

Kuali Financial System Interface Specification for Electronic Invoice Feed

Overview

The current financial system used at Cornell will be replaced by the Kuali Financial System (KFS). This will occur July 1, 2011 for fiscal year 2012. The Electronic Invoice (eInvoice) feeds currently being fed to the legacy financial system from external vendors will need to be rewritten to conform to the KFS eInvoice Upload format. The location where these feeds are sent will also need to be changed. The purpose of this document is to describe the KFS eInvoice file layout.

NOTE: The location where the files will need to be sent, as well as the mechanism behind this communication medium has not been finalized at this time.

The method for feeding eInvoices to KFS is a feature of the Accounts Payable Batch Process. The data file uses the cXML format for Invoices.

Data File Layout

The eInvoice file must begin with the standard XML version line.

The root (first) tag for eInvoice files must be the `<cXml>` tag and the file must contain only one set of `<cXml></cXml>` tags. This tag also contains attributes that identify the schema the document adheres to. (See *sample file below*.)

Following the `<cXml>` tag must be the `<header>` tag. This section gives general information about the set of records being transmitted. Like the `<cXml>` tag, the file must contain only one `<header></header>` tag.

Within the header tag are other tags that identify pieces of header information.

Next comes a `<request>` tag. This tag contains other tags that represent the individual fields of the payee and the payment transaction. Each `<request></request>` tag represents one payment transaction.

Within each `<request>` tag is the `<invoiceDetailRequest>` tags. Each `<invoiceDetailRequest>` tag contains an `<invoiceDetailRequestHeader>`, `<invoiceDetailOrder>` and an `<invoiceDetailSummary>` tag.

eInvoice File Format

- File must begin with the xml declaration.

```
<?xml version="1.0" encoding="UTF-8"?>
```

- The root (first) tag for eInvoice files must be the <cXml> tag, and the file must contain only one <cXml></cXml> tag. This tag also contains attributes that identify the schema the document adheres to, such as:

```
<cXml xmlns="http://www.kuali.org/kfs/purap/electronicInvoice"
xmlns:purap=http://www.kuali.org/kfs/purap/types
xmlns:kfs=http://www.kuali.org/kfs/sys/types
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
```

- Following the header will be one or more requests for payment identified by the <request> tag. Each request references a single payment and must also contain a <detail> section identifying the accounting distribution for that payment in one or more <accounting> tags.
- After the final group the file must end with a <trailer> specifying the total detail count and amount in the file.

The format for the data file is defined by the cXML consortium. This format can be found at <http://xml.cxml.org/current/cXMLUsersGuide.pdf>. Chapter 11 of this user's guide discusses Invoices, and outlines the values and format of the electronic invoice file that KFS uses.

Example Electronic Invoice Upload File:

```
<?xml version="1.0" encoding="UTF-8"?>
<cXML payloadID="200807260401062080.964@eai002"
timestamp="2008-07-26T04:01:06-08:00"
version="1.2.014" xml:lang="en"
xmlns="http://www.kuali.org/kfs/purap/electronicInvoice"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<Header>
  <From>
    <Credential domain="DUNS">
      <Identity></Identity>
    </Credential>
  </From>
  <To>
    <Credential domain="NetworkId">
      <Identity>IU</Identity>
    </Credential>
  </To>
  <Sender>
    <Credential domain="DUNS">
      <Identity></Identity>
    </Credential>
    <UserAgent/>
  </Sender>
</Header>
<Request deploymentMode="production">
```

eInvoice Feed Specification

December 2, 2010

```
<InvoiceDetailRequest>
  <InvoiceDetailRequestHeader
    invoiceDate="11/22/2010" invoiceID="1186916436" operation="new"
purpose="standard">
  <InvoiceDetailHeaderIndicator/>
  <InvoiceDetailLineIndicator/>
  <InvoicePartner>
    <Contact addressID="966217331" role="billTo">
      <Name xml:lang="en">IT - EAST HILL PLAZA PINE
TREE, 341</Name>
      <PostalAddress>
        <Street>NA</Street>
        <Street></Street>
        <City>Ithaca</City>
        <State>NY</State>
        <PostalCode>14853</PostalCode>
        <Country isoCountryCode="US">
          UNITED STATES
        </Country>
      </PostalAddress>
      <Email
name="dms386@cornell.edu">dms386@cornell.edu</Email>
      <Phone name="607-255-0870">
        <TelephoneNumber>
          <CountryCode
isoCountryCode="US">1</CountryCode>
          <AreaOrCityCode>607</AreaOrCityCode>
          <Number>-255-0870</Number>
        </TelephoneNumber>
      </Phone>
    </Contact>
  </InvoicePartner>
  <InvoicePartner>
    <Contact addressID="1461059812" role="remitTo">
      <Name xml:lang="en">
        Jones Appliance
      </Name>
      <PostalAddress>
        <Street>ehob</Street>
        <Street></Street>
        <City>ithaca</City>
        <State>NY</State>
        <PostalCode>14850</PostalCode>
        <Country isoCountryCode="US">
          UNITED STATES
        </Country>
      </PostalAddress>
    </Contact>
  </InvoicePartner>
  <InvoiceDetailShipping>
    <Contact addressID="1586544660" role="shipTo">
      <Name xml:lang="en">IT - EAST HILL PLAZA PINE
TREE, 341</Name>
      <PostalAddress>
        <Street>NA</Street>
        <Street></Street>
```

eInvoice Feed Specification

December 2, 2010

```
<City>Ithaca</City>
<State>NY</State>
<PostalCode>14853</PostalCode>
<Country isoCountryCode="US">
  UNITED STATES
</Country>
</PostalAddress>
<Email
name="dms386@cornell.edu">dms386@cornell.edu</Email>
  <Phone name="607-255-0870">
    <TelephoneNumber>
      <CountryCode
isoCountryCode="US">1</CountryCode>
        <AreaOrCityCode>607</AreaOrCityCode>
        <Number>-255-0870</Number>
      </TelephoneNumber>
    </Phone>
  </Contact>
</InvoiceDetailShipping>
</InvoiceDetailRequestHeader>
<InvoiceDetailOrder>
  <InvoiceDetailOrderInfo>
    <OrderReference
      orderDate="11/22/2010" orderID="1022">
        <DocumentReference payloadID="NA" />
      </OrderReference>
    </InvoiceDetailOrderInfo>
    <InvoiceDetailItem invoiceLineNumber="1" quantity="10.00">
      <UnitOfMeasure>EA</UnitOfMeasure>
      <UnitPrice>
        <Money currency="USD">500.00</Money>
      </UnitPrice>
      <InvoiceDetailItemReference lineNumber="1">
        <ItemID>
          <SupplierPartID></SupplierPartID>
        </ItemID>
        <Description xml:lang="en">CASES</Description>
      </InvoiceDetailItemReference>
      <SubtotalAmount>
        <Money currency="USD" >5000.0000</Money>
      </SubtotalAmount>
    </InvoiceDetailItem>
  </InvoiceDetailOrder>
<InvoiceDetailSummary>
  <SubtotalAmount>
    <Money currency="USD">5075.00</Money>
  </SubtotalAmount>
  <Tax>
    <Money currency="USD">0.00</Money>
    <Description xml:lang="en">Total Tax</Description>
  </Tax>
  <SpecialHandlingAmount>
    <Money currency="USD">0.00</Money>
  </SpecialHandlingAmount>
  <ShippingAmount>
    <Money currency="USD">0.00</Money>
  </ShippingAmount>
</InvoiceDetailSummary>
</InvoiceDetailOrder>
```

```

</ShippingAmount>
<GrossAmount>
  <Money currency="USD">5075.00</Money>
</GrossAmount>
<InvoiceDetailDiscount>
  <Money currency="USD">0.00</Money>
</InvoiceDetailDiscount>
<NetAmount>
  <Money currency="USD">5075.00</Money>
</NetAmount>
<DepositAmount>
  <Money currency="USD">0.00</Money>
</DepositAmount>
<DueAmount>
  <Money currency="USD">5075.00</Money>
</DueAmount>
</InvoiceDetailSummary>
</InvoiceDetailRequest>
</Request>
</cXML>

```

General XML Rules

- All elements (tags) must have a closing tag.
- Tags are case-sensitive
- A tag must not contain extra whitespace (blanks) at the beginning or end.
- Tags must not be empty. If there is no value for the field (and it is not required) then do not render the element.

Coding of special characters:

Description	Desired character	Syntax	Example
Less than	<	<	<deptName>B<FS</deptName>
Greater than	>	>	<deptName>B>FS</deptName>
Ampersand	&	&	<deptName>B&FS</deptName>
Apostrophe	'	'	<deptName>B'FS</deptName>
Quotation mark	"	"	<deptName>B"FS</deptName>