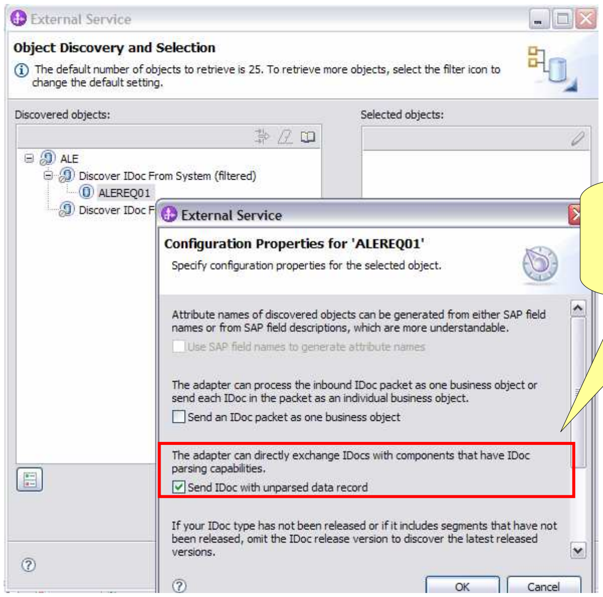
The adapter supports delivering IDocs with unparsed data segments to endpoints.

Unparsed IDocs are passed through, with no conversion of the data. The adapter does not parse the data part of the IDoc. The direct exchange of IDocs in the adapter enables high-performance, asynchronous interaction with SAP, because the parsing and serializing of the IDoc occurs outside the adapter. The consumer of the IDoc parses the IDoc.

The adapter processes the data based on whether the packet IDoc is split or non-split and whether the data needs to be parsed. The adapter can process packet IDocs as a packet or as individual IDocs. When an IDoc is received by the adapter from SAP as a packet IDoc, it is either split and processed as individual IDocs, or it is processed as a packet. The value of the SplitIDocPacket metadata at the business-object level determines how the IDoc is processed. In the case of split IDocs, the wrapper contains only a single, unparsed IDoc object.

The Type metadata specifies whether the data should be parsed. For unparsed IDocs, this value is UNPARSEDIDOC; for parsed IDocs, the value is IDOC. This value is set by external service wizard. The next slide shows a screen capture from external service wizard.

IDocs with unparsed data record



External Service

Object Discovery and Selection

The default number of objects to retrieve is 25. To retrieve more objects, select the filter icon to change the default setting.

Discovered objects:

- ALE
  - Discover IDoc From System (filtered)
    - ALEREQ01
  - Discover IDoc F

Selected objects:

External Service

Configuration Properties for 'ALEREQ01'

Specify configuration properties for the selected object.

Attribute names of discovered objects can be generated from either SAP field names or from SAP field descriptions, which are more understandable.

□ Use SAP field names to generate attribute names

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

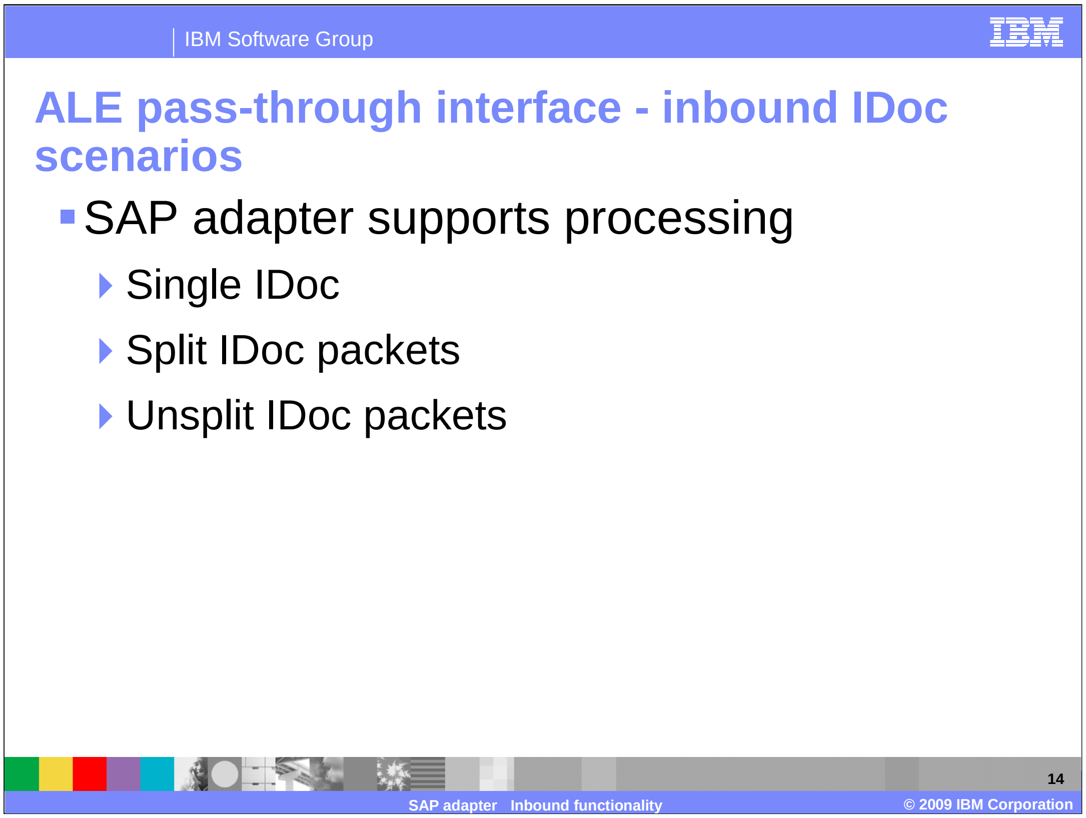
The adapter can directly exchange IDocs with components that have IDoc parsing capabilities.

☑ Send IDoc with unparsed data record

If your IDoc type has not been released or if it includes segments that have not been released, omit the IDoc release version to discover the latest released versions.

If this option is selected, the adapter will not parse the data segment of the incoming IDoc

This slide shows the screen capture of the panel in external service wizard where you have the option to configure the adapter to not parse the data record of the incoming IDoc.



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ALE pass-through interface - inbound IDoc scenarios

- SAP adapter supports processing
  - Single IDoc
  - Split IDoc packets
  - Unsplit IDoc packets

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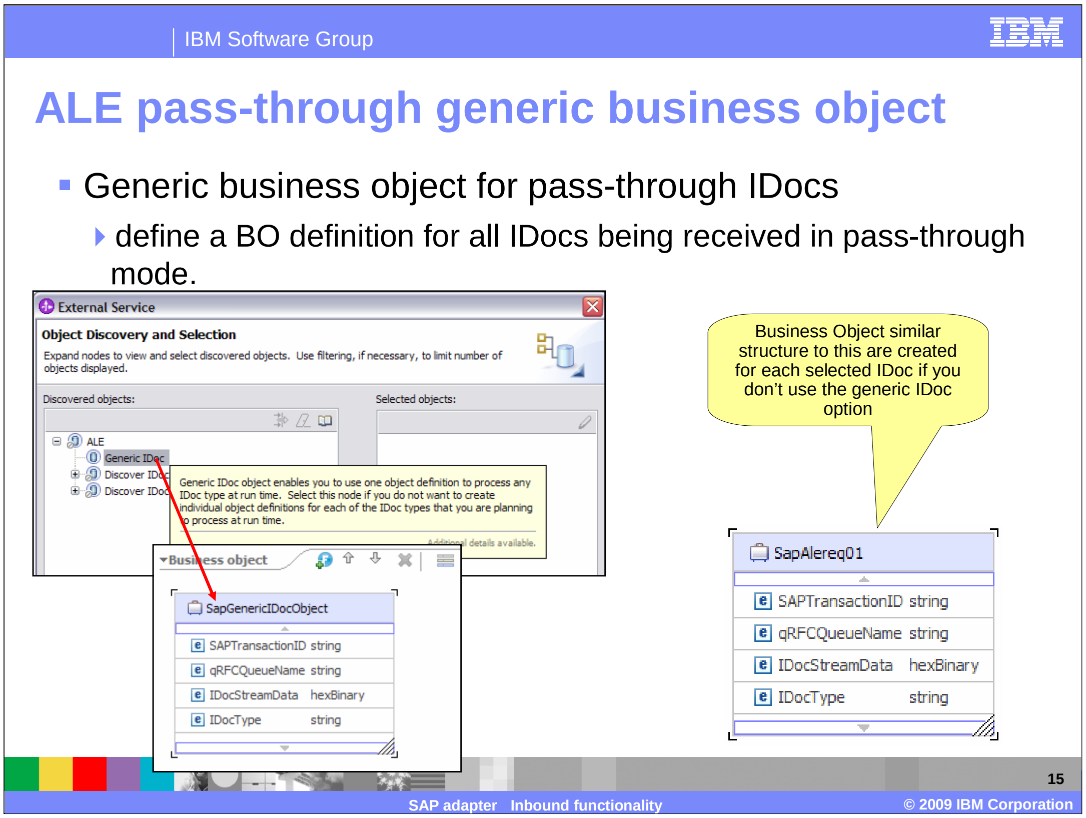
SAP adapter Inbound functionality

With V6.2 a new interface called ALE pass-through interface has been added. When you use the ALE pass-through IDoc interface, a wrapper business object contains a data stream representing the IDoc. No separate IDoc business object exists for pass-through IDocs. There is a big difference between the feature discussed in the last slide and the one on this slide. In the ALE pass-through scenario, the whole IDoc is left unparsed instead of just the data record in the case when you use the ALE interface and select the unparsed flag.

This interface wraps the raw incoming IDoc in a business object before delivering it to the client at the endpoint. The client is responsible for parsing the raw IDoc.

If you configure the adapter to split the IDoc packet into individual IDocs, on receiving the IDoc packet from SAP, the adapter wraps each raw IDoc within a business object before sending the objects, one by one, to the endpoint.

If you configure the adapter to send the IDoc packet without splitting into individual IDocs, on receiving the IDoc packet from SAP, the adapter wraps the raw IDoc packet in a business object before sending it to the endpoint.



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ALE pass-through generic business object

- Generic business object for pass-through IDocs
  - define a BO definition for all IDocs being received in pass-through mode.

External Service

Object Discovery and Selection

Expand nodes to view and select discovered objects. Use filtering, if necessary, to limit number of objects displayed.

Discovered objects:

Selected objects:

Generic IDoc object enables you to use one object definition to process any IDoc type at run time. Select this node if you do not want to create individual object definitions for each of the IDoc types that you are planning to process at run time.

Additional details available.

SapGenericIDocObject

SAPTransactionID	string
qRFCQueueName	string
IDocStreamData	hexBinary
IDocType	string

Business Object similar structure to this are created for each selected IDoc if you don't use the generic IDoc option

SapAlereq01

SAPTransactionID	string
qRFCQueueName	string
IDocStreamData	hexBinary
IDocType	string

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SAP adapter Inbound functionality

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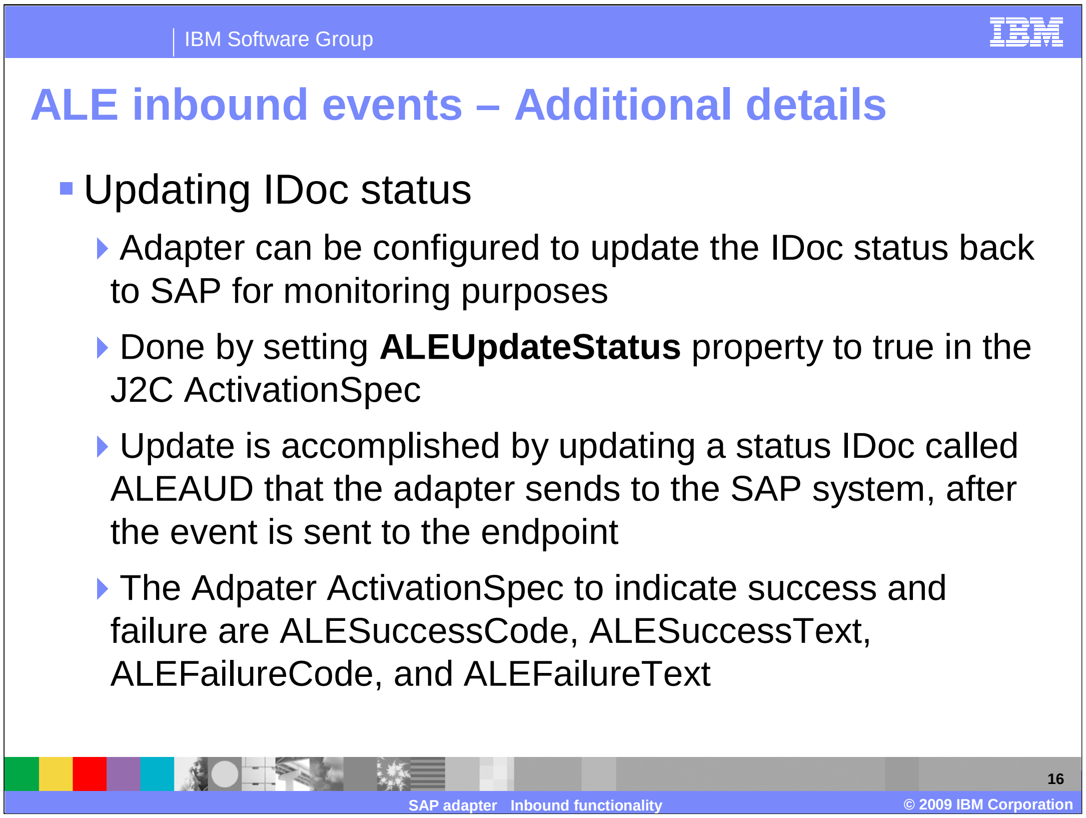
With V6.2 if you are going to use the ALE pass-through interface, you no longer need to generate a business object definition for each IDoc that is selected for import during configuration. Neither the control record nor the data record of the IDoc is parsed so there is no need for generation of business object specific for each IDoc. The business object will contain binary attribute to contain the IDoc content.

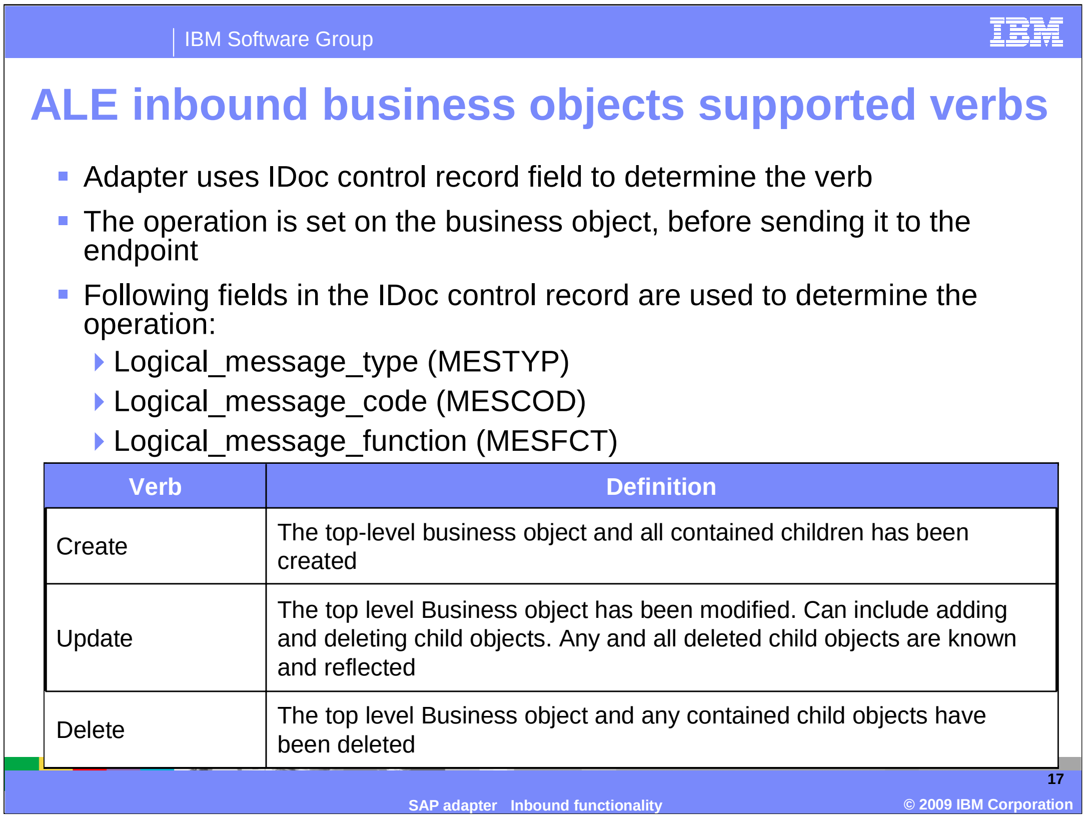
The generic business object structure is shown on the left bottom side of the slide. You can still choose to create a business object definition for each IDoc you select for import. The screen capture on the bottom right shows you a sample for ALEREQ01 IDoc.



ALE inbound events – Additional details

- Updating IDoc status
  - Adapter can be configured to update the IDoc status back to SAP for monitoring purposes
  - Done by setting **ALEUpdateStatus** property to true in the J2C ActivationSpec
  - Update is accomplished by updating a status IDoc called ALEAUD that the adapter sends to the SAP system, after the event is sent to the endpoint
  - The Adpater ActivationSpec to indicate success and failure are ALESuccessCode, ALESuccessText, ALEFailureCode, and ALEFailureText

Here are some additional details for ALE inbound events. Another attribute is **ALEUpdateStatus**. If this is set to true in the ActivationSpec, the adapter will update the IDoc status back to SAP application for monitoring purposes. The update is accomplished by updating a status IDoc that the adapter sends to the SAP system, after the event is sent to the endpoint. The ActivationSpec contains additional attributes to indicate the success code, success text, failure code, and failure text to be sent to the SAP application.

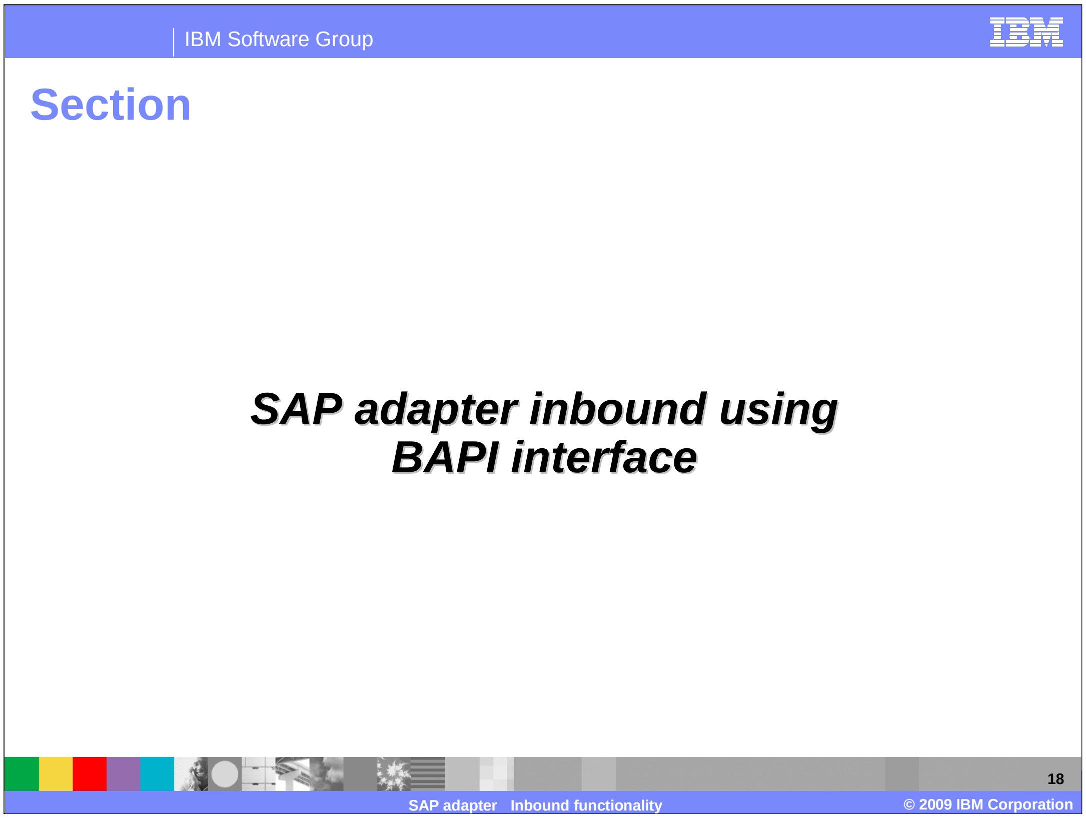


ALE inbound business objects supported verbs

- Adapter uses IDoc control record field to determine the verb
- The operation is set on the business object, before sending it to the endpoint
- Following fields in the IDoc control record are used to determine the operation:
  - Logical_message_type (MESTYP)
  - Logical_message_code (MESCOD)
  - Logical_message_function (MESFCT)

Verb	Definition
Create	The top-level business object and all contained children has been created
Update	The top level Business object has been modified. Can include adding and deleting child objects. Any and all deleted child objects are known and reflected
Delete	The top level Business object and any contained child objects have been deleted

The supported verbs for ALE inbound operations are create, update and delete. The adapter uses an IDoc control record field to determine the operation. The operation is then set on the Business object, before sending it to the endpoint. The values you set for the message type, code and function in the external service wizard when you configured inbound using ALE should match the values set in the incoming IDoc for successful processing of that IDoc.



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Section

SAP adapter inbound using BAPI interface

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SAP adapter Inbound functionality

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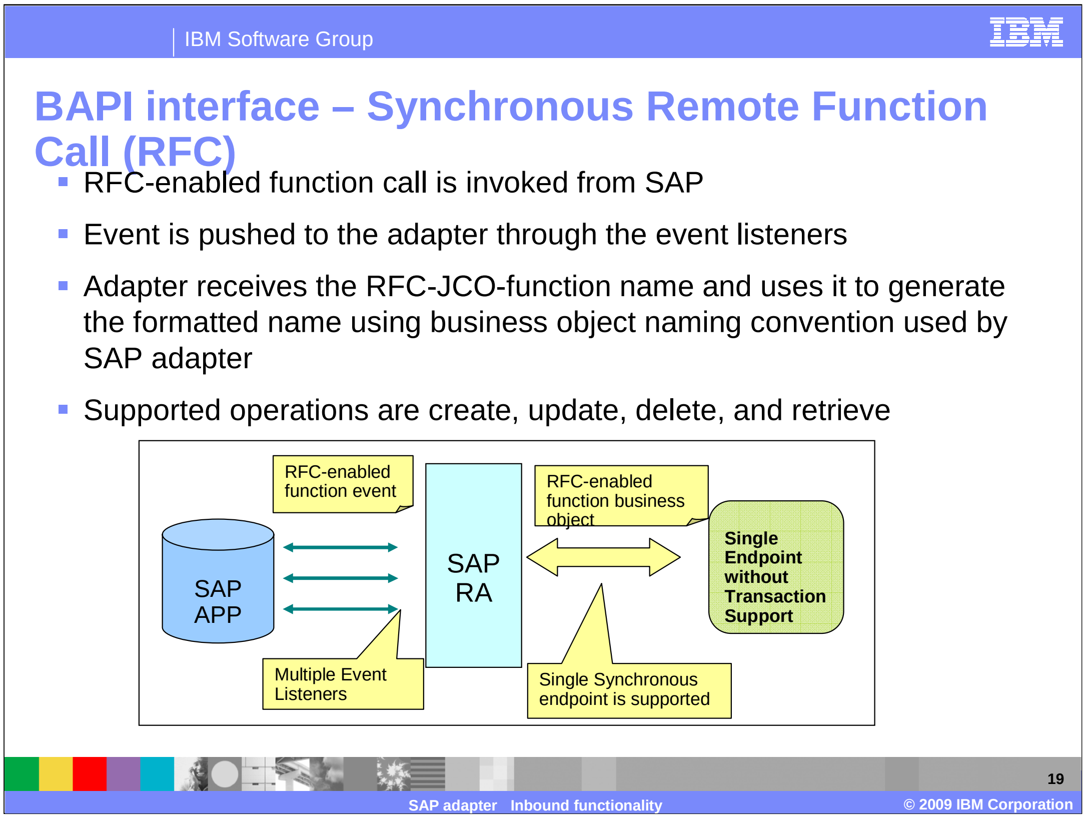
This section covers the inbound operations supported using only the BAPI interface.



BAPI interface – Synchronous Remote Function Call (RFC)

- RFC-enabled function call is invoked from SAP
- Event is pushed to the adapter through the event listeners
- Adapter receives the RFC-JCO-function name and uses it to generate the formatted name using business object naming convention used by SAP adapter
- Supported operations are create, update, delete, and retrieve

RFC-enabled function event

SAP APP

SAP RA

RFC-enabled function business object

Single Endpoint without Transaction Support

Multiple Event Listeners

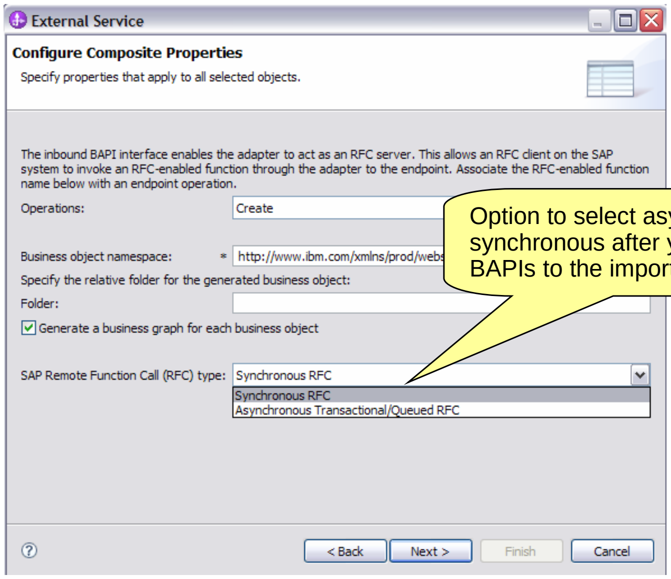
Single Synchronous endpoint is supported

With V6.2, the adapter supports both synchronous and asynchronous RFC for events related to BAPI calls. So the Synchronous Callback Interface has been renamed to BAPI interface. The option of using synchronous or asynchronous is made after you select the BAPI calls you are interested in monitoring.

This slide covers the details on synchronous RFC support. An RFC-enabled function call is sent to an endpoint by way of the adapter, and the response from the endpoint is returned to the SAP system.

The adapter starts event listeners, which listen to the specified RFCProgramID on the SAP server. When an RFC-enabled function call is invoked from SAP, the RFC-enabled function event is pushed to the adapter by way of the event listeners. The adapter converts the RFC-enabled function event to a business object and sends a business graph that includes the business object to an endpoint in a synchronous manner. Adapter receives the response business object from the endpoint which is mapped to the RFC-enabled function interface and returns it to the SAP system.

BAPI interface – Synchronous RFC (cont…)



External Service

Configure Composite Properties

Specify properties that apply to all selected objects.

The inbound BAPI interface enables the adapter to act as an RFC server. This allows an RFC client on the SAP system to invoke an RFC-enabled function through the adapter to the endpoint. Associate the RFC-enabled function name below with an endpoint operation.

Operations: Create

Business object namespace: * http://www.ibm.com/xmlns/prod/webs

Specify the relative folder for the generated business object:

Folder:

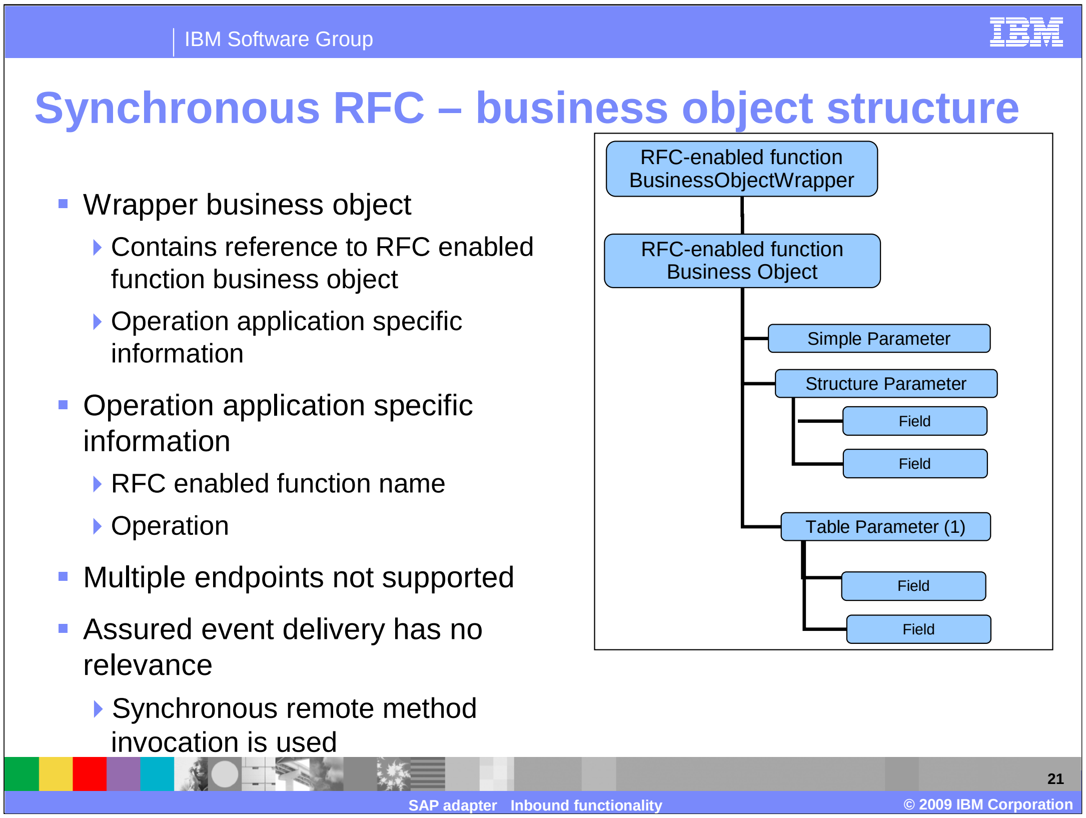
☑ Generate a business graph for each business object

SAP Remote Function Call (RFC) type: Synchronous RFC

Synchronous RFC
Asynchronous Transactional/Queued RFC

Option to select asynchronous or synchronous after you select the BAPIs to the import list

This slide shows the screen capture from the external service wizard where you can select between asynchronous or synchronous RFC support.



Synchronous RFC – business object structure

- Wrapper business object
  - Contains reference to RFC enabled function business object
  - Operation application specific information
- Operation application specific information
  - RFC enabled function name
  - Operation
- Multiple endpoints not supported
- Assured event delivery has no relevance
  - Synchronous remote method invocation is used

RFC-enabled function BusinessObjectWrapper

RFC-enabled function Business Object

Simple Parameter

Structure Parameter

Field

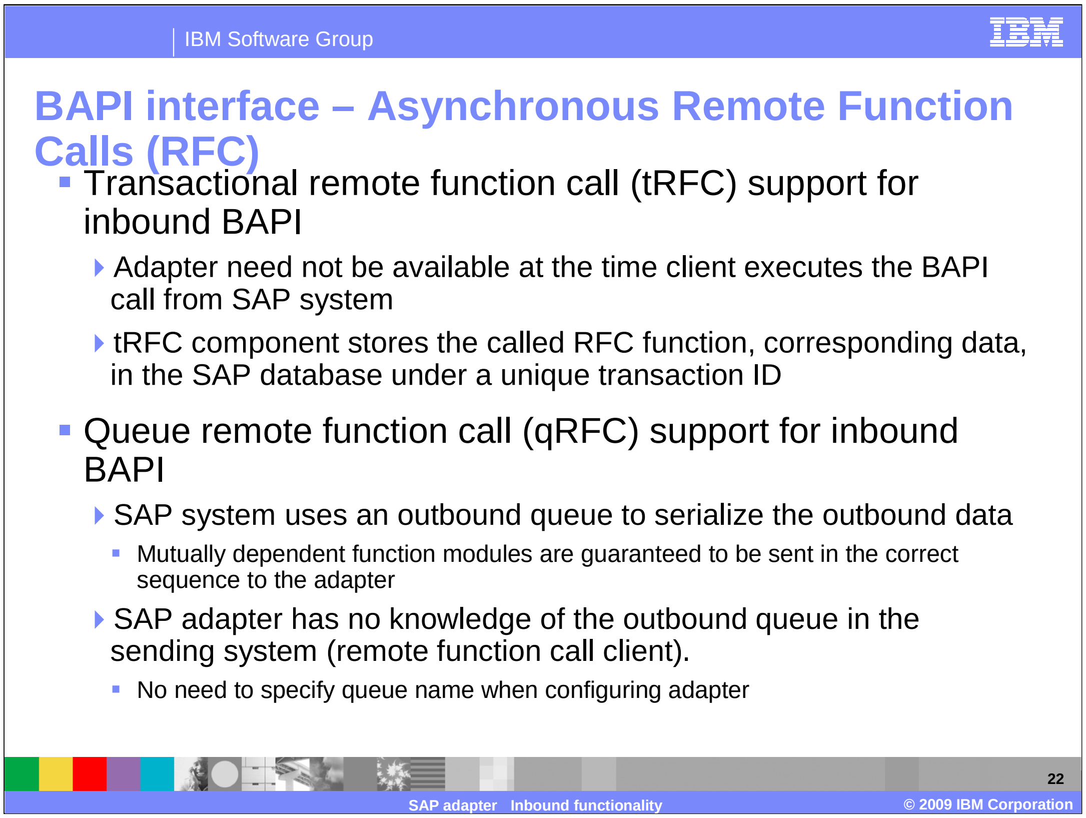
Field

Table Parameter (1)

Field

Field

Adapter uses the wrapper business object application specific information to find the operation associated with received RFC-enabled function name .Once the operation is determined it is set as operation on business object before sending it to endpoint. Synchronous callback interface uses a synchronous remote method invocation. So, multiple endpoint support cannot be supported because each endpoint delivery requires synchronous response from endpoint.



BAPI interface – Asynchronous Remote Function Calls (RFC)

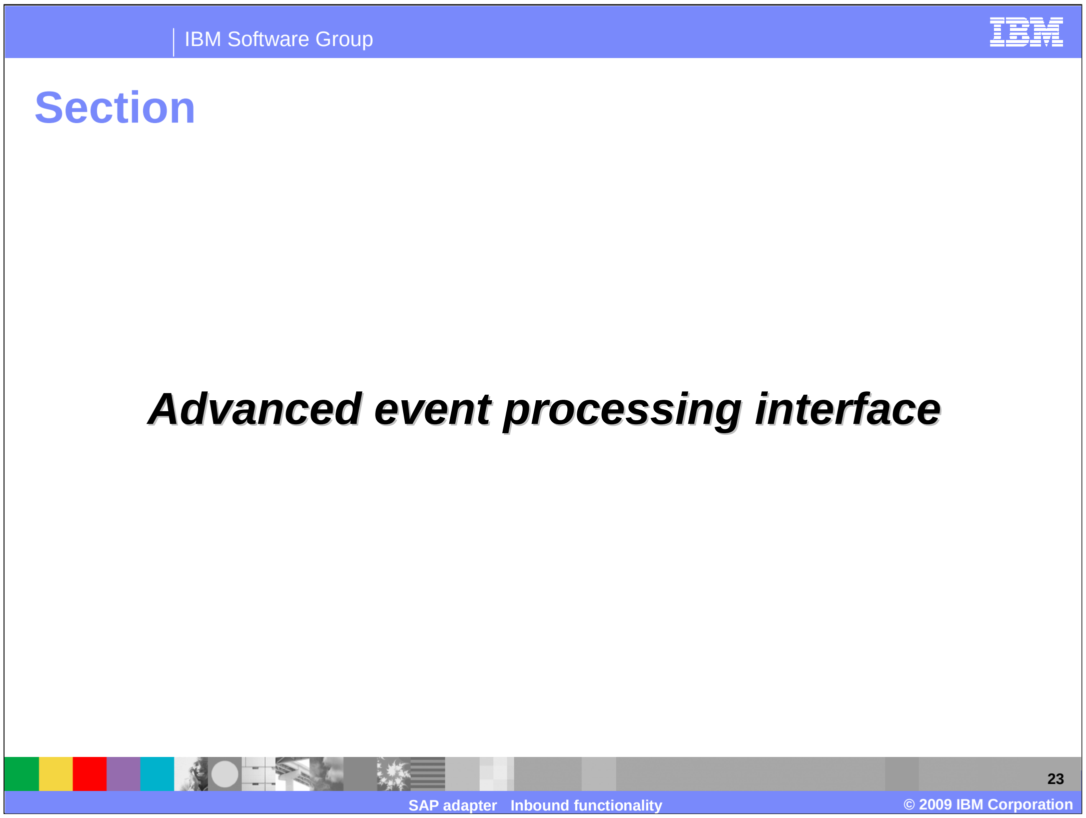
- Transactional remote function call (tRFC) support for inbound BAPI
  - Adapter need not be available at the time client executes the BAPI call from SAP system
  - tRFC component stores the called RFC function, corresponding data, in the SAP database under a unique transaction ID
- Queue remote function call (qRFC) support for inbound BAPI
  - SAP system uses an outbound queue to serialize the outbound data
    - Mutually dependent function modules are guaranteed to be sent in the correct sequence to the adapter
  - SAP adapter has no knowledge of the outbound queue in the sending system (remote function call client).
    - No need to specify queue name when configuring adapter

For BAPI inbound processing, you can specify that the processing be handled synchronously (in which both the client application and the adapter must be available during processing) or asynchronously (in which the adapter does not have to be available when the client application invokes the function call). In synchronous processing, the client application waits for a response from the adapter. In asynchronous processing, the client application does not wait for a response. That is the advantage of asynchronous RFC support.

The adapter need not be available at the time when the RFC client program is executing a tRFC from the SAP system. The tRFC component stores the called RFC function, together with the corresponding data, in the SAP database under a unique transaction ID (TID).

If the SAP system sends a tRFC call to the adapter, and the adapter is unavailable, the call remains in the SAP system's local outbound queue. The calling program, in this case the SAP system, can proceed without waiting to see if the call to the adapter was successful or not. If the adapter is not active to process the tRFC call within a certain amount of time, the call is repeated at regular intervals until it can be processed by the adapter.

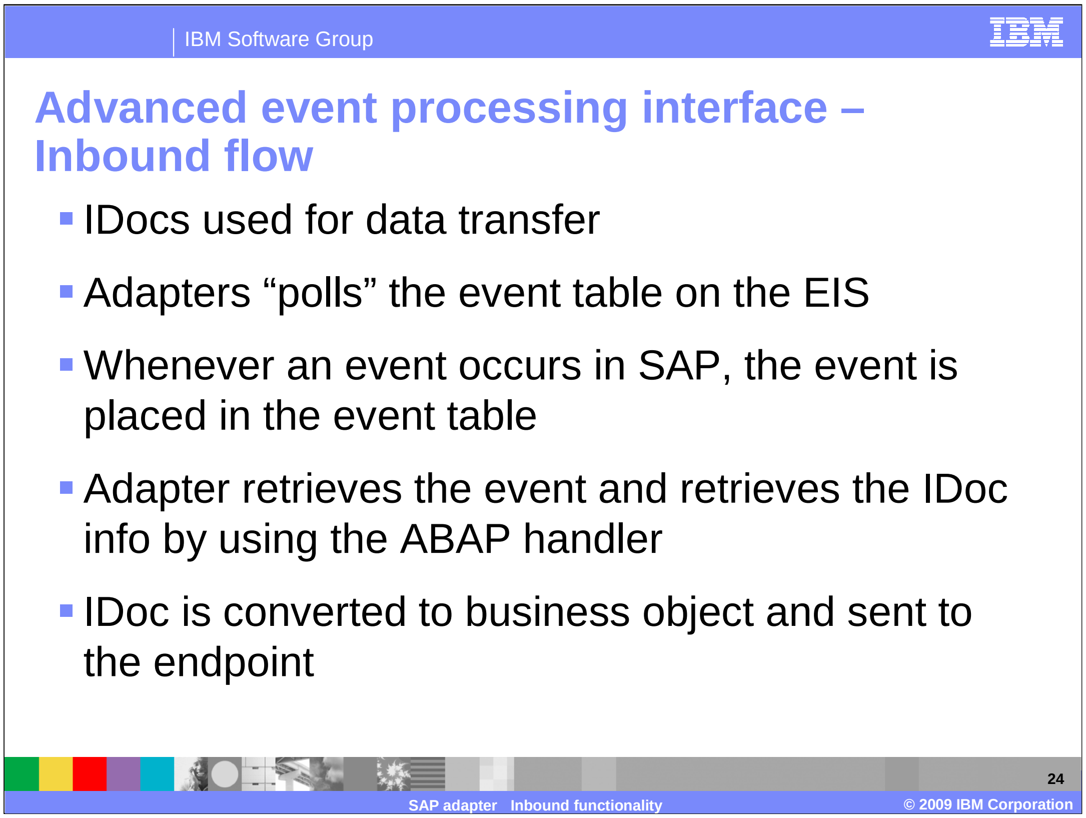
The adapter also supports queued RFC(qRFC) support for inbound BAPI calls. For qRFC, the SAP system administrator needs to setup an outbound queue to serialize the outbound data to the SAP adapter. Using the outbound queue, mutually dependent function modules are guaranteed to be sent in the correct sequence to the adapter in the order in which they were inserted into the queue. This also guarantees that each event is sent only once to the receiving system. The SAP adapter has no knowledge of the outbound queue in the sending system (RFC client).



Section

Advanced event processing interface

This section covers the operations supported using the Advanced Event Processing Interface.



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Advanced event processing interface – Inbound flow

- IDocs used for data transfer
- Adapters “polls” the event table on the EIS
- Whenever an event occurs in SAP, the event is placed in the event table
- Adapter retrieves the event and retrieves the IDoc info by using the ABAP handler
- IDoc is converted to business object and sent to the endpoint

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SAP adapter   Inbound functionality

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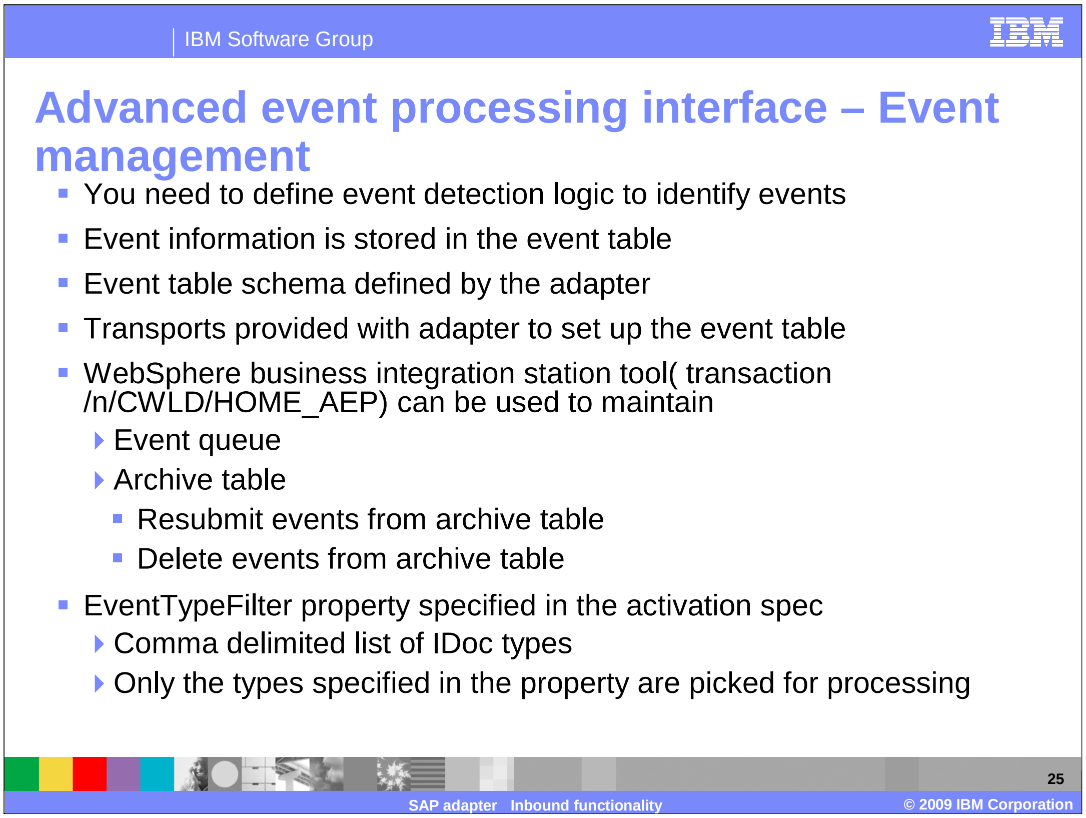
As with the ALE interface, the Advanced Event Processing (AEP) Interface also uses IDocs for data transfer, but the AEP interface is generally used for processing custom IDocs. The adapter polls on the event table on the SAP system, where new events are captured. This differs from the ALE interface event management where the event recovery store is external to the SAP system and events are pushed to the adapter. The adapter retrieves the information from these custom IDocs using the appropriate handler provided, and the retrieved IDoc information is populated into a business object and returned to the endpoint.



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Advanced event processing interface – Event management

- You need to define event detection logic to identify events
- Event information is stored in the event table
- Event table schema defined by the adapter
- Transports provided with adapter to set up the event table
- WebSphere business integration station tool(transaction /n/CWLD/HOME_AEP) can be used to maintain
  - Event queue
  - Archive table
    - Resubmit events from archive table
    - Delete events from archive table
- EventTypeFilter property specified in the activation spec
  - Comma delimited list of IDoc types
  - Only the types specified in the property are picked for processing

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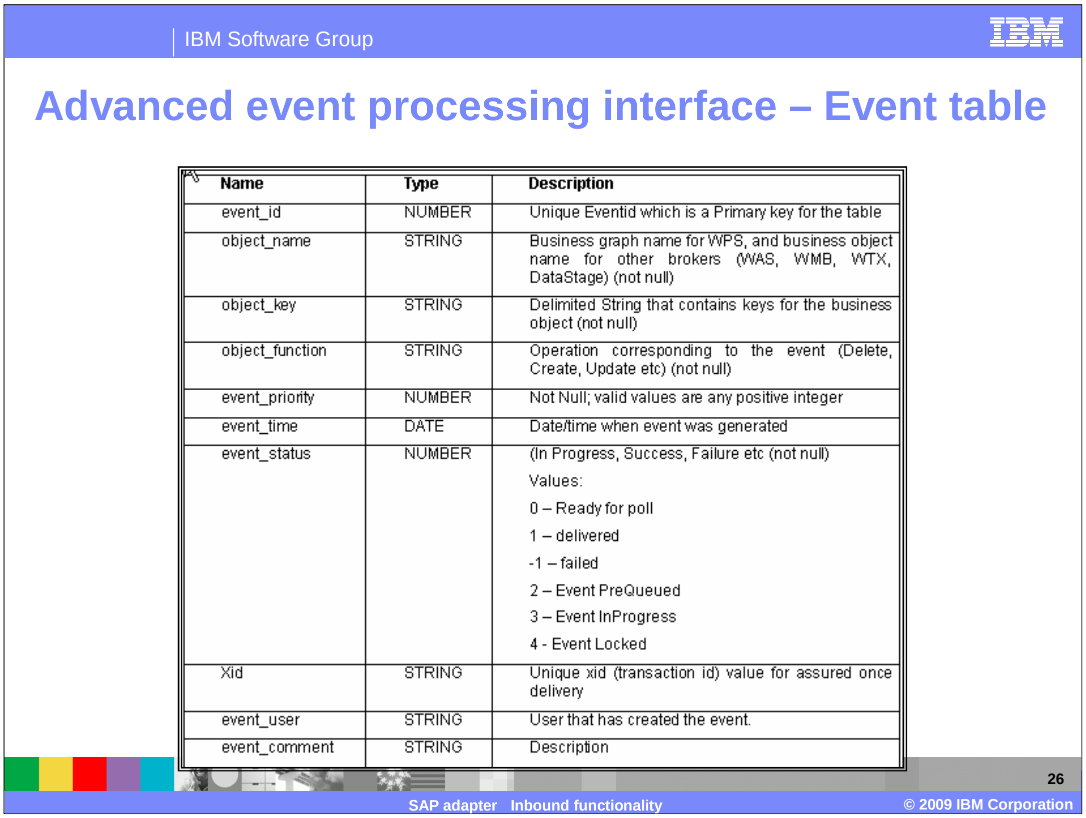
SAP adapter Inbound functionality

Shown here are the event management details for Advanced Event Processing (AEP) interface. You must provide the event detection logic on the SAP side to detect any events, which are then captured in the event table. The scripts for creating the event table and other infrastructure required for supporting AEP interface are provided as transports with the SAP adapter in the WebSphere Integration Developer. You can also make use of the WebSphere Business Integration Station tool to maintain both event and archive queues.

Event filters can be specified during configuration in the external service wizard. The IDoc names that you are interested in monitoring for events can be provided for the filter property. Only the types specified in the property are selected for processing



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Advanced event processing interface – Event table

Name	Type	Description
event_id	NUMBER	Unique Eventid which is a Primary key for the table
object_name	STRING	Business graph name for WPS, and business object name for other brokers (WAS, WMB, WTX, DataStage) (not null)
object_key	STRING	Delimited String that contains keys for the business object (not null)
object_function	STRING	Operation corresponding to the event (Delete, Create, Update etc) (not null)
event_priority	NUMBER	Not Null; valid values are any positive integer
event_time	DATE	Date/time when event was generated
event_status	NUMBER	(In Progress, Success, Failure etc (not null) Values: 0 – Ready for poll 1 – delivered -1 – failed 2 – Event PreQueued 3 – Event InProgress 4 - Event Locked
Xid	STRING	Unique xid (transaction id) value for assured once delivery
event_user	STRING	User that has created the event.
event_comment	STRING	Description

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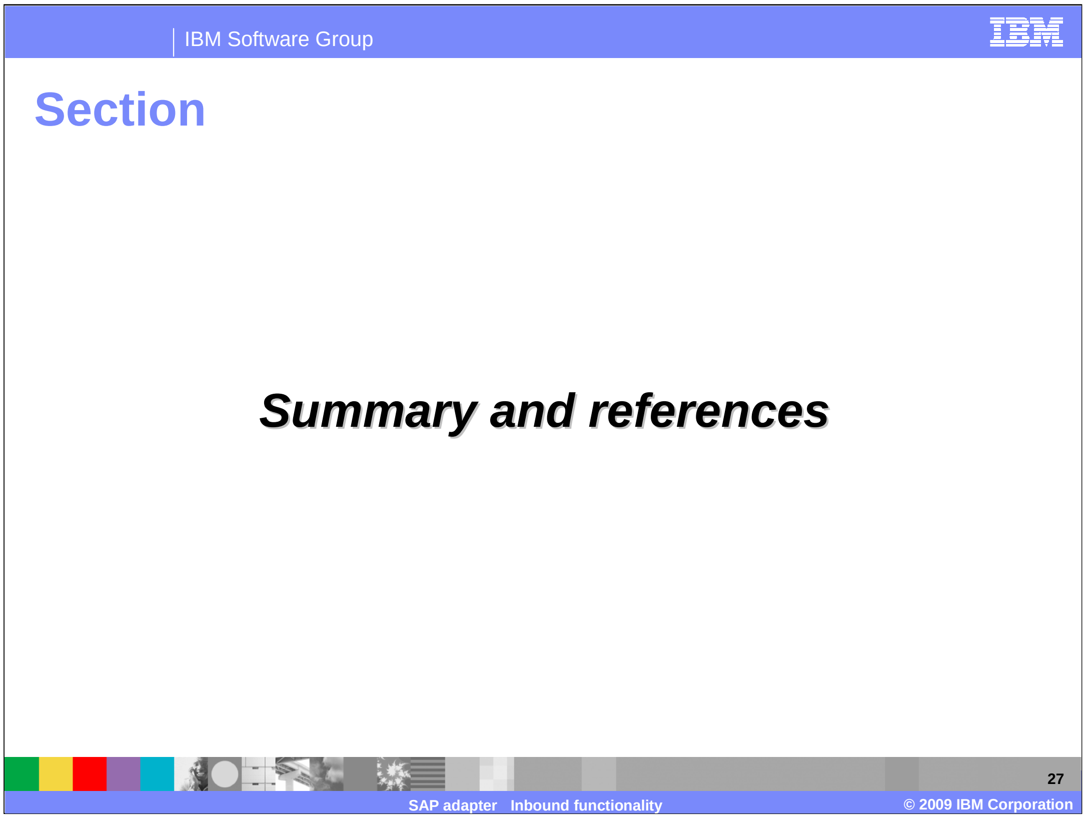
SAP adapter Inbound functionality

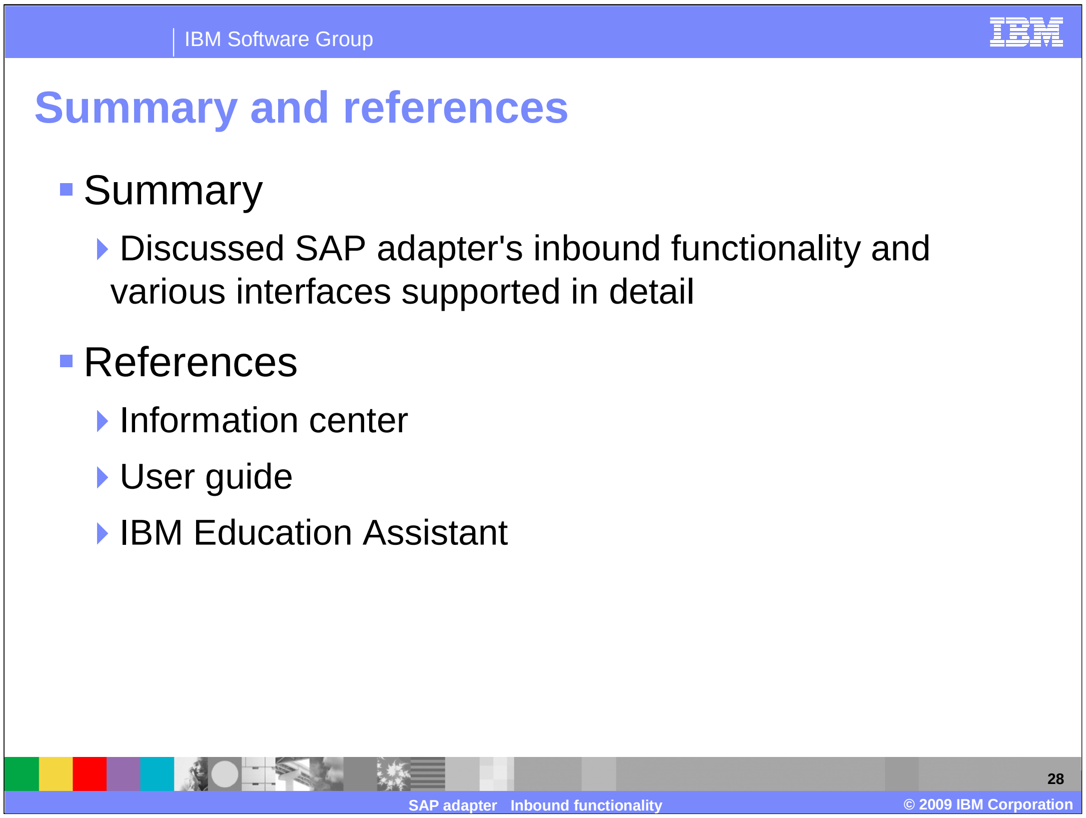
Shown here is the schema of the event table that is created on the SAP system. Any events occurring on the IDocs that you are interested in should be detected and populated in this event table. The adapter then uses the information in this table to extract the corresponding IDoc using the handler.



Section

Summary and references

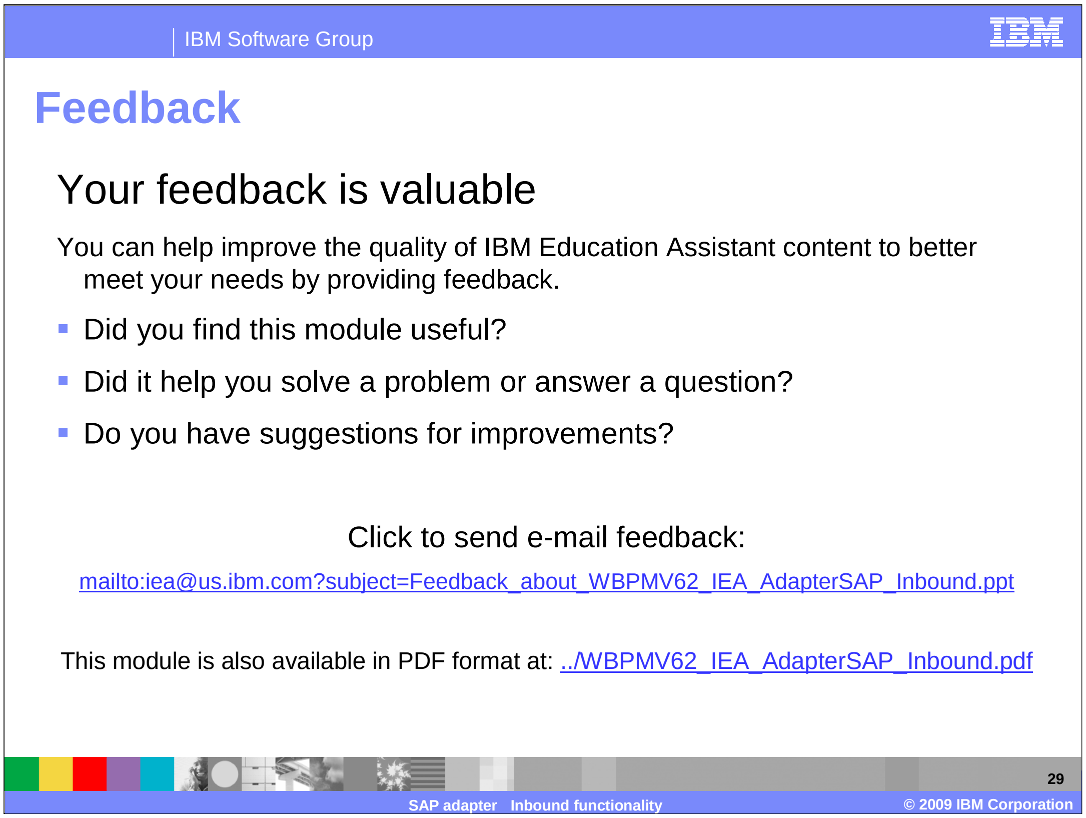
This section provides a summary and references.



Summary and references

- Summary
  - Discussed SAP adapter's inbound functionality and various interfaces supported in detail
- References
  - Information center
  - User guide
  - IBM Education Assistant

This presentation covered SAP adapter inbound functionality and the various interfaces supported in detail. More information can be found in the user guide and the information center.



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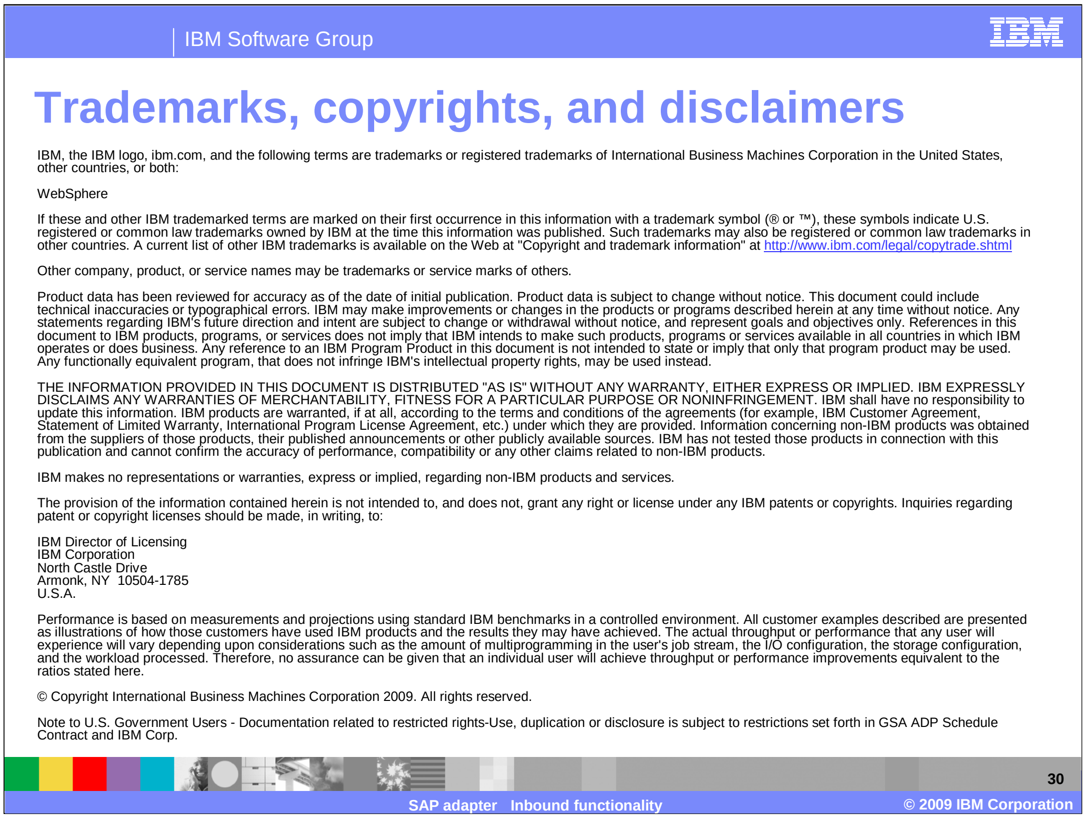

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