



ADMINISTRATION GUIDE | CUSTOMER
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Buyer's Guide for SP20 of SAP ERP Connectivity with Ariba Network

Ariba Network Integration 1.0 for SAP Business Suite

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Document History

i Note

Before you start the implementation, make sure you have the latest version of this document. You can find the latest version at: <https://service.sap.com/instguides>.

The following table provides an overview of the most important document changes:

Version	Date	Description
1.0	2018-09-05	<ul style="list-style-type: none">• Updated figure <i>Message Flow Between SAP ERP and Ariba Network</i> in chapter 1.4 "Supported Ariba Network Processes".• Added new section "Quality Certificates" in chapter 1.4 "Supported Ariba Network Processes".• Updated figure <i>Interfaces for Direct Connectivity</i> in chapter 2.1.2 "Establishing the Technical Connection to Ariba Network".
1.0	2018-04-12	This is the initial version of the administrator's guide for buyer integration of SAP ERP Connectivity with Ariba Network.

1 Overview of Ariba Network Integration 1.0 for SAP Business Suite

1.1 Introduction

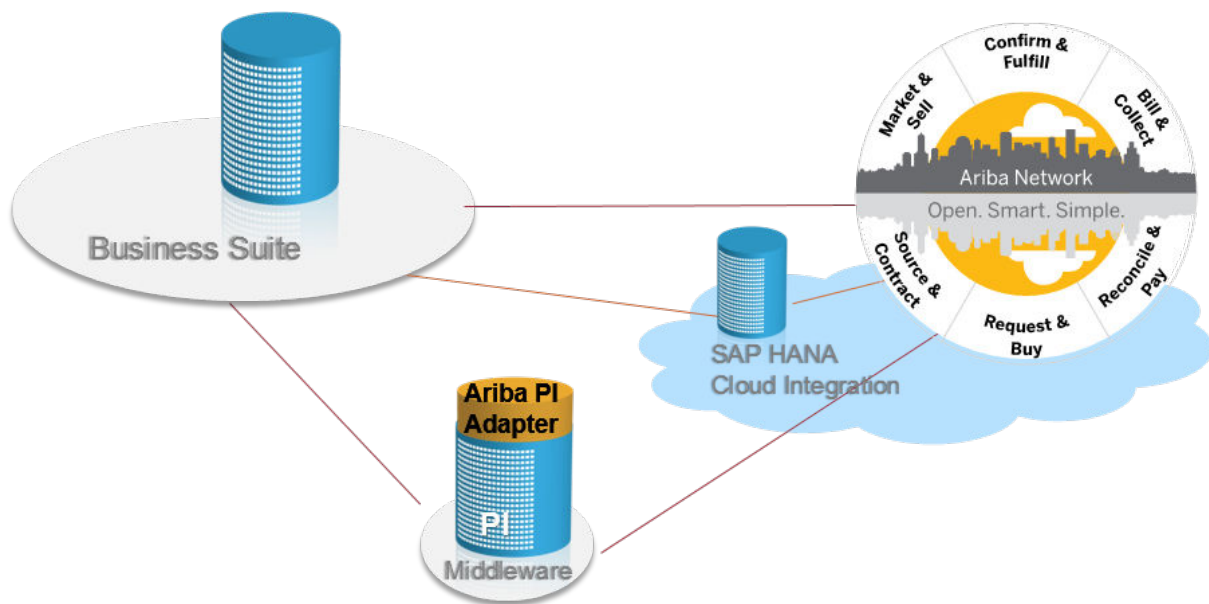
Ariba Network Integration 1.0 for SAP Business Suite contains non-modifying add-ons for SAP Business Suite systems. These add-ons are required if you want to connect SAP Business Suite systems to Ariba Network. Ariba Network Integration 1.0 for SAP Business Suite enables your SAP system to send and receive messages in a format supported by Ariba, that is, cXML.

This guide describes the Ariba Network integration of SAP ERP for **buyers**, using an add-on to SAP ERP that enables your SAP ERP system for supplier collaboration on Ariba Network. For the integration of **vendors**, a similar guide is available. You can find the guide along with the buyer's guide on SAP Help Portal at <http://help.sap.com/bni>.

The add-on supports the integration of a single SAP Business Suite system or of several SAP Business Suite systems with Ariba Network. The systems can be integrated directly or using a middleware. For detailed information, see SAP Community Network at <http://scn.sap.com/docs/DOC-51873>, *System Landscape Recommendations for Ariba Network Integration 1.0 for SAP Business Suite*.

One option for integrating the SAP ERP add-on is integration via Hana Cloud Integration (HCI). SAP Best Practices and a SAP Rapid Deployment Solution are available to support this integration. You can download the configuration content and documentation from <http://service.sap.com/public/rds-ariba>.

The following figure shows the system landscape for connecting an SAP Business Suite system to Ariba Network:



System Landscape for Ariba Network Integration 1.0 for SAP Business Suite

1.2 Prerequisites

SAP ERP Systems

Ariba Network Integration 1.0 for SAP Business Suite is available for the following releases and minimum support package levels of SAP ERP Systems:

- SAP ERP 6.0 SPS15 (SAP APPL 6.00 SP15 and SAP BASIS 7.00 SP18)
- EHP2 for SAP ERP 6.0 SPS06 (SAP APPL 6.02 SP06 and SAP BASIS 7.00 SP18)
- EHP3 for SAP ERP 6.0 SPS05 (SAP APPL 6.03 SP05 and SAP BASIS 7.00 SP18)
- EHP4 for SAP ERP 6.0 SPS05 (SAP APPL 6.04 SP05 and SAP BASIS 7.01 SP05)
- EHP5 for SAP ERP 6.0 SPS03 (SAP APPL 6.05 SP03 and SAP BASIS 7.02 SP02)
- EHP6 for SAP ERP 6.0 SPS01 (SAP APPL 6.06 SP01 and SAP BASIS 7.31 SP01)
- EHP6 for SAP ERP 6.0 on HANA SPS01 (SAP APPL 6.16 SP01 and SAP BASIS 7.40 SP01)
- EHP7 for SAP ERP 6.0 SPS01 (SAP APPL 6.17 SP01 and SAP BASIS 7.40 SP03)
- EHP8 for SAP ERP 6.0 SPS01 (SAP APPL 6.18 SP01 and SAP BASIS 7.50 SP01)

Process Integration (Optional)

For mediated connectivity, the Ariba Network Adapter for SAP NetWeaver is required. For information about which version is relevant for the functions you want to use, see SAP Note [1991088](#).

1.3 Software Requirements for Ariba Network Integration

General instructions for the installation of add-ons can be found in SAP Note [1841471](#).

The installation information for Ariba Integration for SAP Business Suite is available in SAP Notes [1915255](#), [1991087](#), [1991088](#), and [1991537](#).

i Note

SP18 of the add-on enabling SAP ERP Connectivity with Ariba Network is the only version that is currently in maintenance.

Ariba Network Integration 1.0 for SAP Business Suite consists of 3 components. Download these components and install them on your SAP ERP system. The components are:

- ARBFNDI1
- ARBERPI1
- ARBFNDI2;

This component is only required if your SAP ERP system is on EhP4 or higher.

Also download all Attribute Change Packages (ACPs) for this product.

i Note

Only cXML elements listed in the mapping documentation are supported. This documentation is available as attachments to SAP Note 1918732.

1.4 Supported Ariba Network Processes

Ariba Network Integration for SAP ERP MM (Buy Side)

Ariba Network Integration 1.0 for SAP Business Suite supports the integration of SAP ERP MM with the following processes on Ariba Network:

- Collaborative Commerce, consisting of
 - Order Collaboration
 - Invoice Collaboration
 - Service Invoicing (Service Procurement)
- Discount Management
- Payment
- Supply Chain Collaboration

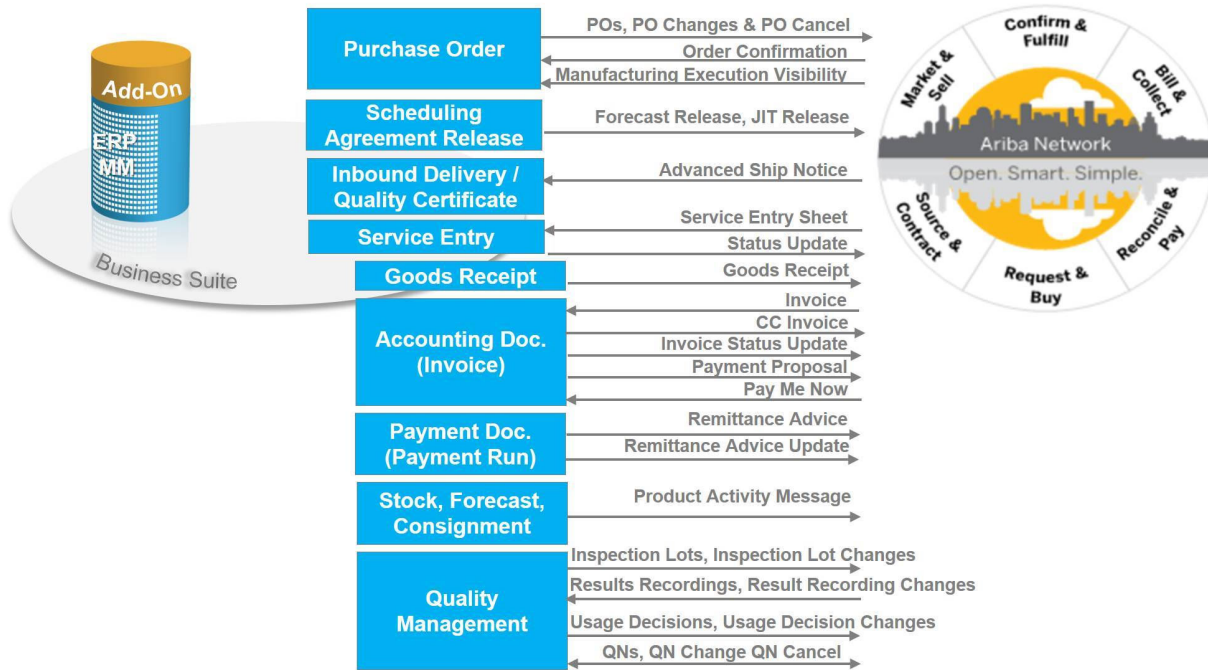
Message Types Used

The following cXML message types are used to enable the above processes:

- OrderRequest (outbound)
- ConfirmationRequest (inbound)
- ShipNoticeRequest (outbound and inbound)
- ServiceEntryRequest (inbound)
- ReceiptRequest (outbound and inbound)
- ProductActivityMessage (outbound)
- InvoiceDetailRequest (inbound)
- CopyRequest.InvoiceDetailRequest (outbound)
- StatusUpdateRequest (outbound)
- PaymentProposalRequest (outbound)
- CopyRequest.PaymentProposalRequest (inbound)
- PaymentRemittanceRequest (outbound)
- PaymentRemittanceStatusUpdateRequest (outbound)
- ComponentConsumptionRequest (inbound)
- ShipNoticeRequest (outbound)
- ReceiptRequest (inbound)
- QualityNotificationRequest (outbound and inbound)

- QualityInspectionRequest (outbound)
- QualityInspectionResultRequest (inbound)
- QualityInspectionDecisionRequest (outbound)

The following figure shows the message flow between SAP ERP and Ariba Network:



Message Flow Between SAP ERP and Ariba Network

All messages are exchanged in cXML format via Web services. For purchase orders and for status updates of service entry sheets, the document output is triggered using message output control. To enable the transfer of such messages between SAP ERP and Ariba Network, you therefore have to customize the message output control. For detailed instructions, see the documentation that is available in Customizing for SAP Business Suite Integration Component for Ariba under [Application-Specific Settings](#) > [SAP ERP Integration Component for Ariba](#) > [Define Message Output Control](#). In the documentation, click [Define Conditions for Output Control](#).

Integration of SAP ERP with Ariba Collaborative Commerce - Order Collaboration

OrderRequest (Outbound)

This cXML message enables you to transfer purchase orders (PO), changes to purchase orders, and cancellations of purchase order to Ariba Network. The document output is triggered using message output control. To enable the transfer of purchase orders between SAP ERP and Ariba Network, you have to customize the message output control. For detailed instructions, see the documentation that is available in Customizing for SAP Business Suite Integration Component for Ariba under [Define Conditions for Output Control](#).

There are no limitations regarding purchase order types. However, only the following purchase order item types are supported:

- Standard items
- Third-party items
- Limit items
- Service items
- Consignment items (relevant for Supply Chain Collaboration)
- Subcontracting items (relevant for Supply Chain Collaboration)
- Stock transport order (relevant for Supply Chain Collaboration)

The cXML order types (regular and blanket) are derived from the purchase order item types. Within a purchase order, do not mix any standard line items with limit items. Instead, we recommend that you configure separate purchase order types, for example:

- A PO type allowing standard items and third-party items
- A PO type allowing service items
- A PO type allowing only limit items

i Note

- Returns items are only supported as of mapping version V005 and cXML version 1.2.30.
- The transfer of pricing conditions is not supported.
- The transfer of service items is restricted to SAP ERP EhP4 and higher. In Customizing for SAP Business Suite Integration Component for Ariba, you must specify the cXML version 1.2.025 and the mapping version V002 or higher versions.
- If you use a mapping version lower than V004, service items must not have more than one hierarchy level.
If you use mapping version V004 or higher, the service hierarchies you create in SAP ERP are transferred to the Ariba Network. Note: While the service hierarchies you add in SAP ERP purchase order are inserted in alphanumerical order, they may appear in a different order on the Ariba Network.
- It is possible to transfer service items to Ariba Network that have the account assignment category "U" ("unknown"). However, in such cases the account assignment category must be provided in the service entry sheet, which is only supported if you create the service entry sheet in SAP ERP. For PO items with account assignment category "U", service entry sheets created on Ariba Network cannot be processed in SAP ERP.
- Mapping version V006 supports enhanced functionality for invoice control keys, e.g. prevention of invoice creation by suppliers on Ariba Network and invoice verification based on goods receipt.
- Mapping version V007 supports price, quantity, and time tolerances for order confirmations. Furthermore, ASNs (Advanced Shipping Notifications) are supported as of mapping version 007 as well.
- As of mapping version V008 and cXML version 1.2.034, quality-related information is being transmitted on purchase orders.
- As of mapping version V009, stock transport orders are supported as a type of purchase orders.

OrderConfirmationRequest (Inbound)

On Ariba Network, you can confirm or reject entire purchase orders, and you can confirm, reject, or update individual line items of purchase orders. All cases are supported by the cXML message type OrderConfirmationRequest.

The following combinations of Ariba Network order confirmation status types are supported:

	Item Level: accept	Item Level: backordered	Item Level: detail	Item Level: all detail	Item Level: unknown	Item Level: reject
Header Level: accept	x	--	--	--	--	--
Header Level: backordered	--	x	--	--	--	--
Header Level: detail	x	x	x	--	x	x
Header Level: all detail	--	--	--	x	x	x
Header Level: except	x	x	x	--	x	x
Header Level: reject	--	--	--	--	--	--

i Note

The following restrictions exist for order confirmations when SAP ERP is integrated with Ariba Network:

- When suppliers confirm purchase order items of type “service” on Ariba Network, only the options *confirm entire order* and *reject entire order* are supported
- Only order confirmations are supported where the price currency of the line items is the same as the price currency in the purchase order.

ShipNoticeRequest (Inbound)

An incoming *ShipNoticeRequest* creates an inbound delivery document in SAP ERP and updates the purchasing document accordingly. The inbound delivery can also hold the carrier information provided by Ariba; the carrier is stored in this document as a partner.

If a purchase order requires the supplier to send a quality certificate, and the supplier provides an attachment with a *type* value that is similar to the quality certificate's along with the ship notice, then a quality certificate will be created for each purchase order and purchase order item.

i Note

- **New, updated, and deleted** *ShipNoticeRequest* messages are processed.
- To update the *ShipNoticeRequest* scenario, modification of the following data is supported:
 - Header data:
 - Delivery date
 - Item data:
 - Quantity
 - Expiration date
 - Deletion of delivery items

- As of cXML version 1.2.026 and mapping version V003, referencing scheduling agreements is possible.
- As of cXML version 1.2.028 and mapping version V004, enhanced mapping of the batch functionality is possible.
- As of cXML version 1.2.028 and mapping version V005, mapping subcontracting components is possible.

ServiceEntryRequest (Inbound)

An incoming ServiceEntryRequest creates a service entry sheet in SAP ERP and updates the purchase order accordingly. The approval or rejection of the service entry sheet triggers a StatusUpdateRequest message that transfers the status to Ariba Network.

i Note

Only one purchase order outline item (with its subordinate service lines) can be referenced in an incoming ServiceEntryRequest message.

ReceiptRequest (Outbound)

With this message, a goods receipt document created in the SAP ERP system is transferred to Ariba Network. After the ReceiptRequest message is received on Ariba Network, the status of the corresponding POs or scheduling agreement releases is updated with the goods receipt information.

Note that posting goods receipts into blocked stock does not yet trigger the sending of a ReceiptRequest message to the Ariba Network. The subsequent release of the goods from blocked stock triggers the sending of the ReceiptRequest message.

This message type transfers information about received or returned goods as well as reversals, if applicable.

Receipt Item Type in cXML	Plus/Minus Sign of Quantity in cXML	Quantity Transferred in cXML
Received	Positive	Number of goods received.
Received	Negative	Reversal of number of goods received. (Correction in the "Received" quantity).
Returned	Positive	Number of goods returned.
Returned	Negative	Reversal of number of goods returned. (Correction in the "Returned" quantity).

i Note

As of mapping version V002, it is possible to allow or prevent the sending of ReceiptRequest cXML messages to the Ariba Network based on the configuration settings made in Customizing for a combination of goods movement type and stock type. For more information, see chapter *Customizing* under *Define Mapping Settings for Goods Receipts*.

Integration of SAP ERP with Ariba Collaborative Commerce - Invoice Collaboration

InvoiceDetailRequest (Inbound)

Ariba Network Integration 1.0 for SAP Business Suite supports in the inbound invoicing process both invoices with reference to purchase orders and invoices without such references. In this context, the following Ariba Network invoice purposes are supported:

- Standard Invoice (in cXML: operation= "new", purpose= "standard")
This invoice type is also used for non-PO invoices.
- Line-item credit memo (in cXML: operation= "new", purpose= "lineLevelCreditMemo")
- Credit memo (in cXML: operation= "new", purpose= "CreditMemo")
- Invoice cancellation (in cXML: operation= "delete")

As of cXML version 1.2.034, the following scenarios are supported:

- Subsequent debit for price adjustment (in cXML: operation= "new", purpose= "lineLevelDebitMemo", isPriceAdjustmentInLine= "yes")
- Subsequent credit for price adjustment (in cXML: operation= "new", purpose= "lineLevelCreditMemo", isPriceAdjustmentInLine= "yes")

Note

Please note the following:

- Price adjustments for subsequent debit memos and credit memos are only supported on item level
- Subsequent credit memos and debit memos can refer to invoices created for purchase orders only
- It is not possible to have subsequent credit memos and debit memos that refer to other invoices in SAP ERP or to other adjustment types

For more information, see the *cXML User Guide* that is available at <http://xml.cxml.org/current/cXMLUsersGuide.pdf>.

Ariba Network Integration 1.0 for SAP Business Suite does **not** support the following invoice purposes:

- Debit memos (in cXML: operation= "new", purpose= "debitMemo")
- Information-only invoices (in cXML: isInformationOnly= "yes")

Mapping Versions

- Mapping version V001 supports service items being used to represent shipping amounts or special handling amounts.
- As of mapping version V002, service invoicing is supported, that is, invoices can contain service items (InvoiceDetailServiceItem in cXML messages). Please see details for service invoicing below.
- Referencing scheduling agreements in invoices coming from Ariba Network is possible as of cXML version 1.2.026 and mapping version V003.

Invoices can reference an item in a limit purchase order (referred to as “blanket purchase order” on Ariba Network). If an invoice contains multiple line items referencing a single limit item of a purchase order, the values are aggregated in the incoming invoice in SAP ERP.

i Note

This feature is not supported for goods-receipt-based invoice verification.

Invoices with reference to purchase order items for which no invoice is expected:

When creating PO items, buyers can deselect the checkbox *invoice receipt* on the *invoice* tab of the purchase order item. In such cases, the purchase order item is transferred to the Ariba Network with price 0.00. On the Ariba Network, the purchase order item without price cannot be taken over into the invoice that is created with reference to the purchase order. This ensures that suppliers cannot specify a price on the invoice that would be transferred with the price 0.00 into SAP ERP. SAP ERP cannot process invoice line items with the value 0.00.

i Note

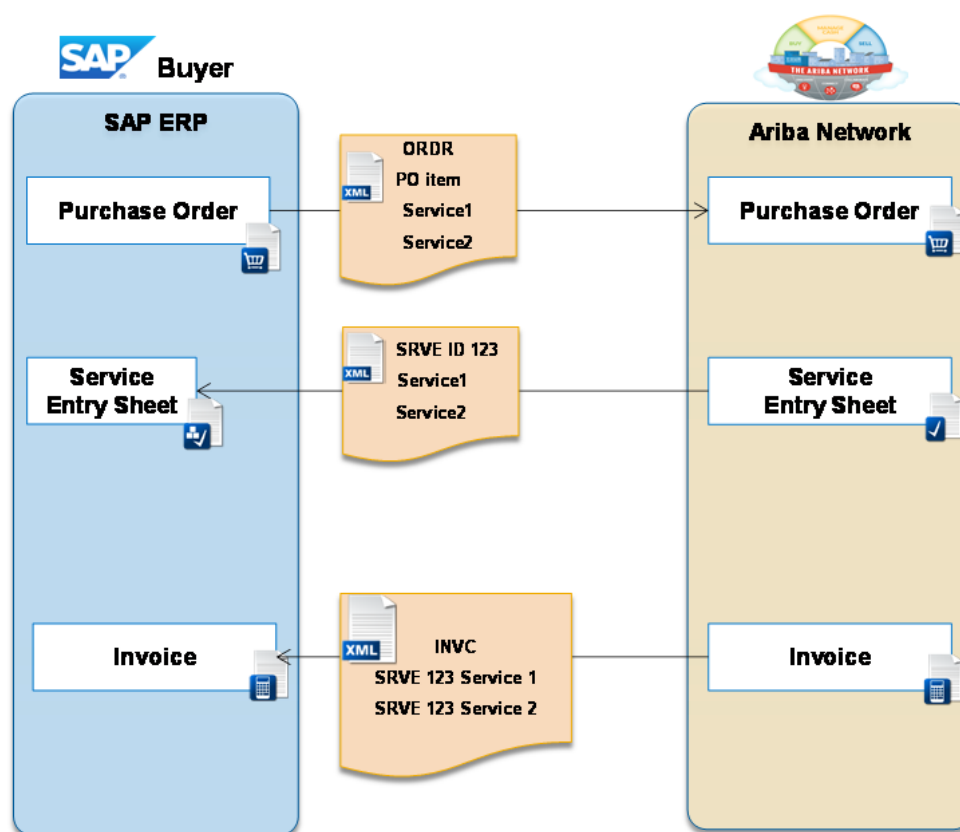
Be aware of the following restrictions for the integration of invoices:

- Ariba Network allows suppliers to change the unit of measure of invoice items, so that it differs from the unit of measure on the corresponding purchase order items. SAP ERP does not support a different unit of measures in invoice items and in the referenced purchase order items.
- Ariba Network and the cXML definition support different currencies for different amounts within an invoice. The MM invoice in SAP ERP only supports a single document currency. All amounts have to be provided in this currency.
- Taxes at **header** level of Ariba Network invoices are handled as follows:
 - Only one tax at header level is supported in SAP ERP.
 - If multiple taxes are supplied at invoice header level, the item level tax code in ERP has to be determined manually, using a BAdI implementation.
 - If tax jurisdiction is used in SAP ERP and more than one tax jurisdiction code is used, incoming invoices cannot be processed in SAP ERP
- Taxes at **item** level of Ariba Network invoices are handled as follows:
 - Ariba Network allows multiple taxes per invoice item. However, different tax codes on the same item are not supported in the standard delivery of Ariba Network Integration 1.0 for SAP Business Suite.
- Ariba Network allows several additional amounts in one invoice, such as special handling amounts and shipping amounts. The SAP ERP invoice supports only one amount for additional costs, which is defined as *unplanned delivery costs*. Therefore SAP ERP handles both the special handling amount and the shipping amount of the Ariba Network invoice as unplanned delivery costs. These amounts are summed up under *unplanned delivery costs*.
- If unplanned delivery costs are posted as a separate G/L line in your SAP ERP invoice (see the setting in Customizing activity *Configure How Unplanned Delivery Costs Are Posted*) the following applies: The tax category in cXML can only be mapped to SAP ERP tax code for unplanned delivery costs if the shipping amount and the special handling amount in cXML have the same tax category and the same tax rate. If they differ, the invoice cannot be processed in SAP ERP
- Ariba Network supports allowances and charges both at invoice header and at item level. However, allowances and charges at header level cannot be transferred to the SAP ERP invoice since the *Unplanned Delivery Costs* field is already used to represent shipping and special handling costs. Therefore, allowances and charges at header level are not supported if you integrate Ariba Network with SAP ERP. Allowances and charges at item level are supported and are handled according to the standard invoice verification process (see below).
- If an Ariba Network invoice contains different line items referencing a single item in a standard purchase order (not a limit purchase order), the invoice cannot be posted in SAP ERP.

- If account assignment is specified in an Ariba Network invoice, and the invoice contains multiple invoice items referencing the same purchase order item, the invoice cannot be posted in SAP ERP.
- The transfer of payment terms in invoices created on Ariba Network is only supported if the invoice date of the Ariba Network invoice is equal to the baseline date of the invoice in SAP ERP. Otherwise the payment terms cannot be processed correctly in SAP ERP.
- The cXML element `Modification` is not supported.

Important Information for Service Invoicing With Service Entry Sheets

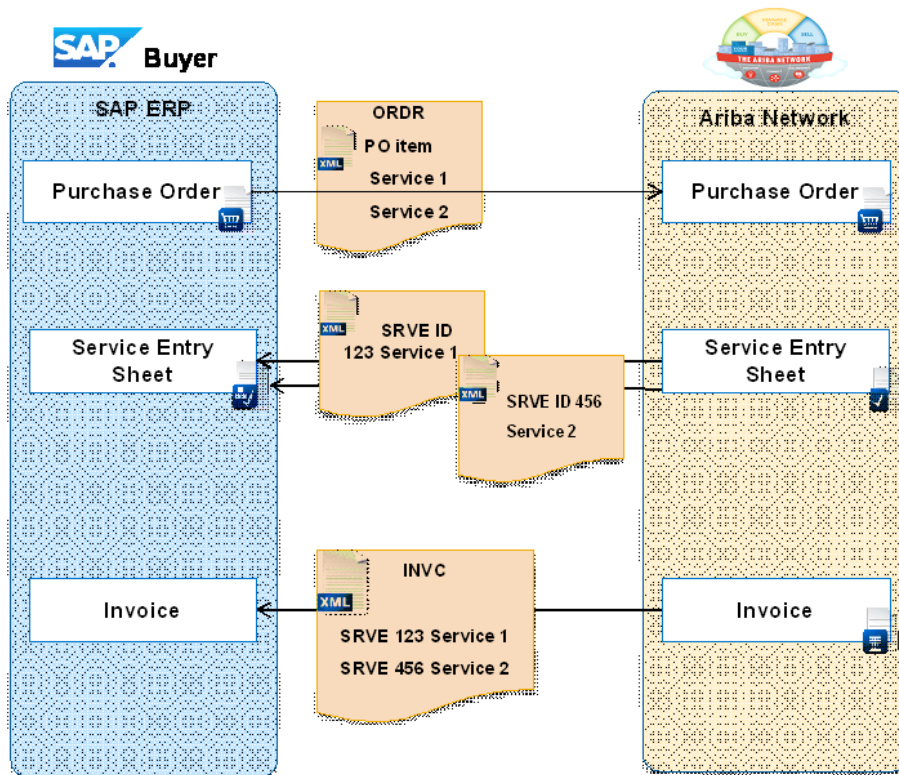
When suppliers create an invoice on Ariba Network for a service entry sheet (SES) with several service lines, the invoice contains individual items for each service line. For the transfer to SAP ERP, SAP recommends that you use **service-based invoicing**, which also creates separate items for each service line in the SAP ERP invoice (see figure below). To use service-based invoicing, you must set the indicator *S.-Based IV* on the *Invoice* tab of the purchase order service line.



Service Invoicing: Single Service Entry Sheet, Single Invoice

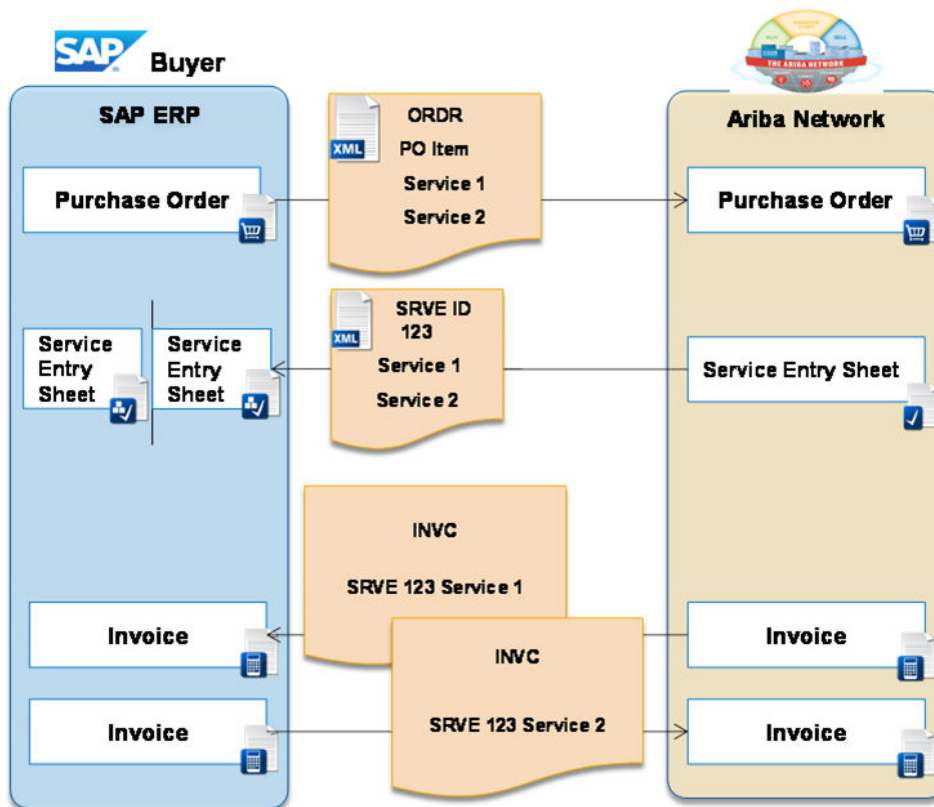
It is also possible to use **goods-receipt-based invoicing**. To do this, you must set the indicator *GR-Bsd IV* on the *Invoice* tab instead of the *S.-Based IV* indicator. However, items of the same invoice **must not** reference the same service entry sheet. You have two options to avoid this:

- Option 1: Separate service entry sheets, single invoice
 - You create separate service entry sheets for each service line.
 - reference the You then create a single invoice in which all service entry sheets are listed as separate items.



Service Invoicing, Option 1: Separate Service Entry Sheets, Single Invoice

- Option 2: Single service entry sheet, separate invoices
 - You create a single service entry sheet containing all service lines.
 - You then create a separate invoice for each line of the service entry sheet



Service Invoicing, Option 2: Single Service Entry Sheet, Separate Invoices

Information for Service Invoicing Without Service Entry Sheets

Service invoices can also be created if no service entry sheet is expected. (This means that the *goods receipt* indicator is not set for a purchase order service line on the *Delivery* tab). Prerequisite is that you have implemented SAP Note [2241984](#).

When creating invoices without service entry sheets, you also have the following options:

- Service-based invoice verification
To perform service-based invoicing, you must set the *GR-Bsd IV* indicator **and** the *S.-Based IV* indicator on the *Invoice* tab of the purchase order service line.
- Goods-receipt-based invoice verification
To perform goods-receipt-based invoice verification, you must set the *GR-Bsd IV* indicator but **not** the *S.-Based IV* indicator on the *Invoice* tab of the purchase order service line. In this case, items within the same invoice must not reference the same purchase order item.

i Note

On the Ariba Network buyer account, rules are available that prevent suppliers from creating service entry sheets on the Ariba Network. Consider setting the rules in a way that ensures that you do not receive unexpected service entry sheets in the SAP ERP system.

Invoice Verification in SAP ERP

Based on the invoice data received in the cXML message, Ariba Network Integration 1.0 for SAP Business Suite checks if the invoice is ready to be posted directly or if it has to be parked and finalized manually in MM-IV. Depending on the result, the process is carried out as follows:

- Standard PO-based invoices with correct data are directly posted into MM-IV. If SAP ERP detects unexpected deviations of amount or quantity, the invoice is created “with errors”. Subsequently, an invoicing clerk can correct the invoice manually.

The following invoice types with purchase order reference are processed in this manner:

- Standard invoice
- Line-item credit memo
- Invoice cancellation

- Invoices that do not have a valid purchase order reference in SAP ERP are parked. This includes non-PO invoices and invoices where the PO reference is missing or invalid for individual invoice items. Examples of missing or invalid invoice items are items that were added later by the supplier, or items for shipping amounts or special handling amounts.

The following invoice types are supported to be processed in this manner:

- Standard invoice
- Credit memo
- Header-level invoice

To enable invoice parking, the Customizing activity *Incoming Invoice: Enter Control Parameters for Log. Invoice Verification* was enhanced. For more information, see [Configuration Settings \[page 36\]](#).

InvoiceDetailRequest (Outbound, Used for CC Invoices)

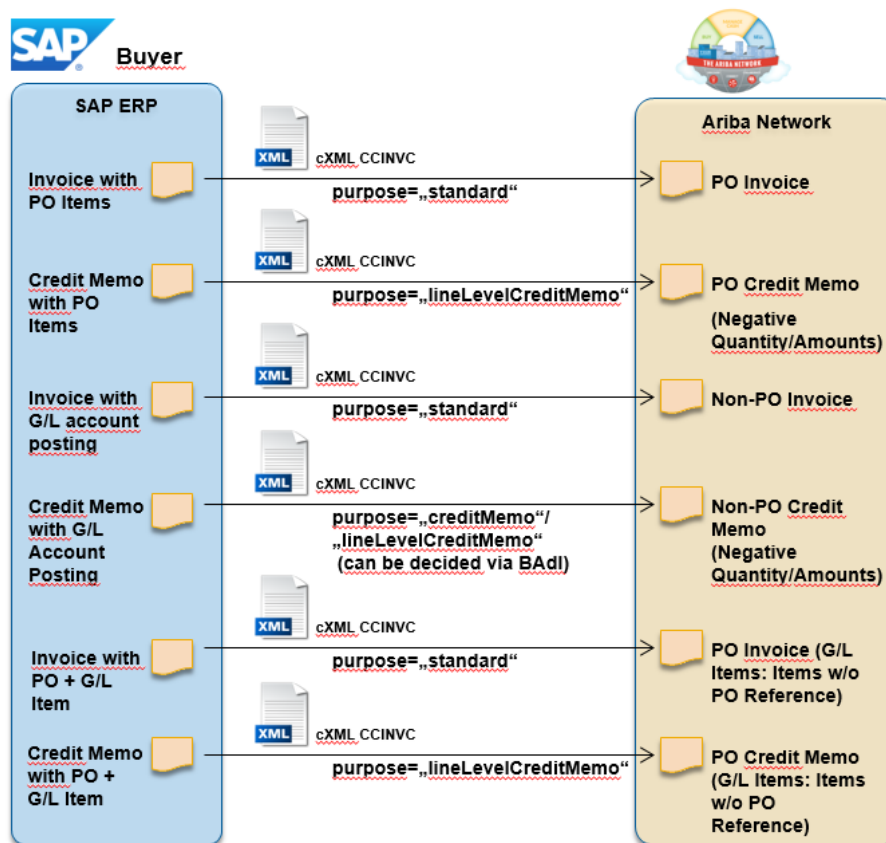
If a supplier invoice is not created on Ariba Network but received by the buying organization in a different way (for example, as a paper invoice), the invoice is created manually in the buyer’s SAP ERP system. If no invoice is expected from the supplier at all, the buyer can use automatic settlement methods such as self-billing (evaluated receipt settlement in SAP ERP). Ariba Network handles this type of invoice as follows:

1. The buying organization sends the invoice created in SAP ERP as a copy (CC invoice) to Ariba Network.
2. On Ariba Network, the CC invoice is linked to the supplier.
3. The supplier can then track further payment statuses.

i Note

Both invoices based on MM supplier invoices as well as FI accounting documents (also known as FI invoices) can be transmitted as CC invoices to Ariba Network.

The following graphic gives an overview of which MM invoices can be transmitted, which purpose is used in the cXML message, and how Ariba Network represents the invoice:



Transfer of MM and FI Invoice Types to Ariba Using CC Invoice Messages

The following SAP ERP MM invoice types are considered for transmission as CC invoices:

- Online ('')
- ERS ('1')
- ERS Zero Document ('2')
- Batch Run ('3')
- EDI ('4')
- Revaluation ('8')
- BAPI Invoice ('B')
- Invoice from Parking Function ('A')
- SRM Invoice ('D')
- SOA B2B ('H')

If a CC invoice based on an MM supplier invoice contains invoice items that have a reference to purchase order items, the purchase order items must be one of the following item types in the SAP ERP purchase order:

- Standard item
- Third-party item
- Limit item
- Service item

Other item types are currently not supported.

Details for CC Invoices based on SAP ERP FI Accounting Documents

You can transfer FI accounting documents containing creditor postings to Ariba Network: Each creditor posting is transferred as an individual CC invoice.

i Note

The following restrictions exist for CC invoices that are based on FI accounting documents:

- If you transfer FI accounting documents with **several creditor postings**, the resulting CC invoices are header-level invoices. Item-level invoices are not supported. The tax amount for each creditor line is not transferred.
- For CC invoices originating from FI accounting documents, the creation of follow-on credit memos is not supported

A BAdI is available that allows you to control whether MM and FI invoices are transferred as header-level invoices or as item-level invoices. By default, CC invoices are transferred as item-level invoices, that is, they contain posting lines at item level.

For CC invoices, additional Customizing is relevant. For more information, see [Configuration Settings \[page 36\]](#).

References to scheduling agreements are supported as of cXML version 1.2.026 and as of mapping version V003 (for MM CC invoices) and V002 (for FI CC invoices).

Important Information for Service Invoicing

If you want to create CC invoices for services, note the following:

- The transfer of invoice service items is restricted to SAP ERP 6.0 EhP4 and higher. In Customizing for Ariba Network Integration for SAP Business Suite, you must specify the cXML version 1.2.025 and the mapping version V002.

In SAP ERP, the invoice for a service item is based on the goods receipt for the item. There are two cases:

- Service-based Invoicing
On the *Invoice* tab of the PO item, you set the *S.-Based IV* indicator. This means that for each service line below a PO item, a separate invoice item is created. It is sent to Ariba Network with a quantity as an InvoiceDetailServiceItem. In this case, follow-on documents to the CC invoice can be created on Ariba Network.
- Goods receipt-based invoicing
On the *Invoice* tab of the PO item, you set the *GR.-Based IV* indicator. This means that a single invoice item combines several service lines. This invoice item for a PO item is sent to Ariba Network without a quantity as an InvoiceDetailServiceItem. Ariba Network expects invoice items to be service-based, but the reference to the service lines remains empty. As a result, follow-on documents to the CC invoice must not be created on Ariba Network since they would fail when transferred to SAP ERP.

StatusUpdateRequest (Outbound) for Invoices

This message is sent to Ariba Network and transfers the invoice status in the following situations:

- After an invoice has been received and processed by the SAP ERP system.
- When relevant changes have been made to the invoice or to the follow-on FI document.

Overview of actions in SAP ERP and the resulting statuses on Ariba Network:

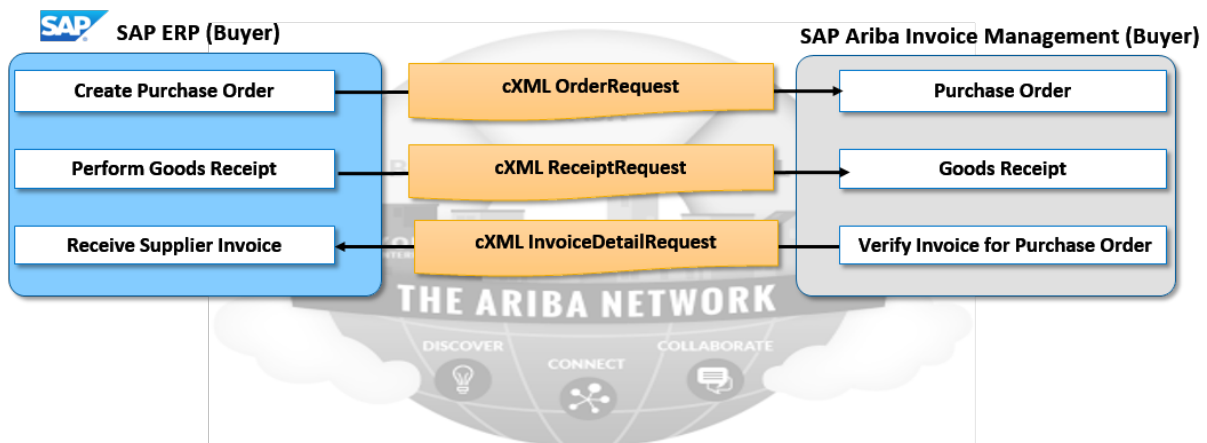
Action in SAP ERP	DocumentStatus type in cXML Mes- sage	Invoice Status on Ariba Network
The invoice is deleted (deletion of invoice with errors) or discarded in Forward Error Handling.	rejected	Rejected
The invoice is not posted (e.g. because it has errors or is parked). The invoice is not released for payment.	processing	Processing
The invoice is posted.	reconciled	Approved
The invoice is partially paid.	paying	Paying
The invoice is paid.	paid	Paid
The invoice is reversed or canceled by a cancellation invoice.	canceled	Canceled

Integration of SAP ERP with SAP Ariba Invoice Management

Invoice collaboration with SAP Ariba Invoice Management (formerly Ariba Invoice Professional) enables you to perform invoice verification for several procurement systems centrally and automatically in the cloud. The data is exchanged using cXML messages and is routed via the Ariba Network.

! Restriction

- Service procurement is not supported
- Supply Chain Collaboration is not supported



OrderRequest (Outbound)

For the integration with SAP Ariba Invoice Management, the OrderRequest message type transfers the following additional data:

- Purchasing organization
- Purchasing group
- Company code
- Material group
- Requester
- Account assignment data

ReceiptRequest (Outbound)

This message type transfers the data of the goods receipt to SAP Ariba Invoice Management for invoice verification.

InvoiceDetailRequest (Inbound)

Invoices received in SAP ERP from SAP Ariba Invoice Management via the Ariba Network contain the following additional data:

- Account assignment data, enabling the processing of invoices without purchase order reference in SAP ERP
The following account assignment objects are supported. Note that it is important to provide the correct format in cXML. The value of the *name* element of `AccountingSegment` has to be specified in format shown in brackets.
 - Cost center (CostCenter)
 - Internal order (InternalOrder)
 - WBS element (WBSElement)
 - Asset (Asset)
- Tax code
If the ERP-internal tax code is supplied in the InvoiceDetailRequest (extrinsic "TaxCode") it is copied directly into the SAP ERP invoice. If this code is not supplied, it can be determined using the mapping settings made in Customizing. For more information, see chapter *Customizing* under *Define Mapping Settings for Invoices*.

The tax jurisdiction code required for posting the invoice is determined in SAP ERP as described in the document [Tax Calculation Process in MM and FI](#), section *Process Flow*.

Integration of SAP ERP Payment Advice

PaymentRemittanceRequest (Outbound)

If you have enabled the required communication in SAP ERP (see [Configuration Settings \[page 36\]](#)), the SAP ERP system can send PaymentRemittanceRequest messages to Ariba Network. A PaymentRemittanceRequest is transferred when a payment run is carried out in SAP ERP (transaction F110).

i Note

It is not necessary that you change existing payment run variants in order to send PaymentRemittanceRequest messages to Ariba Network.

PaymentRemittanceStatusUpdateRequest (Outbound)

If you have enabled the required communication in SAP ERP for reset and reversed payment documents, SAP ERP can send PaymentRemittanceStatusUpdateRequest messages to Ariba Network to cancel PaymentRemittanceRequests.

Integration of SAP ERP with Ariba Discount Management

PaymentProposalRequest (Outbound)

If you have enabled the required communication in SAP ERP (see [Configuration Settings \[page 36\]](#)), the SAP ERP system can transfer payment proposals (based on accounting documents for incoming invoices) to Ariba Network. A payment proposal places the offer for early payment and scheduled payment in Discount Management.

Depending on your payment strategy, you can do the following:

- Pay within a certain period in order to take advantage of the SAP ERP cash discount terms. This is the default option.
- Pay only on or after the due date, without receiving any discount. This option can be enabled by implementing the BAdI ARBERP_OUTBOUND_MAPPING, method MAP_BKPF_TO_PAYP_USE_NET_DAYS. This BAdI is available in Customizing for SAP Business Suite Integration Component for Ariba under [Business Add-Ins \(BAdIs\) > BAdI: Outbound Mapping](#).

SAP ERP sends an updated payment proposal if data relevant for payments is changed. For example if payment terms or discount amounts are changed in accounting, the system assigns a credit memo and thus reduces the payment amount by a partial payment.

When invoices are completely paid, the corresponding payment proposals are sent to Ariba Network with the operation `delete`. On Ariba Network, the corresponding scheduled payments are deleted.

i Note

If an invoice is blocked for payment in SAP ERP, the payment proposal is sent with the operation `hold` to Ariba Network.

CopyRequest.PaymentProposalRequest (Inbound, Used for "PayMeNow")

The CopyRequest.PaymentProposalRequest message (also referred to as "PayMeNow" by Ariba) is the supplier's response to the payment proposal and indicates an early payment date and a discount. It updates the payment date and the discount amount in the accounting document, provided that the accounting document is not yet cleared.

If you want to see the changes in accounting documents that originate from CopyRequest.PaymentProposalRequest messages, you can do so by displaying the change documents that belong to the accounting documents.

i Note

When an accounting document is cleared in SAP ERP, the discount amount transmitted from Ariba Network is overwritten by the actual discount amount that was deducted during payment in SAP ERP.

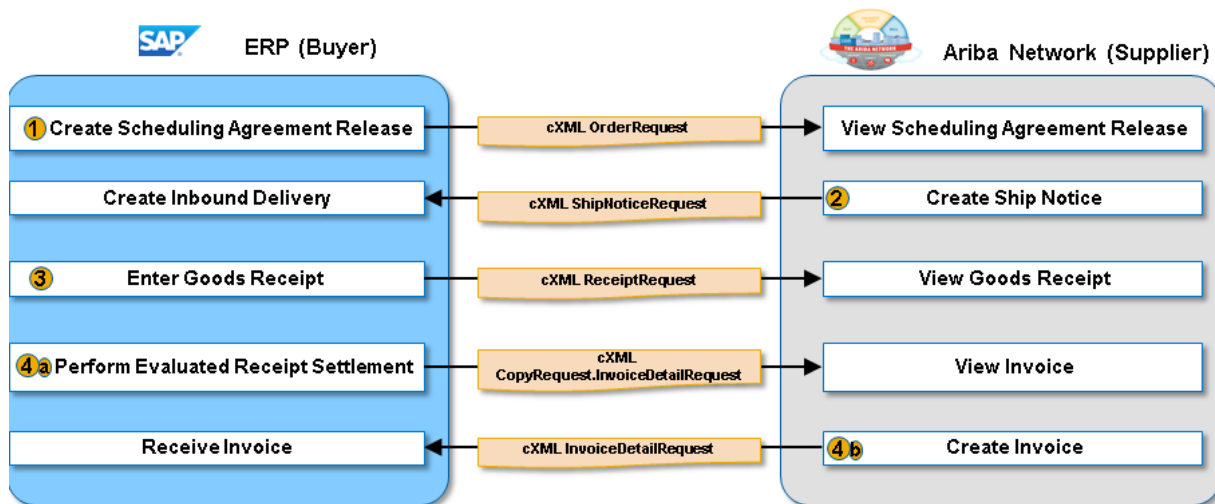
Integration of SAP ERP with Collaborative Supply Chain

Supply Chain Collaboration enables the collaboration between buyers and suppliers of direct materials. The following processes are supported:

- Scheduling agreement releases
- Consignment
- Subcontracting
- Multi-tier order collaboration
- Returns process
- Quality inspection collaboration
- Quality notification collaboration
- Quality certificates

Scheduling Agreement Releases

Scheduling agreements are long-term agreements between buyers and suppliers. With scheduling agreement releases, buyers can request delivery of part of the total quantity of materials stipulated in a scheduling agreement while at the same time providing a forecast of future delivery requests.



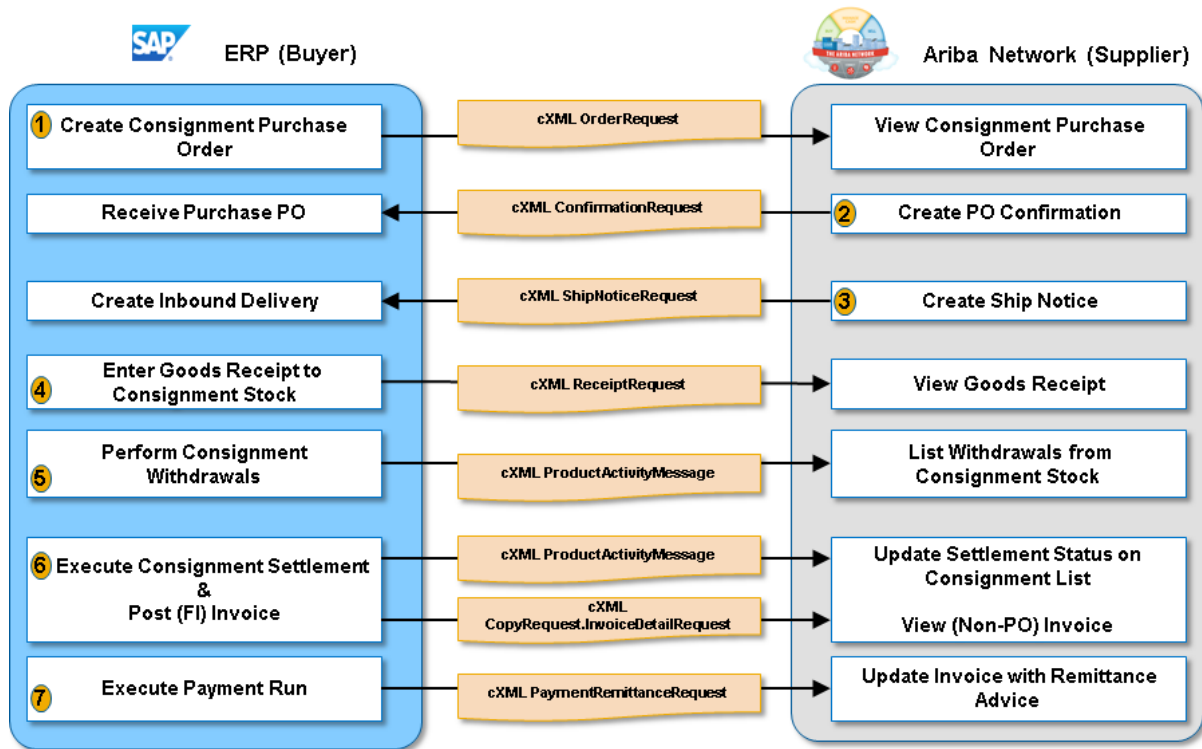
Steps 4a and 4b are alternatives.

Overview of the Scheduling Agreement Release Process

Consignment

Consignment is a form of business in which a supplier maintains a stock of materials at a buyer's site. The supplier retains ownership of the materials until they are withdrawn from the consignment stores. Payment for

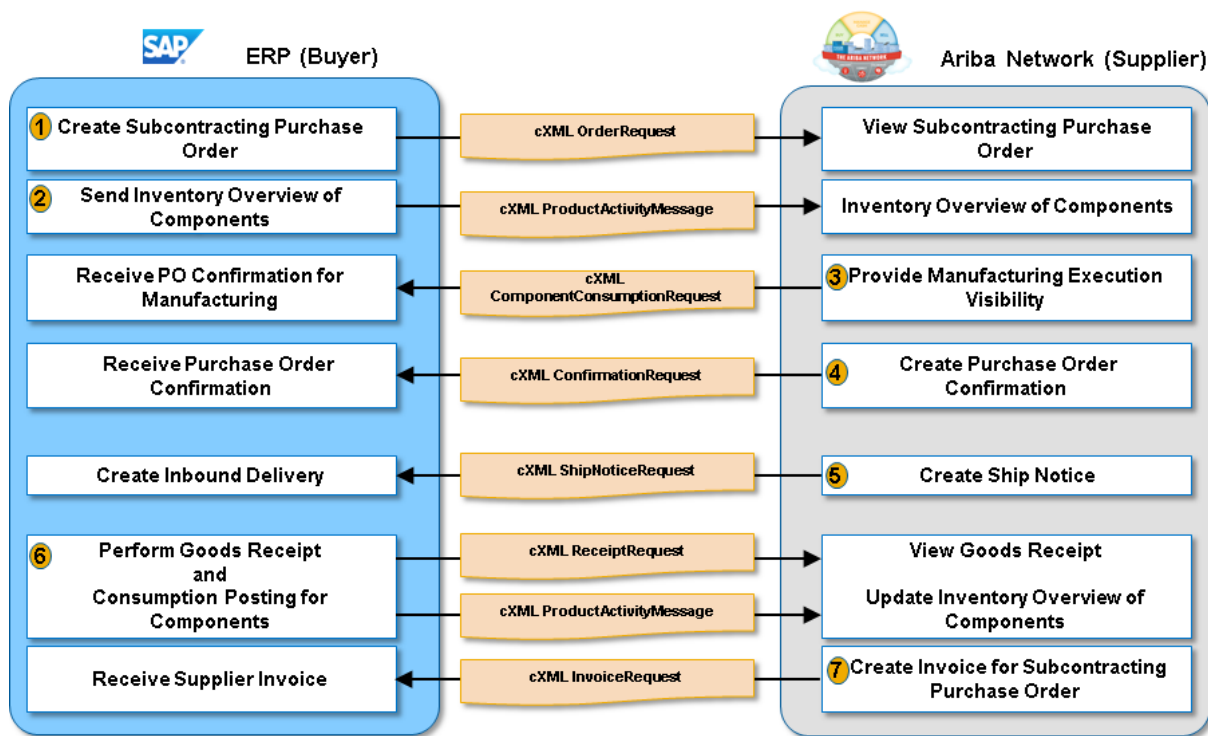
consignment stock is required only when the material is withdrawn for use. For this reason, the supplier is informed about the withdrawals of consignment stock.



Overview of the Consignment Process

Subcontracting

Subcontracting is the processing of materials by an external supplier. The result is the manufacture by the supplier (subcontractor) of an ordered material or product.



Overview of the Subcontracting Process

The following message types are used in the Collaborative Supply Chain processes:

OrderRequest (Outbound)

The OrderRequest message type can be used to send scheduling agreement releases to the Ariba Network.

Item types supported for **scheduling agreement releases**:

- Standard items
- Third-party items

If you use scheduling agreement releases, you need cXML version 1.2.026 and the following mapping versions:

Function That You Want to Use	Mapping Version Required
Shipping Notification	V003 or higher
MM CC Invoice	V003 or higher
FI CC Invoice	V002 or higher
Incoming MM Invoice	V003 or higher

For scheduling agreement releases, you must make specific Customizing settings. For more information, see chapter *Function-Specific Customizing*.

Item types supported for **consignment**:

- Consignment items
Note: Consignment items do not have a price.

Item types supported for **subcontracting**:

- Subcontracting items
Note: Subcontracting items have components that are assigned to the items.

ShipNoticeRequest (Outbound)

An outbound delivery (delivery for subcontract) created in the SAP ERP system is transferred to the Ariba Network. (You can check the outbound delivery in your outbox on Ariba Network, under Component Ship Notices.) As a prerequisite, you have to do the following in Customizing:

- Configure the customer and the sales organization in the Customizing activity [Define Message Output Control](#), using Application V2, Standard Output Type LD00, and cXML message type SHIP.
- Assign your Ariba Network ID to a shipping point under [Define Mapping Settings for Outbound Shipping Notifications](#). For more information, see the Customizing documentation.

The subcontracting process now supports two-step provision of components to suppliers. In the first step, the goods are transferred to the stock in transit with movement type 30A. In the second step, the goods are moved from the stock in transit into the unrestricted subcontracting stock for a supplier with movement type 30C.

i Note

Movement types 30A and 30C are supported as of EhP 4 for SAP ERP 6.0.

ReceiptRequest (Inbound)

This message type is used in the two-step provision of subcontracting components to suppliers (see above) and confirms to the buyer that the supplier has received subcontracting components. A component receipt created on the Ariba Network is transferred to SAP ERP, where it creates a goods movement from transit stock to the supplier's subcontracting component stock (movement type 30C). If required, suppliers can create cancellations of component receipts, for example if a mistake was made. In SAP ERP, the cancellation is posted with movement type 30D and reverses the movement from transit stock to subcontracting stock.

i Note

Movement types 30A and 30C are supported as of EhP 4 for SAP ERP 6.0.

It is possible to cancel component receipts, for example if you have made a mistake. The cancellation of component receipts corresponds to movement type 30D in SAP ERP.

ProductActivityMessage (Outbound)

The ProductActivityMessage message type can be used to send inventory, forecast, and consignment data from SAP ERP to suppliers via the Ariba Network. Usually, this data is used for information or planning purposes. Currently, the following data can be transferred and displayed on Ariba Network:

- **Forecast data** for your gross demand, extracted from planned independent requirements, dependent demand, dependent reservation, sales orders and reservation
- **Forecast data** for your net demand, extracted from purchase requisitions, planned orders, and scheduling agreement releases

- **Stock data** extracted from consignment stock or your own stock for the following stock types:
 - Unrestricted use stock
 - Stock in quality inspection
 - Blocked stock
- **Subcontracting** stock data, including stock levels
- **Consignment** withdrawals and information about the related settlements

The following reports are available for extracting stock and forecast data for transfer to the Ariba Network:

- ARBERP_BUS1001_EXTRACT_PROA
- ARBERP_BUS1001_EXTRACT_PROA2

This report offers options for extracting a wider range of data than ARBERP_BUS1001_EXTRACT_PROA. For more information, see the report documentation that is available in the SAP ERP system.

i Note

The delivery schedules that are in the forecast period in the delivery schedules of a scheduling agreement release are sent to Ariba Network. The delivery schedules that lie in the firm or trade-off zone of a scheduling agreement release are not extracted with the reports [Extract Stock/Forecast for ProductActivityMessage](#) (ARBERP_BUS1001_EXTRACT_PROA and ARBERP_BUS1001_EXTRACT_PROA2).

ComponentConsumptionRequest (Inbound)

Timely Component Consumption

The ComponentConsumptionRequest message type can be used to provide the timely component consumption information in the subcontracting process. The data of the components consumed in the manufacturing process is sent from supplier's system to the buyer's SAP ERP system via the Ariba Network. This message creates a goods movement document and is displayed in the purchase order history tab of purchase order items.

i Note

Restrictions

- The timely component consumption functionality is available with SAP ERP EhP4 and higher.
- You have to activate the business function [Outsourced Manufacturing](#) (LOG_MM_OM_1) to use the functionality.
- Only purchase order items of the type “subcontracting” are supported
- In the subcontracting purchase info record for the PO item, you have to select the [Real-Time Consumption](#) indicator (located on the [Purchasing Organization Data](#) screen).

Manufacturing Execution Visibility

The ComponentConsumptionRequest message type can be used to provide manufacturing execution visibility in the **subcontracting** process. The corresponding data is sent from the supplier's system to the buyer's SAP ERP system via the Ariba Network, informing the buyer when production orders are created in the supplier's system. This information is displayed on the [Confirmations](#) tab of purchase order items.

i Note

Restrictions

The external confirmation category that you use for updating manufacturing execution visibility implies the following restrictions:

- The Logistics Information System is not updated by the ComponentConsumptionRequest.
- Tolerance and price checks are not supported. Accordingly, specific Customizing settings are required in the buyer's SAP ERP system. For more information, see *Function-Specific Customizing*.
- Change pointers are not supported.
- Only purchase order items of the type "subcontracting" are supported.

ShipNoticeRequest (Inbound)

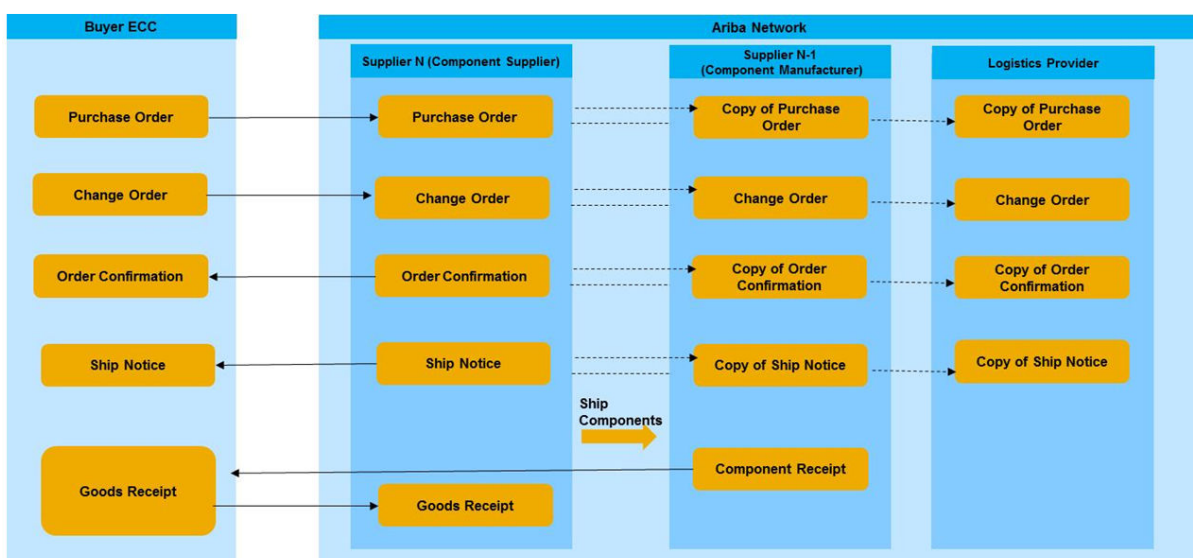
As of mapping version V005, it is possible to include subcontracting components as part of ShipNoticeRequest cXML messages that are sent from Ariba Network to SAP ERP. This enables suppliers to enter quantities for subcontracting components manually, for example if the quantities actually consumed differ from the quantities specified in the purchase order. The quantities of subcontracting components are reflected in SAP ERP in the inbound delivery document. The subsequent goods movement uses the component quantities of the inbound delivery document.

i Note

- This function is available as of SAP ERP EhP4 and higher.
- You have to activate the business function *Outsourced Manufacturing* (LOG_MM_OM_1) to use this function.

Multi-Tier Purchase Order Collaboration

In a multi-tier supply chain involving several business partners, end-to-end visibility and collaboration are essential. In this context, you can trigger that when you send a purchase order to a specific supplier, a copy is sent to an additional supplier via the Ariba Network.



OrderRequest (Outbound)

The OrderRequest outbound message supports sending of purchase order copies to additional partners. When a purchase order containing copy partners is created in Ariba Network, the Ariba Network generates copies of the purchase order and sends them to the copy partners. Any subsequent changes to purchase order are also automatically sent to copy partners by the Ariba Network. When an order confirmation or ship notice is created by the supplier against a purchase order containing copy partners, copies of the order confirmation or ship notice are also automatically sent to the copy partners.

i Note

Changing of copy partners is not allowed once a purchase order has been created in Ariba Network. This means that the partners who are to receive copy of purchase order must be final at the time when the purchase order is created in SAP ERP. Any subsequent changes will be rejected by Ariba Network.

ReceiptRequest (Inbound)

A component receipt that was created on the Ariba Network by supplier N1 (see image above) is transferred to SAP ERP system and creates a goods receipt in SAP ERP.

i Note

- Only goods receipts with reference to a purchase order are supported.
- On the purchase order line items for which a goods receipt is being created, the *SC Vend* (subcontracting vendor) indicator must be set.
- Only the item type “received” is supported, also as a reversal. The item type “returned” is not supported.

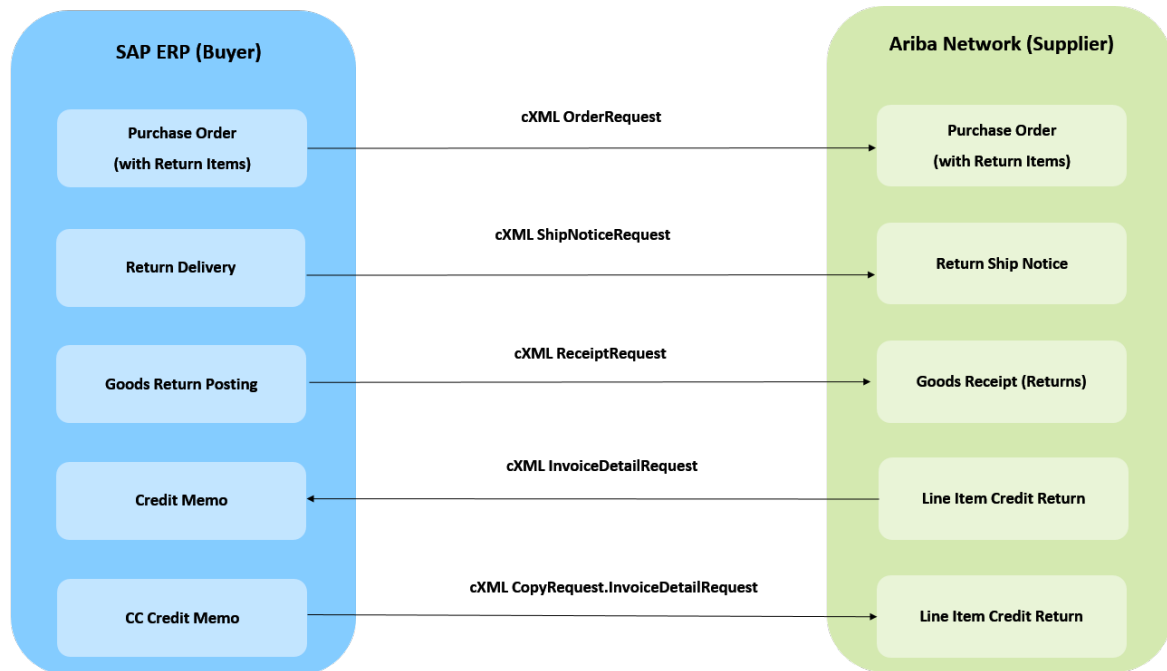
Receipt ItemType in cXML	Plus/Minus Sign of Quantity in cXML	Quantity transferred in cXML	
Received	Positive	Number of goods received.	Supported
Received	Negative	Reversal of number of goods received. (Correction in the “Received” quantity).	Supported
Returned	Positive	Number of goods returned.	Not supported
Returned	Negative	Reversal of number of goods returned. (Correction in the “Returned” quantity).	Not supported

- Only movement types 101 and 102 are supported.
- Items that are batch-managed are not supported.

If a supplier cancels a component receipt on the Ariba Network, this creates the reversal of a goods receipt in SAP ERP.

Returns Process

The returns process allows you to return goods to the vendor and then receive credit memos for the returned items.



OrderRequest (Outbound)

As a buyer, you can include return items in the purchase orders that you send to your suppliers on the Ariba Network. Prerequisite is that you use cXML version 1.2.30 or higher and mapping version V005 or higher.

ShipNoticeRequest (Outbound)

An outbound delivery created in the SAP ERP system for the return shipment is transferred to the Ariba Network. Suppliers see the return shipments in their inbox under [Extended Collaboration > Return Shipment](#). As a prerequisite, you have to do the following in Customizing:

- Configure the customer and the sales organization in the Customizing activity [Define Message Output Control](#), using Application V2, Standard Output Type LD00, and cXML message type SHIP.
- Assign your Ariba Network ID to a shipping point under [Define Mapping Settings for Outbound Shipping Notifications](#). For more information, see the Customizing documentation.

Quality Inspection Collaboration

Quality inspection collaboration allows buyers to request suppliers to perform quality inspection at their site, to receive information about the results, and to communicate their usage decision to the suppliers. Quality inspection collaboration enables the following interaction between buyers and suppliers:

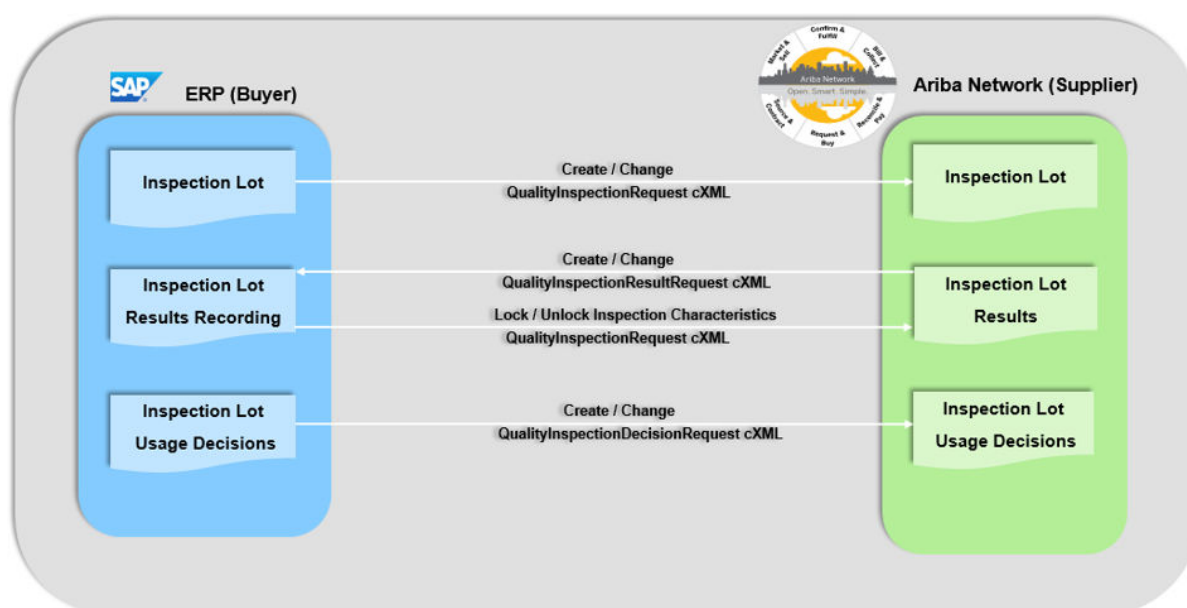
1. The buyer requests the supplier to perform the quality inspection.

2. After performing the quality inspection, the supplier sends the following to the buyer:
 - The inspection results for the inspection lot and its characteristics
 - Attachments, for example a certificate of analysis (CoA)
3. The buyer confirms to the supplier that the the results have been received and sends the final usage decision for the inspection lot to the supplier.

The buyer starts the quality inspection collaboration process in one of the following ways:

- By creating an inspection lot manually with **inspection lot origin 01**.
- By creating a goods receipt document. This can be used to reflect a virtual goods receipt, for example during a subcontracting process.

The graphic below shows the flow of the cXML messages that are exchanged between SAP ERP and the Ariba Network:



The process runs as follows:

1. An inspection lot is created in SAP ERP, either because a goods receipt is created or because a user creates an inspection lot origin with origin *01 – Goods Receipt*. This triggers the sending of an outbound `QualityInspectionRequest` cXML message from SAP ERP to the Ariba Network. The cXML message replicates the inspection lot data to the Ariba Network.
2. The supplier can see inspection lot in the *Quality Inspection* area on the Ariba Network.
3. After performing the quality inspection, the supplier provides the results to the buyer. The cXML message type `QualityInspectionResultRequest` (inbound) is used to transfer the results to the SAP ERP system.
4. Once the buyer has received the results for some of the characteristics in an operation, the buyer can close the characteristic and prevent the supplier from changing the results or from providing further results. The cXML message type `QualityInspectionRequest` (outbound) is used to close the characteristics.
5. The collaboration concludes with the buyer making the final usage decision, based on the inspection results. The usage decision can be to either accept or reject the material. The cXML message type `QualityInspectionDecisionRequest` (outbound) is used to transfer the usage decision to the supplier.

i Note

The quality inspection collaboration has the following **restrictions**:

- Only the transfer of inspection lots with origin type *01 – Goods Receipt* is supported.
- Inspection lots that are created without an inspection plan are not supported.
- Only the following inspection characteristics are supported:
 - Quantitative: Summarized recording, single results, defects recording
 - Qualitative: Summarized recording, single results, defects recording
- Results recording is supported at characteristic level. Single value level is not supported at sample level.
- The use of inspection points and any related functionality is not supported.
- Dependent characteristics are not supported.
- The distinction between external operations and internal operations is not possible in the collaboration process. If this is required, you can implement a BAdI to do so.
- Inspection lots with multiple operations are not supported.
- Attachments can only be transferred from the supplier to the buyer, with the results of the inspection. Attachments are only enabled at the level of the inspection lot.

Configuration Steps

To send an inspection lot or usage decisions from SAP ERP to the Ariba Network, you must enable three new event type linkages in transaction SWETYPV. For more information about event type linkages, see chapter "Function-Specific Customizing".

Reports for Quality Inspection Messages

If outbound cXML messages for quality inspection collaboration could not be created successfully, the following reports are available to trigger the creation again:

- Extract Inspection Lots for QualityInspectionRequest (ARBERP_BUS2045_EXTRACT_QLTI)
You can use this report if a `QualityInspectionRequest` cXML message could not be created successfully and you want to trigger the creation again (use selection option [Reconciliation by Inspection Lot Key](#)).
- Extract Usage Decisions for QualityInspectionDecisionRequest (ARBERP_BUS2045_EXTRACT_QLID)
You can use this report if a `QualityInspectionDecisionRequest` cXML message could not be created successfully and you want to trigger the creation again (use selection option [Reconciliation by Inspection Lot Key](#)).

Quality Notification Collaboration

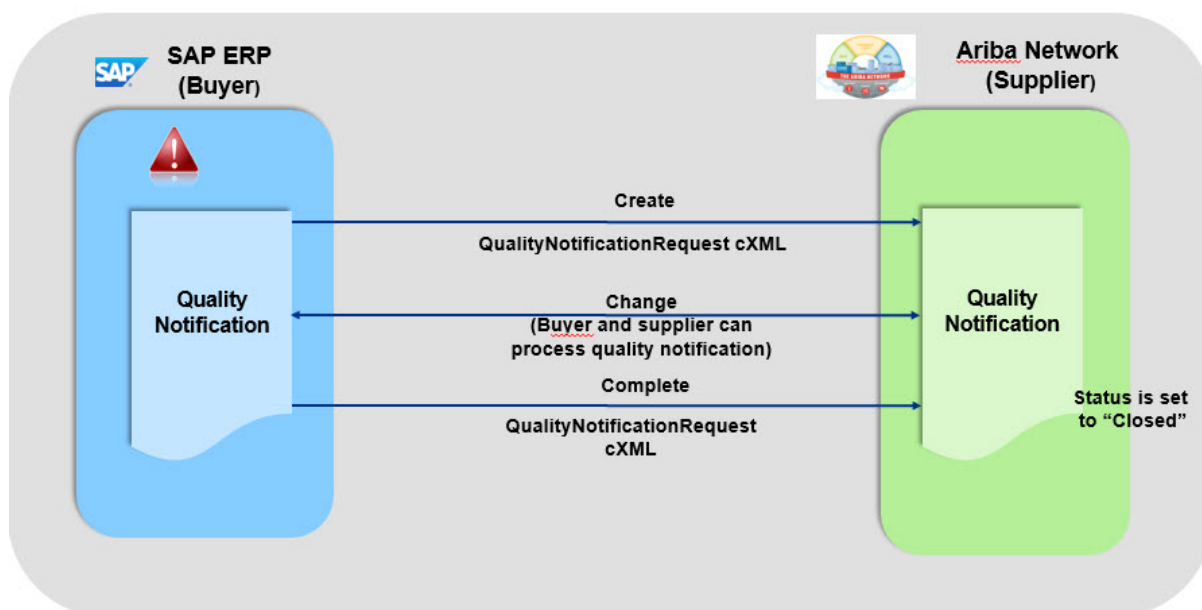
Quality notification collaboration allows buyers and suppliers to collaborate on problems such as defects and other quality issues. You can use the notifications to analyze the recorded defects and monitor the correction of these problems. Quality notifications can be created for the finished product or for subcontracting components. They can be created by buyers and by suppliers, depending on where the deviations have been detected.

QualityNotificationRequest (Outbound)

In the SAP standard, quality notification type Q6 is used for quality notifications created by buyers in SAP ERP.

The process runs as follows:

1. The buyer creates a quality notification in SAP ERP, with or without reference to a purchase order. The quality notification is replicated to the Ariba Network.
2. Suppliers can see quality notifications in the **Quality Notification** section on the Ariba Network. They can respond by updating the quality notification.
3. The buyer and supplier can change the quality notification by adding items, causes, actions ("tasks" on the Ariba Network), and activities.
4. The collaboration concludes with the buyer agreeing with the result and setting the quality notification to the status "completed". Even if a supplier sets the status on the Ariba Network to "complete", the status of the quality notification is set to "in process" in SAP ERP. Only when the buyer sets the status to "completed" in SAP ERP is the status on the Ariba Network set to "closed".



Quality Notification Created by Buyer

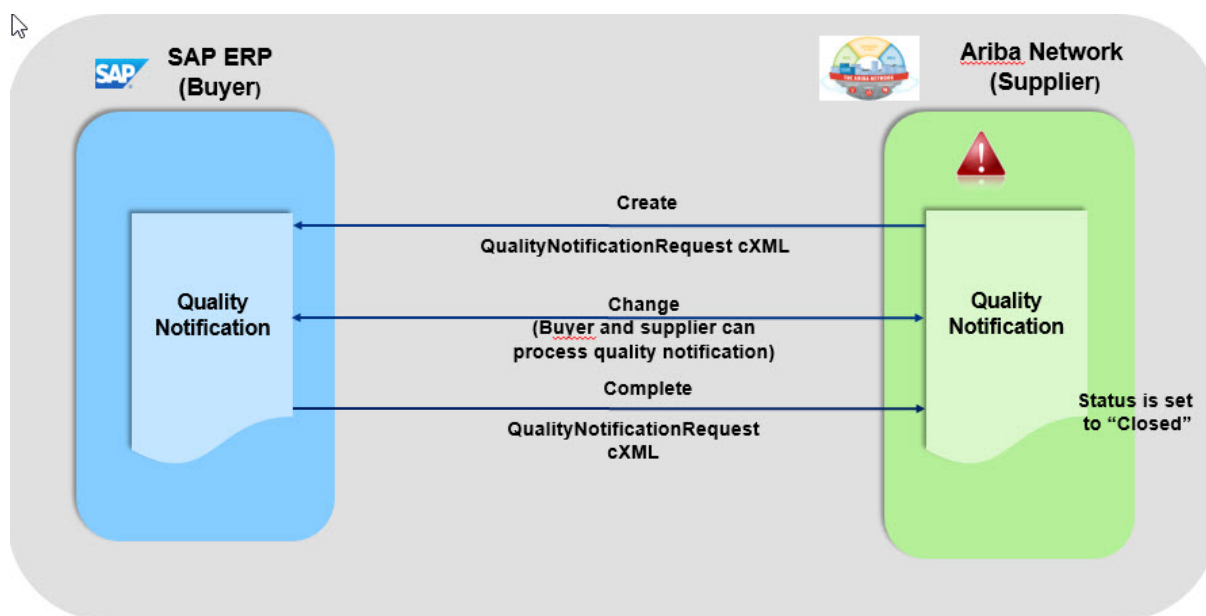
QualityNotificationRequest (Inbound)

In the SAP standard, quality notification type Q7 is used for quality notifications created by suppliers on the Ariba Network. For example, suppliers can create quality notifications for issues with subcontracting components that they receive from the buyer.

The process runs as follows:

1. The supplier creates a quality notification on the Ariba Network with or without reference to a purchase order. The QualityNotificationRequest is transferred to SAP ERP where a corresponding quality notification is created according to the number range defined for quality notifications in SAP ERP and is immediately replicated to the Ariba Network with this number.
2. Buyers can see the quality notification in the [Quality Notification](#) section on the Ariba Network and in the back-end SAP ERP system. Buyers can respond to the quality notification in SAP ERP by updating the quality notification document in SAP ERP.
3. The buyer and supplier can change the quality notification by adding items, causes, actions ("tasks" on Ariba Network), and activities.
4. The collaboration concludes with the buyer agreeing with the result and setting the quality notification to the status "completed". Even if a supplier sets the status on the Ariba Network to "complete", the status of

the quality notification is set to “in process” in SAP ERP. Only when the buyer sets the status to “completed” in SAP ERP is the status on the Ariba Network set to “closed”.



Quality Notification Created by Supplier

Restrictions:

- The quality notification collaboration functionality is available as of SAP ERP EhP5.
- You have to activate the business function *Enhancements in FMEA and QM Notifications* (OPS_QM_EXTENSION_2) to use the functionality.
- Only quality notification types of Q6 and Q7 are supported in the quality collaboration process. You have to copy the quality notification types including priority type AN for qualification notifications from the delivery Customizing from sample client 000 to your productive client. You can run transaction Customizing Cross-System Viewer (SCU0) to compare Customizing contents in the 000 client and in the productive client.

To send quality notifications from SAP ERP to the Ariba Network, you have to enable two new event type linkages in transaction SWETYPV. For more information, see chapter "Function-Specific Customizing".

You can use the report *Extract Quality Notifications for QualityNotificationRequest* (ARBERP_BUS2078_EXTRACT_QITY) if a QualityNotificationRequest cXML message could not be created successfully and you want to trigger the creation again (use selection option *Reconciliation by Quality Notification Key*).

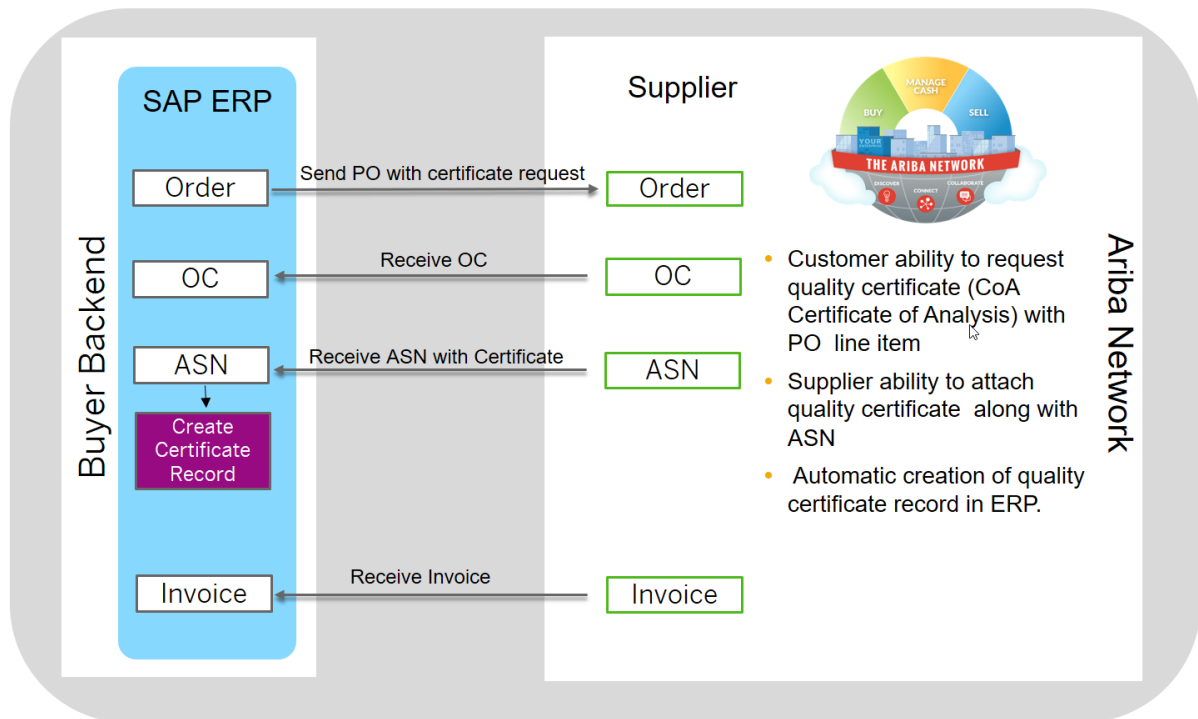
You can use the report *Extract Quality Notification Codes* (ARBERP_QITY_QN_CODE_EXTRACT) to extract the codes (defects or activities, for example) that can be used in your quality notification types, such as Q6 and Q7. You can download this data in CSV format and then upload the file to the Ariba Network. The codes and the descriptions used in notification types Q6 and Q7 provide explanation or input help to the suppliers.

Quality Certificates

Quality is an essential factor to guarantee flawless order fulfillment, and quality standards apply to both product components as well as finished products. Based on the material specification in SAP ERP, some materials have a requirement to receive a quality certificate as part of each delivery.

The process runs as follows:

1. If the certificate information is maintained in the material master, then the supplier is informed about the need to provide a quality certificate for the respective purchase order line item.
2. If the business rule in the Ariba Network is enabled to mandate certificates as part of advanced shipping notifications (ASNs), then the supplier is required to attach one or more quality certificates for each purchase order line item to the ASN.
3. The ERP system will create a certificate record for each purchase order item as part of the ASN.
4. The quality certificates will also be provided as attachments to the certificate records.



Provision of Quality Certificates as Part of ASNs Upon Buyer Request

Restrictions

- Only the operations **create** and **delete** for *ShipNoticeRequest* messages are supported to create a quality certificate and change the status of a quality certificate.
- The supplier cannot be informed about whether the attachment of a quality certificate is optional or mandatory.
- The standard integration process only creates certificates for the certificate type that exists in the material master.
- Quality certificates can only be created for purchase orders and purchase order items.
- If multiple batches are provided for the same purchase order or purchase order item in an ASN, the batch information will not be copied into the certificate.

2 Configuration Settings

This chapter describes the settings you have to make in your SAP ERP system for communication with Ariba Network. It also describes the Customizing details for Ariba Network Integration 1.0 for SAP Business Suite.

2.1 Prerequisites for Connecting SAP ERP to Ariba Network

The following prerequisites apply:

- You have signed up for an Ariba Network membership.
- You have received one or several IDs, known as Ariba Network IDs (ANID). You use either a password (shared secret) or a client certificate with each ANID. Each credential represents a unique entity on Ariba Network, that is, your appearance to the vendors on Ariba Network.
- Ariba has provided you with a list of your vendors who have already signed up to the network, so you can start collaboration immediately. To connect with the vendors on the network, get support from your Ariba contact.



i Note

As company code and plant address data is transferred to Ariba Network, ensure the complete address data is maintained in the SAP ERP system.

2.1.1 Required Notes in SAP ERP

Depending on your SAP ERP release the following SAP Notes are required:


For Technical Purposes

- SAP Note [1884125](#) 
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL 6.00 lower than SP 25
 - SAP_APPL 6.02 lower than SP 15
 - SAP_APPL 6.03 lower than SP 14
- SAP Note [1535132](#)  is required for the application log.
This SAP Note is relevant for the following releases and support packages:
 - SAP_BASIS release 7.0 lower than SP27
 - SAP_BASIS release 7.01 lower than SP11



- SAP_BASIS release 7.02 lower than SP07
- SAP BASIS release 7.31 lower than SP02
- SAP Note [1669829](#) is required if you use client certificate as your authentication method.
This SAP Note is relevant for the following releases and support packages:
 - SAP_BASIS release 7.0 lower than SP27
 - SAP_BASIS release 7.01 lower than SP12
 - SAP_BASIS release 7.02 lower than SP11
 - SAP_BASIS release 7.31 lower than SP03
- SAP Notes [1984803](#) and [1987211](#) are required for Forward Error Handling. They enable the navigation to the business object and to the application log.
This SAP Note is relevant for the following releases and support packages:
 - SAP_ABA release 7.02 lower than SP1
 - SAP_ABA release 7.30 lower than SP1
 - SAP_ABA release 7.31 lower than SP12
 - SAP_ABA release 7.40 lower than SP7

For the Integration of Service Procurement





- SAP Note [1832628](#)
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL 6.04 lower than SP 17
 - SAP_APPL 6.05 lower than SP 12
 - SAP_APPL 6.06 lower than SP 11
 - SAP_APPL 6.16 lower than SP 6
 - SAP_APPL 6.17 lower than SP 3
- SAP Note [2053181](#) is relevant for transmitting the approval or rejection status of a service entry sheet to Ariba Network.
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL 6.00 lower than SP27
 - SAP_APPL 6.02 lower than SP17
 - SAP_APPL 6.03 lower than SP16
 - SAP_APPL 6.04 lower than SP17
 - SAP_APPL 6.05 lower than SP14
 - SAP_APPL 6.06 lower than SP14
 - SAP_APPL 6.16 lower than SP9
 - SAP_APPL 6.17 lower than SP6
- SAP Note [2061499](#) introduces a check in MM-SRV that verifies that Ariba Network integration is activated and, if this is the case, it adjusts the logic that is used for generating the `SRVMAPKEY`.
 - SAP_APPL 6.03 (pilot customer restriction)
 - SAP_APPL 6.04 lower than SP17
 - SAP_APPL 6.05 lower than SP14
 - SAP_APPL 6.06 lower than SP14
 - SAP_APPL 6.16 lower than SP9

- SAP_APPL 6.17 lower than SP6
- SAP Note [2241984](#)  enables invoicing of services for which no service entry sheet is expected.
 - SAP_APPL 6.04 lower than SP18
 - SAP_APPL 6.05 lower than SP15
 - SAP_APPL 6.06 lower than SP17
 - SAP_APPL 6.16 lower than SP10
 - SAP_APPL 6.17 lower than SP12
 - SAP_APPL 6.18 lower than SP02

For Invoice Processing

- SAP Note [1878009](#)  is required for introducing a new invoice type.
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL 6.00 lower than SP 25
 - SAP_APPL 6.02 lower than SP 15
 - SAP_APPL 6.03 lower than SP 14
 - SAP_APPL 6.04 lower than SP 15
 - SAP_APPL 6.05 lower than SP 12
 - SAP_APPL 6.06 lower than SP 9
 - SAP_APPL 6.17 lower than SP 2
- SAP Note [1968355](#)  is required for introducing an new invoice type that is relevant for invoice parking; this SAP Note enhances the selection screens for invoice lists (transactions MIR5, MIR6) with new entry types for Ariba Network invoices.
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL 6.00 lower than SP 26
 - SAP_APPL 6.02 lower than SP 16
 - SAP_APPL 6.03 lower than SP 15
 - SAP_APPL 6.04 lower than SP 16
 - SAP_APPL 6.05 lower than SP 13
 - SAP_APPL 6.06 lower than SP 12
 - SAP_APPL 6.16 lower than SP 7
 - SAP_APPL 6.17 lower than SP 5

For Order Confirmation

- SAP Note [1834548](#)  is required for the processing of order confirmations (SAP ERP releases lower than SAP ERP 6.0 EHP 2) and is a prerequisite for SAP Note [1908480](#)  and SAP Note [1885572](#) .
- SAP Note [1908480](#)  is required for adding and deleting purchase order confirmations.
This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL release 6.0 lower than SP25
 - SAP_APPL release 6.02 lower than SP15

- SAP_APPL release 6.03 lower than SP14
- SAP_APPL release 6.04 lower than SP15
- SAP_APPL release 6.05 lower than SP12
- SAP_APPL release 6.06 lower than SP10
- SAP_APPL release 6.17 lower than SP02
- For SAP_APPL release 6.0 lower than SP24, use SAP Note [1883916](#)
- SAP Note [1885572](#) is required for the correct processing of order confirmations. This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL release 6.0 lower than SP25
 - SAP_APPL release 6.02 lower than SP14
 - SAP_APPL release 6.03 lower than SP13
 - SAP_APPL release 6.04 lower than SP14
 - SAP_APPL release 6.05 lower than SP11
 - SAP_APPL release 6.06 lower than SP09
 - SAP_APPL release 6.17 lower than SP02
- SAP Note [2040673](#) is required for the correct processing of order confirmations. This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL release 6.0 lower than SP27
 - SAP_APPL release 6.02 lower than SP17
 - SAP_APPL release 6.03 lower than SP16
 - SAP_APPL release 6.04 lower than SP17
 - SAP_APPL release 6.05 lower than SP14
 - SAP_APPL release 6.06 lower than SP15
 - SAP_APPL release 6.17 lower than SP08

For Discount Management

- SAP Note [1954584](#) is required for Discount Management. This SAP Note is relevant for the following releases and support packages:
 - SAP_APPL release 6.0 lower than SP26
 - SAP_APPL release 6.02 lower than SP15
 - SAP_APPL release 6.03 lower than SP14
 - SAP_APPL release 6.04 lower than SP15
 - SAP_APPL release 6.05 lower than SP12
 - SAP_APPL release 6.06 lower than SP11
 - SAP_APPL release 6.16 lower than SP06

For Payment Remittance

- SAP Notes [1964766](#) and [1967254](#) are required for the transmission of PaymentRemittanceRequest messages.

This SAP Note is relevant for the following releases and support packages:

- SAP_APPL release 6.0 lower than SP26
- SAP_APPL release 6.02 lower than SP16
- SAP_APPL release 6.03 lower than SP15
- SAP_APPL release 6.04 lower than SP15
- SAP_APPL release 6.05 lower than SP12
- SAP_APPL release 6.06 lower than SP11
- SAP_APPL release 6.16 lower than SP06

For Consignment Withdrawals and Related Settlements

- SAP Note [2237282](#) is required for the transmission of consignment withdrawals and related settlement information in the ProductActivityMessage.

This SAP Note is relevant for the following releases and support packages:

- SAP_APPL release 6.0 lower than SP29
- SAP_APPL release 6.02 lower than SP19
- SAP_APPL release 6.03 lower than SP18
- SAP_APPL release 6.04 lower than SP19
- SAP_APPL release 6.05 lower than SP16
- SAP_APPL release 6.06 lower than SP18
- SAP_APPL release 6.16 lower than SP11
- SAP_APPL release 6.17 lower than SP12
- SAP_APPL release 6.18 lower than SP02

General

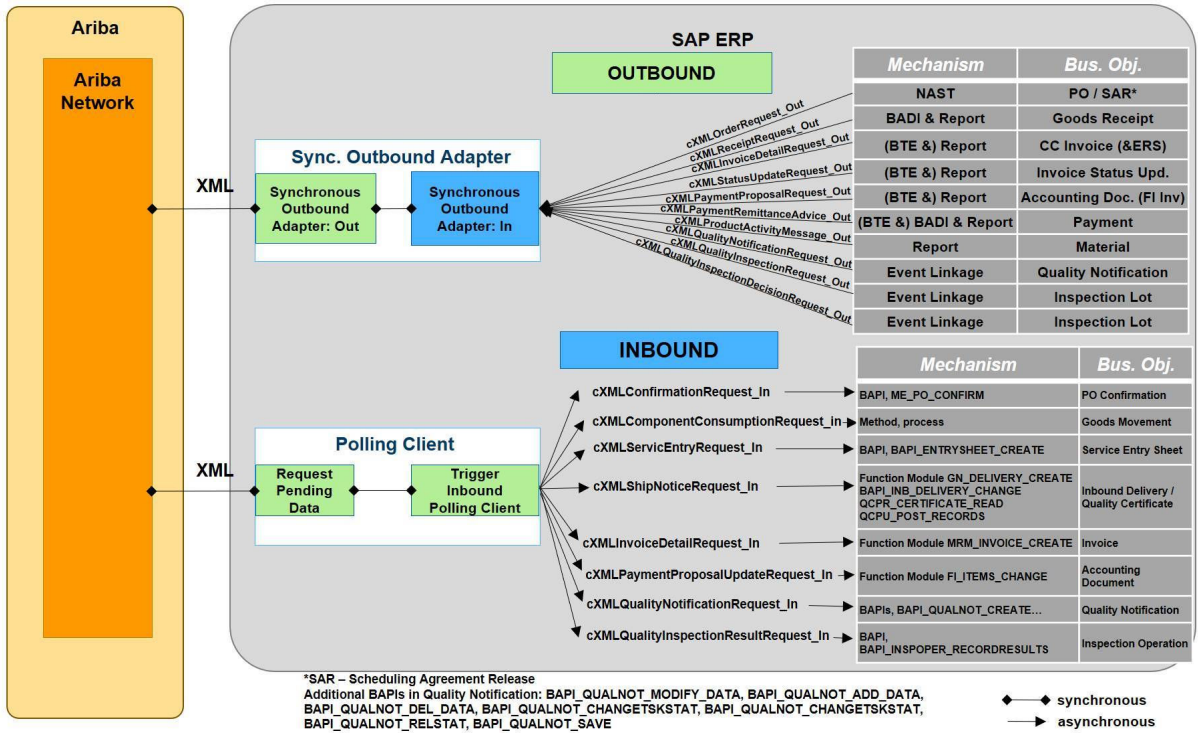
- SAP Note [1918732](#) provides a documentation of the mapping between SAP ERP application interfaces and Ariba cXML.
- SAP Note [2142748](#) provides answers to frequently asked questions (FAQ) and describes known issues and their solutions.

2.1.2 Establishing the Technical Connection to Ariba Network

As described in the introduction, you can decide whether you connect your SAP ERP system(s) either directly or through SAP NetWeaver PI to Ariba Network. A mixture is not recommended.

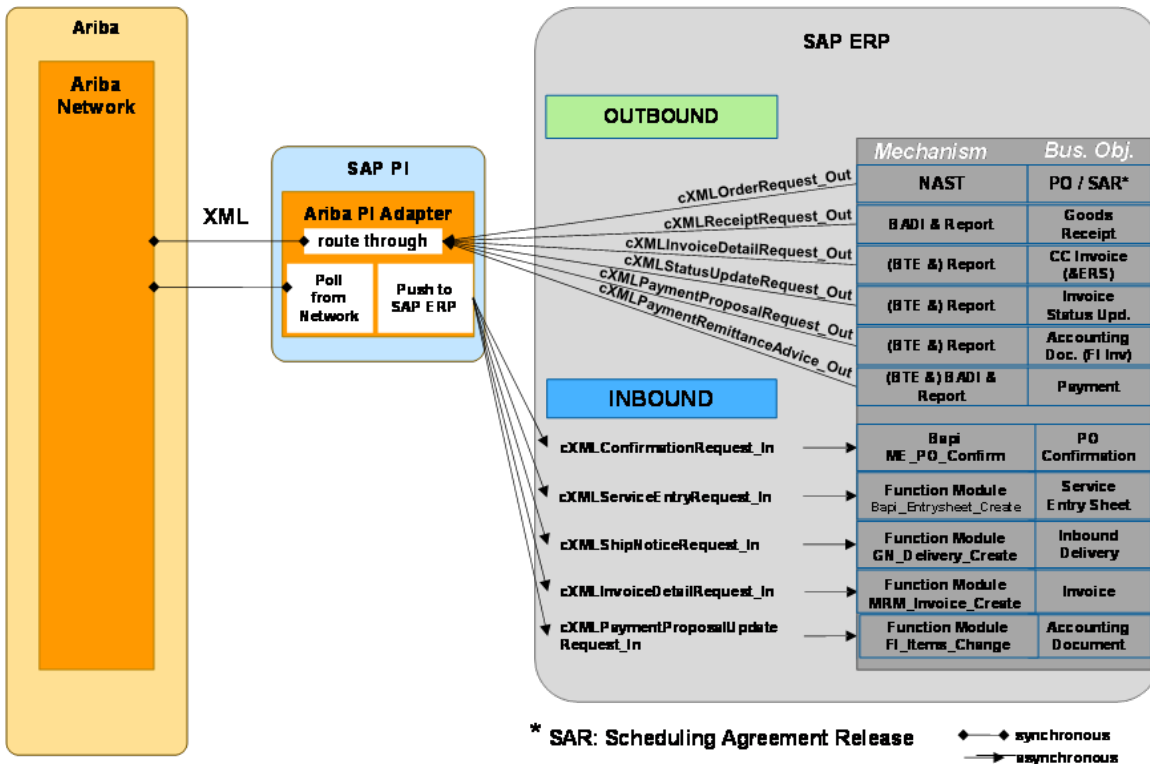
This decision is a prerequisite for choosing the relevant Customizing activities later.

The following figure shows an overall picture of the interfaces used for direct connectivity:



Interfaces for Direct Connectivity

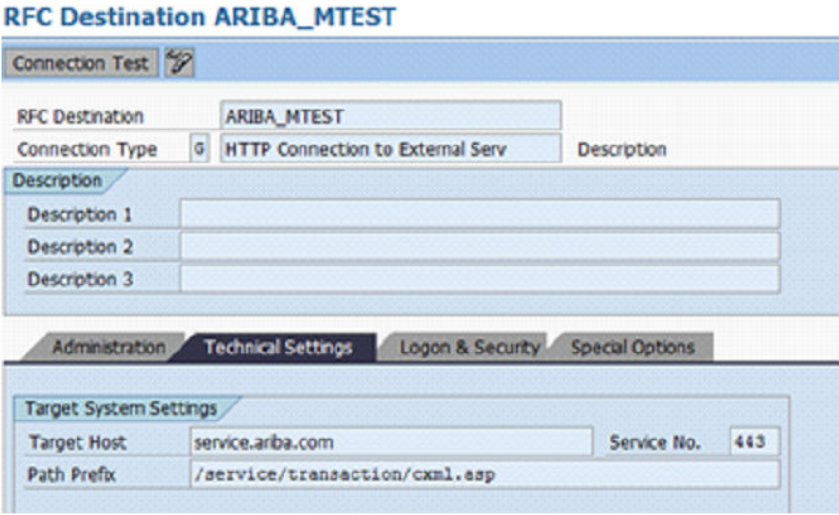
The following figure shows an overall picture of the interfaces used for mediated connectivity:



Interfaces for Mediated Connectivity

Even though it is not technically required, we recommend that you establish an SM59 connection to Ariba Network, so that you can ping the network and check its technical availability.

The following figure shows the technical settings of this connection:



Technical Settings for Direct Connectivity

The following figure shows the logon and security details of this connection:

The screenshot displays the 'Logon & Security' configuration window in SAP. It features a tabbed interface with 'Administration', 'Technical Settings', 'Logon & Security', and 'Special Options'. The 'Logon & Security' tab is active, showing several sections:

- Security Options:**
 - Logon Procedure:** Includes radio buttons for 'No Logon' (selected), 'Basic Authentication', and a checkbox for 'Send SAP Logon Ticket'.
 - Status of Secure Protocol:** Includes radio buttons for 'Inactive' and 'Active' (selected). Below this is a dropdown menu for 'SSL Client Certificate' set to 'ANONYM SSL Client (Anonymous)' and a 'Cert. List' button.
 - Authorization for Destination:** A text input field.
- Logon:** Includes a 'User' text input field and a 'PW Status' dropdown menu set to 'is initial'.

Logon and Security Settings for Direct Connectivity

i Note

For HTTPS SSL encryption, you first have to obtain the server certificate from Ariba and then import it into the SAP ERP system using Trust Manager (transaction **STRUST**). For more information about security, see chapter [Security \[page 57\]](#).

For HTTPS communication, the HTTPS service must be active in your SAP ERP system. To display active services, on the *ICM Monitor* screen (transaction **SMICM**), double-click the *Services* button in the menu bar.

2.2 Framework Customizing for Connecting SAP Business Suite to Ariba Network

To connect SAP Business Suite systems to Ariba Network, choose ► [Integration with Other SAP Components](#) ► [SAP Business Suite Integration Component for Ariba](#) ► [Framework Settings](#) ▾, and make settings in the following Customizing activities:

General

- [Define Credentials and End Points for Ariba Network](#):
 - Enter your Ariba credentials, that is, ANID(s) and the corresponding password(s).
 - Leave the [Shared Secret](#) blank if you authenticate with client certificate on Ariba Network.
 - If you have not yet switched your system to productive use, select the [Test Account](#) checkbox.
 - Select one of the following options for [Enable End Points](#)
 - [End points not enabled](#)
Use this option if the endpoints are not activated on Ariba Network.
 - [Enable end points for authentication](#)
Use this option if you use endpoints only for authentication.
 - [Enable end points for authentication and polling](#)
Use this option if you use endpoints for authentication and polling.

If you have decided to configure endpoints on Ariba Network, the credentials must **only** be specified on the subscreen [End Points for Ariba Network](#). Proceed as follows:

- [SAP-Internal Key](#)
This is an SAP-internal name for the endpoint; it must be unique in your SAP Business Suite system. This key value is used later in the Customizing activity [Define Settings for Polling Agent](#) for using endpoints in polling.
- [Ariba End Point ID](#)
This is the endpoint name defined on Ariba Network for your SAP system.
- [Enter Shared Secret](#)
Provide your shared secret value if you use a password for the communication between the SAP system and Ariba Network.

For more information about endpoints, see [Appendix \[page 94\]](#).

Direct Connectivity

- [Define Basic Message Settings](#)
Specify which Ariba cXML message types you intend to send and receive, and fill the corresponding [Object Type](#), [Message Type](#), [Direction](#), [Mapping Version](#) and [cXML version](#) fields.

Note:

- As of SP04, cXML version 1.2.025 is supported. The mapping version V002 supports new functions: It includes additional mappings for the cXML message types OrderRequest, InvoiceDetailRequest, and CopyRequest.InvoiceDetailRequest.
- As of SP06, cXML version 1.2.026 is supported, and new mapping versions have been introduced. The new mapping versions support new functions and include additional mappings for the following cXML messages and business object types:

cXML Message Type	Business Object Type	Mapping Version
OrderRequest	Purchase Scheduling Agreement (BUS2013002)	V001
CopyRequest.InvoiceDetailRequest	Accounting Document (BKPF)	V002
CopyRequest.InvoiceDetailRequest	Incoming Invoice (BUS2081)	V003
ShipNoticeRequest	Inbound Delivery (BUS2015)	V003

The indicator *Send cXML StatusUpdateRequest Message* is only valid for **inbound** cXML messages; it informs Ariba Network about successful or erroneous processing of your messages in the backend. Note that the error status is restricted to SAP Business Suite systems based on `SAP_BS_FND 701` and higher that support active Forward Error Handling (FEH).

Based on your system architecture and connectivity decision, make settings in Customizing for either direct connectivity or mediated connectivity.

For direct connectivity, choose **Integration with Other SAP Components** > **SAP Business Suite Integration Component for Ariba** > **Framework Settings** > **Direct Connectivity Settings**, and make settings in the following Customizing activities:

- *Manage and Test Enterprise Services*

The Web services used for communication with Ariba Network (AN) have to be configured in the SOA Manager. A detailed configuration guide can be found in the chapter [Configuration of SOA Manager \[page 94\]](#).

Note

After the SOA configuration steps you have to execute the technical configuration of Simple Object Access Protocol (SOAP) runtime (transaction `SRT_TOOLS`). For more information, search for the keyword *Configuring the Web Service Runtime* in the documentation of SAP NetWeaver under <http://help.sap.com> and SAP Note [1043195](#).

- *Maintain Certificate*

As the connection is established through HTTPS, a certificate for authentication is required. For more information, see chapter [SAP Business Suite System Acting as a Client \[page 57\]](#).

- *Define Settings for Polling Agent*

A polling mechanism is used for retrieving messages. For each Ariba Network ID you can specify which message types are expected to be received from the network. If you use endpoints in polling, specify the SAP-internal key value of the endpoint ID. You can also define the maximum number of messages that can be retrieved within one call to the network (no more than 100 messages is recommended). All pending messages are retrieved, but if they exceed the defined maximum, additional calls are performed. The

logical port name has to match the one you have defined in the SOA Manager in the chapter [Configuration of SOA Manager \[page 94\]](#).

- **Define bgRFC Supervisor Destination**
You define a supervisor destination for the background RFC (bgRFC) in this Customizing activity. For more information, see Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba > Framework Settings > Direct Connectivity Settings > Define bgRFC Supervisor Destination](#).

You can also implement the BAdI *Notification About Communication Errors* (ARBFND_INTEGRATION) to trigger actions in situations where errors occur during the communication between your SAP ERP system and Ariba Network. This BAdI is called if a cXML message cannot be transferred to Ariba Network (outbound direction), or a cXML message is received but cannot be processed (inbound direction). For more information, see Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba > Framework Settings > Business Add-Ins \(BAdIs\) > BAdI: Notification About Communication Errors](#).

Mediated Connectivity

Prerequisite: For mediated connectivity, your SAP NetWeaver PI system must be set up and connected to all relevant SAP ERP systems. The Integration Engine configuration should already contain global configuration data. If this is not the case, check the set-up guides for your SAP NetWeaver PI system.

You have to make the required settings in Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba > Framework Settings > Mediated Connectivity Settings > Integration Engine Administration](#).

In addition, you have to define a supervisor destination for the background RFC (bgRFC) in Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba > Framework Settings > Mediated Connectivity Settings > Define bgRFC Supervisor Destination](#).

You can also implement the following BAdIs:

- **Notification About Communication Errors** (ARBFND_INTEGRATION)
This BAdI is called if a cXML message cannot be created (outbound direction), or if a cXML message is received from SAP NetWeaver PI but cannot be processed (inbound direction). Note that if the message cannot be transferred to SAP NetWeaver PI, the BAdI is not triggered. For more information, see Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba > Framework Settings > Business Add-Ins \(BAdIs\) > BAdI: Notification About Communication Errors](#).
- **Ariba foundation: common BAdI methods** (ARBFND_INTEGRATION_COMMON)
If your SAP ERP client is identified on Ariba Network by a Business Application ID and you use the system ID of your SAP ERP client for communication between SAP ERP and Ariba Network, you can change how this ID is transferred in the communication with Ariba Network. You can adapt the ID to your requirements by implementing method DETERMINE_OWN_SYSTEM_ID. Adapting the system ID may be necessary, for example, if a Business Application ID already exists on the Ariba Network that must not be changed.
- **Ariba foundation: BAdI outbound processing** (ARBFND_INTEGRATION_OUTBOUND)

You can implement this BAdI to change outbound cXML mappings. The following methods are available:

- `MAP_STAT`
You can enrich or (partially) overwrite the cXML message after the standard mapping has been performed.
- `MAP_GPEQ_HEADER`
You can enrich or (partially) overwrite the cXML message header of the `GetPendingDataRequest` message after the standard mapping has been performed.
- `POST_PROXY_CALL`
This method is called after the outbound proxy has been processed. You can perform postprocessing activities, such as persisting the XML message ID in your own environment.

Direct and Mediated Connectivity

For both direct and mediated connectivity, the *Notification About Communication Errors* (`ARBEND_INTEGRATION`) BAdI is only called when there are errors in cXML message communication between your SAP ERP system and Ariba network. In this BAdI, you can implement the actions (for example, an email notification) that you want to trigger if errors occur. A sample implementation is available. For more information, see *Customizing for SAP Business Suite Integration Component for Ariba* under [► Framework Settings](#) [► Business Add-Ins \(BADIs\)](#) [► BAdI: Notification About Communication Errors](#) [►](#).

Unit of Measure Codes

You can use the Customizing activities under *Map Unit of Measure Codes for cXML Messages* to map the ISO codes used in your SAP Business Suite system to the unit of measure codes used in cXML messages, and the other way round. This is relevant if the codes used in cXML do not match the ISO codes.

2.3 SAP ERP-Specific Customizing for Connecting SAP Business Suite to Ariba Network

In Customizing for *Integration with Other SAP Components* under [► SAP Business Suite Integration Component for Ariba](#) [► Application Specific Settings](#) [► SAP ERP Integration Component for Ariba](#) [►](#), make settings in the following Customizing activities:

- *Assign Ariba Network ID to Company Code*
Assign your ANID(s) to the respective company codes that you want to be connected to AN. It is possible to make further refinements. Example: You can assign several ANIDs within one company code, one to each purchasing organization. In this case, you must specify which ANID must be used for which purpose by implementing the BAdI method `ASSIGN_SENDER_ANID` method in the *BAdI: Outbound Mapping* (`ARBERP_OUTBOUND_MAPPING`).
- *Define Message Output Control*

In this Customizing activity, you can define the output conditions, fine-tune the output control, and map the document output type in SAP ERP to a cXML message type for Ariba Network. For more information, see Customizing for [Integration with Other SAP Components](#) under [SAP Business Suite Integration Component for Ariba](#) > [Application Specific Settings](#) > [SAP ERP Integration Component for Ariba](#) > [Define Message Output Control](#).

- [Define Document-Specific Message Customizing](#)

The message configuration allows you to decide on attachment transfer from Generic Object Services (GOS) or storage to GOS.

i Note

For outbound messages, only GOS attachments of the type "attachment" are supported. GOS attachments of the types "note" and "business document" are not supported.

For inbound messages, you have the option of attaching the original cXML message to the created object.

- [Map Texts of SAP ERP and Ariba Network](#)

It is possible to send texts from SAP ERP using outbound cXML messages, and it is possible to receive texts in SAP ERP using inbound cXML messages. To enable this, you make settings to map cXML text elements to SAP ERP text objects and text IDs. Use the activities [Define Text Mapping for Outbound Messages](#) and [Define Text Mapping for Inbound Messages](#).

To map texts independent of comment types, you can enter an asterisk (*) as a wildcard in the [SAP ERP-Internal ID of cXML Comment Type](#) column in the activity [Define cXML Comment Types for Text Mapping](#). If you want to use cXML comment types, they can be defined in SAP ERP and used in the text mapping for outbound and inbound messages. You can define different mappings for different comment types.

i Note

If a supplier rejects an entire purchase order and writes a corresponding comment, the comment can only be displayed in the SAP ERP purchase order confirmation if you create a "wildcard" (*) or empty entry for confirmations. This means, you have to create an entry with the following values:

- [cXML Message Type](#): "CONF"
- [cXML Element ID](#): "HEADER_COMMENTS"
- [SAP ERP-Internal ID of cXML Comment](#): "*", or leave the field empty

You can create such an entry even if a specific mapping entry already exists.

Customizing Settings for the Integration for Buyers

The following settings are relevant if you want to integrate with Ariba Network as a buyer:

- [Enable Vendors for Ariba Network](#) (optional activity)

In this Customizing activity, you can invite vendors that have not yet subscribed to the Ariba Network to do business with you through the Network by setting the [Quick Enablement](#) indicator. Note that before executing the quick enablement function, you must first maintain the vendor's email address in the master data.

- [Activate Business Transaction Events to Trigger Message](#)

This setting activates a set of Business Transaction Events (BTEs) which are used to collect changes of an invoice document. According to the recorded changes, the *InvoiceStatusUpdate* cXML message is sent to Ariba Network. To activate the BTEs, select the *Active* checkbox for the application indicator *ARBERP*.

- **Enable Further Outbound Message Types per Vendor**

In this Customizing activity, you allow the sending of additional message types. You enable a message type for selected suppliers on the Ariba Network by specifying the company codes and the supplier that you want to enable.

The following message types are available:

- CopyRequest.InvoiceDetailRequest
This message type is used for invoices that have been created in SAP ERP and that are replicated to Ariba Network. These are, for example, invoices that have been created by the evaluated receipt settlement, or invoices that have been manually created in SAP ERP (CC invoices).
- PaymentProposalRequest
This message type is used to start negotiations on discounts by proposing a payment to the vendor that is prior to the due date.
- PaymentRemittanceRequest
This message type is used to send information about the payment run.
- ProductActivityMessage
This message type is used to send information about inventory and forecast.
- QualityNotificationRequest
This message type is used to send information about the quality notification.
- QualityInspectionRequest
This message type is used to send information about an inspection lot.
- QualityInspectionResultRequest
This message type is used to receive the quality inspection results for the inspection lot
- QualityInspectionDecisionRequest
This message type is used to send information about the usage decision of inspection lot

- **Define Mapping Settings for Inbound Shipping Notifications**

Shipping notifications can contain carrier information. A mapping between the carrier domain and ID in Ariba and the internal vendor in SAP ERP is needed if you want to transfer the carrier information to the inbound delivery. As a prerequisite, the partner function “CR” (forwarding agent) must be defined in the partner determination procedure of the shipping notification.

i Note

The carrier ID in cXML can have a length up to 255 characters. However, the mapping Customizing is restricted to a carrier ID (field `AN_CARRIER_ID`) that has a maximum length of 87 characters. If 87 characters are not sufficient, you can use the BAdI `ARBERP_INBOUND_MAPPING`, method `MAP_SHIP_TO_BUS2015_IN_PRE` to map this carrier ID.

- **Define Mapping Settings for Outbound Shipping Notifications**

In this Customizing activity, you can assign the Network IDs that you have received for Ariba Network to the shipping points in your SAP system. This enables Ariba Network to clearly identify your company as the sender of the cXML message and as the company shipping the goods or materials. Note that you can use the same Network ID for more than one shipping point.

- **Define Mapping Settings for Invoices**

- In the *Incoming Invoice: Map Tax Codes for Logistics Invoice Verification* activity, you can map the tax categories and tax rates used in Ariba to the country-specific tax codes in your SAP ERP system. The

mapping can be maintained for each vendor that is connected to Ariba Network, or as default for all vendors if the vendor number is not specified. In addition, the BAdI method `INVC_TAXCODE_DETERMINATION` in the inbound BAdI is available for the determination (see below).

i Note

The tax category in cXML can have a length up to 255 characters. However the mapping customizing is restricted to a tax category (field `EXT_TAX_TYPE`) that has a maximum length of 40 characters. If 40 characters are not sufficient, the BAdI `ARBERP_INBOUND_MAPPING` method `INVC_TAXCODE_DETERMINATION` has to be used to map this tax category.

If the SAP-ERP-internal tax code is supplied in the InvoiceDetailRequest (extrinsic “TaxCode”), it is copied directly into the SAP ERP invoice.

If tax information is supplied in the cXML invoice but without the ERP-internal tax code, the SAP ERP system has to determine this tax code either using the mapping defined in this Customizing activity or using the BAdI. If no tax code can be determined, the inbound processing for the invoices fails.

If no tax information is supplied in the cXML invoice, the SAP ERP system will check if tax information is available in the referenced purchase order.

- In the *Incoming Invoice: Map Company Codes for Logistics Invoice Verification* activity, you can map the mandatory *billTo* name in the incoming cXML message to the receiving company code in your SAP ERP system. The mapping can be maintained for each vendor that is connected to Ariba Network, or as default for all vendors if the vendor number is not specified. In addition, the BAdI method `INVC_COMPANYCODE_DETERMINATION` in the inbound BAdI is available for the determination (see below).
- In the *Incoming Invoice: Enter Control Parameters for Log. Invoice Verification* activity, you can decide which invoice document type is to be created when an invoice or a credit memo from Ariba Network arrives. Also, you can set control parameters to decide how to proceed if the document cannot be processed because of warnings or errors. If you would like the system to check the consistency of the material number or unit of measure in the document items against the ones used in the purchase order, you can select the relevant checkboxes, and you can also define whether the system checks the invoicing documents for negative variances. With the processing indicator, you can enable parking of invoices that cannot be created automatically (e.g. non-PO invoices, header-level credit memos). You can maintain the Customizing either for each vendor that is connected to Ariba Network or for all vendors, which is the default if you do not specify a vendor number.
- In the *Incoming Invoice: Map cXML Partner to ERP Invoicing Party* activity, you can specify a different invoicing party for incoming cXML invoices. You do this if you want to post an incoming invoice to a different vendor than the vendor in the purchase order. If you want outgoing documents (such as CC invoices or payment advices) and status updates to be sent to the original vendor, select the *Reverse Mapping* checkbox.
- In the *CC Invoice: Map Tax Category for Ariba Network Invoice* activity, you map the tax code in your SAP ERP system to the tax category to be used in the Ariba Network invoice. You can do this for each of your vendors.
- *Define Mapping Settings for Payments*
In this Customizing activity, you map the payment methods that exist on Ariba Network to the payment methods in your SAP ERP system.
- *Define Mapping Settings for ComponentConsumptionRequests*

This customizing activity is relevant for subcontracting items in purchase orders. You must define the external confirmation category that will be used when processing ComponentConsumptionRequest cXML messages. This message is transferred from the Ariba Network to SAP ERP to inform buyers when suppliers create production orders. For more information, see the documentation available in Customizing.

Business Add-Ins (BAdIs)

You can also implement the following BAdIs by choosing [Integration with Other SAP Components](#) > [SAP Business Suite Integration Component for Ariba](#) > [Application Specific Settings](#) > [SAP ERP Integration Component for Ariba](#) > [Business Add-Ins \(BAdIs\)](#):

- **BAdI: Outbound Mapping**

For example, you can do the following:

- You can substitute the logic for all outgoing cXML messages by implementing the `DEFINE_CUST_SPEC_MAPPING` method. The cXML message has not yet been created at this time, and you can decide to build the cXML message yourself. At any time in the BAdI, you can decide to go back to the standard implementation by setting the `CV_PROCEED_WITH_APPL_PROC` indicator.
- For *OrderRequest* cXML messages, you can enrich, filter, and exchange the standard mapping by implementing the `MAP_BUS2012_TO_ORDR_OUT` method.
- The *InvoiceStatusUpdate* message sends update information of an accounting document to Ariba Network, for example, when the payment is made. The add-on selects relevant documents. (You need to activate this selection in the Customizing activity *Activate Business Transaction Events to Trigger Messages*). You can add more documents for status update by implementing the `GET_BUS2081_STAT_APPL_DATA` method.
- For *InvoiceStatusUpdate* outbound cXML messages, the standard mapping can be enriched, filtered, exchanged, and so on, by implementing the `MAP_BUS2081_TO_STAT_OUT` method.
- For FI and for MM CC Invoices, you can define whether you want to transfer a CC invoice as a header-level invoice or whether you also transfer posting lines as invoice items. You can implement method `CCINVC_SELECT_NONPO_IV_LEVEL` to do this.
- If a company code corresponds to more than one ANID, you can specify the desired ANID in the cXML header by implementing the `ASSIGN_SENDER_ANID` method for all outbound messages. For example, you can assign one ANID to each purchasing organization.
- If you use endpoints, you must implement the method `ASSIGN_SENDER_ENDPOINT` to provide the logic for selecting the endpoint that needs to be included for all outbound messages.

For further BAdI methods, see the Customizing documentation.

- **BAdI: Inbound Mapping**

For all incoming messages, pre-mapping and post-mapping methods are available. The pre-mapping methods are meant to enrich, filter, and exchange the data passed to the application interface, while the post-mapping ones make it possible to enrich the already created business documents.

The incoming invoice interface also offers, for example, the following additional exits:

- If the customized tax determination is not sufficient, the internal SAP ERP tax code can be overwritten in the `INVC_TAXCODE_DETERMINATION` method.
- If tax codes are determined on the invoice header level, you can implement the method `INVC_ITM_TAXCODE_DETERMINATION` to assign one of those tax codes to the invoice item.

- If the name of the *billTo* party in the incoming cXML message is not sufficient to assign the correct company code (in the Customizing activity [Map Company Codes for Logistics Invoice Verification](#)), you can determine the company code by implementing the `INVC_COMPANYCODE_DETERMINATION` method.
- The processing of incoming cXML messages can be generically substituted by implementing the `DEFINE_CUST_SPEC_PROCESSING` method. At any time in the BAaI, you can decide to go back to the standard implementation by setting the `CV_PROCEED_WITH_APPL_PROC` indicator.

2.4 Function-Specific Customizing

Settings for Supply Chain Collaboration

Scheduling Agreement Releases

If you want to use scheduling agreement releases, you have to make the following specific settings:

- Scheduling agreement releases are only supported if in Customizing for Materials Management under [Purchasing > Scheduling Agreement > Define Document Types](#), the `Release docu.` indicator is set for the scheduling agreement type that you use. In the SAP standard, the type is *LPA*.
- You have to define how scheduling agreement releases are transferred to Ariba Network: You can send one message per item or a message that includes all items for the release. The relevant Customizing setting is the `Rel.Msg.` checkbox, that is available in Customizing for Materials Management under [Purchasing > Messages > Output Control > Message Determination Schemas > Define Message Schema for Scheduling Agreement Release/Expediter > Assign Schema: SA Release/Expediter](#). If you want to send one message per item, select the `Rel.Msg.` checkbox. Otherwise, leave the checkbox empty.

Once you make this setting, it affects all future scheduling agreement releases. If you change it, you will not be able to send releases for scheduling agreements for which releases were already sent with the previous setting.

Note that if you send all items in one message, the principle of "full transmission" applies: As soon as a release has been made for an item in a scheduling agreement, the item is always included in the messages sent to Ariba Network, independent of whether additional quantities are being released with the current message. A counter in the cXML message (equivalent to the "release version" in SAP ERP) indicates whether further quantities are being released or not.

- In Customizing for SAP Business Suite Integration Component for Ariba under [Framework Settings > Define Basic Message Settings](#), make the following entries:
 - Add the object type BUS2013002 and select the cXML version 1.2.026 (or higher).
 - For the object type BUS2015, select the mapping version V003 (or higher) and the cXML version 1.2.026 (or higher).
 - For the object BKPF in combination with cXML message type CCINVC, select the mapping version V002 (or higher) and the cXML version 1.2.026 (or higher).
 - For the object type BUS2081 in combination with cXML message type CCINVC, select the mapping version V003 (or higher) and the cXML version 1.2.026 (or higher).
- In Customizing for SAP Business Suite Integration Component for Ariba under [Application-Specific Settings > SAP ERP Integration Component for Ariba > Define Message Output Control > Define Conditions](#)

for [Output Control](#)], proceed as described in the Customizing documentation under *Define Conditions for Output Control* but use the following data:

- Select the application EL for purchase scheduling agreement releases.
- Select the output types LPH1 (for forecast releases) and LPJ1 (for just-in-time releases) when defining the processing routines, the partner functions, and the conditions for the output types.
- On the "*Output Types*": *Details* view , you have to make the following entries on the *General Data* tab (under *Change output*):
 - As *Program*, enter **FM06AEND**.
 - As *FORM Routine*, enter **CHANGE_FLAG**.
- In Customizing for SAP Business Suite Integration Component for Ariba under ► [Application-Specific Settings](#) ► [SAP ERP Integration Component for Ariba](#) ► [Define Message Output Control](#) ► [Map Application and Output Type to cXML Message](#)], add the following entries for forecast releases and for just-in-time releases:
 - Application EL for purchase scheduling agreement releases with the output type LPH1 and the message type ORDR in combination with BUS2013002.
 - Application EL for purchase scheduling agreement releases with the output type LPJ1 and the message type ORDR in combination with BUS2013002.
- In Customizing for SAP Business Suite Integration Component for Ariba under ► [Application-Specific Settings](#) ► [SAP ERP Integration Component for Ariba](#) ► [Define Text Mapping for Outbound Messages](#)], insert a line for each text element of scheduling agreements that you want to transfer.

Manufacturing Execution Visibility on Subcontracting Items

If you want to transfer information whether suppliers have created production orders for subcontracting items, you have to make the following settings in Customizing for Materials Management under ► [Purchasing](#) ► [Confirmations](#)]:

- Under [Define External Confirmation Categories](#), you must define an external confirmation category.
- Under [Define Internal Confirmation Categories](#), you must **not** assign the external confirmation category to the internal category.
- When defining the confirmation sequence for the control key under [Set Up Confirmation Control](#), you must **not** make any entries nor select any checkboxes.

Multi-Tier Order Collaboration

Sending copies of documents such as purchase orders is relevant in a multi-tier supply chain that involves multiple trading partners to deliver a finished product. Such partners can be subcontractors or logistics providers, for example. For the settings you have to make, see the documentation of the Customizing activity [Define Recipients of Purchase Order Copies](#). This activity is available in Customizing for SAP Business Suite Integration Component for Ariba under ► [Application-Specific Settings](#) ► [SAP ERP Integration Component for Ariba](#) ► [Integration for Buyers](#) ► [Define Recipients of Purchase Order Copies](#)].

Collaboration with Ariba Invoice Professional

For Ariba Invoice Professional, the following activities in Customizing for SAP Business Suite Integration Component for Ariba are relevant:

Under ► [Application-Specific Settings](#) ► [SAP ERP Integration Component for Ariba](#) ► [Integration for Buyers](#) ► [Define Mapping Settings for Purchase Orders](#) ► [Define Mapping Settings for Purchase Orders](#)], you can indicate which additional data you want to transfer with purchase orders. The following settings are relevant:

- Recommended: Select the checkbox *Send Account Assignment Data* if you want Ariba Invoice Professional to verify the account assignment data.
- Strongly recommended: Select the checkbox *Send Additional Data for Ariba Invoice Professional* to ensure error-free collaboration with Ariba Invoice Professional.

Under **Application-Specific Settings** > **SAP ERP Integration Component for Ariba** > **Integration for Buyers** > **Define Mapping Settings for Invoices** > **Incoming Invoice: Enter Control Parameters for Logistics Invoice Verification**, you have to do the following under *Logistics Invoice Verification - w/o order reference*:

- Define whether invoices without purchase order reference are posted, if this is possible.
- Decide how the system reacts if an invoice without purchase order reference cannot be posted.

Quality Notification Collaboration

To send quality notifications from SAP ERP to the Ariba Network, you have to enable two new event type linkages in transaction SWETYPV.

Make the following entries:

- *Object Type*: BUS2078
- *Event*: CREATED
- *Receiver Type*: CREATED_ARIBA
- Select the following checkboxes:
 - *Linkage Activated*
 - *Enable Event Queue*

For changes to quality notifications, make the following entries:

- *Object Type*: BUS2078
- *Event*: DATACHANGED
- *Receiver Type*: DATACHANGED_ARIBA
- Select the following checkboxes:
 - *Linkage Activated*
 - *Enable Event Queue*

2.5 Jobs to Be Scheduled

The following reports are available and need to be scheduled as regular jobs:

- *Fetch cXML messages for different message types from Ariba Network* (ARBFND_FETCH_CXML_MESSAGES_NEW)
This report polls pending messages from Ariba Network and is only relevant for **direct connectivity**. It has to be scheduled as a variant in which you select all cXML messages types that you wish to receive and process in your SAP ERP system.
- *Extract Goods Receipts for ReceiptRequest* (ARBERP_BUS2017_EXTRACT_RCPT)
To transmit goods receipt documents that originate in SAP ERP to Ariba Network, you have to schedule this report. It creates the cXML message containing the goods receipt data and sends it to Ariba Network.
- *Extract ERP-Initiated Invoices for InvoiceDetailRequest* (ARBERP_BUS2081_EXTRACT_CCINVC)
To transmit invoices that originate in SAP ERP to Ariba Network, you have to schedule this report. It creates the cXML message containing the invoice data and sends the message to Ariba Network.

For invoices originating in Ariba Network, select "with invoice origin *Received from Ariba Network*"; for CC invoices and other invoices originating in SAP ERP, select "with invoice origin *Created by Buyer in SAP ERP System*".

- *Extract Accounting Documents for PaymentProposalRequest* (ARBERP_BKPF_EXTRACT_PAYP)
If you have enabled Discount Management on Ariba Network, you have to schedule this report. It creates the cXML message containing information from the accounting document and sends the message to Ariba Network.
- *Extract Payment Information for PaymentRemittanceRequest* (ARBERP_FIOPAYAVIS_EXTRACT_PAYR)
To provide information about payments to your suppliers on Ariba Network you have to schedule this report. It creates the cXML message containing information from the payment run and sends the message to Ariba Network.
- *Extract Stock/Forecast for ProductActivityMessage* (ARBERP_BUS1001_EXTRACT_PROA OR ARBERP_BUS1001_EXTRACT_PROA2)
To provide forecast or inventory information on Ariba Network, you have to schedule this report. It creates the cXML message containing stock and forecast data and sends it to Ariba Network.
Report ARBERP_BUS1001_EXTRACT_PROA2 offers options for extracting a wider range of data than ARBERP_BUS1001_EXTRACT_PROA. For more information, see the report documentation that is available in the SAP ERP system.
- *Extract Consignment Withdrawals for ProductActivityMessage* (ARBERP_RKWA_EXTRACT_PROA)
to provide consignment withdrawals and related settlement information on Ariba network, you need to schedule this report. The report creates the cXML message containing consignment withdrawals and related settlement data and sends the message to Ariba Network.
- *Extract Incoming Invoices relevant for StatusUpdateRequest* (ARBERP_BUS2081_EXTRACT_STS_UPD)
To provide an invoice status to Ariba Network, you need to schedule this report (in addition to making settings in the Customizing activity *Activate Business Transaction Events to Trigger Messages*, The report creates the cXML message containing the status of the accounting document and sends the message to Ariba Network.

For more information about the above described reports, see the report documentation that is available in the system.

- *Cleanup serialization tables for Ariba integration* (ARBERP_CLEANUP_DB_TABLES)
The basic message header data (for example, payload ID, timestamp) of all cXML messages to and from the Ariba Network are stored in database tables in order to guarantee serialization and duplication checks. We recommend that you schedule this report to archive these entries when they are no longer needed and thus keep the database tables to a reasonable size.

i Note

We recommend that you do not schedule this job too often.

If the connection to Ariba Network is not working for a certain period and many cXML messages in SAP ERP cannot be transmitted, a mass restart of messages that have errors is helpful. Once the connection is working again, you can run the report and start a mass re-sending of messages with errors.

Depending on your connectivity options, run the following reports to resend mass messages with errors:

- *Restart Messages with Errors* (RSXMB_RESTART_MESSAGES)
This report is intended for **mediated connectivity** using SAP NetWeaver PI.
It searches for failed messages (messages that could not be processed correctly) or missing messages (messages that have been deleted from the queue manually) and tries to restart sending these messages

automatically. The maximum number of restart attempts and the interval between these attempts is set with the queued remote function call (qRFC) scheduler.

For more information, search for the phrase *Periodical Tasks* in the documentation for SAP NetWeaver that is available at <http://help.sap.com>.

- **Web Service Utilities: Message Restart** (SRT_UTIL_RESTART)
This report is intended for **direct connectivity**. It can be used for restarting multiple messages on the basis of specific selection criteria. The report can be used for manual execution and for automatic execution using jobs. If this report is not available in your SAP system, use the report *Restart Failed Outbound Messages* (ARBFND_MASS_MESSAGE_RESTART).
- **Restart Failed Outbound Messages** (ARBFND_MASS_MESSAGE_RESTART)
This report is intended for **direct connectivity** if report *Web Service Utilities: Message Restart* (SRT_UTIL_RESTART) is not available in your SAP system..
It searches for failed messages (messages that could not be processed correctly) and tries to restart sending these messages automatically.

i Note

Do not schedule this report but execute it on demand.

- **Send Status Update for Canceled Inbound Messages to Ariba Network** (ARBFND_SEND_STATUS_CANCELLED)
Inbound cXML messages that cannot be processed in SAP ERP can be canceled manually in the XML monitor (transaction `sxmb_moni`). This report selects such messages and transfers the "Failed" status to Ariba Network. (Prerequisite: You have made the corresponding settings in Customizing for SAP Business Suite Integration Component for Ariba under ► *Framework Settings* ► *Define Basic Message Settings* ►).

i Note

- This report is relevant if you do not use Forward Error Handling (FEH).
- Do not schedule this report but execute it on demand.

3 Security

For **direct** connectivity, the SAP Business Suite system always opens the connection by executing the following actions:

- The SAP Business Suite system pushes cXML messages to Ariba Network (synchronous)
- The Polling Agent of Ariba Network Integration 1.0 for SAP Business Suite fetches pending messages from Ariba Network (synchronous)

For **mediated** connectivity, the SAP Business Suite system connects through SAP NetWeaver PI. The connection functions as follows:

- The SAP Business Suite system pushes cXML messages to SAP NetWeaver PI (asynchronous)
- The Ariba PI adapter triggers its Polling Agent to fetch pending cXML messages from Ariba Network. The Polling Agent in the PI adapter then pushes the cXML messages to the SAP Business Suite system (asynchronous).

In both use cases, only the on-premise component opens the connection to the Cloud, thus supporting the highest level of security. A proxy or reverse proxy in the demilitarized zone (DMZ) is not required.

The SAP Business Suite system communicates with Ariba Network through the HTTPS protocol, encrypting transmitted data.

If Ariba Network Integration 1.0 for SAP Business Suite communicates with Ariba Network through SAP NetWeaver PI, there are no special security requirements.

Ariba provides information on how to communicate with Ariba Network in the *Ariba Network Adapter for SAP NetWeaver Setup Guide*. You can contact Ariba for more information.

As the security topics for mediated connectivity through SAP NetWeaver PI are covered by the *Ariba Network Adapter for SAP NetWeaver Setup Guide*, the next chapter focuses on direct connectivity.

i Note

Advanced Security Configuration is available for the Ariba Network and will be the default setting as of September 30, 2016. To ensure that your Business Suite system can continue to communicate with the Ariba Network, check whether your SAP AS ABAP kernel release patch level is up-to-date. For more information, see SAP Note [2335891](#).

3.1 SAP Business Suite System Acting as a Client

When sending a cXML message to Ariba Network, the sender must authenticate itself. Ariba Network offers different authentication methods (authentication with client certificate or shared secret password) that are also supported by Ariba Network Integration 1.0 for SAP Business Suite.

For more information about the authentication methods on Ariba Network, contact Ariba.

i Note

Communication with Ariba Network is based on HTTPS. For HTTPS SSL encryption, SAP Cryptographic Library is required. For information about installation of SAP Cryptographic Library, search for the phrase **The SAP Cryptographic Library Installation Package** in the documentation of SAP NetWeaver at <http://help.sap.com>.

Authentication with Client Certificate

For authentication with client certificate it is strongly recommended that you use the latest version of the SAP Cryptographic Library (`SAPCRYPTOLIB`). For more information about latest SAP Cryptographic Library versions, bugs, and fixes see SAP Note [455033](#).

To set up authentication with client certificate, proceed as follows:

1. Get the client certificate from a Certification Authority (CA) that is trusted by Ariba.
2. Import the private key of the certificate into the SAP Business Suite system by using *Trust Manager* (transaction **STRUST**).

i Note

Only certificates in Personal Security Environment (PSE) format can be imported. Certificates in other formats must first be converted to PSE format. The conversion can be done using the command line tool `SAPGENPSE`. The tool can be installed with SAP Cryptographic Library installation package. For more information, see **The SAP Cryptographic Library Installation Package**.

For example, to convert from P12 (Public-Key Cryptography Standards) format to PSE format, enter the following command line:

```
sapgenpse import_p12 -v -r <root certificate> -p <Target PSE file> <Source File>
```

First, create a new Client Identity in *Trust Manager*. Choose **Environment > SSL Client Identities**, enter **ARIBA** as the identity name and **Ariba Network Client** as the description. Save your entries.

Second, import the private key of the certificate in *Trust Manager*. Proceed as follows:

1. Select the created **ARIBA** SSL Client ID and choose **PSE > Import** to import the PSE file.
 2. Enter the password for the certificate if required.
 3. Save your PSE file by choosing **PSE > Save as > SSL Client**, and enter **ARIBA** as the SSL Client.
 4. Navigate to the *Own Certificate* group box on the *Trust Manager* screen, and double-click the certificate to add it to the certificate list. The certificate is now shown in *Trust Manager* in *Certificate List*.
3. Import the root certificate into the SAP Business Suite system by using *Trust Manager*. Proceed as follows:
 1. Double-click the SSL Client Identity **ARIBA** that you have created.
 2. Navigate to the *Certificate* group box and choose *Import certificate*. Add the imported certificate to the certificate list by clicking *Add to Certificate List*.
 4. For HTTPS SSL encryption, obtain the server certificate from Ariba. Proceed as follows:
 1. Go to <http://buyer.ariba.com>.
 2. Download the certificate using your browser.

- For example, if you are using Internet Explorer, choose ► [View](#) ► [Security Report](#) ► [View Certificates](#) ►. On the *Details* tab page, choose [Copy to File](#) and export it in the Base-64 encoded X.509 format.
3. Import the server certificate into the SAP Business Suite system using [Trust Manager](#).
 4. Double click the ARIBA SSL Client ID that you have created.
 5. Navigate to the [Certificate](#) group box and choose [Import certificate](#). Add the imported certificate to the certificate list by clicking [Add to Certificate List](#).
 5. To activate the changes, restart the Internet Communication Manager (ICM) using transaction [SMICM](#) and choose ► [Administration](#) ► [ICM](#) ► [Restart](#) ► [Yes](#) ►. For more information, search for the phrase “Using the ICM Monitor” in the documentation of SAP NetWeaver at <http://help.sap.com> ►.
 6. Configure the Web services in SOA Manager (transaction [SOAMANAGER](#)). Follow the steps described under Configuration of SOA Manager and find the following consumer proxies:
 - [cXMLSynchronousOutboundAdapterMessage_Out](#) (CO_ARBFND_PRX_OADP_OUT)
 - [cXMLGetPendingDataRequest_Out](#) (CO_ARBFND_PRX_GPDQ_OUT)
 In the *Details of Consumer Proxy* group box, navigate to the [Configurations](#) tab page, select the logical port. In the *Configuration of Logical Port* group box, navigate to the [Consumer Security](#) tab page, choose the [X.509 SSL Client Certificate](#) radio button and enter ARIBA in the [SSL Client PSE of transaction STRUST](#) field.
 7. In the profile of your account on Ariba Network, select the [Certificate](#) authentication method in the cXML setup and enter the public key of the certificate.

Authentication with Shared Secret Password

To set up authentication with shared secret password, proceed as follows:

1. Maintain the shared secret password in the [Define Credentials for Ariba Network](#) Customizing activity. For more information, see Add-On Customizing.
The shared secret password is stored in the secure storage ABAP DB in SAP Business Suite system. Ariba Network Integration 1.0 for SAP Business Suite supports a shared secret password for Ariba Network with a maximum length of 36 characters.

Note

Note: for authentication with shared secret password, the shared secret password has to be provided in the Sender element of the cXML payload.

According to security requirements, passwords must not be written to logs, protocols or traces. Therefore, the shared secret password is not visible in transactions such as [SXMB_MONI](#) where the XML message monitoring and tracing takes place, as business users can also have authorization for the message monitoring transactions. However when activating an Internet Communication Framework (ICF) recording using transaction [SICF](#), the system logs the shared secret password in the corresponding ICF trace. ICF recording is only intended for administrators and requires the [S_ADMI_FCD](#) authorization.

2. For HTTPS SSL encryption, obtain the server certificate from Ariba. Proceed as follows:
 1. Go to <http://buyer.ariba.com> ►.
 2. Download the certificate using your browser.
For example, if you are using Internet Explorer, choose ► [View](#) ► [Security Report](#) ►. Choose [View Certificates](#). On the *Details* tab page, choose [Copy to File](#) and export it in the Base-64 encoded X.509 format.

3. Import the server certificate into the SAP Business Suite system using *Trust Manager*.
4. Double-click the *SSL Client SSL Client (Anonymous)* node.
Navigate to the *Certificate* group box and choose *Import certificate*. Add the imported certificate to the certificate list by clicking *Add to Certificate List*.
3. To activate the changes, restart the Internet Communication Manager (ICM) using transaction **SMICM** and choose **Administration > ICM > Restart > Yes**.
4. In the profile of your account in the Ariba Network, select the *shared secret* authentication method in the cXML setup.

3.2 SAP Business Suite System Acting as a Server

No proxy or reverse proxy is required. The asynchronous inbound application service interfaces are called either internally in the SAP Business Suite system or by SAP NetWeaver PI.

3.3 Virus Scan for Attachments

For attachments arriving with cXML messages, Ariba Network Integration 1.0 for SAP Business Suite calls the SAP NetWeaver virus scan interface (VSI). The VSI also provides an interface to an external virus scan.

Note that you must install your own virus scan software, as we do not provide virus scan software with Ariba Network Integration 1.0 for SAP Business Suite.

For more information, search for the phrase *Virus Scan Interface* in the documentation of SAP NetWeaver under <http://help.sap.com>.

3.4 Roles and Authorization

In Ariba Network Integration 1.0 for SAP Business Suite you can use the authorization object `ARBEND_ARB` to execute reports and to process inbound messages. This object must be added by assigning the *SAP Business Suite Integration Component for Ariba* (`SAP_ARBEND_INTEGRATION`) role. To make sure the corresponding profile is available and active, you must generate the role profile using transaction `PFCG`.

A technical user is required in the Business Suite back-end system to process the incoming messages. This user must not have the `SAP_ALL` authorization.

We recommend that you assign the following roles to the user:

- *SAP Business Suite Integration Component for Ariba* (`SAP_ARBEND_INTEGRATION`)
This role provides general authorization for using Ariba Network Integration 1.0 for SAP Business Suite.
- *Process Purchase Orders* (`SAP_MM_PUR_PURCHASEORDER`)
This role provides authorization for purchase orders and is required to process incoming messages that update purchase orders.

- *Process Inbound Deliveries* (SAP_LE_INB_DEL_PROCESSING).
This role provides authorization for inbound deliveries and is required to process incoming messages that create inbound deliveries with receiving point.
- *Enter Invoices for Verification in the Background* (SAP_MM_IV_CLERK_BATCH1)
This role provides authorization to post or park incoming invoice documents in the background.
Alternatively, you can assign any other role that contains the authorization object M_RECH_WRK.

Depending on whether you use direct or mediated connectivity, you also have to assign one of the following roles:

- For **direct** connectivity:
Web Service Consumer (SAP_BC_WEBSERVICE_CONSUMER)
This role is required for using Web service protocol to communicate in direct connectivity.
- For **mediated** connectivity:
Exchange Infrastructure: Service User for Application Systems (SAP_XI_APPL_SERV_USER)
This role is required to communicate through XI protocol in mediated connectivity.

4 Operation and Troubleshooting

4.1 Filtering of Purchase Orders for Transfer to Ariba Network

You have several possibilities to filter the purchase orders (POs) that you want to transfer to Ariba Network.

To filter POs by *Company Code*, you must first assign your company code for Ariba Network connectivity. You can define the settings in the Customizing activity *Assign Ariba Network ID to Company Code*. For more information, see Customizing for *Integration with Other SAP Components* under [▶ SAP Business Suite Integration Component for Ariba ▶ Application Specific Settings ▶ SAP ERP Integration Component for Ariba ▶ Assign Ariba Network ID to Company Code ▶](#).

In the Customizing activity *Define Message Output Control*, you can specify additional filter criteria, for example, vendors, PO document type or purchasing organization. For more information, see Customizing for *Integration with Other SAP Components* under [▶ SAP Business Suite Integration Component for Ariba ▶ Application Specific Settings ▶ SAP ERP Integration Component for Ariba ▶ Define Message Output Control. ▶](#)

The following table shows an overview of the possible filter criteria and where to make the corresponding settings.

Filter Criterion	Where
Company Code	Customizing activity <i>Assign Ariba Network ID to Company Code</i>
Vendor	Customizing activity <i>Define Message Output Control</i>
PO Document Type	Customizing activity <i>Define Message Output Control</i>
Purchasing Organization	Customizing activity <i>Define Message Output Control</i>

You can specify additional filter criteria in the following objects:

- *Conditions records* in the Customizing activity *Define Message Output Control*
- PO output programming in the `ASSIGN_SENDER_ANID` and in the `ASSIGN_SENDER_ENDPOINT` methods in the *BAdI: Outbound Mapping* (`ARBERP_OUTBOUND_MAPPING`) BAdI.

For purchase orders, you can customize which changes are output-relevant and should lead to the creation of an outbound message. You can make the corresponding settings in Customizing for Materials Management under [▶ Purchasing Messages ▶ Fields Relevant to Printouts of Changes ▶](#). For more information about this Customizing activity, see SAP Note [512700](#). However, it is not possible to prevent the output for all fields of the business object.

4.2 Message Monitoring

4.2.1 Message Monitoring for Direct Connectivity

Outbound Messages

Outbound messages can be triggered by the application itself, for example, the *Purchase Order* application. Here, the application displays an output status and the output processing log. Depending on the Customizing settings for output control, the message is sent immediately after a document was saved, or it is sent periodically by a scheduled output job.

You can also trigger outbound messages using scheduled reports (jobs), for example, you can trigger the *InvoiceStatusUpdate* request. Here, you can trace the outbound messages in the application log (transaction **SLG1**).

The following figure shows an example of the output history for a purchase order message:

Display Pur. Order :: Output

Communication method Processing log Further data

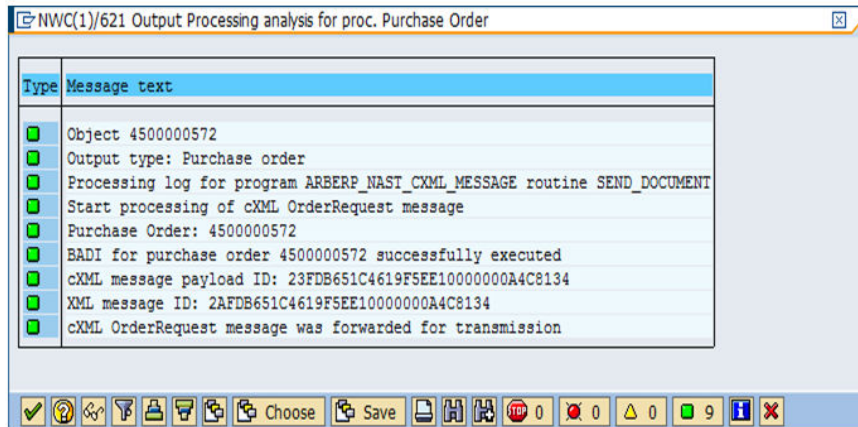
Pur. Order..... 4500000572

Sta...	Outpu...	Description	Medium	Fun...	Partner	Lan...	Ch...	
OO	NEU	Purchase ord...	Special function	VN	II-001_DEV	EN		
OO	NEU	Purchase ord...	Special function	VN	II-001_DEV	EN		

PO Message Output History

The application uses a green status for successful processing. This means that Ariba Network Integration 1.0 for SAP Business Suite has created a cXML message that will automatically be transferred to Ariba Network. The message log contains the PO ID, the cXML message payload ID, and the XML message ID.

The following figure shows the processing log of a successfully created message:



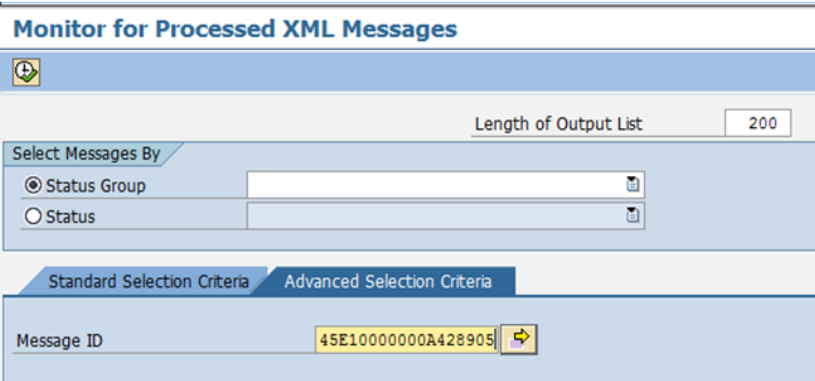
Processing Log of a Successfully Created Message

i Note

As of SAP_BASIS 7.40, you have to use the message monitor of Web Service Utilities (transaction **SRT_MONI**) for monitoring XML messages instead of the XML monitor (transaction **SXI_MONITOR**).

The XML message IDs can be used as selection parameters for the XML monitor (transaction **SXI_MONITOR**) to directly access a cXML message.

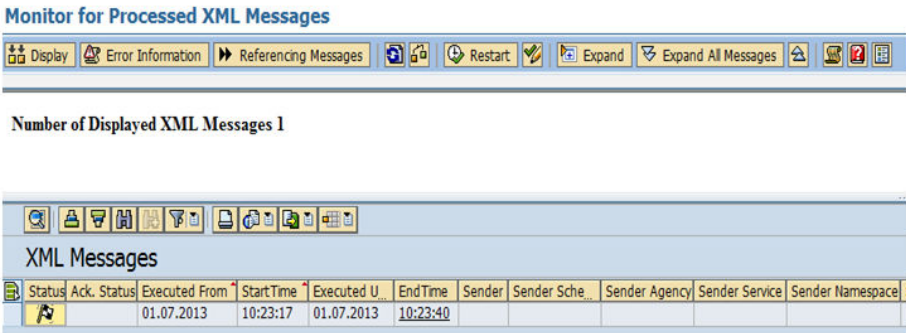
The following figure shows how to select a cXML message by its message ID in **SXI_MONITOR**:



Search for a cXML Message by Message ID

The monitor displays a checked flag status for a successfully transferred message, as shown in the figure below. Given that the call to Ariba Network is synchronous, Ariba Network accepts and creates the message.

The following figure (from **SXI_MONITOR**) shows how a successfully transferred message is displayed in the monitor:



A Successfully Transferred Message in the Monitor

A complete trace of the message processing can be found in the application log under the *Ariba Integration* (Ariba_Integration) object.

You can search by XML message ID, payload ID, or ID of the object (for example, PO number). You can enter the ID in the *External ID* field. Note that you have to insert an asterisk before and after an external ID, as shown in the following figure:

The screenshot shows the 'Analyze Application Log' interface with the following fields and options:

- Object:** ARIBA_INTEGRATION
- Subobject:** (empty)
- External ID:** *B0B5B651C4619E5EE1000000A4C8134*
- Time Restriction:**
 - From (Date/Time):** 01.07.2013 00:00:00
 - To (Date/Time):** 09.07.2013 23:59:59
- Log Triggered By:**
 - User:** *
 - Transaction code:** *
 - Program:** *
- Log Class:**
 - Only very important logs
 - Only important logs
 - Also less important logs
 - All logs
- Log Creation:**
 - Any
 - Dialog
 - In batch mode
 - Batch input
- Log Source and Formatting:**
 - Format Completely from Database
 - Format Only Header Data from Database
 - Format Completely from Archive

Search for a Message in the Application Log by External ID

The application log displays two entries for every outbound message. The first entry records the creation of the cXML message, the second the transfer to Ariba Network.

If the outbound message is successful, Ariba Network has accepted the document and the message *201 Accepted* is displayed.

Inbound Messages

Inbound messages are polled from Ariba Network by running the report *Fetch cXML messages for different message types from Ariba Network* (ARBFND_FETCH_CXML_MESSAGES_NEW). You must schedule the report to run regularly. For more information, see chapter [Jobs to Be Scheduled \[page 54\]](#).

Ariba Network Integration 1.0 for SAP Business Suite writes an application log entry for each executed poll and for each message retrieved from Ariba Network.

i Note

As of SAP_BASIS 7.40, you have to use the message monitor of Web Service Utilities (transaction **SRT_MONI**) for monitoring XML messages instead of the XML monitor (transaction **SXI_MONITOR**).

All cXML messages are displayed in the XML message monitor (transaction **SXI_MONITOR**).

To filter the messages by a specific inbound message type, you can specify the interface name of the receiver by using one of the following standard selection criteria:

- cXMLConfirmationRequest_In
- cXMLShipNoticeRequest_In
- cXMLServiceEntryRequest_In
- cXMLInvoiceDetailRequest_In
- cXMLCopyRequest_PaymentProposalRequest_In
- cXMLComponentConsumptionRequest_In
- cXMLQualityNotificationRequest_In
- cXMLQualityInspectionResultRequest_In

The system displays the status for a message as follows:

- Checkered flag for successful processing
- Red for failed processing
- Green for queued processing

If your SAP Business Suite system is on SAP_BS_FND 701 or higher and Forward Error Handling (FEH) is activated, the system can display a yellow status. This means that the system has forwarded the issue to the FEH application.

The framework of Ariba Network Integration 1.0 for SAP Business Suite additionally offers to send the processing status of an inbound message back to Ariba Network. You can activate this functionality in the Customizing activity [Define Basic Message Settings](#) by selecting the [Send cXMLStatusUpdateRequest Message](#) checkbox. For more information, see Customizing under [Integration with Other SAP Components](#) > [SAP Business Suite Integration Component for Ariba](#) > [Framework Settings](#) > [Define Basic Message Settings](#).

If this functionality is activated, an inbound message that has successfully been processed by the SAP ERP system changes the routing status of a document from *Sent* to *Acknowledged* on Ariba Network.

Inbound messages that have not been successfully processed by the SAP ERP system will change the status from *Sent* to *Failed* - provided that Forward Error Handling (FEH) is activated and the message is discarded.

The following figure shows order confirmations with different statuses in the supplier's outbox:

Order Confirmations					Page 1
Confirmation ID	Customer	Order #	Date	Status	
 15577_confirmation	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500015577	23 Sep 2013 10:37:29 AM	Acknowledged	
 conf1	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500015576	23 Sep 2013 9:53:21 AM	Acknowledged	
 4500015562_conf	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500015562	20 Sep 2013 11:09:13 AM	Acknowledged	
 410_conf1	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500000410	20 Sep 2013 10:41:29 AM	Acknowledged	
 410_conf	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500000410	20 Sep 2013 10:35:36 AM	Sent	
 15552_conf	jUnitOrg - xdX8HO3Q81b5e4543617051e5	4500015552	19 Sep 2013 1:13:06 PM	Failed	

Different Statuses of Order Confirmations in the Supplier's Outbox

4.2.2 Message Monitoring for Mediated Connectivity

Outbound Messages

Outbound messages can be triggered by the application itself, for example, the *Purchase Order* application. Here, the application displays an output status and the output processing log. Depending on the Customizing settings for output control, the message is sent immediately after the document was saved, or it is sent periodically by a scheduled output job.

You can also trigger outbound messages using scheduled reports (jobs), for example, the *InvoiceStatusUpdate* request. Here, you can trace outbound messages in the application log using transaction **SLG1**.

The following figure shows an example of the output history for a purchase order message:

Display Pur. Order :: Output

Communication method Processing log Further data

Pur. Order..... 4500000572

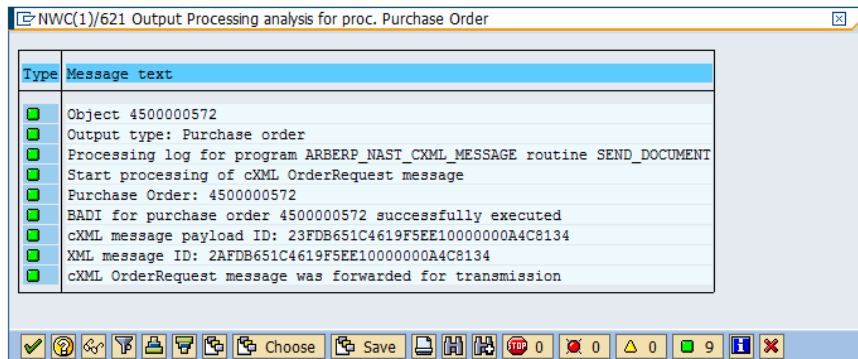
Output

Sta...	Outpu...	Description	Medium	Fun...	Partner	Lan...	Ch...	
OO	NEU	Purchase ord...	Special function	VN	II-001_DEV	EN		
OO	NEU	Purchase ord...	Special function	VN	II-001_DEV	EN		

PO Message Output History

The application uses a green status for successful processing. This means that the system has created a cXML message that will automatically be transferred to SAP NetWeaver PI. The message log contains the PO ID, the cXML message payload ID, and the XML message ID.

The following figure shows the processing log of a successfully created message:



Processing Log of a Successfully Created message

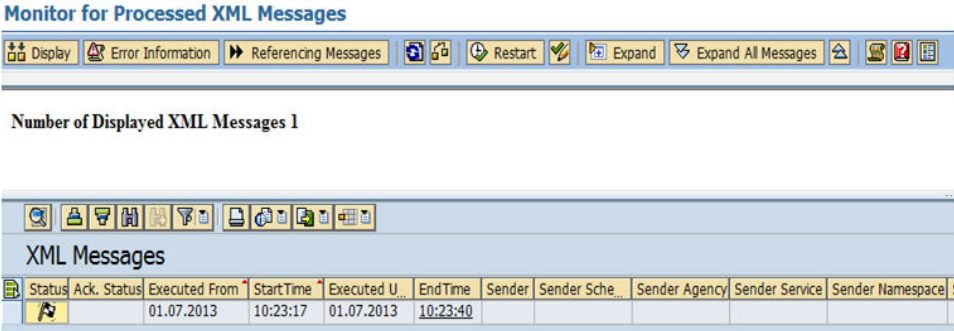
i Note

As of SAP_BASIS 7.40, you have to use the message monitor of Web Service Utilities (transaction **SRT_MONI**) for monitoring XML messages instead of the XML monitor (transaction **SXI_MONITOR**).

The XML message IDs can be used as selection parameters for the XML monitor (transaction **SXI_MONITOR**) to directly access a cXML message.

The monitor displays a checked flag status for a successfully transferred message. The monitor displays an error status if there is a technical connectivity issue between SAP ERP and SAP NetWeaver PI. The system firsts sends a cXML message to SAP NetWeaver PI, and then transfers the cXML message to Ariba Network.

The following figure shows how a successfully transferred message is displayed in the monitor:



A Successfully Transferred Message in the Monitor

A complete trace of the message processing in SAP ERP system can be found in the application log under the *Ariba Integration* (Ariba_Integration) object.

You can search by XML message ID, payload ID, or ID of the object (for example, PO number). You can enter the ID in the *External ID* field. Note that you have to insert an asterisk before and after an external ID, as shown in the following figure:

Analyze Application Log

Object: ARIBA_INTEGRATION

Subobject:

External ID: *B0858651C4619E5EE1000000A4C8134*

Time Restriction

From (Date/Time): 01.07.2013 00:00:00

To (Date/Time): 09.07.2013 23:59:59

Log Triggered By

User: *

Transaction code: *

Program: *

Log Class

- Only very important logs
- Only important logs
- Also less important logs
- All logs

Log Creation

- Any
- Dialog
- In batch mode
- Batch input

Log Source and Formatting

- Format Completely from Database
- Format Only Header Data from Database
- Format Completely from Archive

Search for a Message in the Application Log by External ID

The application log displays exactly one entry for your outbound message. This entry records the creation of the cXML message.

If the message is successful, the system displays a green status in the application log and passes the message to your middleware.

The message transfer to Ariba Network has to be centrally monitored on SAP NetWeaver PI.

Inbound Messages

Inbound messages are sent from SAP NetWeaver PI to the SAP Business Suite system.

Ariba Network Integration 1.0 for SAP Business Suite writes an application log entry for each message retrieved from SAP NetWeaver PI.

All cXML messages are displayed in the XML message monitor (transaction [SXI_MONITOR](#)).

i Note

As of SAP_BASIS 7.40, you have to use the message monitor of Web Service Utilities (transaction [SRT_MONI](#)) for monitoring XML messages instead of the XML monitor (transaction [SXI_MONITOR](#)).

To filter the messages by a specific inbound message type, you can specify the interface name of the receiver by using one of the following standard selection criteria:

- cXMLConfirmationRequest_In
- cXMLShipNoticeRequest_In
- cXMLServiceEntryRequest_In
- cXMLInvoiceDetailRequest_In
- cXMLCopyRequest_PaymentProposalRequest_In
- cXMLComponentConsumption_In
- cXMLQualityNotificationRequest_In
- cXMLQualityInspectionResultRequest_In

The system displays a status for a message as follows:

- Checkered flag for successful processing
- Red for failed processing
- Green for queued processing

If your SAP Business Suite system is based on SAP_BS_FND 701 or higher and Forward Error Handling (FEH) is activated, the system can display a yellow status. This means that the system has forwarded the issue to the FEH application.

The framework of Ariba Network Integration 1.0 for SAP Business Suite additionally offers to send the processing status of an inbound message back to Ariba Network. You can activate this functionality in Customizing activity [Define Basic Message Settings](#) by selecting the [Send cXMLStatusUpdateRequest Message](#) checkbox. For more information, see Customizing under [Integration with Other SAP Components](#) > [SAP Business Suite Integration Component for Ariba](#) > [Framework Settings](#) > [Define Basic Message Settings](#).

If this functionality is activated, an inbound message that has successfully been processed by the SAP Business Suite system changes the routing status of a document from [Sent](#) to [Acknowledged](#) on Ariba Network.

Inbound messages that have not been successfully processed by the SAP Business Suite system will change the status from [Sent](#) to [Failed](#) - provided that Forward Error Handling (FEH) is activated and the message is discarded.

The following figure shows order confirmations with different statuses in the supplier's outbox:

Order Confirmations					Page 1
Confirmation ID	Customer	Order #	Date	Status	
15577_confirmation	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500015577	23 Sep 2013 10:37:29 AM	Acknowledged	
conf1	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500015576	23 Sep 2013 9:53:21 AM	Acknowledged	
4500015562_conf	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500015562	20 Sep 2013 11:39:13 AM	Acknowledged	
410_conf1	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500000410	20 Sep 2013 10:41:29 AM	Acknowledged	
410_conf	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500000410	20 Sep 2013 10:35:36 AM	Sent	
15552_conf	jUnitOrg - xdX8HO3Q51b5e4543617051e5	4500015552	19 Sep 2013 1:13:06 PM	Failed	

Different Statuses of Order Confirmations in the Supplier's Outbox

4.3 Application Log

The application log is the central tool for monitoring all activities in SAP Business Suite systems that are connected to Ariba Network Integration 1.0 for SAP Business Suite. You can access the application log using transaction **SLG1**.

The SAP Business Suite system records all messages triggered to Ariba or received from Ariba in one or more entries under the *Ariba Integration* (ARIBA_INTEGRATION) object.

There are four subobjects for further filtering:

- *INBOUND*

Ariba Network Integration 1.0 for SAP Business Suite processes all messages belonging to the namespace <http://sap.com/xi/ARBFND1> and the below defined interfaces. Ariba Network Integration 1.0 for SAP Business Suite writes an entry to the application log. You can also review the processing status of the entries.

Messages that have been pushed into the SAP Business Suite system by middleware create an entry only with the subobject *Inbound*. Messages that have been polled from Ariba Network directly into the SAP Business Suite system are included in both an entry with the subobject *INBOUND* and an entry with the subobject *POLLING*.

- *POLLING*

If you run the integration to Ariba Network through direct connectivity, you must schedule a polling job to retrieve messages. Each time the polling job runs, it writes an entry in the application log, listing the message type and timestamp when the system has polled.

After messages have been polled from Ariba Network, the log entry lists all message IDs (XML ID and payload ID) that have been retrieved and put in the queue for message processing.

- *OUTBOUND*

Every message leaving the SAP Business Suite system writes an entry to the application log with this subtype. For direct connectivity, there are two entries, one for the creation of the cXML message and the other indicating whether the message has successfully been transferred to Ariba Network.

- *EXTRACTION*

This subobject is relevant for all messages triggered by extraction reports. When a corresponding background job for sending such message has run and created messages, the log entry contains all relevant document ID. For more information about jobs, see chapter Jobs to Be Scheduled.

Search in the Application Log

You can filter the application log entries by object and subobject as described above. *Date and Time* is also a filter criterion.

If you are searching for specific entries, you can also use the *External ID* field by entering a business object ID, a payload ID, or a XML message ID. Note that you have to insert an asterisk before and after the entered ID.

Since Ariba Network Integration 1.0 for SAP Business Suite creates many entries to record the message exchange with Ariba Network, we recommend that you double check your settings for archiving your application log and make necessary adjustments. For more information, search for the phrase *Application Log - User Guidelines (BC-SRV-BAL)* in the documentation of SAP NetWeaver at <http://help.sap.com>.

4.4 Forward Error Handling (FEH)

The Forward Error Handling (FEH) framework is available with `SAP_BS_FND 70` and higher. For more information, search for the phrase *Error and Conflict Handler* in the documentation of SAP NetWeaver under <http://help.sap.com>.

You can use FEH for error handling of incoming documents. You can also use it to send acknowledgements to your business partners on Ariba Network about documents you have received with errors. To send such acknowledgements, you can schedule the report *Send Acknowledgements for Incoming cXML Messages to Ariba Network* (`ARB_FND_FEH_SEND_STAT_ACKNO`). For more information, see the report documentation that is available in the system.

4.4.1 Prerequisites: Customizing Settings for FEH

Activate Error and Conflict Handler

You have activated Error and Conflict Handler (ECH) in your SAP application client. For more information, see Customizing for *Cross-Application Components* under [▶ Processes and Tools for Enterprise Applications ▶ Enterprise Services ▶ Error and Conflict Handler ▶ Activate Error and Conflict Handler ▶](#). In the *Activate ECH for Clients* view, select the *Activated* checkbox.

Define Resolution Strategy

You have defined a resolution strategy that specifies whether and how processes are executed again or ended after errors or conflicts occur. You can define, for example, the periods during which a certain error can be corrected by automatically repeating the process.

For more information, see Customizing for *Cross-Application Components* under [▶ Processes and Tools for Enterprise Applications ▶ Enterprise Services ▶ Error and Conflict Handler ▶ Define Resolution Strategy ▶](#).

Ariba Network Integration 1.0 for SAP Business Suite provides the component BNS-ARI-SE-FND for which a resolution strategy can be created.

When defining error resolution strategy, you can find the following *source fields*:

- *Business Process* (PROCESS)
- *Error Category* (ERROR_CATEGORY)

The following business processes are used for inbound messages:

- *Receive cXML ConfirmationRequest Message* (ARBFNDCONF)
- *Receive cXML InvoiceDetailRequest Message* (ARBFNDINVC)
- *Receive cXML ShipNoticeRequest Message* (ARBFNDSHIP)
- *Receive cXML ComponentConsumptionRequest Message* (ARBFNDCOCR)
- *Receive cXML ProductReplenishmentMessage* (ARBFNDPREM)
- *Receive cXML QuoteMessage* (ARBFNDQTEM)
- *Receive cXML ReceiptRequest Message* (ARBFNDRCPT)
- *Receive cXML ServiceEntryRequest* (ARBFNDSRVE)
- *Receive cXML QualityNotificationRequest* (ARBFNDQLTY)
- *Receive cXML QualityInspectionResultRequest* (QLIR)

The above listed business processes can have the following error categories:

- *Processing Error* (PRE)
- *Authorization Error* (PRE . AUE)
- *Temporary Error* (PRE . TEE)
This error category permits an automatic retry.
- *Late Request* (CON . LRC)

If the SAP ERP system detects that the same cXML message has already been processed (for example, when resending the cXML message was triggered on Ariba Network), the current cXML message can be confirmed.

The following business process is used for outbound messages:

- **Send cXML Message** (ARBFNDOADP)

This business process only applies if you use direct connectivity. It can have the following error categories:

 - **Format Error** (FOE)

For example, Ariba Network may return the status codes “400” (Bad Request) or “406” (Not Acceptable), with the latter meaning that the sent cXML message was not accepted by Ariba.
 - **Authorization Error** (PRE.AUE)

Ariba Network returned for example the status codes “401” (Unauthorized) or “403” (Forbidden).
 - **Temporary Error** (PRE.TEE)

Ariba Network returned for example the status codes “560” (Temporary Server Error). This category of error should trigger an automatic retry.
 - **Processing Error** (PRE)

This category includes all other errors.

To process an order for which you have specified automatic retry, schedule the report *Resubmission of Postprocessing Orders* (/SAPPO/RESUBMIT_ORDERS_2).

4.4.2 Postprocessing Desktop

A postprocessing order is created in FEH when there is an error in either inbound or outbound processing. Use *Error and Conflict Handler: Process Postprocessing Orders* (transaction **ECH_MONI_SEL**, available as of SAP_BS_FND 702) to analyze the errors. If this transaction is not available in your system, you can use the *Postprocessing Desktop* (transaction **/SAPPO/PPO2**).

The following table provides an overview of the business objects and the corresponding cXML messages for which errors may occur. Note that the business objects in the sense of FEH correspond to cXML message types.

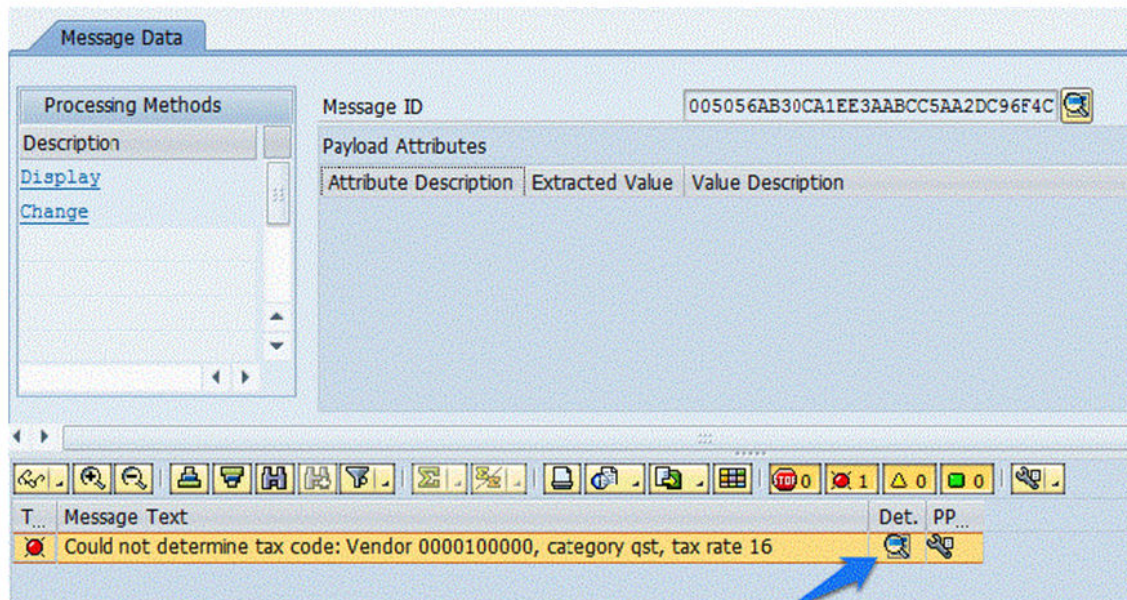
Business Object Type / Business Process	cXML Message
ARBFNDOADP	N/a. This object is used for error handling of all outbound cXML messages.
ARBFNDCONF	Receive cXML ConfirmationRequest Message
ARBFNDSHIP	Receive cXML ShipNoticeRequest Message
ARBFNDINVC	Receive cXML InvoiceDetailRequest Message
ARBFNDPAYP	Receive cXML PaymentProposalRequest Message
ARBFNDCOCR	Receive cXML ComponentConsumptionRequest Message
ARBFNDPREM	Receive cXML ProductReplenishmentMessage

Business Object Type / Business Process	cXML Message
ARBFNDQTEM	Receive QuoteMessage
ARBFNDSRVE	Receive ServiceEntryRequest
ARBFNDQLTY	Receive QualityNotificationRequest Message
QLIR	Receive QualityInspectionResultRequest Message

4.4.3 Postprocessing Desktop: Edit Task

Double-click on a task to edit the details of the postprocessing order. In the [Postprocessing Desktop - Edit Order: Details](#) screen you can perform the following actions to resolve the error:

- Repeat**
 The [Repeat](#) action restarts the processing of the cXML message. This is usually done after resolving an error, for example by changing the business object, by changing the payload, or after a temporary system issue has been resolved.
- Display or change payload**
 To resolve an error, it may be necessary that you change the payload of a cXML message (see image below). You can make the required authorization settings in Customizing for Cross-Application Components under [General Application Functions](#) > [Error and Conflict Handler](#) > [Authorization for Payload Editor](#) .



Changing Payload of a cXML Message

i Note

You can use the *Details* icon in the message table (see the arrow in image above) to navigate from the Postprocessing Desktop to the application log, where you can display further information.

- Confirm**
 The *Confirm* action changes the order status in the Postprocessing Office to *Completed*, closes the order, and sets the status to green. You normally use this option if an inbound cXML message could not be transferred and you have applied the changes to the business document manually .
- Discard**
 The *Discard* action also changes the order status in the Postprocessing Office to *Completed*, closes the order, and sends a cXML StatusUpdateRequest message to Ariba Network to set the acknowledgement status of the corresponding Ariba document to *Failed*.
 If you do not use Forward Error Handling or SAP Application Interface Framework (AIF), you can use the report *Send Status Update for Canceled Inbound Messages to Ariba Network* (ARBEND_SEND_STATUS_CANCELLED) to inform your suppliers about failed inbound messages. The report selects inbound messages that you have canceled manually in the XML monitor and transfers the *Failed* status to Ariba Network.

4.5 SAP Application Interface Framework (AIF)

Alternatively to Forward Error Handling (FEH), you can use the SAP Application Interface Framework (AIF) for monitoring cXML messages and related troubleshooting activities. AIF is an add-on product based on SAP NetWeaver that enables you to monitor different mechanisms for data exchange, such as XML, IDOC, etc. For more information about AIF, see SAP Help Portal at <http://help.sap.com/aif>.

Using AIF, you can monitor all inbound cXML messages that are received in Ariba Network Integration 1.0 for SAP Business Suite. In addition, you can monitor all outbound messages that are sent via direct connectivity. For outbound messages that are sent via mediated connectivity, for example using the Ariba Network Adapter for SAP NetWeaver, you have to use the monitoring tools provided by the middleware.

Note that the release dates of the AIF add-on and of Ariba Network Integration 1.0 for SAP Business Suite are not identical. Therefore new messages that are supported by Ariba Network Integration 1.0 for SAP Business Suite may not be supported immediately by AIF. For more information, see SAP Note [2215054](#).

To enable monitoring the exchange of cXML messages between Ariba Network Integration 1.0 for SAP Business Suite and Ariba Network, default Customizing is provided in AIF. In addition, some steps must be implemented manually. For instructions, see SAP Note [2215054](#).

Supported Outbound cXML Message Types (Sent via Synchronous Outbound Adapter):

- CopyRequest.InvoiceDetailRequest
- ConfirmationRequest
- InvoiceDetailRequest
- OrderRequest
- PaymentProposalRequest
- PaymentRemittanceRequest
- PaymentRemittanceStatusUpdate
- QuoteRequest
- ReceiptRequest
- ShipNoticeRequest
- StatusUpdateRequest

- CopyRequest.PaymentProposalRequest
- ConfirmationRequest
- InvoiceDetailRequest
- OrderRequest
- PaymentRemittanceRequest
- QuoteMessage
- ShipNoticeRequest
- ServiceEntryRequest

To display the above listed messages in transaction *Monitor and Error Handling* (/AIF/ERR), you have to specify a namespace, for example the default namespace /BNARB.

In this transaction, you can do the following:

- Restart messages that were transmitted with errors.
- Cancel messages. If you cancel inbound messages, the "Failed" status is transferred to Ariba Network, informing the business partner about the cancellation of the message. (Prerequisite: You have made the

corresponding settings in Customizing for SAP Business Suite Integration Component for Ariba under [▶ Framework Settings ▶ Define Basic Message Settings ▶](#)).

- Edit the message payload.
- Display the same information as in the Application Log (transaction `SLG1`).

For more information, see the application help for AIF that is available on SAP Help Portal at <http://help.sap.com/aif>. Note that the collective SAP Note [2215054](#) for AIF may also contain important information.

4.6 Troubleshooting Outbound Messages

Messages can fail to be transferred from the SAP ERP system to Ariba Network due to the following reasons:

- The cXML message cannot be created
- The cXML message cannot be transferred to SAP NetWeaver PI (in case of mediated connectivity)
- The cXML message cannot be sent to Ariba Network

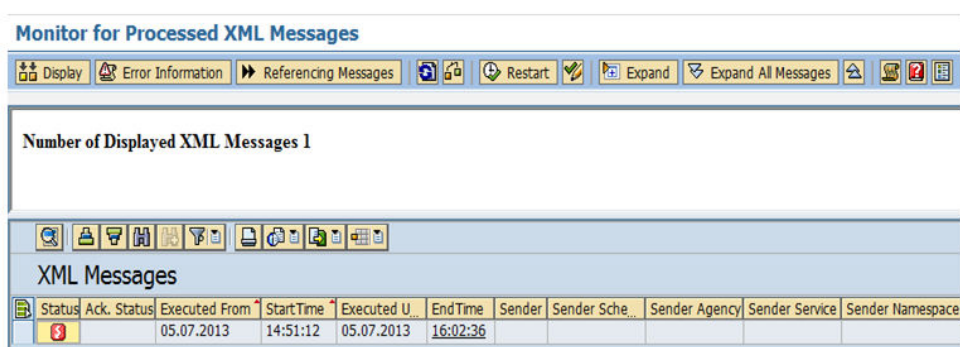
Troubleshooting Messages Transferring Purchase Orders and Status Updates for Service Entry Sheets

For purchase orders and for service entry sheet status updates, you can track the creation of the cXML messages in the message processing log that you can access when displaying the purchase order in SAP ERP. This log also persists in the application log. For more information, see chapter [Application Log \[page 75\]](#).

Ariba Network Integration 1.0 for SAP Business Suite does not create cXML messages containing data that is not supported by Ariba Network. Neither does it create cXML messages that do not contain the minimum set of required fields.

Once a cXML message has been created and you want find out whether it has successfully reached Ariba Network, use the XML message monitor (transaction `SXI_MONITOR`).

The monitor displays messages that have not been transferred to Ariba Network with a red status (error status), as shown in the following figure:



Error Status of a Failed Message Displayed in the Monitor

Depending on whether you use mediated connectivity or direct connectivity, the cause of the error must be analyzed differently:

- If you integrate with Ariba Network using **mediated** connectivity, analyze the communication between SAP ERP and your middleware.
- If you integrate with Ariba Network using **direct** connectivity, a synchronous call is performed from the SAP ERP to Ariba Network. The error status of the message indicates the following possible issues:
 - Ariba Network can currently not be reached.
In this case, you must reprocess your failed messages once Ariba Network is available again. To enable mass processing, the report *Restart failed outbound messages* (ARBFDN_MASS_MESSAGE_RESTART) is available. For more information, see chapter [Jobs to Be Scheduled \[page 54\]](#).
 - Your cXML message cannot be accepted by Ariba Network.
In this case, you can view the short text of the error message by double-clicking the message. The long text of the error message, which describes the details of the error, can be found in the application log (transaction **SLG1**). You can search in the application log by entering the XML message ID as an external ID (insert an asterisk before and after the XML message ID). As a result, you receive two log entries: the first one with a green status, indicating that the cXML message has successfully been created; the second one with a red status, indicating that the cXML message has not been transferred to Ariba Network. Double-click the red log entry to see the messages. The error message contains a

long text that you can display by clicking on *Details*. This error message is issued by Ariba Network. For more information, see [Application Log \[page 75\]](#)

If your SAP ERP system is based on `SAP_BS_FND 701` or higher and FEH is activated, errors that occur during the transfer of cXML messages to Ariba create an object in FEH, and the error handling is done through FEH. For more information, see chapter [Forward Error Handling \(FEH\) \[page 76\]](#).

Troubleshooting Messages Transferring Goods Receipts, Invoice Status Updates, CC Invoices, Payment Proposals, and Remittance Advices

All messages transferring goods receipts, invoice status updates, CC invoices, payment proposals, and remittance advices are created by background jobs. These jobs must be scheduled to run regularly. For more information, see chapter [Jobs to Be Scheduled \[page 54\]](#).

The jobs write an application log with a list of the invoice documents that have been selected, as shown in the figure below. You can access the application log using transaction `SLG1`, and enter `ARIBA_INTEGRATION` as the object and `EXTRACTION` as the subobject. The following figure shows a list of invoice documents displayed in the application log:

Date/Time/User	Nu...	External ID	Object txt	Sub-object text	Transac...	Program	Mode	Log number
17.09.2013 13:56:26	4	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000224185
17.09.2013 17:29:02	6	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000224226
17.09.2013 18:10:27	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225340
17.09.2013 18:11:52	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225343
17.09.2013 18:12:21	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225346
17.09.2013 18:15:10	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225349
17.09.2013 18:18:34	6	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225355
17.09.2013 18:22:37	4	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225365
17.09.2013 18:28:41	5	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225371
17.09.2013 18:32:56	4	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225378
17.09.2013 18:34:58	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225383
17.09.2013 18:37:56	3	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225386
17.09.2013 18:54:07	4	Selection by in...	ARIBA_INTEGRATION	EXTRACTION	SE38	CL_ARBERP_BUS2081_EXTR_STS_UPDCP	Dialog pro...	000000000000225406

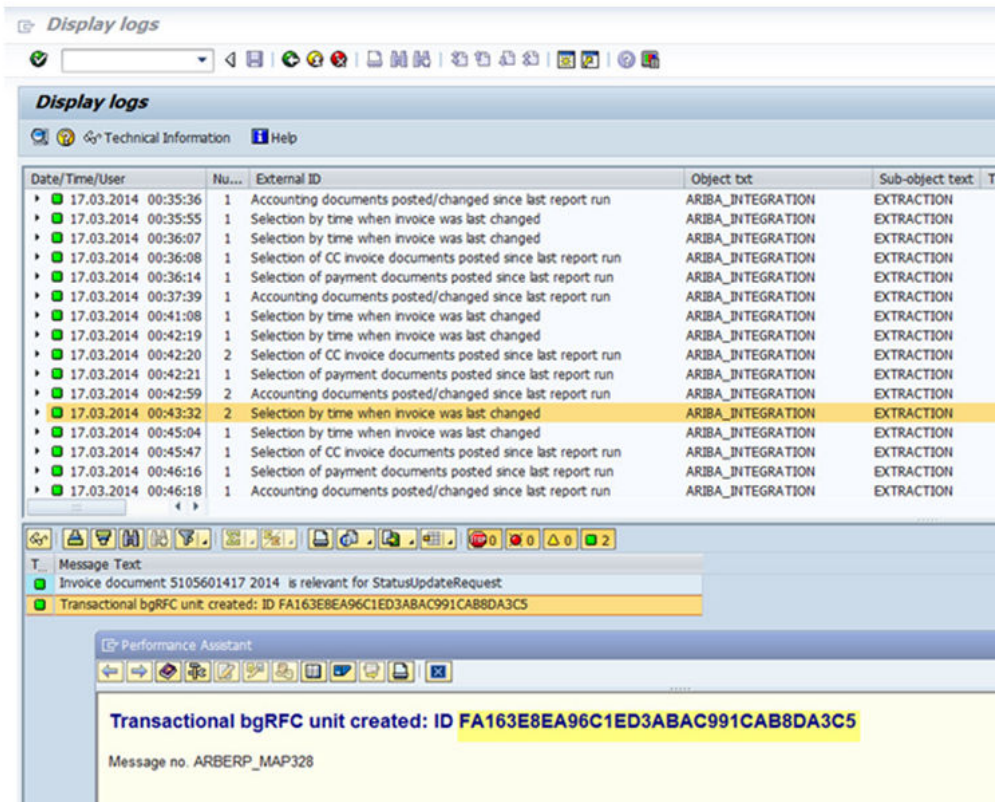
Type: Message Text

- Identity ID AN02000573665, bgRFC Inbound Destination ARBERP
- Invoice documents created/changed from 16.09.2013 23:38:24 till 17.09.2013 13:54:26
- Invoice document 5105600962 2013 is relevant for StatusUpdateRequest
- Invoice document 5105600964 2013 is relevant for StatusUpdateRequest

Invoice Documents in the Application Log

For each selected document, the jobs asynchronously call a function module, for example, *Send the status update of Invoice* (`ARBERP_BUS2081_STAT_OUT`), using bgRFC. The function modules collect the required

data and trigger the sending of cXML messages to Ariba Network. The application log (**SLG1**) contains the ID of bgRFC unit created for corresponding bgRFC call.



Application Log Displaying ID of bgRFC Unit

You can use the bgRFC monitor (transaction **SBGRFCMON**) to track the bgRFC calls. Using the bgRFC unit, you can find the bgRFC call in which you are interested. Below, you see the initial screen of bgRFC monitor with selection criteria for bgRFC calls that have been initiated by extraction jobs (reports).

bgRFC Monitor

Scenario
 Inbound Outbound

Unit Type
 Transactional Queued

Status of Queues/Units
 All
 With Errors
 Locked

Display Units
 Maximum No. of Displayed Units:

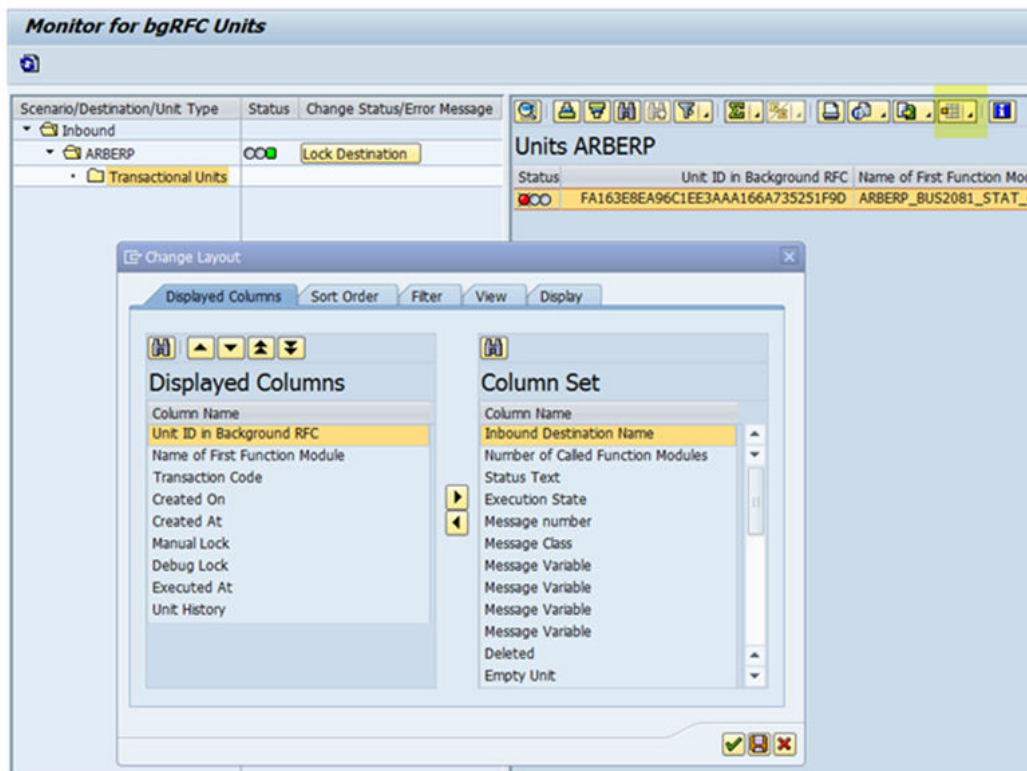
Destination/Queue
 Inbound Destination: to

Options for Transactional Units

User name	<input type="text"/>	to	<input type="text"/>	
Program Name	<input type="text"/>	to	<input type="text"/>	
Transaction Code	<input type="text"/>	to	<input type="text"/>	
Long UTC Time Stamp	<input type="text"/>	to	<input type="text"/>	

bgRFC Monitor with Selection Criteria for Calls Resulting from Extraction Reports

If you want to filter the list of bgRFC calls by bgRFC Unit ID, you have to add the corresponding column to the layout of the list (see image below):



bgRFC Monitor: Adding Columns

All failed bgRFC units remain in the monitor. For each unit, the detail information shows the error message explaining the cause of the failure.

If the cause of an error has been fixed, you can trigger the processing of bgRFC units again by using the context menu for the unit entries in the list. Otherwise delete the bgRFC unit and trigger the sending of outbound cXML message again manually. For this purpose, all extraction reports also have reconciliation modes that offer additional parameters for selecting the relevant documents. For example, you can select a document by its creation date or document number.

For more information, search for the phrase *Troubleshooting and Monitoring* in the documentation of SAP ERP at <http://help.sap.com>.

After successful processing of bgRFC units, the corresponding outbound cXML messages are monitored using transaction **SXI_MONITOR**.

4.7 Troubleshooting Inbound Messages

Messages that reside on Ariba Network in the outbound queue are polled from SAP ERP either by the middleware, for example by the Ariba Network Adapter for SAP NetWeaver, or by Ariba Network Integration 1.0 for SAP Business Suite.

If you use **mediated** connectivity, the polled messages are pushed into SAP Business Suite system, where the inbound processing is triggered. If the handover from the middleware to the SAP Business Suite system is not successful, the technical connectivity is likely to be the issue. Besides checking the connectivity setup between the SAP Business Suite system and the middleware, consider issues regarding the user name and password as well as authorization issues.

For both connectivity options, application-specific message processing issues can be recognized using transaction **SXI_MONITOR**.

By searching by the cXML message ID or cXML payload ID, you can also find an entry in the application log (transaction **SLG1**) that displays the error message.

i Note

cXML messages are always retrieved from Ariba Network and placed into the inbound processing queue of the SAP Business Suite system, no matter whether they can be processed or not.

If you use **direct** connectivity, polling errors occur mainly due to authorization issues or due to temporary downtime of Ariba Network. For information about authorization, see chapter [Roles and Authorizations \[page 60\]](#). Failed polling attempts can be found in the application log of the SAP ERP system (transaction **SLG1**). The cXML messages remain on Ariba Network until the next successful polling, when all pending messages are picked up.

If your SAP Business Suite system is on `SAP_BS_FND 701` or higher and FEH is activated, unsuccessful incoming cXML messages create an object in FEH, and the error handling is done using FEH. For more information, see chapter [Forward Error Handling \(FEH\) \[page 76\]](#).

An inbound message can fail to be processed for many reasons, for example, authorization issues. For information about authorizations, see chapter [Roles and Authorizations \[page 60\]](#).

You can try to resolve the error and restart the message using transaction **SXI_MONITOR**.

The following figure shows an example of ConfirmationRequest cXML message that has failed in inbound processing:

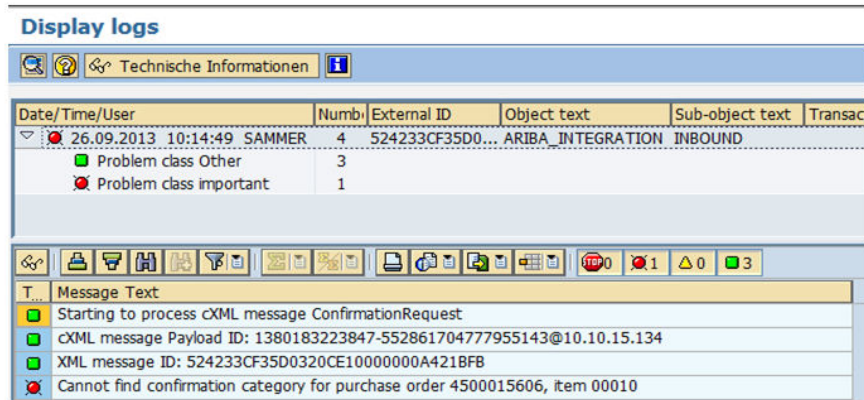
The screenshot shows a table titled "XML Messages" with the following data row:

Status	Ack. Status	Executed From	StartTime	Executed U	EndTime	Sender	S	S	S	S	Op.	Receiver	Receiver Sch.	Receiver Agency	Recei.	Receiver Namespace	Receiver Interface	Operation	Pipeline	Inbound
0		26.09.2013	10:14:48	26.09.2013	10:14:51											http://sap.com/xi/ARPHID1	cXMLConfirmationRequest_In	cXMLConfirmationRequest_In	WS_SHORTCUT	WS

A Failed ConfirmationRequest Message in Inbound Processing

You can double-click the cXML message and see the error message. You can also view the error message by entering the XML message ID or cXML payload ID in the application log (transaction **SLG1**).

You shall find one entry with the red error status, as shown in the following figure:

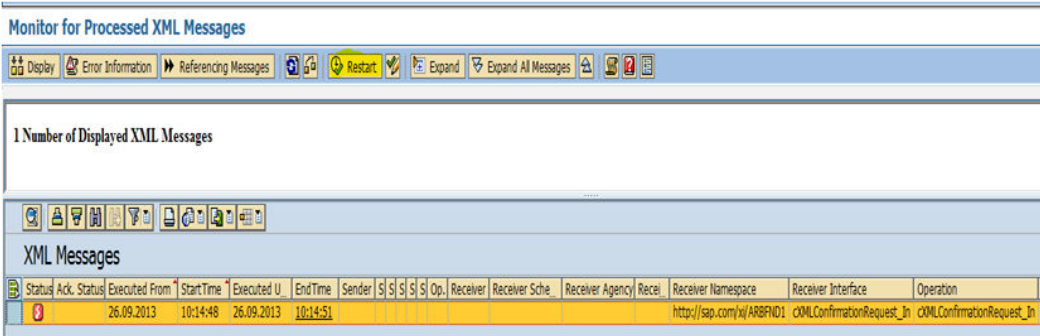


An Error Message Displayed in the Application Log

In the above example, the error occurs because of a missing confirmation control key in item 10 of the purchase order 4500015606.

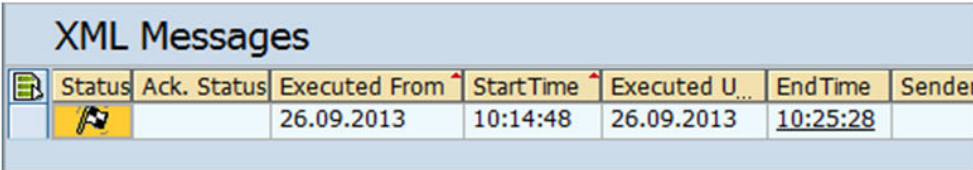
To correct this error, you can edit this purchase order and enter the missing key on the *Confirmations* tab page in the *Item* group box, then save your changes.

Go back to the XML monitor, select the message and click the *Restart* button, as shown in the following figure:



Restart Function in the XML Monitor

Refresh the monitor and check the message's status again. The error status is changed to successful status (marked by a checked flag), as shown in the following figure:



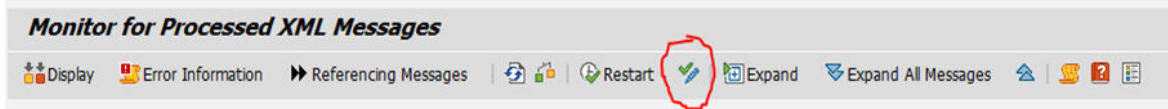
The screenshot shows a table titled "XML Messages" with the following columns: Status, Ack. Status, Executed From, StartTime, Executed U..., EndTime, and Sender. The first row shows a message with a checked flag in the Status column, indicating a successful status. The other columns contain the following values: Ack. Status is empty, Executed From is 26.09.2013, StartTime is 10:14:48, Executed U... is 26.09.2013, EndTime is 10:25:28, and Sender is empty.

Status	Ack. Status	Executed From	StartTime	Executed U...	EndTime	Sender
✓		26.09.2013	10:14:48	26.09.2013	10:25:28	

Successful Status of a cXML Message in the Monitor

If the message contains data that you cannot process, you have the following options:

- Recurring issue
You can permanently influence the data mapping and forward the data to the applications by implementing the pre-processing inbound BAdI. For more information, see chapter Configuration Settings.
- One-time issue
If the issue is caused by incorrect data that you have received from the supplier, you can ask the supplier to correct the issue and resend the message. The failed cXML message in your inbound queue has to be cancelled manually, and you can cancel the message by clicking [Cancel Processing of Messages with Errors](#) in the XML Monitor.



XML Monitor: Cancel Processing of Messages with Errors

5 Appendix

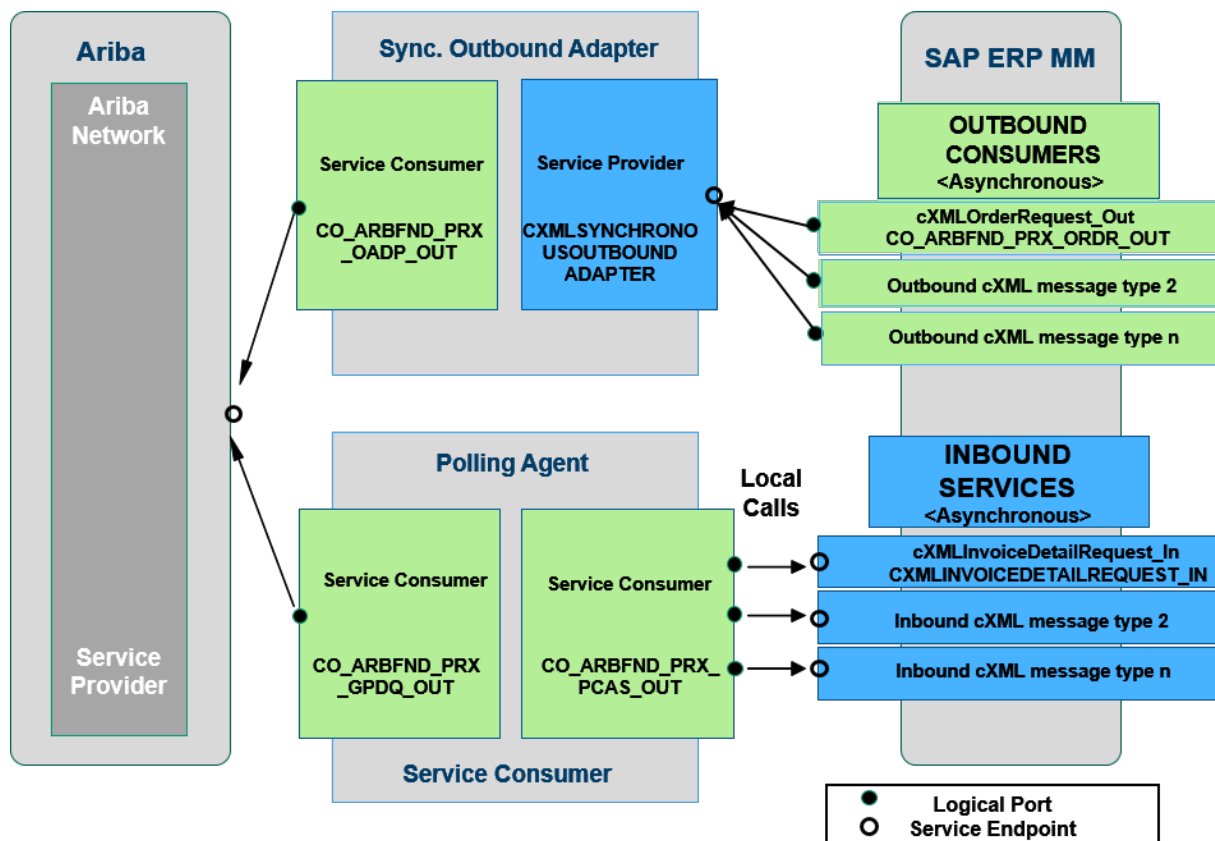
5.1 Configuration of SOA Manager

As a prerequisite, you have added Ariba's security certificate to SAP ERP and set up the security settings. For more information, see chapter **SAP Business Suite System Acting as a Client**.

Note

The configuration of Web services is required only for direct connectivity.

The following figure shows an overview of the data communication:



5.1.1 Define Inbound Services

In Customizing for *Integration with Other mySAP.com Components* under **SAP Business Suite Integration Component for Ariba > Framework Settings > Direct Connectivity Settings > Manage and Test Enterprise**

Services ▾, double-click this node and a new browser window opens. You make configuration on the *SOA Management* screen as follows:

1. On the *Business Administration* (or *Service Administration*) tab page, choose *Web Service Administration* (or *Web Service Configuration*).
2. Enter **Service** (or **Service Definition**) in the *Search by* field and **CXML*** in the *Search Pattern* field, then choose *Go*.

The system displays the following inbound services:

- CXMLCONFIRMATIONREQUEST_IN
- ARBFND_CXMLSERVICEENTRYREQ_IN
- CXMLCOPYREQUEST_PAYMENTPROPOSA
- CXMLINVOICEDETAILREQUEST_IN
- CXMLSHIPNOTICEREQUEST_IN
- CXMLRECEIPTREQUEST_IN
- CXMLSYNCHRONOUSOUTBOUNDADAPTER
- CXMLCOMPONENTCONSUMPTIONREQUEST_IN
- CXMLQUALITYNOTIFICATIONREQUEST_IN
- CXMLQUALITYINSPECTIONRESULTREQUEST_IN

i Note

The inbound service CXMLSYNCHRONOUSOUTBOUNDADAPTER receives cXML messages from the outbound consumers and sends the cXML messages to Ariba Network.

The other inbound services receive cXML messages from Ariba Network through the outbound consumer of the Polling Agent and process these cXML messages in the SAP ERP system.

Configuration of the Inbound Service CXMLSYNCHRONOUSOUTBOUNDADAPTER

Proceed as follows:

1. Choose CXMLSYNCHRONOUSOUTBOUNDADAPTER and choose *Apply Selection*.
2. Navigate to the *Configurations* tab page and choose *Create Service*. The *SOA Management* dialog box appears.
3. Enter the required values, and choose *Apply Settings*. The following table contains an example of a set of values you can enter:

New Service Name	Description	New Binding Name
SYNC_OUTB_ADAPTER	Synchronous Outbound Consumer	SYNC_OUTB_ADAPTER

4. In the *Configuration of Web Service 'SYNC_OUTB_ADAPTER': Endpoint 'SYNC_OUTB_ADAPTER'* group box, navigate to the *Transport settings* tab page and choose *Local System Call* in the *Make Local Call* field.
5. Navigate to the *Provider Security* tab page of the group box and select the *User ID/Password* checkbox for the *HTTP Authentication* method.

6. Save your configuration.

The system displays a successful message such as *Binding 'SYNC_OUTB_ADAPTER' activated in Service 'SYNC_OUTB_ADAPTER'*. Alternatively, check the error messages and other messages at the top of the screen.

i Note

You will need to know the location of your newly defined inbound services to define the ports of the outbound consumers later on. Before you leave this transaction, note down this destination address. We recommend you also do this for the other inbound services.

To note down the location information, continue with the following steps:

7. In the group box and on the Details of Service Definition: CXMLSYNCHRONOUSOUTBOUNDADAPTER *Overview* tab page, click the link *Open WSDL document for selected binding or service*. The system displays a new window.
8. Scroll down to the last line that starts with the text `Details of Service Definition:soap:address location=` and copy this link to a separate document, for example, a Microsoft Word or Excel document. You need this link later on when defining outbound consumers. The following is an example of a link:

🔗 Example

```
http://abc1234.wdf.sap.corp:12345/sap/bc/srt/xip/sap/cxmlsynchronousoutboundadapter/002/  
sync_outb_adapter/sync_outb_adapter
```

Taking the above link as an example, you can divide the link into the following parts:

- Computer name: `abc1234.wdf.sap.corp`
- Port number: `12345`
- SICF path: `/sap/bc/srt/xip/sap/cxmlsynchronousoutboundadapter/002/
sync_outb_adapter/sync_outb_adapter`

i Note

Double-check the correctness of this part of the URL in transaction SICF by navigating through the default host services.

Result: You have defined the first inbound service CXMLSYNCHRONOUSOUTBOUNDADAPTER.

Repeat all of the above steps for the other services:

We recommend that you use the service definition to name the services you create. For example, you can use names such as `CONF_REQ_IN`, `SES_REQ_IN`, `INV_DET_REQ_IN`, `CCPAYP_REQ_IN`, `SHIP_NOT_REQ_IN`, `REC_REQ_IN`, `COCR_IN`, `QLTY_REQ_IN`, and `QLIR_REQ_IN`. Note down the names you use, as you need so specify them when configuring the Polling Agent later on.

i Note

Refresh the screen after carrying out the described activities.

5.1.2 Define Outbound Consumers

Start again from the *Web Service Administration* screen. On the *Search* tab page, enter **Consumer Proxy** in the *Search by* field and **co_arbfnd*** in the *Search Pattern* field, then Choose *Go*.

The system displays the following outbound consumers:

- CO_ARBFND_PRX_CCINV_OUT
- CO_ARBFND_PRX_GPDQ_OUT
- CO_ARBFND_PRX_OADP_OUT
- CO_ARBFND_PRX_ORDR_OUT
- CO_ARBFND_PRX_PAYP_OUT
- CO_ARBFND_PRX_PAYR_OUT
- CO_ARBFND_PRX_PAYS_OUT
- CO_ARBFND_PRX_STAT_OUT
- CO_ARBFND_PRX_PCAS_OUT
- CO_ARBFND_PRX_RCPT_OUT
- CO_ARBFND_PRX_PROA_OUT
- CO_ARBFND_PRX_QLTY_OUT
- CO_ARBFND_PRX_QLTI_OUT
- CO_ARBFND_PRX_QLTD_OUT

There are three groups of outbound consumers:

- Consumers communicating directly with Ariba Network
The outbound consumer CO_ARBFND_PRX_GPDQ_OUT is for the Polling Agent. This consumer fetches cXML messages from Ariba Network synchronously.
The outbound consumer CO_ARBFND_PRX_OADP_OUT is for the synchronous outbound adapter. This consumer sends cXML messages to Ariba Network.
- Consumers getting data from SAP ERP and sending it to the synchronous outbound adapter
The outbound consumer CO_ARBFND_PRX_ORDR_OUT transfers purchase order data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_CCINV_OUT transfers invoice data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_STAT_OUT transfers status update data (for example, the invoice status update data) from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_PAYP_OUT transfers payment proposal data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_PAYR_OUT transfers payment advice data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_PAYS_OUT transfers payment advice cancellation data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_RCPT_OUT transfers goods receipt data from SAP ERP to Ariba Network.
The outbound consumer CO_ARBFND_PRX_PROA_OUT transfers forecast and inventory data from SAP ERP to Ariba Network.
- The outbound consumer CO_ARBFND_PRX_QLTY_OUT transfers quality notification data from SAP ERP to Ariba Network.

- The outbound consumer CO_ARBFND_PRX_QLTI_OUT transfers inspection lot data from SAP ERP to Ariba Network.
- The outbound consumer CO_ARBFND_PRX_QLTY_OUT transfers data for the usage decision of the inspection lot data from SAP ERP to Ariba Network.
- Consumers sending data from the Polling Agent to inbound services
The adapter CO_ARBFND_PRX_PCAS_OUT is part of the Polling Agent and provides data to the following inbound services that send data to SAP ERP:
 - CXMLCONFIRMATIONREQUEST_IN
 - ARBFND_CXMLSERVICEENTRYREQ_IN
 - CXMLCOPYREQUEST_PAYMENTPROPOSA
 - CXMLINVOICEDTAILREQUEST_IN
 - CXMLSHIPNOTICEREQUEST_IN
 - CXMLCOMPONENTCONSUMPTION_REQUEST_IN
 - CXMLRECEIPTREQUEST_IN
 - CXMLQUALITYNOTIFICATIONREQUEST_IN
 - CXMLQUALITYINSPECTIONRESULTREQUEST_IN

Configuration of the Outbound Consumer CO_ARBFND_PRX_ORDR_OUT

Proceed as follows:

1. Choose the outbound consumer CO_ARBFND_PRX_ORDR_OUT and choose *Apply Selection*.
2. On the *Configurations* tab page, choose *Create Logical Port*.
The *SOA Management* dialog box appears.
3. In the *General Configuration Settings* group box, select the *Manual configuration* radio button and select the *Logical Port is Default* checkbox.
4. Fill the required fields and choose *Apply Settings*. The following table contains an example of values that you can enter:

Logical Port Name	Description
SYNCH_ADAPTER_IN	Outbound Order Request

5. Navigate to the *Transport settings* tab page and fill the required fields. Note that the data is taken from the inbound service CXMLSYNCHRONOUSOUTBOUNDADAPTER that you have configured in chapter [Define Inbound Services \(Type Services\) \[page 94\]](#). The following table contains a set of values you can enter:

URL Access Path	<Enter URL Access Path for the CXMLSYNCHRONOUSOUTBOUNDADAPTER service>
URL Protocol Information	HTTP
Computer Name of Access URL	<Enter Computer Name of Access URL for the CXMLSYNCHRONOUSOUTBOUNDADAPTER service>

Port Number of Access URL	<Enter Port Number of Access URL for the CXMLSYNCHRONOUSOUTBOUNDADAPTER service>
Make Local Call	Local System Call
Compress Response	True

6. Navigate to the *Consumer Security* tab page, and select the *User ID/Password* checkbox. Save your configuration. The system displays a successful message such as *Logical Port SYNCH_ADAPTER_IN successfully activated*. Alternatively, check the error messages and other messages at the top of the screen.

Repeat the above described steps for the other outbound consumers:

You can use the same name for the port.

Note

If the system displays an error message at the top of the screen, we recommend that you close the screen, reopen it, and repeat the steps.

Configuration of the Outbound Consumer CO_ARBFND_PRX_PCAS_OUT

As mentioned above, this consumer sends data from the Polling Agent to several inbound services. Therefore, you must define a corresponding number of logical ports as follows:

1. Choose the outbound consumer CO_ARBFND_PRX_PCAS_OUT and choose *Apply Selection*.
2. Navigate to the *Configurations* tab page and choose *Create Logical Port*. The *SOA Management* dialog box appears.
3. Choose *Manual configuration* as the configuration type, and deselect the *Logical Port is Default* checkbox.
4. Fill the required fields and choose *Apply Setting*. The following table contains an example of values you can enter:

Logical Port Name	Description
OUT_POLLCLNT_ORDCONF	Order Confirmation

5. Navigate to the *Transport settings* tab page, and check or fill the required fields. Note that the data is taken from the inbound service CXMLCONFIRMATIONREQUEST_IN that you have configured in chapter [Define Inbound Services \(Type Services\) \[page 94\]](#). The following table contains a set of values you can check or enter:

URL Access Path	<Enter URL Access Path for the CXMLCONFIRMATIONREQUEST_IN service>
URL Protocol Information	HTTP

Computer Name of Access URL	<Enter Computer Name of Access URL for the CXMLCONFIRMATIONREQUEST_IN service>
Port Number of Access URL	<Enter Port Number of Access URL for the CXMLCONFIRMATIONREQUEST_IN service>
Make Local Call	Local System Call
Compress Response	True

- On the *Consumer Security* tab page, select the *User ID/Password* checkbox.
- Save your configuration. The system displays a successful message such as *Logical Port 'OUT_POLLCLNT_CONFIRM' successfully activated*. Alternatively, check the error messages and other messages at the top of the screen.

Repeat steps 1 to 7 to create the other logical ports for the outbound consumer CO_ARBFND_PRX_PCAS_OUT, one for each inbound service. The information in the following table gives an example of the information you can use for another logical port:

Logical Port Name	Description
OUT_POLLCLNT_INVC	Invoice Detail Request

Note that the required data on the *Transport settings* tab page is taken from the corresponding inbound service CXMLINVOICEDETAILREQUEST_IN that you have configured in chapter [Define Inbound Services \(Type Services\)](#) [page 94].

i Note

Note down the names of the logical ports. You will need them later on when you specify the settings for the Polling Agent in the Customizing activity *Define Settings for Polling Agent*. For more information, see Customizing for *Integration with Other mySAP.com Components* under **SAP Business Suite Integration Component for Ariba** > *Framework Settings* > *Direct Connectivity Settings* > *Define Settings for Polling Agent*.

Configuration of the Outbound Consumer CO_ARBFND_PRX_GPDQ_OUT

Proceed as follows:

- Choose the outbound consumer CO_ARBFND_PRX_GPDQ_OUT and choose *Apply Selection*.
- Navigate to the *Configurations* tab page and choose *Create Logical Port*. The *SOA Management* dialog box appears.
- Choose *Manual Configuration* as the configuration type and select the *Logical Port is Default* checkbox.

- Fill the required fields and choose [Apply Settings](#). The following table contains an example of the values you can enter:

Logical Port Name	Description
ARIBA_GATEWAY	ARIBA GATEWAY Polling Agent

- On the [Transport settings](#) tab page, check or fill the fields. The following table contains a set of values you can check or enter:

URL Access Path	/ANSapGateway.aw/ad/cxml
URL Protocol Information	HTTPS
Computer Name of Access URL	service.ariba.com
Port Number of Access URL	443
Name of Proxy Host	<Enter the name of your Proxy Host>
Port Number of Proxy Host	<Enter the Port Number of your Proxy Host>
Make Local Call	No Call in Local System
Compress Response	False

i Note

You will receive the URL information from Ariba.

- On the [Consumer Security](#) tab page, select the [User ID/Password](#) checkbox.
- Save your configuration. The system displays a successful message such as [Logical Port 'ARIBA_GATEWAY' successfully activated](#). Alternatively, check the error messages and other messages at the top of the screen.

Repeat the steps above to configure the settings for the outbound consumer `CO_ARBFND_PRX_OADP_OUT`.

i Note

You can test the ping Web service for every consumer proxy. To perform the test, click the [Ping Web Service](#) icon on the [Configurations](#) tab page in the [Details](#) page of each outbound consumer proxy. If successful, the system displays a successful message such as [Web service ping successful for LP 'OUT_STATUS_UPD_REQU', proxy 'CO_ARBFND_PRX_STAT_OUT'](#).

You can now find your generated Web services in your SAP ERP system in the [Maintain Services](#) tool (transaction `SICF`). Make sure the services are active, and activate them if necessary. To find the services, double-click the `default_host` node, choose `▶ sap > bc > srt > xip > sap ▶`.

5.2 Extrinsic Elements (Extensibility)

Extensibility in the communication with Ariba Network is enabled by extrinsic elements in cXML messages. For more information, see the cXML User's guide that is available at <http://cxml.org>.

Ariba Network Integration 1.0 for SAP Business Suite supports enhancements for all types of outgoing messages with additional fields (extrinsics), as well as the processing of extrinsics in all types of incoming messages.

5.2.1 Extrinsics in Outbound cXML Messages

To enhance a cXML message that you send to Ariba Network you have to add it in the outbound message mapping. To do this, use the enhancement spot `ARBERP_OUTBOUND` with the BAdI Definition `ARBERP_OUTBOUND_MAPPING`. This BAdI is available in Customizing for SAP Business Suite Integration Component for Ariba under [Application-Specific Settings](#) > [SAP ERP Integration Component for Ariba](#) > [Business Add-Ins \(BAdIs\)](#) > [BAdI: Outbound Mapping](#).

See the Customizing documentation and the BAdI definition for the methods you can implement.

5.2.2 Extrinsics in Inbound cXML messages

A cXML message that comes in from Ariba Network can hold additional data that you would like to process and store in SAP ERP. Therefore you must enhance the inbound message mapping. To do this, use the enhancement spot `ARBERP_INBOUND` with the BAdI Definition `ARBERP_INBOUND_MAPPING`.

See the Customizing documentation and the BAdI definition for the methods you can implement.

5.3 End Points

The end points in Ariba Network manage and control the flow of data from Ariba Network to the various systems that are connected. An end point on Ariba Network acts as a document routing placeholder that ensures that documents from Ariba Network are sent to the intended target system. You can create end points on Ariba Network according to your business requirements.

Example Scenarios

- In your system landscape, you have an Ariba procurement solution and an SAP ERP system that is integrated with Ariba Network. In this case, purchase orders can originate both in the Ariba procurement solution and the SAP ERP system. In such a scenario, you create two end points, one for the Ariba

procurement solution and the other for SAP ERP. This allows Ariba Network to send the invoices to the correct system.

- You want all your invoices to be sent to the Ariba procurement solution. You can create and configure a single end point.

5.3.1 Customizing Settings for End Points

You have received one or several IDs, known as Ariba Network IDs (ANID). You use either a password (shared secret) or a client certificate with each ANID. Each credential represents a unique entity on Ariba Network, that is, your appearance to your business partners on the network. Maintain this information in Customizing for SAP Business Suite Integration Component for Ariba under ► [Framework Settings](#) ► [Define Credentials and End Points for Ariba Network](#) ►. Proceed as follows:

1. Enter the ANID in the [Ariba Network ID](#) column.
2. If you use end points, do **not** enter the shared secret right away. (In step 4, you will have to specify a shared secret for each end point.) Use one of the following options:
 - If you want to use end points only for authentication, select [Enable end points for authentication](#).
 - If you use direct connectivity, that is, you integrate with Ariba Network without a middleware, you use end points also to poll messages. In this case, select [Enable end points for authentication and polling](#). As a result, the end point is available in the Customizing activity [Define Settings for Polling Agent](#) and is used for polling cXML messages from Ariba Network.
3. Select the above specified ANID, and double click [End points for Ariba Network](#) in the left hand pane.
4. Maintain the required data for each end point on the screen [End points for Ariba Network: Overview](#). The SAP-internal key can be freely defined; it is used to reference the Ariba end point ID in the SAP system.

Important Disclaimers and Legal Information

Hyperlinks

Some links are classified by an icon and/or a mouseover text. These links provide additional information.

About the icons:

- Links with the icon : You are entering a Web site that is not hosted by SAP. By using such links, you agree (unless expressly stated otherwise in your agreements with SAP) to this:
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