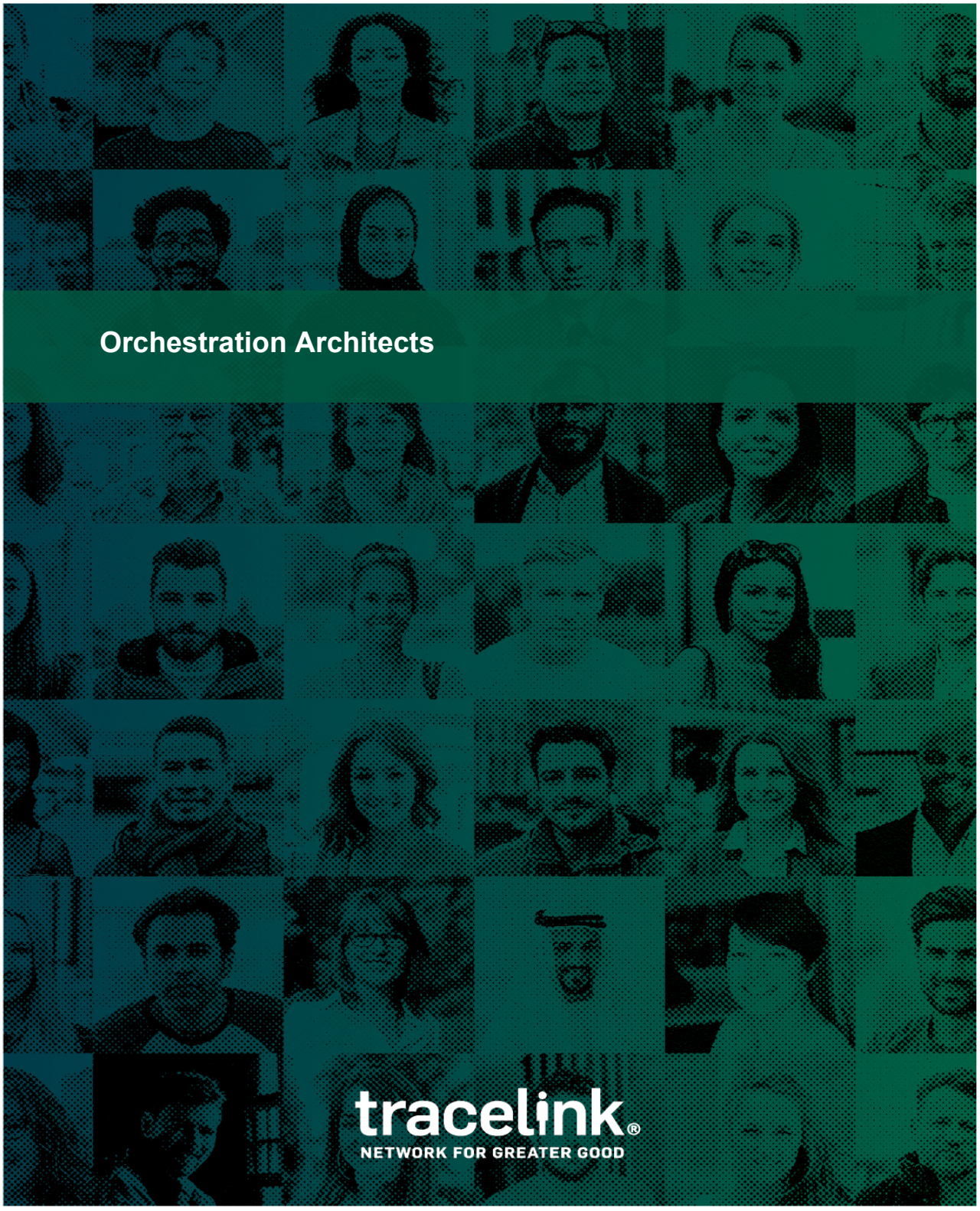

Orchestration Architects
tracelink®
NETWORK FOR GREATER GOOD

Table of Contents

Orchestration Architects: Mapping Challenges into Successes

Learning Objectives

At the end of this guide, you will be able to:

- Discuss the typical data flows in supply chain orchestrations.
- Describe TraceLink's vision of Digital Commerce and Logistics.
- Envision how Opus supports External Manufacturing.

Overview

TraceLink's Multienterprise Information Network Tower provides a powerful tool to orchestrate the flow of product, information and finance for multiple industries and use cases.

Note: *All related images from the original presentation are contained in the PDF of the presentation included in this course.*

Supply Chain Management Flows

When we look at an end-to-end supply chain, there are three flows that are always present:

- Product/Material/Service flow
- Information flow
- Finance flow

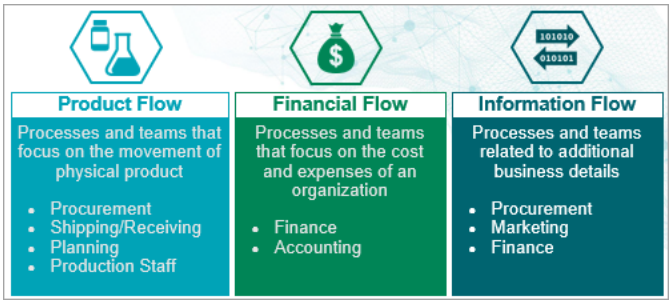
Product typically flows one direction from upstream to downstream. Each partner in the supply chain experiences this. From raw materials to finished goods, products move downstream to their final point of consumption, stopping many times throughout their lifecycle. Material can, however, flow upstream in the cases of a return (recalls, damages, wrong product).

Information flows both upstream and downstream. It can be argued that Information is the foundation of a supply chain. Without it, supply chain is not optimized for success. Everyone has to communicate information for their partners to execute.

Last, but certainly not least, **Finance**. Everyone in the supply chain is compensated for their part in the orchestration. Every customer pays a provider for services rendered. This can include the product itself, value added service like packaging and labeling, storage of the product, and delivery of the product.

Orchestration Subgroups

Each of the Orchestration Subgroups can have overlap, in data shared and personnel.



It is very important to remember that many of the supply chain processes rely on data and action from other places for things to work smoothly. We challenge each entity we work with to not only understand orchestrations inside their company, but that of their supply chain partners.

Digital Commerce

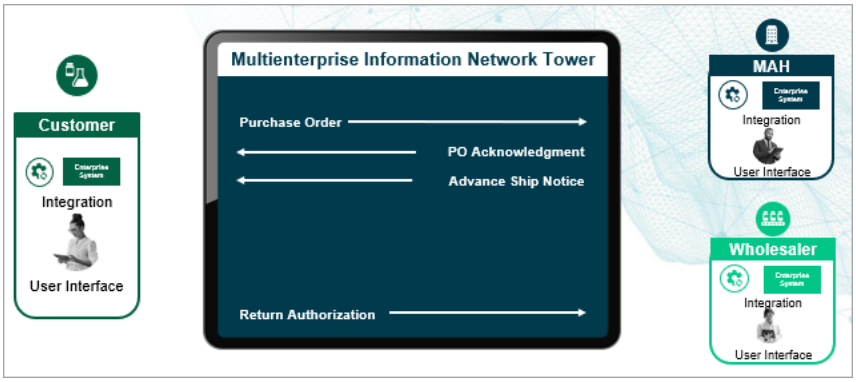
Orchestrating processes between Life Sciences companies and Trade Partners.

This is a common, but intricate orchestration. Commerce sparks every industry as demand is driven by the customers, prompting an increase or decrease in production by the manufacturers.

Leveraging MINT, both the customer placing orders and the supplier receiving orders, can speed up the flow of information to their respective supply chain ecosystem to enhance their relationship.

Commerce Product Flow

Four major transactions that impact Commerce at the product level are the Purchase Order, Purchase Order Acknowledgement, ASN, and Return Authorization.



Purchase Order (PO)

As with most of the transactions covered in this guide, you probably want to remove the manual sending, receiving, and capturing of data.

The Purchase Order from the buyer is a communication to the seller for goods or services. The supplier may call this a Sales Order that they need to fulfill. In many cases, entities in the supply chain have a system that enables them to create and manage purchase orders for the Buyer. There are also cases where some smaller entities may not have a system and utilize spreadsheet models to do the calculations and creation of the

Purchase Order. In both cases, we see these entities manually create PDFs and email the Purchase Order.

By leveraging MINT to digitalize Purchase Orders, entities can experience:

- **Improved Accuracy**: Reduces errors compared to manual purchase orders.
- **Faster Processing**: Speeds up order processing and communication between buyer and seller.
- **Increased Efficiency**: Streamlines workflow and saves time for both parties.
- **Enhanced Visibility**: Provides better visibility into the supply chain for both parties.

Purchase Order Acknowledgment

After the Buyer sends the Purchase Order, it should be followed by a Purchase Order Acknowledgement from the Seller. This transaction indicates to the Buyer that the Seller confirms receipt and processing of a purchase order, and communicates the seller's ability to fulfill it. With this information the Buyer can finalize production plans based on confirmed order quantities, identify potential stockout risks for backordered items and explore alternative sourcing options, address any rejected items and potentially revise the purchase order.

The Seller is able to provide confirmation for all items, indicating the order will be shipped complete as requested, provide backorder details for specific items that are currently out of stock, with an estimated delivery date, and reject specific items due to reasons like product discontinuation or insufficient inventory.

In most cases, even if the Purchase Order is sent digitally, we see the acknowledgement in the form of an email. So imagine the risk to accuracy, visibility, and efficiency when sifting through emails for both parties, in an attempt to keep things in alignment.

By leveraging MINT to digitalize Purchase Order Acknowledgement, entities can experience:

- **Improved Communication**: Provides clear and timely communication between buyer and seller regarding order fulfillment.
- **Reduced Errors**: Minimizes errors compared to manual acknowledgements via phone or fax.
- **Enhanced Order Management**: Allows for quicker adjustments to production plans or sourcing strategies by both parties.
- **Increased Visibility**: Provides better visibility into order status and potential fulfillment issues.

Advanced Ship Notification (ASN)

Buyers can send several purchase orders at different times, many may share the same delivery date. Depending on the product and mode of shipping, the Seller can send multiple purchase orders on one shipment. So that the Buyer can prepare for arrival of shipments, the ASN is leveraged.

This is a critical transaction that provides pre-arrival notification about a shipment of goods, including detailed information about the contents. It allows the Buyer to improve efficiency in their receiving and warehousing operations. They are able to prepare for receiving the shipment, including allocating dock space and personnel, verify the shipment details against the purchase orders to ensure accuracy, and expedite the receiving process upon arrival.

By leveraging MINT to digitalize Advance Shipment Notifications, entities can experience:

- **Improved Efficiency**: Streamlines receiving processes for both buyer and seller.
- **Reduced Errors**: Minimizes discrepancies between shipped and ordered quantities through pre-arrival notification.
- **Enhanced Visibility**: Provides greater transparency into shipment status and estimated arrival times.
- **Better Inventory Management**: Allows buyers to update their inventory systems in advance, improving overall stock control.

Return Authorization

The EDI 180 Return Merchandise Authorization (RMA) is an electronic document used to request and authorize the return of pharmaceutical products from a buyer (e.g., pharmacy, hospital, distributor) to a supplier (e.g., manufacturer, wholesaler). It streamlines the return process, providing clear instructions and authorization for the return of goods.

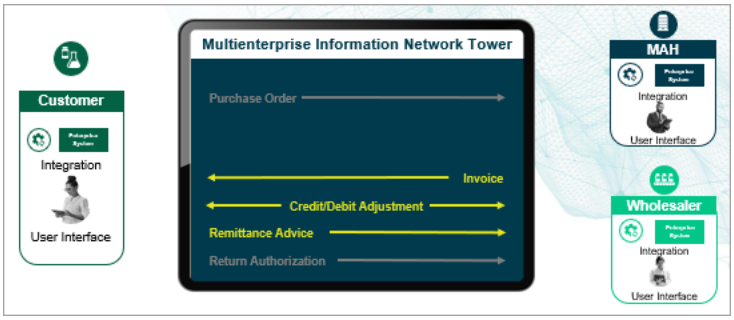
Typically, the Buyer initiates the Return Authorization for a specific product to get the clearance from the Supplier to return. The Seller will review and approve the request, giving the Buyer a Return Merchandise Authorization (RMA) number and return instructions. From there, the Buyer will use that number and follow the instructions to return.

By leveraging MINT to digitalize the Return Authorization, entities can experience:

- **Streamlined Returns Process**: Automates the RMA process, reducing manual effort, paperwork, and errors, leading to faster and more efficient handling of returns.
- **Improved Visibility**: Provides real-time visibility into the return process for both the buyer and supplier, improving transparency and accountability.
- **Enhanced Compliance**: Ensures compliance with regulatory requirements for product returns, especially for expired, damaged, or recalled medications.
- **Reduced Costs**: Minimizes costs associated with manual processing, disputes, and delays in handling returns.

Commerce Financial Flow

We've already covered Purchase Order and Return Authorization in the Product Flow. Next up, we'll walk through Invoice, Credit/Debit Adjustment, and Remittance Advice.



Invoice

Our Buyer and Seller, hopefully, have had a pretty good orchestration through their relationship. The Buyer has ordered and received the product; the Seller has shipped and delivered the product on-time and in-full. Now, the Seller gets to reap benefits in the form of payment. Depending on the terms and business relationship, the invoice may have come at the same time as the ASN or shortly after confirmation of receipt from the Buyer.

The Invoice is sent to request payment for goods or services that have already been delivered.

As noted in other transactions, Invoices have been sent manually; we know from several customers' feedback that this is cumbersome for both parties. For Sellers with an ERP system, they generate the invoice in-system, print to PDF, place in an email, and send to the Buyers. Depending on the number of invoices whether they are batched, this takes time. On the other side, the Buyer has to sift through emails, download the PDF, and key the information into their system of record. In short, the manual nature of sending the Invoice (and Remittance) negatively affects efficiency and the ability for the Seller to pay on-time or take advantage of early payment discounts, where applicable.

Buyers can match invoice details with corresponding purchase orders and receiving records and automate invoice processing and payment workflows.

By leveraging MINT to digitalize the Invoice, entities can experience:

- **Faster Payment Processing**: Speeds up invoice processing and payment cycles compared to manual methods.
- **Reduced Errors**: Minimizes errors associated with manual data entry during invoice processing.
- **Improved Cash Flow**: Enables faster settlements for sellers and improves overall cash flow management.
- **Enhanced Visibility**: Provides greater transparency into invoice details and payment status for both parties.

Credit/Debit Adjustment

The EDI 812 Credit/Debit Adjustment is an electronic document used to communicate adjustments to an existing invoice or account balance between trading partners. In the

pharmaceutical supply chain, it's commonly employed to handle situations such as pricing discrepancies, returns or allowances, rebates or discounts, freight or handling charge adjustments, or other financial corrections.

Buyers will initiate the Credit/Debit Adjustment with supporting documentation in the message. The Seller receives the transaction and does their due diligence to review the information, process the adjustment, and respond with an acceptance or rejection.

By leveraging MINT to digitalize the Credit/Debit Adjustment, entities can experience:

- **Streamlined Financial Processes**: Automates the credit/debit adjustment process, reducing manual effort, paperwork, and errors.
- **Improved Accuracy**: Minimizes the risk of financial discrepancies and disputes between trading partners.
- **Enhanced Visibility**: Provides transparency into financial adjustments, enabling better tracking and reconciliation of accounts.
- **Faster Resolution of Disputes**: Facilitates faster and more efficient resolution of pricing or billing discrepancies.

Remittance

Following the Invoice is the Remittance, which serves a dual purpose, functioning as both a notification of payment and a detailed explanation of the remittance. Like the Invoice, this is typically handled manually; the Seller must do manual reconciliation of payments against the Invoices and/or Purchase Orders. The Buyer must do the same to provide a clear record of the payments for Invoices and/or Purchase Orders.

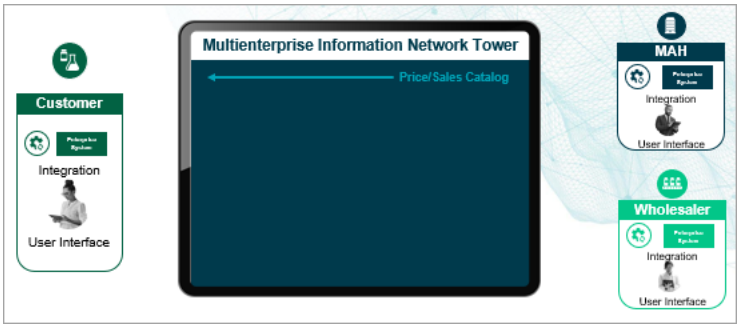
When we enable the digital exchange, the Buyer can streamline the accounts payable process. Sellers can understand how much they were paid and for what specific invoices or purchase orders, allowing faster and more accurate record-keeping. They can reconcile payments with outstanding invoices, identify any discrepancies or adjustments made by the buyer, and streamline their accounts receivable processes.

By leveraging MINT to digitalize the Remittance, entities can experience:

- **Improved Efficiency**: Streamlines payment processing and reconciliation for both buyer and seller.
- **Reduced Errors**: Minimizes errors associated with manual data entry during remittance processing.
- **Enhanced Visibility**: Provides greater transparency into payment details and invoice-specific adjustments.
- **Faster Dispute Resolution**: Enables quicker identification and resolution of any discrepancies in payments.

Commerce Information Flow

In the Information flow, we have the Price/Sales Catalog. While it is alone in this picture, this piece of information arguably sets the tone for the Procure-to-Pay and Order-to-Cash processes for the Commerce orchestration.



Price/Sales Catalog

The Price/Sales Catalog provides a comprehensive electronic catalog of products and their corresponding pricing information. Sellers send the Price/Sales Catalog to distributors, retailers, and other trading partners. These entities leverage it to update their internal systems with accurate product details and pricing information. If not updated in a timely manner, there is risk of a Purchase Order being created with incorrect pricing and item codes. It goes without saying, this causes strain for the accounts payable and receivables departments.

When we enable the digital exchange, the Seller can get away from email and spreadsheets (in some cases paper) and ensure their customers have the most recent

pricing to avoid discrepancies. The Buyer can automate order processing based on the received information and display accurate pricing information on their own websites or ordering systems.

By leveraging MINT to digitalize the Price/Sales Catalog, entities can experience:

- **Improved Accuracy**: Reduces errors associated with manual data entry for product information and pricing.
- **Increased Efficiency**: Streamlines catalog distribution and updates compared to paper catalogs.
- **Enhanced Visibility**: Provides buyers with real-time access to the latest pricing and product details.
- **Reduced Costs**: Saves time and money associated with printing and distributing paper catalogs.

Hmm...Something to think about...

> *With MINT, these transactions can come to life in a digital world, enable entities to become more efficient, agile, and resilient in a world where the consumers drive the demand out of desire or necessity. Do you use these transactions on a regular basis? How can you benefit from truly digitalizing some or all of your commerce transactions?*

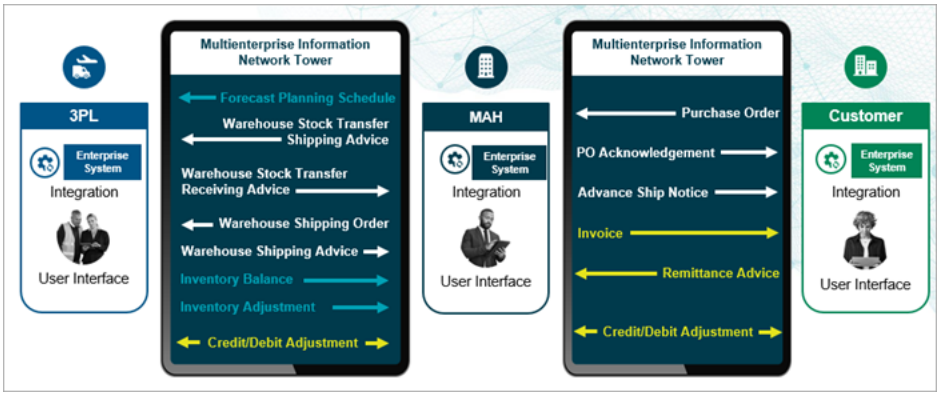
Logistics

Orchestrating Processes between 3PLs and Life Sciences Companies.

Let's look at how the product can move around the supply chain. There are two scenarios that have nuances depending upon the operating model and business arrangements.

Scenario 1

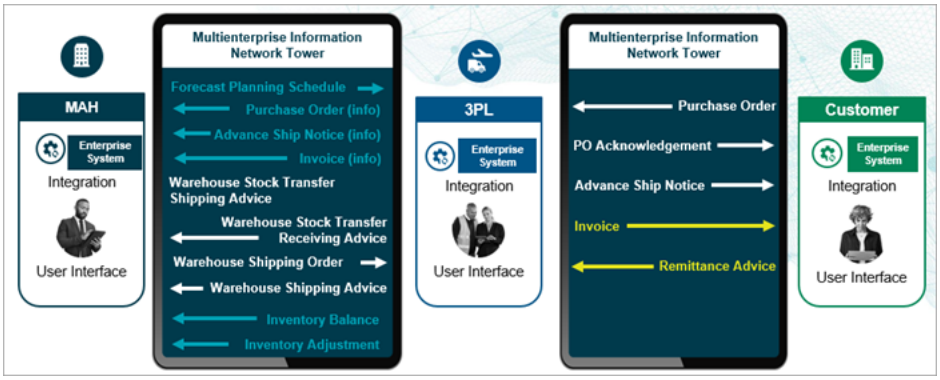
In many cases, the MAH leverages a 3PL to store and ship product to the MAH customer sites. The MAH retains (controls) the Order-to-Cash with the Customers. The MAH communicates with the 3PL to ensure product is moved between warehouse locations (think CMO, Finish Goods location, Direct Supplier, etc.) and from the warehouse to the customer sites.



Scenario 2

A variation of the last model is where the 3PL controls the Order-to-Cash with the end Customer, taking the order and payment. The MAH still communicates with the 3PL to ensure product is moved between warehouse locations (CMO, Finish Goods location, Direct Supplier, etc.).

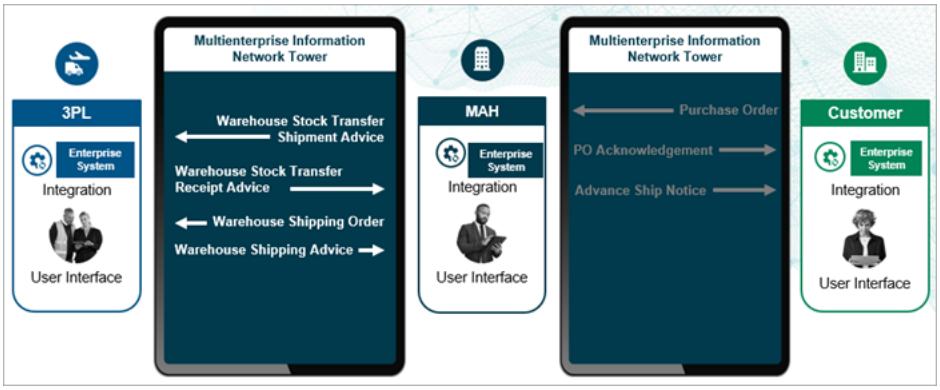
In some cases, the MAH has the ability to dictate which orders the 3PL should fulfill to the Customer sites, based on POs that have come in.



For this example, we will focus on **Scenario 1** where the MAH handles Order-to-Cash.

Logistics Product Flow

As we know, Logistics is about getting the right product, to the right place, at the right time, in the right condition, at the lowest cost. Using the transactions below, an MAH can work with 3PLs to ensure everything is done as “right” as possible.



Warehouse Stock Transfer Shipment Advice

Warehouse Stock Transfer Shipment Advice is an electronic document used to provide confirmation and details about a shipment of pharmaceutical products that has been transferred between warehouses or distribution centers. It serves as a notification from the shipping warehouse or 3PL provider to the receiving warehouse, informing them about the shipment's contents, carrier information, tracking numbers, and estimated delivery date.

This is like an ASN for the warehouses. The initialing location sends this transaction to the receiving location, communicating the carrier, tracking number, product details and a delivery date.

By leveraging MINT to digitalize Warehouse Stock Transfer Shipment Advice data, entities can experience:

- **Improved Visibility**: Provides real-time visibility into stock transfer shipment status and progress, enabling proactive planning and decision-making.
- **Enhanced Communication**: Streamlines communication between the shipping and receiving locations, facilitating efficient stock transfer processes.
- **Reduced Errors and Discrepancies**: Enables prompt identification and resolution of any discrepancies or exceptions in the shipment, minimizing inventory errors and potential disruptions.
- **Optimized Inventory Management**: Facilitates timely updates to inventory systems at both the shipping and receiving locations, ensuring accurate stock levels.
- **Improved Supply Chain Efficiency**: Contributes to overall supply chain efficiency by ensuring smooth and transparent stock transfer operations.

Warehouse Stock Transfer Receipt Advice

Warehouse Stock Transfer Receipt Advice is an electronic document used to confirm the receipt of a stock transfer shipment at the receiving warehouse or distribution center. It serves as a notification from the receiving location to the shipping location or the owner of the goods, acknowledging the receipt of the transferred products and providing details about any discrepancies or exceptions.

The Receiving warehouse sends this to confirm receipt after they have verified the shipment contents. If there are discrepancies, data is updated in this transaction to reflect findings.

By leveraging MINT to digitalize Warehouse Stock Transfer Receipt Advice data, entities can experience:

- **Improved Visibility**: Provides real-time visibility into the receipt of stock transfer shipments, enabling better tracking and coordination across the supply chain.
- **Enhanced Communication**: Streamlines communication between warehouses or 3PL providers and the owner of the goods.
- **Reduced Errors and Discrepancies**: Enables verification of shipment details, minimizing errors and discrepancies upon arrival at the receiving warehouse.
- **Optimized Inventory Management**: Facilitates timely updates to inventory systems at both the shipping and receiving locations, ensuring accurate stock levels.
- **Efficient Stock Transfers**: Improves the efficiency of stock transfers between locations, contributing to better inventory distribution and reduced stockouts.

Warehouse Shipping Order

When I, as an MAH, want to instruct my 3PL to send a shipment to a customer, I use this transaction. This is similar to a Purchase Order for the Warehousing world.

The Warehouse or 3PL uses this information to pick, pack, and ship the products detailed in the Shipping Order. The 3PL handles arranging transportation and informs the MAH of those details.

By leveraging MINT to digitalize Warehouse Shipping Order data, entities can experience:

- **Improved Efficiency**: Automates the communication and processing of shipping orders, reducing manual effort, paperwork, and errors.
- **Enhanced Visibility**: Provides real-time visibility into the shipment status and progress, enabling better tracking and coordination.
- **Reduced Lead Times**: Streamlines the fulfillment process, leading to faster order processing and shipment.
- **Optimized Inventory Management**: Facilitates efficient inventory movement and reduces the risk of stockouts or overstocks.
- **Strengthened Collaboration**: Improves communication and collaboration between the owner of the goods and the warehouse or 3PL provider.

Warehouse Shipping Advice

Those details just mentioned are communicated from the 3PL or Warehouse via the Warehouse Shipping Advice. This document is like an ASN. It provides confirmation and details about a shipment that has been dispatched from a warehouse or distribution center. It serves as a notification from the warehouse or 3PL provider to the owner of the goods (e.g., pharmaceutical manufacturer or wholesaler), informing them about the shipment's contents, carrier information, tracking numbers, and estimated delivery date.

This information is passed to the receiving entity and is used for tracking the shipment and planning for its arrival. Further, the MAH can properly update their inventory records.

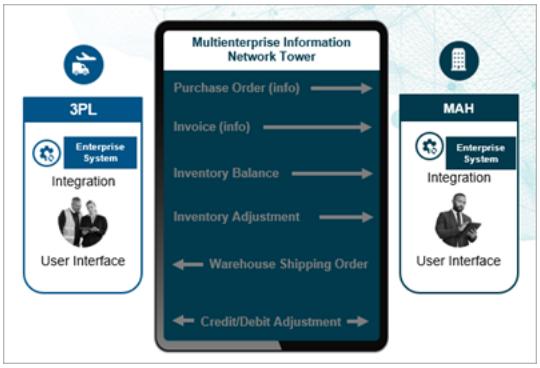
By leveraging MINT to digitalize Warehouse Shipping Advice data, entities can experience:

- **Improved Visibility**: Provides real-time visibility into shipment status and progress, enabling proactive planning and decision-making.
- **Enhanced Communication**: Streamlines communication between the warehouse or 3PL provider and the owner of the goods.

- **Reduced Errors and Discrepancies**: Enables verification of shipment details, minimizing errors and discrepancies upon arrival.
- **Faster Receiving and Processing**: Allows the buyer to prepare for the shipment's arrival and streamline the receiving process.
- **Optimized Inventory Management**: Facilitates timely updates to inventory systems, ensuring accurate stock levels.

Logistics Financial Flow

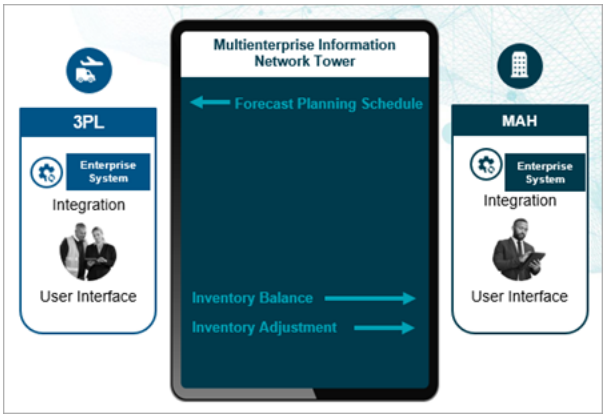
Regarding the Financial Flows, we covered each of these transactions. See *Commerce Financial Flow on page 8*.



Logistics Information Flow

To close out the Logistics orchestration, we will introduce three more transactions:

- The Forecast Planning Schedule
- Inventory Balance
- Inventory Adjustment



Forecast Plan

The Forecast Plan is an electronic document used to communicate forecasted demand and release schedules for pharmaceutical products between trading partners. It helps align production and distribution plans, ensuring that products are available when and where they are needed while minimizing excess inventory and stockouts.

The Buyer sends this to the supplier, outlining their anticipated demand for specific products over a defined period. The Supplier uses the forecast information to create a production and release schedule, ensuring they can meet the buyer's demand. As the forecast period moves, demand can shift the initial projections. The Buyer can adjust POs (up or down) based on inventory levels and the Supplier does the same with Production schedules.

By leveraging MINT to digitalize the Forecast Plan data, entities can experience:

- **Improved Demand Forecasting**: Enables more accurate demand forecasting by facilitating collaboration and information sharing between buyers and suppliers.
- **Enhanced Supply Chain Visibility**: Provides greater visibility into future demand and supply plans, allowing for better coordination and decision-making across the supply chain.
- **Optimized Inventory Levels**: Helps minimize inventory carrying costs by aligning production and distribution with actual demand.
- **Reduced Stockouts and Overstocks**: Reduces the risk of stockouts by ensuring products are available when needed and minimizes overstocks by avoiding unnecessary production.

- **Increased Supply Chain Efficiency**: Streamlines communication and planning processes, leading to more efficient operations and improved responsiveness to market changes.
- **Strengthened Supplier Relationships**: Fosters collaboration and trust between buyers and suppliers by facilitating open communication and shared planning.

Inventory Balance

The Inventory Balance Report is a two-way communication channel for exchanging information about on-hand inventory levels. The Buyer or Supplier can initiate this transaction to inquire or inform.

With this information Suppliers can make informed decisions about ordering, replenishment, and allocation of resources. Buyers not only share this data with the Suppliers, but they can analyze inventory inquiries to identify trends, anticipate demand, and proactively manage their inventory levels.

By leveraging MINT to digitalize the Inventory Balance data, we enable entities to:

- **Real-Time Inventory Visibility**: Provides real-time access to inventory information, enabling proactive decision-making and reducing the risk of stockouts or overstocks.
- **Improved Inventory Management**: Facilitates efficient inventory management by streamlining communication and reducing manual processes.
- **Enhanced Supply Chain Efficiency**: Improves overall supply chain efficiency by enabling better coordination and collaboration between trading partners.
- **Reduced Costs**: Minimizes inventory carrying costs, prevents stockouts and associated lost sales, and optimizes transportation and logistics operations.
- **Increased Customer Satisfaction**: Ensures product availability and enables timely fulfillment of customer orders, leading to improved customer satisfaction.

Inventory Adjustment

Warehouse Inventory Adjustment Advice is an electronic document used to notify trading partners about adjustments made to inventory levels within a warehouse or distribution center. This is particularly important in the pharmaceutical supply chain where accurate

inventory tracking is vital for regulatory compliance, product availability, and patient safety.

Suppliers will initiate this transaction when inventory levels are adjusted due to reasons like receiving new stock, shipping out orders, damage, expiration, or recalls.

Buyers use the information in the Inventory Adjustment to update their own inventory records, ensuring they have accurate information on product availability.

By leveraging MINT to digitalize the Inventory Adjustment data, entities can experience:

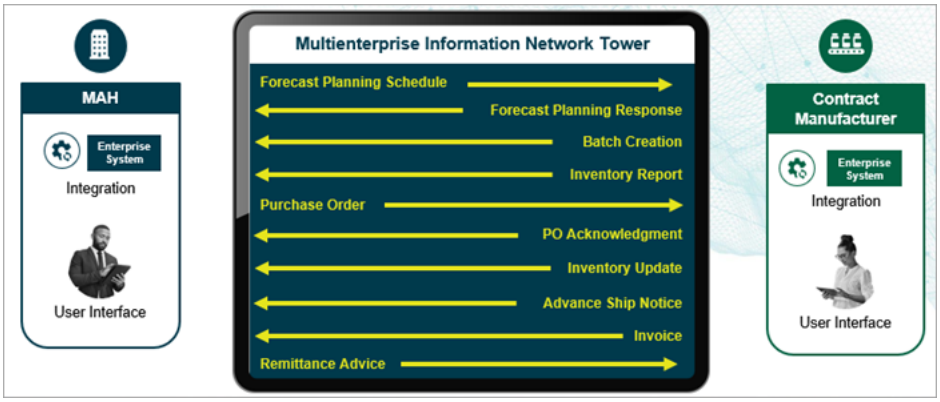
- **Real-Time Inventory Visibility**: Provides real-time visibility into inventory adjustments, enabling buyers and suppliers to have accurate information about product availability.
- **Improved Inventory Management**: Helps prevent stockouts or overstocks by facilitating timely adjustments to inventory levels based on actual demand and supply.
- **Enhanced Supply Chain Efficiency**: Streamlines communication and reduces manual processes associated with inventory updates, leading to more efficient operations.
- **Regulatory Compliance**: Ensures compliance with pharmaceutical regulations that require accurate inventory tracking and reporting.
- **Reduced Errors**: Minimizes errors associated with manual inventory updates, improving data accuracy and reducing the risk of discrepancies.

External Manufacturing

Orchestrating Processes between Life Sciences Companies and CMOs

External manufacturing can be a complex orchestration. The complexity, stems from the lack of visibility to the data that needs to be moved between entities at various times.

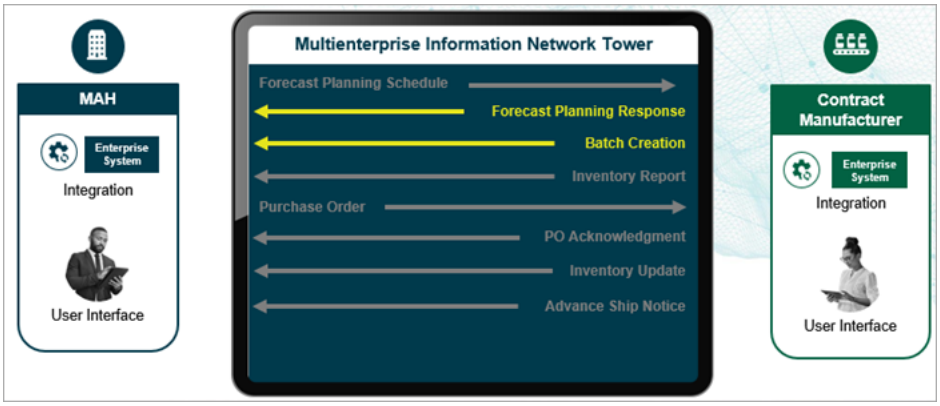
When exchanging data with your CMO, you want as much transparency as possible. From the Forecast being accurate and agreed upon, down to timely Procure-to-Pay. Visibility with the CMO ensures the MAH knows that what is ordered will be available and delivered on time. The CMO can also plan better for their procurement activities, production schedule and Order-to-Cash cycles.



External Manufacturing Product Flow

We've covered the majority of the transactions here but will introduce two new transactions: Forecast Plan Response and Batch Creation.

These are two messages that will come from your CMO.



Forecast Plan Response

Earlier we talked about the Forecast Plan which indicated to a Supplier what the Buyer required over a period of time.

The Supplier, via the Forecast Plan Response, can inform the Buyer of their plan to commit to the forecast, offer changes based on capacity constraints or material shortages, or reject the forecast and request a rework.

Forecasting is an iterative process, where a miss could mean disaster for the Buyer and Supplier.

By leveraging MINT to digitalize the Forecast Plan Response data, entities can experience:

- **Improved Demand Forecasting**: Enables more accurate demand forecasting by facilitating collaboration and information sharing between buyers and suppliers.
- **Enhanced Supply Chain Visibility**: Provides greater visibility into future demand and supply plans, allowing for better coordination and decision-making across the supply chain.
- **Optimized Inventory Levels**: Helps minimize inventory carrying costs by aligning production and distribution with actual demand.
- **Reduced Stockouts and Overstocks**: Reduces the risk of stockouts by ensuring products are available when needed and minimizes overstocks by avoiding unnecessary production.

- **Increased Supply Chain Efficiency**: Streamlines communication and planning processes, leading to more efficient operations and improved responsiveness to market changes.
- **Strengthened Supplier Relationships**: Fosters collaboration and trust between buyers and suppliers by facilitating open communication and shared planning.

Batch Creation

Batch master data captures critical information such as batch number, production date, expiration date, ingredients, quality control results, and storage conditions.

Suppliers use the Batch Creation information to verify product authenticity, check expiry dates, and ensure compliance. This data also helps track and manage inventory at the batch level. Additionally, when there is a recall or quality issue, the data is critical to inform on quarantine and root cause analysis.

Buyers leverage this data for similar reasons, with focus on quality control and facilitating recalls.

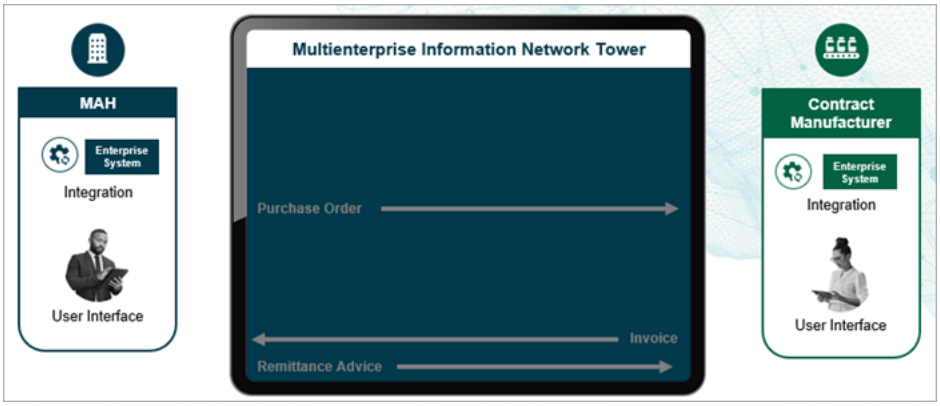
By leveraging MINT to digitalize the Batch Creation data, entities can experience:

- **Enhanced Traceability**: Batch master data provides complete traceability of pharmaceutical products throughout the supply chain, from manufacturing to dispensing.
- **Improved Quality Control**: Batch-level tracking helps identify and address quality issues early, minimizing the risk of defective products reaching patients.
- **Regulatory Compliance**: Accurate batch data is essential for compliance with stringent pharmaceutical regulations related to product traceability, quality control, and recalls.
- **Efficient Inventory Management**: Batch-level inventory management enables efficient stock rotation, reduces waste, and ensures product availability.

- **Streamlined Recalls**: In case of recalls, batch information allows for quick identification and removal of affected products, protecting patient safety.
- **Enhanced Patient Safety**: Complete traceability and quality control measures contribute to enhanced patient safety by ensuring the authenticity and quality of medications.

External Manufacturing Financial Flow

In the External Manufacturing Financial Flow, we can reference Purchase Order, Invoice, and Remittance Advice. Additionally, Inventory Balance could be placed here as well, as Inventory Carrying costs matter in every supply chain. See *Commerce Financial Flow on page 8* for transaction details.

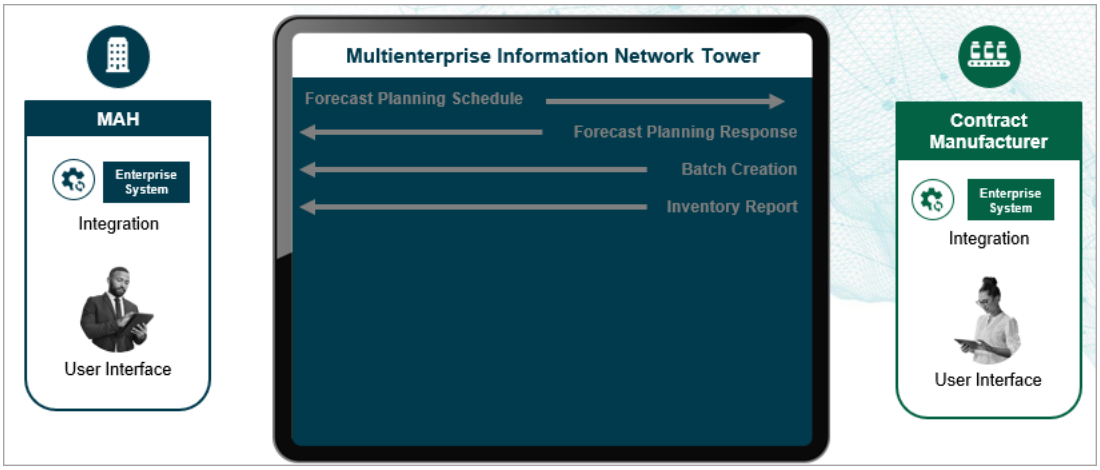


External Manufacturing Information Flow

In the External Manufacturing Information Flow, we see a very good relationship between the Forecast Planning Schedule, Forecast Planning Response, Batch Creation, and Inventory Report transactions.

You recall the Forecast Planning Schedule and Forecast Planning Response give the Buyer and Supplier a place to agree on what is needed and what should be produced and when it should be ready.

Once a Batch is created, the Supplier sends that information to the Buyer so they can load the information for inventory management and quality activities.



Big Takeaway

The end-to-end orchestration of the transactions described throughout this presentation provide timely and robust information sharing to ensure the supply chain manufactures goods as needed and in minimal excess.