

17 November 2008

Introduction

One of the most important components of your upstream integration supply chain project will be to agree, document and comply with the “rules of engagement” to be documented in your Integration Agreement.

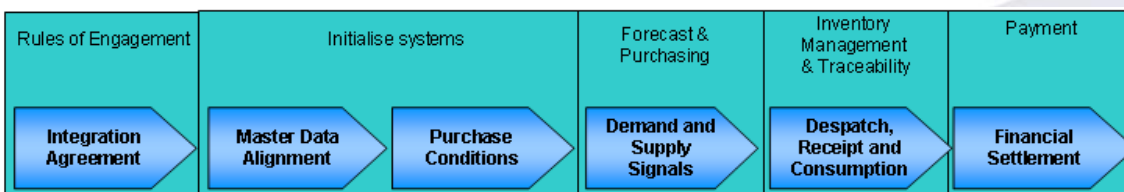
You probably already have existing business contracts with agreed terms and some operational parameters around response times and service levels for example. The upstream Integration Agreement is not replacing this, rather it must detail how your processes and business transactional communications will occur now that you are working and communicating in new ways with your trading partners.

Many companies who have ventured into upstream integration projects have cited the lack of any formalised rules of engagement leading to the eventual failure of the project. It cannot be emphasized enough how important this step is to do well and do thoroughly.

You may have a separate Integration Agreement with each of your trading partners; however you will be aiming to keep them as close to identical as possible, to enable ease of scalability.

Upstream integration can quickly become too unwieldy once multiple arrangements around response times, field definitions, document types etc. are attempted. Trading partners need to understand that there is no competitive advantage in using non-standardised interfaces with your supply chain partners, in fact this adds cost. Supply chain strategies have moved past that mind set toward supply chain standards and cooperation for best benefits.

The GUSI Upstream Integration Model (UIM) is broken up into six Building Blocks, shown in blue arrows:



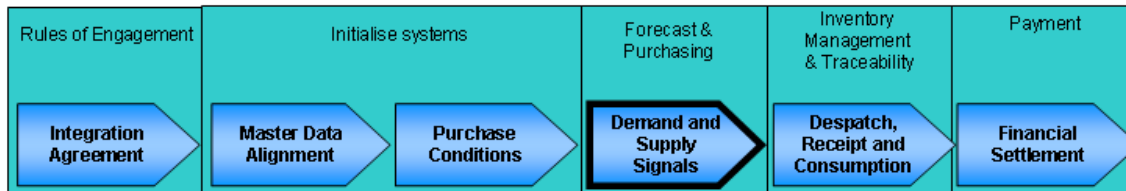
The GUSI UIM Implementation Guides for the *Demand and Supply Signals* and *Despatch, Receipt and Consumption* building blocks contain a number of general areas to be agreed, as well as some more specific solutions and rules to be complied with to stay within the GUSI Model.

Beyond these, you may wish to add other items which make up the “code of conduct” you are developing together; for example the lead time for sending electronic master data for new items.

Below are some links to the GUSI documents relevant for developing your IA with trading partners.

Integration Agreement – development guide

Demand and Supply Signals



There are two business scenarios in the *Demand and Supply Signals* building block; they are *Traditional Order Management (TOM)* and *Supplier Managed Inventory (SMI)*.

Traditional Order Management (TOM): When the customer sends well defined and finite purchase signals, such as purchase orders to the supplier, specifying the exact quantities, locations and delivery dates.

Supplier Managed Inventory (SMI): When the customer sends indicative information such as inventory levels and planned consumption and leaves the specific replenishment decisions around exact quantities, locations and delivery dates to the supplier.

The GUSI document: *UIM Implementation Guide Demand and Supply Signals* contains the areas of agreement that must be reached by the trading partners. These differ, depending on whether TOM or SMI is to be implemented between the partners. There are also points to consider and rules specific to each message type.

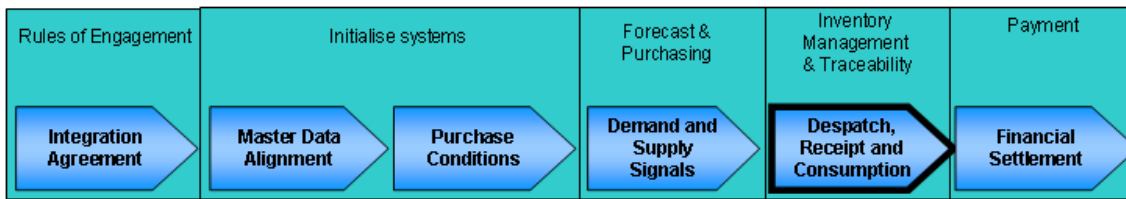
To Access this guide visit www.gci-net.org/gci/content/e8/e77/e606/

First decide which of these models will be used, then refer to the GUSI document and build answers to the areas of agreement into your Integration Agreement.

Typically, an integration agreement will cover the following areas within D&SS:

- Order Frequency
- Short deliveries / back orders
- Order acknowledgement time frames
- Order Cancellations
- Potential for use of new message Delivery Plan
- etc.

Despatch, Receipt and Consumption



This building block also has its own implementation guide: *UIM Implementation Guide Despatch, Receipt, Consumption*. It supports two business scenarios: *Delivery Without Consignment* and *Delivery With Consignment*.

NOTE: The Australian GUSI project has ruled *Delivery With Consignment* as OUT of SCOPE for now.

Refer to the *Delivery Without Consignment* section of this implementation guide. Ensure you agree on all areas recommended for agreement, points to consider and specific rules for each message type. Note some rules apply only if you are also using the SMI business scenario.

To Access this guide visit www.gci-net.org/gci/content/e8/e77/e606/

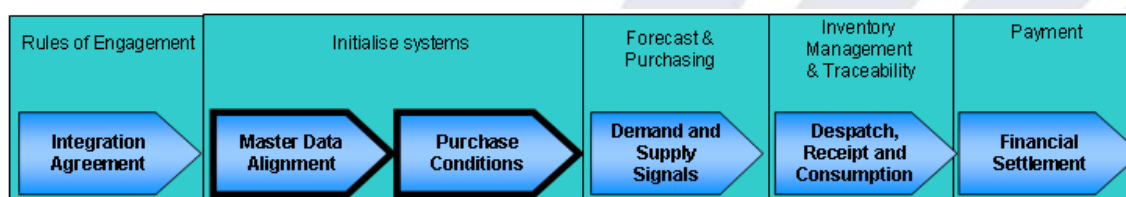
Typically, an integration agreement will cover the following areas within Despatch, Receipt and Consumption:

- Timing of receipt of Despatch Notification
- Definition of “accepted” shipments
- Process for returns
- Receipt Notification – frequency and detail
- etc.

Building Blocks – other

The GUSI UIM v2.2 only has Implementation Guides for these two of the six building blocks (one of which is the Integration Agreement itself). This means that for the other three you will have to consider what must be agreed as the “rules of engagement” between you and your trading partner(s) that will ensure a transparent process that can be easily followed and supports the business’ objectives.

Master Data Alignment & Purchase Conditions



These two building blocks do not yet have their own GUSI UIM Implementation Guide as of UIM v2.2. As such, it is still important that trading partners consider, agree and document the “rules of engagement” for these steps.

The GUSI UIM tends to treat these as separate building blocks; with Master Data Alignment being the sharing of item master data about the products agreed to be traded. Purchase Conditions is the sharing of data to update purchasing and other systems about agreed prices, terms and other trading partner specific deals.

This can sometimes be confusing as presented in the GUSI UIM, with MDA preceding PC; the argument being that prices and terms are agreed first and then the master data about items and their prices is aligned.

This is still the case, where businesses will always negotiate the business relationship and what is to be bought and sold in what quantities and at what costs; the GUSI UIM is not attempting to redefine this. Rather it suggests that, particularly for raw materials items bought from upstream suppliers, the item data is not very volatile, in that once the customer has agreed to buy say three different grades of sugar in either liquid or granular form, this item data does not change much. However the price may fluctuate and so it may be that the pricing information needs to be more regularly aligned between buyer and supplier systems, hence the Purchase Conditions block is separated out and shown as occurring after item data alignment.

Typically, an integration agreement will cover the following areas within these building blocks:

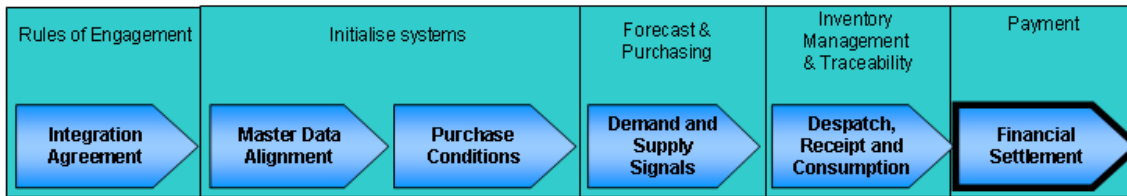
- How often will item and price data be aligned?
- Who will be the source of the data?
- How will data discrepancies be resolved?
- How far in advance must price data be sent before the new prices take affect

Whilst the process for data alignment downstream is based on the implementation of the Global Data Synchronisation Network (GDSN) standard, via GDSN accredited data pools, the GUSI process does not avail itself of GDSN and so has chosen to implement upstream alignment differently.

Some of the reasons given for this are that:

- there are many more items and prices changes downstream making data alignment more volatile and therefore needing more disciplines
- there are more “spoke” suppliers feeding into the “hub” customer and so a single interface via data pool works well for downstream but may be “overkill” for upstream
- the complexity of GDSN is cost effective for downstream but appears not yet warranted for upstream application
- GDSN is designed more for alignment of data for finished goods rather than raw materials, although this can be developed as needed
- downstream data alignment is also about timeliness (synchronization) as the rate of change demands timely updates to keep partner systems in line

Financial Settlement

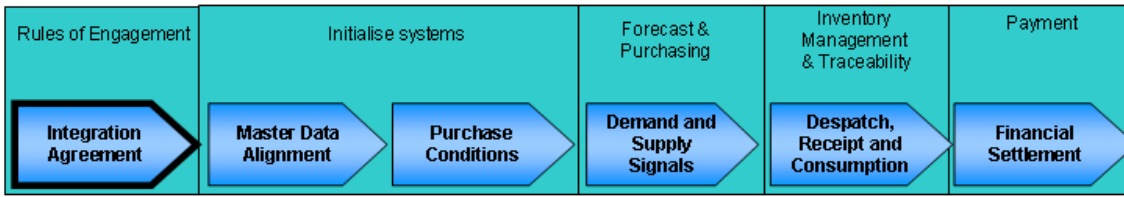


The next version of the GUSI UIM will include an Implementation Guide for this building block.

Typically, an integration agreement will cover the following areas within Financial Settlement:

- traditional invoicing or self-billing
- how to handle discrepancies more efficiently
- how to make electronic claims, either off invoice or rebates
- etc.

Integration Agreement



Sample Integration Agreement

The following is a sample extract of the Demand and Supply section of an integration agreement for a Traditional Order Management (TOM) business scenario. It is not meant to be exhaustive, but do provide a sample of the type of content that must exist in your IA:

Upstream Integration Agreement ACME Manufacturer & XYZ Upstream Supplier

This document details the process rules of engagement and technical IT integration specification between the aforementioned companies.

1. General rules

1.1. Parties and roles

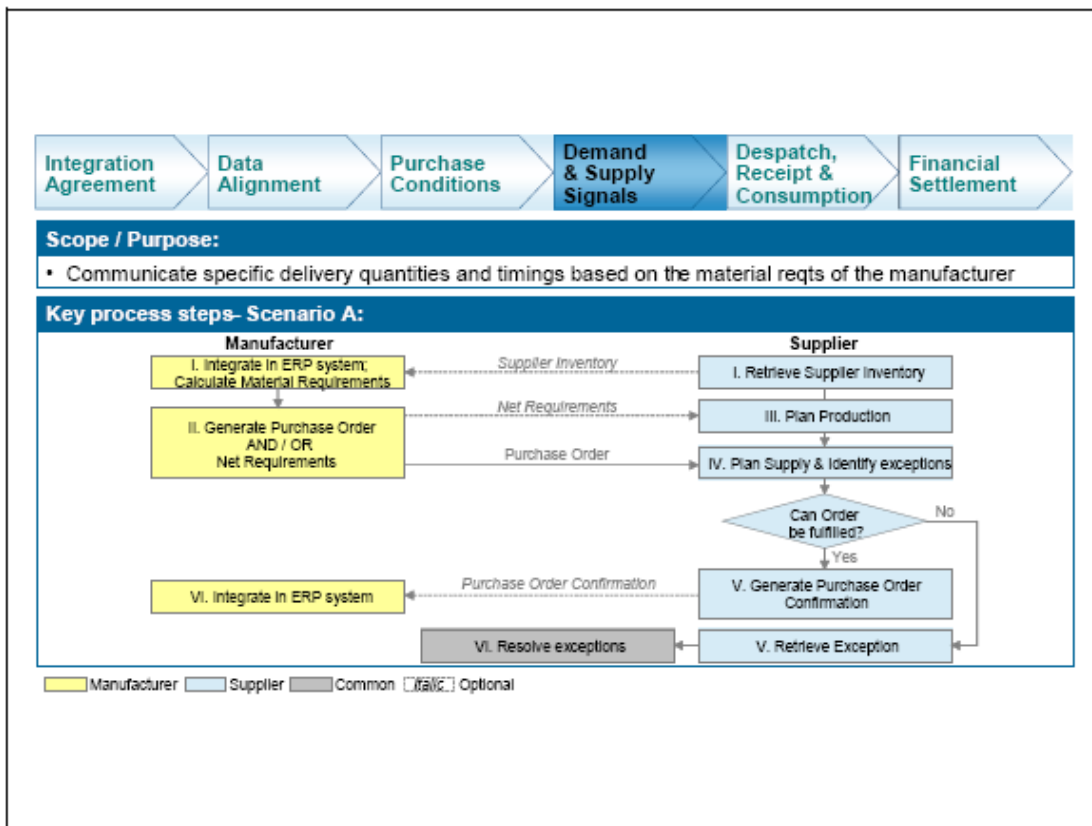
The two main parties involved are the above mentioned companies. Below is a table showing which company or sub-entity within the company or external organization plays which roles in the Demand and Supply process:

Buyer ¹	The operational buyer is the Procurement Division of ACME.
Seller	The operational seller is the Sales Division and Distribution and Logistics.
Ship From	Ship From is the location of the Supplier from where goods are to be shipped.
Ship To	Ship To is the location of the Manufacturer where goods are to be delivered
Inventory Location	Used to denote the final destination of the goods. This can be an internal warehouse but also a silo for example. Used in the Inventory transaction to report about the actual location where the goods are stored.
Inventory Sub Location	Only used in the inventory report, provides a way to further detail the location of the goods.
Inventory Reporting Party	Party reporting about the inventory. Can be either the Material Supplier (supplier inventory transaction) or the Manufacturer (manufacturer inventory transaction).
Inventory Report-to Party	Party to whom the inventory is reported. Can be either the Material Supplier (manufacturer inventory transaction) or the Manufacturer (supplier
Invoicee	The legal entity that is the debtor i.e. ACME P/L
...other parties or locations	

¹ Your contracts or business terms will define the legal entities entering into trade. In your IA it is the specific operational part of the organizations and optionally contact personnel being nominated.

Table 1-1 Roles in the Demand and Supply processes

Figure 3-1 Traditional Order Management Process



[Source: Upstream Integration Model]

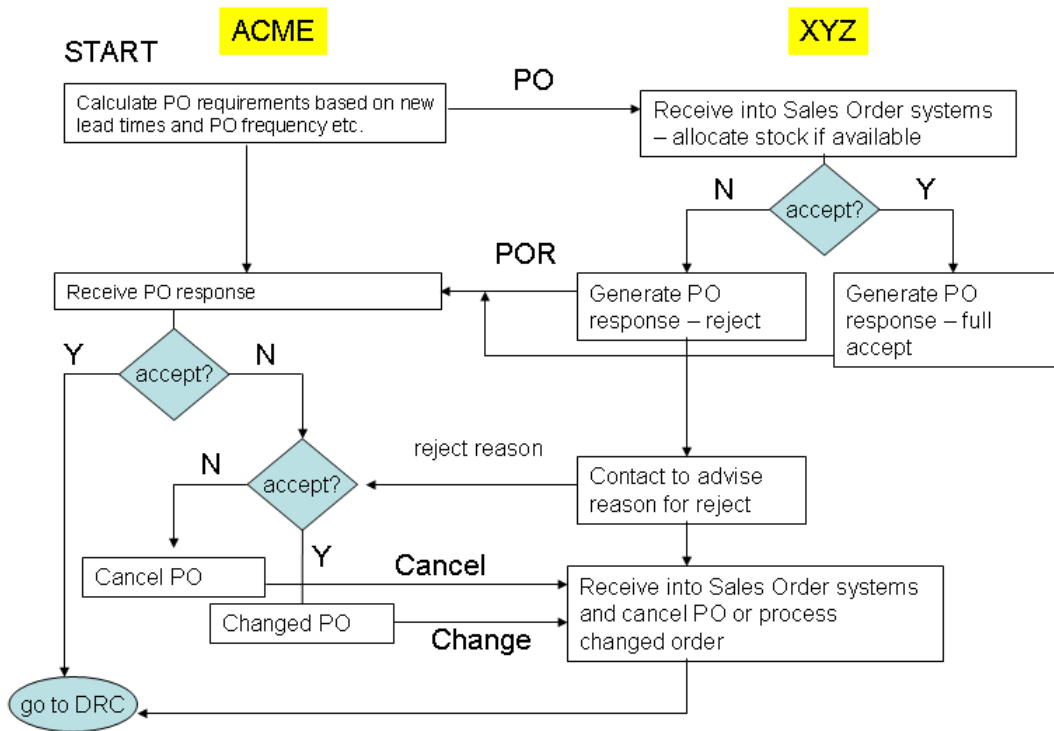
2. Demand & Supply - Process Rules & Messaging

Using the base GUSI model above, the following process and messaging rules are to be adhered to by the trading partners.

- 2.1 ACME will send electronic purchase orders to XYZ who will respond an electronic purchase order response (POR) within 4 hours of PO receipt. If no electronic POR has been received within the 4 hours, ACME will phone XYZ to follow up. Neither supplier inventory nor net requirements messaging will be used.
- 2.2 The purchase order response will indicate either full acceptance of the purchase order, or non acceptance with no detail. In the case of non-acceptance, in phase 1 (until Dec 2009) a manual method of resolution will be followed. This will be a phone call from the XYZ inventory manager or proxy to advise on reason for non acceptance. Once resolved, the original order will either be entirely cancelled OR a change order will be sent.
- 2.3 ACME can cancel the entire order by sending a new Purchase Order transaction, with a change indicator, using the same number as per the original purchase order, and with zero quantities for all line items.
- 2.4 If the order is not to be cancelled but rather changed, ACME will send a new Purchase Order transaction, with a change indicator, using the same number as per

the original purchase order. The new Purchase Order will include all order lines both unchanged and changed in order to reflect the most up-to-date state of the order.

- 2.5 Changed purchase orders must also be responded to with a Purchase Order Response within 12 hours from receipt.
- 2.6 In the purchase order multiple delivery dates per line item will be used, but only one location is specified. This is to allow for staggered delivery of bulk quantities.
- 2.7 Post phase 1 the purchase order confirmation will nominate lines that are not accepted electronically. The originating order will be cancelled and a new one issued.
- 2.8 Item identification in all messaging will be using the Global Trade Item Number (GTIN).



key: DRC = Despatch Receipt Consumption

Demand & Supply Flow Diagram

3. Despatch, Receipt, Consumption - Process Rules & Messaging

3.1. Parties and roles

The two main parties involved are the above mentioned companies. Below is a table showing which company or sub-entity within the company or external organization plays which roles in the Demand and Supply process:

Receiver	Division, Department or Personnel taking receipt and acceptance of deliveries. May or may not be a third party depending on distribution method used. For DC shipment the receiver will be 3PL Logistics. For DSD shipment the receiver will be individual stores.
Shipper	Usually ACME unless coming from regional 3PL, Logistics R US.
other roles and locations	

3.2 Relation with physical flow and physical documents

Definitions:

Consignment Item: A Consignment Item is the lowest level of information within a Consignment. Synonym is a *logistics unit*.

In the case of cross-border consignments each Consignment Item must have only one associated Customs tariff code in order to satisfy Customs requirements.

- A Consignment Item can contain one or more Trade Items
- A Consignment Item can only have one associated Customs tariff code

Consignment: A consignment is a separately identifiable collection of Consignment Items (available to be) transported from one Consignor to one Consignee via one or more modes of transport as specified in one single transport service contractual document.

- A Consignment can only have one Transport Service Buyer
- A Consignment can only have one Transport Service Provider
- A Consignment can only have one Consignor
- A Consignment can only have one Consignee
- The Transport Service Buyer can be either the Consignor or the Consignee
- A Consignment is made up of one or more Consignment Items
- A Consignment can be made up of some or all Trade Items (aggregated into Consignment Items) from one or more Shipments
- A Consignment is made up of one or more Customs Items for reporting to Customs
- A Consignment can have one or more Customs UCRs

Shipment: A shipment is an identifiable collection of one or more Trade Items (available to be) transported together from the Seller (Original consignor/Shipper), to the Buyer (Final/Ultimate Consignee).

- A Shipment can only be destined for one Buyer
- A Shipment can be made up of some or all Trade Items from one or more Sales Orders
- A Shipment can have only one Customs UCR

- A shipment may form part or all of a Consignment or may be transported in different

Delivery Note:

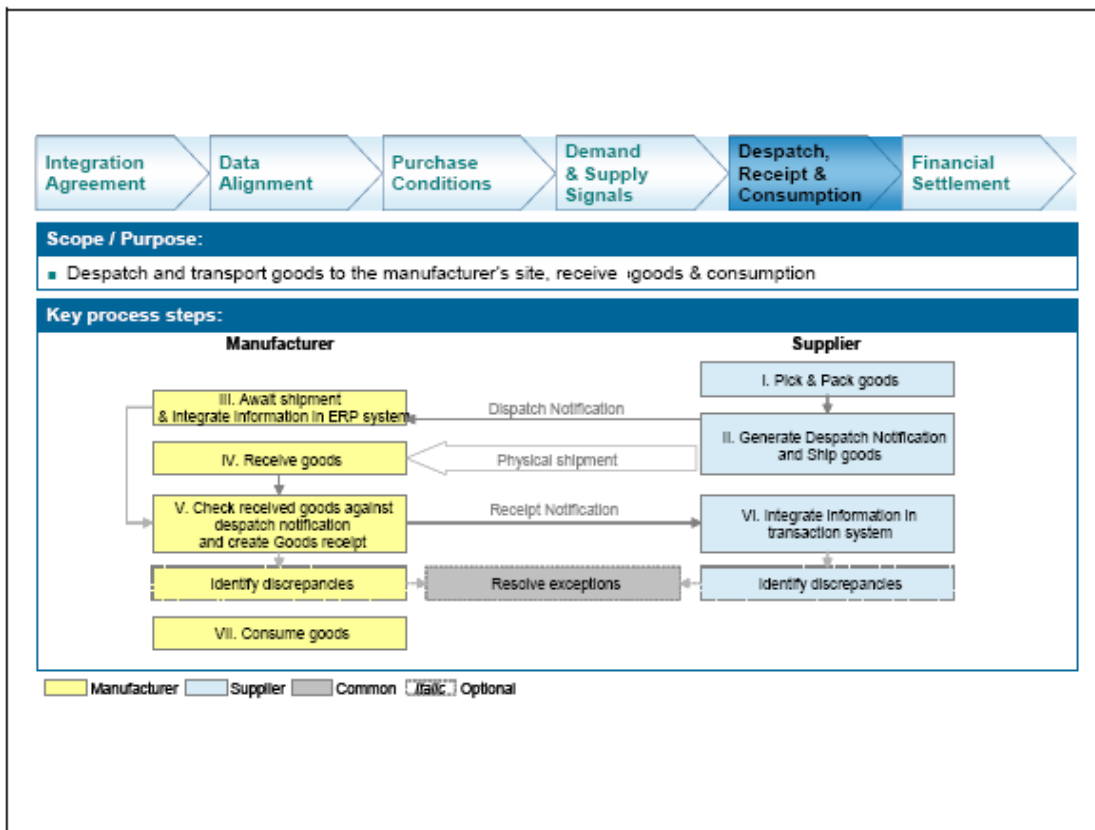
The delivery note is a physical document created by the Supplier that accompanies the goods, and informs the Manufacturer about the contents of a shipment. Synonyms are *packing list* and *house waybill*. Messaging may reference multiple delivery notes. This is why the delivery note reference is present at the line level.

GS1 Logistics Label:

The *GS1 Logistics Label* containing the Serial Shipping Container Code (SSCC) allows users to identify consignment items uniquely so that they can be tracked and traced throughout the supply chain. (Sample label below):



Figure 3-1 Delivery without consignment



[Source: Upstream Integration Model]

3.3 Process Rules and Messaging

3.1.1 General

- The returns process is not automated
- The level of information provided on the Despatch Notification will describe trade items, the purchase order they relate to and the logistics unit (consignment item) they reside in using a reference to the consignment item's SSCC.
- The level of information provided on the Receipt Notification will be at logistics unit (consignment item) level only, unless goods arrive short, damage or are otherwise unacceptable, in which case trade item information as to the reason for non-acceptance will be provided.
- The traceability data to be provided is as follows:
 - supplier's batch number must be contained in the Despatch Notification message. Multiple batches are allowed in the message, but pallets to be packed with only 1 batch per pallet (logistics unit).
 - best before date must be barcoded on the logistics units and supplied in the Despatch Notification message

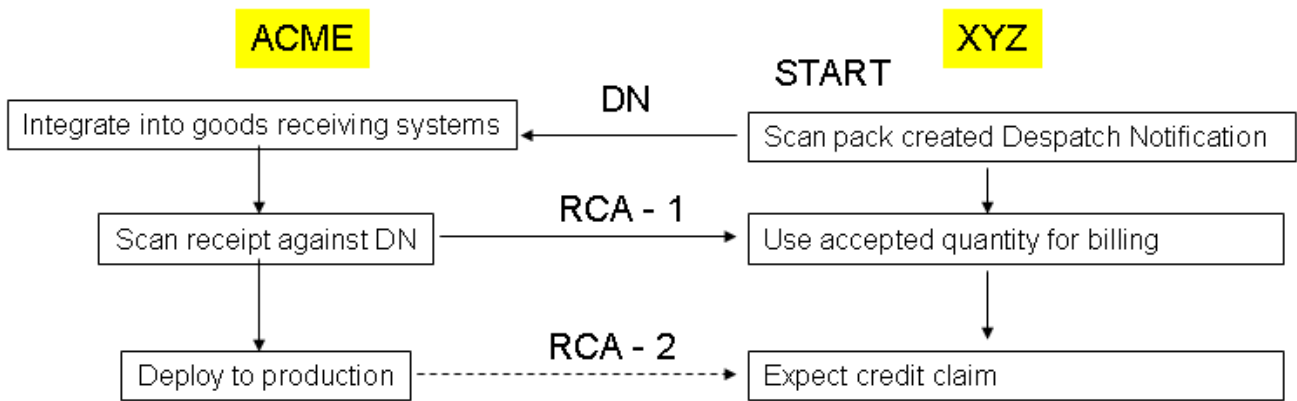
- If a consignment is being delivered across multiple deliveries there must be a separate Despatch Notification per delivery. Each Despatch Notification will advise whether the corresponding delivery is partial or full. Once a Despatch Notification indicating a “full” delivery is received by ACME, this is to be understood that no more deliveries are coming (within a messaging latency time of 4 hours) regardless of whether the complete order has been shipped. However incomplete consignments should be exceptional, because the order response used in the earlier process should advise of any short shipments.
- ACME will process deliveries within 12 hours of receipt and report back via the receiving advice. This is subject to having already received the corresponding Despatch Notification message. If the delivery arrives before the electronic Despatch Notification (this should be by exception) then ACME will respond within 12 hours of Despatch Notification receipt.

3.1.2 Rules applying to the Despatch Notification transaction

- The Despatch Notification numbers should represent the delivery note numbers that are sent on paper with the delivery. The manufacturer needs these numbers so that the right Despatch Notification can be found in the internal systems.
- If the reference (Contract or Order) number varies, then a separate line items need to be created within the Despatch Notification transaction for each unique contract/order number. The contract/order number is the same number as the one used in the Financial Settlement transactions. It is provided by the manufacturer (ACME).
- If the shipment is spread over multiple consignments (e.g. trucks) a separate Despatch Notification per consignment is mandatory.
- If one consignment contains multiple shipments (to different clients or to different ship-to locations of the same client) then separate Despatch Notifications per client / ship-to location must be sent.

3.1.3 Rules applying to the Receipt Notification transaction

- One Receipt Notification should be sent per Despatch Notification.
- The Receipt Notification gives the information for the supplier to determine if stock is still in-transit or not.
- The accepted quantity is the amount that is agreed for invoicing. This excludes, for instance, damaged products or products received in bad condition.



key: **DN** = Despatch Notification
RCA - 1 = Receiving Advice based on scan only reporting accepted quantity
RCA - 2 = Subsequent Receiving Advice advising faulty or damage goods discovered and subsequent claim will be made

(Note: RCA – 2 will be the exception)

Despatch & Receipt flow diagram