Ariba ®

cXML Solutions Guide

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Revision History

The following table provides a brief history of the updates to this guide. Ariba updates the technical documentation for its On Demand solutions when:

- Software changes delivered in service packs or hot fixes require a documentation update to correctly reflect the new or changed functionality;
- The existing content is incorrect or user feedback indicated that important content is missing.

Ariba reserves the right to update its technical documentation without prior notification. Most documentation updates will be made available in the same week as the software service packs are released, but critical documentation updates may be released at any time.

To provide feedback on this guide or any Help@Ariba resources, click the **Submit Feedback** link on any Help@Ariba page.

Document Version	Month/Year of Update	Updated Chapter/Section	Short Description of Change
5	January 2011	n/a	AN49 GA version
6	January 2011	Invoice	Added content on end points integration enablement

Table of Contents

Chapter 1 Introduction to cXML Solutions

This guide describes recommended cXML usage and how to map data to and from cXML documents. The guidelines and recommendations in this document supplement the general description of cXML provided by the *cXML User's Guide*.

cXML Recommended Usage

cXML is an open language defined by public Document Type Definitions (DTDs). These DTDs define cXML so that it is extremely flexible, which encourages its wide adoption.

Ariba applications use a specific implementation of the cXML language. To successfully interact with Ariba applications through cXML, you must understand the particular cXML behavior of those applications.

This document describes the external cXML behavior of the following Ariba applications:

- Ariba Buyer
- The Ariba Network (Ariba Network)

Data Mapping

This document contains recommendations on mapping data to and from cXML documents.

cXML is a general-purpose language for conveying commerce related information. Organizations use it to communicate business data between diverse applications.

For example, trading partners use cXML for communicating purchase orders. When buying organizations generate cXML purchase orders, they include data from their Enterprise Resource Planning (ERP) systems and procurement systems. They route these purchase orders to their suppliers through Ariba Network. Suppliers then extract data from the purchase orders and use that data within their order-fulfillment systems.

Trading partners' back-end systems must be able to map data either to or from the cXML documents. The default configurations of these external systems do not always have the data or formatting necessary for the cXML protocol. Even if messages are well-formed cXML, the actual data within these elements might have many variations. This inconsistency affects both buying organizations and suppliers, and can lead to longer integration times.

This document helps implementors provide consistent data between trading partners. It provides best practices for the conversion of back-end-system data to cXML to help prevent variation in the data transferred between trading partners.

cXML Versions

New versions of cXML are periodically released as the cXML standard is enhanced. For detailed information about each cXML version, see the *cXML Release Notes* on www.cXML.org.

cXML-enabled applications must be able to detect the cXML version of received documents and process those documents appropriately.

cXML Versions Used by Ariba Applications

Each Ariba application that connects to Ariba Network uses a specific cXML version:

Application	cXML Version
Ariba Buyer 7.0	cXML 1.1.008
Ariba Buyer 7.1	cXML 1.2.007
Ariba Buyer 8.0	cXML 1.2.008
Ariba Buyer 8.1	cXML 1.2.009
Ariba Buyer 8.2	cXML 1.2.011
Ariba Buyer 8.2.2	cXML 1.2.013
Ariba Buyer 9r1	cXML 1.2.019
Ariba Procure-to-Order	cXML 1.2.021
Ariba Procure-to-Pay	cXML 1.2.021
Ariba Services Procurement	cXML 1.2.021
Ariba Invoice Professional	cXML 1.2 021
Ariba Sourcing 4.0	cXML 1.2.008
Ariba Sourcing 4.1	cXML 1.2.009
Ariba Sourcing 4.2	cXML 1.2.011
Ariba Sourcing 4.3	cXML 1.2.011
Ariba Sourcing 4.4	cXML 1.2.011
Ariba Sourcing 9r1	cXML 1.2.019
Ariba Sourcing Basic/Professional	cXML 1.2 021
Ariba Analysis 2.5	cXML 1.2.009
Ariba Analysis 3.0	cXML 1.2.011
Ariba Analysis 9r1	cXML 1.2.019
Ariba Spend Visibility Basic/Professional	cXML 1.2 021
Ariba Category Management 2.0	cXML 1.2.011
Ariba Contract Management 9r1	cXML 1.2.019
Ariba Contract Management Basic/Professional	cXML 1.2 021
Ariba Supplier Information Management	cXML 1.2.021
Ariba Supplier Performance Management	cXML 1.2.021
Ariba Network	cXML 1.2.021
Ariba Discovery	cXML 1.2.021

Notification of cXML Changes

Ariba notifies you about new cXML releases and changes in cXML behavior through Ariba Network and Ariba Network Customer Support. Look in your Ariba Network account for notices of new cXML versions. Also, make sure the notification email addresses in your Ariba Network account are up-to-date.

cXML release notes are available on `www.cXML.org`.

Chapter 2 Data Conventions

This chapter lists cXML data conventions, which ensure that data is consistent and can be used among multiple trading partners.

Number Format

The World Wide Web Consortium (W3C) XML Data Proposal (`www.w3c.org/TR/1998/NOTE-XML-data-0105`) defines data types used by cXML. It lists the following information for numeric data:

> A number, with no limit on digits, may potentially have a leading sign, fractional digits, and optionally an exponent. Punctuation as in US English.

Numbers in cXML use "punctuation as in US English." Other requirements are:

- Do not include symbols such as "$" or "%".
- Use only a period (.) as the decimal separator.
- You can optionally use commas (,) as thousands separators.
- Scientific notation is not allowed.

Correct examples:

```
<Discount>23</Discount>
<Discount>4.01</Discount>
<Discount>3001.01</Discount>
<Discount>3,001.01</Discount>
```

Incorrect examples:

```
<Discount>1.34%</Discount>
```

Should not include the percent symbol (%).

```
<Discount>1234,00</Discount>
```

Decimal separator must be a period (.).

```
<Discount>123.567.890</Discount>
```

Thousands separators are optional and if used, they must be commas (,).

Money Element

The correct format for money values is:

```
<Money currency="USD">1.34</Money>
```

Specify currency with three-letter ISO 4217 currency codes. For a list of these codes, see "Currency Codes" on page 226.

Money Format

cXML follows the W3C XML recommendation of "punctuation as in US English." Do not include currency symbols, such as "$."

Correct examples:

```
<Money currency="USD">1234.00</Money>
<Money currency="USD">1,234.00</Money>
```

Incorrect examples:

```
<Money currency="USD">$1.34</Money>
```

Should not include the dollar symbol ($).

```
<Money currency="US dollar">1.34</Money>
```

Incorrect ISO currency code.

```
<Money currency="USD">1234,00</Money>
```

Decimal separator must be a period (.).

Note: Although "XXX" is a valid currency code in ISO 4217, Ariba Network does not support the use of "XXX" as the currency code.

alternateCurrency and alternateAmount Attributes

For cXML documents involving countries that use euros, you might need to include `alternateCurrency` and `alternateAmount` attributes:

```
<Money currency="USD" alternateCurrency="EUR" alternateAmount="14.28">12.34
</Money>
```

You might also need to use these attributes to specify a "local" currency in invoices. For more information, see "Mandatory VAT in Both Buyer's and Supplier's Local Currency" on page 159.

Ariba Buyer 7.0 and later implements these attributes.

UnitOfMeasurement Element

Use United Nations Units of Measure (UNUOM) codes to describe how items are packaged or delivered. The following table lists frequently used UNUOM codes:

UNUOM Code	Meaning
EA	each
BX	box
DZN	dozen
GRO	gross
HUR	hour
KGM	kilogram
LBR	pound
M4	monetary units
RO	roll
RL	reel
PR	pair
PK	pack

For more information, see “Unit of Measure Codes” on page 226.

Ariba Network can translate documents between cXML and Electronic Data Interchange (EDI). cXML and EDI UN EDIFACT both use the UNUOM standard, so Ariba Network performs no code translation between them. However, EDI X12 uses the ANSI UOM standard, so Ariba Network must translate UOM codes. Some UOM codes are the same in both standards, some codes are different, and some codes appear in both standards but mean different units of measurement.

It is vital that trading partners use UOM codes that map correctly. Do not use custom UOM codes, because the translation behavior is unknown and might produce inappropriate codes.

Some commonly encountered UOM mapping problems are:

- Buying organizations might want to convey “so much money worth of time” in labor requisitions. They should implement purchase orders to order by hour (HUR) or by units of money (M4). The code M4 means “monetary units” in both UNUOM and ANSI UOM.
- Trading partners might want to use the illegal code DOL or $ to mean “US dollars.” To measure items in units of money, use code M4.
- Many buying organizations use ANSI UOM codes in their internal systems. If they accidentally allow ANSI UOM codes to appear in cXML documents, and Ariba Network translates those documents to X12 EDI, some codes might work, but others will produce incorrect data. To prevent confusion, they must use UNUOM codes in cXML.

For example, the code RL means “reel” in UNUOM and “roll” in ANSI. If a buying organization erroneously orders using RE for reel, the resulting X12 EDI purchase order happens to use the correct ANSI code for reel. The supplier might recognize that the item is sold in rolls and reject the purchase order. Or, the supplier might accept the purchase order and generate an X12 EDI invoice using the incorrect ANSI code RO for roll. Ariba Network translates RO to D65, which would cause an invoice-to-purchase-order mismatch.

The following table shows the mapping for RL and RO:

UNUOM Code	ANSI UOM Code	Meaning
RL	RE	reel
RO	RL	roll
D65	RO	round

Correct examples:

```
<UnitOfMeasure>EA</UnitOfMeasure>
<UnitOfMeasure>M4</UnitOfMeasure>
<UnitOfMeasure>HUR</UnitOfMeasure>
```

Incorrect examples:

```
<UnitOfMeasure>$</UnitOfMeasure>
<UnitOfMeasure>DO</UnitOfMeasure>
<UnitOfMeasure>DOL</UnitOfMeasure>
<UnitOfMeasure>HOUR</UnitOfMeasure>
```

Name Formats

Procurement system implementations should parse name strings and determine how they are formatted. The code performing this parse must know whether a name is a personal name, a company name, or something else. For example,

```
<Name xml:lang="en-US">Workchairs, Inc.</Name>
<Name xml:lang="en-US">Smith, Bob</Name>
```

Personal name formats should match the national locale specified in the `Name` element by the `xml:lang` attribute. For English names, use “last, first [middle].”

Prefixes, such as Dr., should appear after the first name. Suffixes should appear after the last name: “last [suffix], first [prefix].” For example, Dr. Bob Smith III would be:

```
<Name xml:lang="en-US">Smith III, Bob Dr.</Name>
```

PostalAddress Element

The cXML specification defines the data requirements for `Name`, `DeliverTo`, and `Street` portions of a `PostalAddress` element loosely, although it makes a relatively clear distinction between `DeliverTo` and `Street` information. Describe delivery data as an end point known to delivery services such as the Postal Service.

An address can direct to a specific person, identifying that person in either the `Name` or first `DeliverTo` element of the `PostalAddress` element. In common usage, an address might appear as:

John Smith
c/o Acme, Inc.
1565 Charleston Rd., M/S B.1
Mountain View, CA 94043

or

Acme, Inc.
Attn: John Smith
1565 Charleston Rd., M/S B.1
Mountain View, CA 94043

cXML supports both forms by putting the first line into a `Name` element, the second into a `DeliverTo` element and the third into a `Street` element. The resulting cXML documents contain addresses with personal names in either the `Name` or `DeliverTo` element. Many organizations do not include the company name at all. However, they should consistently use one format and include the company name in all addresses.

```
<Name xml:lang="en">Acme, Inc</Name>
<PostalAddress name="Headquarters">
   <DeliverTo>John Smith</DeliverTo>
   <DeliverTo>M/S B.1</DeliverTo>
   <Street>1565 Charleston Rd.</Street>
   <City>Mountain View</City>
   <State>CA</State>
   <PostalCode>94043</PostalCode>
   <Country isoCountryCode="US">United States</Country>
</PostalAddress>
```

It is recommended that the mail stop appear in a second `DeliverTo` element.

Multiple Lines in Street Element

Early versions of Ariba Buyer placed all lines of an address into the same `Street` element, violating the cXML protocol. Ariba Buyer 6.1 patch 5 and later corrected this problem.

For information about transformations performed on this element by Ariba Network see Chapter 13, “cXML Transformations on Ariba Network.”

Split `Street` elements where a comma might appear into additional `Street` elements. For example,

1565 Charleston Rd., Suite 45

should appear as two `Street` elements:

```
<Street>1565 Charleston Rd.</Street>
<Street>Suite 45</Street>
```

Ariba Network supports four `Street` elements per address.

Country, State, and PostalCode Elements

The `Country` element is required. Without a valid `Country` element, the `PostalAddress` element is incomplete. For the `isoCountryCode` attribute value, use ISO 3166-1 two letter codes. For more information, see "Country Codes" on page 227. The `Country` value is a human-readable name.

Do not confuse the `Country` element with the `CountryCode` element. Use `Country` in postal addresses and `CountryCode` in telephone numbers.

If `isoCountryCode="US"`, then the `State` element is required and must be a valid US Postal Service two-letter state abbreviation; for example, `TX` for Texas. `PostalCode` is also required and it must be a valid five- or nine-digit US Postal Service zip code. If using nine-digit zip codes, do not include a dash separator.

If `isoCountyCode="CA"`, then the `State` element is required and must be a valid Canada Post two-letter province abbreviation; for example, `QC` for Quebec. `PostalCode` is required and must be a valid six-character Canada Post Postal Code. The format must be A9A9A9, with no space or separator.

The `PostalCode` element should not contain a dash (-) for any country. It is up to the receiving application to format the postal code for display. For example, a U.S. purchase order might contain:

```
<PostalCode>940431234</PostalCode>
```

Applications should display it for users as:

94043-1234

Correct example:

```
<State>FL</State>
<PostalCode>342300001</PostalCode>
<Country isoCountryCode="US">United States</Country>
```

Incorrect example:

```
<State>FLA</State>
<PostalCode>34230-0001</PostalCode>
<Country isoCountryCode="USA">United States</Country>
```

"FLA" is not a valid US Postal Service state code. Postal codes should not contain dashes. "USA" is not a valid ISO 3166-1 country code.

TelephoneNumber Element

Complete telephone numbers consist of three elements: country code, area or city code, and dialed number.

cXML `TelephoneNumber` elements have the following format:

```
<TelephoneNumber>
   <CountryCode isoCountryCode="US">1</CountryCode>
   <AreaOrCityCode>650</AreaOrCityCode>
   <Number>9306200</Number>
</TelephoneNumber>
```

Example of a London phone number:

```
<TelephoneNumber>
   <CountryCode isoCountryCode="UK">44</CountryCode>
   <AreaOrCityCode>20</AreaOrCityCode>
   <Number>78628500</Number>
</TelephoneNumber>
```

CountryCode Element

The `CountryCode` element contains an ISO 3166-1 two letter country code **and** an ITU dialing code.

For ISO 3166-1 Country Codes, see "Country Codes" on page 227. For ITU dialing codes, see "Dialing Codes" on page 228. Note that the ITU dialing code is not an ISO 3166-1 numeric country code (the United States has the value "840" in that system.)

Do not confuse the `Country` element with the `CountryCode` element. Use `Country` in postal addresses and `CountryCode` in telephone numbers.

Correct examples:

```
<CountryCode isoCountryCode="US">1</CountryCode>
<CountryCode isoCountryCode="CA">1</CountryCode>
<CountryCode isoCountryCode="FR">33</CountryCode>
<CountryCode isoCountryCode="MC">377</CountryCode>
```

Note: A single ISO Country Code can address multiple countries.

Incorrect examples:

```
<CountryCode isoCountryCode="US">US</CountryCode>
```

Contains no ITU dialing code.

```
<CountryCode isoCountryCode="US">011</CountryCode>
```

Contains "`011`", which is the escape code for international dialing from the United States, instead of the ITU dialing code.

AreaOrCityCode and Number Elements

Do not add “1” in the `AreaOrCityCode` element.

Do not use punctuation such as “`(800) 555-5555`” in the `Number` element.

Area and city codes have different lengths depending upon the locality. Dialing “escape” codes and country codes sometimes also appear in the `Number` element.

Correct example:

```
<AreaOrCityCode>800</AreaOrCityCode>
<Number>5555555</Number>
```

Incorrect examples:

```
<AreaOrCityCode>1800</AreaOrCityCode>
<Number>5555555</Number>
```

Contains a “1” before the area code.

```
<AreaOrCityCode>800</AreaOrCityCode>
<Number>555-5555</Number>
```

Telephone number should contain no punctuation.

Date and Time Format

Use ISO 8601 format for date and time values. The format is `YYYY-MM-DDThh:mm:ss-hh:mm`. For example:

```
<OrderRequestHeader orderID="3333" orderDate="2001-12-20T09:25:57+01:00" type="new">
```

The “+01:00” component means one hour ahead of UTC (Coordinated Universal Time). Do not convert the time component to UTC time; leave it as local time.

Incorrect examples:

```
19990817T233535Z
```

```
2000-3-18T11:33:32
```

Both examples lack the required timezone information.

Extrinsic Elements

Ariba Buyer 6.1 and 7.0 include a different set of extrinsics. By default, Ariba Buyer 6.1, includes the extrinsics `"User"` and `"CostCenter"`. By default, Ariba Buyer 7.0 includes the extrinsics `"UniqueName"`, `"UserEmail"`, and `"CostCenter"`. Any additional extrinsics would have to be agreed upon between the buying organization and the supplier.

Note: For older Ariba Buyer installations, it is recommended that buying organizations change `"User"` to `"UniqueName"` and notify their suppliers.

For a list of transformations performed on extrinsics by Ariba Network, see Chapter 13, “cXML Transformations on Ariba Network.”

Chapter 3 Document Addressing and Security

This chapter lists the document security and authentication requirements of Ariba cXML applications.

Overview of Document Security

cXML documents travel between geographically disparate applications through corporate intranets and the public Internet. To keep business data confidential and to protect against unauthorized access, cXML-enabled applications support secure communication.

Secure communication is made possible through two mechanisms: document encryption and document authentication.

Document Encryption

Applications encrypt cXML documents before transmission by sending them through HTTPS connections.

HTTPS is a secure form of HTTP (HyperText Transfer Protocol) that is supported by most Web servers and Web browsers. It protects network communication by encrypting data so that unauthorized parties are unable to interpret it.

For more information about HTTP, see "HTTPS Connections" on page 26.

cXML Document Authentication

Applications authenticate received cXML documents to check their validity. Authentication ensures that each document is from a recognized organization.

Because cXML-enabled applications communicate through the Internet, they must perform authentication on all received cXML documents to prevent unauthorized access.

For more information about document authentication, see "cXML Document Authentication" on page 27.

HTTPS Connections

Ariba Network is a service available on the public Internet. All cXML documents it receives or sends travel on the Internet.

To ensure secure document transmission through the Internet, Ariba Network requires all incoming and outgoing connections to be established through HTTPS. HTTPS connections allow web servers and clients to encrypt cXML documents for safe transmission over the Internet.

Ariba Network does not initiate or accept plain HTTP connection requests, therefore buying organizations, cXML-enabled suppliers, and service providers must support HTTPS.

HTTPS relies on encryption provided by a lower-level protocol called Secure Sockets Layer (SSL). SSL add cryptological enhancements to TCP/IP (Transmission Control Protocol/Internet Protocol), the communications protocol of the Internet.

- **To receive cXML documents from Ariba Network,** external Web servers (including the Ariba Buyer 8.1 or later PunchIn site) must accept HTTPS connection requests and create HTTPS connections. You must install an SSL Web server certificate from a trusted certificate authority on your Web server. For more information about these certificates, see "Overview of Digital Certificates" on page 30.
- **To send cXML documents to Ariba Network,** all cXML-enabled applications must be able to initiate HTTPS connection requests.

All URLs entered in Ariba Network accounts must have values that begin with `https://`.

Ariba Network members must perform specific tasks to support HTTPS communication, as described in the following sections:

- "For Buying Organizations" on page 26
- "For Suppliers and Service Providers" on page 27

For Buying Organizations

Configure Ariba Buyer and Ariba Sourcing to send documents to Ariba Network's `https://`... URLs.

Ariba Buyer and Ariba Sourcing can successfully initiate HTTPS connections with Ariba Network because they come with a preinstalled CA certificate that enables them to recognize the issuer of Ariba Network's SSL certificate.

For complete information on setting up HTTPS communication between Ariba applications, see the *Ariba Spend Management Integration Guide*.

If you use the collaborative invoicing PunchIn site, it must be enabled to accept HTTPS communication from Ariba Network. Also, you must ensure all URLs entered in your Ariba Network account specify `https://` addresses.

▼ **To check your URLs in your Ariba Network account:**

(Required only if you use Collaborative Invoicing PunchIn site.)

1 Log in to your Ariba Network account.

2 In the Configuration area of your account, ensure the cXML ProfileRequest URL uses `https://`....

Ariba Network caches your cXML profile; you can clear this cache by clicking the **Reset Profile** button in your account. For more information, see "Using the Profile Transaction" on page 53.

For Suppliers and Service Providers

Enable HTTPS on Web Servers connected to your cXML applications, and ensure all URLs entered in your Ariba Network account specify `https://` addresses.

▼ To enable HTTPS on Web servers:

1. Ensure that your Web server is capable of supporting SSL (Secure Sockets Layer).
2. Ensure that your Web server is configured for DNS (Domain Name Service).
3. Purchase and install an SSL Web server certificate. For more information, see "Obtaining a Digital Certificate" on page 32.

   Follow your Web server's instructions for installing the certificate.
4. Ensure you send proper HTTPS headers in responses.
5. (Optional) Configure your Web server to disallow non-secure cXML HTTP requests.

▼ To check your URLs in your Ariba Network account:

1. Log on to your Ariba Network account.
2. In the Configuration area of your account, ensure all cXML URLs use "https://". You can configure the following cXML URLs in your account:
   - ProfileRequest URL
   - PunchOutSetupRequest URL
   - OrderRequest URL
3. If you support the cXML Profile transaction, ensure your `ProfileResponse` returns https URLs.

   Ariba Network caches your cXML profile; you can clear this cache by clicking the **Reset Profile** button in your account. For more information, see "Using the Profile Transaction" on page 53.
4. If you support the cXML PunchOut or ProviderSetup transactions, it is strongly recommended that you return https URLs in your `PunchOutSetupResponse` or `ProviderSetupResponse` documents.

cXML Document Authentication

Ariba Buyer, Ariba Sourcing, Ariba Network, and cXML-enabled sites (such as PunchOut sites) are all applications that send and receive cXML documents. These applications authenticate all cXML documents they receive to ensure they are from valid organizations.

Available Authentication Methods

When you configure your Ariba Network account, you select from two available cXML authentication methods:

- **Shared Secret**—(default) You enter a confidential text string into your Ariba Network account and configure your cXML application with that same string (if the shared secrets do not match, documents cannot be delivered). Then, those applications insert the shared secret string in cXML documents they generate. Each application authenticates received cXML documents by comparing the shared secret in them to the one it knows.

Shared secret authentication is simple to set up, it is free, and it requires little maintenance. To learn how to specify your shared secret, see the *Ariba Network Account Management Guide* (for suppliers) or the *Ariba Network Buyer Administration Guide* (for buying organizations).

- **Digital Certificate**—You purchase and maintain a client digital certificate from a trusted certificate authority. Then, you enter that certificate into your Ariba Network account. Ariba Network and your application refer to that digital certificate for authentication. The certificate does not appear in the cXML document or attached to the document; instead, the SSL protocol exchanges it before the document exchange takes place.

  Digital certificate authentication requires more setup, certificates cost money, and they expire over time. However, it might be more compatible with your organization's security strategy.

  Note: Buying organizations that use digital certificate authentication cannot use the Ariba Buyer Collaboration PunchIn site. The PunchIn site supports only shared secret authentication.

Certificate Authentication Set Up

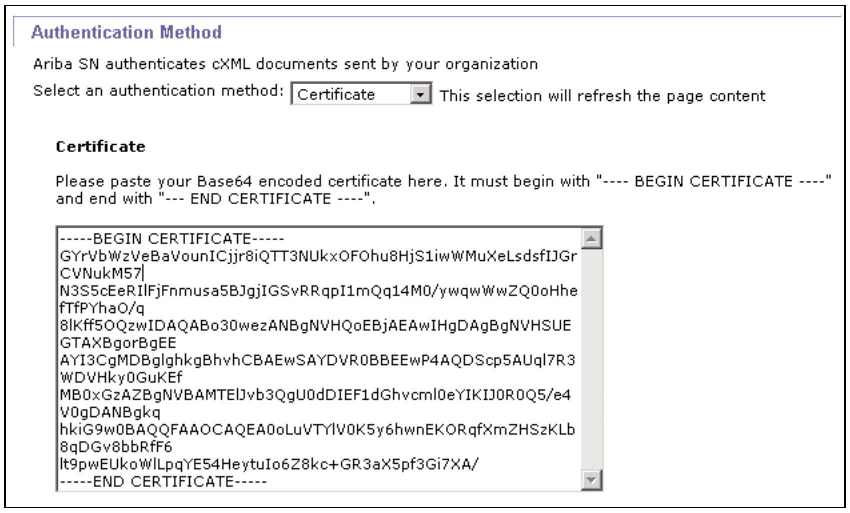
Organizations can set up digital certificates as an alternative to shared secrets for authenticating cXML documents.

To set up digital certificate authentication, obtain a signed client certificate, install it in your Ariba Network account, and change the URLs to which you post documents.

▼ **To install your certificate on Ariba Network:**

1. Obtain a signed client certificate from one of Ariba Network's trusted certificate authorities, as described in "Obtaining a Digital Certificate" on page 32.
2. Log in to your Ariba Network account. You must have account administrator privileges.
3. Go to the **Configuration** area of your account and click **cXML Setup**.
4. Set **Authentication Method** to "Certificate".
5. On your computer, open the signed certificate keystore file from the certificate authority in a text editor, such as Notepad.
6. Copy the text, starting with `"-----BEGIN CERTIFICATE-----"` and ending with `"-----END CERTIFICATE-----"`.

7 Paste the text into the Certificate text box on Ariba Network.



Ariba SN authenticates cXML documents sent by your organization

Select an authentication method: Certificate This selection will refresh the page content

Certificate

Please paste your Base64 encoded certificate here. It must begin with "---- BEGIN CERTIFICATE ----" and end with "--- END CERTIFICATE ----".

```
-----BEGIN CERTIFICATE-----
GYrVbWzVeBaVounICjjr8iQTT3NUkxOFOhu8HjS1iwWMuXeLsdsfIJGr
CVNukM57
N3S5cEeRIlFjFnmusa5BJgjIGSvRRqpI1mQq14M0/ywqwWwZQ0oHhe
fTfPYhaO/q
8lKff5OQzwIDAQABo30wezANBgNVHQoEBjAEAwIHgDAgBgNVHSUE
GTAXBgorBgEE
AYI3CgMDBglghkgBhvhCBAEwSAYDVR0BBEEwP4AQDScp5AUql7R3
WDVHky0GuKEf
MB0xGzAZBgNVBAMTElJvb3QgU0dDIEF1dGhvcml0eYIKIJ0R0Q5/e4
V0gDANBgkq
hkiG9w0BAQQFAAOCAQEA0oLuVTYlV0K5y6hwnEKORqfXmZHSzKLb
8qDGv8bbRfF6
lt9pwEUkoWlLpqYE54HeytuIo6Z8kc+GR3aX5pf3Gi7XA/
-----END CERTIFICATE-----
```

You can also use a backup digital certificate. Ariba Network uses the backup certificate if your primary certificate becomes invalid. Backup certificates are useful when your primary certificate expires or when you need to perform certificate maintenance

8 Click **Save**.

Digital certificates expire after a predetermined period of time. It is your responsibility to periodically obtain updated certificates from your certificate authority and install them on Ariba Network.

▼ To change your Ariba Network URLs:

Configure your cXML-enabled application to use the cXML Profile transaction to obtain the Ariba Network URLs for posting documents.

Ariba Network has a different set of URLs for shared-secret-authenticated and certificate-authenticated cXML documents. For example:

Authentication Method	Ariba Network URL
shared secret	`https://service.ariba.com/service/transaction/cxml.asp`
certificate	`https://certservice.ariba.com/service/transaction/cxml.asp`

The certificate URL works for both certificate- and shared-secret-based authentication.

The Profile transaction is the best way to look up the latest URLs for posting cXML documents.

Authenticating Ariba Network's Certificate

If your cXML application authenticates Ariba Network by verifying Ariba Network's client certificate, verify certificate fields that do not change, such as Subject Distinguished Name and Issuer Distinguished Name. Do not verify certificates based on fields that regularly change, such as validity period or serial number.

Digital Certificates

Digital certificates are integral to secure cXML communication. They are used both for enabling HTTPS connections and for authenticating cXML documents.

This section discusses digital certificates in terms of:

- Overview of Digital Certificates
- Client and Server Certificates
- Trusted Certificate Authorities
- Encryption Strength
- Domain Name in Server Certificates
- Obtaining a Digital Certificate

Overview of Digital Certificates

Digital certificates use public key cryptography, which is a form of cryptography that uses two keys called a *matched keypair*. The matched keypair consists of a *private key*, which is known only to the owner of the keypair, and a *public key*, which is available to anyone.

The components of the matched keypair are related mathematically so that the encrypted text created using one component of the keypair can be decrypted by using only the other component of the keypair.

You obtain a signed certificate by sending a certificate signing request signed with your private key and containing your public key to a *trusted certificate authority*, which sends back a signed certificate containing your public key and signed with their private key.

Note: Digital certificates expire after a predetermined period of time. When they expire, HTTPS connection requests to your Web servers are rejected, and certificate-based cXML document authentication fails. You are responsible for renewing your certificates in a timely manner.

Client and Server Certificates

There are two types of digital certificates:

- **server** certificates, used for SSL, which is required for accepting HTTPS connection requests. These certificates are also called *Web server certificates*, *secure server certificates*, and *secure server IDs*.

  For more information about HTTP, see “HTTPS Connections” on page 26.

- **client** certificates, used for “certificate based cXML document authentication.”

  For more information about cXML authentication, see “cXML Document Authentication” on page 27.

You can use a single certificate as both a server and a client certificate, depending on the information the certificate authority includes:

- If X.509v3 or Netscape extended key usage sections **are present**, the certificate cannot be used for any purpose not specified by the certificate (for example, server or client).
- If X.509v3 or Netscape extended key usage section **are not present**, the certificate can be used for any purpose (including server and client).

If you plan to use a single certificate for both SSL and certificate based authentication, ask your certificate authority to issue one that is both a server and a client certificate.

Trusted Certificate Authorities

When you purchase a signed digital certificate, it must refer to an organization that is trusted by Ariba Network. You can use a digital certificate issued by any issuing organization, however it must reference a root certificate from a trusted Certificate Authority. The trusted Certificate Authorities are:

ABAecom
AddTrust
American Express
ANX Network
Belgacom
BelSign
Deutsche Telekom AG
Digital Signature Trust Co.
Entrust
Equifax
GlobalSign
GoDaddy
GTE CyberTrust
National Retail Federation
Thawte
TrustCenter
United Parcel Service
U.S. Department of Defense
ValiCert
VeriSign

Encryption Strength

Ariba recommends use of 128-bit encryption or greater.

Common encryption strengths are 40, 56 and 128 bits; The greater the encryption bit width, the stronger the encryption, and the more secure the SSL connection.

Note that “128-bit certificates” are not necessary to support 128-bit encryption. Most “40-bit certificates” support 128-bit encryption or greater. “128-bit certificates” enable server-gated cryptography, which Ariba Network does not use. In most cases, you can use less expensive “40-bit certificates”; consult with your certificate authority about supported encryption strengths.

Domain Name in Server Certificates

The CN (Common Name) field in server certificates for HTTPS must be a fully qualified DNS domain name of a Web server. For example, `www.workchairs.com`.

You must enter the same name in the transactive URL fields the Configuration area of your Ariba Network account and the name contained in your cXML `ProfileResponse`. Do not use IP addresses, because you cannot enter IP addresses in your Ariba Network account.

Use a separate certificate for each DNS name that clients will attempt to connect to. Certificate names do not specify Web server ports, so multiple Web server instances on different ports can use the same certificate. However, multiple Web servers cannot share a single certificate.

Obtaining a Digital Certificate

Obtain a signed digital certificate from any of the certificate authorities listed in "Trusted Certificate Authorities" on page 31.

▼ **To obtain a signed certificate:**

1 Use your Web server or a third party tool, such as `keytool` or `ikeyman`, to generate a Certificate Signing Request (CSR). This is a file for describing your organization to a certificate authority.

2 Submit the CSR to an Ariba Network trusted certificate authority and request a **Base64-encoded X.509 V3 Class 3 signed digital certificate**.

   Ariba Network's trusted certificate authorities are listed in "Trusted Certificate Authorities" on page 31.

   Request a *server certificate* for SSL or a *client certificate* for certificate based authentication. You might be able to obtain a certificate that works for both purposes; for more information, see "Client and Server Certificates" on page 30

3 The certificate authority returns a signed certificate.

   Digital certificate files can be in binary Distinguished Encoding Rules (DER) format or base64-encoded Privacy-Enhanced Mail (PEM) format.

   The contents of the file must begin with:

   ```
   ---- BEGIN CERTIFICATE ----
   ```

   Likewise, the file must end with:

   ```
   ---- END CERTIFICATE ----
   ```

To use the certificate to enable HTTPS, see "HTTPS Connections" on page 26.

To use the certificate for cXML document authentication, see "cXML Document Authentication" on page 27.

cXML Credentials

cXML `Credential` elements in the header of each cXML document identify the sender and receiver organizations.

The following topics describe Ariba Network requirements for cXML document credentials:

- Supported ID Domains
- Multiple Credentials
- Case Sensitivity
- Domain Changes
- NetworkID and Older Versions of Ariba Buyer
- DigitalSignature Element
- Test Accounts

Supported ID Domains

Ariba applications use the following domains for cXML credential IDs:

- NetworkID—A unique alphanumeric value assigned to every organization registered on Ariba Network; for example, AN01000000123. Organizations can see their own and their trading partners' NetworkIDs by logging on to Ariba Network.
- DUNS—A unique number assigned to organizations by Dun & Bradstreet; for example, 942888711. To request a Dun & Bradstreet D-U-N-S® number or to see if your organization already has one, go to www.dnb.com.
- AribaNetworkUserId—A login name of an Ariba Network user. These names typically have the format of an email address; for example, judy@workchairs.com. This domain is not preferred, because if users change their login names, cXML documents might fail to route.
- PrivateId—(for Quick Enablement or Supplier Connectivity only) A unique alphanumeric value defined by a buying organization for a particular supplier; for example, Supplier123. When Ariba Network receives documents from buying organizations, it maps these IDs to NetworkID. When Ariba Network sends documents to buying orgnaizations, it maps suppliers' NetworkID, DUNS, and AribaNetworkID to PrivateId. Suppliers cannot use this domain.
- ProviderId—(For Quick Enablement only) A unique alphanumeric value defined by a service provider for a particular supplier; for example, Supplier123. When Ariba Network receives invoices from service providers, it attempts to map these IDs to NetworkID or PrivateId. If it cannot map IDs, it sends the invoices to the buying organization's **Unassigned Invoices** page. Buying organizations and suppliers cannot use this domain.
- SystemID—(For Supplier Connectivity only) A unique alphanumeric value defined by a buying organization for a particular business application; for example, SAP1. When Ariba Network receives documents containing this ID domain, it associates them with the business application and Bill To addresses configured in the buyer's account.

For more information about PrivateId and ProviderId, see "Quick Enablement" on page 44.

Multiple Credentials

The From, To, and Sender elements can each optionally contain multiple Credential elements. The purpose of supplying multiple credentials is to identify a single organization using different domains. For example, an organization might be identified by including both a D-U-N-S number and a NetworkID number.

For example:

```
<To>
   <Credential domain="partition-oracle107">
      <Identity>1001134</Identity>
   </Credential>
   <Credential domain="DUNS">
      <Identity>123456789</Identity>
   </Credential>
   <Credential domain="NetworkID">
      <Identity>AN1000000123</Identity>
   </Credential>
</To>
```

The receiving system should validate all credentials with domains it recognizes and it should reject the document if any credentials with recognized domains do not match an organization it knows. It should also reject the document if any two credentials in the same `From`, `To`, or `Sender` section appear to refer to different entities.

The receiving system should reject the document if there are multiple credentials in a `To`, `From`, or `Sender` section that use different values but use the same domain.

Case Sensitivity

The case sensitivity of credential data depends on the credential domain. `NetworkID` and `DUNS` values are case-insensitive; `AribaNetworkUserId`, `PrivateId`, and `ProviderId` values are case sensitive.

For example, applications should not distinguish between the `NetworkID` values “an1234” and “AN1234.”

Applications should treat the domain names themselves (`NetworkID`, `DUNS`, and `AribaNetworkUserId`, `PrivateId`, and `ProviderId`) as case insensitive, so for example, `DUNS` and `duns` are the same.

Domain Changes

Ariba Network might change credential domains in documents routed to suppliers. In any cXML document routed to suppliers, Ariba Network changes `AribaNetworkUserId` to `NetworkID` in `From` credentials.

For example, as a `PunchOutSetupRequest` document routes from a buyer to a supplier, Ariba Network changes

```
<From>
   <Credential domain="AribaNetworkUserId">
      <Identity>tom@abcd.com</Identity>
   </Credential>
```

to

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN01000000123</Identity>
   </Credential>
```

NetworkID and Older Versions of Ariba Buyer

Some suppliers might not have D-U-N-S numbers. If they have customers using earlier versions of Ariba Buyer, those suppliers must be able to interpret **NetworkID** values used in the **DUNS** credential domain in `PunchOutSetupRequest` and `OrderRequest` documents.

For Buying Organizations

Administrators using earlier versions of Ariba Buyer must load new suppliers using the **NetworkID** value in the **DUNS** domain, if that is the only value provided by the suppliers.

For Suppliers

cXML-enabled suppliers can receive a mismatched domain value pair, where the domain is always DUNS, but the value could be NetworkId or DUNS, depending on what buying organizations have configured for suppliers.

cXML-enabled suppliers without D-U-N-S numbers that have customers on earlier versions of Ariba Buyer must be able to interpret NetworkID values in credentials, regardless of the domain. (For the greatest level of compatibility, cXML-enabled suppliers should interpret NetworkID and DUNS values, regardless of the domain in the `To Credential`.)

For example:

```
<To>
   <Credential domain="DUNS">
      <Identity>AN01000000123</Identity>
   </Credential>
</To>
```

or

```
<To>
   <Credential domain="NetworkID">
      <Identity>AN01000000123</Identity>
   </Credential>
</To>
```

or

```
<To>
   <Credential domain="DUNS">
      <Identity>123456789</Identity>
   </Credential>
</To>
```

To avoid having to implement this workaround, cXML-enabled suppliers should obtain D-U-N-S numbers, enter them into their Ariba Network accounts, and communicate them to their customers for use within Ariba Buyer.

DigitalSignature Element

The cXML specification defines an element named `DigitalSignature` in the `Sender` element. Ariba applications do not use this element. Do not insert this element in cXML documents.

To authenticate documents, use either shared secrets or digital certificates. For information about authentication of documents passed between applications and Ariba Network, see "cXML Document Authentication" on page 27.

Test Accounts

cXML applications should support both Ariba Network production accounts and Ariba Network test accounts. Test accounts are used by organizations during development of their applications to keep test data separate from production data, which helps prevent confusion. Ariba applications considers test accounts to be completely separate from production accounts.

To denote organization IDs for test accounts, append "-T" to the ID string. For example:

```
<Credential domain="DUNS">
   <Identity>942888711-T</Identity>
</Credential>

<Credential domain="NetworkID">
   <Identity>AN6565656565-T</Identity>
</Credential>
```

Applications should not distinguish between "-T" and "-t"; they should be case-insensitive.

Required Credentials

Every cXML document routed to a cXML server must contain specific credentials in the `Header` section. Credentials are specified in the `From`, `To` and `Sender` elements. They allow receiving systems to identify, authenticate, and authorize parties.

As cXML documents travel to their destinations, intermediate nodes (such as Ariba Network) change the `Sender` element. The `Sender` element always specifies the most recent node in the transmission chain.

The following sections list the credentials in documents sent by cXML applications:

- Ariba Buyer
- Ariba Marketplace, Standard Edition
- Service Providers
- Suppliers

Ariba Buyer

The following credentials are required in transactions between Ariba Buyer, suppliers, and Ariba Network.

Buyer to Supplier

- `OrderRequest`
- `PunchOutSetupRequest`

Element	Content
`From`	Ariba Buyer
`To`	Supplier
`Sender`	Ariba Buyer

For more information about credential limitations of older versions of Ariba Buyer, see "NetworkID and Older Versions of Ariba Buyer" on page 34.

Example

```
<From>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@acme.com</Identity>
   </Credential>
</From>
<To>
   <Credential domain="DUNS">
      <Identity>942888711</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@acme.com</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Buyer 7.0.6</UserAgent>
</Sender>
```

Buyer to Ariba Network

- `GetPendingRequest`
- `SubscriptionContentRequest`
- `SubscriptionListRequest`
- `SubscriptionStatusUpdateRequest`
- `SupplierListRequest`
- `SupplierDataRequest`
- `OrderStatusSetupRequest`

Element	Content
`From`	Ariba Buyer
`To`	Ariba Network
`Sender`	Ariba Buyer

Example

```
<From>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@acme.com</Identity>
   </Credential>
</From>
<To>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@ariba.com</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@acme.com</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Buyer 7.1</UserAgent>
</Sender>
```

Supplier PunchIn

Ariba Buyer 8.1 and later with the Supplier PunchIn Portal accepts cXML `ProfileRequest` documents sent by Ariba Network.

- `ProfileRequest`

Element	Content
`From`	Ariba Network
`To`	Ariba Buyer
`Sender`	Ariba Network

Example

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN10000001</Identity>
   </Credential>
</From>
<To>
   <Credential domain="NetworkID">
      <Identity>AN100000123</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN10000001</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Network</UserAgent>
</Sender>
```

Ariba Marketplace, Standard Edition

The following credentials are required in transactions between Ariba Marketplace, Standard Edition (AM-SE), suppliers, and Ariba Network.

Supplier to Marketplace

- `ProviderSetupRequest` during configuration
- `OrderStatusSetupRequest`

Element	Content
`From`	Supplier
`To`	Ariba Network
`Sender`	Marketplace

Marketplace to Supplier

- `PrivateOrganizationRequest`

Element	Content
`From`	Marketplace
`To`	Ariba Network
`Sender`	Marketplace

Example

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN6565656565</Identity> <!-- identity of the marketplace -->
   </Credential>
</From>
<To>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@ariba.com</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN6565656565</Identity>
      <SharedSecret>abracadabra</SharedSecret>
      <!-- shared secret of marketplace -->
   </Credential>
   <UserAgent>Ariba Marketplace 7.5</UserAgent>
</Sender>
```

The order is forwarded to the supplier by Ariba Network using PunchOut.

Service Providers

The following credentials are required in transactions between service providers, suppliers, and Ariba Network.

Supplier to Service Provider

- `ProviderSetupRequest` during configuration

Element	Content
`From`	Supplier
`To`	Service provider
`Sender`	Ariba Network

Example

```
<From>
   <!-- Supplier's identity -->
   <Credential domain="NetworkID">
      <Identity lastChangedTimestamp="2000-03-12T18:39:09-08:00">
         AN01333333333
      </Identity>
   </Credential>
</From>
<To>
   <!-- Service provider's identity -->
   <Credential domain="NetworkID">
      <Identity>AN01222222222</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="AribaNetworkUserId">
      <Identity>admin@ariba.com</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Network v20</UserAgent>
</Sender>
```

Suppliers

The following credentials are required in transactions between suppliers and Ariba Network.

Supplier to Ariba Network

- `ProfileRequest`
- `CatalogUploadRequest`

Element	Content
`From`	Supplier
`To`	Ariba Network
`Sender`	Supplier

Example

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
   </Credential>
</From>
<To>
   <Credential domain="NetworkID">
      <Identity>AN01000000001</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Our order-receiving system 3.0</UserAgent>
</Sender>
```

Ariba Network to Supplier

- `ProfileRequest` initiated by Ariba Network

Element	Content
`From`	Ariba Network
`To`	Supplier
`Sender`	Ariba Network

Example

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN01000000001</Identity>
   </Credential>
</From>
<To>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN01000000001</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Network</UserAgent>
</Sender>
```

Buyer to Supplier:

- `ProfileRequest` initiated by buyer
- `OrderRequest`
- `StatusUpdateRequest`
- `PaymentRemittanceRequest`
- `TimeCardRequest`

Element	Content
`From`	Buyer
`To`	Supplier
`Sender`	Ariba Network

Example

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN01000000456</Identity>
   </Credential>
</From>
<To>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN01000000001</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Network</UserAgent>
</Sender>
```

Supplier to Buyer:

- `ConfirmationRequest`
- `ShipNoticeRequest`
- `InvoiceDetailRequest`
- `TimeCardRequest`

Element	Content
`From`	Supplier
`To`	Buyer
`Sender`	Supplier

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
   </Credential>
</From>
<To>
   <Credential domain="NetworkID">
      <Identity>AN01000000456</Identity>
   </Credential>
</To>
<Sender>
   <Credential domain="NetworkID">
      <Identity>AN10000000123</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Our order-receiving system 3.0</UserAgent>
</Sender>
```

Quick Enablement

Ariba Network Quick Enablement allows buying organizations and Invoice Conversion service providers to create new Ariba Network accounts on behalf of suppliers. They create these accounts by specifying the supplier's company information in a `Correspondent` element in the header of purchase orders, payment proposals, and collaboration requests to the supplier or invoices from the supplier. Ariba Network uses this information to create the supplier's account.

Buying organization or service provider accounts must be enabled for Quick Enablement. Invoice Conversion service quick enablement must be enabled by Ariba Network Customer Support. Ariba Network ignores the `Correspondent` element for accounts that have not been enabled.

The `Correspondent` element is available in cXML 1.2.016 or later. It specifies the supplier's company information with a `Contact` element and it can optionally use a `preferredLanguage` attribute to specify the supplier's preferred language; any documents Ariba Network sends to the supplier will be in that language, if it is supported. If `preferredLanguage` is not specified or if it specifies a language that is not supported, Ariba Network sends documents to the supplier in English.

Following are the types of documents that can be used for quick enablement:

- Purchase orders (see "Using Purchase Orders" on page 45)
- Invoices (see "Using Invoices" on page 46)
- Payment proposals (see "Using Payment Proposals" on page 48)
- CC Invoices (see "Using CC Invoices" on page 50)

Using Purchase Orders

Procurement applications add the `Correspondent` element in purchase orders to create Ariba Network accounts for suppliers and to send them the purchase orders through email or fax.

The following example shows the header of a purchase order for Quick Enablement:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM
"http://xml.cxml.org/schemas/cXML/1.2.016/cXML.dtd">
<cXML payloadID="125xyzkjlkwx" timestamp="2006-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
         </Credential>
      </From>
      <To>
         <Credential domain="PrivateId">
            <Identity>SupplierABC</Identity> <!-- ID of new supplier-->
         </Credential>
         <Correspondent preferredLanguage="en-US">
            <Contact role="correspondent">
               <Name>ACME Supply, Inc.</Name>
               <PostalAddress name="default">
                  <Street>123 Main Street</Street>
                  <Street>Suite 101</Street>
                  <City>Beamont</City>
                  <State>TX</State>
                  <PostalCode>77705</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Email name="routing">orders@acme.com</Email>
                   <!-- Email address for routing the PO -->
               <Phone name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode>650</AreaOrCityCode>
                     <Number>1234567</Number>
                  </TelephoneNumber>
               </Phone>
               <Fax name="routing"> <!–Fax number for routing the PO -->
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode>650</AreaOrCityCode>
                     <Number>5555555</Number>
                  </TelephoneNumber>
               </Fax>
            </Contact>
         </Correspondent>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement App V2.0</UserAgent>
      </Sender>
   </Header>
```

Supplier IDs

Buying organizations use the PrivateId domain in the To Credential to identify the supplier. Ariba Network assigns the supplier a NetworkID (AN-ID), but the buying organization can continue to use the PrivateId domain in subsequent documents.

Routing

Buying organizations include either the supplier's email address or fax number in the Contact element to instruct Ariba Network how to route the purchase order. The Email or Fax element must have a name="routing" attribute; Ariba Network rejects purchase orders that do not have this attribute.

Note: If buying organizations provide both Email and Fax elements, Ariba Network rejects the purchase orders due to conflicting routing information.

Taking Ownership of Accounts

Ariba Network routes the purchase order to the supplier along with an invitation to log in and complete the registration process. Ariba Network encourages suppliers to take ownership of these accounts, which changes them to regular supplier accounts.

Ariba Network uses the data in the Contact element to populate fields in the supplier's account. The Name, Street, City, and Country elements in the Contact element are required.

After the supplier logs in and takes ownership of the account, Ariba Network ignores any Correspondent element in subsequent purchase orders sent to that supplier, because the supplier might have set account values such as preferred routing method, company name, or company address.

Quick Enablement purchase orders are subject to the same Supplier Membership Program (SMP) thresholds as purchase orders sent to registered suppliers. If suppliers do not register and subscribe to the Supplier Membership Program after they reach the membership thresholds, Ariba Network rejects purchase orders addressed to them. For more information about SMP thresholds, see www.ariba.com/suppliermembership.

Using Invoices

Invoice Conversion service providers add the Correspondent element in invoices to create Ariba Network accounts for suppliers.

The following example shows the header of an invoice for Quick Enablement:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM
"http://xml.cxml.org/schemas/cXML/1.2.016/InvoiceDetail.dtd">
<cXML payloadID="125xyzkjlkwx" timestamp="2006-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="ProviderId">
            <Identity>supplier123</Identity> <!-- ID of new supplier -->
         </Credential>
         <Correspondent preferredLanguage="en-US">
            <Contact role="correspondent">
               <Name>ACME Supply, Inc.</Name>
               <PostalAddress name="default">
                  <Street>123 Main Street</Street>
                  <Street>Suite 101</Street>
```

```
                        <City>Beamont</City>
                        <State>TX</State>
                        <PostalCode>77705</PostalCode>
                        <Country isoCountryCode="US">United States</Country>
                     </PostalAddress>
                     <Email name="routing">sales@acme.com</Email>
                         <!-- Email address for routing the Invoice-->
                     <Phone name="work">
                        <TelephoneNumber>
                           <CountryCode isoCountryCode="US">1</CountryCode>
                           <AreaOrCityCode>650</AreaOrCityCode>
                           <Number>1234567</Number>
                        </TelephoneNumber>
                     </Phone>
                     <Fax name="work">
                        <TelephoneNumber>
                           <CountryCode isoCountryCode="US">1</CountryCode>
                           <AreaOrCityCode>650</AreaOrCityCode>
                           <Number>1234567</Number>
                        </TelephoneNumber>
                     </Fax>
                  </Contact>
               </Correspondent>
            </From>
            <To>
               <Credential domain="NetworkID">
                  <Identity>AN20000000123</Identity> <!-- ID of buyer -->
               </Credential>
            </To>
            <Sender>
               <Credential domain="NetworkID">
                  <Identity>AN200000777</Identity> <!-- ID of service provider -->
                  <SharedSecret>abracadabra</SharedSecret>
               </Credential>
               <UserAgent>Nifty Invoice Scanning V2.0</UserAgent>
            </Sender>
         </Header>
```

Supplier IDs

Service providers can identify suppliers with the `PrivateId` or `ProviderId` domain in the `From` element:

- They use `PrivateId` if the supplier exists in the buying organization's procurement system. Ariba Network automatically creates a supplier account and routes the invoice to the buying organization.
- They use `ProviderId` if the supplier does not exist in the buying organization's procurement system. Ariba Network first searches for the purchase order referenced in the invoice. If an exact match is found between the buyer and the supplier, it automatically associates the `ProviderId` with either the `PrivateId` or `NetworkID` and routes the invoice to the buying organization. If no exact match is found, it sends the invoice to the **Unassigned Invoices** page in the buying organization's Online Inbox and sends an optional notification to the buying organization's administrator. The administrator must log on to Ariba Network, view the invoice, and assign it to a `PrivateId` or a `NetworkID` to enable the invoice to route.

  After the buying organization associates the invoice with a supplier account, the service provider can send subsequent invoices using `ProviderId`, `PrivateId`, or `NetworkID` values; they all refer to the same supplier account.

Ariba Network assigns the supplier a `NetworkID` (AN-ID), but the service provider can continue to use the `PrivateId` or `ProviderId` domains in subsequent documents. For more information about `Credential` domains, see "Supported ID Domains" on page 33.

Routing

Buying organizations can include the supplier's email address in the `Contact` element to instruct Ariba Network how to route the invoice. The `Email` element must have a `name="routing"` attribute; Ariba Network rejects invoices that do not have this attribute.

Note:

- Ariba Network does not support the `fax` element for invoices.

Taking Ownership of Accounts

Suppliers must contact Ariba Network Support to take ownership of Quick Enablement accounts created through invoicing.

Ariba Network uses the data in the `Contact` element to populate fields in the supplier's account. The `Name`, `Street`, `City`, and `Country` elements in the `Contact` element are required.

Quick enablement invoices are not subject to the Supplier Membership Program threshold calculation, and suppliers can continue to send invoices through their invoice conversion service providers even if their account has been suspended.

Using Payment Proposals

Procurement applications use the `Correspondent` element in payment proposals to create Ariba Network accounts for suppliers and to send them the payment proposals through email.

The following example shows the header of a payment proposal for Quick Enablement:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM
"http://xml.cxml.org/schemas/cXML/1.2.016/cXML.dtd">
<cXML payloadID="125xyzkjlkwx" timestamp="2006-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
         </Credential>
      </From>
      <To>
         <Credential domain="PrivateId">
            <Identity>SupplierABC</Identity> <!-- ID of new supplier-->
         </Credential>
         <Correspondent preferredLanguage="en-US">
            <Contact role="correspondent">
               <Name>ACME Supply, Inc.</Name>
               <PostalAddress name="default">
                  <Street>123 Main Street</Street>
                  <Street>Suite 101</Street>
                  <City>Beamont</City>
                  <State>TX</State>
                  <PostalCode>77705</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Email name="routing">payment@acme.com</Email>
                   <!-- Email address for routing the Payment Proposal -->
               <Phone name="work">
```

```
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode>650</AreaOrCityCode>
                     <Number>1234567</Number>
                  </TelephoneNumber>
               </Phone>
            </Contact>
         </Correspondent>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement App V2.0</UserAgent>
      </Sender>
   </Header>
```

Supplier IDs

Buying organizations identify suppliers with the `PrivateId` domain in the `To Credential`. Ariba Network assigns the supplier a `NetworkID` (ANID), but the buying organization can continue to use the `PrivateId` domain in subsequent documents. For more information about `Credential` domains, see "Supported ID Domains" on page 33.

Routing

Buying organizations can include only the supplier's email address in the `Contact` element to instruct Ariba Network how to route the payment proposal. The `Email` element must have a `name="routing"` attribute; Ariba Network rejects payment proposals that do not have this attribute.

Notes:

- Ariba Network does not support the `fax` element for payment proposal.
- If buying organizations provide both the `Email` and `Fax` elements, Ariba Network rejects the payment proposals due to conflicting routing information.
- If the supplier declines to take ownership of the account, the buying organization cannot send additional payment proposals to this supplier through Ariba Network.
- Ariba Network support only cXML version 1.2.016 and later for Quick Enablement payment proposals.
- Ariba Network does not support attachments in payment proposals. If a payment proposal contains an attachment, Ariba Network ignores it, but processes the payment proposal.

Taking Ownership of Accounts

Ariba Network routes an invitation to the private supplier to log in and complete the registration process. Ariba Network encourages private suppliers to take ownership of these accounts, which changes them to regular supplier accounts.

Once the private supplier logs in and takes ownership of the account, the supplier can view the payment proposal from the Inbox. All subsequent notifications on the payment proposals are sent to the supplier through email.

Ariba Network uses the data in the `Contact` element to populate fields in the supplier's account.

Quick enablement payment proposals are not subject to the Supplier Membership Program threshold calculation. If suppliers do not register and subscribe to the Supplier Membership Program after they reach the membership thresholds, Ariba Network rejects payment proposals addressed to them. For more information about SMP thresholds, see `www.ariba.com/suppliermembership`.

Using CC Invoices

This Ariba Network feature is available only for buyer systems that are enabled to allow quick enablement through CC Invoices sent to private suppliers. A CC invoice is a cXML copy request document that contains an attached invoice sent by your procurement application.

The CC invoice feature allows Ariba Network to store a copy of the invoice originating from these ERP systems. Suppliers can then log into their Ariba Network account and view the status of their invoices and monitor the progress of the invoice through your invoice reconciliation process.

External systems use the `Correspondent` element in CC invoices to create Ariba Network accounts for suppliers who are not yet registered on the Ariba Network and send them the welcome letters through email.

The following example shows the header of a CC invoice for Quick Enablement:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM
"http://xml.cxml.org/schemas/cXML/1.2.016/cXML.dtd">
<cXML payloadID="125xyzkjlkwx" timestamp="2006-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
         </Credential>
      </From>
      <To>
         <Credential domain="PrivateId">
            <Identity>SupplierABC</Identity> <!-- ID of new supplier-->
         </Credential>
         <Correspondent preferredLanguage="en-US">
            <Contact role="correspondent">
               <Name>ACME Supply, Inc.</Name>
               <PostalAddress name="default">
                  <Street>123 Main Street</Street>
                  <Street>Suite 101</Street>
                  <City>Beamont</City>
                  <State>TX</State>
                  <PostalCode>77705</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Email name="routing">payment@acme.com</Email>
                   <!-- Email address for routing the CC Invoice-->
               <Phone name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode>650</AreaOrCityCode>
                     <Number>1234567</Number>
                  </TelephoneNumber>
               </Phone>
            </Contact>
         </Correspondent>
      </To>
      <Sender>
         <Credential domain="NetworkID">
```

```
            <Identity>AN20000000123</Identity> <!-- ID of buyer -->
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement App V2.0</UserAgent>
      </Sender>
   </Header>
```

Supplier IDs

Buying organizations identify suppliers with the `PrivateId` domain in the `To Credential`. Ariba Network assigns the supplier a `NetworkID` (ANID), but the buying organization can continue to use the `PrivateId` domain in subsequent documents. For more information about `Credential` domains, see "Supported ID Domains" on page 33.

Routing

Buying organizations can include only the supplier's email address in the `Contact` element to instruct Ariba Network how to route the CC invoice. The `Email` element must have a `name="routing"` attribute; Ariba Network rejects CC invoices that do not have this attribute.

Notes:

- Ariba Network does not support the `fax` element for CC invoices.
- If buying organizations provide both the `Email` and `Fax` elements, Ariba Network rejects the CC invoices due to conflicting routing information.
- If the supplier declines to take ownership of the account, the buying organization cannot send additional CC invoices to this supplier through Ariba Network.
- Ariba Network support only cXML version 1.2.016 and later for Quick Enablement CC Invoice.
- Ariba Network does not support attachments in CC invoices. If a CC invoice contains an attachment, Ariba Network ignores it, but processes the CC invoice.

Taking Ownership of Accounts

Ariba Network routes an invitation to the private supplier to log in and complete the registration process. Ariba Network encourages private suppliers to take ownership of these accounts, which changes them to regular supplier accounts.

Once the private supplier logs in and takes ownership of the account, the supplier can view the CC invoices from the Inbox. All subsequent notifications on the CC invoices are sent to the supplier through email.

Ariba Network uses the data in the `Contact` element to populate fields in the supplier's account.

Quick enablement CC invoices are subject to the Supplier Membership Program (SMP) calculation only when the private supplier has taken ownership of the account on Ariba Network. Private suppliers who have not yet taken ownership of their account can continue to receive CC invoices and these are not calculated for SMP. For more information about SMP thresholds, see `www.ariba.com/suppliermembership`.

Chapter 4 Profile Transaction

Using the Profile Transaction

Every cXML server must accept the Profile transaction. This transaction allows cXML clients to find out which cXML requests servers support and their URLs. It enables applications to obtain the latest transaction URLs automatically without requiring manual intervention.

Ariba Network, suppliers, and service providers send and receive `ProfileRequest` documents. Buying organizations send `ProfileRequest` documents, and they receive them if they use the Ariba Collaboration PunchIn site or Ariba Sourcing.

Sending ProfileRequest Documents

All cXML applications obtain Ariba Network’s URLs by sending a `ProfileRequest` document to a predetermined URL. To find out Ariba Network’s URLs, post a `ProfileRequest` document to one of the following URLs:

`https://service.ariba.com/service/transaction/cxml.asp`
(for shared secret authentication)

`https://certservice.ariba.com/service/transaction/cxml.asp`
(for digital certificate and shared secret authentication)

Each trading partner could have a different set of URLs on Ariba Network. For each of your trading partners, send a `ProfileRequest` document to Ariba Network to obtain Ariba Network’s URLs for that organization. Cache these URLs for up to 24 hours and use them for all communication to that trading partner. You can reduce communication overhead by querying for a trading partner’s URLs only if you have documents to send to that organization.

To obtain Ariba Network’s URLs, use Ariba Network’s ID (`NetworkID`: AN01000000001) in the `To` credential of the `ProfileRequest` document. To obtain a trading partner’s URLs on Ariba Network, use that partner’s ID in the `To` credential of the `ProfileRequest` document.

Receiving ProfileRequest Documents

Ariba Network queries cXML applications to find out their supported transactions and their URLs. The following table lists where Ariba Network sends `ProfileRequest` documents for each type of application:

Application	Ariba Network Queries its cXML Profile by…
Supplier cXML Sites	Posting `ProfileRequest` documents to suppliers' cXML-enabled sites (such as PunchOut sites) by using the URL suppliers enter in the **Profile URL** field in their Ariba Network accounts.
Ariba Buyer 8.0 and earlier	Not supported.
Ariba Buyer 8.1 and later	Posting `ProfileRequest` documents to the Ariba Collaboration PunchIn site using the URL that buying organizations enter in the **Profile URL** field in their Ariba Network accounts.
Ariba Sourcing	Posting `ProfileRequest` documents to Ariba Sourcing using the URL that sourcing organizations enter in the **Profile URL** field in their Ariba Network accounts.

From Credential Element

In `ProfileRequest` documents sent by Ariba Network, the `From` credential identifies the initiating trading partner, not Ariba Network.

cXML servers (such as supplier PunchOut sites) should not use this `From` credential to decide which services and URLs to provide. Ariba Network caches only one profile per cXML server, and it uses that profile for all requests to that server, regardless of the requesting organization. For example, Ariba Network stores only one profile per PunchOut site, not one profile for each buying organization that uses it.

Query Frequency

Ariba Network queries cXML applications for their profiles when users request services from those sites. Ariba Network caches profiles for up to 24 hours. cXML applications should query Ariba Network for its profile once every 24 hours.

For example, when Ariba Buyer initiates a PunchOut session, Ariba Network immediately queries the supplier's PunchOut site for its profile and Ariba Network uses this profile information for all subsequent transactions it initiates to that site over the next 24 hours.

Each account on Ariba Network has a **Reset Profile** button that clears the organization's cXML profile cached on Ariba Network. The next time Ariba Network needs to send the organization a cXML document, it queries the site for its cXML profile instead of using the cached profile, which can be up to 24-hours old. This function is helpful when integrating applications with Ariba Network.

ProfileRequest Document

cXML applications' transaction URLs can periodically change due to requirements of their internal configuration, reliability, and load balancing. Use the Profile transaction to look up Ariba Network's and your trading partners' current URLs.

Your application posts a ProfileRequest document to Ariba Network with the To credential set to Ariba Network's ID (NetworkID: AN01000000001), and Ariba Network responds with a ProfileResponse document that lists all the cXML transactions it supports and the URLs for those transactions. For each of your trading partners, your application also posts a ProfileRequest document to Ariba Network with the To credential set to the ID of the trading partner, and Ariba Network responds with a ProfileResponse document that lists all the cXML transactions that partner supports and the URLs for those transactions.

The following listing shows an example ProfileRequest you send to Ariba Network to obtain Ariba Network's URLs. It is a simple Request that contains an empty ProfileRequest element.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="456778-199@acme.com" xml:lang="en-US"
         timestamp="2001-03-12T18:39:09-08:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN0100000123</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN0100000123</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Download Application, v1.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <ProfileRequest />
   </Request>
</cXML>
```

Use your ID in the From and Sender credentials and Ariba Network's ID in the To credential. The NetworkID AN01000000001 always represents Ariba Network.

If your customer uses different procurement applications for their business organizations, specify the procurement application's System ID in the To credential. This ID helps Ariba Network identify the procurement application using the Bill To address associated to it.

The following listing shows an example ProfileRequest containing the System ID. This is a simple Request that contains an empty ProfileRequest element.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://svcdev.ariba.com/schemas/cXML/1.2.017/cXML.dtd">
<cXML timestamp="2007-09-12T04:52:36-07:00"
payloadID="1189597956670-4363355987563302335@10.10.13.240">
```

```
   <Header>
      <From>
        <Credential domain="NetworkID">
            <Identity>AN01000000123</Identity>
         </Credential>
      </From>
     <To>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
        <Credential domain="SystemID">
            <Identity>SAP001</Identity>
        </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN01000000123</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Supplier</UserAgent>
      </Sender>
   </Header>
   <Request>
      <ProfileRequest />
    </Request>
</cXML>
```

ProfileResponse Document

The following listing shows an example `ProfileResponse` returned by Ariba Network.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="9949494-189@ariba.com" xml:lang="en-US"
         timestamp="2001-03-12T18:39:10-08:00">
   <Response>
      <Status code="200" text="OK"/>
      <ProfileResponse effectiveDate="2001-03-12T18:39:10-08:00">
         <Transaction requestName="ConfirmationRequest">
            <URL>https://service.ariba.com/service/transaction/cxml.asp</URL>
         </Transaction>
         <Transaction requestName="PunchOutSetupRequest">
            <URL>https://service.ariba.com/service/transaction/cxml.asp</URL>
         </Transaction>
         <Transaction requestName="InvoiceDetailRequest">
            <URL>https://svcorms.ariba.com/service/transaction/cxml.asp</URL>
         </Transaction>
         .
         .
         .
      </ProfileResponse>
   </Response>
</cXML>
```

This example lists only three transactions (`ConfirmationRequest`, `PunchOutSetupRequest`, and `InvoiceDetailRequest`); the actual `ProfileResponse` lists many more transactions. Your application caches this information and uses these URLs for all communication with Ariba Network or the trading partner for the next 24 hours.

Possible status codes in the response are:

200 – Success
4xx – Unrecoverable Error
5xx – Temporary Error. Client should retry this request

Implementation Hints and Limitations

The following implementation information can help you successfully create `ProfileResponse` documents:

- HTTPS URLs
- Options for OrderRequest
- Ariba Network Test URLs

HTTPS URLs

Ariba Network requires your `ProfileResponse` documents to return URLs with "https://" prefixes.

For more information about HTTPS, see "HTTPS Connections" on page 26.

Options for OrderRequest

The cXML specification describes the following options for `OrderRequest` in `ProfileResponse` documents:

```
<Option name="attachments">Yes</Option>
<Option name="changes">Yes</Option>
```

The `ProfileRequest` generated by Ariba Network does not contain these options, although Ariba Network does accept order attachments and change orders.

Similarly, Ariba Network does not interpret these options if they appear in `ProfileRequest` documents from suppliers.

Ariba Network Test URLs

Ariba Network has three test URLs you can use to exercise your cXML application's handling of permanent errors (4xx) and temporary errors (5xx). Use these URLs as negative test cases.

- `https://service.ariba.com/ANCXMLDispatcher.aw/ad/cxml400Test`
  This URL returns a random 4xx status, regardless of your cXML document. Use this URL to test your cXML application's handling of permanent errors.
- `https://service.ariba.com/ANCXMLDispatcher.aw/ad/cxml500Test`
  This URL returns a random 5xx status, regardless of your cXML document. Use this URL to test your cXML application's handling of temporary errors.
- `https://service.ariba.com/ANCXMLDispatcher.aw/ad/cxmlUniqueTest`
  This URL returns a 200 status half of the time and a 5xx status half of the time. Use this URL to test your cXML application's retry capability.

Chapter 5 PunchOut Site Planning

This chapter describes how to plan PunchOut sites and promote them to your customers. Use this chapter as a guide to help avoid potential pitfalls that can cause delays in production. By following the methodology suggested here, you can create a solution for one customer that can scale to additional customers.

PunchOut Versus Static Catalogs

PunchOut allows you to offer products and services with live pricing and company-specific customization. PunchOut offers a Web shopping experience that static catalogs cannot offer, but it requires more development effort.

Ariba Buyer displays both static and PunchOut catalog items in the local catalog hierarchy, enabling users to choose items and insert them in requisitions. However, static catalog content resides completely in Ariba Buyer, but PunchOut catalog content is hosted by your website.

Catalog Hierarchy and Requisition Line Items

While static catalogs populate both the catalog hierarchy and requisition line items, PunchOut uses separate vehicles to populate the catalog hierarchy and requisition line items. PunchOut first requires you to provide a PunchOut index catalog that your customer loads into Ariba Buyer. Second, your PunchOut site sends cXML messages to Ariba Buyer to populate requisitions with line items.

Deciding Whether to Use PunchOut

It is important to determine whether PunchOut is right for you, because development of a PunchOut site can be time-consuming and costly. If you retail only a small number of products, a static catalog might be more appropriate than a PunchOut site.

Also, consider whether your customers will use PunchOut. Customers can configure Ariba Buyer to allow or disallow PunchOut; consult with your customers to see whether they allow it.

Implementation Methodology

The process of implementing a PunchOut site spans from initial evaluation of your existing e-commerce system, to development, to deployment. The more effort you spend in the early stages of implementation, the more likely you will be able to deploy your PunchOut site on time with the desired functionality.

The steps in creating a PunchOut site are:

- Planning
- Design
- Development
- Testing
- Deployment
- Becoming Ariba Ready Certified

Planning

In the planning phase, you create a high-level vision of the integration between Ariba Buyer, Ariba Network, your PunchOut site, and your order processing system. In this step, you develop an estimate of the project plan and required resources.

Analysis of Current and Future State

Before developing a PunchOut site, perform an in-depth analysis of your current e-commerce and order processing systems to find out how you need to modify them.

Current Site

Some of the factors to consider for your current e-commerce site are:

- Do you have an existing e-commerce site?
- Does your site have XML integration enabled?
- Do you currently receive orders electronically through XML or EDI?
- How is integration performed with your accounting systems?
- Do you use your customers' control data (for example, ship location IDs) to identify pricing and shipping of orders?
- Does your site currently have the ability to deliver custom pricing or content based on the customer ID?

Planned PunchOut Site

Some of the factors to consider for the planned PunchOut site are:

- What is the process flow from shopping through order placement and fulfillment?
- How much customization per company do you want to provide?
- Can a single product line be selected for an initial pilot of your PunchOut site?
- Will you need to interface with multiple XML-based procurement applications?
- How will you model a "shopping cart" in requisition line items?

Outsourcing Versus Internal Development

Next, review the resources you have available for implementing your PunchOut site. Building a PunchOut site requires programming expertise, which you can develop within your organization or outsource. Some key factors to take into account are:

- Does your technical staff have the skills to implement a PunchOut site?
- Do you have an existing Web infrastructure that can be leveraged to use cXML?
- Do you have an approved budget for e-commerce initiatives, in particular, PunchOut enablement?
- Have you evaluated the process flow with PunchOut to verify that it fits into your business model? PunchOut can be used for both products and services.

Key Participants

The Ariba PunchOut integration process is a collaborative effort that leverages your in-house and external resources. There are three potential key participants: technical developer, integration manager, and Ariba Supplier Consulting.

Technical Developer

Identify a team member who will be the PunchOut site technical developer. This person acts as the primary owner of the PunchOut process and assumes responsibility for a number of tasks. The following is a role description for the technical developer:

- Reads PunchOut documentation available from the following websites:

  `supplier.ariba.com`

  `www.cXML.org`

- Becomes familiar with Ariba Network methodology; develops or possesses a strong working knowledge of catalog formats, including:
  - CIF (Catalog Interchange Format)
  - cXML
  - PunchOut
- Tests the PunchOut site with Ariba Network and with customers
- Manages the Ariba Network supplier account for all PunchOut-related matters
- Performs ongoing maintenance of the PunchOut site

Integration Manager

Identify a team member who will be the PunchOut site integration manager. This person is the point of contact for non-technical, business issues relating to PunchOut. The following is a role description for the Supplier Integration Manager:

- Verifies the ANID (Ariba Network ID) or Dun & Bradstreet D-U-N-S (Data Universal Numbering System) number for your company
- Manages PunchOut relationships with customers, resolving issues such as:
  - Identifying targeted commodities for PunchOut
  - Supplying commodity codes for PunchOut products to the customer
  - Defining the purchase order and invoice processes with the customer
- Creates a project plan and implementation time line
- Defines additional resource requirements and makes appropriate assignments

Ariba Supplier Consulting

Ariba Supplier Consulting is a consulting group that provides targeted support with specific tasks such as Ariba Network registration, catalog creation, PunchOut site development, and integration testing. Ariba Supplier Consulting supports suppliers at any level of technical expertise.

For more information, see `www.ariba.com/suppliers/supplier_consulting.cfm`.

Determining the Level of Support Needed

Your business requirements, order volume, amount of desired automation, and team expertise determine the level of support you need. Answering the following questions can help determine what you need.

- **Does your team have a solid understanding of XML and cXML?**

  XML provides the building blocks of all cXML documents. cXML documents provide a way for buyers, suppliers, and Ariba Network to communicate with each other across the Internet. cXML documents are constructed based on Document Type Definition (DTD) files, which are used to define a content model for a cXML document. DTDs include the specifications for the allowed elements, their order, and attributes data types.

- **Do you currently have any transactive, XML-enabled Web-based e-commerce applications?**

  Technical developers must have a fundamental understanding of how to create, receive, transmit, parse, and query XML data to and from a remote source. An XML parser is the basic tool that developers use to process XML messages. Free tools are available to familiarize the technical team with XML and cXML.

- **Do you currently have a catalog index file?**

  A catalog index file is a cXML or CIF document you create that the customer loads into Ariba Buyer to create entries in the catalog hierarchy. The file defines how you and your products appear in the Ariba Buyer catalog user interface. The catalog entry for PunchOut items is similar to static items, except that it contains a clickable URL link to your PunchOut site instead of a unit price. When users select a PunchOut item, Ariba Buyer formats and sends a cXML `PunchOutSetupRequest` document to Ariba Network, which initiates the PunchOut session.

Design

During the design phase, you analyze the overall design of your PunchOut site and decide how to integrate it with your order processing system. CIF, cXML, or PunchOut catalog formats might be better for certain commodities and customer business rules, so discuss their use with your customers to understand their requirements. You must analyze the following areas:

- Supplier Requirements
- Customer Requirements
- Learning About cXML and PunchOut

Supplier Requirements

The PunchOut protocol is flexible enough to allow you to differentiate your PunchOut site from those from other suppliers. Several factors, such as schedule, budget, and desired appearance will influence how you approach these supplier specifics and you should review all of them as part of your design process.

Branding

Branding is the process you use to make your PunchOut site unique. You can personalize the appearance and functionality of the site based on customer authentication.

You are encouraged to personalize your PunchOut site and leverage the look and feel of your existing websites. However, PunchOut sites do not require typical e-commerce site functions, such as input fields for manual login, links to exit the current shopping session, or access to external sites.

Publishing the Index Catalog

PunchOut index catalogs are published on Ariba Network like other catalog types. You can make the catalog public (available to all customers) or private (available only to specific customers). Customers select catalogs based on their description and on details about the supplier. Publishing a PunchOut index catalog on Ariba Network is the quickest way to let customers know that you have a PunchOut site available.

Customer Requirements

Meet with your customers to determine their business and technical requirements. Ideally, you collect this information from each customer that wants to use your PunchOut site.

Business Requirements

Talk with your customers about which products to make available on your PunchOut site. For the best user experience, you should understand the high-level business requirements of your customers.

- Analyze your customers' current and future procurement practices.
- Determine your customers' content-specific requirements by commodity.
- Identify any reporting considerations or requirements.
- Assign ownership across your team to resolve open issues.

Technical Requirements

Find out your customers' technical requirements for product content and transactions. Develop the processes for addressing the issues that arise when two organizations enter into a trading relationship. Some of the issues that should be discussed are:

- Content and pricing, including national versus regional contracts
- Commodity codes and Unit of Measure (UOM) encoding
- International issues, such as multi-language and currency
- Freight, shipping methods, and taxes
- How to initiate payment, such as PCard or invoice
- Issuing credits and returns
- Non-catalog (ad-hoc) purchase orders
- Changed and cancelled orders
- Additional information required for documents and cXML requests, such as cost center, department, requester, and supplier account code
- How to handle conflicts with existing sales channels, such as distributors
- Updating order status on Ariba Network

Security

Your PunchOut site must communicate through HTTPS (Hyper Text Transfer Protocol Secure). For more information, see "HTTPS Connections" on page 26. HTTPS protects all parties in PunchOut sessions: your customer, Ariba Network, and your PunchOut site.

Learning About cXML and PunchOut

You will need to document the transaction process flow into and out of your PunchOut site and identify which messages need to be coded. Ariba has documentation available to assist in defining the process. The technical developer should read the following guides, available on Ariba Network.

Guide	Describes
Ariba Network Account Management Guide	How to set up advanced configuration, including cXML configuration
Ariba Network Catalog Administration Guide for Suppliers	How to upload, test, and publish static and PunchOut catalogs
Ariba Catalog Format Reference	Catalog features and the syntax of CIF and cXML catalogs

Development

Development involves the implementation of each step in the PunchOut process. This process can be described through message flow.

Message Flow

A PunchOut session is comprised of cXML messages that pass between Ariba Buyer, Ariba Network, and your PunchOut site:

1 User Login

A user at a buying organization first logs in to Ariba Buyer and creates a requisition. This step is important, because it means the user has been authenticated by the buying organization. During PunchOut, Ariba Network authenticates the buying organization, not the user.

2 PunchOut Site Selection

Next, the user searches for products and services in the procurement application and selects your PunchOut item. Depending on what you include in your PunchOut index catalog, users experience store-, aisle-, shelf- or product-level PunchOut. If you offer aisle-, shelf-, or product-level PunchOut, the user punches out to a page on your site that describes the aisle, shelf, or product. If you offer store-level PunchOut, the user punches out to see all your products by selecting your company name. Store-level PunchOut usually requires your site to have a search mechanism so users can find items they need.

For more information, see "punchoutLevel Attribute" on page 78.

3 PunchOutSetupRequest

Ariba Buyer generates a cXML `PunchOutSetupRequest` document and sends it through an HTTP Post to Ariba Network. Ariba Network authenticates it and forwards it through an HTTP Post to your PunchOut site.

When the buying organization registers on Ariba Network, it configures a `SharedSecret`. `PunchOutSetupRequest` documents sent to Ariba Network identify the customer based on the `Identity` element in the `From` element and populate the `Credential domain` with the customer's NetworkID. Each buying organization has its own NetworkID.

When Ariba Network determines who the request is from and who it is to, it deletes the customer's shared secret and uses the one from your Ariba Network account. This shared secret allows the `PunchOutSetupRequest` to effectively log in to your PunchOut site. You never see your customer's `SharedSecret` and do not have to maintain a separate password/login for each user or customer. The end user can be identified in `Contact` and `Extrinsic` elements.

In addition to the authentication and identification parameters, the `PunchOutSetupRequest` document contains a `BuyerCookie`. The `BuyerCookie` changes between concurrent PunchOut sessions, thereby allowing you to track which screen a particular user is on during the shopping process. An edit operation on an existing order usually results in a new buyer cookie for that particular session. To be more specific, Ariba Buyer guarantees that the buyer cookie is unique among all values used by simultaneously initiated PunchOut sessions. The value might, for example, correspond to a session identifier in that application. To link a specific order to a user, use the `SupplierPartAuxiliaryID` (supplier cookie) element.

4 PunchOut authentication

When your PunchOut site receives the `PunchOutSetupRequest` document, it performs the following tasks:

- Authenticates Ariba Network based on the `Sender` and `SharedSecret`
- Verifies the `From` identification

You can now initiate a session because the user's organization is a certified Ariba Network member. Your PunchOut site can generate a shopping page for the PunchOut session.

5 PunchOutSetupResponse

Your PunchOut site redirects the user. It issues a `PunchOutSetupResponse` document to Ariba Network with your `StartPage URL`, which is the shopping page of your PunchOut site. Ariba Network forwards the `PunchOutSetupResponse` to Ariba Buyer.

6 Shopping

Ariba Buyer opens your PunchOut site in a new window using the `StartPage URL` you supplied. The user selects and configures products or services. Selecting an item adds it to a shopping cart or basket on your site.

7 PunchOutOrderMessage

When done selecting items on your PunchOut site, the user clicks a **Transfer Basket to Ariba Buyer** link. Your site issues a `PunchOutOrderMessage` document to Ariba Buyer (in an HTML hidden form field) that lists the contents of the user's shopping cart.

The window displaying your PunchOut site disappears and the description of the PunchOut items appears in the user's requisition. This information acts as a quote, not an actual order. When the quote is approved in Ariba Buyer, it generates a purchase order.

To alleviate user confusion, your checkout process should use the following sequence of buttons:

1. Add item to basket
2. Transfer basket to Ariba Buyer

The checkout process should not require the user to enter credit card information or ship-to address details. This data is maintained in Ariba Buyer.

In Ariba Buyer 6.1 and earlier, because your site appears in a new browser window, there is a final screen that the user sees containing the requisition number and a **Close Browser** button. This returns the user to Ariba Buyer.

To allow users to return to the PunchOut site and make changes to it, the `PunchOutOrderMessage` document should have the `operationAllowed="edit"` attribute.

8 Requisition Approval

Ariba Buyer submits the requisition for approval within the buying organization. It does not update you on the progress of the requisition until after it has received all required approvals and has been turned into a purchase order.

If managers in the approval chain deny a requisition, they can use PunchOut to go to your site to remove line items or delete the requisition. You should reach an agreement with customers about how canceled requisitions should be handled.

9 OrderRequest

Upon approval of the requisition, Ariba Buyer generates an `OrderRequest` document and transmits it to you through Ariba Network. This document contains the purchase order details required for processing. For more information, see Chapter 7, "Purchase Orders."

Extrinsics and Supplier Cookies

Ariba Buyer uses extrinsic data to further identify a user to you. The standard extrinsics sent from Ariba Buyer in `PunchOutSetupRequest` documents are `User` and `CostCenter`. Customers determine the naming and population of all extrinsic elements, so indicate any additional data you need. Reliance on extrinsic data is discouraged, because it makes using your PunchOut site with other customers more difficult.

The `SupplierPartAuxiliaryID` element, or "supplier cookie," allows you to transmit additional data, such as a quote number from your PunchOut site to the purchase order. Ariba Buyer passes it back to you in any subsequent `PunchOutSetupRequest` "edit" or "inspect" sessions, and any resulting `OrderRequest` document. Suppliers often use the cookie to associate items in a requisition with the corresponding items in a PunchOut session shopping cart.

Testing

The PunchOut testing phase ensures that your site is configured properly and that it effectively communicates with Ariba Buyer.

Self-Testing on Ariba Network

Your Ariba Network account has a parallel account called a *test account*. Test accounts have a built-in catalog tester that allows you to check static catalogs, PunchOut sites, and order routing. Use the catalog tester to test your PunchOut site and to send simple purchase orders to yourself. It has a single-step feature, allowing you to edit each PunchOut document before transmission.

The catalog tester is useful for debugging your PunchOut site and demonstrating the site to potential customers. For information about using your test account and the catalog tester, see the *Ariba SN Getting Started Guide* available on the Help@Ariba website.

Testing with Customers

The final phase of testing is to exercise your PunchOut site with your customers. You should confirm that your customers have enabled their Ariba Network test accounts and have added your test account as a supplier. Then, you can publish your index catalog to them to confirm that it meets their criteria, allow them to exercise your PunchOut site, receive test orders, and you can observe those orders in your order-entry system.

Specific scenarios to run through when testing with customers are suggested below.

Authentication

Your PunchOut site must perform authentication through the domain, buyer identity, and shared secret. You cannot deploy it if it performs authentication any other way, for example with a user ID or with a user-entered password.

Basic Tests from Ariba Buyer

The following scenarios comprise a basic test of your PunchOut site.

- Testing the PunchOut item

  Create a requisition in Ariba Buyer. Select your PunchOut item from the catalog hierarchy.

  Expected behavior: Ariba Buyer connects to your PunchOut site. The user can shop, place items in a cart, and return the cart to the Ariba Buyer requisition.

- Simulating a lost connection

Create a requisition in Ariba Buyer. Select a PunchOut item. Ariba Buyer displays your PunchOut site. Close the PunchOut site before “checking out.”

Expected behavior: The user session returns to Ariba Buyer and displays the Ariba Buyer first page.

Select the PunchOut item again.

Expected behavior: Return to your PunchOut site, where the shopping cart is empty.

- Testing multiple line items on a requisition

  Create a requisition with two line items from the same PunchOut site shopping cart. After the cart returns to the requisition, select one item to initiate the edit functionality.

  Expected behavior: Both items appear in the cart upon return to your PunchOut site.

  Remove both items from your PunchOut site's cart and check out again.

  Expected behavior: The requisition must not contain any of the items selected during the PunchOut session.

- Testing a non-catalog purchase

  You must agree with your customer how to handle and route non-catalog (ad hoc) purchases. Create a requisition with non-catalog items and see how it appears in your order entry system.

- Testing the basic functionality of service items

  If your PunchOut site lists services, test it like a user would:

  1. Go to your PunchOut site and provide configuration data to purchase a service. The PunchOut site returns a line item.
  2. Use a PunchOut edit session to bring back a line item with pricing. After generating a purchase order, try to PunchOut with both edit and inspect.

- Testing contract pricing

  If your pricing is determined by the buying organization's ID, make sure the correct price is displayed.

  1. Go to your PunchOut site and provide configuration data. You receive a line item back including contract pricing.
  2. Submit the requisition and initiate the workflow and approval process.
  3. After the requisition is approved, use an edit PunchOut session to select the product. You can also use an inspect PunchOut session.

Deployment

For deployment, move the tested site to production. You should coordinate this action with your customers.

Configuration Management

To make the build-and-deploy process manageable and repeatable, it is recommended that you use a configuration management system. You can script the process of deployment, including creating new websites, moving files, and generating customer-specific content and pricing.

Customer Service

Confirm that your Customer Service organization is ready to support the new PunchOut site and any new policies and procedures.

Sanity Check

Immediately after going live, have the buying organization perform a few test PunchOut sessions and create several test orders to validate connectivity in the production environment. Finally, closely monitor your Ariba Network account to ensure that purchase orders route properly.

Becoming Ariba Ready Certified

Ariba Ready is an Ariba Network service that certifies your organization has followed the guidelines for Ariba Buyer and Ariba Network integration. When customers look for new suppliers, they see which ones are Ariba Ready, and know they can integrate with you easily.

After you have enabled and tested your PunchOut site, you should apply for Ariba Ready certification. The Ariba Ready team places your PunchOut site in a queue to be tested through script testing. When the site passes the scripts, you receive an Ariba Ready logo to notify potential customers that the site has met Ariba's PunchOut requirements, expediting the addition of new customers.

For more information, see `www.ariba.com/suppliers/supplier_validation.cfm`.

Retrofitting an Existing Website

You might have an existing website that you want to modify to support PunchOut. For business or technical reasons, it might make sense to use an existing e-commerce site.

Leveraging an Existing Site

When users interact with a typical B2B site, they log in directly, search for items, configure commodities, select shipping options, enter credit card information, and place orders. However, these sites are really B2C applications: they treat users as consumers.

B2B sites, however, have dynamic workflow, approvals, saved shopping carts, and contract pricing. Your customer should calculate payment and shipping information. Existing processes, such as dynamic workflow or collection of shipping and payment information, will not be needed for PunchOut.

The model to adopt when creating a PunchOut site is *quote* and *purchase*. Users perform PunchOut for product selection, configuration, and to obtain a quote. Ariba Buyer generates the purchase order separately. The process flow is as follows:

1. A requsitioner in Ariba Buyer uses PunchOut to go to your PunchOut site and select products.
2. At checkout, the PunchOut site brings back the fully configured items to Ariba Buyer.
3. In Ariba Buyer, the user selects logistic information, including bill-to, ship-to, shipping method, and need-by date.
4. The user submits the requisition for approval. Parties in the buying organization can inspect, edit, approve, or deny the requisition depending on each approver's role and their permissions.
5. When the requisition is fully approved, Ariba Buyer submits a purchase order, with shipping, billing, and need-by date.

Quick Retrofitting

Use the following steps to modify an e-commerce site to support PunchOut as rapidly as possible:

1 Remove all non-configuration related processes.

  Ariba Buyer authenticates users and Ariba Network authenticates buying organizations.

2 Adapt a model where you provide a quote and receive a purchase order.

  If your current site does not support the purchase order model, leverage the existing code base and build a new site with new processes.

3 Remove or deactivate payment, shipping, and workflow.

  Ariba Buyer handles payment, shipping, and workflow according to the customers' specific business processes.

4 Clean up the user interface.

  Remove all links to outside websites. A PunchOut user should not be able to exit the PunchOut site through site navigation.

PunchOut for Services

Your PunchOut site can offer permanent or temporary services. Developing a PunchOut site for services requires a good understanding of the PunchOut process, and possibly, coordinating services procurement with your customers.

Procuring services through Ariba Buyer is very different from procuring commodities. For commodities, the approval workflow and access control lists are in Ariba Buyer; there is no preliminary product configuration required and offerings do not dynamically change based on market conditions. Any commodity that does not follow the above principles lends itself to PunchOut, where the catalog is maintained at your site.

Services Exchange

You can create a PunchOut site that supplies services or contract work. This is called a *services exchange*, because requisitioners request services and configure settings that describe the work they need done. Users follow two steps to procure services from services exchanges:

1 Open a position

2 Engage a candidate to fulfill the opened position

You can model these steps with two PunchOut operations. The first step is a "create" session that partially populates a requisition line item. The second step is an "edit" session that adds more detail to form a complete line item. The create session opens a contract worker position; the edit session engages a candidate to fill the opened position.

Create Session

The create session defines a contract worker. This session might be subject to an approval flow in Ariba Buyer if it returns estimates for requested services.

Your PunchOut site can temporarily stop the workflow by withholding a key field, such as Unit of Measure (UOM). It can send an email notification to the user to return to the site and continue with the process. These messages cannot automatically trigger an event in Ariba Buyer.

If opening a position requires pre-approval in Ariba Buyer, then you need to arrange a custom double approval chain for the service-specific commodity. The buying organization must send you a notification of approval or denial of a request through email notifications.

Edit Sessions

The edit session further describes the service. The user enters missing data (such as the UOM), making the requisition complete and ready for the start of the approval process in Ariba Buyer.

After the approval process is complete, Ariba Buyer sends the purchase order to your services exchange. The contract worker starts on the negotiated start date and enters time worked into time sheets. The accounting system linked to Ariba Buyer processes the invoices and pays against them accordingly.

Writing a PunchOut Deployment Guide

After implementing a PunchOut site, provide Ariba Buyer implementors with a *PunchOut Deployment Guide* that explains your policies, capabilities, and processes. This guide will help your customers integrate with your site and adhere to your business policies. The availability of this information will make the rollout to subsequent customers easier.

Your *PunchOut Deployment Guide* should contain the following sections:

- Connectivity Overview
- Authentication and Identification
- Required Extrinsics
- Content Requirements/Specification
- Address Information
- Accounting Structure
- Commodity Codes
- Transactions Supported

Each of these sections is described below.

Connectivity Overview

Describe the PunchOut process flow and the integration to Ariba Buyer. You can copy the explanation from the PunchOut Event Sequence section of the *cXML User’s Guide*.

Include any application-specific processes in the integration. For example, document RFQ (Request For Quote) or service requisitioning where a second PunchOut might be required to receive the pricing of selected services.

Authentication and Identification

Explain how you perform authentication of PunchOut sessions.

Include any additional information used to identify the user, such as PunchOutSetupRequest extrinsics, or Contact or Address elements. Describe your PunchOut site's ability to use this information to present custom content.

Required Extrinsics

Indicate whether your site requires extrinsic information to initiate customized PunchOut sessions. Keep the use of extrinsic elements to a minimum, because they increase implementation lead time.

Different versions of Ariba Buyer use different default extrinsic elements:

- Ariba Buyer 6.1 and earlier (cXML 1.0) use User and CostCenter elements. However, customers might name these extrinsics differently, so find out the exact names.
- Ariba Buyer 7.0 and later (cXML 1.1) use the Contact element, obsoleting the extrinsic elements User and CostCenter.

In purchase orders, extrinsics are often used to send additional information from the customer at the line item level, such as Company Code and Contract Number. Describe any line item extrinsics you accept.

Content Requirements/Specification

Describe you content specification process and capabilities. Describe your process for selecting the categories of products shown to users. Describe whether you have the capability to limit access to items to certain users in the organization.

If you display both contract and non-contract items, describe how these are shown and who can see them. For instance, you might allow typical users to see only contract items, but allow purchasing agents to see all your items. In this case, describe how your PunchOut site determines users' roles.

Provide your PunchOut index catalog (either CIF or cXML) to customers so the appropriate links appear in Ariba Buyer. Also, if you support the SelectedItem attribute (available in cXML 1.1), describe how you use it.

Address Information

It is important to discuss address format so Ariba Buyer can integrate with your order processing application.

Some customers use the addressID attribute of the Address element to identify a predefined ship-to or bill-to address. If you use this attribute, describe the process of loading and maintaining your customer's address data. Also, discuss how you handle exceptions, such as the user drop-shipping the delivery to a location not already in Ariba Buyer, or the user adding a new address not known to you. In the first case, the addressID is null, in the second case the addressID might be a number you do not have.

If you do not use the addressID attribute, tell customers what to send you in their address elements. This data includes the DeliverTo elements, which are often the most problematic, because some customers implement them differently. Most commonly, they contain a person's name and their building, floor, or mailstop.

Typically, there are two occurrences of that element in the order, but some customers send only one. Collect the information your customer plans to send with these before implementation so you can map them into your system.

Similarly, you must also note the format and content of the `Street` elements. Determine the data format your customers put in these elements before implementation. The format varies on a number of factors, including the ERP system used. The following table is useful for capturing this information for discussion.

Element	#	Customer		Supplier	
		Description	Max Length	Description	Max Length
DeliverTo	1				
DeliverTo	2				
Street	1				
Street	2				
Street	3				
Street	4				

Accounting Structure

Customers have different formats for accounting information they send in purchase orders and receive in invoices. This difference is due to a number of factors, including the ERP system used and the customer's general ledger design.

Collect this information during implementation and describe your ability to capture and return this information for invoicing and Pcard reconciliation. You can use the following table for collecting this information from your customers:

Parameter	Customer Data			Return on Invoice?
	Segment Type	Format / Length	Description	
Reporting Center	Cost Center	Alpha / 5	ID	Y
Reporting Account	Account	Integer / 6	Account	N
Reporting Business	Company	Alpha / 4	ID	N

Commodity Codes

Describe the commodity code standard you support for PunchOut and the level of granularity of the data that you return. Include an appendix that lists all the distinct commodity codes you send, so customers can perform any required mapping. Ask your customers to specify commodity codes that they use to control workflow or approvals.

The UNSPSC (United Nations Standard Product and Service Code) standard is preferred. For more information, see "Commodity Codes" on page 225.

Transactions Supported

Describe the electronic transactions that you support, the method you use to process orders, how you handle orders not supported electronically, and how you process exceptions. The following are specific order types you might need to describe:

Change/Cancel Orders

Ariba Network provides a separate method for routing change and cancel orders. Describe how you route and process these orders. For example, you might route change/cancel orders directly to your shipping department.

For more information, see "Cancel Orders and Change Orders" on page 117.

Non-Catalog (Ad-Hoc) Items

Non-catalog orders sent to you come with a `SupplierPartID` of "Not Available" or with an `isAdHoc` flag. Describe whether you process these line items.

For more information, see "Non-Catalog Items" on page 121.

Orders Containing Static and PunchOut Items

If you have both static catalogs and a PunchOut catalog, you might receive purchase orders that contain both types of items. Your order-receiving system needs to be able to process them.

One difference between these two line item types is the content of the `SupplierPartAuxiliaryID` element. For PunchOut line items, you receive the value your PunchOut site generates. For static catalog orders, you receive the value from the static catalog, or no data for catalogs without this information.

Copied Requisitions

Ariba Buyer allows users to make copies of their requisitions for repeat orders. When it copies requisitions, it copies the contents of entire line items, except for the `SupplierPartAuxiliaryID` element. This exception preserves the integrity of your PunchOut site, because that element is in your control. Because the `supplierPartID`, `quantity`, and `price` are all in the copied line item, you should be able to process it. Describe in this section whether you will process purchase orders generated from copied requisitions.

Changes in Price

Prices can change between the time the PunchOut session occurs and the time the purchase order is sent. Describe how you process these exceptions.

Third-Party Suppliers

If you are a product aggregator, your PunchOut site lists other suppliers' products, and you route purchase orders you receive to those suppliers. Use the third-party suppliers' NetworkIDs or D-U-N-S numbers to populate the `SupplierID` element at the line item level.

These IDs must be registered on Ariba Network and in Ariba Buyer. Before sending a purchase order to Ariba Network, Ariba Buyer determines which supplier the `OrderRequest` is for and populates the `To` element in the header with the ANID or D-U-N-S number of that supplier (extracted from the NetworkID or D-U-N-S number at the item or requisition level).

In your *PunchOut Deployment Guide*, list the third-party suppliers and their IDs.

Quotes Split into Multiple Orders

Customers that pay with PCards or assign your products to multiple general ledger accounts might split quotes among several orders. While customers always approve or reject the entire quote as a unit, this split might cause exceptions in your order entry system.

Describe whether this situation will cause exceptions. If you cannot process these orders, describe the process for these exceptions.

Note: The frequency of these situations depends on the products you offer, how they are classified, and your customers' accounting processes.

Chapter 6 PunchOut Transaction

This chapter discusses how to set up PunchOut sites that integrate with Ariba Network and procurement applications.

PunchOut Index Catalog

A PunchOut index catalog is a file created by the supplier that the buying organization loads into their procurement application to create a PunchOut link in the catalog hierarchy. The file defines how the PunchOut catalog or the PunchOut items appear in the procurement application's catalog. Ariba Buyer and Procure-to-Pay accept both CIF and cXML PunchOut index catalogs.

SupplierID Element

This element identifies the supplier that hosts the PunchOut catalog. Suppliers use NetworkID or Dun & Bradstreet D-U-N-S® numbers to identify themselves.

- Your NetworkID appears on the Home page of your Ariba Network account
- You can find information on D-U-N-S numbers at `www.dnb.com`

URL Element

This element must exist, but it is no longer used by Ariba Network.

In previous releases of Ariba Network, this URL identified the supplier's PunchOut website. Now, the URL comes from the supplier's cXML profile or from the supplier's Ariba Network account. For more information, see "PunchOut URL" on page 91.

Ariba Buyer passes this value in the `PunchOutSetupRequest` document, so the supplier can use it to further identify the PunchOut item.

Classification Element

PunchOut items in the procurement application must be classified to map to the catalog hierarchy. The recommended commodity classification system is UNSPSC (United Nations Standard Products and Services Code). For more information, see "Commodity Codes" on page 225.

punchoutLevel Attribute

Use the optional `punchoutLevel` attribute to tell Procure-to-Pay where to place your offerings in the catalog displayed to end-users. This attribute is available only for Procure-to-Pay (cXML 1.2.016 or later). It is available for both cXML and CIF PunchOut index catalogs.

The `punchoutLevel` attribute can have the following values:

Value	Use if your PunchOut site has...	PunchOut Item Example
`store`	A search page that offers all of your products or services. Procure-to-Pay users punch out directly without displaying item details. These items display at the top of categories, above products.	ACME Hardware Store
`aisle`	Pages that group your items into a small number of categories. Procure-to-Pay users punch out directly without displaying item details.	Cutting Tools
`shelf`	Pages for similar products from which customers would choose when shopping. Procure-to-Pay displays item details and allows users to punch out.	Handsaws
`product`	A page for each of your offered items or SKUs. Procure-to-Pay displays item details and allow users to punch out.	Cuts-a-Lot 14-inch Handsaw

You can provide a mixture of items that have different `punchoutLevel` values. For example, you might offer users one store-level PunchOut item and a product-level PunchOut item for each of your 50 most popular products. If you do not include this attribute, Procure-to-Pay considers the item to be a store-level item.

Your PunchOut site can interpret the `SelectedItem` element in the `PunchOutSetupRequest` document to determine which aisle, shelf, or product users select.

Shelf-level and product-level PunchOut are especially useful if you implement Level 2 PunchOut. For more information, see "Level 2 PunchOut" on page 93.

Example PunchOut Index File

The following example shows a PunchOut index file in cXML format. To keep the file size low, use cXML instead of CIF for Level 2 index files.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE Index SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.016/cXML.dtd">
<Index>
   <SupplierID domain="DUNS">1234567</SupplierID>
   <Comments xml:lang="en-US">Sample cXML Index Catalog</Comments>
   <IndexItem>
      <IndexItemPunchout>
         <ItemID>
            <SupplierPartID>123456</SupplierPartID>
         </ItemID>
         <PunchoutDetail punchoutLevel="store">
            <Description xml:lang="en-US">Workchairs, Inc.</Description>
            <URL>http://www.workchairs.com</URL>
            <Classification domain="UNSPSC">88888889</Classification>
         </PunchoutDetail>
      </IndexItemPunchout>
   </IndexItem>
</Index>
```

PunchOutSetupRequest Document

To initiate PunchOut sessions, requisitioners select PunchOut items in their procurement application. The procurement application generates a cXML `PunchOutSetupRequest` document and sends it to Ariba Network, which forwards it to the PunchOut site. The `PunchOutSetupRequest` document authenticates the buyer for the supplier.

This section discusses:

- Credential Elements
- UserAgent Element
- PunchOutSetupRequest operation Attribute
- BuyerCookie Element
- Extrinsic Element
- BrowserFormPost Element
- SupplierSetup Element
- SelectedItem Element
- Example PunchOutSetupRequest Document

Credential Elements

Like other cXML documents, `PunchOutSetupRequest` documents contain `From`, `To`, and `Sender` credentials.

From Credential

This element identifies the originator of the `PunchOutSetupRequest` (the buying organization). For example:

```
<From>
   <Credential domain="NetworkID">
      <Identity>AN01000002792</Identity>
   </Credential>
</From>
```

To Credential

This element identifies the supplier (the destination of the `PunchOutSetupRequest`.) For example:

```
<To>
   <Credential domain="DUNS">
      <Identity>942888711</Identity>
   </Credential>
</To>
```

For more information about credential limitations of older versions of Ariba Buyer, see "NetworkID and Older Versions of Ariba Buyer" on page 34.

Sender Credential

When a procurement application creates the `PunchOutSetupRequest` document, the `Sender` credential specifies the identity and shared secret of the buying organization. When Ariba Network forwards the document to the supplier, it changes the `Sender` credential to specify the identity of Ariba Network and uses the supplier's `SharedSecret`.

This example shows a `PunchOutSetupRequest` that has passed through Ariba Network.

```
<Sender>
   <Credential domain="AribaNetworkUserId">
      <Identity>sysadmin@ariba.com</Identity>
      <SharedSecret>abracadabra</SharedSecret>
   </Credential>
   <UserAgent>Ariba Buyer 7.1</UserAgent>
</Sender>
```

UserAgent Element

This element identifies the originating application. It consists of the software company name, product name and version. Version details can appear in parentheses.

Example:

```
<UserAgent>Ariba Buyer 8.2</UserAgent>
```

PunchOutSetupRequest operation Attribute

The `operation` attribute specifies the type of PunchOut session to initiate: `create`, `edit`, or `inspect`:

operation	Description
`create`	Punch out to add a new PunchOut item to a requisition
`edit`	Punch out to modify an existing PunchOut item
`inspect`	Punch out to inspect (read-only) an existing PunchOut item

For example:

```
<PunchOutSetupRequest operation="create">
```

Suppliers can restrict the editing of later PunchOut sessions by using the `operationAllowed` attribute in the `PunchOutOrderMessage` document. For more information, see "operationAllowed Attribute" on page 85.

BuyerCookie Element

The `BuyerCookie` element transmits information that is opaque to the PunchOut site, but must be returned to the originator for all subsequent PunchOut operations. It enables the procurement application to match multiple, outstanding PunchOut requests. It is unique per PunchOut session.

Note: When this element passes through Ariba Network from Ariba Buyer 7.0 (cXML 1.1), the supplier actually receives a session ID number, not the alphanumeric value in the `PunchOutSetupRequest` from the procurement application to Ariba Network.

Example:

```
<BuyerCookie>1TF5JRP11S3W9</BuyerCookie>
```

Extrinsic Element

This optional element is used for any additional data that the requestor wants to pass to the PunchOut site. In cXML 1.0, the extrinsics `User` and `CostCenter` elements often provided contact information. In cXML 1.1, the `Contact` element obsoletes the `User` Extrinsic and a few others commonly included in cXML 1.0 documents.

Ariba Buyer 6.1 and 7.0 include a different set of extrinsics. By default, Ariba Buyer 6.1, includes the extrinsics `User` and `CostCenter`. By default, Ariba Buyer 7.0 includes the extrinsics `UniqueName`, `UserEmail`, and `CostCenter`. Any additional extrinsics would have to be agreed upon between the buying organization and the supplier.

The following example passes the department of the user initiating the PunchOut operation.

```
<Extrinsic name="CostCenter">450</Extrinsic>

<Extrinsic name="UniqueName">jsmith</Extrinsic>
```

In cXML 1.1 or later, use the `Contact` element in the body of the request to uniquely identify the user (for example, John Smith in Finance at acme.com) instead of using extrinsic elements. The buying organization can configure their procurement application to insert `Contact` and extrinsic data.

Example:

```
<Contact role=”endUser”>
   <Name xml:lang="en-US">Mr. Burns</Name>
   <Email>mburns@springfield.com</Email>
   <Phone name="Office">
    ...
   </Phone>
</Contact>
```

BrowserFormPost Element

This element contains the URL where the PunchOut site returns the `PunchOutOrderMessage` at the end of the PunchOut session.

Example:

```
<BrowserFormPost>
   <URL>http://procure.bigbuyer.com:3377/punchout</URL>
</BrowserFormPost>
```

SupplierSetup Element

In early cXML releases, the `SupplierSetup` element provided the only way to specify a PunchOut site's URL. However, beginning with cXML 1.1, suppliers configure Ariba Network with the URLs of their PunchOut sites and use the new `SelectedItem` element to specify store-, aisle-, shelf- or product-level PunchOut.

The `SupplierSetup` element has been deprecated. However, PunchOut sites must accept it until all Ariba Buyer installations recognize and send the `SelectedItem` element. For more information, see "PunchOut URL" on page 91.

SelectedItem Element

This element contains the item selected by the user from a catalog and identifies the supplier's part number. Starting with cXML 1.1, procurement applications use the `SelectedItem` element to specify store-, aisle-, shelf, or product-level PunchOut.

Example:

```
<SelectedItem>
   <ItemID>
      <SupplierPartID>55555</SupplierPartID>
   </ItemID>
</SelectedItem>
```

Example PunchOutSetupRequest Document

The following example shows a `PunchOutSetupRequest` document as it travels from Ariba Network to the supplier's PunchOut site. It contains the supplier's shared secret.

```
<?xml version="1.0"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="958075346970@www.bigbuyer.com " timestamp="2005-06-14T12:57:09-07:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN01000002792</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="DUNS">
            <Identity>12345678</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>sysadmin@ariba.com/Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Ariba Buyer 8.2</UserAgent>
      </Sender>
   </Header>
   <Request>
      <PunchOutSetupRequest operation="create">
         <BuyerCookie>1J3YVWU9QWMTB</BuyerCookie>
         <Extrinsic name="CostCenter">610</Extrinsic>
         <Extrinsic name="User">jpicard</Extrinsic>
         <BrowserFormPost>
            <URL>http://bigbuyer.com:3377/punchout</URL>
         </BrowserFormPost>
         <SupplierSetup>
            <URL>https://punchout.workchairs.com/PunchOutServlet</URL>
         </SupplierSetup>
         <ShipTo>
            <Address addressID="001">
               <Name xml:lang="en">BigBuyer Headquarters</Name>
               <PostalAddress>
                  <DeliverTo>Jean Picard</DeliverTo>
                  <Street>1565 Pine, MS A.2</Street>
                  <City>New York</City>
                  <State>NY</State>
                  <PostalCode>01043</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
            </Address>
         </ShipTo>
         <Contact>
            <Name>jpicard</Name>
         </Contact>
         <SelectedItem>
            <ItemID>
               <SupplierPartID>54543</SupplierPartID>
            </ItemID>
         </SelectedItem>
      </PunchOutSetupRequest>
   </Request>
</cXML>
```

PunchOutSetupResponse Document

After suppliers receive `PunchOutSetupRequest` documents, they return `PunchOutSetupResponse` documents to Ariba Network through the same HTTPS connection as the `PunchOutSetupRequest`.

This section discusses:

- Overview of the PunchOutSetupResponse Documents
- Status Element
- StartPage URL Element
- Example PunchOutSetupResponse Document

Overview of the PunchOutSetupResponse Documents

The `PunchOutSetupResponse` document serves two functions:

- It indicates whether PunchOut initiation was successful
- It provides the procurement application with a redirect URL to the supplier's website start page

Ariba Network has a 30-second timeout for receiving `PunchOutSetupResponse` documents. If suppliers do not send a response within that time limit, the PunchOut session initiation fails.

Status Element

This element conveys the success or failure of a request operation. It is comprised of a `code` attribute and a `text` attribute, and an optional `xml:lang` attribute.

The `code` attribute follows the HTTP status code model. In general, a 2xx series code indicates a successful client-server communication, a 4xx series code indicates a client error status code, and a 5xx series code indicates a server error code. The `text` attribute and optional `xml:lang` attribute allow for a text description of the status returned in a response. Suppliers should put the XML parsing or application error in the body of the `Status` element.

StartPage URL Element

The `PunchOutSetupResponse` document contains a `URL` element that specifies the start page URL to pass to the user's browser for the interactive browser session.

Example PunchOutSetupResponse Document

The following is a sample PunchOutSetupResponse document.

```
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="958074700772@www.workchairs.com" timestamp="2005-06-14T12:59:09-07:00">
   <Response>
      <Status code="200" text="success"/>
      <PunchOutSetupResponse>
         <StartPage>
            <URL>https://punchout.workchairs.com/Servlet/sessionid=7006</URL>
         </StartPage>
      </PunchOutSetupResponse>
   </Response>
</cXML>
```

PunchOutOrderMessage Document

The PunchOutOrderMessage document sends the contents of the PunchOut site's shopping basket to the procurement application user's requisition. It provides product details and prices to procurement applications. Suppliers can also send supplier cookies to associate items with a specific shopping session.

It provides a quote for the requested items—but suppliers have not yet received a purchase order, so the order cannot yet be booked.

This section discusses:

- operationAllowed Attribute
- cxml-base64 and cxml-urlencoded
- BuyerCookie Element
- Total Element
- ItemIn Element
- ItemID Element
- ItemDetail Element
- Example PunchOutOrderMessage Document

operationAllowed Attribute

This attribute controls whether procurement applications can initiate a later PunchOut session containing data from this PunchOutOrderMessage document. This attribute can be assigned a value of create, inspect, or edit.

If operationAllowed="create", procurement applications can generate only an OrderRequest document. Otherwise, the procurement application can inspect or edit the shopping cart, initiating subsequent PunchOutSetupRequest documents with the appropriate operations and the ItemOut elements corresponding to the ItemIn list returned in a PunchOutOrderMessage document. Support for edit implies support for inspect.

cxml-base64 and cxml-urlencoded

This attribute to the HTML `input` element identifies the hidden form field that stores the cXML `PunchOutOrderMessage` document. The supplier must encode the `PunchOutOrderMessage` document using either base64 or URL encoding and indicate which encoding is used in the form field `name` attribute. For example:

```
<input type="hidden" name="cxml-base64" value=
"Entire text of base64-encoded cXML PunchOutOrderMessage document">
```

or

```
<input type="hidden" name=" cxml-urlencoded" value=
"Entire text of URL-encoded cXML PunchOutOrderMessage document">
```

Suppliers can use`cxml-urlencoded` in cXML 1.1 and later.

BuyerCookie Element

This element is used by procurement applications to associate a given `PunchOutOrderMessage` with its originating `PunchOutSetupRequest`. PunchOut sites must return this element whenever it appears. The `PunchOutOrderMessage` document must contain the same `BuyerCookie` that was used in the `PunchOutSetupRequest` document for this PunchOut session.

Do not use the `BuyerCookie` to track PunchOut sessions, because it changes for every session, from create, to inspect, to edit.

Example:

```
<BuyerCookie>1TF5JRP11S3W9</BuyerCookie>
```

Ariba Buyer discards it after it is used.

Note: The `BuyerCookie` value might expire while the user is navigating your site. Suppliers might want to support re-creation of a specific user’s last shopping cart. If provided, this must be an option and for only that user.

Total Element

This element contains the total value for order: quantity * price without shipping and tax.

Example:

```
<Total>
  <Money currency="USD">100.23</Money>
</Total>
```

For more information about the `Money` element, see “Money Element” on page 18.

ItemIn Element

This element passes PunchOut item details back to the requisition. The following example shows a single line item passed back:

```
<ItemIn quantity="1">
   <ItemID>
      <SupplierPartID>1234</SupplierPartID>
      <SupplierPartAuxiliaryID>ARB-65-1</SupplierPartAuxiliaryID>
   </ItemID>
   <ItemDetail>
      <UnitPrice>
         <Money currency="USD">2.10</Money>
      </UnitPrice>
      <Description xml:lang="en">3M POST-IT Cube, printed logo in 2 colors on
         side. 1 3/8 x 2 3/4 post-it cube of white paper. Approximately 345
         sheets. (Refill)</Description>
      <UnitOfMeasure>EA</UnitOfMeasure>
      <Classification domain="UNSPSC">14111514</Classification>
   </ItemDetail>
</ItemIn>
```

For complete information on catalog items (`ItemID`, `UnitPrice`, `Description`, `UnitOfMeasure`, and `Classification`), see the *Ariba Catalog Format Reference*.

ItemID Element

This element contains `SupplierPartID` and `SupplierPartAuxiliaryID`.

Suppliers can use the `SupplierPartAuxiliaryID` element as a supplier cookie to transport complex configuration and bill-of-goods information to identify the item when presented in the future. If `SupplierPartAuxiliaryID` contains special characters, such as additional XML elements not defined in the cXML protocol, they must be escaped properly.

Buying organizations do not display the `SupplierPartAuxiliaryID` element; instead they pass it back in `OrderRequest` documents for use by suppliers.

Example:

```
<ItemID>
   <SupplierPartID>1234</SupplierPartID>
   <SupplierPartAuxiliaryID>ARB-65-1</SupplierPartAuxiliaryID>
</ItemID>
```

Note: Procurement applications use `SupplierPartAuxiliaryID` as part of the unique identifier for items, so PunchOut sites should not change this value during `edit` or `inspect` PunchOut sessions.

ItemDetail Element

This element contains detailed properties of a line item, such as unit price, description and UOM (Unit Of Measure).

Example:

```
<ItemDetail>
   <UnitPrice>
      <Money currency="USD">0.10</Money>
   </UnitPrice>
   <Description xml:lang="en">ACME Push Pins; Clear; Box Of 20</Description>
   <UnitOfMeasure>EA</UnitOfMeasure>
   <Classification domain="UNSPSC">4412210601</Classification>
   <ManufacturerPartID>ISBN-23455634</ManufacturerPartID>
   <ManufacturerName>Acme Manufacturing USA, Inc.</ManufacturerName>
   <LeadTime>4</LeadTime>
</ItemDetail>
```

UnitPrice Element

This element contains the unit price of the item.

`UnitPrice` is required by the `PunchOutOrderMessage` for further processing by procurement applications. The user should be able to “edit” a requisition even if `UnitPrice` is not passed back.

Description Element

This element contains the item description.

UnitOfMeasure Element

This element contains the item Unit of Measure code as defined by the United Nations UOM standard. For more information, see Appendix A, “Recommended Coding Systems.”

Classification Element

This element contains the UNSPSC commodity code. Ariba Buyer 8.0 and later and Procure-to-Pay recognize an optional UNSPSC version number. For more information, see Appendix A, “Recommended Coding Systems.”

Examples:

```
<Classification domain="UNSPSC">4412210601</Classification>

<Classification domain="UNSPSC_V7.1">4412210601</Classification>
```

LeadTime Element

Ariba Buyer 8.2 (cXML 1.2.011) and later and Procure-to-Pay can interpret a `LeadTime` element in the `ItemDetail` element. PunchOut sites can include `LeadTime` to indicate how many business days it will take from receiving the purchase order to product delivery.

Example PunchOutOrderMessage Document

The following is an example `PunchOutOrderMessage` document, which is hidden inside a `cxml-urlencoded` form field.

```
<input type="hidden" name="cxml-urlencoded" value=
"<!DOCTYPE cXML SYSTEM &#34;http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd&#34;>
<cXML payloadID=&#34;958074737352&amp;www.workchairs.com&#34;
 timestamp=&#34;2004-06-14T12:59:09-07:00&#34;>
   <Header>
      <From>
         <Credential domain=&#34;DUNS&#34;>
            <Identity>12345678</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain=&#34;NetworkID&#34;>
            <Identity>AN01000002792</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain=&#34;www.workchairs.com&#34;>
            <Identity>PunchoutResponse</Identity>
         </Credential>
         <UserAgent>Our PunchOut Site V4.2</UserAgent>
      </Sender>
   </Header>
   <Message>
      <PunchOutOrderMessage>
         <BuyerCookie>1J3YVWU9QWMTB</BuyerCookie>
         <PunchOutOrderMessageHeader operationAllowed=&#34;edit&#34;>
            <Total>
               <Money currency=&#34;USD&#34;>14.27</Money>
            </Total>
        </PunchOutOrderMessageHeader>
        <ItemIn quantity=&#34;2&#34;>
            <ItemID>
                <SupplierPartID>3171 04 20</SupplierPartID>
                <SupplierPartAuxiliaryID>ContractId=1751 ItemId=417714
                </SupplierPartAuxiliaryID>
            </ItemID>
            <ItemDetail>
                <UnitPrice>
                  <Money currency=&#34;USD&#34;>1.22</Money>
               </UnitPrice>
               <Description xml:lang=&#34;en&#34;>ADAPTER; TUBE; 5/32&#34;; MALE; #10-32 UNF;
FITTING</Description>
               <UnitOfMeasure>EA</UnitOfMeasure>
               <Classification domain=&#34;UNSPSC&#34;>21101510</Classification>
               <ManufacturerName>Dogwood</ManufacturerName>
            </ItemDetail>
         </ItemIn>
         <ItemIn quantity=&#34;1&#34;>
            <ItemID>
               <SupplierPartID>3801 04 20</SupplierPartID>
               <SupplierPartAuxiliaryID>
                  ContractId=1751 ItemId=417769
               </SupplierPartAuxiliaryID>
            </ItemID>
            <ItemDetail>
               <UnitPrice>
                  <Money currency=&#34;USD&#34;>11.83</Money>
               </UnitPrice>
```

```
                <Description xml:lang=&#34;en&#34;>ADAPTER; TUBE; 5/32&#34;; 2 PER PACK; MALE
#10-32 UNF; STAINLESS STEEL; FITTING</Description>
                <UnitOfMeasure>EA</UnitOfMeasure>
                <Classification domain=&#34;UNSPSC&#34;>21101510</Classification>
                <ManufacturerName>Legris</ManufacturerName>
                <LeadTime>2</LeadTime>
            </ItemDetail>
            <SupplierID domain=&#34;DUNS&#34;>022878979</SupplierID>
         </ItemIn>
      </PunchOutOrderMessage>
   </Message>
</cXML>
">
```

Below is the same example, but base64 encoded. Suppliers should use base64 encoding if there are any non-US-ASCII characters in the PunchOutOrderMessage document.

```
<input type="hidden" name="cxml-base64" value=
"PCFET0NUWVBFIGNYTUwgU1lTVEVNICJodHRwOi8veG1sLmN4bWwub3JnL3NjaGVtYXMvY1hNTC8xLjIuMDExL2NYTUwuZHRk
Ij4NCjxjWE1MIHBheWxvYWRJRD0iOTU4MDc0NzM3MzUyQHd3dy53b3JrY2hhaXJzLmNvbSINCiB0aW1lc3RhbXA9IjIwMDQtM
DYtMTRUMTI6NTk6MDktMDc6MDAiPg0KICAgPEhlYWRlcj4NCiAgICAgIDxGcm9tPg0KICAgICAgICAgPENyZWRlbnRpYWwgZG
9tYWluPSJEVU5TIj4NCiAgICAgICAgICAgIDxJZGVudGl0eT4xMjM0NTY3ODwvSWRlbnRpdHk+DQogICAgICAgICA8L0NyZWR
lbnRpYWw+DQogICAgICA8L0Zyb20+DQogICAgICA8VG8+DQogICAgICAgICA8Q3JlZGVudGlhbCBkb21haW49Ik5ldHdvcmtJ
ZCI+DQogICAgICAgICAgICA8SWRlbnRpdHk+QU4wMTAwMDAwMjc5MjwvSWRlbnRpdHk+DQogICAgICAgICA8L0NyZWRlbnRpY
Ww+DQogICAgICA8L1RvPg0KICAgICAgPFNlbmRlcj4NCiAgICAgICAgIDxDcmVkZW50aWFsIGRvbWFpbj0id3d3LndvcmtjaG
FpcnMuY29tIj4NCiAgICAgICAgICAgIDxJZGVudGl0eT5QdW5jaG91dFJlc3BvbnNlPC9JZGVudGl0eT4NCiAgICAgICAgIDw
vQ3JlZGVudGlhbD4NCiAgICAgICAgIDxVc2VyQWdlbnQ+T3VyIFB1bmNoT3V0IFNpdGUgVjQuMjwvVXNlckFnZW50Pg0KICAg
ICAgPC9TZW5kZXI+DQogICA8L0hlYWRlcj4NCiAgIDxNZXNzYWdlPg0KICAgICAgPFB1bmNoT3V0T3JkZXJNZXNzYWdlPg0KI
CAgICAgICAgPEJ1eWVyQ29va2llPjFKM1lWV1U5UVdNVEI8L0J1eWVyQ29va2llPg0KICAgICAgICAgPFB1bmNoT3V0T3JkZX
JNZXNzYWdlSGVhZGVyIG9wZXJhdGlvbkFsbG93ZWQ9ImVkaXQiPg0KICAgICAgICAgICAgPFRvdGFsPg0KICAgICAgICAgICA
gICAgPE1vbmV5IGN1cnJlbmN5PSJVU0QiPjE0LjI3PC9Nb25leT4NCiAgICAgICAgICAgIDwvVG90YWw+DQogICAgICAgIDwv
UHVuY2hPdXRPcmRlck1lc3NhZ2VIZWFkZXI+DQogICAgICAgIDxJdGVtSW4gcXVhbnRpdHk9IjIiPg0KICAgICAgICAgICAgP
El0ZW1JRD4NCiAgICAgICAgICAgICAgICA8U3VwcGxpZXJQYXJ0SUQ+MzE3MSAwNCAyMDwvU3VwcGxpZXJQYXJ0SUQ+DQogIC
AgICAgICAgICAgICAgPFN1cHBsaWVyUGFydEF1eGlsaWFyeUlEPkNvbnRyYWN0SWQ9MTc1MSBJdGVtSWQ9NDE3NzE0DQogICA
gICAgICAgICAgPC9TdXBwbGllclBhcnRBdXhpbGlhcnlJRD4NCiAgICAgICAgICAgIDwvSXRlbUlEPg0KICAgICAgICAgICAg
ICAgPEl0ZW1EZXRhaWw+DQogICAgICAgICAgICAgICAgPFVuaXRQcmljZT4NCiAgICAgICAgICAgICAgICAgIDxNb25leSBjd
XJyZW5jeT0iVVNEIj4xLjIyPC9Nb25leT4NCiAgICAgICAgICAgICAgIDwvVW5pdFByaWNlPg0KICAgICAgICAgICAgICAgPE
Rlc2NyaXB0aW9uIHhtbDpsYW5nPSJlbiI+QURBUFRFUjsgVFVCRTsgNS8zMiI7IE1BTEU7ICMxMC0zMiBVTkY7IEZJVFRJTkc
8L0Rlc2NyaXB0aW9uPg0KICAgICAgICAgICAgICAgPFVuaXRPZk1lYXN1cmU+RUE8L1VuaXRPZk1lYXN1cmU+DQogICAgICAg
ICAgICAgICA8Q2xhc3NpZmljYXRpb24gZG9tYWluPSJVTlNQU0MiPjIxMTAxNTEwPC9DbGFzc2lmaWNhdGlvbj4NCiAgICAgI
CAgICAgICAgIDxNYW51ZmFjdHVyZXJOYW1lPkRvZ3dvb2Q8L01hbnVmYWN0dXJlck5hbWU+DQogICAgICAgICAgICA8L0l0ZW
1EZXRhaWw+DQogICAgICAgICA8L0l0ZW1Jbj4NCiAgICAgICAgIDxJdGVtSW4gcXVhbnRpdHk9IjEiPg0KICAgICAgICAgICA
gPEl0ZW1JRD4NCiAgICAgICAgICAgICAgIDxTdXBwbGllclBhcnRJRD4zODAxIDA0IDIwPC9TdXBwbGllclBhcnRJRD4NCiAg
ICAgICAgICAgICAgIDxTdXBwbGllclBhcnRBdXhpbGlhcnlJRD4NCiAgICAgICAgICAgICAgICAgIENvbnRyYWN0SWQ9MTc1M
SBJdGVtSWQ9NDE3NzY5DQogICAgICAgICAgICAgICA8L1N1cHBsaWVyUGFydEF1eGlsaWFyeUlEPg0KICAgICAgICAgICAgPC
9JdGVtSUQ+DQogICAgICAgICAgICA8SXRlbURldGFpbD4NCiAgICAgICAgICAgICAgIDxVbml0UHJpY2U+DQogICAgICAgICA
gICAgICAgICA8TW9uZXkgY3VycmVuY3k9IlVTRCI+MTEuODM8L01vbmV5Pg0KICAgICAgICAgICAgICAgPC9Vbml0UHJpY2U+
DQogICAgICAgICAgICAgICA8RGVzY3JpcHRpb24geG1sOmxhbmc9ImVuIj5BREFQVEVSOyBUVUJFOyA1LzMyIjsgMiBQRVIgU
EFDSzsgTUFMRSAjMTAtMzIgVU5GOyBTVEFJTkxFU1MgU1RFRUw7IEZJVFRJTkc8L0Rlc2NyaXB0aW9uPg0KICAgICAgICAgIC
AgICAgPFVuaXRPZk1lYXN1cmU+RUE8L1VuaXRPZk1lYXN1cmU+DQogICAgICAgICAgICAgICA8Q2xhc3NpZmljYXRpb24gZG9
tYWluPSJVTlNQU0MiPjIxMTAxNTEwPC9DbGFzc2lmaWNhdGlvbj4NCiAgICAgICAgICAgICAgIDxNYW51ZmFjdHVyZXJOYW1l
PkxlZ3JpczwvTWFudWZhY3R1cmVyTmFtZT4NCiAgICAgICAgICAgICAgIDxMZWFkVGltZT4yPC9MZWFkVGltZT4NCiAgICAgI
CAgICAgIDwvSXRlbURldGFpbD4NCiAgICAgICAgICAgIDxTdXBwbGllcklEIGRvbWFpbj0iRFVOUyI+MDIyODc4OTc5PC9TdX
BwbGllcklEPg0KICAgICAgICAgPC9JdGVtSW4+DQogICAgICA8L1B1bmNoT3V0T3JkZXJNZXNzYWdlPg0KICAgPC9NZXNzYWd
lPg0KPC9jWE1MPg=”>
```

PunchOut URL

Ariba Network receives PunchOut requests from buyers and routes them to suppliers' PunchOut sites.

There are three methods suppliers can use to specify the URLs of their PunchOut sites. In order of preference, they are:

- URL Specified on the Supplier's PunchOut Site
- URL Specified on Ariba Network
- URL Specified in the Supplier's Index Catalog (Deprecated)

URL Specified on the Supplier's PunchOut Site

All cXML 1.1 (and later) PunchOut sites should specify their PunchOut URL through the cXML Profile transaction.

Suppliers specify their ProfileRequest URL in the **Configuration** area of their Ariba Network accounts and Ariba Network periodically sends `ProfileRequest` documents to query these sites. The sites respond with a `ProfileResponse` document listing URLs for all the cXML requests they support, including the URL for PunchOut requests. Ariba Network forwards `PunchOutSetupRequest` documents to that URL. This method is recommended, because suppliers can change their URLs without having to log in to Ariba Network. For more information about cXML profiles, see Chapter 4, "Profile Transaction."

If suppliers do not specify a profile URL on Ariba Network, it uses the method described below (URL Specified on Ariba Network) to determine their PunchOut URLs.

URL Specified on Ariba Network

If suppliers do not support the cXML Profile transaction, Ariba Network checks whether they have entered a URL in their account. Suppliers can specify the URL of their PunchOut site in the **Configuration** area of their Ariba Network accounts.

If no URL is available from either the supplier's cXML profile or the supplier's Ariba Network account, the PunchOut request fails.

URL Specified in the Supplier's Index Catalog (Deprecated)

This method for specifying a PunchOut URL is no longer supported. PunchOut index catalogs must continue to specify this URL, but Ariba Network does not use it as the `PunchOutSetupRequest` destination.

This URL is generated from the `storeFrontURL` or the `PunchoutDetail URL`, depending on where the requsitioner is when they punch out. In either case, this value appears in the `PunchOutSetupRequest`.

Previous releases of Ariba Network forwarded cXML `PunchOutSetupRequest` documents to the URL contained in those documents. For improved security, Ariba Network now ignores these URLs. Ariba Network now forwards `PunchOutSetupRequest` documents to the URL specified in the receiving organization's cXML Profile or in its Ariba Network account.

The URL from the index catalog appears in the `SupplierSetup` element for the `PunchOutSetupRequest` document. The following example shows both cXML and CIF index catalogs and the resulting `PunchOutSetupRequest`:

cXML index catalog:

```
<PunchoutDetail>
   <Description xml:lang="en-US">Desk Chairs</Description>
   <URL>https://www.workchairs.com/punchout.asp</URL>
   <Classification domain="UNSPSC">5136030000</Classification>
</PunchoutDetail>
```

CIF index catalog:

```
CIF_I_V3.0
CODEFORMAT: UNSPSC
COMMENTS: This is an example of a PunchOut catalog item
FIELDNAMES: Supplier ID, Supplier Part ID, Manufacturer Part ID, Item Description, SPSC Code, Unit
Price, Unit of Measure, Lead Time, Manufacturer Name, Supplier URL, Manufacturer URL, Market Price,
PunchOut Enabled
CURRENCY: USD
DATA
762311901,A2C-311F,C-311F,"Desk Chairs",11116767,,,,,https://www.workchairs.com/punchout.asp,,,t
ENDOFDATA
```

Resulting `PunchOutSetupRequest` segment:

```
<SupplierSetup>
   <URL>https://www.workchairs.com/punchout.asp</URL>
</SupplierSetup>
```

URL vs. SelectedItem Elements

Depending on the cXML version used by PunchOut sites, the `PunchOutSetupRequest` might also contain a `SelectedItem` element specifying the item the user is punching out for:

- Ariba Buyer 6.1 and earlier (cXML 1.0) does not use `SelectedItem`. So, URLs from PunchOut index catalogs are the only ways to specify items to punch out for.
- Ariba Buyer 7 and later and Procure-to-Pay (cXML 1.1 and later) use `SelectedItem` to specify items to punch out for. `SelectedItem` uses Supplier Part ID and Supplier Part Auxiliary ID to identify the item. PunchOut sites can ignore the URL in the `PunchOutSetupRequest`, so suppliers can use made-up URLs in their index catalogs.

Level 2 PunchOut

Buying organizations want improved catalog searching capability and quality when using the search interface in Ariba Buyer and Ariba Procure-to-Pay to find PunchOut catalog items. They want the best results when searching local CIF catalogs as well as supplier-managed PunchOut catalogs.

Level 2 PunchOut enables buying organizations to search for and find PunchOut items within their procurement application, instead of having to search each suppliers' site directly.

Level 2 makes suppliers' products more accessible to buying organizations, increases the visibility of suppliers' products, and increases visits to suppliers' PunchOut sites. It is supported in Ariba Buyer and Ariba Procure-to-Pay.

Note: If your customers use Ariba Procure-to-Pay, use the `punchoutLevel` attribute in your index catalogs to indicate where to place your items in the procurement application catalog. For more information, see "punchoutLevel Attribute" on page 78.

For details on the different levels of PunchOut items (for example, store, aisle, shelf, and product), see "punchoutLevel Attribute" on page 78 and the section on the `punchoutLevel` attribute in Chapter 2 of the *Ariba Catalog Format Reference*.

User Experience

To understand the benefits of Level 2 PunchOut, you need to know how buying organizations find products.

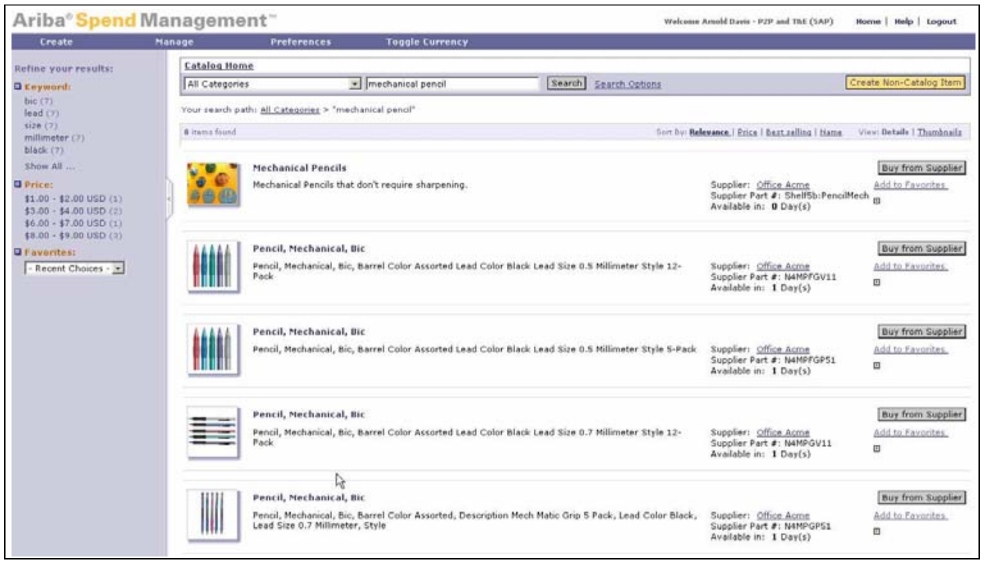
- **Item display and search**

  With Level 2 PunchOut, users learn the semantics of the basic search mechanism in their procurement application, instead of having to learn the best means to search in each supplier's PunchOut site.

  If the buying organization uses an Ariba procurement application, suppliers can optionally include hierarchical attributes to specify how to display the PunchOut item in the procurement system catalog. The `punchoutLevel` attributes `store`, `aisle`, `shelf`, or `product` cause the item to be displayed differently in the catalog. For example, the attributes `aisle` and `shelf` point to groups of related items. These items display at the top of categories, above products. If the supplier does not specify a `punchoutLevel` attribute, procurement applications consider the item to be a store-level item.

Users can find the PunchOut items using a keyword or supplier search. The following keywords are searchable:

- `Item Description`
- `Short Name`
- `Supplier Name`
- `Buyer Part ID`
- `Supplier Part ID`
- `Manufacturer Part ID`



All Categories | mechanical pencil

Your search path: All Categories > "mechanical pencil"

8 items found

Mechanical Pencils
Mechanical Pencils that don't require sharpening.
Supplier: Office Acme
Supplier Part #: Shelf5b:PencilMech
Available in: 0 Day(s)

Pencil, Mechanical, Bic
Pencil, Mechanical, Bic, Barrel Color Assorted Lead Color Black Lead Size 0.5 Millimeter Style 12-Pack
Supplier: Office Acme
Supplier Part #: N4MPFGV11
Available in: 1 Day(s)

Pencil, Mechanical, Bic
Pencil, Mechanical, Bic, Barrel Color Assorted Lead Color Black Lead Size 0.5 Millimeter Style 5-Pack
Supplier: Office Acme
Supplier Part #: N4MPFGP51
Available in: 1 Day(s)

Pencil, Mechanical, Bic
Pencil, Mechanical, Bic, Barrel Color Assorted Lead Color Black Lead Size 0.7 Millimeter Style 12-Pack
Supplier: Office Acme
Supplier Part #: N4MPGV11
Available in: 1 Day(s)

Pencil, Mechanical, Bic
Pencil, Mechanical, Bic, Barrel Color Assorted, Description Mech Matic Grip 5 Pack, Lead Color Black, Lead Size 0.7 Millimeter, Style
Supplier: Office Acme
Supplier Part #: N4MPGP51
Available in: 1 Day(s)

- **Level 2 PunchOut Mechanism**

  Once an item has been found, the user accesses the supplier's PunchOut site to get more detailed product information, current pricing, and to configure products. The user must be presented with the option (a one-click button) to add the viewed item to the requisition and immediately be returned to the Ariba application. Suppliers should also add a **Browse** button to allow users to shop for additional items at the supplier's site.

  The following example shows a typical user experience:

  1. A user creates a requisition and searches for products. The procurement system displays all matching content.
  2. The user chooses one of the supplier's products and clicks **Buy from Supplier**.
  3. The supplier's PunchOut site displays more product details and current pricing for the specific item.
  4. The user enters the quantity on the supplier's PunchOut site and clicks either **Add to Requisition and Return to Ariba** or **Browse** to continue shopping on the PunchOut site.

     Depending on the user's choice, the PunchOut site either immediately returns the user and the selected item to the requisition in the Ariba application, or the user continues browsing the site.

Level 2 PunchOut Format

These are the field requirements for a static catalog, a store-level PunchOut index catalog, and a Level 2 PunchOut index catalog.

The following fields should be provided, but only the indicated fields are required. See the *Ariba Catalog Format Reference* for additional information.

	Field Name	CIF	Store Level	Level 2	Field Requirements
1	`Supplier ID`	X	X	X	String: 255 chars
2	`Supplier Part ID`	X	X	X	String: 255 chars
3	`Manufacturer Part ID`				String: 255 chars
4	`Item Description`	X	X	X	String: 1000 chars
5	`SPSC Code`	X	X	X	String: 40 chars
6	`Unit Price`	X			Decimal
7	`Units of Measure`	X			String: 32 chars
8	`Lead Time`				Integer
9	`Manufacturer Name`				String: 255 chars
10	`Supplier URL`		X	X	String: 255 chars
11	`Manufacturer URL`				String: 255 chars
12	`Market Price`				Decimal
13	`Short Name`				String: 50 chars
14	`Image`				String: 255 chars
15	`Thumbnail`				String: 255 chars
16	`PunchOut Enabled`		X	X	Boolean: TRUE, FALSE
17	`PunchOutLevel`			X	`store`, `aisle`, `shelf`, or `product`
18	`Supplier Part Auxiliary ID`				String: 255 chars
19	`Parametric Name`				String: 255 chars
20	`Parametric Data`				String: 255 chars

Level 2 PunchOut Requirements

CIF and cXML Index Content Requirements

Required Fields

- `PunchOutLevel` attribute (store-, aisle-, shelf-, or product-level items)
- Unique Supplier Part ID/Supplier Part Auxiliary ID combination (key identifier for the selected index item; values are included in the `PunchOutSetupRequest` document)
- Rich Item Description (searchable product name, product attributes, and so on; for store-, aisle-, and shelf-level items, only the first 50 characters are displayed)
- UNSPSC code (use detailed levels for shelf- and product-level items)
- Supplier URL (required for compatibility with Ariba Buyer 8.x; a dummy URL is sufficient)

Additional information that is also recommended:

- Manufacturer and Manufacturer Part ID
- Parametric data (as applicable)

Optional Fields

- `Short Name` (if you use this field, then `Item Description` is not displayed except for product-level items)
- `Image` link (image is displayed as a thumbnail only for product-level items)
- `Unit Price` or `Market Price` provides an estimated price only for product-level items (cannot be used for other item levels)

Level 2 PunchOut Site Requirements

Minimum Requirements

- Direct access to the item or shelf specified in the Index catalog
- Immediate one-click **Return to Ariba** button to post the items from the supplier site to the Ariba application
- Support for PunchOut edit to allow the user to return to the shopping session and modify an item quantity, remove an item, or add an item
- Support for PunchOut inspect so that requisitioners and approvers can view the shopping cart but will not have the ability to modify the items in the cart
- Option to continue shopping in PunchOut site, rather than return immediately with item selected

For Shelf Level—additional refinement should not be required to select an item after the associate reaches the site. The site should present a short list of items immediately.

Other Requirements

- You must be able to provide timely updates for the PunchOut index as changes occur (updates mostly depend upon frequency of changes in index; once a quarter is best practice).
- Optionally, you can upload an updated PunchOut index to Ariba Network programmatically, using the CatalogUploadRequest transaction (see "CatalogUploadRequest Element" on page 204 for more details). This is a good way to reduce workload.
- You must be able to support orders from multiple PunchOut sessions to the site. (The supplier cookie stored in the `SupplierPartAuxiliaryID` method traditionally used to match PunchOut sessions to orders is more difficult to support with Level 2 PunchOut than site-level PunchOut).

Example Index Catalogs

You can specify Level 2 PunchOut items in CIF or cXML index catalogs. However, for the smallest file, create the index catalog in cXML format instead of CIF. The first index catalog example below shows store-level PunchOut with one PunchOut item. The second index catalog example shows Level 2 PunchOut, with expanded product descriptions.

Store-Level PunchOut Index Catalog

```
CIF_I_V3.0
LOADMODE: F
CODEFORMAT: UNSPSC_V13.5
COMMENTS: Store-Level PunchOut
SUPPLIERID_DOMAIN: NETWORK_ID
ITEMCOUNT: 1
TIMESTAMP: 2006-02-18 00:00:00
FIELDNAMES: Supplier ID, Supplier Part ID, Manufacturer Part ID, Item Description, SPSC Code, Unit
Price, Unit of Measure, Lead Time, Manufacturer Name, Supplier URL, Manufacturer URL, Market Price,
PunchOut Enabled
DATA
AN100000123,A2C,C-311F,"ACME Garden Supply",27112000,,,,,,,,t
ENDOFDATA
```

Level 2 PunchOut Index Catalog

```
CIF_I_V3.0
LOADMODE: F
CODEFORMAT: UNSPSC_V13.5
COMMENTS: Level 2 PunchOut
SUPPLIERID_DOMAIN: NETWORK_ID
ITEMCOUNT: 198
TIMESTAMP: 2006-02-18 00:00:00
FIELDNAMES: Supplier ID, Supplier Part ID, Manufacturer Part ID, Item Description, SPSC Code, Unit
Price, Unit of Measure, Lead Time, Manufacturer Name, Supplier URL, Manufacturer URL, Market Price,
PunchOut Enabled, PunchoutLevel, Image
DATA
AN100000123,A2C,C-311F,"Lawn Maid 4 HP side discharge lawnmower. Briggs and Stratton 4.0 hp engine
delivers the power for any property. Side Discharge model with a 22"" Quick Mulch Deck. 6"" rear
wheels for easy mowing. For flat
terrain.",27112014,,,,,,,,t,product,https://www.acme.com/images/A2C.jpg
AN100000123,A3C,C-312F,"Lawn Maid 6 HP self-propelled side discharge lawnmower. Briggs and
Stratton 6.0 hp engine delivers the power for any lawn. Side Discharge model with a 24"" Quick
Mulch Deck. 6"" rear wheels for easy
mowing.",27112014,,,,,,,,t,product,https://www.acme.com/images/A3C.jpg
AN100000123,A4C,C-316F,"Lawn Maid Post Hole Digger. Drills down to 4 feet.
Chromemolly",27112013,,,,,,,,t,product,https://www.lawnsRUs.com/images/A4C.jpg
AN100000123,X7H,52429,"Precision Touch 12-amp Electric Blower. 2-speed blower offers the
lightweight airpower you need to blow away debris. Double
insulated.",27112701,,,,,,,,t,product,https://www.acme.com/images/X7H.jpg
.
.
.
ENDOFDATA
```

The Level 2 PunchOut index catalog provides much more content. It lists each PunchOut item and the descriptions contain enough data so that users can find specific products. The more complete your descriptions, the more likely users will find your items when they search.

Each index item also gives requisitioners enough information to decide whether to punch out to view your product page. For example, it lists a catalog image file, which displays a picture of the product in Ariba Buyer 8.2.2 or later and Procure-to-Pay. It also uses the `punchoutLevel` attribute to indicate that the item is a product-level PunchOut item in Procure-to-Pay.

Resulting PunchOutSetupRequest

If a user selects the first item from the Level 2 PunchOut index catalog above, you would receive the following PunchOutSetupRequest document:

```
<?xml version="1.0"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="958075346970@www.bigbuyer.com" timestamp="2006-03-19T12:57:09-07:00">
  <Header>
    <From>
      <Credential domain="NetworkID">
        <Identity>AN000002792</Identity>
      </Credential>
    </From>
    <To>
      <Credential domain="NetworkID">
        <Identity>AN100000123</Identity>
      </Credential>
    </To>
    <Sender>
      <Credential domain="AribaNetworkUserId">
        <Identity>sysadmin@ariba.com/Identity>
        <SharedSecret>abracadabra</SharedSecret>
      </Credential>
      <UserAgent>Ariba Buyer 8.2.2</UserAgent>
    </Sender>
  </Header>
  <Request>
    <PunchOutSetupRequest operation="create">
      <BuyerCookie>1J3YVWU9QWMTB</BuyerCookie>
      <Extrinsic name="CostCenter">610</Extrinsic>
      <Extrinsic name="User">jpicard</Extrinsic>
      <BrowserFormPost>
        <URL>http://bigbuyer.com:3377/punchout</URL>
      </BrowserFormPost>
      <SupplierSetup>
        <URL></URL>
      </SupplierSetup>
      <ShipTo>
        <Address addressID="001">
          <Name xml:lang="en">BigBuyer Headquarters</Name>
          <PostalAddress>
            <DeliverTo>Jean Picard</DeliverTo>
            <Street>1565 Pine, MS A.2</Street>
            <City>New York</City>
            <State>NY</State>
            <PostalCode>01043</PostalCode>
            <Country isoCountryCode="US">United States</Country>
          </PostalAddress>
        </Address>
      </ShipTo>
      <Contact>
        <Name>jpicard</Name>
      </Contact>
      <SelectedItem>
        <ItemID>
          <SupplierPartID>A2C</SupplierPartID>
        </ItemID>
      </SelectedItem>
    </PunchOutSetupRequest>
  </Request>
</cXML>
```

Your PunchOut site uses the SupplierPartID element to determine which product to display. If you need to differentiate variations of a product for size, color, or language, use the SupplierPartAuxiliaryID field in your index catalog; procurement systems copy it to the SelectedItem element.

Level 2 PunchOut Index Catalog

The following example is an item-level PunchOut index catalog:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE Index SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.012/cXML.dtd">
<Index>
  <SupplierID domain="duns">611429481</SupplierID>
  <Comments xml:lang="en-US">
    Sample cXML/Index
  </Comments>
  <IndexItem>
    <IndexItemPunchout>
      <ItemID>
        <SupplierPartID>1-57231-805-8</SupplierPartID>
      </ItemID>
      <PunchoutDetail punchoutLevel="product">
        <Description xml:lang="en-US">Whiteboard markers, one dozen</Description>
        <URL>http://www.whitebd.com/cXML/PunchoutSetup/Punchoutshop.asp</URL>
        <Classification domain="UNSPSC">55101524</Classification>
      </PunchoutDetail>
    </IndexItemPunchout>
  </IndexItem>
  <IndexItem>
    <IndexItemPunchout>
      <ItemID>
        <SupplierPartID>VTS-4976-200</SupplierPartID>
      </ItemID>
      <PunchoutDetail punchoutLevel="product">
        <Description xml:lang="en-US">Whiteboard Eraser, felt</Description>
        <URL>http://www.whitebd.com/cXML/PunchoutSetup/Punchoutshop.asp</URL>
        <Classification domain="UNSPSC">43232005</Classification>
      </PunchoutDetail>
    </IndexItemPunchout>
  </IndexItem>
  <IndexItem>
    <IndexItemPunchout>
      <ItemID>
        <SupplierPartID>GS3600</SupplierPartID>
      </ItemID>
      <PunchoutDetail punchoutLevel="product">
        <Description xml:lang="en-US">Whiteboard Cleaner, non-toxic</Description>
        <URL>http://www.whitebd.com/cXML/PunchoutSetup/Punchoutshop.asp</URL>
        <Classification domain="UNSPSC">52161512</Classification>
      </PunchoutDetail>
    </IndexItemPunchout>
  </IndexItem>
</Index>
```

Shelf-Level PunchOut

Shelf-level PunchOut is a way of offering similar products through one PunchOut index item. Consider using this type of PunchOut if you have similar products from multiple manufacturers or a single product available in multiple configurations. You create a product-selector page on your PunchOut site that enables requisitioners to choose a specific configuration or SKU.

For example, you might offer lawnmowers from several manufacturers:

Lawn Maid 4-HP gas 20-inch deck self-powered lawnmower, side discharge
Lawn Maid 6-HP gas 25-inch deck self-powered lawnmower, side discharge
Precision Touch 4-HP gas 12-inch deck lawnmower, side discharge
Precision Touch 5-HP gas 15-inch deck lawnmower, rear discharge

The product-selector page on your PunchOut site could display these models with links to datasheets. You would add the following item to your PunchOut index catalog so requisitioners could find this product category and punch out to your product-selector page:

```
AN100000123,lawnmowers,XXX,"Powerful and Efficient Gas
Lawnmowers",27112014,,,,,,,,t,https://www.acme.com/images/lawnmower.jpg,shelf
```

When users punch out to your product-selector page, they do not have to perform a search to find the specific product or configuration. Instead, your page displays all available products of that type.

Use shelf-level PunchOut for specific products, not for groups of related products. For example:

Example Supplier	Specific Products	Groups of Products
Computer Store	**Computer Mice**	Computer Peripherals
Hardware Store	**Handsaws**	Tools
Grocery Store	**Cereals**	Breakfast Foods

Uploading Index Catalogs

Level 2 PunchOut requires you to upload your index catalogs to Ariba Network more often than for store-level PunchOut to ensure that your customers have your latest product offerings. Depending on the volatility of your offerings, you might want to update your catalogs monthly, weekly, or even daily. Each time you upload a catalog, your customer's procurement system automatically downloads it and incorporates it into the local search index.

Note: For Level 2 PunchOut index catalogs, cXML is the preferred format because the file size is smaller than CIF.

You have two options for uploading catalogs:

- **Manual Upload.** Manual upload requires you to log in to your Ariba Network account to upload and publish your cXML index catalogs. For more information about manually uploading catalogs, see the *Ariba Network Catalog Administration Guide for Suppliers*.
- **Automatic Upload.** Automatic upload uses the cXML `CatalogUpload` transaction to upload and publish your cXML index catalogs. You generate a `CatalogUploadRequest` document and include your cXML catalog as a MIME attachment. For more information about automatic upload, see Chapter 11, "Catalog Upload Transaction."

Your customers automatically poll Ariba Network for updated catalogs, usually once per day. You might want to contact them to find out what time this polling takes place so you can have your updated index catalogs ready.

PunchOut Session Timeout

If PunchOut sessions do not end with a `PunchOutOrderMessage` document, Ariba Buyer and Procure-to-Pay terminate the session after six hours.

ASP Examples

The following ASP examples can be used as a starting point to rapidly deploy a PunchOut site. They demonstrate how to receive `PunchOutSetupRequest` documents and generate `PunchOutSetupResponse` documents.

These are basic examples and are not ready for production. For example, credential variables attached in the query string are not acceptable for production code. These examples use variables that have not been declared. Because a global variable file has not been included with this example, change the following variables in the appropriate locations:

- receivePunchoutSetupRequest.asp

  ```
  myAribaPassword = "welcome"
  myURL = http://supersupplier.com/punchoutasp
  ```

- resolveXML.asp

  ```
  olddtdvalue = """cXML.dtd"""
  newdtdvalue = """http://supersupplier.com/cXML.dtd"""
  ```

receivePunchoutSetupRequest.asp

This file receives the `PunchOutSetupRequest` document and generates a valid `PunchOutSetupResponse` document containing the first page URL:

```
<%@LANGUAGE = VBScript%>
<%
   Dim myAribaPassword
   Dim myURL
%>
<%
'********************************Comments****************************
' Include file that loads http post cXML and parses with MS DOM
'********************************************************************
%>
<!--#include file="resolveXML.asp" --->
<%
'********************************Comments****************************
'  Variables needed for example. Very simple validation for asp
'  Set sharedsecret password expected from Ariba Network
'********************************************************************
   myAribaPassword = "welcome"
   myURL = "http://workchairs.com/punchoutaspv2/"
%>
<%
'********************************Comments****************************
' Basic Shared Secret validation.
'
' Please note: You will need to fix the timestamp and payloadID. The
' f() now is currently invalid and will fail on some builds of Ariba
' Buyer as well as other product lines. Please use the format
```

```
' specified in the cXML User's Guide available at http://www.cXML.org.
' See file TCcXMLFormatDTime.asp for a good start on formatting the
' timestamp in ISO 8601 format.
'**********************************************************************

if (myAribaPassword <> sharedSecret) then %>
<?xml version="1.0" ?>
<!DOCTYPE cXML SYSTEM "cXML.dtd">
<cXML payloadID="&lt;%= Now &amp;&quot;@&quot;&amp;
Request.ServerVariables(&quot;LOCAL_ADDR&quot;)%&gt;" timestamp="&lt;%= Now %&gt;">
<Response>
<Status code="500" Text="Invalid document" />
</Response>
</cXML>
<% else %>
<?xml version="1.0" ?>
<!DOCTYPE cXML SYSTEM "cXML.dtd">
<cXML payloadID="&lt;%= Now &amp;&quot;@&quot;&amp;
Request.ServerVariables(&quot;LOCAL_ADDR&quot;)%&gt;" timestamp="&lt;%= Now %&gt;">
<Response>
<Status code="200" text="Success">
</Status>
<PunchOutSetupResponse>
<StartPage>
<URL>
<%=myURL%>
<p>b2bsite/shop.asp?fromIdentity=<%= fromIdentity%>&amp;operation=<%=
operation%>&amp;buyerCookie=<%= buyerCookie%>&amp;BrowserFormPost=<%=
BrowserFormPost%></URL></StartPage></PunchOutSetupResponse></Response></cXML> <%end if%> </p>
```

resolveXML.asp

This file loads the HTTP POST into a Microsoft DOM object and extracts data for the PunchOutSetupResponse document:

```
<%
Dim xml
Dim xdoc
Dim xml2
'*********************************Comments****************************
'  MSDOM cannot resolve local DTDs, so replace definition with URL.
'  Get DTDs from http://www.cXML.org and store them locally on your
'  server for performance.
'**********************************************************************
Dim olddtdvalue
Dim newdtdvalue
olddtdvalue = """cXML.dtd"""
newdtdvalue = """http://workchairs.com/cxml1.2/cXML.dtd"""

if (Request.ServerVariables("REQUEST_METHOD") = "POST") then
'*********************************Comments****************************
'  This command reads the incoming HTTP cXML Request
'  Note: this does not currently handle cXML documents sent with
'  content-type: text/xml or any transfer that specifies the MIME
'  charset attribute on that header.
'**********************************************************************
   totalBytes = Request.TotalBytes
   IF totalBytes > 0 THEN
      xml = Request.BinaryRead( totalBytes )
      for i = 1 to totalBytes
        xmlstr = xmlstr + String(1,AscB(MidB(xml, i, 1)))
        Next
        xml2 = xmlstr
          xml2 = Replace(xml2,olddtdvalue,newdtdvalue)
          xml2 = Replace(xml2,"utf-8","utf-16")
          xml2 = Replace(xml2,"UTF-8","UTF-16")
    END IF

'********************************Comments****************************
'  Create MSDOM object and set load values.
'********************************************************************
Set xdoc = Server.CreateObject("Microsoft.XMLDOM")
   xdoc.ValidateOnParse = False
   xdoc.async = False
   xdoc.resolveExternals = False
   loadStatus = xdoc.loadXML(xml2)

'********************************Comments****************************
'  Create MSDOM object and set load values.
'  Note: these XML retrievals handle only the first of any list of
'  credential elements
'********************************************************************
   If loadStatus = True then
      Set fromIdentity = xdoc.getElementsByTagName("Header/From/Credential/Identity")
      fromIdentity = (fromIdentity.item(0).text)
      Set toSuppCred = xdoc.getElementsByTagName("Header/To/Credential/Identity")
      toSuppCred = (toSuppCred.item(0).text)
      Set senderCred = xdoc.getElementsByTagName("Header/Sender/Credential/Identity")
      senderCred = (senderCred.item(0).text)
      Set sharedSecret = xdoc.getElementsByTagName("Header/Sender/Credential/SharedSecret")
      sharedSecret =  (sharedSecret.item(0).text)
      Set fromUserAgent = xdoc.getElementsByTagName("Header/Sender/UserAgent")
      fromUserAge = (fromUserAgent.item(0).text)
      Set operation =
xdoc.documentElement.childNodes(1).childNodes(0).attributes.getNamedItem("operation")
      operation =
xdoc.documentElement.childNodes(1).childNodes(0).attributes.getNamedItem("operation").text
      Set buyerCookie = xdoc.getElementsByTagName("Request/PunchOutSetupRequest/BuyerCookie")
      buyerCookie = (buyerCookie.item(0).text)
      Set buyExtrinsics = xdoc.getElementsByTagName("Request/PunchOutSetupRequest/Extrinsic")
      For i = 0 To (buyExtrinsics.length -1)
      BuyExtrinsicVars = (buyExtrinsics.item(i).text) & "," & BuyExtrinsicVars
      Next
      Set BrowserFormPost =
xdoc.getElementsByTagName("Request/PunchOutSetupRequest/BrowserFormPost")
      BrowserFormPost = (BrowserFormPost.item(0).text)

'********************************Comments****************************
'  Some nice MSDOM error logging for a failed parse or load.
'********************************************************************
   Else
      Response.Write " <P> xml @ supplier site failed to load using MSDOM: "
      Dim strErrText
      Dim xPE

      Set xPE = xdoc.parseError
      strErrText = "Your XML Document failed to load due the following error: " & "Error #: "  &
xPE.errorCode & ": "  & "Line #: " & xPE.Line & "Line Position: " & xPE.linepos & "Position In
File: " & xPE.filepos & "Source Text: " & xPE.srcText & "Document URL: " & xPE.url
      Response.Write strErrText
         End If
    Else

'********************************Comments****************************
'  ASP page was called using a GET. Functions expect a post.
```

```
'*********************************************************************
    Response.Write  "<P> Wrong Method Get: Post supported only"
End if
%>
```

TCcXMLFormatDTime.asp

This file contains a function to format a timestamp in ISO 8601 format.

```
'*********************************************************************
' This function does not do the time adjustment but provides a great
' start in helping you out.
'*********************************************************************
<%
private function TCcXMLFormatDTime(strDTimeIn)
'*********************************************************************
' Purpose:
' This function returns a date/time value formatted for cXML messaging
' cXML uses the ISO 8601 date/time standard.
'*********************************************************************
'Input:
   'strDTimeIn      Input date/time to be formatted.
'
'Ouptut:   n/a
'
'Return: String value containing the formatted date/time.
'
   const conRoutine = "TCcXMLFormatDTime"
   dim strTempOutDtime
   dim strDay
   dim strMonth
   dim strTime

   TCcXMLFormatDTime = ""
   strTime = FormatDateTime(strDTimeIn, 4)   ' Short time.

   ' Set the year.
   strTempOutDtime = Year(strDTimeIn) & "-"
   ' Set the month.
   strMonth = Month(strDTimeIn)
   if len(strMonth) = 1 then strMonth = "0" & strMonth
   strTempOutDtime = strTempOutDtime & strMonth & "-"
   ' Set the day and the date/time delimeter.
   strDay = Day(strDTimeIn)
   if len(strDay) = 1 then strDay = "0" & strDay
   strTempOutDtime = strTempOutDtime & strDay & "T"
   ' Set the time.
   strTempOutDtime = strTempOutDtime & strTime

   TCcXMLFormatDTime = strTempOutDtime

   exit function
end function
%> </p>
</body>
</html>
```

Chapter 7 Purchase Orders

cXML `OrderRequest` documents represent purchase orders. These documents consists of one `OrderRequestHeader` element and one or more `ItemOut` elements. Ariba Buyer sends these documents to Ariba Network. cXML-enabled suppliers respond with `OrderResponse` documents.

OrderRequestHeader Element

The `OrderRequestHeader` element contains contact and shipping information that applies to the entire order.

orderID Attribute

This attribute is a user-visible number generated by Ariba Buyer unique to the buying organization. Buying organizations that subscribe to the vPayment service must use a value shorter than 16 characters.

For information about `orderID` and change orders, see “Change Orders” on page 119. For information about the vPayment service, see “vPayment” on page 123.

orderDate Attribute

This attribute is the date and time the order was created by the buying organization. Dates are in ISO 8601 format: `YYYY-MM-DDThh:mm:ss-hh:mm`.

```
<OrderRequest>
   <OrderRequestHeader orderID="DO123" orderDate="2000-09-09T22:54:59-06:00">
      …
</OrderRequest>
```

orderType Attribute

This attribute describes the order type: regular, release (a release against a master agreement), or blanket (a blanket purchase order).

releaseRequired Attribute

If the order is a blanket purchase order, the `releaseRequired` attribute indicates whether the blanket order requires releases (purchase orders). If "no" is specified, the blanket order does not require purchase orders and can be directly billed against. The default is "yes."

effectiveDate Attribute

If the order is a blanket purchase order, the `effectiveDate` attribute indicates the date that the order is available for ordering. This attribute is currently used only with blanket purchase orders.

expirationDate Attribute

If the order is a blanket purchase order, the `expirationDate` attribute indicates the date that the order is no longer available. If no value is defined, the end date can be indefinite. This attribute is currently used only with blanket purchase orders.

addressID Attribute

This attribute identifies the buying organization's shipping or billing address defined in the `ShipTo` and `BillTo` elements of `OrderRequest`. This is also the buying organization's `Extrinsic` "`UniqueName`" for `ShipTo/BillTo`.

The `Address` element contains a `PostalAddress` and is similar to the `Contact` element, except that `Contact` can describe multiple methods for contacting a particular person.

```
<Address isoCountryCode="US" addressID="001">
```

Name Element

For ship to, this value should be the company or organization of the employee receiving ordered products. For bill to, this is the department or group responsible for payment. `Name` is not as specific as the location referenced in the second `DeliverTo` line.

```
<Name xml:lang="en">Workchairs, Inc.</Name>
```

DeliverTo Element, Line One

This element is the name of the person receiving the ordered products. Avoid empty or white space elements and attributes. Missing values might affect EDI and cXML suppliers.

The suggested implementation name format template is "firstname lastname."

Note: Both `DeliverTo` lines in the `BillTo` element should be in the same format for consistency. This logic is not in the existing templates; it is recommended that it be added manually.

```
<DeliverTo>Joe Smith</DeliverTo>
```

DeliverTo Element, Line Two

This element is the location (building, city, office, or mailstop) of the person receiving the ordered products. Locations should always be complete enough for a mailing label.

There should be consistency between uses of the same element, particularly `ShipTo` and `BillTo`.

```
<DeliverTo>Mailstop M-543</DeliverTo>
```

Street Element

This element is the street address of the `ShipTo` or `BillTo` location where ordered products are to be delivered and billed. If there are multiple lines in the street address, use up to four `Street` elements instead of inserting new lines.

```
<Street>123 Anystreet</Street>
<Street>M/S 450</Street>
```

City Element

This element is the city where ordered products are to be shipped or billed.

```
<City>Sunnyvale</City>
```

State Element

This element is a two-letter state, province, or territory code for the location where the goods are to be shipped and billed. For more information, see "Country, State, and PostalCode Elements" on page 22.

```
<State>CA</State>
```

PostalCode Element

This element is the postal or zip code where goods are to be shipped and billed. Do not use a dash (-) in US extended zip codes. For more information, see "Country, State, and PostalCode Elements" on page 22.

```
<PostalCode>90489</PostalCode>
```

Country isoCountryCode

This attribute is the country code from the ISO 3166 standard. The content for `Country` is a human-readable or printable name. For more information, see "Country, State, and PostalCode Elements" on page 22.

```
<Country isoCountryCode="US">United States</Country>
```

TelephoneNumber Element

This element is the telephone number of the person or department where ordered products are shipped to or billed.

For international dialing, the `CountryCode` contains the ITU dialing code for a country after any escape codes. The ITU dialing code is the access code for a particular country. For more information, see Appendix A, “Recommended Coding Systems.”

United States:

```
<TelephoneNumber>
   <CountryCode isoCountryCode="US">1</CountryCode>
   <AreaOrCityCode>650</AreaOrCityCode>
   <Number>9308410</Number>
</TelephoneNumber>
```

London:

```
<TelephoneNumber>
   <CountryCode isoCountryCode="UK">44</CountryCode>
   <AreaOrCityCode>20</AreaOrCityCode>
   <Number>78628500</Number>
</TelephoneNumber>
```

Fax Element

This element is the fax number of the person or department where ordered products are to be shipped or billed.

United States example:

```
<Fax name="work">
   <TelephoneNumber>
      <CountryCode isoCountryCode="US">1</CountryCode>
      <AreaOrCityCode>408</AreaOrCityCode>
      <Number>3582100</Number>
   </TelephoneNumber>
</Fax>
```

London example:

```
<Fax>
   <TelephoneNumber>
      <CountryCode isoCountryCode="GB">44</CountryCode>
      <AreaOrCityCode>137</AreaOrCityCode>
      <Number>2801007</Number>
   </TelephoneNumber>
</Fax>
```

Email Element

This element is the email address of a person or a department where ordered products are to be shipped or billed. Ariba Network sends status information to the `ShipTo Email` address when the order status is updated, or as the result of a `ConfirmationRequest` or `ShipNoticeRequest`.

Ariba Network uses the optional `preferredLang` attribute (produced by Ariba Buyer 8.2 or later) in the `Email` element to specify the recipient's language.

```
<Email>wsmithers@springfield.com</Email>
```

```
<Email preferredLang="ja-JP">mburns@springfield.com</Email>
```

URL Element

This element is the ship to URL. This element is not required to be populated.

```
<URL>https://www.workchairs.com</URL>
```

Tax Element

This element is the tax associated with the purchase order. This element is present if the buying organization computes tax. When appearing within the `OrderRequestHeader`, `Tax` describes the total tax for an order. `Tax` elements at the item level can describe line level tax amounts.

```
<Tax>
   <Money currency="USD">1.34</Money>
   <Description xml:lang="en">Sales Tax</Description>
</Tax>
```

ItemOut Element

`ItemOut` elements describe individual ordered items.

Distribution Element

The `Distribution` element facilitates the buying organization's reconciliation process. It allows requisitioners to split line item charges among multiple groups or accounts. It can contain any relevant accounting code used by a buying organization.

For example, if a line item has a two-way split (for example 60/40), there should be two `Distribution` elements.

Accounting Element

The `Accounting` element groups segments to identify who, or what group, is responsible for a line item's costs. The name attribute identifies the accounting combination. The default value for `name` is `DistributionCharge`:

```
<Accounting name="DistributionCharge">
```

The data in the `Accounting` element is combined to form the actual accounting code, for example, a-b-c where a, b, and c are the IDs of accounting segments.

```
<Distribution>
   <Accounting name="split 60%">
      <AccountingSegment id="2911">
         <Name xml:lang="en">Department</Name>
         <Description xml:lang="en">Development</Description>
      </AccountingSegment>
      <AccountingSegment id="345">
         <Name xml:lang="en">Account</Name>
         <Description xml:lang="en">Computer Accessories</Description>
      </AccountingSegment>
   </Accounting>
   <Charge>
      <Money currency="USD">288</Money>
   </Charge>
</Distribution>
<Distribution>
   <Accounting name="split 40%">
      <AccountingSegment id="2911">
         <Name xml:lang="en">Department</Name>
         <Description xml:lang="en">Development</Description>
      </AccountingSegment>
      <AccountingSegment id="123">
         <Name xml:lang="en">Account</Name>
         <Description xml:lang="en">Office Supplies</Description>
      </AccountingSegment>
   </Accounting>
   <Charge>
      <Money currency="USD">192</Money>
   </Charge>
</Distribution>
```

In this example, each `Distribution/Accounting` has two `AccountingSegment` elements, with the same name patterns. The whole charge is to the same department, but the "Account" segment is split (60% for Computer Accessories and 40% for Office Supplies). The `Charge` elements for an item should add up to the item's extended price.

In this example, the number of digits in the `id` attributes are consistent where the `Name` element is the same. That is, the Department segment has a four digit number and the Account segment has a three digit number. The structure of the accounting segments must be consistent.

Buying organizations do not need to reveal all of their accounting information; just accounting information for this purchase order. Because the segments are named and are not dependant on position in the accounting structure, Buying organizations can provide only the ones they wish to represent.

Note: Some Ariba Buyer configurations generate accounting data in awkward ways. For example, they put the split percentage in an `AccountingSegment` element, resulting in accounting codes such as:

75%-123-45-ABC

Where 123, 45, and ABC make sense, such as division, project, and department, but the 75% is difficult to process.

Segment Element

Note: The `Segment` element was deprecated and replaced by the `AccountingSegment` element in cXML 1.2.005. However, suppliers must process both `Segment` and `AccountingSegment`, because Ariba Buyer 6, 7, and 8 continues to generate documents that use `Segment`.

`Segment` has three attributes: `type`, `id`, and `description`. `type` identifies the segment relative to others in the `Accounting` element; `id` is the unique identifier within a `Segment type` (for example, the actual accounting code); and `description` describes the `id` value.

`Segment` can contain any relevant accounting code used by a buying organization. Ariba Buyer populates these elements from a line item's Cost Center and Account Name. Examples of possible values are: `asset number`, `billing code`, `cost center`, `G/L account`, and `department`.

```
<Distribution>
   <Accounting name="DistributionCharge">
      <Segment type="G/L Account" id="456" description="Travel"/>
      <Segment type="Cost Center" id="23" description="European Projects"/>
   <Accounting">
   <Charge>
      <Money currency="USD">4688.00</Money>
   </Charge>
</Distribution>
```

In the above example `Travel` describes the `G/L Account` charge, and corresponds to the `456` account.

AccountingSegment Element

`AccountingSegment` has one attribute, `id`, which is the unique identifier within an `AccountingSegment Name` (for example, the actual accounting code).

It contains two elements: `Name` and `Description`. The `Name` element identifies the accounting segment relative to others in the `Accounting` element; and `Description` describes the `id` value.

`AccountingSegment` can contain any relevant accounting code used by a buying organization. Ariba Buyer populates these elements from a line item's Cost Center and Account Name. Examples of possible values are: `asset number`, `billing code`, `cost center`, `G/L account`, and `department`.

```
<Distribution>
   <Accounting name="DistributionCharge">
      <AccountingSegment id="456">
         <Name xml:lang="en-US">G/L Account</Name>
         <Description xml:lang="en-US">Travel</Description>
      </AccountingSegment>
      <AccountingSegment id="23">
         <Name xml:lang="en-US">Cost Center</Name>
         <Description xml:lang="en-US">European Projects</Description>
      </AccountingSegment>
   </Accounting>
   <Charge>
      <Money currency="USD">4688.00</Money>
   </Charge>
</Distribution>
```

In the above example `Travel` describes the `G/L Account` charge, and corresponds to the `456` account.

Accounting Fields in Ariba Invoice Professional

For purchase orders sent to Invoice and Payment Professional, the expected cXML mappings for accounting fields and split accounting fields are as follows.

```
<ItemOut quantity="2.0" lineNumber="0000000001" requestedDeliveryDate="2009-03-12T10-03-39+01:00">
 <ItemID><SupplierPartID></SupplierPartID></ItemID>
  <ItemDetail><UnitPrice><Money currency="EUR">50.0</Money></UnitPrice>
     <Description xml:lang="en">TESTING<ShortName>TEST_07</ShortName></Description>
     <UnitOfMeasure>EA</UnitOfMeasure><Classification domain="UNSPSC">10401501</Classification>
     <ManufacturerPartID></ManufacturerPartID>

     <Extrinsic name="AccountCategory">K</Extrinsic>
     <Extrinsic name="ItemCategory">M</Extrinsic>
     <Extrinsic name="CompanyCode">0100</Extrinsic>
     <Extrinsic name="PurchaseGroup">0001</Extrinsic>

 </ItemDetail>

 <Distribution>
   <Accounting name="Accounting Information">
      <AccountingSegment id="100">
         <Name xml:lang="en">Percentage</Name>
         <Description xml:lang="en">Percentage</Description>
      </AccountingSegment>
      <AccountingSegment id="0000015300">
         <Name xml:lang="en">GeneralLedger</Name>
         <Description xml:lang="en">ID</Description>
      </AccountingSegment>
      <AccountingSegment id="07801042A0">
         <Name xml:lang="en">CostCenter</Name>
         <Description xml:lang="en">ID</Description>
      </AccountingSegment>
   </Accounting>
   <Charge>
      <Money currency="EUR">50.0</Money>
   </Charge>
 </Distribution>
</ItemOut>
```

Receiving Types in Ariba Invoice Professional

Many ERP systems have a concept of a two-way match between an invoice and the associated orders for items that do not require a receipt. These ERP systems typically include an indicator on order line level if receiving is required for an item or not.

The Extrinsic `ReceivingType` indicates if a receipt is required or not. If `ReceivingType` is 4, no receipts are required for a line item in Ariba Invoice Professional, and during invoice reconciliation order line items that do not require a receipt require exception handling between the order and the invoice only.

Any value for `ReceivingType` other than 4 in the `OrderRequest` cXML will trigger three-way invoice exception handling between the invoice, receipts and order.

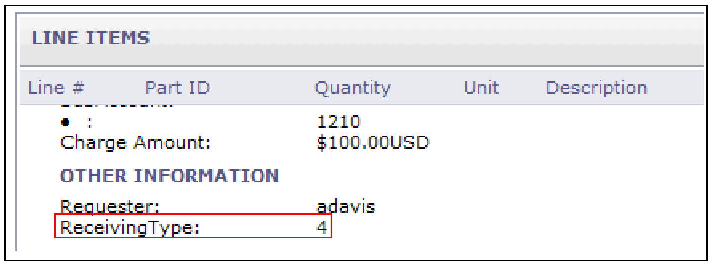
The expected cXML mapping for ReceivingType is as follows:

```
<ItemOut quantity="2.0" lineNumber="0000000001" requestedDeliveryDate="2009-03-12T10-03-39+01:00">
 <ItemID><SupplierPartID></SupplierPartID></ItemID>
  <ItemDetail><UnitPrice><Money currency="EUR">50.0</Money></UnitPrice>
     <Description xml:lang="en">TESTING<ShortName>TEST_07</ShortName></Description>
     <UnitOfMeasure>EA</UnitOfMeasure><Classification domain="UNSPSC">10401501</Classification>
     <ManufacturerPartID></ManufacturerPartID>
     <Extrinsic name="ReceivingType">4</Extrinsic>
```

If `ReceivingType` is any other value than 4, or if `ReceivingType` is not present in the `ItemDetail` element, the invoice reconciliation will include matching of receipts to invoices and orders.

Impact on Ariba Network

Supplier will see the receiving type when reviewing order details, for example:


LINE ITEMS

Line #	Part ID	Quantity	Unit	Description
• :		1210		
Charge Amount:		$100.00USD		

OTHER INFORMATION

Requester:	adavis
ReceivingType:	4

Integration with External Systems

Integration with your external ERP system depends on how the external system handles receipt requirements. For example, some ERP systems only indicate on header level if a receipt is required. You will need to build your own business logic to set the receipt required indicator on line level based on your business practices and needs.

In SAP, the **GR Based IV** check box indicates if a receipt is required for invoice verification. You must set up your custom mapping to set the Extrinsic `ReceivingType` to 4 for items where that box is not checked in SAP. If GR Based IV is checked in SAP, you can omit setting the Extrinsic `ReceivingType` entirely, or set `ReceivingType` to any other value than 4 (including just leaving it blank).

AP Plus Requirements

If the purchase order is destined for a U.S. supplier and it will be paid through AP Plus for invoices, the `Name` element must contain "`Cost Center`". For more information, see "AP Plus" on page 160.

BlanketItemDetail Element

The `BlanketItemDetail` element provides details specific to blanket purchase order items, and should be used only for items in a blanket purchase order. There are three levels of blanket purchase orders:

- Supplier level: Contains only one line item defining the terms of the supplier level agreement, and can also contain a maximum amount.
- Commodity level: Contains one or more line items that correspond to different commodities that the blanket purchase order captures. This type of line item has supplier, commodity, and limits. ItemID in this case should include an empty SupplierID tag.
- Item level: Contains similar information to the `ItemDetail` element, except that all elements are primarily optional.

The following extrinsics are not be visible to the supplier, but are required by Ariba Network for internal implementation purposes:

- `Ariba.amountAvailable`—A numeric value sent only on creation of a BPO.
- `Ariba.invoicingAllowed`—A Boolean value used to determine if Ariba Network allows suppliers to create PO-Flip invoices for purchase orders or BPOs. Yes indicates a no release required BPO. No indicates a release required BPO.
- `Ariba.collaborationAllowed`—A Boolean value used to determine if invoices can be created by supplier punch in.

Money currency Attribute

This attribute is an ISO 4217 standard 3-letter currency code and the item amount at the line item level. For example: "`USD`" = United States Dollar. For more information, see Appendix A, "Recommended Coding Systems."

```
<Money currency="USD">1.34</Money>
```

Ariba Network Currency Code Mapping

When Ariba Network receives purchase orders, it converts the following obsolete currency codes to up-to-date codes:

Obsolete Code	Current Code
ARP	ARS
ARA	ARS
BGL	BGN
BRE	BRL
BRR	BRL
CAN	CAD
CDN	CAD
IRL	IEP
MXP	MXN
PLZ	PLN
RUB	RUR

If you use obsolete currency codes in catalogs or in Ariba Buyer, change them to up-to-date codes. For amounts that do not specify a currency, Ariba Network assigns USD.

Ariba Network does not perform currency code conversion for test accounts.

Cancel Orders and Change Orders

Cancel orders and change orders are purchase orders sent by buying organizations that modify previously sent purchase orders.

Cancel and Change Order Requirements

Before a buying organization can send cancel orders or change orders, specific requirements must be met in terms of buying organizations' capabilities, order status, and purchase order matching.

Buying Organizations

The use of cancel and change orders is dependent on the business processes of buying organizations. They can enable or disable the generation of these orders in Ariba Buyer and on Ariba Network.

By default, Ariba Network does not allow buying organizations to cancel or change purchase orders that are marked Shipped or Partially Shipped. However, Ariba Network has buyer-configurable rules for allowing cancel and change orders for fully shipped or partially shipped purchase orders. Suppliers can view these rules.

Suppliers

Suppliers can configure their Ariba Network accounts to route cancel and change orders differently from new purchase orders.

Cancel and Change Orders and Order Status

When Ariba Network receives change orders, it resets order status to the initial state. It discards any previously set status for those orders.

For information about the interaction between these orders and confirmation and ship notices, see "Confirmations and Cancel and Change Orders" on page 136 and "Ship Notices and Cancel and Change Orders" on page 139.

Purchase Order Matching

Each cancel and change order refers to the previous version of the order through a `DocumentReference` element containing the `payloadID` of the previous order version.

Ariba Network checks whether this reference is valid; if no existing purchase order matches, it rejects the cancel or change order.

Cancel Orders

Buying organizations use cancel orders to cancel previously sent purchase orders. Ariba Network displays the status of canceled purchase orders as "Obsoleted."

Cancel orders are the same as regular purchase orders, except:

- The `OrderRequestHeader` element has the attribute `type="delete"` instead of `"new"`, and the `orderVersion` attribute of the original order (Ariba Buyer 8.1 and later).
- The `OrderRequestHeader DocumentReference` element contains the `payloadID` of the previous `OrderRequest`.

The following example shows a cancel order generated by Ariba Buyer.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="985274930687.1374859706.109.7733@zimbuyer.com"
      timestamp="2003-03-28T13:04:04-08:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN01000002792</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="DUNS">
            <Identity>623331717</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="BuyerNetworkUserId">
            <Identity>sysadmin@buyer.com</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Ariba Buyer 8.1</UserAgent>
      </Sender>
   </Header>
   <Request>
      <OrderRequest>
         <OrderRequestHeader
               orderDate="2003-03-28T13:04:04-08:00"
               orderID="PC066"
               type="delete"
               orderVersion="3">
            <DocumentReference payloadID="985274.155.43@zimbuyer.com"/>
      .
      .
      .
            Order details are included by Ariba Buyer,
            but are ignored by Ariba Network
      .
      .
      .
      </OrderRequest>
   </Request>
</cXML>
```

For information about the interaction between these orders and confirmation and ship notices, see "Confirmations and Cancel and Change Orders" on page 136 and "Ship Notices and Cancel and Change Orders" on page 139.

Change Orders

Buying organizations use change orders to modify previously sent purchase orders. Each updated `OrderRequest` document *replaces* the previous version of that document. In other words, the previous document version is discarded; updates are not cumulative.

Change orders are the same as regular purchase orders, except:

- The `OrderRequestHeader` element has the attribute `type="update"` instead of `"new"`.
- The `OrderRequestHeader` `DocumentReference` element contains the `payloadID` of the previous `OrderRequest`.

Ariba Buyer 8.0 and earlier uses a different mechanism to denote order versions than Ariba Buyer 8.1 and later.

Ariba Buyer 8.0 and Earlier

By default, Ariba Buyer 8.0 and earlier denotes a change order by appending -V*n* to the `orderID` of an earlier order version. For example, `orderID="PC066-V2"` is the first revision of the original purchase order PC066. The version number “1” is implied for the original order, and it increments for each new version of an order.

Ariba Buyer 7.0.6 fixed a minor problem in cXML change orders, for more information, see “Changes Introduced by Ariba Buyer” on page 126.

Ariba Buyer 8.1 and Later

Ariba Buyer 8.1 and later inserts order version attributes that enable better version tracking by receiving systems. It does not use the -V*n* notation described above.

Ariba Buyer 8.1 and later uses cXML 1.2.009, which has two `OrderRequestHeader` attributes for indicating change orders:

- `orderVersion`
  Specifies the order version number, starting with “1” (implied) for the original order.
- `isInternalVersion`
  Indicates whether the change is relevant only within the buying organization. For example, a minor change was made that does not affect information used by the supplier. Suppliers might not see internal order versions, depending on their customers’ configuration.

For example:

```
<OrderRequestHeader
      orderDate="2005-03-28T13:04:04-08:00"
      orderID="DO166"
      type="update"
      orderVersion="3"
      isInternalVersion="yes">
   <DocumentReference payloadID="985274.155.43@zimbuyer.com"/>
```

This order is a change order (`type="update"`). It is the second revision of the original order (`orderVersion="3"`). It is an internal version, so changes in it are not relevant to the supplier (`isInternalVersion="yes"`).

Ariba Network validates the `orderVersion` number. This number must be unique per purchase order number, and it must be ascending (from the original order to newest change order). Ariba Network does not allow duplicate or descending order versions.

Implementation Hints and Limitations

The following topics can help you send or receive purchase orders successfully.

- Credential Elements
- Contact Roles
- Path Routing
- Non-Catalog Items
- Attachments
- PCards, AP Plus, and vPayment
- Maximum Document Size
- Extrinsic for Clickable Links
- Extrinsic for Legacy Purchase Orders
- Changes Introduced by Ariba Buyer

Credential Elements

For information about the credentials used within `OrderRequest` documents, see “cXML Credentials” on page 32.

For information about credential limitations of older versions of Ariba Buyer, see “NetworkID and Older Versions of Ariba Buyer” on page 34.

Contact Roles

By default, `OrderRequest` documents use the `BillTo` and `ShipTo` elements to specify bill to and ship to addresses. In some cases trading partners might want to list additional addresses.

When buying organizations generate `OrderRequest` documents, they can use the optional `Contact` section to specify multiple roles and addresses.

Ariba Network recognizes the following `Contact` role values in purchase orders:

Contact Role Value	Displays as
`"postDelivery"`	Post Address
`"cargoDelivery"`	Cargo Address
`"companyDelivery"`	Receiving
`"privateEndUser"`	Requisitioner Address
`"defaultDelivery"`	Personal Deliver To Address
`"buyerCorporate"`	Buyer Headquarter Address
`"supplierCorporate"`	Supplier Address

Path Routing

Supplier aggregators or marketplace hosts that want to receive copies of purchase orders, but are not the primary recipients, should use cXML path routing. These organizations are called *copy organizations*.

Copy organizations should perform the following steps to prepare for path routing:

1 They must tell buying organizations to add path routing information to all `PunchOutSetupRequest` and `OrderRequest` documents. For example:

```
<Path>
   <Node type="copy">
      <Credential domain="NetworkID">
         <Identity>AN01000000111</Identity>
      </Credential>
   </Node>
</Path>
```

2 They must add the `CopyRequest` transaction to their cXML profile.

When Ariba Network receives a purchase order containing path routing copy information, it first looks up the copy organization’s `CopyRequest` URL in the organization’s cXML profile. If the organization does not have a cXML profile or if `CopyRequest` does not appear in its profile, Ariba Network attempts to send the copy `OrderRequest` to the URL the organization entered in the “URL to send your orders” field in the Method for Receiving Orders page in the Configuration area of its account.

Non-Catalog Items

Non-catalog (ad-hoc) purchase orders contain items described manually by requisitioners, not items selected from electronic catalogs. Requisitioners enter these items on an ad-hoc basis or because they could not find them in electronic catalogs.

Often, non-catalog items do not have part numbers. Purchase orders containing non-catalog items usually require special validation and processing, so not all suppliers accept them.

Special Characteristics of Non-Catalog Orders

Non-catalog items have the following user-entered information:

Supplier Part ID (optional)
Description
Commodity Code
Quantity
Unit of Measure
Unit Price

Suppliers must carefully validate this information, because it comes from users, not from electronic catalogs.

Enabling or Disabling Non-Catalog Orders

Buying organizations determine whether users can order non-catalog items. Suppliers should contact their customers to determine whether they will receive orders containing non-catalog items.

Suppliers can configure their Ariba Network accounts to route orders that contain non-catalog items differently from regular orders, or to reject those orders.

Detecting Non-Catalog Orders

To detect non-catalog items, Ariba Network examines incoming orders and looks for either:

- The `isAdHoc` flag (used by Ariba Buyer 8.0 and later)
- Supplier Part IDs that are blank or set to `"not available"`

Ariba Buyer does not use the `isAdHoc` flag for regular catalog items. That is, it does not include `isAdHoc="false"` for regular catalog items.

Breaking Requisitions into Multiple OrderRequests

Ariba Buyer should be configured to break requisitions that contain both catalog and non-catalog items into separate purchase orders. Suppliers will then be able to automatically process as many requisition items as possible, instead of having to manually process both catalog and non-catalog items.

Attachments

Requisitioners sometimes clarify purchase orders with associated memos or drawings. Ariba Buyer can be configured to allow users to attach files of any type to purchase orders before sending them to Ariba Network. It attaches these files to purchase orders using a MIME envelope as described in the *cXML User's Guide*.

Following describes the order attachment implementation on Ariba Network:

- In the attachment part of the MIME file, Content-Length is optional while Content-Disposition is required with the attachment name.
- In the attachment part of the MIME file, if non-ASCII characters are used in the filename of the Content-Disposition header, the document attached describes the encoding method used by Ariba Network.
- In the cXML part of the MIME file, the attachment tag is optional for orders with attachments. If the attachment tags in the header or line item are indeed provided with the corresponding Content-IDs of the attachments, Ariba Network maintains the Content-IDs of the attachment in the MIME file forwarded to the supplier. A cXML-enabled supplier can use the attachment tags to link the attachments to the corresponding line items.
- In the main POST header of the MIME file, Content-Type can be a multipart/related or multipart/mixed header.

Attachments on Ariba Network

Ariba Network stores attachments for retrieval by both trading partners. Users can retrieve these files by logging on to their Ariba Network accounts. Ariba Network can also forward attachments to suppliers through email or cXML post.

Attachments expire 180 days after Ariba Network receives them. Expired attachments are not available online.

Attachment File Names

Ariba Network supports attachments with file names in all supported character sets, including Chinese, Japanese, and Korean. Ariba Network conforms to Multipurpose Internet Mail Extensions (MIME) standards by encoding non-ASCII filenames according to Internet Engineer Task Force (IETF) Request for Comment (RFC) 2047. Filenames in Asian languages can contain up to 15 characters, and filenames in Latin-1 languages can contain up to 21 eight-bit characters or 70 seven-bit characters.

AttachmentOnline Extrinsic

If suppliers configure their Ariba Network accounts to send orders but not attachments, Ariba Network adds an `Extrinsic` element named "AttachmentOnline" to the `OrderRequestHeader` to indicate the existence of attachments. For example:

```
<Extrinsic name="AttachmentOnline">
    https://service.ariba.com/ad/orderDetail?poID=1234&amp;anp=Ariba
</Extrinsic>
```

Suppliers can use the URL in this `Extrinsic` to manually log in and view the purchase order. They can then click on the listed attachments to view or download them.

Ariba Network adds this `Extrinsic` only for suppliers that have selected "Send order and leave attachment online" in their order routing configuration.

PCards, AP Plus, and vPayment

Buying organizations can include the `PCard` element in the `OrderRequestHeader` element to provide purchasing card information to suppliers. Suppliers can charge PCards through their own point-of-sale systems. Buying organizations also use the `PCard` element for Ariba Processing Plus (AP Plus) and for vPayment.

AP Plus

Ariba Processing Plus (AP Plus) uses Ariba Network as a point-of-sale system to charge purchasing cards. Buying organizations use the purchase order `PCard` element to specify their complete purchase card information. Suppliers charge these cards by sending invoices or online payment requests. For more information, see "AP Plus" on page 160.

vPayment

vPayment is a service provided by GE Corporate Payment Services. Ariba Network requests a virtual credit card number from GE for each purchase order. GE responds with a virtual credit card number, which Ariba Network adds to the purchase order before routing it to the supplier. The supplier charges the credit card through a point-of-sale system. Virtual credit card numbers are good for only a specific amount and a limited time.

vPayment purchase orders contain a special Extrinsic element named paymentServiceName and an empty PCard element. For example:

```
<OrderRequestHeader orderID="DO123" orderDate="2005-02-01T11:19:34-10:00" type="new">
   ...
   <Extrinsic name="paymentServiceName">GEvPayment</Extrinsic>
...
   <Payment>
      <PCard number="" expiration=""/>
   </Payment>
</OrderRequestHeader>
```

Buying organizations must configure Ariba Buyer to include these elements. Ariba Buyer should leave the PCard element empty for vPayment, populate it for regular credit card orders, and leave it off entirely for purchase orders that must be invoiced.

vPayment requires the OrderRequestHeader orderID attribute value to be shorter than 16 characters.

Maximum Document Size

The maximum size of cXML documents is 4 MB or 3000 line items. You can add attachments up to 10 MB. The 10 MB limit applies to the *total size* of all attachments associated with the document (for example, a purchase order with attachments or an invoice with attachment), which means that the total size for documents with attachments is 14 MB.

If you attempt to add an attachment that exceeds this limit, Ariba Network displays a warning and does not allow you to add the attachment.

Ariba Network can display purchase orders and invoices that contain up to 1,000 line items or are up to 1 MB in size in suppliers' inboxes and buying organizations' outboxes.

Extrinsic for Clickable Links

Ariba Network can render URLs as clickable links in online purchase orders and invoices. These URLs are produced by Extrinsic elements of the form:

```
<Extrinsic name="anyname">
   <URL name="click me">http://www.bigcompany.com/info</URL>
</Extrinsic>
```

The previous example produces the following online text:

```
anyname:click me
```

The words "click me" are underlined and are clickable, and the link destination is http://www.bigcompany.com/info. If the URL element has no name attribute, Ariba Network displays the URL and makes it clickable.

Extrinsic for Legacy Purchase Orders

You can upload previously fulfilled purchase orders so that your suppliers can invoice you through Ariba Network. Ariba Network routes these legacy purchase orders to your supplier's online Inbox, even if the use another routing method. The legacy purchase order contains the comment, "This purchase order has already been fulfilled."

To differentiate legacy purchase orders from new purchase orders, include an Extrinsic element named `AribaNetwork.LegacyOrders` in the order request header:

```
<OrderRequestHeader orderDate="1975-03-28T13:04:04-08:00" orderID="PCO66">
   ...
   <Extrinsic name="AribaNetwork.LegacyOrders"></Extrinsic>
   ..
</OrderRequestHeader>
```

Ariba Network displays a warning message informing you that the order has already been fulfilled on the online purchase order page, and sets the status of the order to “Sent/Unconfirmed.”

Do not enable GE vPayment for legacy purchase orders. If vPayment is enabled, Ariba Network attempts to authorize the purchase order and obtain credit card information from GE.

Changes Introduced by Ariba Buyer

Ariba Buyer 7.0.6 fixed two problems in `OrderRequest` documents:

- Earlier versions of Ariba Buyer had a minor problems in cXML change orders: `lineNumber` values for items in change orders and original orders were different. Ariba Buyer 7.0.6 and later maintains the original line item numbers in change orders, which complies with the cXML specification.
- Earlier versions of Ariba Buyer used `requestedDeliveryDate` with an unneeded time value, for example, `requestedDeliveryDate="2005-02-01`**`T00:00:00+09:00`**`"`. Ariba Buyer 7.0.6 and later includes only the date value for this attribute, for example, `requestedDeliveryDate="2005-02-01"`.

Response Documents

After Ariba Network forwards an `OrderRequest` to a supplier, the supplier must respond with a cXML `Response` in the same HTTP connection within five minutes. The response serves as an acknowledgment.

The `Response` is not an agreement to ship any items, but simply an acknowledgement that the `OrderRequest` was received, was authenticated successfully, and that it validates correctly against the DTD. To communicate detailed order status, the supplier can later send `ConfirmationRequest` documents. For more information, see Chapter 8, “Order Confirmations and Ship Notices.”

Example Response Document

The following example shows a `Response`, which is sent in the same HTTP connection as the `OrderRequest` document.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="994994" xml:lang="en" timestamp="2002-03-12T18:39:09-08:00">
   <Response>
      <Status code="200" text="OK"/>
   </Response>
</cXML>
```

There is no reference to the `OrderRequest` document, because the `Response` is sent synchronously in the same HTTP connection used to transmit the `OrderRequest` document.

If Ariba Network does not receive a `Response` within five minutes, it resends the `OrderRequest` with the same `payloadID`. After 10 retries (once per hour), Ariba Network holds the transaction and labels it “Failed.”

There is no element named “OrderResponse,” because the only data that needs to be sent back to Ariba Network is the `Status` part of the Response.

Purchase Order Acknowledgments

Suppliers must acknowledge that they received cXML and EDI purchase orders from Ariba Network and that they are syntactically correct. Acknowledgments set purchase order routing status from “sent” to “acknowledged” or “failed.”

Ariba Buyer 8.1 (or later) uses the cXML get pending transaction to retrieve `StatusUpdateRequest` documents containing receive purchase order acknowledgments from Ariba Network. Users of earlier versions of Ariba Buyer must log in to Ariba Network to see purchase order acknowledgements.

Ariba Network’s purchase order acknowledgment requirements depend on suppliers’ routing methods. The following table lists the period during which suppliers must send acknowledgments and whether Ariba Network resends purchase orders if it receives no acknowledgments:

Routing Method	Supplier Acknowledgment	Time out for Acknowledgment	Ariba Network Resends PO?
cXML	cXML `Response` in the same HTTP connection as the purchase order	5 minutes	Yes, 10 times (once per hour)
EDI	X12 997 or EDIFACT CONTRL	72 hours	No
Fax	“confirmation of receipt” message from the fax machine	Immediately after sending fax	Yes, 10 times (once per hour)
Email	None	None	No
Online	None	None	No

Email and online routing methods do not support acknowledgments; Ariba Network immediately sets the routing status of these documents to “sent.” If suppliers’ mailboxes reject email purchase orders, Ariba Network sets the routing status of these documents to “failed.”

Suppliers cannot acknowledge failed purchase orders. They must first log in to their Ariba Network accounts, resend the failed purchase orders, and return positive acknowledgments.

Other Ways to Acknowledge Purchase Orders

Suppliers can acknowledge “sent” or “failed” purchase orders by sending invoices against them. Suppliers can use any invoicing method: online, cXML, or EDI. Ariba Network considers invoices to be acknowledgments and sets purchase order status to “acknowledged.”

If the buying organization downloads purchase order status, Ariba Network sends a cXML `StatusUpdateRequest` to set purchase order status to “acknowledged.”

Blanket Purchase Order Acknowledgements

After a blanket purchase order (BPO) is sent to the supplier, updates are sent through Ariba Network about any subsequent “open” or “close” operation on the order, including the available amount. The buying organization sends updates to the supplier through Ariba Network about the amount available on the BPO as a result of invoice reconciliation or the order process.

If the BPO is in a hierarchy and is configured to accumulate spend to a master BPO, then an update for the available amount on the master BPO is also sent through Ariba Network. The `BlanketOrderStatusUpdateRequest` element, used to send status updates, contains the following information:

- `open`: Sent with the available amount when a BPO is opened.
- `close`: Sent with the available amount when a BPO is closed.
- `Update`: Sent when the available amount of a BPO changes as a result of invoice reconciliation or the purchase order process.
- `Comments`: Any comments associated with the “open” or “close” operation for the supplier are included.
- `AvailableAmount`: The amount remaining on the BPO that can still be released or invoiced against.

Duplicate Documents

If the supplier does not send a `Response` document within the allotted time discussed above, Ariba Network resends the original document. The duplicate documents have the same `payloadID` value as the original document; it is the supplier’s responsibility to detect duplicates.

If the supplier detects a duplicate, it should discard previous documents and return a `Response` document. The status in the response should be the same as in the original response.

Chapter 8 Order Confirmations and Ship Notices

Overview

Suppliers can update purchase order status either manually through their Ariba Network accounts or by submitting cXML documents to Ariba Network.

The cXML `ConfirmationRequest` and `ShipNoticeRequest` documents enable suppliers to programmatically inform buying organizations of status changes to purchase orders through Ariba Network. These transactions provide a more detailed item level confirmation and ship notification than the simple acknowledgement of orders provided by `StatusUpdateRequest`.

This section is an overview of order confirmations and ship notices:

- Visibility of Order Status
- Ariba Network Account Configuration
- Transaction Flow

Visibility of Order Status

Buying organizations, requisitioners, and suppliers can view order status.

Buying Organizations

Authorized procurement personnel within buying organizations can log in to Ariba Network and view order status.

Requisitioners

Requisitioners (end users) have access through their procurement application to order status.

The order status location viewed by requisitioners depends on the procurement application:

Application	Order Status Location
Ariba Buyer 7.04 through 8.0	Order status is stored only on Ariba Network, not within Ariba Buyer. Requisitioners view order status by automatically performing order status PunchOut to Ariba Network.
Ariba Buyer 8.1 and later	Order status can optionally be downloaded periodically by Ariba Buyer from Ariba Network. Requisitioners view order status within Ariba Buyer.

Suppliers

Authorized order-management personnel within supplier organizations can log in to Ariba Network and view order status.

Ariba Network Account Configuration

Both buying organizations and suppliers perform configuration to enable order status updates.

Buying Organizations

Ariba Buyer 8.1 or later can download `ConfirmationRequest` and `ShipNoticeRequest` documents. Buying organizations must first contact Ariba Network Support to have their accounts enabled to download these document types.

Suppliers

Before sending `ConfirmationRequest` or `ShipNoticeRequest` documents, suppliers must first configure their Ariba Network accounts to set their Preferred Method of Sending Documents. Suppliers can set order status and shipping information manually or automatically; both methods cannot be used simultaneously.

To set programmatic order status updates:

1. Suppliers log on to their Ariba Network accounts, go to the Configuration area, and set **Preferred Method of Sending Response Documents** to cXML.
2. They determine the URL for posting `ConfirmationRequest` and `ShipNoticeRequest` documents by using the Profile transaction. For more information, see Chapter 4, "Profile Transaction."

These suppliers can still manually update order status by temporarily changing the Preferred Method of Sending Response Documents from cXML to Online. However, after a purchase order has been updated manually, it cannot subsequently be updated through cXML.

Suppliers must also configure their backend system to only use the Ariba Network ANID of their customer in the `To Credentials` while sending `ConfirmationRequest` or `ShipNoticeRequest` documents.

Additionally, they must ensure that they do not use the following in the `To Credentials` while sending an order confirmation or ship notice through cXML:

- The Network ID (ANID) of your supplier account
- The Network ID (ANID) of Ariba Network - AN01000000001

Transaction Flow

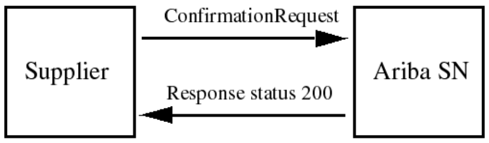
The transaction flow for `ConfirmatioRequest` and `ShipNoticeRequest` depends on which version of Ariba Buyer the buying organization uses.

Ariba Buyer 7.04 Through 8.0

These applications do not download order confirmations or ship notices; therefore documents travel only between the supplier and Ariba Network.

1 The supplier sends a `ConfirmatioRequest` or `ShipNoticeRequest`.

2 If the document is valid, Ariba Network responds with status code 200/OK in the `Response`.

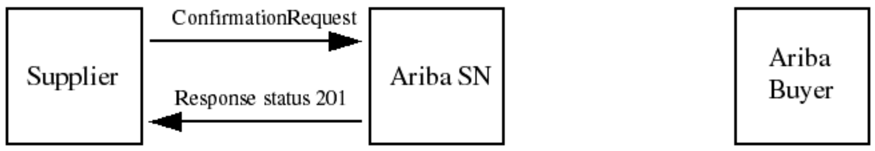


Buying organization can view order status on Ariba Network. For more information, see "Visibility of Order Status" on page 129.

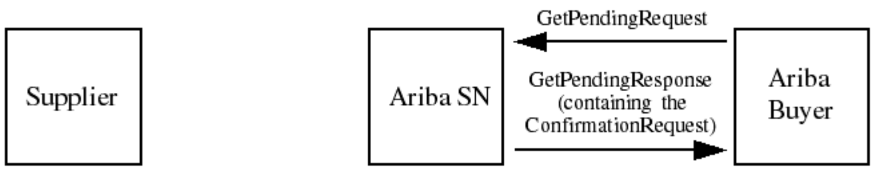
Ariba Buyer 8.1 and Later

This application can optionally download order confirmations and ship notices using the GetPending transaction. It sends a status update to Ariba Network, which forwards it to the supplier.

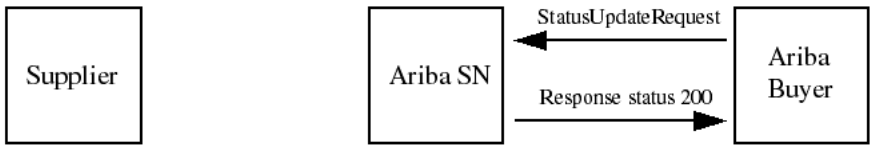
1 The supplier sends a `ConfirmatioRequest` or `ShipNoticeRequest`. If the document is valid, Ariba Network responds with status code 201/Accepted in the `Response`.



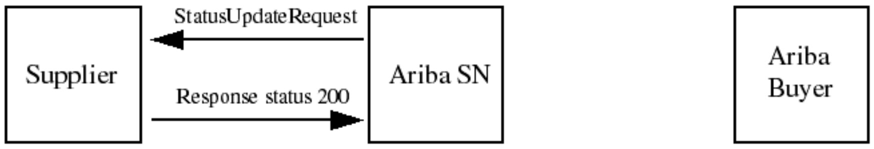
2 Some time later, Ariba Buyer uses the GetPending transaction to download the `ConfirmatioRequest` or `ShipNoticeRequest`.



3 If the document content passes the buying organization's internal processing, Ariba Buyer sends a `StatusUpdateRequest` to Ariba Network with status code 200/OK. Ariba Network responds with a status code 200/OK in the `Response`.



4 If the supplier's cXML profile indicates the supplier supports `StatusUpdateRequest`, Ariba Network forwards the `StatusUpdateRequest` to the supplier. The supplier responds with status code 200/OK in the `Response`.



Credentials

For the credential values for order confirmations and ship notices, see "Required Credentials" on page 36.

ConfirmationRequest Documents

Ariba Network receives `ConfirmationRequest` documents and updates the status of previously ordered items. Requisitioners using Ariba Buyer can view the status of a ordered items. The complete order and status history is visible to both the buying organization and the supplier.

Suppliers can send multiple `ConfirmationRequest` documents for an order, and each `ConfirmationRequest` refers to one, not multiple, `OrderRequest` documents.

Note: The `ConfirmationRequest` document notifies a customer that the supplier might or might not change the customer's purchase order. It does not imply that these changes are acceptable to the customer or that the order can automatically be fulfilled in accordance with such changes by the supplier. How buying organizations interpret `ConfirmationRequest` documents depends on business processes that exist outside of Ariba Buyer and Ariba Network.

ConfirmationRequest Element

`ConfirmationRequest` documents provide detailed status updates of `OrderRequest` documents.

`ConfirmationRequest` documents contains three elements: `ConfirmationHeader`, `OrderReference`, and an optional `ConfirmationItem` (included only if `type="detail"` or `"except"`).

ConfirmationHeader Element

Optional elements allowed in `ConfirmationHeader` (for display only) are:

- `Total`
- `Shipping`
- `Tax`
- `Contact`
- `Comments`
- `Hazard`

ConfirmationHeader has the following attributes and elements.

confirmID	Any internal number used by the supplier.
type	Confirmation request type for transaction. Can be: accept, reject, except, detail, backordered, requestToPay, or replace. • type="accept", "reject", and "except" can be applied to the entire purchase order. Multiple confirmations sent for a purchase order can reference a line item only one time, but can contain multiple statuses for that line item. Multiple confirmations are acceptable only if type="accept", "except", or "reject". • type="detail" updates portions of a purchase order, such as prices, quantities, delivery dates, reject portions, tax, and shipping information. Multiple ConfirmationRequest documents of this type can refer to a single purchase order, but cannot refer to common line items. At least one of the following elements UnitPrice, Shipping, Tax, ItemIn (item substitution), DeliveryDate, or Contact must be present. • type="backordered" sets the entire order to backordered status. The supplier does not have the items in stock, but will ship them when they are available. • type="requestToPay" triggers payment only for Ariba Processing Plus (AP Plus) through VeriSign. To trigger AP Plus through Ariba Network, use cXML invoices. For more information, see “AP Plus” on page 160. • type="replace" replaces all items in the purchase order with new items. ConfirmationItem elements must contain ConfirmationStatus elements only of type "detail" and must include an ItemIn element. The procurement application should cancel and replace the original purchase order or generate a change purchase order that contains these new line items. type="allDetail" is not supported by Ariba Network.
operation	Specifies whether the document is new or an update. Can be "new" or "update". • operation="new"sets initial status of items or entire orders. • operation="update" revises item or order status set by previously sent order confirmations. Updates are not cumulative; each one must list all quantities of a line item (each document replaces the previous one). Ariba Network rejects updates that do not list all line items previously updated.
noticeDate	For operation="update", use noticeDate to specify the date of the update (not the original confirmation time).
Total	Total dollar value of all line items in the transaction.
Shipping	Total shipping charge.
Tax	Total tax.

All values should match the OrderRequest document unless ConfirmationItem updates unit price or quantity.

The type and operation attributes in ConfirmationHeader determine the purpose of the document.

OrderReference Element

`orderID`	(Optional) The purchase order number assigned by Ariba Buyer.
`orderDate`	(Optional) Date the purchase order was sent by the buying organization.
`DocumentReference`	Exists at the header level if the `ConfirmationRequest` is the initial response to an `OrderRequest` and also at the line item level if the `ConfirmationHeader operation="update"`. For `operation="new"`, the `DocumentReference` at the header level must refer to the purchase order. For `operation="update"` or `"delete"`, the `DocumentReference` at the header level must refer to the previous `ConfirmationRequest`.

ConfirmationItem Element

`lineNumber`	Reference line item number from the `OrderRequest` document.
`quantity`	Either original quantity if going to confirm in full or updated quantity with type set appropriately.
`Comments`	Additional information about the status of the overall order, or the portion described in this confirmation, such as payment terms, additional details on shipping terms and clarification of the status. Valid terms for status information include, `shipped` and `invalid`.

Example:

```
<ConfirmationItem lineNumber="22" quantity="123">
   <UnitOfMeasure>EA</UnitOfMeasure>
   <ConfirmationStatus quantity="1" type="accept">
      <UnitOfMeasure>EA</UnitOfMeasure>
   </ConfirmationStatus>
   <ConfirmationStatus quantity="122" type="reject">
      <UnitOfMeasure>EA</UnitOfMeasure>
   </ConfirmationStatus>
</ConfirmationItem>
```

ConfirmationStatus Element

ConfirmationStatus attributes include:

quantity	Sum must match the quantity in the ConfirmationItem.
type	Action taken by supplier for line item number identified. Can be: accept, detail, reject, backordered, requestToPay, or unknown. • type="accept" accepts particular line item. • type="detail" accepts portion of line item with the changes detailed in the ConfirmationStatus element. At least one of the UnitPrice, Shipping, Tax, or ItemIn elements, or the deliveryDate attribute must be present. • type="reject" rejects this portion of the line item. • type="backordered" sets this portion of the line item to backordered status. The supplier does not have the items in stock, but will ship them when they are available. • type="requestToPay" triggers payment only for Ariba Processing Plus (AP Plus) through VeriSign. To trigger AP Plus through Ariba Network, use cXML invoices. For more information, see "AP Plus" on page 160. • type="unknown" resets the status to the default state. The item status displays on Ariba Network as if no confirmations had been sent. type="allDetail" is not supported by Ariba Network.
shipmentDate	Date and time this shipment is expected to leave the supplier. Required if type is accept, allDetail, or detail.
deliveryDate	Date and time this shipment is expected to arrive. Required if type is accept, allDetail, or detail. Do not include if its value matches requestedDeliveryDate (if any) in the purchase order. Displayed as "Est. Delivery Date" within Ariba Network.

UnitPrice and Tax are forbidden if ConfirmationStatus type="unknown".

In earlier releases of Ariba Network, suppliers could set backordered status only by setting type="unknown" and including a Comments element containing the text "backordered". This method of setting backordered status is no longer supported.

Implementation Hints and Limitations

The following topics can help suppliers to send order confirmations successfully.

- Item Substitutions
- Confirmations and Cancel and Change Orders
- Order Confirmation Updates

Item Substitutions

Ariba Network allows suppliers to send `ConfirmationRequest` documents that substitute ordered items. cXML enables item substitutions by allowing `ItemIn` elements within `ConfirmationStatus` elements.

Ariba Network displays only Supplier Part ID, Unit Price, Shipping, and Tax information online. Additional information that might be in `ConfirmationRequest` documents, such as Supplier Part Auxiliary ID, Manufacturer Part ID, Description, and Comments do not display.

Confirmations and Cancel and Change Orders

Suppliers must understand how Ariba Network processes order confirmations for cancelled and changed orders.

Cancelled orders:

- Ariba Network rejects `ConfirmationRequest` documents for cancelled purchase orders.
- Ariba Network allows no updates to `ConfirmationRequest` documents that were received prior to purchase order cancellation.
- Suppliers cannot send `ConfirmationRequest` documents to acknowledge order cancellations.

Changed orders:

- Ariba Network does not allow suppliers to reject original orders after it receives changed orders.
- Any `ConfirmationRequest` posted to order prior to change are persisted, but they are not automatically transferred or linked to the new change order.

A change order appears in a supplier's inboxes as a separate order, with a version indicator (for example -V2). `ConfirmationRequest` documents should refer to the change order's `DocumentReference`. Ariba Network sets the status of the original order to "Obsoleted."

Suppliers cannot reject the "changing" of original orders, but they can reject, accept, or change the items in the new order.

Order Confirmation Updates

Suppliers can update previously set order status by sending additional `ConfirmationRequest` documents. To set initial status of line items, use `operation="new"`. To revise line items, use `operation="update"` and list all other line items.

Each `ConfirmationRequest` document *replaces* the previous version of that document. In other words, the previous document version is discarded; `ConfirmationRequest` documents are not cumulative. Each updated document must list all line items that appeared in the previous version.

Subsequent `ConfirmationRequest` documents must use new `payloadID` and `NoticeDate` attributes, but use the same `confirmID` attribute as the first order confirmation. These documents can have one or two `DocumentReference` elements:

- If `operation="new"`, reference the purchase order with a `DocumentReference` element at the line item level.
- If `operation="update"`, reference the previous `ConfirmationRequest` with a `DocumentReference` at the header level and the purchase order with a `DocumentReference` element at the header level.

Example ConfirmationRequest

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/Fulfill.dtd">
<cXML payloadID="March222001_1154am" timestamp="2001-03-22 11:55:38 -0700">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN0100001234</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000006789</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN0100001234</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Ecommerce Supplier</UserAgent>
      </Sender>
   </Header>
   <Request>
      <ConfirmationRequest>
         <ConfirmationHeader operation="new" confirmID="1234"
               type="accept"
               noticeDate="2001-02-28T10:07:00-08:00">
            <Total>
               <Money currency="USD">139.95</Money>
            </Total>
            <Shipping>
               <Money currency="USD">5.00</Money>
               <Description xml:lang="en-US">FedEx 2-day</Description>
            </Shipping>
            <Tax>
               <Money currency="USD">12.45</Money>
               <Description xml:lang="en-US">CA State Tax</Description>
            </Tax>
            <Comments>Header Comments</Comments>
         </ConfirmationHeader>
         <OrderReference orderID="PC066">
            <DocumentReference
                payloadID="985274930687.1374859706.109.7733@zimbuyer.com">
            </DocumentReference>
         </OrderReference>
         <ConfirmationItem lineNumber="1" quantity="1">
            <UnitOfMeasure>EA</UnitOfMeasure>
            <ConfirmationStatus quantity="1" type="accept" shipmentDate="2001-03-30T08:39:29-08:00">
               <UnitOfMeasure>EA</UnitOfMeasure>
               <Comments>Order has been accepted. Will ship ASAP</Comments>
            </ConfirmationStatus>
         </ConfirmationItem>
      </ConfirmationRequest>
   </Request>
</cXML>
```

ShipNoticeRequest Documents

Suppliers can set the shipping status of purchase order line items by sending cXML `ShipNoticeRequest` documents.

`ShipNoticeRequest` documents are advance ship notices that provide detailed shipping information for items in purchase orders. Suppliers can send these documents before or after shipping items. Ariba Network receives `ShipNoticeRequest` documents, validates them against the cXML DTDs, and applies the information in them to the affected line items.

Buying organizations can see updated line item status. For more information, see "Visibility of Order Status" on page 129.

Implementation Hints and Limitations

The following topics can help suppliers to send ship notices successfully.

- ShipNoticeRequest payloadID Attribute
- DocumentReference payloadID Attribute
- shipmentID Attribute
- ServiceLevel Element
- ShipControl Element
- PackageIdentification Element
- Packaging Element
- Ship Notices and Cancel and Change Orders
- Limitations

ShipNoticeRequest payloadID Attribute

The `payloadID` in the header of the `ShipNoticeRequest` must be unique. Refer to the *cXML User's Guide* at `www.cXML.org` for `payloadID` format.

DocumentReference payloadID Attribute

Similar to the `ConfirmationRequest` transaction, the `DocumentReference payloadID` must match the `payloadID` of the `OrderRequest`. Ariba Network uses this value to match documents, not the `orderID` attribute. The `orderID` is an optional attribute.

shipmentID Attribute

The `shipmentID` attribute is required.

ServiceLevel Element

The `ServiceLevel` element is optional. If you include it, one or more language-specific strings are required.

ShipControl Element

The `ShipControl` element describes travel segments under control of a single carrier. It provides tracking information buying organizations can use to retrieve information about the shipment. The `Route` element describes transit segments (modes) under a carrier's control.

If suppliers specify a carrier name recognized by Ariba Network, it displays a hyperlink for tracking the shipment at the carrier's website. Ariba Network uses carrier names in the `companyName` domain:

```
<ShipControl>
   <CarrierIdentifier domain="companyName">FedEx</CarrierIdentifier>
   <ShipmentIdentifier>8202 8261 1194</ShipmentIdentifier>
</ShipControl>
```

Ariba Network recognizes the following carrier names:

Airborne Express
Consolidated Freightways
DHL
EGL Eagle Global Logistics
EmeryWorldwide
FedEx
Menlo/IBM
Purolator
Purolator Courier
Roadway Express
UAL Cargo
UPS
US Postal Service
Velocity Express
Yellow Freight

PackageIdentification Element

This element resides within the `ShipControl` element. Ship notices have just one `ShipmentIdentifier` per carrier. The `PackageIdentification` contains an inclusive range of numbers that appears on portions (for example, boxes, palettes, or skids) of the shipment.

Packaging Element

This element resides within the `ShipNoticeItem` element. It contains both packaging codes (zero or more locale-specific strings) and dimensions for the package of an item. The only supported dimensions are length, width, height, weight and volume.

Ship Notices and Cancel and Change Orders

If purchase orders are marked as Shipped or Partially Shipped, Ariba Network rejects any cancel or change orders for them.

Limitations

Observe the following Ariba Network limitations when using `ShipNoticeRequest`.

- `operation="update"` and `operation="delete"` are not currently supported.
- Multiple `ShipControl` elements in a `ShipNoticeRequest` are not currently supported. Send a separate `ShipNoticeRequest` for each shipment.
- Multiple `ShipNoticePortion` elements in a `ShipNoticeRequest` are not currently supported. If a shipment contains items from multiple orders, a `ShipNoticeRequest` must be sent for each order.

Example ShipNoticeRequest

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/Fulfill.dtd">
<cXML payloadID="1233444-2004@premier.supplier.com"
xml:lang="en-CA" timestamp="2001-10-14T08:39:29-08:00">
   <Header>
      <From>
         <Credential domain="DUNS">
            <Identity>123456789</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000002792</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="DUNS">
            <Identity>123456789</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Ecommerce Supplier</UserAgent>
      </Sender>
   </Header>
   <Request>
      <ShipNoticeRequest>
         <ShipNoticeHeader shipmentID="S89823-123" operation="new"
                  noticeDate="2001-10-14"
                  shipmentDate="2001-10-14T08:30:19-08:00"
                  deliveryDate="2001-10-18T09:00:00-08:00">
            <Contact role="shipFrom">
               <Name xml:lang="en-CA">XYZ Warehouse Inc.</Name>
               <PostalAddress>
                  <Street>9966 Mercury Liquid Center</Street>
                  <City>Sunnyvale</City>
                  <State>CA</State>
                  <PostalCode>94086</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Phone>
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="CA">1</CountryCode>
                     <AreaOrCityCode>800</AreaOrCityCode>
                     <Number>5555555</Number>
                  </TelephoneNumber>
               </Phone>
            </Contact>
            <Comments xml:lang="en-CA">Got it into one shipment.</Comments>
         </ShipNoticeHeader>
         <ShipControl>
            <CarrierIdentifier domain="SCAC">FDE</CarrierIdentifier>
            <CarrierIdentifier domain="companyName">FedEx</CarrierIdentifier>
            <ShipmentIdentifier>8202 8261 3294</ShipmentIdentifier>
         </ShipControl>
         <ShipNoticePortion>
            <OrderReference orderID="PC066">
               <DocumentReference
                  payloadID="985274930687.1374859706.109.7733@zimbuyer.com">
               </DocumentReference>
            </OrderReference>
            <ShipNoticeItem quantity="1" lineNumber="1">
               <UnitOfMeasure>EA</UnitOfMeasure>
            </ShipNoticeItem>
         </ShipNoticePortion>
      </ShipNoticeRequest>
   </Request>
</cXML>
```

Attachments

Suppliers sometimes clarify order confirmation and ship notices with associated memos, faxes, or drawings. They can use Ariba Network or cXML to attach files to these documents using a MIME envelope as described in the *cXML User's Guide*. Buying organizations can configure Ariba Network to include attachments when forwarding order confirmations and ship notices to Ariba Buyer 8.2 or later.

Attachments on Ariba Network

Ariba Network stores attachments for retrieval by both trading partners. Users can retrieve these files by logging on to their Ariba Network accounts.

Attachments expire 180 days after Ariba Network receives them. Expired attachments are not available online.

Attachment File Names

Ariba Network supports attachments with file names in all supported character sets, including Chinese, Japanese, and Korean. Ariba Network encodes non-ASCII filenames according to Internet Engineer Task Force (IETF) Request for Comment (RFC) 2047. Filenames in Asian languages can contain up to 15 characters, and filenames in Latin-1 languages can contain up to 21 eight-bit characters or 70 seven-bit characters.

AttachmentOnline Extrinsic

If buying organizations configure their Ariba Network accounts to send order confirmations and ship notices but not attachments, Ariba Network adds an `Extrinsic` element named “AttachmentOnline” to the `ConfirmationHeader` to indicate the existence of an attachment. For example:

```
<Extrinsic name="AttachmentOnline">
   https://service.ariba.com/ad/shipnoticeDetail?poID=1234&amp;anp=Ariba
</Extrinsic>
```

Buying organizations can use the URL in this `Extrinsic` to manually log in and view the order confirmation or ship notice. They can then click on the listed attachments to view or download them.

Ariba Network adds this `Extrinsic` only for buying organizations that have clicked “Leave attachments online” in their transaction configuration.

Serial Numbers and Asset Tags

Suppliers can provide serial numbers to buying organizations in ship notices. Alternatively, buying organizations can pre-assign an asset number range to each supplier. For example, the supplier might offer to print bar codes for the number range and assign them to the products shipped. If suppliers using PO-Flip enter asset tag or serial number information, Ariba Network places it in the correct element.

Suppliers generate `AssetInfo` tags in the `ShipNoticeRequest` document. For example:

```
<ShipNoticeItem lineNumber="10" quantity="2.000">
    <AssetInfo tagNumber="111" serialNumber="SN5187" location="Bob's Office"/>
    <AssetInfo tagNumber="112" serialNumber="SN5188" location="Anthony's Office"/>
    <UnitOfMeasure>EA</UnitOfMeasure>
</ShipNoticeItem>
```

Chapter 9 Invoices and Scheduled Payments

This chapter describes the behavior of Ariba Network and procurement applications when they receive cXML `InvoiceDetailRequest` and other invoice documents.

Basic Invoice Functionality

Suppliers can generate invoices through the following methods:

- Manual online invoice generator (PO-Flip)
- cXML `InvoiceDetailRequest` documents
- EDI ANSI X12 810 or EDIFACT INVOIC documents

Suppliers can use a combination of these methods without making any configuration changes on Ariba Network; however, to avoid confusion, they should use only one method per purchase order.

Ariba Network matches each invoice with its corresponding purchase order and it compares them with the buying organizations' invoicing business rules.

Invoices appear in suppliers' online outboxes and in buying organizations' online inboxes. Both trading partners can view invoices and their up-to-date status as they move through the invoice lifecycle. Invoices provide links to associated documents such as purchase orders, master agreements, and credit/debit memos.

Suppliers can send debit memos through cXML, but Ariba Network does not support creating them online through the **Create Invoice** pages.

Ariba Network can route invoices from suppliers to Ariba Buyer (7.1 and later). It can also route invoice status (`StatusUpdateRequest` documents) from those organizations to suppliers. Ariba Buyer performs invoice reconciliation to match charges in invoices to items on purchase orders.

Purchase Order Matching

Invoices refer to pre-existing purchase orders, master agreements, or credit/debit memos. These pre-existing documents might reside on Ariba Network, or they might be external documents, which are documents that were not routed through Ariba Network. Both Ariba Network and Ariba Buyer attempt to find pre-existing documents by searching for them.

Suppliers insert one of the following elements in invoices to reference pre-existing purchase orders or master agreements:

- `OrderReference`—(preferred method) A `DocumentReference` element containing the purchase order/master agreement `payloadId`.
- `OrderIDInfo`—The purchase order/master agreement `orderID` and its `orderDate`.

Matching on Ariba Network

Ariba Network performs document matching immediately after cXML validation to find pre-existing purchase orders or master agreements.

- If invoices use **payload ID**, but that value does not match purchase orders on Ariba Network, Ariba Network considers the purchase orders to be external.
- If invoices use only **orderID** and **orderDate**, Ariba Network attempts to match based on the purchase order number and optional order date.
- If invoices use only **orderID** and **orderDate**, and those values match multiple purchase orders, Ariba Network rejects the invoices.
- If invoices use both **payload ID** and **orderID**, Ariba Network makes sure these values match the same purchase orders. If they do not match, Ariba Network considers the purchase orders to be external, even if `payloadID` matches a purchase order.
- If invoices match an obsoleted purchase order, Ariba Network rejects the invoices.

Successful Matches

If Ariba Network successfully matches invoices with purchase orders or master agreements, it creates online hyperlinks to them available to both trading partners.

Ariba Network then tests invoice contents against the buying organization's business rules (see "Invoicing Business Rules" on page 145.)

Unsuccessful Matches

If Ariba Network cannot match a purchase order, it treats the invoice as belonging to an external purchase order, which is any purchase order that was not routed through Ariba Network.

Buying organizations configure their Ariba Network accounts to either allow or reject invoices against external purchase orders. For more information, see "Invoicing Business Rules" on page 145.

Matching in Ariba Buyer

By default, Ariba Buyer finds pre-existing purchase orders or master agreements by using the `OrderReference payloadID` from invoices. If invoices do not contain that value, it matches by `OrderIDInfo` (purchase order number).

If Ariba Buyer cannot find referenced purchase orders, it generates *unmatched invoice exceptions*. These exceptions list invoice details and allow requisitioners to manually match invoices to purchase orders. If requisitioners cannot find matches, they can reject the invoices, and Ariba Buyer sends cXML `StatusUpdateRequest` documents to Ariba Network to set invoice status to “rejected.”

Buying organizations can configure Ariba Buyer to automatically reject invoices that do not match purchase orders. They can also customize the logic that Ariba Buyer uses for document matching.

Invoicing Business Rules

When buying organizations enable their Ariba Network accounts for invoicing, they specify invoicing business rules. These rules specify basic requirements of their invoicing process, for example:

- Allow invoices that contain detailed service information. These are invoices with `InvoiceDetailServiceItem` elements (introduced in cXML 1.2.009).
- Allow invoices against external (non-Ariba Network) purchase orders.
- Allow invoices against PCard/credit card orders.
- Allow invoices to change currency, unit price, unit of measure, part number, ship to, or bill to.
- Allow invoices to have additional quantities or line items.
- Allow users to view invoices on Ariba Network from your ERP application.

Each buying organization can set these business rules differently.

When Ariba Network receives invoices, it tests their contents against these business rules. Ariba Network does not route invoices that fail to pass. It sends email notifications to suppliers (not to buying organizations) and it does not send cXML status documents.

Rules that Affect PO-Flip Only

The following business rules affect only PO-Flip invoices (invoices generated online), not invoices generated through cXML, EDI, or CSV:

- Allow a change in Ship To Information
- Allow a change in Bill To Information
- Allow direct entry of sales tax

Supplier Visibility of Business Rules

Suppliers can view the invoicing business rule settings of their customers through their Ariba Network accounts. Suppliers should understand their customers’ capabilities before generating invoices.

To view a customer's invoicing business rules, suppliers go to the Buyers area of their Ariba Network accounts and click the name of the customer. If invoicing rules are not listed, that customer does not accept invoices through Ariba Network.

Numeric Validation

Ariba Network does not perform any numeric validation on line-items, totals, or costs within cXML invoices.

Ariba Network does not validate math errors. For example, if a cXML invoice lists unit price $50 and quantity 5, Ariba Network will not check to see if the subtotal is $250. That discrepancy will not generate a validation error.

Similarly, Ariba Network does not perform numeric validation of amounts in `ConfirmationRequest` documents that refer to invoices. In particular, Ariba Network does not check the `PartialAmount` element. `PartialAmount` enables buying organizations to specify different amounts paid than the amounts specified in invoices.

Implementation Hints

Ariba applications have specific requirements for invoice contents. This section discusses the following aspects of invoices:

- eSignatures
- IdReference Element
- Contact Roles
- Conversion of Segment to AccountingSegment
- Invoice payloadID Attribute
- SerialNumber Elements
- PaymentTerm Element
- Remittance IDs
- Credits
- Inspection Date Attribute
- Tax Invoice Extrinsic
- Tax Detail Category
- Tax on Shipping and Special Handling
- Fields for Countries with a VAT System
- AP Plus
- Attachments
- Maximum Document Size
- Extrinsic Elements
- Field Lengths

eSignatures

Digital signatures (eSignatures) provide an electronic method of authenticating the creators of documents and of ensuring content integrity. They are also used to meet country-specific requirements, including VAT.

Digital signatures enable buying organizations and suppliers to prove that an invoice is unaltered, depending on local laws. If a digitally signed invoice is changed after it is signed, the digital signature is invalid.

Ariba Network can apply a digital signature to invoices generated online, through cXML, EDI, or CSV. Ariba Network compares the originating and destination countries on the invoice to determine whether the invoice should be digitally signed. If both countries require digital signatures, Ariba Network digitally signs the invoice. Some countries require digital signatures for both the originating and the destination countries.

To determine the originating and destination countries, Ariba Network checks the InvoiceDetail cXML for the following information in the order given. If the country cannot be determined, Ariba Network does not digitally sign the invoice.

Order	Originating Country Determined by…	Destination Country Determined by…
1	Tax representative's VAT ID prefix	Buyer's VAT ID prefix
2	Tax representative's country code	"shipTo" element country code (header level)
3	Supplier's VAT ID prefix	"shipTo" element country code (line item)
4	"From" element country code	

The customer's currency is determined by the country specified in the Ship To field.

Digitally signed invoices are compatible with any version of Ariba Buyer that accepts invoices. Versions of Ariba Buyer before 8.2 accept signed invoices but do not authenticate digital signatures. European buying organizations should allocate disk space to store the additional 3-4 kilobytes per invoice for digital signatures.

On the Invoice Review page, Ariba Network specifies that the invoice will be digitally signed. Ariba Network also signs updated and cancel invoices that you generate. Ariba Network does not apply a digital signature for paper invoices, invoices generated from an invoice conversion service, or invoices marked with the `invoiceConvertedData` extrinsic. For more information, see "Invoice Conversion" on page 148.

For information on the current invoicing certificate requirements for several European countries, see `knowledge.ariba.com/Ariba_eSigning_CountryMatrix`.

Supplier Self-Signed Invoices

Beginning with AN49, Ariba Network supports self-signed invoices. Suppliers who implement their own digital signature solution (via cXML) can create self-signed invoices. This process assumes that the supplier is the issuer of the invoice and can validate on behalf of the buyer. Therefore, the supplier must use the signature validation method specified for canonicalization as described in the W3C specifications *before* signing the invoice.

Suppliers are free to use their established business logic for determining when and how to eSign as follows:

- Which invoices to sign (in some case the supplier may choose not to apply an eSignature at all)
- What country combinations of origin and destination to use
- Which certificates to use for signing invoices

Limitations

Buyers should fully understand the supplier's process for eSigning and validating on their behalf. Also, if the invoice is not canonicalized before signing, any third party (e.g., Infomosaic, Apache) validation of the signature will fail. Ariba's digital signature feature utilizes TrustWeaver as the third-party digital signature ASP.

Note: Using Apache is preferred for signature validation (and not Microsoft.NET). Refer to http://www.w3.org/TR/xml-c14n and http://en.wikipedia.org/wiki/Canonical_XML for more information on XML canonicalization.

For more information on using digital signatures with invoices, see the *Ariba Network Account Management Guide* or the *Buyer Administration Guide*. For information on how digital signatures appear in invoices, see the *Ariba Network Transactions Guide*.

Invoice Conversion

Invoice conversion service providers can use the `invoiceConvertedData` extrinsic to indicate that the invoice was created from a scanned image during the invoice conversion process. The recommended practice is to replace this extrinsic with the `invoiceSubmissionMethod` extrinsic, which indicates the means used to submit the invoice. Ariba Network uses this extrinsic to assign a value to invoices created online for reporting and uses it to determine whether to digitally sign invoices. Invoice conversion service providers use the extrinsic with the value `PaperViaICS`. Other values are: `Online`, `EDI`, `cXML`, `PaperInvoice`, `SupplierPunchIn`, and `CSVUpload`. For example:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.020/InvoiceDetail.dtd">
...
  <InvoiceDetailRequestHeader invoiceDate="2008-08-11T01:34:42+01:00" invoiceID="280064482"
operation="new" purpose="standard" ...>
    <Extrinsic name="invoiceSubmissionMethod">PaperViaICS</Extrinsic>
  </InvoiceDetailRequestHeader>
...
```

When an invoice is sent through the invoice conversion process, the **Submit Method** column on the user interface in the Ariba Network account and the `invoiceSubmissionMethod` element in the cXML contains the following values:

- If the invoice is sent with a value in the `invoiceSubmissionMethod` extrinsic, Ariba Network retains this value and displays it in the cXML and in the Ariba Network account.
- If the invoice is sent without a value in the `invoiceSubmissionMethod` extrinsic, then the `invoiceSubmissionMethod` in the cXML shows "PaperViaICS" and the **Submit Method** column in the Ariba Network account displays, "ICS Paper Invoice."

Other Source Documents

The extrinsic `invoiceSourceDocument` is used for reporting purposes to show the source document referenced in the invoice. The value is one of the following strings: `PurchaseOrder`, `SalesOrder`, `Contract`, `ExternalPurchaseOrder`, or `Time_ExpenseSheet`. For example:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.020/InvoiceDetail.dtd">
...
  <InvoiceDetailRequestHeader invoiceDate="2008-08-11T01:34:42+01:00" invoiceID="280064482"
operation="new" purpose="standard" invoiceOrigin="supplier">
    <Extrinsic name="invoiceSourceDocument">Contract</Extrinsic>
    <Extrinsic name="invoiceSubmissionMethod">SupplierPunchin</Extrinsic>
  </InvoiceDetailRequestHeader>
...
```

IdReference Element

Trading partners should understand how to generate and use the `IdReference` value within `InvoicePartner` elements.

For example, in most cases, the domains `accountID` and `bankRoutingID` should be used as a pair with `Contact role remitTo`. For example:

```
<InvoicePartner>
   <Contact role="remitTo">
      <Name xml:lang="en-US">Supplier Accts. Receivable</Name>
      <PostalAddress>
         <Street>One Bank Avenue</Street>
         <City>Any City</City>
         <State>CA</State>
         <PostalCode>94087</PostalCode>
         <Country isoCountryCode="US">United States</Country>
      </PostalAddress>
   </Contact>
   <IdReference identifier="123456789" domain="bankRoutingID" />
   <IdReference identifier="3456" domain="accountID" />
</InvoicePartner>
```

For some trading relationships, the `accountID` might not refer to a bank account ID. It might be an ID assigned to the supplier by the buying organization.

Additional details about `IdReference` domains:

- `accountPayableID`—Buying organization's vendor number for the supplier.
- `accountReceivableID`—Supplier's customer number for the buying organization.
- `vatID`—Value Added Tax identifier for organizations that comply with VAT requirements.
- `gstID`—Goods and Services Tax identifier for Canadian organizations.
- `stateTaxID` and `provincialTaxID`—Interchangable, representing only different globalized descriptions.

ACH Information

ACH information provides details on where to send payments. For example:

```
<InvoicePartner>
   <Contact role="receivingBank">
      <Name xml:lang="en-US">Wells Fargo Bank</Name>
   </Contact>
   <IdReference identifier="121042882" domain="abaRoutingNumber" />
   <IdReference identifier="Workchairs Savings" domain="accountName" />
   <IdReference identifier="34567890" domain="BankaccountID" />
   <IdReference identifier="Savings" domain="accountType" />
   <IdReference identifier="Sunnyvale" domain="branchName" />
</InvoicePartner>
```

Wire Information

Wire information provides details on where to send payments. For example:

```
<InvoicePartner>
   <Contact role="WirereceivingBank">
      <Name xml:lang="en-US">BankAmerica</Name>
   </Contact>
   <IdReference identifier="121042882" domain="swiftID" />
   <IdReference identifier="12345678" domain="ibanID" />
   <IdReference identifier="Workchairs Savings" domain="accountName" />
   <IdReference identifier="123456" domain="bankAccountID" />
   <IdReference identifier="Savings" domain="accountType" />
   <IdReference identifier="Sunnyvale" domain="branchName" />
</InvoicePartner>
```

Contact Roles

Invoices can have the following `Contact role` values:

- `from`—Supplier's name and address.
- `soldTo`—Buyer's name, email, and address.
- `billTo`—Buyer's name and address.
- `remitTo`—Supplier's address.
- `shipFrom`—Supplier's shipping address, with email address, if any.
- `shipTo`—Buyer's name and address.

The `Contact` element within `InvoiceDetailShipping` has the following roles: `shipFrom` and `shipTo`. Both roles are required.

The `role="remitTo"` can optionally have an `addressID` attribute.

Conversion of Segment to AccountingSegment

When suppliers generate invoices manually through their Ariba Network accounts, Ariba Network transforms any `Segment` elements from the purchase orders into `AccountingSegment` elements for the invoices.

The `Segment` element was deprecated and replaced by the `AccountingSegment` element in cXML 1.2.005.

Invoice payloadID Attribute

The `payloadID` in the invoice document header must be a unique value for all documents. If the `payloadID` is not unique, the invoice is not generated and no error message appears. Use the guidelines for formulating `payloadID` in the *cXML User's Guide*.

Invoices should also contain the `payloadID` of the corresponding purchase order or master agreement. For more information, see "Purchase Order Matching" on page 144.

SerialNumber Elements

Suppliers can uniquely identify items being invoiced by specifying their serial numbers. Suppliers can insert one or more `SerialNumber` elements within `InvoiceDetailItemReference` elements:

```
<SerialNumber>45993823469876</SerialNumber>
<SerialNumber>45993823469877</SerialNumber>
<SerialNumber>45993823469878</SerialNumber>
```

The `serialNumber` attribute was deprecated in cXML 1.2.009 and replaced by the `SerialNumber` element. Ariba Network displays both `serialNumber` attributes and `SerialNumber` elements.

PaymentTerm Element

The `PaymentTerm` element allows suppliers to specify discounts or penalties based on payment date. Payment terms can come from corresponding purchase orders.

Buying organizations can allow or disallow changes to payment terms on Ariba Network. Regardless of whether they allow suppliers to edit payment terms, Ariba Network accepts changes in payment terms for purchase orders that do not specify these terms.

Standard invoices and debit memos can have payment terms; however, Ariba Network rejects credit memos and line-item credit memos that have payment terms.

Remittance IDs

Buying organizations might require suppliers to consistently identify remittance addresses with a unique ID value. Suppliers should populate the `Contact addressID` attribute with that ID.

For example:

```
<InvoicePartner>
   <Contact role="remitTo" addressID="1234">
      <Name xml:lang="en">Joan Bill</Name>
      <PostalAddress name="billing department">
```

```
         <DeliverTo>Joan Bill</DeliverTo>
         <Street>16 Castro Street</Street>
         <City>Mountain View</City>
         <State>CA</State>
         <PostalCode>95035</PostalCode>
         <Country isoCountryCode="US">United States</Country>
      </PostalAddress>
         . . .
   </Contact>
   . . .
</InvoicePartner>
```

The buying organization can assign a unique ID value for each supplier address. The supplier must use the ID appropriate for the buying organization.

Credits

Suppliers can issue credits to their customers by sending credit memos and line-item credit memos. To issue a credit, suppliers should send a header-level credit memo or a line-item credit memo with a negative amount. Your customers must configure their Ariba Network account to accept line-item credit memos. If your customers do not configure their accounts, Ariba Network treats a line-item credit memo as a standard invoice.

The following example shows the `InvoiceDetailRequestHeader` element of a line-item credit memo:

```
<InvoiceDetailRequest>
   <InvoiceDetailRequestHeader invoiceID="CRD012042"
      purpose="lineLevelCreditMemo" operation="new"
      invoiceDate="2001-12-04T18:00:00-07:00">
      <InvoiceDetailHeaderIndicator isHeaderInvoice="no"/>
      <InvoiceDetailLineIndicator/>
      <Comments xml:lang="en-US">
         Buyer ordered 5 Computer Video Cables and 3 Wireless Keyboards. We invoiced the
         customer for 8 Cables by mistake.
      </Comments>
```

Note: In order for the line-item credit memo to contain a link to the original invoice, suppliers need to provide the `DocumentReference` element with the `PayloadID`. For example, `<DocumentReference payloadID="`*`<PreviousInvoicePayloadId>`*`" />`. For non-cXML suppliers, `InvoiceIDInfo` is an acceptable alternative. The `InvoiceDetailRequestHeader` element example shows only the `invoiceID` provided in the credit memo.

Inspection Date Attribute

Some countries, such as Japan, mandate that invoices specify when the transfer of products or the delivery of services occurs.

Suppliers specify inspection dates using the `inspectionDate` attribute, which can be used with the `InvoiceDetailItem`, `InvoiceDetailServiceItem`, and `InvoiceDetailOrderSummary` elements. For example:

```
<InvoiceDetailItem
   invoiceLineNumber="1"
   quantity="5"
   inspectionDate="2004-01-01T00:01:23+00:00">
```

Ariba Network automatically adds this attribute when suppliers generate invoices manually in their Ariba Network accounts if both trading partners' addresses are in Japan.

Tax Exchange Rate Extrinsic

Ariba Network uses exchange rates from Bloomberg to calculate tax amounts. Some countries, such as Spain, require exchange rates to be retrieved from Spain's officially published rates. To accommodate this requirement, Ariba Network allows suppliers to enter exchange rates instead of automatically converting tax amounts to the specified currency.

Suppliers can indicate tax exchange rates by inserting the following `Extrinsic` element in the `InvoiceDetailRequestHeader` element:

```
<Extrinsic name="taxExchangeRate">1.2</Extrinsic>
```

Ariba Network allows a tax to be specified in one currency only for online invoicing. The currency of the buying organization is calculated according to the country specified in the Ship To address. The online invoice form does not allow suppliers to create invoice lines shipping to multiple countries if this rule is turned on. The supplier is prompted to enter the exchange rate if the currency of tax amounts is different from the currency of the Ship To address country.

Ariba Network also validates that the incoming cXML has tax amounts specified in the currency of the Ship To address. If the tax information is specified at the line item level, Ariba Network validates the tax information specified in the currency of the Ship To information at the line item level, if applicable. Otherwise it uses the Ship To information from the invoice header for validation.

If the tax information is specified at the invoice header level, and there are multiple Ship To countries at the line item level, Ariba Network does not validate the local tax currencies.

Tax Invoice Extrinsic

Some countries, such as Australia, mandate an indicator on invoices that contain tax charges in order for buying organizations to receive tax credits.

Suppliers can indicate tax invoices by inserting the following `Extrinsic` element in the `InvoiceDetailRequestHeader` element:

```
<Extrinsic name="TaxInvoice">This is a tax invoice</Extrinsic>
```

The name must be "`TaxInvoice`", but the element's contents are ignored. Ariba Network automatically adds this element when suppliers generate invoices manually in their Ariba Network accounts if they have an Australian address.

Tax Detail Category

The Generate Invoice page on Ariba Network enables suppliers to specify values for the `TaxDetail category` attribute. For example:

```
<TaxDetail purpose="tax" category="gst">
```

Possible values for invoices generated on Ariba Network are:

category Attribute	Description
sales	Sales Tax
vat	Value Added Tax
gst	Goods and Services Tax
pst	Provincial Sales Tax
qst	Quebec Sales Tax
hst	Harmonized Sales Tax
usage	Usage Tax
other	Other Tax Category

Tax on Shipping and Special Handling

In some locales, suppliers must indicate tax on shipping or special handling. They add an additional `TaxDetail` element and indicate whether it is line, shipping, or special handling tax with `purpose="tax"`, `purpose="shippingTax"`, or `purpose="specialHandlingTax"`. They indicate tax category independently (for example, `category="sales"` or `category="vat"`).

There can be only one shipping amount and one special handling amount per line, so there is no need to indicate which shipping or special handling amount a `TaxDetail` element applies to. Suppliers can specify individual taxes only if they specify both tax and shipping inline, not in the header. If they specify shipping inline but tax in the header, they can still have one `TaxDetail` element in the header that applies to the total of all shipping charges.

The following example specifies line tax, special handling tax, and shipping tax for a single invoice item:

```
<InvoiceDetailItem invoiceLineNumber="1" quantity="10">
  <UnitOfMeasure>EA</UnitOfMeasure>
  <UnitPrice>
    <Money currency="USD">500</Money>
  </UnitPrice>
...
  <SubtotalAmount>
    <Money currency="USD">5000</Money>
  </SubtotalAmount>
  <Tax>
      <!-- Tax breakdown:
        5000 * 0.05 = 250 (5% tax on $5000 goods)
        40 * 0.05 =   2   (5% tax on $40 shipping)
        80 * 0.05 =   4   (5% tax on $80 special handling)
                      ===
                      256 total tax
      -->
    <Money currency="USD">256</Money>
    <TaxDetail purpose="tax" category="sales" percentageRate="5">
      <TaxableAmount>
        <Money currency="USD">5000</Money>
      </TaxableAmount>
      <TaxAmount>
        <Money currency="USD">250</Money>
      </TaxAmount>
      <Description xml:lang="en">Sales tax on goods</Description>
    </TaxDetail>
    <TaxDetail purpose="shippingTax" category="sales" percentageRate="5">
      <TaxableAmount>
        <Money currency="USD">40</Money>
      </TaxableAmount>
      <TaxAmount>
        <Money currency="USD">2</Money>
      </TaxAmount>
      <Description xml:lang="en">Sales tax on shipping</Description>
    </TaxDetail>
    <TaxDetail purpose="specialHandlingTax" category="sales" percentageRate="5">
      <TaxableAmount>
        <Money currency="USD">80</Money>
      </TaxableAmount>
      <TaxAmount>
        <Money currency="USD">4</Money>
      </TaxAmount>
      <Description xml:lang="en">Sales tax on special handling</Description>
    </TaxDetail>
  </Tax>
  <InvoiceDetailLineSpecialHandling>
    <Money currency="USD">80</Money>
  </InvoiceDetailLineSpecialHandling>
  <InvoiceDetailLineShipping>
    <InvoiceDetailShipping>
...
    </InvoiceDetailShipping>
    <Money currency="USD">40</Money>
  </InvoiceDetailLineShipping>
...
  <!-- Gross breakdown:
        5000 subtotal
      +   40 shipping
      +   80 special handling
      +  256 all taxes
        ====
        5376 gross
  -->
  <GrossAmount>
    <Money currency="USD">5376</Money>
  </GrossAmount>
...
</InvoiceDetailItem>
```

As a best practice, use negative numbering (such as "-1," "-2") for `invoiceLineNumber` in `InvoiceDetailServiceItem` elements for shipping and special handling charges. Use "0" for `lineNumber` in `InvoiceDetailServiceItemReference` elements for the corresponding `InvoiceDetailServiceItem` for shipping and special handling charges.

If buying organizations use Ariba Network Adapter, they might specify line-item tax in purchase orders and require suppliers to use that tax information in invoices. Suppliers can provide header-level special handling tax or shipping tax information in the `InvoiceDetailSummary` element:

```
<InvoiceDetailSummary>
  ...
    <TaxDetail purpose="shippingTax" category="sales" percentageRate="6">
      <TaxAmount>
        <Money currency="USD">344</Money>
      </TaxAmount>
      <Description xml:lang="en-US">Sales tax on shipping</Description>
    </TaxDetail>
  </Tax>
  ...
</InvoiceDetailSummary>
```

Fields for Countries with a VAT System

Buying organizations might require invoices to contain data mandated by countries using VAT systems. Suppliers should check their customers' invoice rules on Ariba Network to see whether these fields are mandatory.

Mandatory Line Item Description

The following example shows a line item description:

```
<InvoiceDetailItemReference lineNumber="1">
   ...
   <Description xml:lang="en">Blue Ballpoint Pens, Retractable</Description>
</InvoiceDetailItemReference>
```

Mandatory Bill To

The following example shows a Bill To contact:

```
<InvoicePartner>
   <Contact role="billTo" addressID="4319">
      <Name xml:lang="en">Mike Smith</Name>
      <PostalAddress name="default">
         <DeliverTo>Mike Smith</DeliverTo>
         <Street>15 Rue Des Fleurs</Street>
         <City>Libourne</City>
         <PostalCode>33506</PostalCode>
         <Country isoCountryCode="FR">France</Country>
      </PostalAddress>
      <Email name="default">msmith@buyer.com</Email>
      <Phone name="work">
         <TelephoneNumber>
            <CountryCode isoCountryCode="FR">33</CountryCode>
            <AreaOrCityCode>562</AreaOrCityCode>
            <Number>35820</Number>
         </TelephoneNumber>
      </Phone>
   </Contact>
</InvoicePartner>
```

Mandatory Remit To

The following example shows a Remit To contact:

```
<InvoicePartner>
   <Contact role="remitTo" addressID="Billing">
      <Name xml:lang="en">Lisa King</Name>
      <PostalAddress name="billing department">
         <DeliverTo>Lisa King</DeliverTo>
         <Street>16 Rue De L’ecole</Street>
         <City>Paris</City>
         <PostalCode>91250</PostalCode>
         <Country isoCountryCode="FR">France</Country>
      </PostalAddress>
      <Email name="default">lking@supplier.com</Email>
      <Phone name="work">
         <TelephoneNumber>
            <CountryCode isoCountryCode="FR">33</CountryCode>
            <AreaOrCityCode>1</AreaOrCityCode>
            <Number>99900</Number>
         </TelephoneNumber>
      </Phone>
   </Contact>
   <IdReference identifier="00000-11111" domain="accountReceivableID">
      <Creator xml:lang="en">Supplier’s Back Office System</Creator>
   </IdReference>
   <IdReference identifier="123456789" domain="bankRoutingID">
      <Creator xml:lang="en">First National Bank of Paris</Creator>
   </IdReference>
</InvoicePartner>
```

Mandatory Ship From and Ship To

The following example shows a Ship To and Ship From contact if the `isShippingInLine` attribute is not set to yes:

```
<InvoiceDetailShipping>
   <Contact role="shipFrom" addressID="1000487">
      <Name xml:lang="en">Supplier DotCom, Paris</Name>
      <PostalAddress name="default">
         <Street>16 Rue De L’ecole</Street>
         <City>Paris</City>
         <PostalCode>91250</PostalCode>
         <Country isoCountryCode="FR">France</Country>
      </PostalAddress>
      <Email name="default">lking@supplier.com</Email>
      <Phone name="work">
         <TelephoneNumber>
            <CountryCode isoCountryCode="FR">33</CountryCode>
            <AreaOrCityCode>1</AreaOrCityCode>
            <Number>99900</Number>
         </TelephoneNumber>
      </Phone>
   </Contact>
   <Contact role="shipTo" addressID="1000488">
      <Name xml:lang="en">Libourne Headquarters</Name>
      <PostalAddress name="default">
         <DeliverTo>Mike Smith</DeliverTo>
         <Street>15 Rue Des Fleurs</Street>
         <City>Libourne</City>
         <PostalCode>33506</PostalCode>
         <Country isoCountryCode="FR">France</Country>
      </PostalAddress>
      <Email name="default">msmith@buyer.com</Email>
      <Phone name="work">
         <TelephoneNumber>
            <CountryCode isoCountryCode="FR">33</CountryCode>
            <AreaOrCityCode>562</AreaOrCityCode>
            <Number>35820</Number>
         </TelephoneNumber>
      </Phone>
   </Contact>
</InvoiceDetailShipping>
```

Mandatory Buyer VAT ID and Supplier VAT ID

The supplier's VAT ID is always required. The buyer's VAT ID is required for intra-European Union transactions. Intra-EU is defined as trade within the European Union, where the From and To country codes are in the European Union and are different countries. The following example shows buyer and supplier VAT IDs:

```
<InvoiceDetailRequestHeader>
   ...
   <Extrinsic name="buyerVatID">SE123456789087</Extrinsic>
   <Extrinsic name="supplierVatID">CH987654321</Extrinsic>
</InvoiceDetailRequestHeader>
```

Mandatory Supplier Information

In some countries, the tax authorities requires suppliers to include their commercial registration ID and legal details in all electronic invoices. The commercial registration ID is not the same as the supplier VAT ID. Legal details are used to capture legal information about the supplier, such as "CEO" or another corporate credential.

```
<InvoiceDetailRequestHeader>
   ...
   <Extrinsic name="supplierCommercialIdentifier">1234567890</Extrinsic>
   <Extrinsic name="supplierCommercialCredentials">CEO</Extrinsic>
</InvoiceDetailRequestHeader>
```

Note: Ariba Buyer, Ariba Procure-to-Pay and Ariba Invoice Professional support the following maximum number of characters. Any field values exceeding the limit will be truncated to:

- `supplierCommercialIdentifier`: 50 characters
- `supplierCommercialCredentials`: 100 characters.

Mandatory Supply Date

VAT entries must have a `TaxDetail` element with a `category="vat"` attribute. The supply date is mandatory if it differs from the invoice date, so VAT entries must have a `taxPointDate` attribute. Buyers can request the supply date using an invoice rule. The following example shows VAT information and a supply date:

```
<Tax>
   <Money currency="EUR">799.60</Money>
   <Description xml:lang="en-GB">Value Added Tax</Description>
   <TaxDetail category="vat"
         percentageRate="8"
         taxPointDate="2005-04-20T23:59:45+01:00">
```

```
      <TaxableAmount>
         <Money currency="EUR">9995.00</Money>
      </TaxableAmount>
      <TaxAmount>
         <Money currency="EUR">799.60</Money>
      </TaxAmount>
      <TaxLocation xml:lang="en-GB">Europe</TaxLocation>
   </TaxDetail>
</Tax>
```

Mandatory VAT in Both Buyer's and Supplier's Local Currency

VAT entries must specify values in both the buyer's and the supplier's local currency. The following example shows how to use the alternateAmount and alternateCurrency attributes to specify an amount in the buying organization's local currency:

```
<Tax>
   <Money alternateAmount="5.28" alternateCurrency="GBP"
         currency="EUR">10.00</Money>
   <Description xml:lang="en-US"></Description>
   <TaxDetail category="vat" percentageRate="10">
      <TaxableAmount>
         <Money currency="EUR">100.00</Money>
      </TaxableAmount>
      <TaxAmount>
         <Money alternateAmount="5.28" alternateCurrency="GBP"
            currency="EUR">10.00</Money>
      </TaxAmount>
      <Description xml:lang="en-US"></Description>
   </TaxDetail>
</Tax>
```

Mandatory Explanation of Zero-Value VAT Entries

When the VAT is 0% for certain goods or services in the invoice, suppliers can specify if the VAT is exempt or zero rated. The exemptDetail attribute in the TaxDetail element is required if a buying organization enables the invoice rule "**Require explanation for zero-rate VAT**."

For example:

```
Exempt Tax Detail
      <Tax>
         <Money currency="EUR"0.00</Money>
         <Description xml:lang="en-US"></Description>
         <TaxDetail category="vat" percentageRate="0"exemptDetail="zeroRated">
            <TaxableAmount>
            <Money currency="EUR">100.00</Money>
         </TaxableAmount>
         <TaxAmount>
            <Money currency="EUR">0.00</Money>
         </TaxAmount>
      </Tax>
```

AP Plus

Ariba Processing Plus (AP Plus) is an automated payment service offered by Ariba Network. It charges payment cards (PCards) when suppliers submit invoices. It sends level-three (L3) accounting information to the card processor for use in transaction reports sent to the buying organization. Both trading partners must subscribe to AP Plus before they can use it. Suppliers can use AP Plus through the online AP Plus Charge pages or through cXML or EDI invoices.

AP Plus works with any version of Ariba Buyer. Buying organizations that use Ariba Buyer 7.1 and later can download these invoices into Ariba Buyer. It is available in the United States and the United Kingdom. U.S. suppliers can use cXML to charge PCards. U.K. suppliers cannot use cXML to charge PCards.

Buying organizations send purchase orders that contain their PCard information to Ariba Network (for more information about the `PCard` element, see "PCards, AP Plus, and vPayment" on page 123). Ariba Network forwards these purchase orders to suppliers.

After receiving purchase orders, suppliers send standard invoices containing the `isInformationOnly` attribute and a special `Extrinsic` element in the `InvoiceDetailRequestHeader` element:

```
<InvoiceDetailRequestHeader
      invoiceID="inv777"
      purpose="standard"
      operation="new"
      invoiceDate="2005-12-03"
      isInformationOnly="yes">
   <Extrinsic name="action:InitiatePayment" />
```

The `isInformationOnly` attribute instructs buying organizations not to perform any action with the invoice. The `Extrinsic` element instructs Ariba Network to process the invoice for AP Plus. For an example AP Plus invoice, see "AP Plus Invoice" on page 185.

Ariba Network looks up PCard information in the associated purchase orders and instructs the card processor to charge cards. Ariba Network then routes the invoice to the buying organization.

Invoice Data Requirements

Invoices used for AP Plus have specific data requirements:

- **Tax.** U.S. suppliers must specify tax at the **header level**, not at the line level.
- **Mandatory Cost Center.** U.S. suppliers must specify the buying organization's cost center in AccountingSegment elements. Buying organizations usually specify this information in AccountingSegment or Segment elements in purchase orders.

  For example:

  ```
  <Distribution>
     <Accounting name="DistributionCharge">
        <AccountingSegment id="Corporate Administration">
           <Name xml:lang="en-US">Cost Center</Name>
           <Description xml:lang="en-US">Manufacturing</Description>
        </AccountingSegment>
     </Accounting>
     <Charge>
        <Money currency="USD">123.00</Money>
     </Charge>
  </Distribution>
  ```

  The Name element in the AccountingSegment element must contain "Cost Center".
- **Header-Level Comment.** U.S. suppliers can add a 23 character Comments element in the InvoiceDetailRequestHeader element. If this element is not present, Ariba Network automatically adds it containing the word "None."
- **Special Handling.** Suppliers must specify special handling amounts in the SpecialHandlingAmount element in the InvoiceDetailSummary element, not at the line level.

Credit and Cancel Invoices

AP Plus does not support credit memos; suppliers can credit their customers' cards by sending invoices with negative amounts. Credit invoices must have the isInformationOnly="yes" attribute and the action:InitiatePayment Extrinsic element. They must also refer to the associated charge invoices with a DocumentReference element:

```
<DocumentReference payloadID="<PreviousInvoicePayloadId>" />
```

Suppliers cannot send cancel invoices. Ariba Network queues them for payment as soon as it receives them.

Attachments

Suppliers sometimes clarify invoices with associated memos, faxes, or drawings. They can use Ariba Network or cXML to attach files to invoices using a MIME envelope as described in the *cXML User's Guide*. Buying organizations can configure Ariba Network to include attachments when forwarding invoices to Ariba Buyer 8.2 or later.

Attachments on Ariba Network

Ariba Network stores invoice attachments for retrieval by both trading partners. Users can retrieve these files by logging on to their Ariba Network accounts.

Attachments expire 180 days after Ariba Network receives them. Expired attachments are not available online.

Attachment File Names

Ariba Network supports attachments with file names in all supported character sets, including Chinese, Japanese, and Korean. Ariba Network conforms to Multipurpose Internet Mail Extensions (MIME) standards by encoding non-ASCII filenames according to Internet Engineer Task Force (IETF) Request for Comment (RFC) 2047. Filenames in Asian languages can contain up to 15 characters, and filenames in Latin-1 languages can contain up to 21 eight-bit characters or 70 seven-bit characters.

AttachmentOnline Extrinsic

If buying organizations configure their Ariba Network accounts to send invoices but not attachments, Ariba Network adds an `Extrinsic` element named "AttachmentOnline" to the `InvoiceDetailRequestHeader` to indicate the existence of attachments. For example:

```
<Extrinsic name="AttachmentOnline">
   https://service.ariba.com/ad/invoiceDetail?poID=1234&amp;anp=Ariba
</Extrinsic>
```

Buying organizations can use the URL in this `Extrinsic` to manually log in and view the invoice. They can then click on the listed attachments to view or download them.

Ariba Network adds this `Extrinsic` only for buying organizations that have selected "Do not download attachments with invoices" in their transaction configuration.

Maximum Document Size

The maximum size of cXML documents is 4 MB or 3000 line items. You can add attachments up to 10 MB. The 10 MB limit applies to the *total size* of all attachments associated with the document (for example, a purchase order with attachments or an invoice with attachment), which means that the total size for documents with attachments is 14 MB.

If you attempt to add an attachment that exceeds this limit, Ariba Network displays a warning and does not allow you to add the attachment.

Ariba Network can display purchase orders and invoices that contain up to 1,000 line items or are up to 1 MB in size in buying organizations' inboxes and suppliers' outboxes.

Extrinsic Elements

Suppliers can include `Extrinsic` elements in invoices.

Custom Extrinsics

Buying organizations can request that invoices contain custom `Extrinsic` elements. Suppliers enter values for these `Extrinsic` elements in the Ariba Network invoice wizard. cXML suppliers that do not use the invoice wizard should contact their customers to see what `Extrinsic` elements they expect.

Extrinsics for Clickable Links

Ariba Network can render URLs as clickable links in online purchase orders and invoices. These URLs are produced by `Extrinsic` elements of the form:

```
<Extrinsic name="anyname">
   <URL name="click me">http://www.bigcompany.com/info</URL>
</Extrinsic>
```

```
The above example produces the following online text:
```

```
anyname:click me
```

The words “click me” are underlined and are clickable, and the link destination is http://www.bigcompany.com/info. If the URL element has no `name` attribute, Ariba Network displays the URL and makes it clickable.

Extrinsic for Enabling SSO and ERP

The rule “Allow users to view invoices on Ariba Network from your application” enables users within your organization to access invoices submitted through your ERP when they log in to the Ariba account. Ariba Network can include a URL in the invoice using the following `Extrinsic` element:

```
<Extrinsic name="AribaNetwork.InvoiceDisplay">
   <URL name="click me">http://www.bigcompany.com/info</URL>
</Extrinsic>
```

Contact your Ariba Customer Support representative to assist you with activating this feature.

Field Lengths

The field lengths for invoice elements and attributes are as follows:

Element or Attribute	Field Description
invoiceDate attribute	Fixed datetime format, such as: 2004-01-23T00:55:14-04:00
invoiceID attribute	128 characters
invoiceLineNumber attribute	<2,000,000,000
Name element	256 characters
Street element	256 characters
City element	256 characters
State element	256 characters
PostalCode element	256 characters

Element or Attribute	Field Description
Country element	256 characters
isoCountryCode attribute	2 characters
agreementID attribute	128 characters
orderID attribute	128 characters
orderDate attribute	Fixed datetime format, such as: 2004-01-23T00:55:14-04:00
quantity attribute	precision 30, scale 15 (30, 15)
UnitOfMeasure element	24 characters
currency attribute	3 characters
Money element	(30, 15)
lineNumber attribute	<2,000,000,000
SupplierPartID element	256 characters
Description element	1000 characters
ShortName element	256 characters
percentageRate attribute	(10, 5)

Transmission to Buying Organizations

Ariba Buyer Uses the same GetPending transaction to fetch `InvoiceDetailRequest` documents as it does for other communication with Ariba Network. The polling interval is determined by Ariba Buyer. For a description of this transmission, see “Transaction Flow” on page 131.

Ariba Network allows invoices to route only for buying organizations that have enabled their Ariba Network accounts for invoicing. For more information, see “Invoicing Business Rules” on page 145.

Status and Cancel Invoices

Buying organizations can set invoice status. Suppliers can cancel invoices.

Invoice Status

Buying organizations send `StatusUpdateRequest` documents to set invoice status to:

Invoice Status	Description
processing	The invoice was received by the buying organization and is undergoing reconciliation.
reconciled	(Also called “approved”) All amounts in the invoice were matched against amounts in a purchase order or a contract.

Invoice Status	Description
paying	The invoice is in the payment process or has been partially paid. This status applies only if the buying organization uses invoices to trigger payment.
paid	The invoice was paid. This status applies only if the buying organization uses invoices to trigger payment.
rejected	The invoice was received by the buying organization and was rejected.
invalid	(Set by Ariba Network) The invoice failed to validate on Ariba Network.

cXML-enabled suppliers can receive these documents. Ariba Network posts these documents to the URL that suppliers return in their cXML `ProfileResponse`. After a buying organization reconciles an invoice, suppliers cannot change or cancel that invoice. Suppliers cannot invoice against canceled purchase orders.

`StatusUpdateRequest` documents can identify invoices in two possible ways: through either a `DocumentReference` or an `InvoiceIDInfo` element. Buying organizations should use a `DocumentReference` if they know the invoice's `payloadID`, and they should use an `InvoiceIDInfo` element if they know the invoice's `invoiceID` and `invoiceDate`.

Cancel Invoices

Suppliers can cancel invoices that do not have an invoice status of "reconciled," "paying," or "paid." They cancel invoices by issuing an invoice with `InvoiceDetailRequestHeader operation="delete"`. Ariba Network sets the document status to "obsoleted." Suppliers cannot cancel an invoice that is already canceled.

Ariba Buyer downloads canceled invoices, but it does not distinguish between new and canceled ones. It continues to operate on the original invoice. It sends invoice status updates for "obsoleted" invoices, but not for cancelling invoices (invoices with `InvoiceDetailRequestHeader operation="delete"`). That is, if invoice B cancels invoice A, Ariba Buyer sends invoice status updates for invoice A, not for invoice B. Some customers modify Ariba Buyer to process cancel invoices differently; suppliers should consult with them to see how cancel invoices are handled.

Procure-to-Pay downloads canceled invoices, evaluates them, and sends a `StatusUpdateRequest` document to Ariba Network. While Procure-to-Pay evaluates canceled invoices, Ariba Network sets their document status to "canceling." If Procure-to-Pay approves them, Ariba Network sets their document status to "canceled." If Procure-to-Pay rejects them, Ariba Network sets their document status back to their original state.

Example Invoices

The following examples illustrate common uses for invoices.

- Summary Invoice
- Header-Level Invoice
- Blanket Purchase Order Invoice
- Complex Scenario
- AP Plus Invoice
- Cancel Invoice

Summary Invoice

The following example shows a summary invoice against two different purchase orders.

It contains `payloadID` attributes at the line item level, which refers to the `payloadID` of the two original `OrderRequest` documents. The `invoiceLineNumber` attribute refers to the line item number in the invoice. The `lineNumber` attribute refers to the line item number in the original `OrderRequest`.

Note: With contract labor invoices, Ariba Network displays each line item of the invoice in the summary.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="125multi-supplierxyzkjlkwxxx-nju"
      timestamp="2001-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN0100001234</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000006789</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="DUNS">
            <Identity>556376197</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>cXML V1.2 application</UserAgent>
      </Sender>
   </Header>
   <Request >
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader
               invoiceDate="2001-12-07T00:00:00-07:00"
               invoiceID="MULTIINV1" purpose="standard" operation="new">
            <InvoiceDetailHeaderIndicator></InvoiceDetailHeaderIndicator>
            <InvoiceDetailLineIndicator isTaxInLine="yes"
                  isShippingInLine="yes" isAccountingInLine="yes">
            </InvoiceDetailLineIndicator>
            <InvoicePartner>
               <Contact role="soldTo" addressID="B2.4.353">
                  <Name xml:lang="en">Buyer 1</Name>
                  <PostalAddress name="default">
                     <DeliverTo>Buyer 1</DeliverTo>
```

```
                <Street>15 Camino del Cerro</Street>
                <City>Los Gatos</City>
                <State>CA</State>
                <PostalCode>95032</PostalCode>
                <Country isoCountryCode="US">United States</Country>
             </PostalAddress>
             <Email name="default">test@buyer.com</Email>
             <Phone name="work">
                <TelephoneNumber>
                   <CountryCode isoCountryCode="US">1</CountryCode>
                   <AreaOrCityCode>408</AreaOrCityCode>
                   <Number>3582000</Number>
                </TelephoneNumber>
             </Phone>
             <Fax name="work">
                <TelephoneNumber>
                   <CountryCode isoCountryCode="US">1</CountryCode>
                   <AreaOrCityCode>408</AreaOrCityCode>
                   <Number>3582100</Number>
                </TelephoneNumber>
             </Fax>
          </Contact>
       </InvoicePartner>
       <InvoicePartner>
          <Contact role="remitTo" addressID="Billing">
             <Name xml:lang="en">Joan Bill</Name>
             <PostalAddress name="billing department">
                <DeliverTo>Joan Bill</DeliverTo>
                <Street>16 Castro Street</Street>
                <City>Mountain View</City>
                <State>CA</State>
                <PostalCode>95035</PostalCode>
                <Country isoCountryCode="US">United States</Country>
             </PostalAddress>
             <Email name="default">jbill@supplierbank.com</Email>
             <Phone name="work">
                <TelephoneNumber>
                   <CountryCode isoCountryCode="US">1</CountryCode>
                   <AreaOrCityCode>650</AreaOrCityCode>
                   <Number>9990000</Number>
                </TelephoneNumber>
             </Phone>
          </Contact>
          <IdReference identifier="011" domain="accountReceivableID">
             <Creator xml:lang="en">Supplier ERP</Creator>
          </IdReference>
          <IdReference identifier="123456789" domain="bankRoutingID">
             <Creator xml:lang="en">Supplier Bank</Creator>
          </IdReference>
       </InvoicePartner>
       <PaymentTerm payInNumberOfDays="20">
          <Discount>5</Discount>
       </PaymentTerm>
       <PaymentTerm payInNumberOfDays="30">
          <Discount>2.5</Discount>
       </PaymentTerm>
       <PaymentTerm payInNumberOfDays="40">
          <Discount>-2</Discount>
       </PaymentTerm>
    </InvoiceDetailRequestHeader>
    <InvoiceDetailOrder>
       <InvoiceDetailOrderInfo>
          <OrderReference orderID="PO123">
             <DocumentReference
```

```
               payloadID="277403463.70.7733@acme.com">
         </DocumentReference>
      </OrderReference>
   </InvoiceDetailOrderInfo>
   <InvoiceDetailItem invoiceLineNumber="1" quantity="5">
      <UnitOfMeasure>EA</UnitOfMeasure>
      <UnitPrice><Money currency="USD">10.00</Money></UnitPrice>
      <InvoiceDetailItemReference lineNumber="1">
         <ItemID><SupplierPartID>A2</SupplierPartID></ItemID>
         <Description xml:lang="en">Cabinet Locks with 2 Keys
         </Description>
         <SerialNumber>45993823469876</SerialNumber>
         <SerialNumber>45993823469877</SerialNumber>
         <SerialNumber>45993823469878</SerialNumber>
         <SerialNumber>45993823469879</SerialNumber>
         <SerialNumber>45993823469880</SerialNumber>
      </InvoiceDetailItemReference>
      <SubtotalAmount>
         <Money currency="USD">50.00</Money>
      </SubtotalAmount>
      <GrossAmount>
         <Money currency="USD">50.00</Money>
      </GrossAmount>
      <NetAmount>
         <Money currency="USD">50.00</Money>
      </NetAmount>
      <Distribution>
         <Accounting name="DistributionCharge">
            <AccountingSegment id="100"
               <Name xml:lang="en-US">Split Percentage</Name>
               <Description xml:lang="en-US">Percentage
               </Description>
            </AccountingSegment>
            <AccountingSegment id="Machine Resources"
               <Name  xml:lang="en-US">Cost Center</Name>
               <Description xml:lang="en-US">Department Name
               </Description>
            </AccountingSegment>
            <AccountingSegment id="Office Supplies"
               <Name  xml:lang="en-US">Account</Name>
               <Description xml:lang="en-US">Account Name
               </Description>
            </AccountingSegment>
         </Accounting>
         <Charge>
            <Money currency="USD">50.00</Money>
         </Charge>
      </Distribution>
   </InvoiceDetailItem>
</InvoiceDetailOrder>
<InvoiceDetailOrder>
   <InvoiceDetailOrderInfo>
      <OrderReference orderID="PO123">
         <DocumentReference
            payloadID="1104750653.65.7733@acme.com">
         </DocumentReference>
      </OrderReference>
   </InvoiceDetailOrderInfo>
   <InvoiceDetailItem invoiceLineNumber="2" quantity="10">
      <UnitOfMeasure>EA</UnitOfMeasure>
      <UnitPrice><Money currency="USD">1.00</Money></UnitPrice>
      <InvoiceDetailItemReference lineNumber="3">
         <ItemID><SupplierPartID>A4</SupplierPartID></ItemID>
         <Description xml:lang="en">Cam Locks without Keys
```

```
                  </Description>
                  <ManufacturerPartID>815-12</ManufacturerPartID>
                  <ManufacturerName xml:lang="en-US"></ManufacturerName>
               </InvoiceDetailItemReference>
               <SubtotalAmount>
                  <Money currency="USD">10.00</Money>
               </SubtotalAmount>
               <GrossAmount>
                  <Money currency="USD">10.00</Money>
               </GrossAmount>
               <NetAmount>
                  <Money currency="USD">10.00</Money>
               </NetAmount>
               <Distribution>
                  <Accounting name="DistributionCharge">
                     <AccountingSegment id="100">
                        <Name xml:lang="en-US">Split Percentage</Name>
                        <Description xml:lang="en-US">Percentage
                        </Description>
                     </AccountingSegment>
                     <AccountingSegment id="Machine Resources">
                        <Name xml:lang="en-US">Cost Center</Name>
                        <Description xml:lang="en-US">Department Name
                        </Description>
                     </AccountingSegment>
                  </Accounting>
                  <Charge><Money currency="USD">10.00</Money></Charge>
               </Distribution>
            </InvoiceDetailItem>
         </InvoiceDetailOrder>
         <InvoiceDetailSummary>
            <SubtotalAmount>
               <Money currency="USD">60.00</Money>
            </SubtotalAmount>
            <Tax><Money currency="USD">60.00</Money>
               <Description xml:lang="en-US">Sales Tax</Description>
            </Tax>
            <GrossAmount><Money currency="USD">60.00</Money></GrossAmount>
            <NetAmount><Money currency="USD">60.00</Money></NetAmount>
            <DueAmount><Money currency="USD">60.00</Money></DueAmount>
         </InvoiceDetailSummary>
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

Header-Level Invoice

If suppliers invoice purchase orders in full, it is not necessary to provide line item detail information; a header level invoice is sufficient.

The `isHeaderInvoice` attribute is set to “yes” to indicate the invoice is of type Header.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML timestamp="2001-12-07T16:23:01-07:00"
         payloadID="Oct102001_0447pm98788688">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN0100001234</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000004321</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="DUNS">
            <Identity>556376197</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>cXML V1.2 application</UserAgent>
      </Sender>
   </Header>
   <Request>
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader invoiceDate="2001-12-07T00:00:00-07:00"
               invoiceID="HEADERINV222" purpose="standard" operation="new">
            <InvoiceDetailHeaderIndicator isHeaderInvoice="yes">
            </InvoiceDetailHeaderIndicator>
            <InvoiceDetailLineIndicator isTaxInLine="yes"
               isShippingInLine="yes"/>
            <InvoicePartner>
               <Contact role="billTo">
                  <Name xml:lang="en-US">Buyer Headquarters</Name>
                  <PostalAddress>
                     <Street>123 Main Street</Street>
                     <City>Anytown</City>
                     <State>TX</State>
                     <PostalCode>99999</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
            </InvoicePartner>
            <InvoicePartner>
               <Contact role="remitTo">
                  <Name xml:lang="en-US">Joan Bill</Name>
                  <PostalAddress>
                     <Street>One Test Avenue</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94087</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
               <IdReference identifier="StandardHeaderLevelIndividual"
                           domain="accountID"></IdReference>
            </InvoicePartner>
            <Comments xml:lang="en-US">Sample Header Level Individual
               Invoice</Comments>
         </InvoiceDetailRequestHeader>
         <InvoiceDetailHeaderOrder>
            <InvoiceDetailOrderInfo>
               <OrderIDInfo orderID="DO21756" orderDate=""2007-07-01T09:42:30-05:00"">
               </OrderIDInfo>
            </InvoiceDetailOrderInfo>
            <InvoiceDetailOrderSummary invoiceLineNumber="1">
               <SubtotalAmount>
                  <Money currency="USD">20.00</Money>
               </SubtotalAmount>
               <Tax>
                  <Money currency="USD">5.00</Money>
                  <Description xml:lang="en-US"></Description>
               </Tax>
```

```
<InvoiceDetailLineSpecialHandling>
   <Money currency="USD">10.00</Money>
</InvoiceDetailLineSpecialHandling>
<InvoiceDetailLineShipping>
   <InvoiceDetailShipping>
      <Contact role="shipFrom" addressID="1000487">
         <Name xml:lang="en">Main Shipping</Name>
         <PostalAddress name="default">
            <Street>15 Camino del Cerro</Street>
            <City>Los Gatos</City>
            <State>CA</State>
            <PostalCode>95032</PostalCode>
            <Country isoCountryCode="US">United States
            </Country>
         </PostalAddress>
         <Email name="default">shipping@shipfrm.com</Email>
         <Phone name="work">
            <TelephoneNumber>
               <CountryCode isoCountryCode="US">1
               </CountryCode>
               <AreaOrCityCode>408</AreaOrCityCode>
               <Number>3582000</Number>
            </TelephoneNumber>
         </Phone>
         <Fax name="work">
            <TelephoneNumber>
               <CountryCode isoCountryCode="US">1
               </CountryCode>
               <AreaOrCityCode>408</AreaOrCityCode>
               <Number>3582100</Number>
            </TelephoneNumber>
         </Fax>
      </Contact>
      <Contact role="shipTo" addressID="1000487">
         <Name xml:lang="en">Buyer Headquarters</Name>
         <PostalAddress name="default">
            <DeliverTo>Jason Lynch</DeliverTo>
            <Street>34 Castro Street</Street>
            <City>Mountain View</City>
            <State>CA</State>
            <PostalCode>95035</PostalCode>
            <Country isoCountryCode="US">United States
            </Country>
         </PostalAddress>
         <Email name="default">JasonL@shipto.com</Email>
         <Phone name="work">
            <TelephoneNumber>
               <CountryCode isoCountryCode="US">1
               </CountryCode>
               <AreaOrCityCode>408</AreaOrCityCode>
               <Number>3582000</Number>
            </TelephoneNumber>
         </Phone>
         <Fax name="work">
            <TelephoneNumber>
               <CountryCode isoCountryCode="US">1
               </CountryCode>
               <AreaOrCityCode>408</AreaOrCityCode>
               <Number>3582100</Number>
            </TelephoneNumber>
         </Fax>
      </Contact>
</InvoiceDetailShipping>
   <Money currency="USD">20</Money>
```

```
                  </InvoiceDetailLineShipping>
                  <GrossAmount>
                     <Money currency="USD">35.00</Money>
                  </GrossAmount>
                  <InvoiceDetailDiscount percentageRate="10%">
                     <Money currency="USD">2.00</Money>
                  </InvoiceDetailDiscount>
                  <NetAmount><Money currency="USD">33.00</Money></NetAmount>
                  <Comments>This a Standard Header Level Invoice</Comments>
               </InvoiceDetailOrderSummary>
            </InvoiceDetailHeaderOrder>
            <InvoiceDetailSummary>
               <SubtotalAmount>
                  <Money currency="USD">20.00</Money>
               </SubtotalAmount>
               <Tax>
                  <Money currency="USD">5.00</Money>
                  <Description xml:lang="en-US"></Description>
               </Tax>
               <SpecialHandlingAmount>
                  <Money currency="USD">10.00</Money>
               </SpecialHandlingAmount>
               <ShippingAmount>
                  <Money currency="USD">5.00</Money>
               </ShippingAmount>
               <GrossAmount><Money currency="USD">40.00</Money></GrossAmount>
               <InvoiceDetailDiscount percentageRate="10%">
                  <Money currency="USD">18.00</Money>
               </InvoiceDetailDiscount>
               <NetAmount><Money currency="USD">18.00</Money></NetAmount>
               <DepositAmount>
                  <Money currency="USD">33.00</Money>
               </DepositAmount>
               <DueAmount><Money currency="USD">33.00</Money></DueAmount>
            </InvoiceDetailSummary>
         </InvoiceDetailRequest>
      </Request>
   </cXML>
```

Blanket Purchase Order Invoice

The following example shows an invoice for a no-release blanket purchase order (a purchase order is not required prior to invoicing):

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://svcdev.ariba.com/schemas/cXML/1.2.018/InvoiceDetail.dtd">
<cXML payloadID="INV011-Against-BPO55@payload" timestamp="2007-08-20T08:49:36-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>AN0100001234</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>AN01000006789</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="DUNS">
            <Identity>556376197</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Ariba Network V1.1</UserAgent>
      </Sender>
   </Header>
   <Request deploymentMode="production">
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader invoiceDate="2007-08-20T08:49:36-07:00"
               invoiceID="INV011-Against-BPO55" operation="new" purpose="standard">
            <InvoiceDetailHeaderIndicator></InvoiceDetailHeaderIndicator>
            <InvoiceDetailLineIndicator></InvoiceDetailLineIndicator>
            <InvoicePartner>
               <Contact role="remitTo">
                  <Name xml:lang="en-US">SUPPLIER</Name>
                  <PostalAddress>
                     <Street>jUnitDummy</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94089</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
            </InvoicePartner>
            <InvoicePartner>
               <Contact role="soldTo">
                  <Name xml:lang="en-US">BUYER</Name>
                  <PostalAddress>
                     <Street>jUnitDummy</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94089</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
            </InvoicePartner>
            <InvoicePartner>
               <Contact role="billTo">
                  <Name xml:lang="en-US"></Name>
                </Contact>
            </InvoicePartner>
            <InvoicePartner>
               <Contact role="from">
                  <Name xml:lang="en-US">SUPPLIER</Name>
                  <PostalAddress>
                    <Street>jUnitDummy</Street>
                    <City></City>
                    <State>CA</State>
                    <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
            </InvoicePartner>
            <InvoiceDetailShipping>
               <Contact role="shipTo">
                  <Name xml:lang="en-US">BUYER</Name>
                  <PostalAddress>
                    <Street>jUnitDummy</Street>
                    <City>Sunnyvale</City>
                    <State>CA</State>
                    <PostalCode>94089</PostalCode>
                    <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
               <Contact role="shipFrom">
                  <Name xml:lang="en-US">SUPPLIER</Name>
                  <PostalAddress>
                    <Street>jUnitDummy</Street>
                    <City>Sunnyvale</City>
                    <State>CA</State>
                    <PostalCode>94089</PostalCode>
                    <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
               </Contact>
            </InvoiceDetailShipping>
         </InvoiceDetailRequestHeader>
         <InvoiceDetailOrder>
            <InvoiceDetailOrderInfo>
               <OrderReference orderID="BPO55">
                  <DocumentReference payloadID="BPO55@payloadID"></DocumentReference>
               </OrderReference>
            </InvoiceDetailOrderInfo>
            <InvoiceDetailItem invoiceLineNumber="1" quantity="1">
               <UnitOfMeasure>EA</UnitOfMeasure>
               <UnitPrice><Money currency="USD">44.00</Money></UnitPrice>
               <InvoiceDetailItemReference lineNumber="1">
                  <ItemID><SupplierPartID>AD4BNC13</SupplierPartID></ItemID>
                  <Description xml:lang="en">Adapter SUN Monitor 4-BNCF/13W3M
                  </Description>
               </InvoiceDetailItemReference>
               <SubtotalAmount>
                  <Money currency="USD">44.00</Money>
               </SubtotalAmount>
               <GrossAmount>
                  <Money currency="USD">44.00</Money>
               </GrossAmount>
               <NetAmount>
                  <Money currency="USD">44.00</Money>
               </NetAmount>
            </InvoiceDetailItem>
            <InvoiceDetailItem invoiceLineNumber="2" quantity="1">
               <UnitOfMeasure>EA</UnitOfMeasure>
               <UnitPrice><Money currency="USD">34.00</Money></UnitPrice>
               <InvoiceDetailItemReference lineNumber="2">
                  <ItemID><SupplierPartID>AD1513</SupplierPartID></ItemID>
                  <Description xml:lang="en">Adapter SUN Monitor  HD15F/13W3M
                  </Description>
               </InvoiceDetailItemReference>
               <SubtotalAmount>
                  <Money currency="USD">34.00</Money>
               </SubtotalAmount>
               <GrossAmount>
                  <Money currency="USD">34.00</Money>
               </GrossAmount>
               <NetAmount>
                  <Money currency="USD">34.00</Money>
               </NetAmount>
            </InvoiceDetailItem>
         </InvoiceDetailOrder>
         <InvoiceDetailSummary>
            <SubtotalAmount>
               <Money currency="USD">78.00</Money>
            </SubtotalAmount>
            <Tax><Money currency="USD">10.00</Money>
               <Description xml:lang="en-US"></Description>
            </Tax>
            <GrossAmount><Money currency="USD">78.00</Money></GrossAmount>
            <NetAmount><Money currency="USD">78.00</Money></NetAmount>
            <DueAmount><Money currency="USD">78.00</Money></DueAmount>
         </InvoiceDetailSummary>
```

```
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

For a release BPO (requires purchase orders prior to invoicing), the `OrderRequestHeader` element is present, and the `orderType` is `blanket`, as shown in the following example:

```
<OrderRequest>
   <OrderRequestHeader orderID="DO12042"
         orderDate="2008-12-04T15:26:00-07:00"
         type="new" orderType="blanket">
   </OrderRequestHeader>
<OrderRequest>
```

Complex Scenario

The following cXML documents describe an example complex business scenario:

1 Ariba Buyer generates a purchase order containing two line items:

   Line 1: Ten items at $20 = $200
   Line 2: Five items at $20 = $100

2 The supplier sends a **standard invoice** that includes shipping charges, but mistakenly charges the buying organization for eight items on line 2 instead of five.

3 The supplier sends a **credit memo** for $110, which includes tax charges.

4 The supplier realizes that it used incorrect math in the credit memo; it should have credited the buying organization $66. The supplier then sends a **debit memo** for $44 ($110 - $66).

Purchase Order

The following purchase order contains two line items:

Line 1: Ten items at $20 = $200
Line 2: Five items at $20 = $100

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="1002700953000.152865612.2314.120401002@bigcompany.com"
         timestamp="2001-12-04T15:26:00-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>bettybuyer@bigcompany.com</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>bettybuyer@bigcompany.com</Identity>
            <SharedSecret>OurPassword</SharedSecret>
         </Credential>
         <UserAgent>Ariba Buyer 7.0</UserAgent>
      </Sender>
```

```
</Header>
<Request>
   <OrderRequest>
      <OrderRequestHeader orderID="DO12042"
               orderDate="2001-12-04T15:26:00-07:00"
               type="new" orderType="regular">
         <Total>
            <Money currency="USD">300.00</Money>
         </Total>
         <ShipTo>
            <Address isoCountryCode="US" addressID="1000467">
               <Name xml:lang="en">Bigcompany Headquarters</Name>
               <PostalAddress name="default">
                  <DeliverTo>Betty Buyer</DeliverTo>
                  <DeliverTo>Bigcompany Headquarters</DeliverTo>
                  <Street>1314 Chesapeake Terrace</Street>
                  <City>Sunnyvale</City>
                  <State>CA</State>
                  <PostalCode>94089</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Email name="default">username@ariba.com</Email>
               <Phone name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode>800</AreaOrCityCode>
                     <Number>5555555</Number>
                  </TelephoneNumber>
                </Phone>
               <Fax name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode></AreaOrCityCode>
                     <Number></Number>
                  </TelephoneNumber>
               </Fax>
            </Address>
         </ShipTo>
         <BillTo>
            <Address isoCountryCode="US" addressID="15">
               <Name xml:lang="en">Bigcompany Headquarters</Name>
               <PostalAddress name="Accounts Payable">
                  <Street>1314 Chesapeake Terrace</Street>
                  <City>Sunnyvale</City>
                  <State>CA</State>
                  <PostalCode>94089</PostalCode>
                  <Country isoCountryCode="US">United States</Country>
               </PostalAddress>
               <Phone name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode></AreaOrCityCode>
                     <Number></Number>
                  </TelephoneNumber>
               </Phone>
               <Fax name="work">
                  <TelephoneNumber>
                     <CountryCode isoCountryCode="US">1</CountryCode>
                     <AreaOrCityCode></AreaOrCityCode>
                     <Number></Number>
                  </TelephoneNumber>
               </Fax>
            </Address>
         </BillTo>
```

```
</OrderRequestHeader>
<ItemOut quantity="10" lineNumber="1">
   <ItemID>
      <SupplierPartID>BTM00107</SupplierPartID>
   </ItemID>
   <ItemDetail>
      <UnitPrice>
         <Money currency="USD">20.00</Money>
      </UnitPrice>
      <Description xml:lang="en">Computer Audio Cables</Description>
      <UnitOfMeasure>EA</UnitOfMeasure>
      <Classification domain="UNSPSC">43173609</Classification>
      <ManufacturerPartID>JJ11P28</ManufacturerPartID>
      <Extrinsic name="PR No.">PR1026</Extrinsic>
   </ItemDetail>
   <Distribution>
      <Accounting name="DistributionCharge">
         <AccountingSegment id="Production Control"
            <Name xml:lang="en-US">Cost Center</Name>
            <Description xml:lang="en-US">
               Department Name
            </Description>
         </AccountingSegment>
         <AccountingSegment id="Computer Accessories"
            <Name xml:lang="en-US">Account</Name>
            <Description xml:lang="en-US">
               Account Name
            </Description>
         </AccountingSegment>
      </Accounting>
      <Charge>
         <Money currency="USD">200.00</Money>
      </Charge>
   </Distribution>
</ItemOut>
<ItemOut quantity="5" lineNumber="2">
   <ItemID>
      <SupplierPartID>BTM00108</SupplierPartID>
   </ItemID>
   <ItemDetail>
      <UnitPrice>
         <Money currency="USD">20.00</Money>
      </UnitPrice>
      <Description xml:lang="en">Computer Video Cables</Description>
      <UnitOfMeasure>EA</UnitOfMeasure>
      <Classification domain="UNSPSC">43173610</Classification>
      <ManufacturerPartID>JJ11P29</ManufacturerPartID>
      <Extrinsic name="PR No.">PR1026</Extrinsic>
   </ItemDetail>
   <Distribution>
      <Accounting name="DistributionCharge">
         <AccountingSegment id="Production Control"
            <Name xml:lang="en-US">Cost Center</Name>
            <Description xml:lang="en-US">
               Department Name
            </Description>
         </AccountingSegment>
         <AccountingSegment id="Computer Accessories"
            <Name xml:lang="en-US">Account</Name>
            <Description xml:lang="en-US">
               Account Name
            </Description>
         </AccountingSegment>
      </Accounting>
```

```
                <Charge>
                    <Money currency="USD">100.00</Money>
                </Charge>
            </Distribution>
        </ItemOut>
    </OrderRequest>
  </Request>
</cXML>
```

Standard Invoice

The following invoice includes shipping charges, but mistakenly charges the buying organization for eight items instead of five items on line 2.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="INVD012042.120402" timestamp="2001-12-04T17:30:00-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>bettybuyer@bigcompany.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Invoicing App 2.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader invoiceID="InvD012042"
               purpose="standard" operation="new"
               invoiceDate="2001-12-04T17:30:00-07:00">
            <InvoiceDetailHeaderIndicator></InvoiceDetailHeaderIndicator>
            <InvoiceDetailLineIndicator isTaxInLine="yes"
               isShippingInLine="yes" isAccountingInLine="yes">
            </InvoiceDetailLineIndicator>
            <InvoicePartner>
               <Contact role="billTo" addressID="Billing">
                  <Name xml:lang="en">Bigcompany Headquarters</Name>
                  <PostalAddress name="Accounts Payable">
                     <DeliverTo>Joe Accountant</DeliverTo>
                     <Street>1314 Chesapeake Terrace</Street>
                     <City>Sunnayvale</City>
                     <State>CA</State>
                     <PostalCode>94089</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
                  <Email name="default">JoeTheAccountant@bigcompany.com
                  </Email>
                  <Phone name="work">
                     <TelephoneNumber>
                        <CountryCode isoCountryCode="US">1</CountryCode>
                        <AreaOrCityCode>215</AreaOrCityCode>
```

```
                    <Number>9990000</Number>
                 </TelephoneNumber>
              </Phone>
           </Contact>
           <IdReference identifier="11280630"
              domain="accountReceivableID">
              <Creator xml:lang="en">Acme</Creator>
           </IdReference>
        </InvoicePartner>
     </InvoiceDetailRequestHeader>
     <InvoiceDetailOrder>
        <InvoiceDetailOrderInfo>
           <OrderReference orderID="PO123">
              <DocumentReference
payloadID="1002700953000.152865612.2314.120401002@bigcompany.com">
              </DocumentReference>
           </OrderReference>
        </InvoiceDetailOrderInfo>
        <InvoiceDetailItem invoiceLineNumber="1" quantity="4">
           <UnitOfMeasure>EA</UnitOfMeasure>
           <UnitPrice>
              <Money currency="USD">50.00</Money>
           </UnitPrice>
           <InvoiceDetailItemReference lineNumber="1">
              <ItemID>
                 <SupplierPartID>BTM00107</SupplierPartID>
              </ItemID>
           <Description xml:lang="en">Computer Audio Cables</Description>
           <SerialNumber>69876</SerialNumber>
           <SerialNumber>69877</SerialNumber>
           <SerialNumber>69878</SerialNumber>
           <SerialNumber>69879</SerialNumber>
           </InvoiceDetailItemReference>
           <SubtotalAmount>
              <Money currency="USD">200.00</Money>
           </SubtotalAmount>
           <InvoiceDetailLineShipping>
              <InvoiceDetailShipping>
                 <Contact role="shipFrom" addressID="1000467">
                    <Name xml:lang="en">Acme</Name>
                    <PostalAddress name="Acme">
                       <Street>123 Main Street</Street>
                       <City>Anytown</City>
                       <State>PA</State>
                       <PostalCode>99999</PostalCode>
                       <Country isoCountryCode="US">
                          United States</Country>
                    </PostalAddress>
                    <Email name="default">shipping@acme.com</Email>
                    <Phone name="work">
                       <TelephoneNumber>
                          <CountryCode
                             isoCountryCode="US">1</CountryCode>
                          <AreaOrCityCode>800</AreaOrCityCode>
                          <Number>5555555</Number>
                       </TelephoneNumber>
                    </Phone>
                    <Fax name="work">
                       <TelephoneNumber>
                          <CountryCode
                             isoCountryCode="US">1</CountryCode>
                          <AreaOrCityCode></AreaOrCityCode>
                          <Number></Number>
                          </TelephoneNumber>
```

```
            </Fax>
         </Contact>
         <Contact role="shipTo" addressID="1000487">
            <Name xml:lang="en">Betty Buyer</Name>
            <PostalAddress name="default">
               <DeliverTo>Betty Buyer</DeliverTo>
               <Street>1314 Chesapeake Terrace</Street>
               <City>Sunnyvale</City>
               <State>CA</State>
               <PostalCode>94089</PostalCode>
               <Country isoCountryCode="US">
                  United States</Country>
            </PostalAddress>
            <Email
               name="default">bettybuyer@bigcompany.com</Email>
            <Phone name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode>800</AreaOrCityCode>
                  <Number>6666666</Number>
               </TelephoneNumber>
            </Phone>
            <Fax name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode>215</AreaOrCityCode>
                  <Number>5555555</Number>
               </TelephoneNumber>
            </Fax>
         </Contact>
      </InvoiceDetailShipping>
      <Money currency="USD">5.00</Money>
   </InvoiceDetailLineShipping>
   <GrossAmount>
      <Money currency="USD">205.00</Money>
   </GrossAmount>
   <NetAmount>
      <Money currency="USD">205.00</Money>
   </NetAmount>
   <Distribution>
      <Accounting name="Buyer assigned accounting code 1">
         <AccountingSegment id="ABC123456789">
            <Name xml:lang="en">Purchase</Name>
            <Description xml:lang="en">
               Production Control</Description>
         </AccountingSegment>
      </Accounting>
      <Charge>
         <Money currency="USD">205.00</Money>
      </Charge>
   </Distribution>
</InvoiceDetailItem>
<InvoiceDetailItem invoiceLineNumber="2" quantity="8">
   <UnitOfMeasure>EA</UnitOfMeasure>
   <UnitPrice>
      <Money currency="USD">20.00</Money>
   </UnitPrice>
   <InvoiceDetailItemReference lineNumber="2">
      <ItemID>
         <SupplierPartID>BTM00108</SupplierPartID>
      </ItemID>
      <Description xml:lang="en">
         Computer Video Cables</Description>
   </InvoiceDetailItemReference>
   <SubtotalAmount>
      <Money currency="USD">160.00</Money>
   </SubtotalAmount>
   <InvoiceDetailLineShipping>
      <InvoiceDetailShipping>
         <Contact role="shipFrom" addressID="1000467">
            <Name xml:lang="en">Acme </Name>
            <PostalAddress name="Acme">
               <Street>123 Main Street</Street>
               <City>Anytown</City>
               <State>PA</State>
               <PostalCode>99999</PostalCode>
               <Country
                  isoCountryCode="US">United States</Country>
            </PostalAddress>
            <Email name="default">shipping@acme.com</Email>
            <Phone name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode>800</AreaOrCityCode>
                  <Number>5555555</Number>
               </TelephoneNumber>
            </Phone>
            <Fax name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode></AreaOrCityCode>
                  <Number></Number>
               </TelephoneNumber>
            </Fax>
         </Contact>
         <Contact role="shipTo" addressID="1000487">
            <Name xml:lang="en">Betty Buyer</Name>
            <PostalAddress name="default">
               <DeliverTo>Betty Buyer</DeliverTo>
               <Street>1314 Chesapeake Terrace</Street>
               <City>Sunnyvale</City>
               <State>CA</State>
               <PostalCode>94089</PostalCode>
               <Country
                  isoCountryCode="US">United States</Country>
            </PostalAddress>
            <Email
               name="default">bettybuyer@bigcompany.com</Email>
            <Phone name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode>800</AreaOrCityCode>
                  <Number>66666666</Number>
               </TelephoneNumber>
            </Phone>
            <Fax name="work">
               <TelephoneNumber>
                  <CountryCode
                     isoCountryCode="US">1</CountryCode>
                  <AreaOrCityCode>215</AreaOrCityCode>
                  <Number>5555555</Number>
               </TelephoneNumber>
            </Fax>
```

```
                     </Contact>
                  </InvoiceDetailShipping>
                  <Money currency="USD">16.00</Money>
               </InvoiceDetailLineShipping>
               <GrossAmount>
                  <Money currency="USD">176.00</Money>
               </GrossAmount>
               <NetAmount>
                  <Money currency="USD">176.00</Money>
               </NetAmount>
               <Distribution>
                  <Accounting name="Buyer assigned accounting code 1">
                     <AccountingSegment id="ABC123456789">
                        <Name xml:lang="en">Purchase</Name>
                        <Description xml:lang="en">
                           Production Control</Description>
                     </AccountingSegment>
                  </Accounting>
                  <Charge>
                     <Money currency="USD">176.00</Money>
                  </Charge>
               </Distribution>
            </InvoiceDetailItem>
         </InvoiceDetailOrder>
         <InvoiceDetailSummary>
            <SubtotalAmount>
               <Money currency="USD">360.00</Money>
            </SubtotalAmount>
            <Tax>
               <Money currency="USD">36.00</Money>
               <Description xml:lang="en">total tax</Description>
               <TaxDetail purpose="tax" category="State sales tax"
                        percentageRate="10">
                  <TaxableAmount>
                     <Money currency="USD">360.00</Money>
                  </TaxableAmount>
                  <TaxAmount>
                     <Money currency="USD">36.00</Money>
                  </TaxAmount>
                  <TaxLocation xml:lang="en">PA</TaxLocation>
               </TaxDetail>
            </Tax>
            <ShippingAmount>
               <Money currency="USD">21.00</Money>
            </ShippingAmount>
            <GrossAmount>
               <Money currency="USD">417.00</Money>
            </GrossAmount>
            <NetAmount>
               <Money currency="USD">417.00</Money>
            </NetAmount>
            <DueAmount>
               <Money currency="USD">417.00</Money>
            </DueAmount>
         </InvoiceDetailSummary>
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

Credit Memo

The following credit memo is for $110, which includes tax charges.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="CRDO12042-120402" timestamp="2001-12-04T18:00:00-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>bettybuyer@bigcompany.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Invoicing App 2.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader invoiceID="CRDO12042"
            purpose="creditMemo" operation="new"
            invoiceDate="2001-12-04T18:00:00-07:00">
            <InvoiceDetailHeaderIndicator isHeaderInvoice="yes"/>
            <InvoiceDetailLineIndicator/>
            <Comments xml:lang="en-US">
               Buyer ordered 5 Computer Video Cables.  We invoiced the
               customer for 8 by mistake.
            </Comments>
         </InvoiceDetailRequestHeader>
         <InvoiceDetailHeaderOrder>
            <InvoiceDetailOrderInfo>
               <OrderReference>
                  <DocumentReference
               payloadID="1002700953000.152865612.2314.120401002@ariba.com"/>
               </OrderReference>
            </InvoiceDetailOrderInfo>
            <InvoiceDetailOrderSummary invoiceLineNumber="2">
               <SubtotalAmount>
                  <Money currency="USD">-100.00</Money>
               </SubtotalAmount>
            </InvoiceDetailOrderSummary>
         </InvoiceDetailHeaderOrder>
         <InvoiceDetailSummary>
            <SubtotalAmount>
               <Money currency="USD">-100.00</Money>
            </SubtotalAmount>
            <Tax>
               <Money currency="USD">-10</Money>
               <Description xml:lang="en">total tax</Description>
            </Tax>
            <NetAmount>
               <Money currency="USD">-110.00</Money>
            </NetAmount>
            <DueAmount>
               <Money currency="USD">-110.00</Money>
            </DueAmount>
         </InvoiceDetailSummary>
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

Debit Memo

The supplier realizes that it used incorrect math in the credit memo; it should have credited the buying organization $66.

The following debit memo is for $44 ($110 - $66).

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="DBDO12042-120402" timestamp="2001-12-04T18:50:00-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>bettybuyer@bigcompany.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>samsupplier@acme.com</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Invoicing App 2.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader invoiceID="DBDO12042"
            purpose="debitMemo" operation="new"
            invoiceDate="2001-12-04T18:50:00-07:00">
            <InvoiceDetailHeaderIndicator isHeaderInvoice="yes"/>
            <InvoiceDetailLineIndicator/>
            <Comments xml:lang="en-US">
               Bigcompany ordered five Computer Video Cables at 20.00 a piece.
               We invoiced the customer for eight by mistake. We sent out a
               credit memo for 100.00 instead of 60.00, so now we are issuing
               this debit memo in the amount of 2 X 20 = 40.00. The customer
               received all 5 items. Sorry for the confusion.
            </Comments>
         </InvoiceDetailRequestHeader>
         <InvoiceDetailHeaderOrder>
            <InvoiceDetailOrderInfo>
               <OrderReference>
                  <DocumentReference
               payloadID="1002700953000.152865612.2314.120401002@ariba.com"/>
               </OrderReference>
            </InvoiceDetailOrderInfo>
            <InvoiceDetailOrderSummary invoiceLineNumber="2">
               <SubtotalAmount>
                  <Money currency="USD">40.00</Money>
               </SubtotalAmount>
            </InvoiceDetailOrderSummary>
         </InvoiceDetailHeaderOrder>
         <InvoiceDetailSummary>
            <SubtotalAmount>
               <Money currency="USD">40.00</Money>
            </SubtotalAmount>
            <Tax>
               <Money currency="USD">4.00</Money>
               <Description xml:lang="en">total tax</Description>
            </Tax>
            <NetAmount>
               <Money currency="USD">44.00</Money>
            </NetAmount>
            <DueAmount>
               <Money currency="USD">44.00</Money>
            </DueAmount>
         </InvoiceDetailSummary>
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

AP Plus Invoice

This example illustrates an invoice that will be paid using AP Plus. It is a regular invoice with the `isInformationOnly` attribute and the `action:InitiatePayment Extrinsic` element. For more information, see "AP Plus" on page 160.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="mchuinv11a" timestamp="2005-01-01T13:38::32" xml:lang="en">
   <Header>
      <From>
         <Credential domain="networkID">
            <Identity>AN00000001</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="networkID">
            <Identity>AN00000002</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="networkID">
            <Identity>AN00000001</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Invoice Sender 3.0</UserAgent>
      </Sender>
   </Header>
   <Request deploymentMode="production">
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader
               invoiceID="mchuinv11a"
               purpose="standard"
               operation="new"
               invoiceDate="2005-01-01"
               isInformationOnly="yes">
            <InvoiceDetailHeaderIndicator/>
            <InvoiceDetailLineIndicator isAccountingInLine="yes">
            </InvoiceDetailLineIndicator>
            <InvoicePartner>
               <Contact role="from">
                  <Name xml:lang="en">Supplier</Name>
                  <PostalAddress>
                     <DeliverTo>Tom Seller</DeliverTo>
                     <Street>100 Oak Street</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94086</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
                  <Email name="work">admin@supplier.com</Email>
                  <Phone name="work">
                     <TelephoneNumber>
                        <CountryCode isoCountryCode="US">1</CountryCode>
                        <AreaOrCityCode>408</AreaOrCityCode>
                        <Number>358100</Number>
                     </TelephoneNumber>
                  </Phone>
               </Contact>
               <IdReference identifier="0-11" domain="accountReceivableID">
            </InvoicePartner>
            <InvoiceDetailShipping>
               <Contact role="shipFrom">
                  <Name xml:lang="en">Buyer</Name>
                  <PostalAddress>
                     <DeliverTo>Bill Buyer</DeliverTo>
                     <Street>100 Elm Street</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94086</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
                  <Email name="work">admin@buyer.com</Email>
                  <Phone name="work">
                     <TelephoneNumber>
                        <CountryCode isoCountryCode="US">1</CountryCode>
                        <AreaOrCityCode>408</AreaOrCityCode>
                        <Number>358200</Number>
                     </TelephoneNumber>
                  </Phone>
               </Contact>
               <Contact role="shipTo">
                  <Name xml:lang="en">Buyer</Name>
                  <PostalAddress>
                     <DeliverTo>Bill Buyer</DeliverTo>
                     <Street>100 Elm Street</Street>
                     <City>Sunnyvale</City>
                     <State>CA</State>
                     <PostalCode>94086</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
                  <Email name="work">admin@ariba.com</Email>
                  <Phone name="work">
                     <TelephoneNumber>
                        <CountryCode isoCountryCode="US">1</CountryCode>
                        <AreaOrCityCode>408</AreaOrCityCode>
                        <Number>358200</Number>
                     </TelephoneNumber>
                  </Phone>
               </Contact>
            </InvoiceDetailShipping>
            <InvoiceDetailPaymentTerm payInNumberOfDays="10"
                  percentageRate="2">
            </InvoiceDetailPaymentTerm>
            <Comments xml:lang="en">Be sure ink catridges are properly
```

```
            sealed to avoid spillage
         </Comments>
         <Extrinsic name="action:InitiatePayment"></Extrinsic>
      </InvoiceDetailRequestHeader>
      <InvoiceDetailOrder>
         <InvoiceDetailOrderInfo>
            <OrderReference orderID="PO123">
               <DocumentReference payloadID="mchr10898">
               </DocumentReference>
            </OrderReference>
         </InvoiceDetailOrderInfo>
         <InvoiceDetailItem invoiceLineNumber="1" quantity="1">
            <UnitOfMeasure>LB</UnitOfMeasure>
            <UnitPrice><Money currency="USD">1.00</Money></UnitPrice>
            <InvoiceDetailItemReference lineNumber="1">
               <ItemID><SupplierPartID>1233244</SupplierPartID></ItemID>
               <Description xml:lang="en"><ShortName>Device for scrubbing
                  graphite marks from bleached wood pulp</ShortName>
               </Description>
               <ManufacturerPartID>M657882</ManufacturerPartID>
               <ManufacturerName xml:lang="en">Stuff Co</ManufacturerName>
               <Country isoCountryCode="MX">Mexico</Country>
            </InvoiceDetailItemReference>
            <SubtotalAmount>
               <Money currency="USD">1.00</Money>
            </SubtotalAmount>
            <Distribution>
               <Accounting name="Default">
                  <AccountingSegment id="DX4">
                     <Name xml:lang="en">costcenter</Name>
                     <Description xml:lang="en">Co. supplies</Description>
                  </AccountingSegment>
               </Accounting>
               <Charge><Money currency="USD">1.00</Money></Charge>
            </Distribution>
         </InvoiceDetailItem>
      </InvoiceDetailOrder>
      <InvoiceDetailSummary>
         <SubtotalAmount>
            <Money currency="USD">1.00</Money>
         </SubtotalAmount>
         <Tax>
            <Money currency="USD">4.00</Money>
            <Description xml:lang="en">Tax Summary</Description>
            <TaxDetail purpose="tax" category="gst" percentageRate="7">
               <TaxableAmount>
                  <Money currency="USD">1.00</Money>
               </TaxableAmount>
               <TaxAmount><Money currency="USD">0.50</Money></TaxAmount>
               <TaxLocation xml:lang="en">CA</TaxLocation>
               <Description xml:lang="en">GST</Description>
            </TaxDetail>
         </Tax>
         <ShippingAmount>
            <Money currency="USD">0.75</Money>
         </ShippingAmount>
         <GrossAmount><Money currency="USD">5.75</Money></GrossAmount>
         <InvoiceDetailDiscount percentageRate="9">
            <Money currency="USD">0</Money>
         </InvoiceDetailDiscount>
         <NetAmount><Money currency="USD">5.75</Money></NetAmount>
         <DepositAmount><Money currency="USD">0</Money></DepositAmount>
         <DueAmount><Money currency="USD">5.75</Money></DueAmount>
      </InvoiceDetailSummary>
      </InvoiceDetailRequest>
   </Request>
</cXML>
```

Cancel Invoice

This example illustrates a cancel invoice.

As always, this document has a unique payloadID. `InvoiceDetailRequestHeader` element contains the attribute `operation="delete"` and the `InvoiceID` attribute reflects that this is a cancel invoice. There is also a `DocumentReference` element containing the `payloadID` of the original invoice, as required by the cXML DTDs.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/InvoiceDetail.dtd">
<cXML payloadID="INV123.DELETE" timestamp="2001-12-05T10:22:00-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>supplier@supplier.com </Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>buyer@buyer.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>supplier@supplier.com </Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Mega Invoicing App 1.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <InvoiceDetailRequest>
         <InvoiceDetailRequestHeader purpose="standard"
                  operation="delete" invoiceID="INV123.DELETE"
                  invoiceDate="2001-12-05T09:30:00-07:00">
            <InvoiceDetailHeaderIndicator></InvoiceDetailHeaderIndicator>
            <InvoiceDetailLineIndicator isTaxInLine="yes"
                  isShippingInLine="yes" isAccountingInLine="yes">
            </InvoiceDetailLineIndicator>
            <InvoicePartner>
               <Contact role="billTo" addressID="Billing">
                  <Name xml:lang="en">Test User</Name>
                  <PostalAddress name="billing department">
                     <DeliverTo>Test User</DeliverTo>
                     <Street>16 Castro Street</Street>
                     <City>Mountain View</City>
                     <State>CA</State>
                     <PostalCode>95035</PostalCode>
                     <Country isoCountryCode="US">United States</Country>
                  </PostalAddress>
                  <Email name="default">testuser@company.com</Email>
                  <Phone name="work">
                     <TelephoneNumber>
                        <CountryCode isoCountryCode="US">1</CountryCode>
                        <AreaOrCityCode>215</AreaOrCityCode>
                        <Number>9990000</Number>
                     </TelephoneNumber>
                  </Phone>
               </Contact>
               <IdReference identifier="11280630"
                    domain="accountReceivableID">
                  <Creator xml:lang="en">Test Supplier</Creator>
               </IdReference>
            </InvoicePartner>
            <DocumentReference payloadID="INV123">
            </DocumentReference>
         </InvoiceDetailRequestHeader>
         <InvoiceDetailOrder>
            <InvoiceDetailOrderInfo>
               <OrderReference orderID="PO123">
                  <DocumentReference payloadID="1002700953000.152865612">
                  </DocumentReference>
               </OrderReference>
            </InvoiceDetailOrderInfo>
            <InvoiceDetailItem invoiceLineNumber="1" quantity="10">
               <UnitOfMeasure>EA</UnitOfMeasure>
               <UnitPrice>
               .
               .
               .
```

Scheduled Payments

Buying organizations use scheduled payments (`PaymentProposalRequest` documents) to tell Ariba Network and their suppliers about planned payments. These documents list scheduled payment dates, discount amounts, and net amounts. Ariba Buyer 8.2 and later supports them.

This section discusses the following topics:

- "For Information Only" on page 190
- "EFT Payment" on page 190
- "Discount Management" on page 190
- "Example Scheduled Payment" on page 191

For Information Only

By default, scheduled payments are for information only. After approving invoices from suppliers, the procurement application sends scheduled payments to Ariba Network. Ariba Network forwards them to suppliers through email or displays them in their online Inboxes.

EFT Payment

Buying organizations can use scheduled payments for automated payment through Electronic Funds Transfer (EFT) on Ariba Network. After the procurement application approves invoices from suppliers, it sends scheduled payments to Ariba Network, which forwards them to suppliers. On the scheduled payment date, Ariba Network instructs the buying organization's bank to pay the supplier's bank.

Scheduled payments for EFT payment contain the `isNetworkPayment` attribute:

```
<PaymentProposalRequest
      paymentDate="2005-01-14T14:34:45-07:00"
      operation="new"
      paymentProposalID="PAY123"
      isNetworkPayment="yes">
```

Discount Management

Scheduled payments can be used for buyer-initiated discounts (formerly called Dynamic Discounting), supplier-initiated discounts, and standing early payment term offers, which allow buying organizations and suppliers to negotiate early settlement in return for discounts.

After a buying organization approves an invoice, their invoicing application sends a scheduled payment to Ariba Network, which displays it to suppliers. If the buying organization activates discount management, Ariba Network allows suppliers to request an accelerated payment, using a discount rate configured by the buying organization. If the supplier activates discount management, Ariba Network allows the buying organization to review and either accept or reject the early settlement terms. If necessary, the supplier can revise the offer.

Scheduled payments for discount management contain a special `Extrinsic` element named `immediatepay`:

```
<PaymentProposalRequest
      paymentDate="2005-04-20T23:59:20-07:00"
      operation="new"
      paymentProposalID="PAY123">
   ...
   <Extrinsic name="immediatepay">yes</Extrinsic>
</PaymentProposalRequest>
```

If a supplier selects a scheduled payment for early settlement, Ariba Network sends a `CopyRequest` document containing the attached scheduled payment back to the buying organization with an updated net amount and payment date. This `PaymentProposalRequest` document contains the attribute `operation="update"`.

The following example shows the `earlyPaymentDiscount` extrinsic. This amount is used to offset the early payment discount included in the discount portion of the payment proposal to make sure that double-dipping does not occur. The value indicates the actual discount amount.

```
<PaymentProposalRequest
      paymentDate="2005-04-20T23:59:20-07:00"
      operation="new"
      paymentProposalID="PAY123">
   ...
<Extrinsic name=”earlyPaymentDiscount”><Money currency=’USD’>100</Money></Extrinsic>
</PaymentProposalRequest>
```

Example Scheduled Payment

The following scheduled payment is for an ACH payment. It instructs Ariba Network to present the payment to suppliers for discount management.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cXML.org/schemas/cXML/1.2.014/PaymentRemittance.dtd">
<cXML payloadID="123@bigbuyer.com" timestamp="2005-04-20T23:59:45-07:00">
   <Header>
      <From>
         <Credential domain="AribaNetworkUserId">
            <Identity>joe@bigbuyer.com</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="AribaNetworkUserId">
            <Identity>judy@workchairs.com</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="AribaNetworkUserId">
            <Identity>joe@bigbuyer.com</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Super Procurement Application 1.2</UserAgent>
      </Sender>
   </Header>
   <Request>
      <PaymentProposalRequest
            paymentProposalID="proposal123"
            operation="new"
            paymentDate="2005-05-20T23:59:20-07:00">
         <Extrinsic name="immediatepay">yes</Extrinsic>
         <PayableInfo>
```

```
                <PayableInvoiceInfo>
                   <InvoiceReference invoiceID="ABC">
                      <DocumentReference payloadID="25510.10.81.231"/>
                   </InvoiceReference>
                   <PayableOrderInfo>
                      <OrderReference orderID="DEF">
                         <DocumentReference payloadID="25510.10.81.002"/>
                      </OrderReference>
                   </PayableOrderInfo>
                </PayableInvoiceInfo>
             </PayableInfo>
             <PaymentMethod type="ach"/>
             <Contact role="remitTo" addressID="Billing">
                <Name xml:lang="en">Lisa Dollar</Name>
                <PostalAddress name="billing department">
                   <DeliverTo>Lisa Dollar</DeliverTo>
                   <Street>100 Castro Street</Street>
                   <City>Mountain View</City>
                   <State>CA</State>
                   <PostalCode>95035</PostalCode>
                   <Country isoCountryCode="US">United States</Country>
                </PostalAddress>
                <Email name="default">ldollar@workchairs.com</Email>
                <Phone name="work">
                   <TelephoneNumber>
                      <CountryCode isoCountryCode="US">1</CountryCode>
                      <AreaOrCityCode>650</AreaOrCityCode>
                      <Number>9990000</Number>
                   </TelephoneNumber>
                </Phone>
             </Contact>
             <GrossAmount>
                <Money currency="USD">3000.00</Money>
             </GrossAmount>
             <DiscountAmount>
                <Money currency="USD">160.00</Money>
             </DiscountAmount>
             <AdjustmentAmount>
                <Money currency="USD">30.00</Money>
             </AdjustmentAmount>
             <NetAmount>
                <Money currency="USD">2810.00</Money>
             </NetAmount>
          </PaymentProposalRequest>
       </Request>
    </cXML>
```

End Points Integration with Ariba Network Adapters

In the Ariba 10s2 SP1 release, the cXML Adapter supports end points integration for the following solutions:

- Ariba Network Adapter for Oracle® Fusion Middleware
- Ariba Network Adapter for SAP NetWeaver®
- Ariba® Network Transport Adapter
- Ariba Procure-to-Pay™
- Ariba Procure-to-Order™

The Ariba Network Adapters allow data exchange between your external ERP system and Ariba Network. If you have configured an end point for your external ERP system in Ariba Network, then you must maintain the end point information in the channel configuration file of the respective Ariba Network Adapter.

Note: An end point is applicable only to *outbound* documents that are sent from your ERP system to Ariba Network.

When your Ariba Network Adapter receives an outbound document from your external ERP system, the network adapter appends the end point information to the cXML and then posts the document to Ariba Network. For example, when creating the cXML header for a purchase order, your network adapter checks if the end point information is maintained in the channel configuration file.

If you create a purchase order using an Ariba procurement solution and send that to a supplier through Ariba Network, the end point information is appended to the cXML and the document is then posted to the Ariba Network. Ariba checks to see if the end point information is maintained as part of your site profile.

Note: If you configure an end point for your Ariba procurement solution in Ariba Network, be sure to work with your Ariba Customer Support representative to maintain the end point information as part of your organization's Site Profile.

The network adapter or procurement solution includes the end point in the cXML header as part of the **From** element as explained below:

```
 <Header>
         <From>
<Credential domain="NetworkId">
        <Identity>AN02000076701</Identity>
</Credential>
<Credential domain="SystemID">
 <Identity>ARB2</Identity>
</Credential>
<Credential domain="EndPointID">
        <Identity>ERPEndPoint2</Identity>
</Credential>
         </From>
         <To>
<Credential domain="NetworkID">
         <Identity>AN02000076720</Identity>
</Credential>
         </To>
         <Sender>
<Credential domain="NetworkID">
        <Identity>AN02000076701</Identity>
        <SharedSecret>welcome1a</SharedSecret>
</Credential>
<UserAgent>Buyer</UserAgent>
         </Sender>
 </Header>
 <Request>
 <OrderRequest>……
```

ERPEndPoint1 is the value that you have configured in the communication channel in SAP NetWeaver or channel configuration file.

Note: In a single ERP configuration, you do not need to include in the System ID in the `<From>` credential.

End Points Integration in a Multiple ERP Setup

If your account has been enabled for multiple external ERPs and end point support in Ariba Network, then you must create system IDs corresponding to the different ERP systems, as well as an end point for each system ID. For documents that are sent from Ariba Network to the ERP, the network adapter uses the system ID to identify the ERP systems that receive the those documents. Therefore, it is sufficient to create only one end point with the same name for all three system IDs.

When creating the cXML header for a purchase order, your network adapter checks if the end point information is maintained in the channel configuration file or communication channel in SAP NetWeaver. If yes, then the network adapter includes the end point in the cXML header along with the system ID as illustrated below:

```
<Header>
          <From>
            <Credential domain="NetworkId">
              <Identity>AN02000076701</Identity>
            </Credential>
            <Credential domain="SystemId">
                <Identity>ARB2</Identity>
            </Credential>
            <Credential domain="EndPointID">
                  <Identity>ERPEndPoint1</Identity>
            </Credential>
          </From>
          <To>
            <Credential domain="NetworkID">
            <Identity>AN02000076720</Identity>
            </Credential>
          </To>
          <Sender>
              <Credential domain="NetworkID">
                    <Identity>AN02000076701</Identity>
                    <SharedSecret>welcome1a</SharedSecret>
              </Credential>
              <UserAgent>Buyer</UserAgent>
          </Sender>
  </Header>
  <Request>
    <OrderRequest>......
```

ERPEndPoint1 is the value that you have configured in the communication channel in SAP NetWeaver or channel configuration file and **ARB2** is the system ID.

Chapter 10 Receipts

ReceiptRequest Routing

Receipts indicate that your organization received ordered products or services. Your shipping clerks or requisitioners create them and send them to Ariba Invoice Professional through Ariba Network. Accounts payable personnel use them (in addition to purchase orders and invoices) to determine when and how much to pay suppliers.

Your organization generates receipts and addresses them to suppliers. However, Ariba Network routes them to Ariba Invoice Professional, not to suppliers. The `To` credential in the document header specifies the supplier, but Ariba Network does not send them to suppliers.

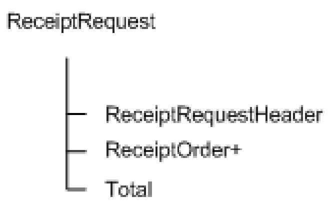
Ariba Network routes receipts immediately to Ariba Invoice Professional and sends copies to the **Receipts** page in your online Outbox tab. It does not match receipts to corresponding documents, so you can send them for expired purchase orders or master agreements, or for purchase orders that were not routed through Ariba Network.

In Ariba Invoice Professional, users use the receipts (if required) and purchase orders to ensure the invoices they receive from suppliers are correct. See "Receiving Types in Ariba Invoice Professional" on page 114 for information configuring receipt requirements for order items

cXML ReceiptRequest Document

The cXML `ReceiptRequest` document represents receipts. It defines the receipt information of a purchase order or master agreement with item details. A receipt line is an `ReceiptItem` element with a receipt line number.

This document has the following high-level structure:



The plus (+) indicates an element that can repeat.

Each `ReceiptRequest` document represents details about a receipt against a purchase order or a master agreement sent from a buying organization to a supplier. You can use it for any portion of all or selected line items from single or multiple purchase orders.

This document is defined in the cXML `Private.dtd`, not in the public DTDs.

ReceiptRequestHeader

The `ReceiptRequestHeader` element contains header information for this receipt.

This element has the following attributes:

`receiptID` (required)	A buyer-generated unique identifier for this receipt.
`receiptDate` (required)	The date and time the items or services were received by the buying organization. This date and time should be earlier than the document's timestamp.
`operation`	The operation described by this receipt document. Must be `"new"`.

Comments

Any comments for the receipt.

Extrinsic

Additional information related to this receipt. This information should not duplicate any information in the `ReceiptRequest` document.

ReceiptOrder

The `ReceiptOrder` element defines information related to a purchase order or master agreement.

This element has the following attribute:

`closeForReceiving`	Flag that indicated that the underlying order or master agreement needs should be closed for further receiving on approval of this receipt. It is false (no), by default. If this receipt is against a purchase order or release order, this flag indicates that the corresponding order should be closed for receiving. If this receipt is against a no-release master agreement, this flag indicates that the master agreement should be closed for receiving.

ReceiptOrderInfo

The `ReceiptOrderInfo` element contains the reference information of the purchase order or master agreement. The various content options are, in order of preference: `OrderReference`, `MasterAgreementReference`, `MasterAgreementIDInfo`, or `OrderIDInfo`.

OrderReference

A reference to the purchase order containing the items or services being received.

MasterAgreementReference

A reference to the master agreement containing the items or services being received.

OrderIDInfo

The buyer ID of the corresponding purchase order.

MasterAgreementIDInfo

The buyer ID of the corresponding master agreement.

ReceiptItem

The `ReceiptItem` element defines a receipt line item using information from the purchase order or master agreement. If this receipt is against a release order, specify both the release order and the master agreement. If the receipt is against a no-release master agreement, specify only the master agreement. If the receipt is against a purchase order, specify the purchase order.

This element has the following attributes:

`receiptLineNumber` (required)	A buyer-defined ID for the current line item. It must be unique across all receipt line items of the same `ReceiptRequest` document.
`quantity` (required)	The quantity received for the current receipt line.

ReceiptItemReference

The references related to this line item.

`ReceiptItemReference` has the following attribute:

`lineNumber` (required)	Line number of the line item, copied from the `OrderRequest`

ItemID

The supplier part number of current line item, copied from the `OrderRequest`.

Description

The line item description, copied from the `OrderRequest`.

ManufacturerPartID

The manufacturer part number.

ManufacturerName

The name of the manufacturer.

ShipNoticeReference

Reference to the supplier's `ShipNoticeRequest` document.

ShipNoticeIDInfo

ID of the ShipNoticeRequest. This ID is used when the ShipNoticeReference element is omitted.

UnitRate

The amount to be paid per unit of specified measure.

ReceivedAmount

Money amount of goods or services received for the receipt line item. The total received amount must equal to quantity x UnitRate.

AssetInfo

The AssetInfo element contains optional asset data for each quantity of each receipt line item.

This element has the following attributes:

tagNumber	Internal tag number for this asset
serialNumber	Manufactures serial number for this asset
location	Location of this asset

Comments

Textual comments for this line item.

Total

Summary total amount of all receipt line item amounts.

Money

Specifies the total money amount represented by the receipt.

Example Receipt

The following receipt is for two computer monitors. It closes the corresponding purchase order for further receiving.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://svcdev.ariba.com/schemas/cXML/1.2.015/Private.dtd">
<cXML xml:lang="en-US" payloadID="xyz-u44pdate@buyer.com" timestamp="2005-11-13T23:00:00-08:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN13000001260</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN12000002259</Identity>
```

```
        </Credential>
    </To>
```

```
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN13000001260</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Receiving Application, V1.2</UserAgent>
      </Sender>
   </Header>
   <Request>
      <ReceiptRequest>
         <ReceiptRequestHeader receiptID="RC1234"
              receiptDate="2005-11-13T22:00:00-08:00"
              operation="new"/>
         <ReceiptOrder closeForReceiving="yes">
            <ReceiptOrderInfo>
               <OrderReference orderID="DO19">
                  <DocumentReference payloadID="112.334.44.=90"/>
               </OrderReference>
            </ReceiptOrderInfo>
            <ReceiptItem receiptLineNumber="1" quantity="2">
               <ReceiptItemReference lineNumber="1">
                  <ItemID>
                     <SupplierPartID>RCA15</SupplierPartID>
                  </ItemID>
                  <Description xml:lang="en">Computer Monitor</Description>
                  <ManufacturerPartID>718177215</ManufacturerPartID>
                  <ManufacturerName>RCA</ManufacturerName>
               </ReceiptItemReference>
               <UnitRate>
                  <Money currency="USD">150.50</Money>
                  <UnitOfMeasure>EA</UnitOfMeasure>
               </UnitRate>
               <ReceivedAmount>
                  <Money currency="USD">301.00</Money>
               </ReceivedAmount>
               <AssetInfo serialNumber="SER20201" tagNumber="tag000005"
                      location="Sunnyvale"/>
               <AssetInfo serialNumber="SER20202" tagNumber="tag000006"
                      location="Sunnyvale"/>
            </ReceiptItem>
         </ReceiptOrder>
         <Total>
            <Money currency="USD">301.00</Money>
         </Total>
      </ReceiptRequest>
   </Request>
</cXML>
```

Chapter 11 Catalog Upload Transaction

Introduction to Catalog Upload

The cXML Catalog Upload transaction enables suppliers to programmatically upload and publish catalogs on Ariba Network. The transaction gives you an alternative to logging in to Ariba Network to interactively upload and publish catalogs. You can use it to automatically distribute updated catalogs whenever you change pricing or availability of your products or services.

Ariba Network supports any catalog in CIF or cXML format. A CIF catalog can be either a text file saved with a `.cif` extension or an Excel file saved with a `.xls` extension. If you use the Catalog Upload transaction, the catalog cannot exceed 3.8 MB.

Ariba Network allows only suppliers, not buying organizations, to upload catalogs.

Before uploading an Excel file as your catalog, be sure the file does not exceed 1 MB. Compress any Excel file that exceeds that limit before trying to upload it.

Transaction Overview

The Catalog Upload transaction consists of two cXML documents:

cXML Document	Purpose
`CatalogUploadRequest`	Sent by suppliers to upload a catalog. It contains the catalog as an attachment and specifies whether the catalog is new or an update, and whether to automatically publish it after upload.
`Response`	Sent by Ariba Network to acknowledge the receipt of a `CatalogUploadRequest`.

These documents use the standard cXML transport mechanism to travel between your cXML-enabled catalog-management application and Ariba Network:

1. Your catalog-management application opens an HTTPS connection to Ariba Network and perform a POST to send the `CatalogUploadRequest` document.
2. Ariba Network receives the document, validates it, and parses it.
3. After verifying your credential, Ariba sends a `Response` document through the same HTTPS connection.
4. Your application receives the `Response` document and closes the HTTPS connection.

You can receive further status regarding the catalog through email or cXML.

Prerequisites

Before using the Catalog Upload transaction, ensure you meet the following prerequisites.

Ariba Network Account

You must have a valid Ariba Network supplier account, and it must be fully enabled, not a preview account. In addition. you must have account administrator privileges to change your account settings, such as cXML authentication method.

cXML-Enabled Application

You must have a cXML-enabled application that can initiate HTTPS POST operations.

cXML-enabled applications must support sending and receiving the `ProfileRequest` transaction. This transaction is important for the Catalog Upload transaction because:

- You will use it to find out URL to which to post the `CatalogUploadRequest` document.
- Ariba Network will use it to find out the URL to which to post `StatusUpdateRequest` documents to you for later catalog-status notification.

cXML-Document Authentication

You must have configured your Ariba Network account and your cXML-enabled application to authenticate received cXML documents. For more information, see “cXML Document Authentication” on page 27.

Valid Catalogs

You must have valid catalogs. Catalogs can be in CIF 2.1, CIF 3.0, cXML, or Excel format.

To debug your catalogs as you develop them, use your Ariba Network account interactively to upload them. Ariba Network automatically validates them and flags any syntactic errors. Your catalogs will be validated when you use the Catalog Upload transaction, but solving catalog problems is easier in interactive sessions. Interactive sessions also allow you to use the order tester to exercise catalogs and generate test purchase orders.

Compress (zip) large catalogs before uploading; for more information, see “Compressing Catalogs” on page 206.

The following information is available on the Help@Ariba website.

For information about...	See...
Creating CIF and cXML catalogs	*Ariba Catalog Format Reference*
Creating Excel format catalogs	*Ariba Network Catalog Administration Guide for Suppliers*
Uploading, validating, and testing catalogs	*Ariba Network Catalog Administration Guide for Suppliers*

Sending a CatalogUploadRequest Document

The following example shows a Catalog Upload document. It contains two documents enclosed in a MIME envelope: a `CatalogUploadRequest` document and a CIF 3.0 catalog.

```
--kdflkajfdksadjfklasdjfkljdfdsfdkf
Content-type: text/xml; charset=UTF-8
Content-ID: <part0.PCO28.975529413484@saturn.workchairs.com>

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML timestamp="2006-12-28T16:56:03-08:00"
payloadID="123456669138--1234567899555556789@10.10.83.39">
   <Header>
      <From>
         <Credential domain="DUNS">
            <Identity>123456789</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="DUNS">
            <Identity>123456789</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>MyHomemadeCatalogManager</UserAgent>
      </Sender>
   </Header>
   <Request>
      <CatalogUploadRequest operation="update">
         <CatalogName xml:lang="en">Winter Prices</CatalogName>
         <Description xml:lang="en">This catalog contains our premiere-level prices for office
chairs and other durable furniture.</Description>
         <Attachment>
            <URL>cid: part2.PCO28.975529413154@saturn.workchairs.com</URL>
         </Attachment>
         <Commodities>
            <CommodityCode>52</CommodityCode>
         </Commodities>
         <AutoPublish enabled="true"/>
         <Notification>
            <Email>judy@workchairs.com</Email>
            <URLPost enabled="true"/>
         </Notification>
      </CatalogUploadRequest>
   </Request>
</cXML>

--kdflkajfdksadjfklasdjfkljdfdsfdkf
Content-type: text/plain; charset=US-ASCII
Content-Disposition: attachment; filename=PremiereCatalog.cif
Content-ID: <part2.PCO28.975529413154@saturn.workchairs.com>
Content-length: 364

CIF_I_V3.0
LOADMODE: F
CODEFORMAT: UNSPSC
CURRENCY: USD
SUPPLIERID_DOMAIN: DUNS
```

```
ITEMCOUNT: 3
TIMESTAMP: 2006-01-15 15:25:04
DATA
942888710,34A11,C11,"Eames Chair",11116767,400.00,EA,3,"Fast MFG",,,400.00
942888710,56A12,C12,"Eames Ottoman",11116767,100.00,EA,3,"Fast MFG",,,100.00
942888710,78A13,C13,"Folding Chair",11116767,25.95,EA,3,"Fast MFG",,,25.95
ENDOFDATA

--kdflkajfdksadjfklasdjfkljdfdsfdkf--
```

To Element

The `To` element can specify either Ariba Network or the buying organization.

If you address the document to Ariba Network, Ariba Network performs generic catalog validation, not buyer-specific catalog validation. If you address the document to a buying organization, Ariba Network performs validation against the customer's catalog rules.

CatalogUploadRequest Element

`CatalogUploadRequest` has an `Operation` attribute that specifies the type of upload to perform:

- `new`—Uploads a new catalog. A catalog with the same name must not exist.
- `update`—Overwrites an exiting catalog. A catalog with the same name must exist.

`CatalogUploadRequest` contains the following elements.

CatalogName Element

`CatalogName` specifies the name of the uploaded catalog. This value is the user-visible name, not the file name of the catalog.

`CatalogName` has an `xml:lang` attribute that specifies the language used for the catalog name. Language codes are defined in the XML 1.0 Specification (at `www.w3.org/TR/1998/REC-xml-19980210.html`). In the most common case, this includes an ISO 639 Language Code and, optionally, an ISO 3166 Country Code separated by a hyphen. The recommended cXML language code format is xx[-YY[-zzz]*] where xx is an ISO 639 Language code, YY is an ISO 3166 Country Code, and zzz is an IANA or private subcode for the language in question. Again, use of the Country Code is always recommended. By convention, the language code is lowercase and the country code is uppercase. This is not required for correct matching of the codes.

Description

`Description` briefly describes the catalog contents. Buying organizations can search and view this information.

`Description` has an `xml:lang` attribute that specifies the language of the description text.

Attachment Element

`Attachment` specifies the URL of the attached catalog. It contains one `URL` element with the scheme "cid:".

For more information about attachments, see "Attaching Your Catalog" on page 206.

Commodities Element

`Commodities` specifies the top-level commodity codes for the items in your catalog. Buying organizations use these codes to search for new catalogs. It contains one or more `CommodityCode` elements.

Use **two-digit** UNSPSC (United Nations Standard Products and Services Code) segment codes. For more information, see Appendix A, "Recommended Coding Systems."

AutoPublish Element

`AutoPublish` automatically publishes the catalog to buying organizations after upload. You can automatically publish only if the following requirements are met:

- A previous version of the catalog exists in your account and you are performing an `update` operation.
- The previous version is in the "published" state. It must have been published private (with a list of buying organizations) or public.
- The `CatalogUploadRequest` (the `To` element) is addressed to one of your customers, not Ariba Network.

`AutoPublish` has an Enabled attribute that specifies whether to automatically publish the catalog:

- `true`—Publishes the catalog. It must be an update to a previously published catalog.
- `false`—Does not publish the catalog. You can log on to your account and manually publish the catalog.

Notification Element

`Notification` sends catalog-status notifications through email or cXML POST. For examples of these messages, see "Receiving Later Catalog Status" on page 207.

`Notification` contains either one `Email` element or one `URLPost` element, or both elements.

Email Element

`Email` specifies the mailbox to which Ariba Network emails status messages. You can use only one `Email` element, and it can contain only one email address.

URLPost Element

`URLPost` specifies whether Ariba Network sends catalog status messages as cXML `StatusUpdateRequest` documents.

The URL destination of the `StatusUpdateRequest` is determined by your Website's response to Ariba Network's `ProfileRequest` transaction. For more information about `ProfileRequest`, see Chapter 4, "Profile Transaction."

`URLPost` has an Enabled attribute that specifies whether Ariba Network sends catalog-status notifications through `StatusUpdateRequest`:

- `true`—Enables this feature.
- `false`—Disables this feature.

Attaching Your Catalog

Send your catalog attached to the `CatalogUploadRequest` document. Large catalogs must be zipped to compress them before uploading.

Using a MIME Envelope

Include the catalog file in the `CatalogUpdateRequest` as a Multipurpose Internet Mail Extensions (MIME) attachment. cXML contains only references to external MIME parts sent within one multipart MIME envelope.

The referenced catalog file must reside within a multipart MIME envelope with the cXML document. A cXML requirement for this envelope (over the basics described in RFC 2046 “Multipurpose Internet Mail Extensions Part Two: Media Types”) is the inclusion of Content-ID headers with the attached file.

Note: The cXML specification allows attachments to reside outside of the MIME envelope, but the Catalog Upload transaction does not support that attachment method.

The `Attachment` element contains only a reference to the external MIME part of the attachment. `Attachment` contains a single URL with the scheme “cid:”. Do not use any encoding for the catalog, except the appropriate character set encoding (for example, UTF-8). Do not base64 encode the catalog.

For more information about attachments in cXML, see the discussion of the `Attachment` element in the *cXML User’s Guide*.

Compressing Catalogs

Before attaching catalogs larger than 3 MB, compress them with a Zip utility, such as WinZip.

Catalog files must have a `.xml`, `.cif`, `.xls`, or `.zip` file extension.

Receiving the Response

After you send a `CatalogUploadRequest`, Ariba Network replies with a standard cXML `Response` document:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="980306507433-6714998277961341012@10.10.83.39"
timestamp="2001-01-23T19:21:47-08:00">
   <Response>
      <Status code="201" text="Accepted">The catalog upload request is processing</Status>
   </Response>
</cXML>
```

The following table lists possible status codes:

Status Code	Meaning
200 Success	The catalog-upload request succeeded.
201 Accepted	The catalog-upload request is processing.
461 Bad Commodity Code	The commodity code you assigned to the catalog is invalid.
462 Notification Error	No notification method (email or URL) provided.
463 Bad Catalog Format	The zip file is invalid.
464 Bad Catalog	No catalog is attached, or more than one is attached.
465 Duplicate Catalog Name	The name of the catalog exists.
466 No Catalog to Update	The catalog to be updated does not exist.
467 Publish Not Allowed	You attempted to publish a catalog that was not previously published.
468 Catalog Too Large	The size of the catalog exceeds the 3.8 MB limit.
469 Bad Catalog Extension	The file name of the catalog must have .cif, .xml, or .zip extensions.
470 Catalog Has Errors	The message is the status of the catalog. (HasErrors)
499 Document Size Error	The cXML document is too large.
561 Too Many Catalogs	You cannot upload more than a specific number of catalogs per hour.
562 Publish Disabled	Catalog publishing is temporarily unavailable due to scheduled maintenance. It will be back online by the specified date and time.
563 Catalog Validating	You attempted to update a catalog before validation finished on a previous version of the catalog.
564 Upload Disabled	Catalog uploading is temporarily unavailable due to scheduled maintenance. Try again later.

For other possible status codes, see the *cXML User's Guide*.

Receiving Later Catalog Status

If you include the `Notification` element to request later catalog-status notification, Ariba Network sends a message when the catalog reaches its final status. The possible final catalog states are:

State	Meaning
`Validated`	The catalog contains no syntax errors.
`BadZipFormat`	The zip format is incorrect.
`HasErrors`	The catalog contains syntax errors, and it cannot be published.
`Published`	The catalog has been published (private or public).

This notification does not appear in your Ariba Network Inbox. You receive it only through email or URLPost.

Email

The following example shows an email status notification:

```
From: AribaNetworkAdmin@ariba.com
To: judy@workchairs.com
Subject: Status of CatalogUploadRequest for Winter Prices from the Ariba Network

Catalog Name: Winter Prices
Status: Published
Payload ID: 123456669138--1234567899555556789@10.10.83.39

Please log in to your Ariba Network account to view or edit the catalog file.

Thank you,
Ariba Network Customer Service
```

URLPost

The following example shows a `StatusUpdateRequest` notification sent by Ariba Network:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">

<cXML timestamp="2001-01-23T18:39:44-08:00"
payloadID="980303984882--3544419350291593786@10.10.83.39">

   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="DUNS">
            <Identity>123456789</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>ANValidator</UserAgent>
      </Sender>
   </Header>
   <Request>
      <StatusUpdateRequest>
         <DocumentReference
payloadID="123456669131--1234567899555556789@10.10.83.39"></DocumentReference>
         <Status text="Success" code="200">
            Validated
         </Status>
      </StatusUpdateRequest>
   </Request>
</cXML>
```

The possible status codes are:

Status Code	Meaning
200 Success	The catalog-upload request succeeded.
463 Bad Catalog Format	The zip file is invalid.
470 Catalog Has Errors	The message is the status of the catalog. (HasErrors)

Chapter 12 Get Pending/Data Download Transaction

Overview of Polling and Downloading

Procurement applications receive documents from Ariba Network by polling for them and downloading them. They use the cXML get pending transaction (`GetPendingRequest`/`GetPendingResponse`) to poll for waiting documents. They use the cXML data download transaction (`DataRequest`/`DataResponse`) to retrieve those documents.

Polling and downloading are the only ways procurement applications receive data from Ariba Network. Ariba Network does not transmit documents to procurement applications; instead it queues them, by document type, for downloading initiated by procurement applications.

Polling Frequency

Procurement applications should poll for new documents and download them at least once per hour. They can poll for `StatusUpdateRequest` documents more often than once per hour for the current status of purchase orders.

Polling Time

For better response from Ariba Network, procurement applications should schedule polling and downloading for a random offset from the top of the hour. For example, if polling and downloading once per hour, choose a random time from 0 to 59 minutes past the hour (ideally, randomize the seconds, too). Polling and downloading can occur at the same time every hour, but avoid times such as zero or thirty minutes past the hour. This technique spaces downloading so all buying organizations do not request downloads at the same time.

Download All Waiting Documents

The get pending transaction has a `maxMessages` attribute that allows procurement applications to limit the number of documents returned by Ariba Network. Use this attribute to prevent Ariba Network or procurement applications from timing out during downloading.

For example, if there are 99 waiting documents, the procurement application can download them in batches of 20 (`maxMessages="20"`):

Poll Iteration	Documents Returned
get pending/data download 1	20
get pending/data download 2	20
get pending/data download 3	20
get pending/data download 4	20
get pending/data download 5	19
get pending 6	0

Every time a procurement application polls and downloads, it should completely empty the pending document queue on Ariba Network. It must initiate multiple get pending and download transactions until Ariba Network indicates that there are no documents waiting. It should not stop polling and downloading after a predetermined number of get pending and download transactions.

Confirm the Receipt of Documents

After downloading `ConfirmationRequest`, `ShipNoticeRequest`, or `InvoiceDetailRequest` documents, procurement applications should send `StatusUpdateRequest` documents to Ariba Network to indicate that it received them. If required, the `Extrinsic` element can be used for additional information about the status of the document being updated.

Procurement applications should not send a `StatusUpdateRequest` document to confirm a `StatusUpdateRequest` document, because that action could lead to circular confirmations.

GetPendingRequest

Procurement applications use the cXML `GetPendingRequest` document to poll Ariba Network for waiting documents. Generate a `GetPendingRequest` document for each type of cXML document that the procurement application can download:

- `StatusUpdateRequest`
- `ConfirmationRequest`
- `ShipNoticeRequest`
- `InvoiceDetailRequest`
- `SupplierChangeMessage`
- `SalesOrderRequest`
- `CopyRequest.PaymentProposalRequest`
- `CopyRequest.PaymentRemittanceRequest`
- `CopyRequest.PaymentRemittanceStatusUpdateRequest`
- `SubscriptionChangeMessage`
- `OrganizationChangeMessage`

The following example polls for cXML `StatusUpdateRequest` documents:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
```

```
<cXML payloadID="1105574416.19583@hydra.buyer.com"
      timestamp="2005-01-13T00:00:16+00:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement System 3.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <GetPendingRequest lastReceivedTimestamp="2005-01-12T00:00:25+00:00"
            maxMessages="20">
         <MessageType>StatusUpdateRequest</MessageType>
      </GetPendingRequest>
   </Request>
</cXML>
```

The `lastReceivedTimestamp` attribute specifies the oldest message to be returned by Ariba Network. Use the `cXML timestamp` attribute of the last received `GetPendingResponse` document as the `lastReceivedTimestamp` attribute in the next `GetPendingRequest` document for that document type. When Ariba Network receives a `GetPendingRequest`, it discards waiting messages referenced in previous `GetPendingResponse` documents with timestamps equal to or earlier than the specified `lastReceivedTimestamp`. For more information about how to use this attribute, see "lastReceivedTimeStamp and Waiting Documents" on page 217.

The `maxMessages` attribute specifies the maximum number of documents to return. This attribute helps prevent Ariba Network or procurement applications from timing out if there are many waiting documents. Use a value between 10 and 100 for this attribute. Procurement applications should continue using the get pending/data download transactions until the waiting document queue on Ariba Network empties.

If your organization is enabled for multiple ERP systems, you can include a `SystemID` that equates to one of your ERP accounts. Ariba Network searches for and returns all documents for the specified ERP system. If a `SystemID` is not specified, Ariba Network returns documents for all of your ERP accounts.

The following example polls for cXML documents for a single ERP account:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="1105574416.19583@hydra.buyer.com"
      timestamp="2005-01-13T00:00:16+00:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="SystemID">
            <Identity>ERP01</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement System 3.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <GetPendingRequest lastReceivedTimestamp="2005-01-12T00:00:25+00:00"
            maxMessages="20">
         <MessageType>StatusUpdateRequest</MessageType>
      </GetPendingRequest>
   </Request>
</cXML>
```

GetPendingResponse

Ariba Network returns a Response document that either contains or does not contain a GetPendingResponse document in the same HTTP connection. If there is no GetPendingResponse, no documents are waiting. If there is a GetPendingResponse, there are documents waiting.

The following example indicates that one or more documents are waiting:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML timestamp="2005-01-12T16:00:18-08:00"
payloadID="1105574420906--4512663440002882750@10.10.13.125">
   <Response>
      <Status code="200" text="OK"/>
      <GetPendingResponse>
         <cXML timestamp="2005-01-12T16:00:18-08:00"
               payloadID="1105574420141-9773999602687157090@10.10.13.125">
            <Header>
               <From>
                  <Credential domain="NetworkID">
                     <Identity>AN01000000001</Identity>
                  </Credential>
               </From>
               <To>
                  <Credential domain="NetworkID">
                     <Identity>AN13000000259</Identity>
                  </Credential>
               </To>
               <Sender>
                  <Credential domain="NetworkID">
                     <Identity>AN01000000001</Identity>
                  </Credential>
                  <UserAgent>ANCXMLDispatcher</UserAgent>
               </Sender>
            </Header>
            <Message>
               <DataAvailableMessage>
                  <InternalID domain="PendingMessages">3738</InternalID>
               </DataAvailableMessage>
            </Message>
         </cXML>
      </GetPendingResponse>
   </Response>
```

```
</cXML>
```

The DataAvailableMessage element contains an internal ID, which corresponds to one or more documents waiting for download.

DataRequest

After procurement applications obtain a DataAvailableMessage, they use its internal ID value to download the waiting documents by sending a cXML DataRequest document.

Note: Ariba Network's URL for receiving DataRequest documents is different than the URL for GetPendingRequest documents; the only way to obtain it is by issuing a ProfileRequest document. For more information, see Chapter 4, "Profile Transaction."

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="1105574421.19583@hydra.buyer.com"
      timestamp="2005-01-13T00:00:21+00:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
            <SharedSecret>abracadabra</SharedSecret>
         </Credential>
         <UserAgent>Our Procurement System 3.0</UserAgent>
      </Sender>
   </Header>
   <Request>
      <DataRequest>
         <InternalID domain="PendingMessages">3738</InternalID>
      </DataRequest>
   </Request>
</cXML>
```

DataResponse

Ariba Network responds to the cXML DataRequest with a DataResponse document and the requested documents together in a MIME envelope in the same HTTP connection. The Content-Type HTTP header defines the MIME boundary.

The following DataResponse document has one StatusUpdateRequest document attached.

```
Content-Type: multipart/mixed; boundary="----=_Part_0_10550230.1105574425445"

------=_Part_0_10550230.1105574425445
```

```
Content-Type: text/xml; charset=UTF-8
Content-ID: <1105574425572.1197583259@cetus.ariba.com>

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML timestamp="2005-01-12T16:00:25-08:00"
      payloadID="1105574425428-5167970095322563427@10.10.13.103">
   <Response>
      <Status code="200" text="OK"/>
      <DataResponse>
         <Attachment>
            <URL>cid:1105574422695.1816707419@cetus.ariba.com</URL>
         </Attachment>
      </DataResponse>
   </Response>
</cXML>

------=_Part_0_10550230.1105574425445
Content-Type: text/xml; charset=UTF-8
Content-ID: <1105574422695.1816707419@cetus.ariba.com>

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cXML SYSTEM "http://xml.cxml.org/schemas/cXML/1.2.014/cXML.dtd">
<cXML payloadID="1105573919487--7116204576911739136@10.10.13.125"
      timestamp="2005-01-12T15:51:59-08:00">
   <Header>
      <From>
         <Credential domain="NetworkID">
            <Identity>AN12000000259</Identity>
         </Credential>
      </From>
      <To>
         <Credential domain="NetworkID">
            <Identity>AN13000000259</Identity>
         </Credential>
      </To>
      <Sender>
         <Credential domain="NetworkID">
            <Identity>AN01000000001</Identity>
         </Credential>
         <UserAgent>AN</UserAgent>
      </Sender>
   </Header>
   <Request deploymentMode="production">
      <StatusUpdateRequest>
         <DocumentReference payloadID="DO123@hydra.buyer.com"/>
         <Status code="200" message="OK"/>
      </StatusUpdateRequest>
   </Request>
</cXML>

------=_Part_0_10550230.1105574425445--
```

Invoice Attachments

If invoices have attachments, the `DataResponse` contains `InvoiceDetailRequest` attachments that also have attachments. Ariba Network sends invoices with attachments in multi-level MIME envelopes.

Downloading of invoice attachments is configurable in buyer Ariba Network accounts. Turning it on affects only newly-submitted invoices, not existing queued invoices.

lastReceivedTimeStamp and Waiting Documents

Ariba Network deletes the referenced documents from the waiting documents queue when it receives the next `GetPendingRequest` for that document type. Procurement applications should not skip waiting documents. After sending a `DataRequest` document, they must receive the referenced documents before sending another `GetPendingRequest` document. If `DataRequest` documents fail, they should retry the transaction. If they fail again, they should notify the procurement application administrator.

Here is an example of how to use the `lastReceivedTimestamp` attribute:

1 The procurement application sends a `GetPendingRequest`:

```
<GetPendingRequest lastReceivedTimestamp="time1"/>
```

Ariba Network responds with

```
<cXML timestamp="time2">
   <GetPendingResponse>
      <DataAvailableMessage>
         <InternalID domain="PendingMessages">id1</InternalID>
      </DataAvailableMessage>
   </GetPendingResponse>
</cXML>
```

2 The procurement application retrieves the waiting documents by sending a `DataRequest`:

```
<DataRequest>
   <InternalID domain="PendingMessages">id1</InternalID>
</DataRequest>
```

Ariba Network responds with

```
<DataResponse>...</DataResponse>
```

At this point, the procurement application can download *id1* over and over again.

3 Later, the procurement application sends another `GetPendingRequest`:

```
<GetPendingRequest lastReceivedTimestamp="time2"/
```

The procurement application acknowledges receipt of the documents referenced by the first `GetPendingResponse` by sending the second `GetPendingRequest`. Ariba Network deletes all waiting documents associated with *id1* and the procurement application can no longer download *id1*.

Ariba Network responds with

```
<cXML timestamp="time3">
   <GetPendingResponse>
      <DataAvailableMessage>
         <InternalID domain="PendingMessages">id2</InternalID>
      </DataAvailableMessage>
   </GetPendingResponse>
</cXML>
```

At this point, the procurement application can download *iid2* over and over again.

Authenticating Waiting Documents

Procurement applications do not need to authenticate documents downloaded through the data download transaction; they come from a trusted source, Ariba Network. They can validate Ariba Network's SSL server certificate when they initiate HTTPS connections.

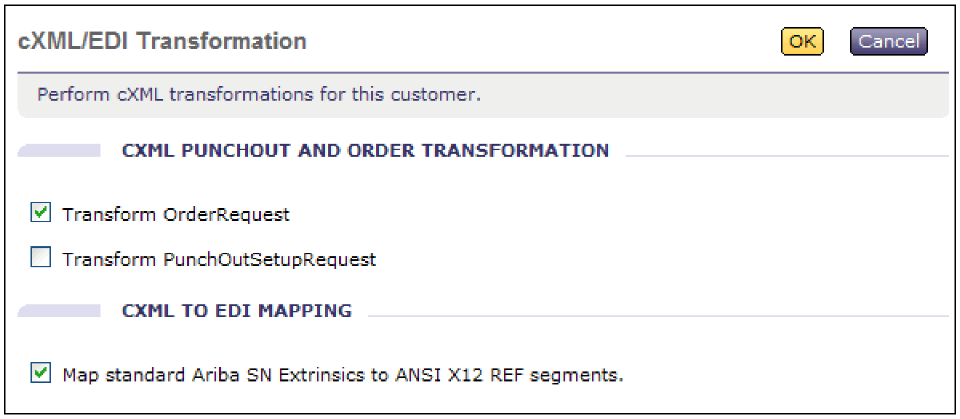
Chapter 13 cXML Transformations on Ariba Network

About Transformations on Ariba Network

When Ariba Network routes cXML `OrderRequest` or `PunchOutSetupRequest` documents from buying organizations to suppliers, it can perform transformations that fix common semantic problems. These transformations are needed because Ariba Buyer installations might use extrinsics to specify commonly used data, such as addresses. To be most useful to suppliers, this data should appear in dedicated cXML elements, not extrinsic elements. Ariba Network can also change custom extrinsics to standard Ariba Network extrinsics, which enables suppliers to integrate with multiple customers more easily.

Turning on Transformations

Suppliers can enable transformations on a per-customer basis by clicking **cXML/EDI Transformation** in the Customer Relationships area of their accounts.



Perform cXML transformations for this customer.

CXML PUNCHOUT AND ORDER TRANSFORMATION

[✓] Transform OrderRequest

[ ] Transform PunchOutSetupRequest

CXML TO EDI MAPPING

[✓] Map standard Ariba SN Extrinsics to ANSI X12 REF segments.

Suppliers can turn on transformations for `OrderRequest` and `PunchOutSetupRequest` separately. Note that transformation controls are not available in the main Order Routing pages; they are only available in the cXML/EDI Transformation page. These transformations are described below.

Moving Extrinsics to the Contact Element

If you activate `OrderRequest` transformations, Ariba Network moves contact information from a variety of extrinsics to the `Contact` element.

1 **Names** move from a variety of extrinsics to the `Name` element.

```
<Extrinsic name="Name"
<Extrinsic name="Requester"
<Extrinsic name="RequesterName"
<Extrinsic name="Requisition.Requester.Name">
<Extrinsic name="BuyerName"
<Extrinsic name="OriginalRequester"
```

Ariba Network moves the above data to:

```
<Contact><Name>
```

2 **Addresses** move from extrinsics to the `PostalAddress` element.

```
<Extrinsic name="Street"
<Extrinsic name="City"
<Extrinsic name="State"
<Extrinsic name="Country"
<Extrinsic name="isoCountryCode"
```

Ariba Network moves the above data to:

```
<Contact>
   <PostalAddress>
      <Street>
      <City>
      <State>
      <Country isoCountryCode>
```

A multiline Street extrinsic converts to a multiline `Street` element; it does not transform into separate `Street` elements for each line.

3 **Deliver To** information moves from a variety of extrinsics to the `DeliverTo` element within `PostalAddress`.

```
<Extrinsic name="DeliverTo"
<Extrinsic name="MailStop"
<Extrinsic name="PoleNumber"
```

Ariba Network moves the above data to:

```
<Contact><PostalAddress><DeliverTo>...
```

4 **Phone number** moves from a variety of extrinsics to the `Phone` element.

```
<Extrinsic name="Phone"
<Extrinsic name="Buyer Phone"
<Extrinsic name="Requester Phone Number"
```

Ariba Network moves the above data to:

```
<Contact><Phone>...
```

5 **Fax number** moves from an extrinsic to the `Fax` element.

```
<Extrinsic name="Fax">
```

Ariba Network moves the above data to:

```
<Contact><Fax>...
```

6 **Email address** is moved from an extrinsic to the `Email` element.

```
<Extrinsic name="EmailAddress">
```

Ariba Network moves the above data to:

```
<Contact><Email>...
```

Transforming ItemOut Extrinsics

If you activate `OrderRequest` or `PunchOutSetupRequest` transformations, Ariba Network moves data from `ItemOut Extrinsic` elements into intrinsic elements.

1 **Requisition ID** is moved from a variety of extrinsics to the `requisitionID` attribute.

```
<ItemOut>
   <Extrinsic name="ReqNumber">value</Extrinsic>
   <Extrinsic name="Requisition #">value</Extrinsic>
   <Extrinsic name="PR No.">value</Extrinsic>
   <Extrinsic name="Requisition.PR">value</Extrinsic>
   <Extrinsic name="No.">value</Extrinsic>
```

Ariba Network moves the above data to:

```
<ItemOut requistionID="value">...
```

If there are multiple requisition ID extrinsics, Ariba Network transforms only the last one into `requisitionID`.

2 **URL** is moved from an extrinsic to the `URL` element.

```
<Extrinsic name="URL">
```

Ariba Network moves the above data to:

```
<URL>...
```

3 **Requested Ship Date** is moved from a variety of extrinsics to the `requestedDeliveryDate` attribute in the `ItemOut` element.

```
<ItemOut>
   <Extrinsic name="ETA">value</Extrinsic>
   <Extrinsic name="RequestedShipDate">value</Extrinsic>
   <Extrinsic name="RequestedDeliveryDate">value</Extrinsic>
```

Ariba Network moves the above data to:

```
<ItemOut requestedDeliveryDate="value">
```

Consolidating ItemOut to OrderRequestHeader

If you activate `OrderRequest` transformations, Ariba Network reduces redundancy by consolidating duplicate line item information in the `OrderRequestHeader` element.

1 If there are identical **Extrinsic** elements within every `ItemOut`, Ariba Network deletes them and creates a single `Extrinsic` at the `OrderRequestHeader` level. If there is only one `ItemOut`, Ariba Network moves any `Extrinsic` elements within it to the `OrderRequestHeader` level.

2 If there are identical **Contact** elements within every `ItemOut`, Ariba Network deletes them and creates a single `Contact` at the `OrderRequestHeader` level.

3 If there are identical **requisitionID** attributes within every `ItemOut`, Ariba Network deletes them and creates a single `requisitionID` at the `OrderRequestHeader` level.

Mapping Custom Extrinsics to Ariba Network Extrinsics

If you enable **Map customer specific extrinsics to standard Ariba Network Extrinsics**, Ariba Network changes custom extrinsics to standard Ariba Network extrinsics in purchase orders, which allow you to more easily integrate with multiple customers.

Note: This control is available only if buying organizations define maps on Ariba Network to change custom extrinsics to standard extrinsics. They must contact Ariba’s Global Services Organization (GSO) to define these maps.

Ariba Network has a list of approximately 1,500 standard Ariba Network extrinsics that covers concepts such as “billing account,” “mortgage ID,” and “docket number.” It can map buying organizations’ custom extrinsics to these standard extrinsics as it routes purchase orders. See the Ariba Network documentation for the list of standard Ariba Network extrinsics.

For example, Ariba Network can change the custom extrinsic

```
<Extrinsic name="Loan Number">1234</Extrinsic>
```

to the standard Ariba Network extrinsic

```
<Extrinsic name="mortgageIdNumber">1234</Extrinsic>
```

By default, this control is off, so suppliers receive extrinsics exactly as buying organizations send them in purchase orders.

Mapping Extrinsics from cXML to EDI

If you enable **Map standard Ariba Network extrinsics to ANSI X12 REF segments**, Ariba Network maps standard Ariba Network extrinsic data to X12 REF segments in purchase orders.

If buying organizations either use standard Ariba Network extrinsics in purchase orders, or map custom extrinsics to standard Ariba Network extrinsics in purchase orders, Ariba Network converts those extrinsics to equivalent X12 REF elements. See the Ariba Network documentation for the list of standard Ariba Network extrinsics.

By default, this control is off, so Ariba Network maps extrinsic data to EDI comment elements in purchase orders.

Appendix A Recommended Coding Systems

This appendix lists standard coding systems recommended for use with Ariba applications.

Commodity Codes

The United Nations Standard Products and Services Code (UNSPSC) standard is the preferred commodity coding system. The UNSPSC is free and contains descriptions of more than 12,000 products and services. Its coding structure is hierarchical, which combines similar items into standardized groups. The finer the granularity of the item description, the more digits in the UNSPSC code, up to 8 digits.

Two organizations manage the UNSPSC:

- Electronic Commerce Code Management Association (ECCMA). For a list of codes, go to:

  `www.eccma.org/unspsc`

- United Nations Development Programme (UNDP). For a list of codes, go to:

  `www.unspsc.org`

USPSC codes use a period to separate every two digits (for example `44.12.21.04`), but cXML requires codes to contain no punctuation (for example, `44122104`).

Examples:

Code	Meaning
44122104	Paper clips
22101522	Track bulldozers
82111502	Manual writing services

Currency Codes

Specify currency names with ISO 4217 three-letter (CodeA) currency codes. For a list of codes (in Microsoft Access database format), go to:

`www.unetrades.net`

1 Click **Repositories and Codes**.

2 Click **Country & Currency Codes**.

3 Scroll down to "ISO Country and Currency codes by UNECE."

4 Click **UN/CCCodes R##-## Database**.

Examples:

Code	Meaning
BRL	Brazilian Real
JPY	Japanese Yen
USD	United States Dollar

Unit of Measure Codes

Specify how items are packaged with the United Nations Units of Measure (UNUOM) Common Code system. This standard is also known as:

- United Nations Center for the Facilitation of Procedure and Practices for Administration, Commerce, and Transport (UN/CEFACT) codes
- United Nations Trade Data Elements Directory (UNTDED) common codes
- United Nations Economic Commission for Europe (UN/ECE) Trade Facilitation Recommendation 20 - Codes for Units of Measurement used in International Trade

For a list of codes, go to:

`www.unece.org/cefact/codesfortrade/rec20.xml`

Examples:

Code	Meaning
AY	Assembly
BX	Box
DZN	Dozen

Country Codes

Specify country and region names with ISO 3166-1 two-letter (Alpha-2) country codes. For a list of codes (in Microsoft Access database format), go to:

`www.unetrades.net`

1 Click **Repositories and Codes**.

2 Click **Country & Currency Codes**.

3 Scroll down to "ISO Country and Currency codes by UNECE."

4 Click **UN/CCCodes R##-## Database**.

Examples:

Code	Meaning
`BR`	Brazil
`JP`	Japan
`US`	United States

Language Codes

Specify language names with Java locale codes. For a list of codes, go to:

`java.sun.com/j2se/1.4.2/docs/guide/intl/locale.doc.html`

Java uses an underbar (_) within the codes, but cXML uses a dash (-). Examples:

Code	Meaning
`pt-BR`	Brazilian Portuguese
`ja-JP`	Japanese
`en-US`	United States English

In cases where you do not need to specify the geographic region, you can leave off the country portion of the locale code. For example, English text that is the same for US English and UK English can be labeled with the shortened code "en".

Dialing Codes

Specify international dialing codes with International Telecommunication Union (ITU) Recommendation E.164 country codes. For a list of codes, go to:

`globaltelecom.org/codes.htm`

Examples:

Code	Meaning
55	Brazil
81	Japan
1	United States

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