# xpedx.com Next generation

# *Invoices Design Document*

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**Note**: The sign off indicates approval of all sections of the document.

Document Revision History

This chart tracks the changes introduced by the revisions to the document as the project progresses through the stages of the System Development Life Cycle (SDLC).

| Version | **Date** | **Description (Changes Made)** | **Author(s)** |
| --- | --- | --- | --- |
| 0.1 | 05/11/2010 | Initial Draft | Sterling |
| 1.0 | 05/15/2010 | Ready to deliver | Sterling |
| 1.1 | 06/02/2010 | Updated based on feedback | Sterling |
| 1.2 | 06/08/2010 | Updated based on feedback 05/28/2010 and emails with Mahmoud 6/8/2010 | Sterling |
| 1.3 | 06/30/2010 | Updated with feedback from George 6/23/2010 | Sterling |
| 1.4 | 9/30/2010 | Updated based on B2B Invoice RSD v1.7 | Sterling |
| 1.5 | 10/5/2010 | Updated based on B2B meeting feedback 10/5 as well as B2B Invoice RSD v1.8 | Sterling |

Related or Reference Documents

| Document Name | Description | Owner | Location |
| --- | --- | --- | --- |
| SCI\_Xpedx Solution Definition Document v1.5 | Solution Definition document | Sterling Commerce |  |
| LegacyInvoiceMappingv1.3.xlsx | Invoice mapping document from Legacy to Sterling | Sterling Commerce/xpedx |  |

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# Introduction

## Document Purpose

This document is the governing functional design document for the Invoice functionality. It presents significant decisions and constructs used in developing the functionality. Testing, builds, configuration management are not covered in this document.

The document will also serve the purpose of keeping a list of assumptions that were made during design discussions.

## Document Audience

This document is intended for management and technical staff working on this project, xpedx IT and Business, webMethods, Legacy(MAX and ACCESS), HP, IW, xpedx/IP Network Team. Sterling will use the document during design and configuration for design consideration.

# Invoices

## Functions & Solution

Invoices at xpedx are generated in the Legacy system and then pushed to Sterling. RR Donnelley is used to store and display online invoices to customers. B2B customers get their invoices electronically via the b2b transaction interfaces. B2B Customers may also view their invoices online using RR Donnelley.

Legacy Invoices are stored in Sterling for 810 B2B Invoice customers only for the purpose of resending electronic invoices if required.

This document covers the invoice flow between Legacy and Sterling. Interfaces between RR Donnelley/Legacy and Sterling/B2B Customers are out of scope of this document.

## Legacy Invoice flow

1. Legacy invoices an order . Two transactions are triggered. Legacy sends one invoice file and webMethods in turn triggers the following two transactions.
   1. Order Update with order status changed to Invoiced and invoice number and invoice date populated. A new Header Process Code “I” (Invoice fields only) is introduced. When Sterling receives an Order Update with process code = “I”, Sterling will update the order only for the Order Status, Invoice Number and Invoice Date fields. If Sterling receives any other process code (A, C or D), it will follow the normal process, irrespective of whether the Order is invoiced or not.
   2. An Invoice Transaction that contains the invoice data is sent via webMethods to Sterling.
2. On receiving the Order Update Sterling updates the legacy order to invoiced.
3. On receiving the Invoice Transaction
   1. Sterling stores the invoice data and links the invoice to the legacy order.
   2. Additionally, based on the type of order/customer profile flags, a b2b invoice transaction is triggered to the customer.
   3. If an invoice is received from webMethods and the Customer Profile field for 810 B2B Invoices is set to “N” it is an error condition and will be reported to the Common Error Notification Tool.

## Archival process for Invoices

Invoices will be archived after six months. A technical solution needs to be devised to resend archived invoices.

## Business Rules for processing Invoices

On the customer profile the flag for 810 B2B Invoices is set to Y or N. If it is a “Y”, then the B2B Invoice transaction is triggered when invoices are received from Legacy.

## Interface to RR Donnelley

The current interface to RR Donnelley is a hyper link that lands the user onto their account page. Here they can search/view their invoices.

To setup a customer and its users to be able to view Invoices online at RRD, the following steps are required -

1. The legacies setup the customers for RRD/online invoicing and notifies Sterling of the changes in the customer record via Customer Batch. The relevant flags are –
   1. On the Customer - “Email Invoices” flag on the profile
2. Once a customer is flagged for RRD invoicing, customer users can then be maintained/setup on Sterling to allow them to view invoices.
   1. On the User – “View Invoices” Role needs to be assigned.
3. The legacies send invoice data nightly to the RRD system. RRD loads the invoices to their systems.
4. Sterling sends a security file listing each user along with the Shiptos they have access to. In addition it specifies what type of user they are.
5. B2B presents a link "View Invoices" based on the user security
6. When the link is clicked, a new window is opened up to the RRD
   1. Two query string parameters are sent to RRD in the request (UserId and ShipTo)
   2. Customer Users not associated with specific ship tos, such as top level admins have the ShipTo parameter set to blank.

The format of the View invoices link is as follows -

https://stage.distributioninvoicing.com/xpx1000\_requestinterception.aspx?UserID=<>&shipTo=<>

## Master System

N/A

## Implementation Details

## Entity objects.

## Actions involved and Functions

## Process Flow

## Field Mapping

The following mapping contains the fields that are sent from Legacy from the invoice file.



## Schema

For samples of the following transactions, see the Appendix section.

## Input Xml (from webMethods to Sterling)

<?xml version="1.0" encoding="utf-8"?>

<Invoice>

<EnvironmentId/>

<Company/>

<WebConfirmationNumber/>

<OrderingDivision/>

<GenerationNumber/>

<LegacyOrderType/>

<LegacyOrderNumber/>

<InvoiceDistributionFlag/>

<ShipFromDivision/>

<CustomerEnvironmentID/>

<CustomerDivision/>

<CustomerNumber/>

<ShipToSuffix/>

<ShipToName/>

<AttentionName/>

<ShipToAddress1/>

<ShipToAddress2/>

<ShipToAddress3/>

<ShipToCity/>

<ShipToState/>

<ShipToZIP/>

<ShipToCountryCode/>

<BillToSuffix/>

<BillToName/>

<BillToAddress1/>

<BillToAddress2/>

<BillToAddress3/>

<BillToCity/>

<BillToState/>

<BillToZIP/>

<BillToCountryCode/>

<CustomerHeaderPONumber/>

<ShipDate/>

<HeaderComments/>

<OrderedByName/>

<OrderCreateDate/>

<CurrencyCode/>

<TotalShippableValue/>

<TotalOrderValue/>

<OrderSpecialCharges/>

<TotalOrderFreight/>

<TotalOrderTax/>

<InvoicedDate/>

<LDInvoiceNumber/>

<ShipVia/>

<CreditTerms/>

<SalesTaxPercentage/>

<SalesTaxAmount/>

<InvoiceTotal/>

<TotalDiscountAllowed/>

<SCACNumber/>

<CarrierNameDescription/>

<TermsNetDays/>

<TermsPercent/>

<CashDiscountDays/>

<DueDate/>

<RemitToDUNSNumber/>

<RemitToName/>

<RemitAddress1/>

<RemitAddress2/>

<RemitCity/>

<RemitState/>

<RemitZip/>

<LineItems>

<LineItem>

<WebLineNumber/>

<LegacyLineNumber/>

<LineDistributionNumber/>

<LegacyProductCode/>

<CustomerProductCode/>

<BaseUnitOfMeasure/>

<OrderedQtyInBase/>

<ShippableQtyInBase/>

<BackOrderQtyInBase/>

<PriceUnitOfMeasure/>

<UnitPrice/>

<LineDescription/>

<PriceOverrideFlag/>

<RequestedUnitOfMeasure/>

<OrderedQtyInRequestedUoM/>

<ShippableQtyInRequestedUoM/>

<BackOrderQtyInRequestedUoM/>

<CustomerLineSequenceNumber/>

<CustomerLinePONumber/>

<CustomerLineAccountNumber/>

<CustomerLineField1/>

<CustomerLineField2/>

<CustomerLineField3/>

<ShipFromBranch/>

<LineNotes/>

<LineTax/>

<LineTotal/>

<ShippableQtyLineTotal/>

<LDOrderNumber/>

<ManufacturerItemNumber/>

<UnitWeight/>

<WeightPerCode/>

<ExtendedWeight/>

<LineShipDate/>

<FSCCertificationCode/>

<SFICertificationCode/>

<PEFCCertificationCode/>

<LineSalesTaxPercentage/>

<PromotionCode/>

<AdjustedAmount/>

</LineItem>

</LineItems>

</Invoice>

## Output Xml (From Sterling to webMethods)

<Invoice>

<TransactionStatus/>

<TransactionMessage/> - In case of Error this will be populated with error message.

</Invoice>

## Screen Shot

[TBD] Insert final screenshots from xpedx showing link to RR Donnelley from the order list/detail page.

***Customer Order List Page***

## Open Questions

1. Need to understand the mapping. It is missing fields like web line #, line type, etc.
2. Does legacy send the entire invoice even for invoices stored in RR Donnelley ? If only the header, would we need an indicator for that ? [Cheryl – 5/27/2010 - Will receive order update with header only for Invoice status update] [Prashant – 6/02/2010 – How do we link to the RRD Invoice without the invoice number ?]
3. What is the order archiving process for when an order is invoiced? [Cheryl – 20100527 - Order kept for 6 months after invoiced]
4. How are invoices archived ? [ Cheryl – 20100527 - Invoices archived after 6 months]
5. How do we link to RR Donnelley for invoices that are to be viewed online ?
6. Current understanding is that Sterling receives two transactions – one order update with status changed to invoice and possibly an invoice number and another that sends the invoice data. If this is incorrect, need to understand and agree upon the process. [ Cheryl – 20100527 – This is correct]
7. Define the connectivity for invoice transactions from Legacy to Sterling.
8. Define the process to associate an order with the invoice. The generation number is not present in the mapping. [Cherl – 20100527 – Generation number needs to be added.]
9. Are there any email requirements on the invoice transaction?
10. RRD User types. Values I got from Mahmoud are as follows. How are these captured on the User profile ? In sterling we have only customer admins and regular users.
    * 0 for basic user
    * 1 for internal admin and
    * 2 for master customer admins
11. Encryption of user name/ship tos was not discussed until Mahmouds email 5/27. Need to understand if this is a hard requirement and put it into a change request.
12. Prashant – 9/30 – Invoice fields based on RSD v1.7 – Need to define in legacy interfaces - ShipToStore# , Email address field (not in latest RSD), LineTax – (new comment in RSD that says its mandatory on EDI), Item Level – Certification Codes (new RSD says they are on Legacy interface), ExternalComments (delete from mapping?), NoOfLines (Not in latest RSD – Deleted ?), Customer PO Date (New field ? Who populates this and from where?) – handle via Change request(s) process.

## Assumptions

1. Invoices will be stored separately from orders in Sterling.
2. There is one invoice per legacy order.
3. The Invoice Transaction is a webservice exposed by Sterling.

# Connectivity Diagram

## Invoice Connectivity Diagram

[TBD – Insert Connectivity Diagram from Tim]

## Connectivity Process

[TBD – once connectivity is finalized]

# Glossary of Terms

|  |  |  |
| --- | --- | --- |
| S. No. | Term | Definition |
| 1. | WSDL | Web Services Definition Language |
| 2. | UE (User Exit) | Hooks to write custom code in Sterling |
| 3. | MQ | Message Queue |
| 4. | BR1 | Business Release 1 |
| 5. | IW | Industrial Wisdom – UI firm engaged on the project. |
| 6. | UoM | Unit of Measure |
|  |  |  |