Infor ERP XA

Material Logistics User Guide

Release 9.0

Publication Information

Release: Material Logistics for Infor ERP XA Release 9.0

Publication date: March 2, 2011

Table of Contents

Chapter 1. INTRODUCING MATERIAL LOGISTICS

This chapter will introduce you to Material Logistics. Material Logistics is designed for use with single or multiple planning warehouses within a single or multiple XA environments. Material Logistics can be used to create transfer orders with multiple lines and releases.

If your processing environment contains multiple XA environments, on one or multiple servers, refer to Appendix A in this user guide for specifics. There is specific communication and user set-up information for this processing contained in the appendix.

The basic functionality of Material Logistics will satisfy your business needs no matter how many Infor ERP XA environments and servers you are using.

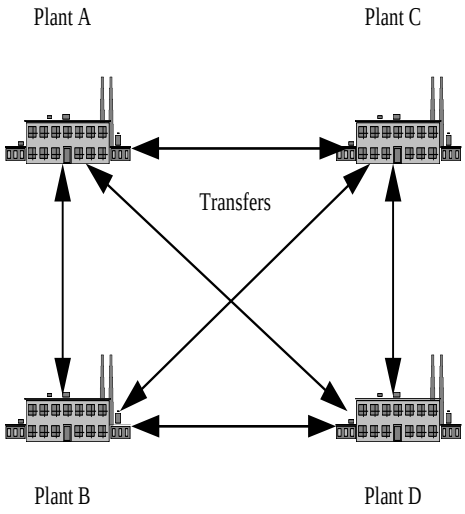
What Material Logistics Does

When using MPSP and MRP or OBPM you can plan independently in multiple warehouses. Material Logistics (ML), working with these applications allows you to pass planning requirements between multiple planning warehouses. In addition, ML will allow you to turn these planned orders into orders between warehouses within an environment or between environments.

ML introduces the 'transfer order'. This type of order can be created directly from MRP, Review and Approve and MRP release. The Transfer Order can also be created from OBPM MRP Recommendations or Reorder Recommendations. Alternatively, you can directly create and release within the ML application. The transfer orders can be sent to any XA defined planning warehouse.

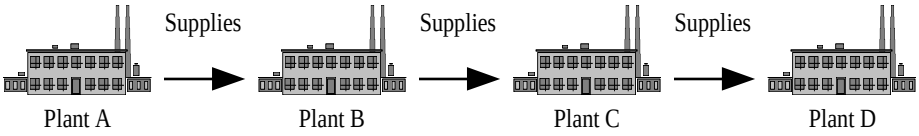
ML allows your planning warehouses to define customer/supplier relationships with each other.

If your current business environment looks like this . . .



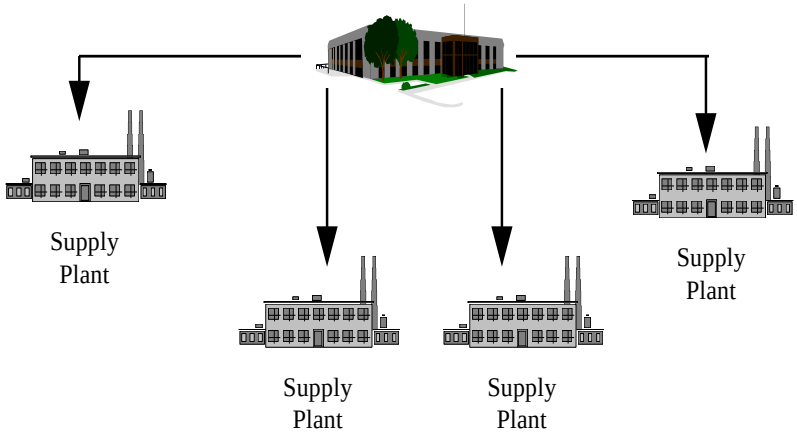
OR . . .

Supply Chain Processing

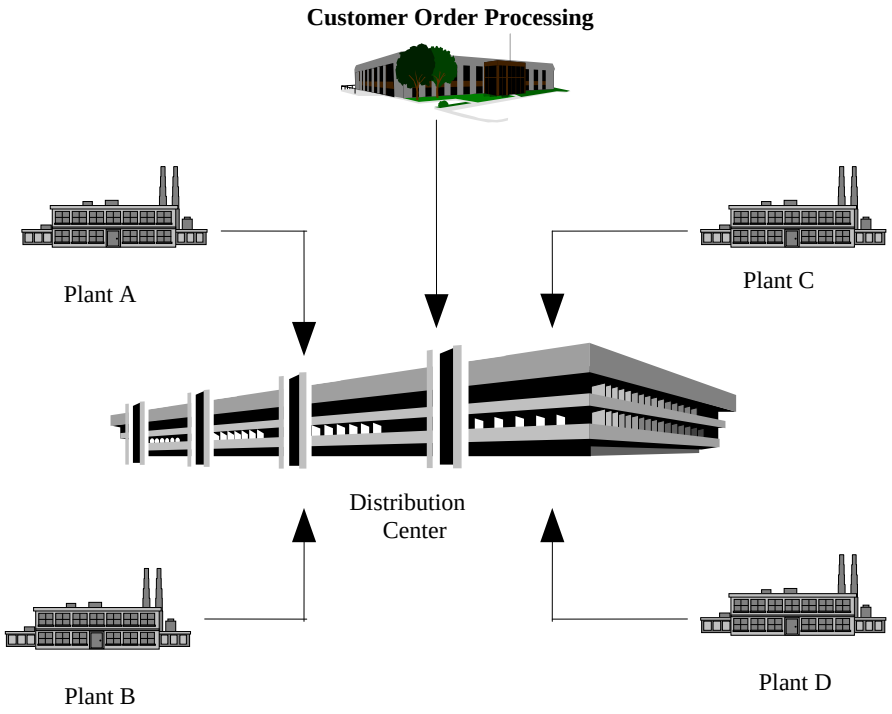


OR . . .

Customer Order Processing



OR . . .



Material Logistics (ML) will provide you the business solution you have been looking for. The number of manufacturing and distribution enterprises to which Material Logistics applies is quite large and varied. The following will further describe some typical situations which necessitate this type of multi-facility solution:

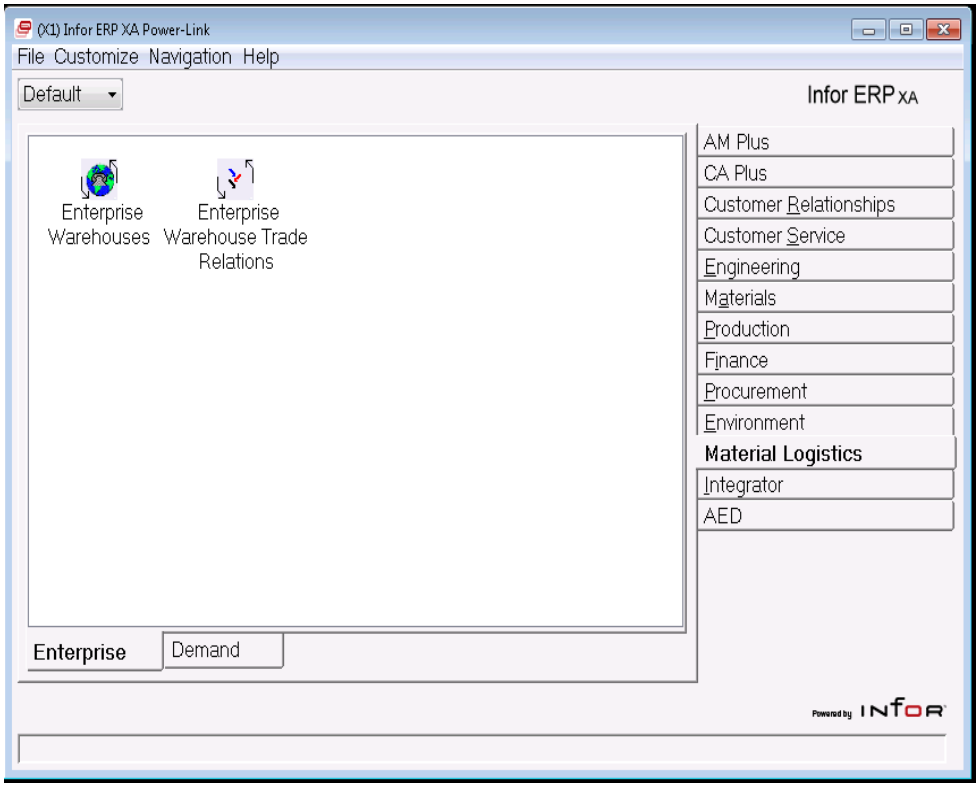
- Manufacturing facilities act as vendors to each other to make sub-assemblies or off-load capacity.
- Products are shipped to an outside processor before being shipped to another plant.
- High volume centralized order processing, decentralized multi-plant manufacturing.
- Decentralized order processing, decentralized distribution and centralized manufacturing.
- Distribution warehouses must be planned independently from the production facility.
- Inventory orders must be placed and traced between the supplying plants and distribution facilities - DRP (Distribution Requirements Planning).

The Material Logistics Tab

When you select Material Logistics from the Main Menu, the Material Logistics General View appears. From this view you can select the tabs "Enterprise" or "Demand".

From the **Enterprise** tab you can reach the following objects:

- "Enterprise Warehouses"
- "Enterprise Trade Relations"

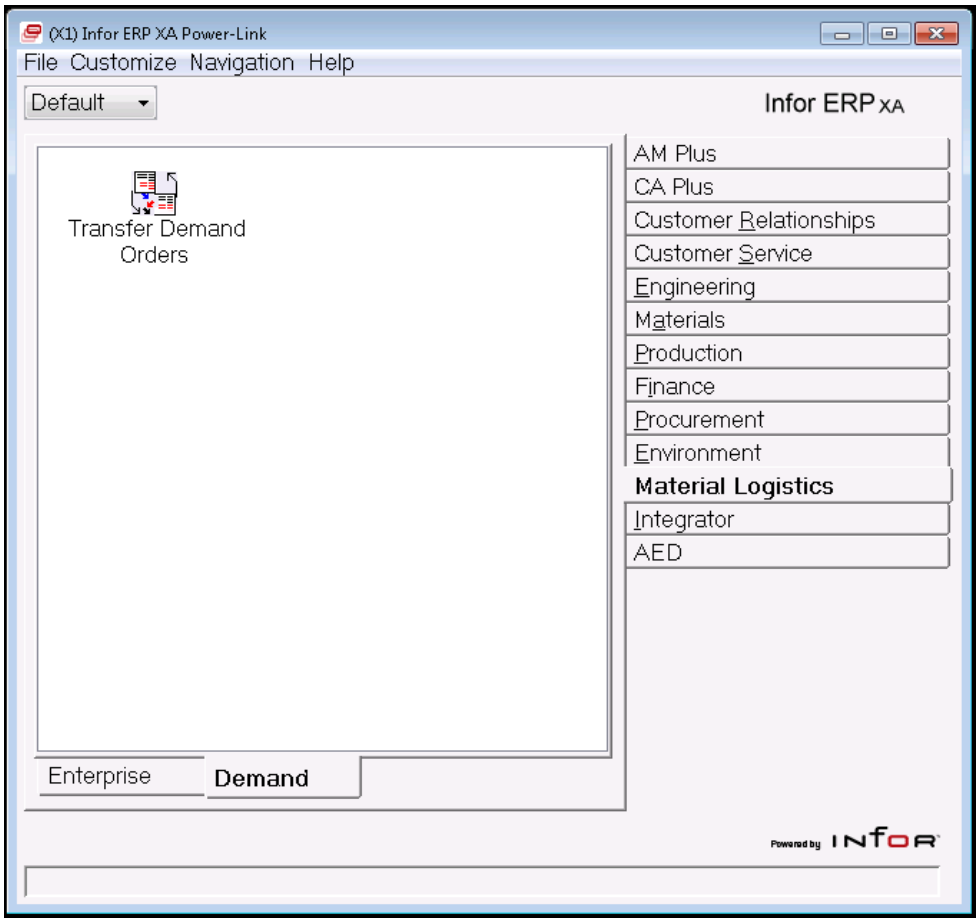


Object 1: Enterprise Warehouse. Click on this object to create an Enterprise Warehouse. The Enterprise Warehouse is a three character name used to uniquely identify your local planning warehouse in Trade Relationships that may extend to other XA environments.

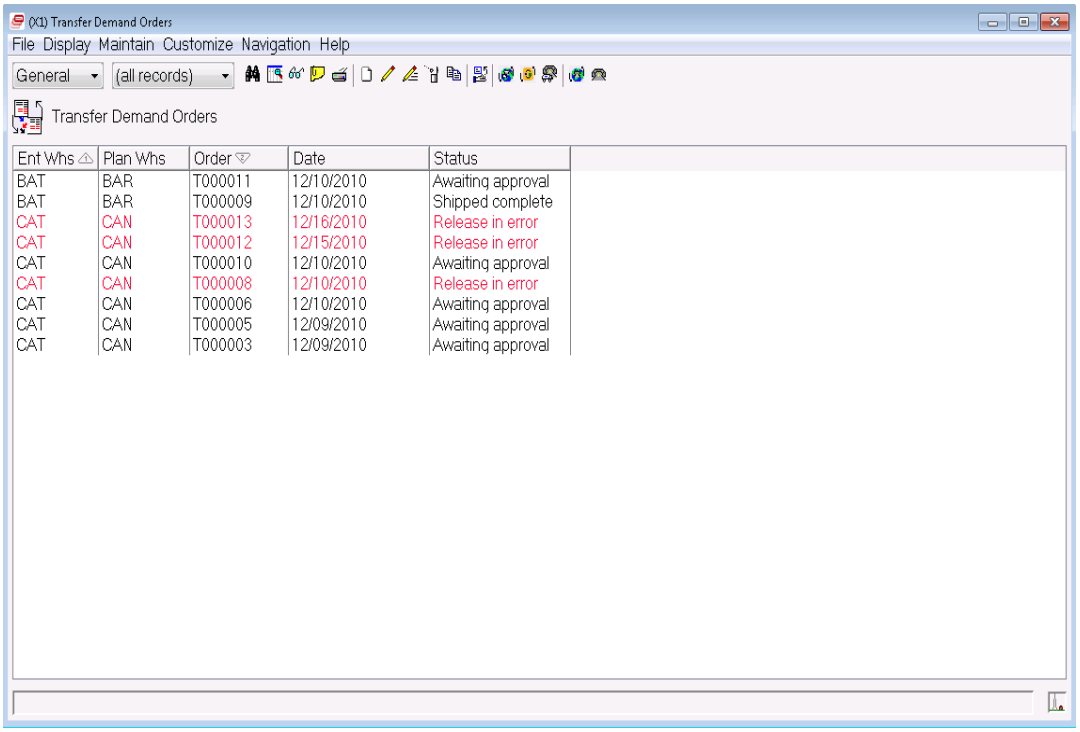
Object 2: Enterprise Trade Relation. Use this object to create the relations between existing Enterprise Warehouses to permit the transfer of stock between the warehouses.

From the **Demand** tab you can reach the following object:

- "Transfer Demand Orders"



Object 1: Transfer Demand Orders. Click on this Transfer Demand Orders icon to enter into the Transfer Demand Orders list window below where you can create a transfer demand order.



Major Functions

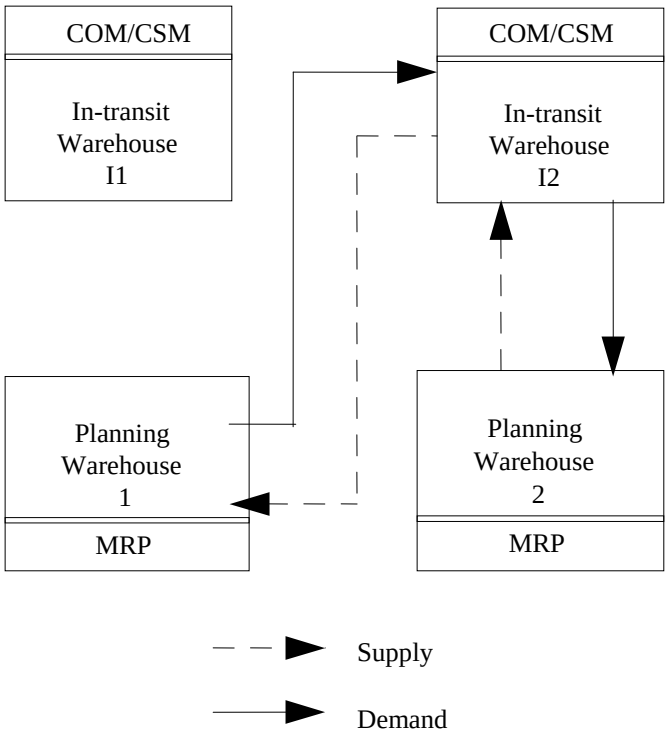
From Material Logistics we can:

- Create, change and delete Transfer Orders, lines and releases: We can, subsequently, release Transfer Orders, lines and releases to make them open for shipping and receiving activity.
- Create, change and delete Enterprise Warehouses, assigning on System Link Destinations environments and associated XA Planning Warehouses as well as In-transit Warehouses.
- Create, change and delete Enterprise Warehouse Trade Relations. Assigning In-transit inventory ownership and customer information for the relationship and location.

We Can Also:

- Maintain Material Logistics application settings.
- Ship Material Logistics transfer orders through COM or CSM.
- Receive Material Logistics Orders through the Material Management applications Scheduled Receipts.

The following diagram shows the basic flow of information:



The ML functions are accessed through these objects:

Enterprise Warehouses

This Enterprise Warehouse object is used to identify the XA Planning Warehouse that can be used as a supply warehouse or demand warehouse before the warehouse relations are established. An owning System Link Destination and environment is required for each Enterprise Warehouse. One of the toolbar icons found at the top of this viewing screen will allow you to create a transfer order from this object.

Enterprise Warehouse Trade Relations

The object called Enterprise Warehouse Trade Relations is where we create the relations between the Demand and the Supply enterprise warehouses. In addition, Company, Customer, Inventory ownership and In-transit locations are also maintained from this view.

Transfer Demand Orders

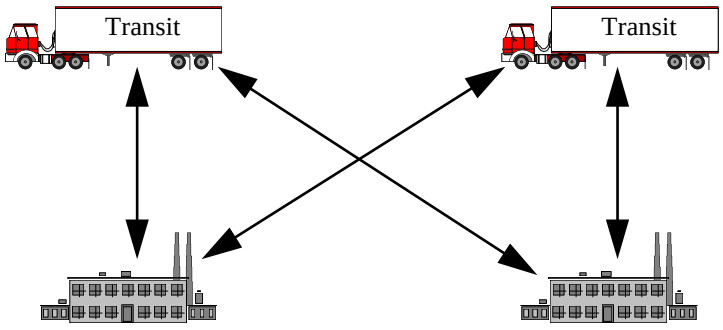
The object Transfer Demand Orders viewing screen shows a list of transfer orders and allows the orders to be created from this screen. You can also search, view, subset and sort these transfer orders.

The object Transfer Demand Items is found within the top of viewing screen of Transfer Demand Orders. This is a listing window of all the open line items for a highlighted order and allows you to search, view, subset and sort these transfer order lines.

How The Information Flows Within Material Logistics

Material Logistics (ML) introduces the Enterprise Warehouse as a unique three character identifier to represent each local planning warehouse in Trade Relationships across all your XA environments.

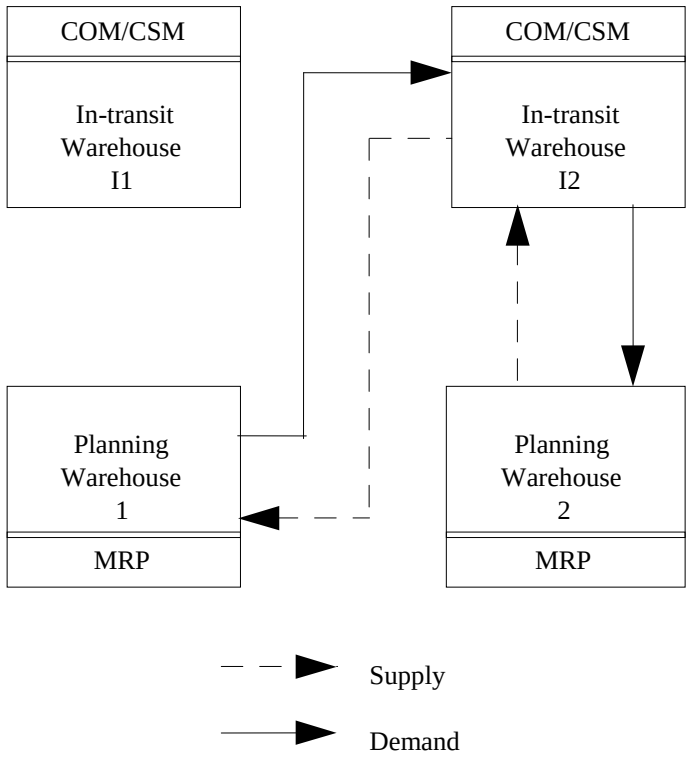
This Enterprise Warehouse will become either the customer (Demand Enterprise Warehouse) or the supplier (Supply Enterprise Warehouse) on the ML Transfer Orders. Although the Enterprise Warehouse ID can be identified to a local XA warehouse, it cannot match any enterprise warehouse ID in any other environment with which you will be trading. For each enterprise warehouse, you will associate an XA planning warehouse and an optional In-transit warehouse and location.



While the Enterprise Warehouse is not a physical entity, ML In-transit warehouse and location must be real and exist in XA. They are a repository for inventory between the supply enterprise warehouse and the demand enterprise warehouse.

ML In-transit warehouses, like those used for simple transfers in MM are a place for shipped inventory to reside and are tracked while in transit. However, In-transit warehouses and locations used for ML shipments must be defined with ML by assigning them to a specific Enterprise Warehouse.

Material Logistics (ML) introduces the "Enterprise Transfer Order". The orders use the customer/vendor relationship of the demand and supplying enterprise warehouses. The orders can be created through MRP or directly from Material Logistics. They can be "sent" to any Enterprise Warehouse defined with a trade relationship. ML transfer orders have a prefix letter 'T', making them easy to distinguish from other types of orders within XA.



- Release transfer orders in the demand enterprise warehouse, and create customer orders in the XA planning warehouse associated with the supply enterprise warehouse. The demand warehouse is the customer, and uses the customer number assigned within the Enterprise Warehouse Trade Relation. .
- The supplying warehouse ships the transfer order to the In-transit warehouse based on Inventory ownership defined when setting up the trade relation. It is now, in effect, in-transit inventory.
- The demand warehouse receives the inventory from the In-transit warehouse and the cycle is complete.

How ML Works With Other Applications

Material Logistics Interfaces

ML sends information to . . .

COM / CSM	CSM client transactions to create & maintain COM/CSM orders information for released transfer orders. ML shipping takes place in COM/CSM
IM / MM	Material Logistics shipping and receiving when ML is being used creates (IW & RW) transactions and adjustment (IA), if enabled. Item Balance file (ITEMBL) and Item Plan file (ITMPLN) records are added for the In-transit warehouse.
MRP	Planned future order demands from demand warehouses for MRP planned items

ML receives information from . . .

COM /CSM	Validates customer numbers.
IM / MM	Calendar, item balance (item warehouse), warehouse information, inventory locations, lead times and planning process codes
PDM / EPDM	Item characteristics and definitions. IOR items etc.

How To Access ML Reports and Inquiries

ML Reports

The major ML reports are as follows:

- Transfer Order Release:
  - The ML Transfer Orders (AXF110) shows all ML orders released during the Release Order generation through ML or MRP and is automatically generated by the release.
  - Any orders that are rejected must be corrected and Order Release run again.
  - The planned order demand transfer report, (AXKP352), shows the number of records transferred to other warehouses during the MRP Planning Run.

The major ML inquiry mechanisms are as follows:

- From the PowerLink Material Logistics tab we can also see ML Transfer Orders by utilizing the PowerLink features of Subset, Views and Sorts to drill down and review and edit status information.
  - When using ML you can see all the ML Transfer Demand Orders from the ML, Transfer Demand Orders tab.
  - You can also enter into the Enterprise Warehouse Trade Relations object file to drill down into open Transfer orders that originated within the local environment.
- The major Ship/Receive ML Orders inquiries are as follows:
  - The ML Shipping is performed in CSM where we can ship like we would for all CSM orders. Except that this Customer represents the "Demand Warehouse" in the ML Enterprise Warehouse Trade Relation.
  - The ML Receiving is performed in the Materials Management object. When we drill down into the Receiving tab, in the Scheduled Receipts object and subset for the items we are trying to receive, we find that we can receive from a card called Material Logistic.

The major ML Listing Screens are accessed as follows:

- From the Enterprise Warehouse object an ML transfer warehouse can be created.
  - From this object we can give the enterprise warehouse its unique name.
- From the Enterprise Warehouse Trade Relations object a relationship can be created between two enterprise warehouses.
  - This object allows us to set up for the creation of the transfer order between the two planning warehouses.
- From the Transfer Demand Order object a user can view, subset and sort all open Transfer Orders:
  - From a Transfer Order line you can drill down into the order and edit.
- The Customer Order object in CSM allows the user to view, subset and sort on the customer named for the enterprise warehouse transfers.
  - From a Customer Order line you can drill down into the order and Review the quantity the Transfer order number and the order status.

Other system set up concerns:

- Material Logistics Setup:
  - Material Logistics is set up beginning with System Link if you have multiple environments. Then create Enterprise warehouse and enterprise warehouse trade relations.
  - Material Logistics emphasizes on-line information. It provides access to information by using the PowerLink features of Views, Subsets, and Sorts.
  - Client Transactions are used instead of offline load for COM/CSM activity.

ML Inquiries

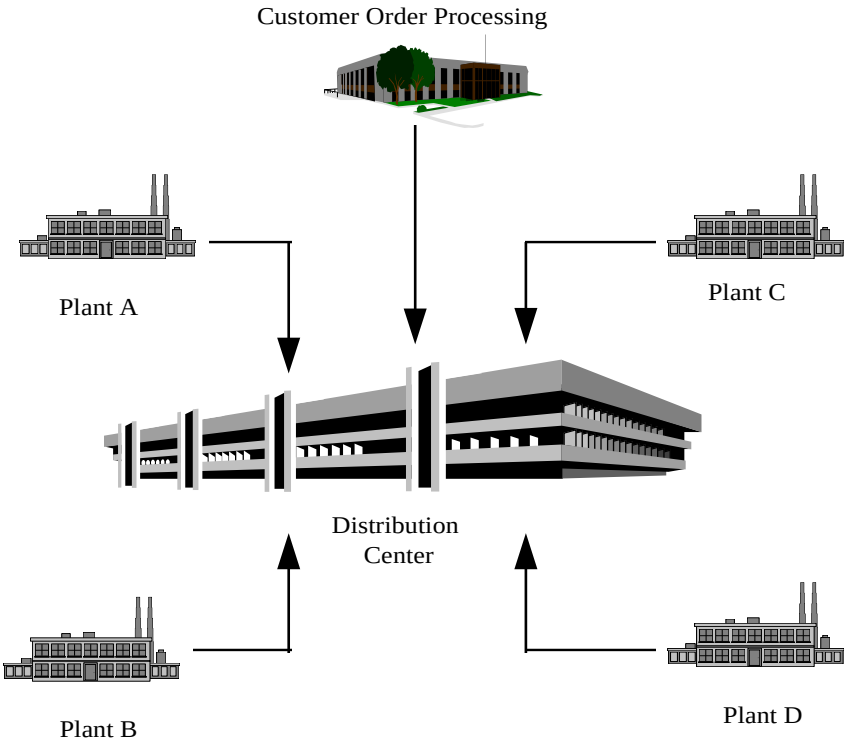
In addition to using printed reports, you can review certain information about your business on the various ML displays.

- In ML, you can inquire about:
  - ML, Transfer Demand Orders
  - COM/CSM Customer orders to see both ML orders to ship
  - Materials Management, Receiving is used to view ML orders that are due
  - MRP / OBPM MRP Recommendations and Reorder Recommendations

Chapter 2. MATERIAL LOGISTICS INSTALLATION

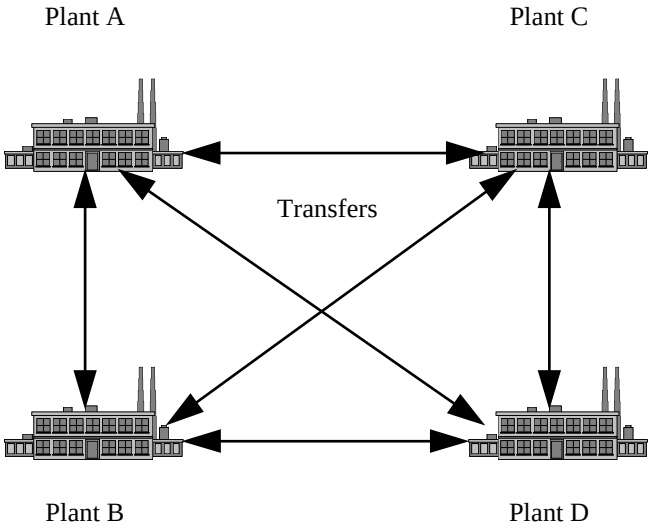
This chapter contains Material Logistics user installation information for warehouse security and application tailoring.

Material Logistics must already be installed. Material Logistics only needs COM or CSM, and their prerequisites, be installed and interfacing.



Material Logistics User Tailoring

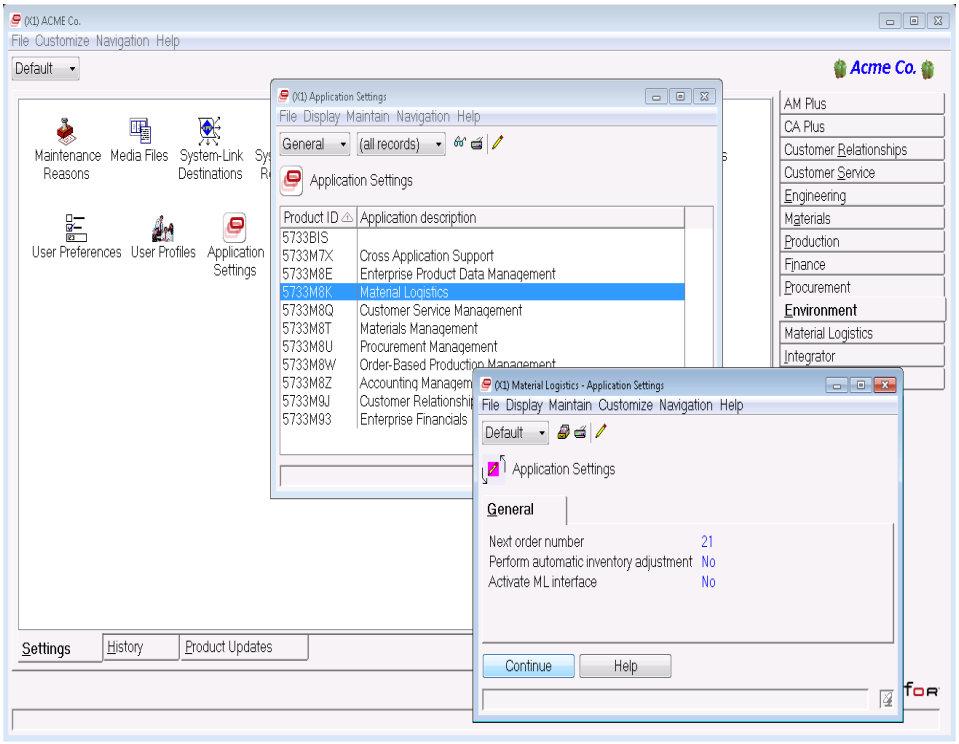
Material Logistics requires set up of enterprise warehouses and of enterprise warehouse trade relations. This tailoring allows the user to customize Material Logistics to, as closely as possible, to match your business needs.



Material Logistics Transfer Order Number Assignment:

You can assign the starting Transfer order number that you wish to use. The number is assigned per the environment. By entering into the application settings on the "Environment" tab and then drilling down into the "Material Logistics application you can set "The Next Order Number", the "Performance of automatic inventory adjustments" and "Activate the ML application interface".

The Transfer Order number will be prefixed by a "T". The order number operates like PO and MO order numbers. The ML program automatically generates the order numbers. The order numbers cannot be manually assigned in MRP order review and approve or in ML order add.



The Automatic Inventory Adjustments (IA's):

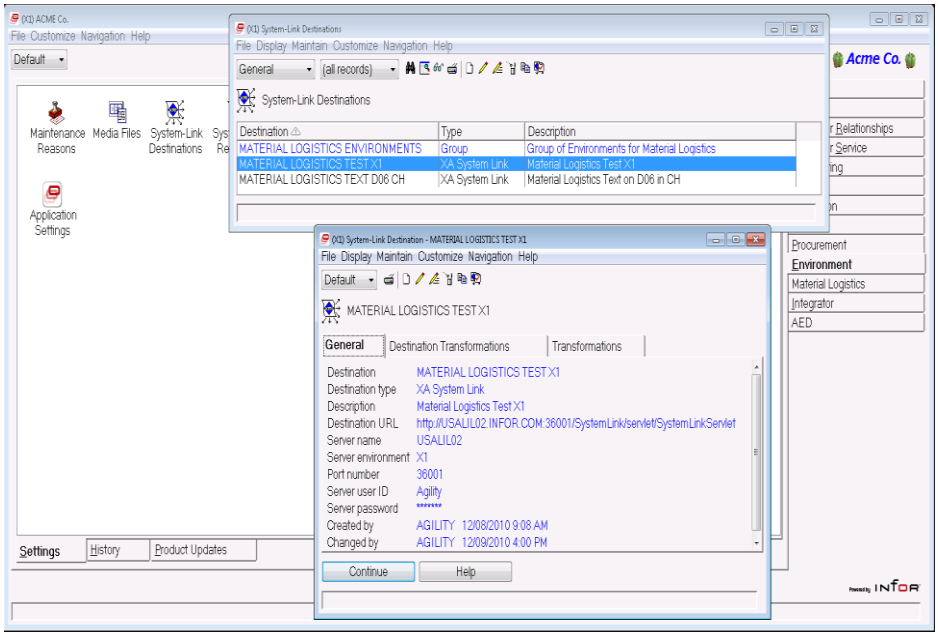
When a Transfer Order is received short, or over, an inventory balance will remain (+ or -) in the transfer warehouse. This balance will remain in the In-transit warehouse indefinitely, unless it is cleaned up automatically through ML or manually by the user. Tailoring exists to automatically create the correct "IA" transaction to reduce this inventory balance to zero.

Note: Inventory management tailoring must be set to allow inventory locations to go negative.

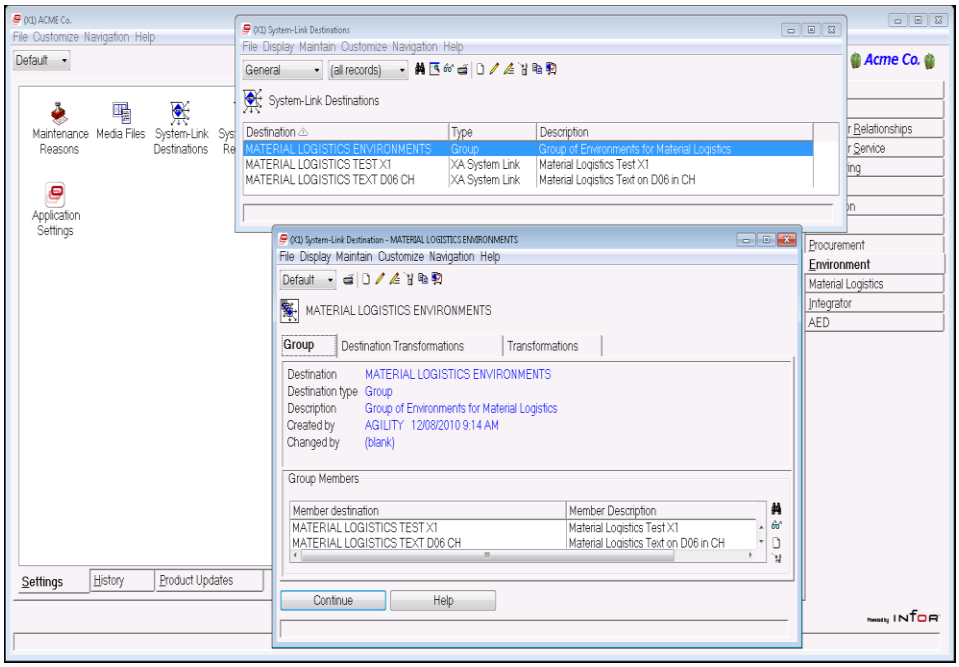
Multiple Companies and Environments:

Material Logistics' basic design uses a XA System Link for multi-environment communications. From the Environment tab you can drill down into an object called "System Link Destinations". From this object we can set up destinations for our own environment as well as other environments where data is being transferred or "replicated". Then set up the warehouse assigning an owning destination for each warehouse. Also, enter a 'Group Destination' for Replication Destination to be used when ML information must be sent to all environments. Then set up the customer / supplier relationships between pairs of warehouses in Enterprise Warehouse Trade Relations

The company number assigned to the COM/CSM order in the supplying warehouse will use the company number that is assigned during the creation of the Enterprise Warehouse Trade Relations.



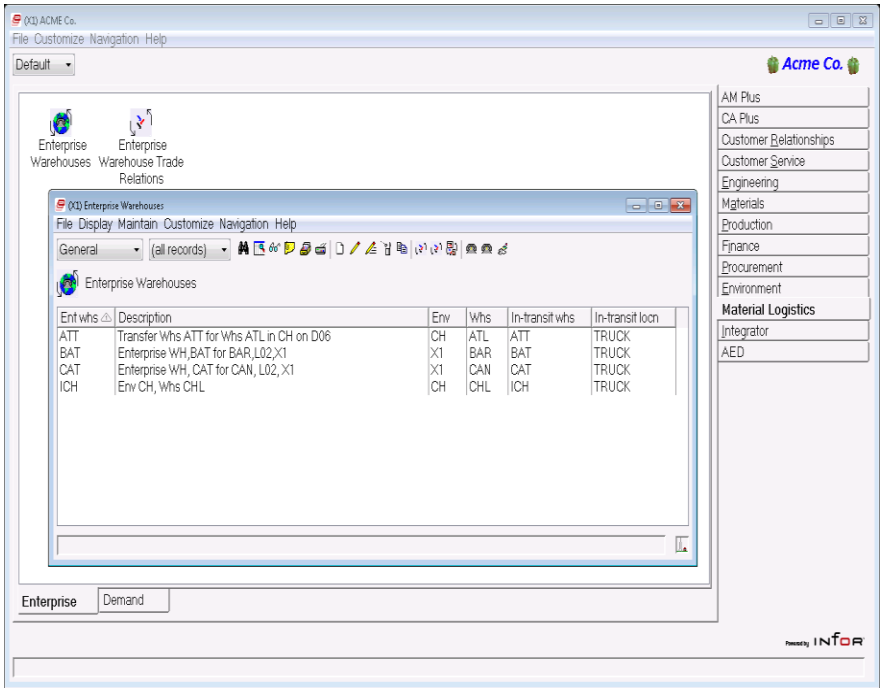
Notice that in this second screen capture that this is a "group" type destination. This destination is created so that one relationship is used in Enterprise Warehosue creation might be easily assigned to many environments as a member of this group.

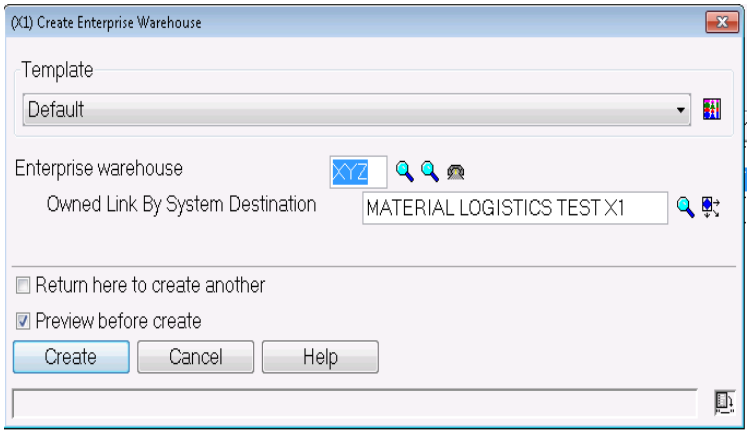


Chapter 3. ML WAREHOUSE SET UP

When you enter into Enterprise warehouse you have had already setup the System Link Destinations settings found in the Environments tab. See more on this later in this chapter. From the Enterprise Warehouse object you can set up the details that are unique for an Enterprise warehouse. From this first create window you can:

- Create an Enterprise Warehouse Number. (must be unique across environments)
- Attach the "System Link" Destination (see later in this chapter)

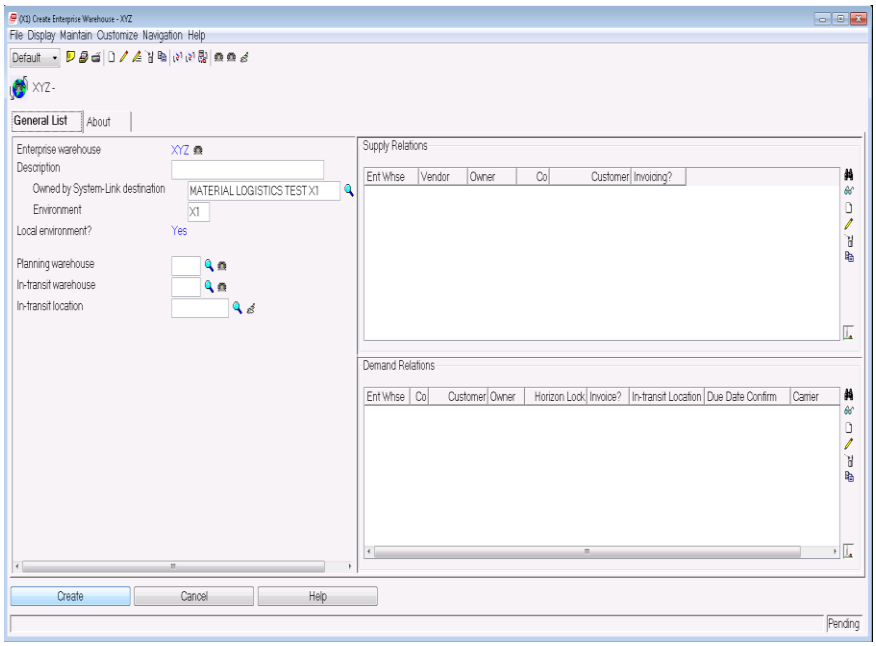




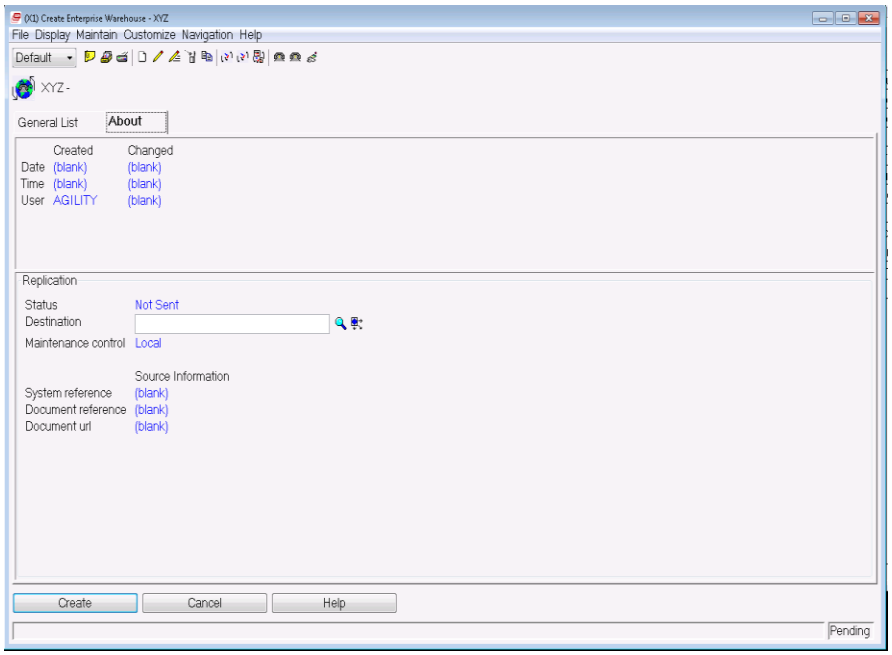
From the **General List** tab in the second create window you can:

- Enter the Enterprise Warehouse Description
- Enter the Owning System Link Destination

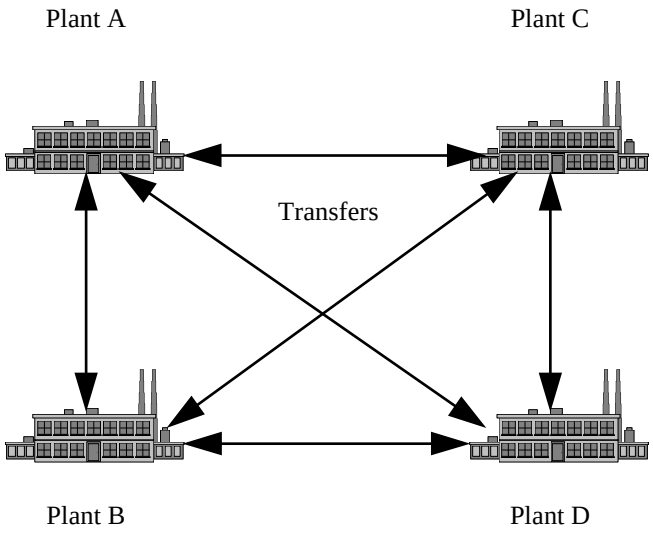
- Enter the Environment that this Enterprise Warehouse is found.
- Enter the Planning Warehouse number.
- Enter the In-transit Warehouse number.
- Enter the In-transit Warehouse location.



From the **About** tab we can enter the Replication Destination:

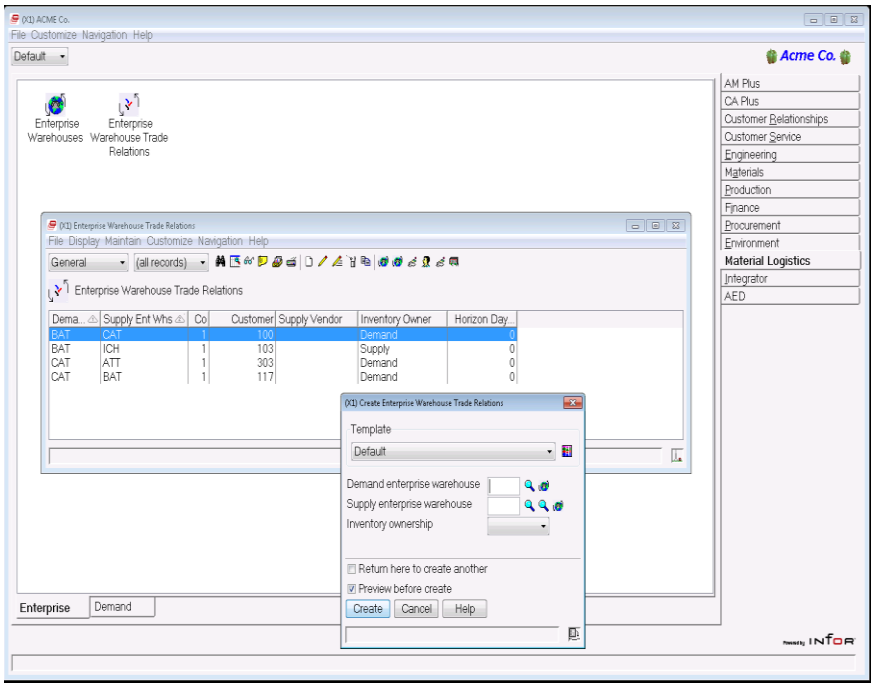


Material Logistics requires set up of enterprise warehouses and of enterprise warehouse trade relations. This tailoring allows the user to customize Material Logistics to, as closely as possible match your business needs.



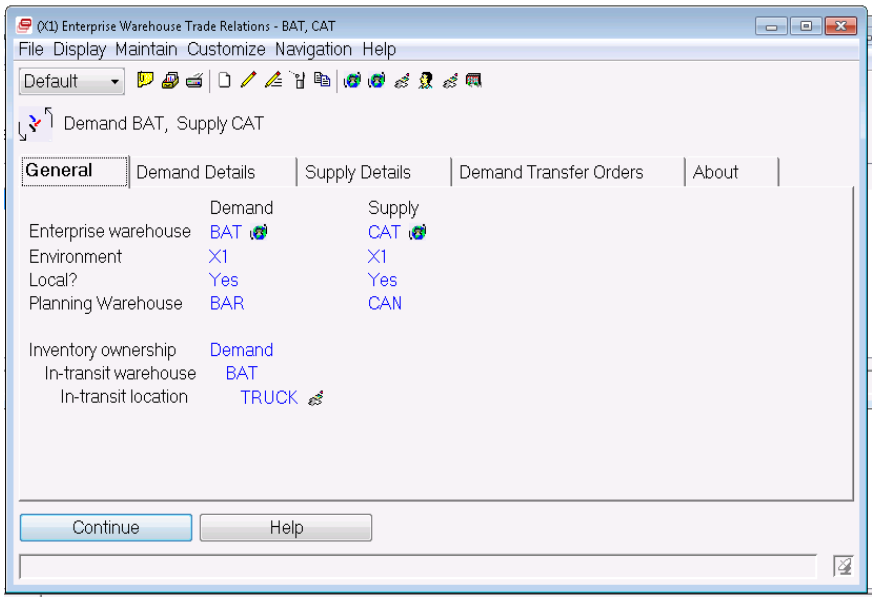
Work With ML Enterprise Trade Relations

Use the Enterprise Warehouse Trade Relations object to create the relationships between the Demand Planning Warehouse and the Supply Planning Warehouse using the relationship set up with the appropriate Enterprise Warehouse.

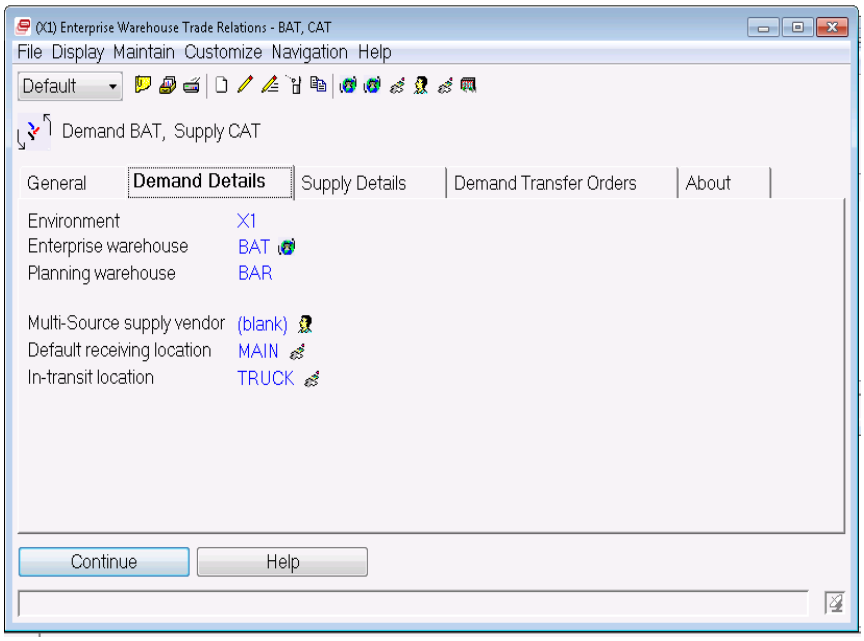


What information you need: The Demand Enterprise Warehouse and the Supply Enterprise Warehouse.

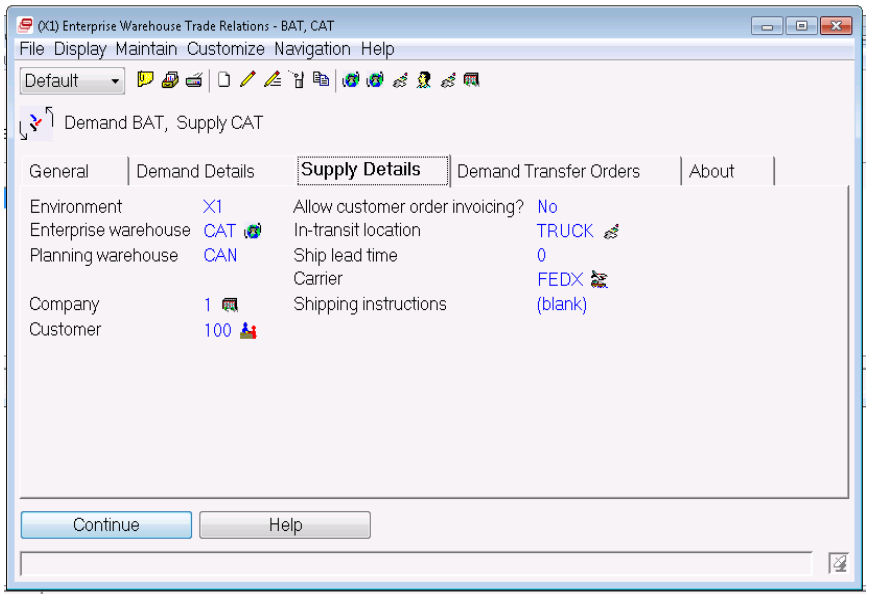
For the 'General" tab you also need to know who should take ownership of this inventory while it is in transit. You will need to enter in the "in-transit location" given for the Enterprise Warehouse (In-transit warehouse)



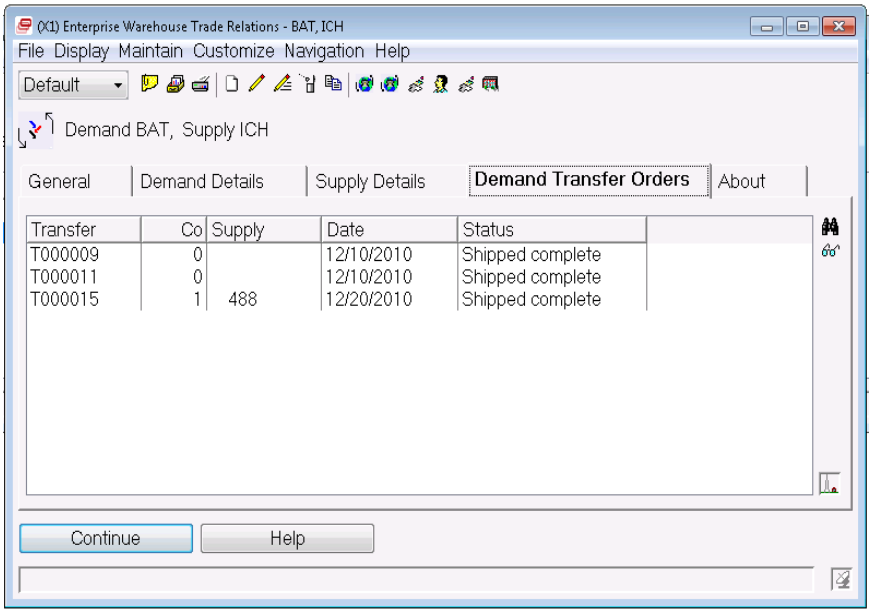
For the ‘Demand Details’ tab the Multi-Source supply vendor is not manditory to enter. You must enter a default receiving location.



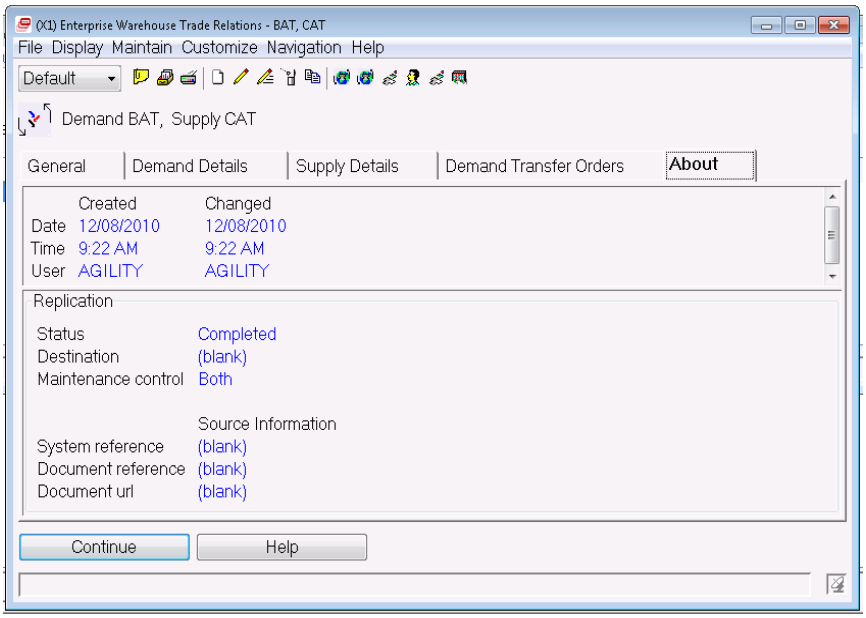
For the ‘Supply Details’ tab the Company #, Customer #, In-transit Location # and Carrier are mandatory to be entered.



For the ‘Demand Transfer Orders’ tab you see all the open Transfer orders.



For the ‘About’ tab you see the user who created this trade relation and who may have changed it since the creation date.



Chapter 4. MULTI-ENVIRONMENT CONSIDERATIONS

Introduction

Material Logistics has the ability to coordinate orders between multiple XA environments. Cross environment considerations are defined and maintained in the Enterprise Warehouse object. Each Enterprise Warehouse is associated with a home XA environment and describes inter warehouse logistics via the related Trade Relations object. Transfer Orders are published to remote XA environments when at least one of their line items are supplied by an Enterprise Warehouses that has a home environment that is different than the home environment for the order's demand Enterprise Warehouse. A transfer order can have line items that span more than one remote environment.

Communications that occur across environments are handled within XA's SOA publishing framework. Data is transferred between environments via System-Link XML. The System-Link XML is prepared and sent using XA's SOA Publish transactions and the Publish unattached job (UJOB).

System-Link Destinations are used to associate Enterprise Warehouses with the environment that they are owned by and to the environments they should publish to.

System-Link Destinations

A System-Link Destination is a standard XA object that is used by System-Link to send XML to various types of end points. Material Logistics uses System-Link Destinations to link an Enterprise Warehouse with its home environment and to the list of environments that it should publish orders to. The System-Link destination type that is used on the Enterprise Warehouse must be of type System-Link.

System-Link Destinations require a user id and password to connect to the environment. It is recommended that a user profile is setup for the sole purpose of Material Logistics cross environment support. There are several security areas in Material Logistics that should only be opened to these user profiles.

Multiple Environment Setup

The setup of cross environment communications for Material Logistics is primarily focused on the Enterprise Warehouse object and the System-Link Destination object. Each environment that will be participating in Material Logistics transfers will need a System-Link Destination object created that points to the environment. Each System-Link Destination will need to exist in each of the XA environments that will participate in Material Logistics transfers.

In addition a single group System-Link destination will need to be created that groups all the Material Logistics environments together. This group destination will also need to exist in all XA environments.

Enterprise Warehouses hold a reference to two System-Link Destinations. One reference is to the Owned By System-Link Destination. This should point to the System-Link destination that represents the XA environment that the Enterprise Warehouse represents. An Enterprise Warehouse is considered local to an environment when its Owned By System-Link Destination points to the current XA environment.

The other reference that Enterprise Warehouses hold to a System-Link Destination is called the Replication System-Link Destination. This should always be set to the group System-Link Destination that groups all the Material Logistics environments.

All System-Link Destinations and Enterprise Warehouses must exist in all Material Logistics environments to ensure that no errors are encountered during cross environment communications.

SOA Publish Transactions

A SOA Publish Transaction is a stock XA transaction that uses System-Link to send an object representation to a selected destination. As of Release 9 SOA Publish Transactions are part of the standard transaction model for most XA objects including the Material Logistics objects. In most cases SOA Publish Transactions are initiated by other transactions such as the standard create, change and delete transactions. When initiated by other transactions they are referred to as child transactions.

SOA Publish Transactions use the Publish UJOB, which must be running in order for an environment to send information to other environments. The status for a SOA Publish Transaction can be viewed in transaction status in Power-Link as a child to the originating transaction. The status of the SOA Publish Transaction indicates whether the transfer of information took place. It does not however indicate if any application errors took place in the target environments.

Transfer Orders

A Transfer Order is considered to be cross environment when one or more of its line items is associated with an Enterprise Warehouse that is not local to the environment in which the transfer order was created. Transfer orders are published via the SOA Publish Transaction when they are initially released. Transfer Orders are then published with each ensuing change after they are released. This includes changes to any detail object, such as line items and releases, or comment objects that are associated with the transfer order.

When a Transfer Order is published a synchronize transaction is sent to every XA environment that participates in Material Logistics activity as defined by the grouping System-Link Destination mentioned in this chapter. Each environment then decides whether it has an interest in the Transfer Order by checking for any line items that have a supply Enterprise Warehouse that is local to that environment. When the environment is interested in the Transfer Order then a Supply Transfer Order is created that has only the line items that are home to the environment. A single demand Transfer Order can result in more than one Supply Transfer Order being created in multiple environments.

When a Transfer Order is published its replication status and the replication status of each of its line items are set to in transit. As each environment receives and processes the Supply Transfer Orders an acknowledgment is sent back to the originating environment via a SOA Publish Transaction. This acknowledgement updates the line items and releases with supply side information and updates the status on the line item to communication successful. A Transfer Order will have its replication status set to communication successful when all of its line items are at that status.

Enterprise Order Release Location

Enterprise Order Release Locations are published between XA environments using SOA Publish Transactions. The publish of an Enterprise Order Release Location indicates than an item has been shipped and relays the shipment information from the supply environment and the receiving information from the demand environment. A demand Enterprise Order Release Location holds a reference to the System-Link Destination that is home to its supply side Enterprise Warehouse. A supply Enterprise Order Release Locations references the System-Link Destination that is home to its demand Enterprise Warehouse. Enterprise Order Release Location objects are published as they are created and on every change thereafter.

Guidelines for System-Link Destination Setup for Material Logistics

The following steps are recommended for the setup of the System-Link Destinations for Material Logistics:

1. Create a System-Link Destination for each environment that will participate in Material Logistics.
   a. Name each destination to indicate that it is for use with Material Logistics. For example, a naming pattern of 'Material Logistics: <Environment Id>' is suggested.
2. Create a group System Link Destination.
   a. Suggested name: GLOBAL MATERIAL LOGISTICS
   b. This will contain all locations (local and remote).
   c. Think of it as the Super Group.
   d. Each time a new destination is added, it would go here.
3. Create a group for each local enterprise demand warehouse:
   a. This group will contain only those destinations that are defined in the Trade Relationships.
   b. This group is the one that will be entered in the Replication Destination in Enterprise Warehouse.
   c. Each time a new supply enterprise warehouse is added to Trade Relationships for this local enterprise demand warehouse, its destination needs to be added here.
   d. Suggested name – use "TRADE" and the enterprise warehouse.
      i. So if the local enterprise demand warehouse is 7X, then the destination group will be "TRADE 7X".
         - Perhaps, these could be automatically maintained on the fly when Trade Relations are added or deleted.

SOA Publish Transaction Error Conditions

SOA Publish Transaction status can be found in the Transaction Status list a sub node in the originating transaction's status details. Also, in certain circumstances messages are relayed to the QSYSOPR message queue.

When checking QSYSOPR message the following examples might be helpful.

When encountering a message like the one below:

Display Messages System: USALIL02

Queue . . . . . : QSYSOPR	Program . . . . : *DSPMSG
Library . . . : QSYS	Library . . . :
Severity . . . : 99	Delivery . . . : *HOLD

Type reply (if required), press Enter.
(E) -, was not published for user ID AGILITY due to reason code 04
(E) -, was not published for user ID AGILITY due to reason code 04

Put your cursor on one of the messages and press <F1>.

Additional Message Information

Message ID . . . . . : PSX0145	Severity . . . . . : 40
Message type . . . . . : Information	
Date sent . . . . . : 07/29/10	Time sent . . . . . : 15:34:41

Message . . :(E) -was not published user ID AGILITY ID due to reason code 04
Cause . . . . . : Object was not published for reason code 04 below:

For System-Link Server errors: See XML content below and SLS log for more info.

1 - User credentials were not valid.
2 - Environment could not be established.
3 - Application data error.
4 - System-Link server not started.

For System-Link destination errors. Verify settings:

5 - Port out of range.
6 - Timeout occurred.
7 - LPI destination not registered.
8 - Named recipient not found.
9 - Unknown host exception.

When encountering type 2 or 4 errors please verify that System-Link is running in all participating environments by checking the status from Link Manager.

When encountering type 1, 5, 7, 8 or 9 please check each of the System-Link Destinations by performing the test System-Link Destination action in Power-Link.

When encountering type 3 errors please check for errors in the transaction status or QSYSOPR queue on the target systems.

System Link Attribute Fields, Definitions

Source document reference
Reference the demand warehouse, company and replication records.
This is a definition of the environments that participate in ML and the data that they house.

Source (Demand) Environment
The source environment is defined as the environment in which the transfer order is being entered and will ultimately be received. The source environment will house the following objects

- Enterprise warehouses
- Demand transfer order, line and release
- Enterprise order, line and release relations (as extensions to demand orders)
- ENTORL records

Source document url
Any url address that allows for entities outside of the enterprise to access.

Source system reference
The source environment will house the following objects

- Enterprise warehouses
- Demand transfer order, line and release
- Enterprise order, line and release relations (as extensions to demand orders)
- ENTORL records

Maintenance control
This is a Replication control switch. Set by your systems technical team during set up to allow the type of maintenance control of the Replication that is set up in per environment.
The values are:
Both - Meaning maintenance of replication can be done from both environments.
Local - Meaning maintenance can be done from the local environment only.

Material Logistics Deployment Strategy

Basic General Deployment

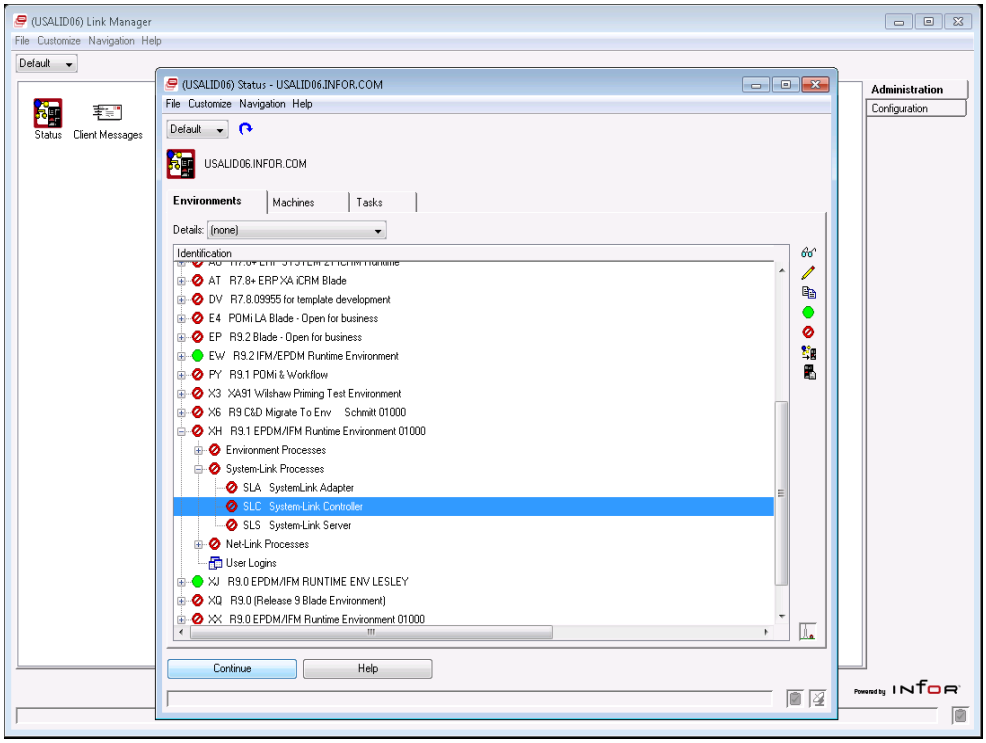
1. ML is not available at R7.8
2. ML is now available at R9.0.
3. ISL/MISL is still available at R9.0
   a. Running under IDF level 1. I
   b. ISL/MISL will be supported until the COM offline load goes away at R9.1.
4. Is it possible at 9.0 to have COM, MM, ML and system link without CSM?
5. Min requirements at R9.0
   a. Sys link, MM, CSM / ?COM?. Does COM at 9.0 imply CSM for the SOA functions?
   b. This is mostly packaging arrangements, and we don't think it is common, because most going to ML will have Essentials/Flex.

Link Manager Set up

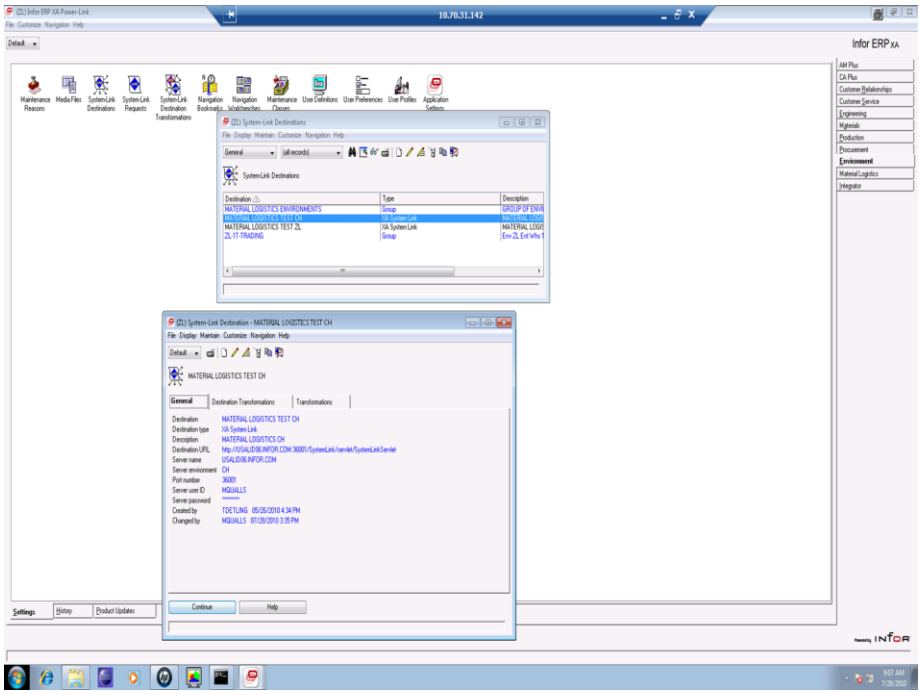
Host Presentation Server (HPS) process

The Host Presentation Server process (HPS) provides the functions that must be active in order to use the IDF Level 1 options and screens in an Infor ERP XA environment. An XA environment must have one instance of a Host Presentation Server process to support IDF Level 1. This process must be running on an auxiliary machine that is an Intel-based server running Windows Server 2003 or Windows Server 2008.

You must start the SLS and SLC Processes in Link Manager to support the Cross Environment Replication for Materials Logistics.



Cross Environment Replication set up window for Materials Logi*stics*

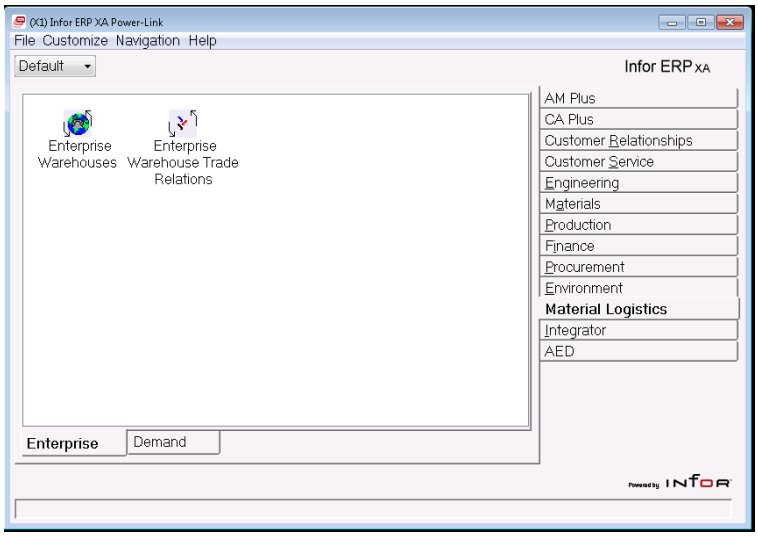


Chapter 5. MATERIAL LOGISTICS; USING THE MAIN OBJECTS

When you select the Material Logistics tab on the right of the main browser you enter into the ML Main Menu screen. You will have two tabs at the bottom of the screen: "Enterprise" and "Demand". From these tabs you can drill down into the related object.

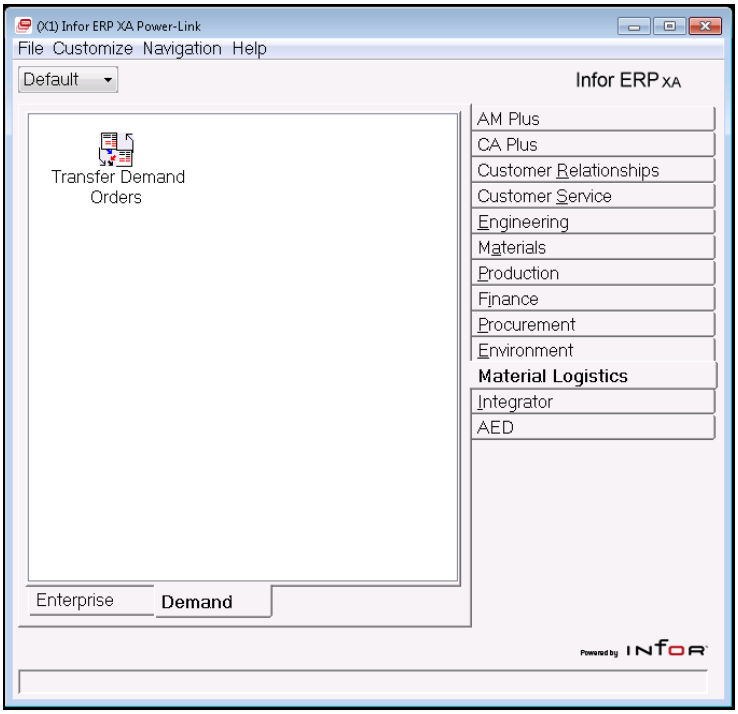
From the Enterprise tabs:

- Enterprise Warehouse
- Enterprise Warehouse Trade Relations



From the Demand tab:

- Transfer Demand Orders



Enterprise Warehouse

Object 1: Enterprise Warehouse. Use this option to create and inquire. From the Enterprise Warehouse object the user can create the enterprise warehouse. This is where you will assign a local XA environment, owning System Link Destination and associate an XA planning warehouse. You can also identify and In-transit warehouse and location

An enterprise warehouse can have ties to information in other objects. Within the Enterprise Warehouses object, you can use options on the Display and Maintain menus, or certain list, graph, or overview cards, to see information in other objects related to a selected enterprise warehouse.

From this object file you can review the supply and demand warehouse relations that exist.

Enterprise Warehouse Trade Relations

Object 2: Enterprise Warehouse Trade Relations. From the Enterprise Warehouse Trade Relations Details we can view the relationship between the "demand" enterprise warehouse and the "supply" enterprise warehouse. We can view the "customer number" and associated company number that is set up for the "demand warehouse". You will also see the supply multisource vendor number related to the supply warehouse. Inventory ownership must also be assigned to determine which In-transit location will be used (Demand or Supply) to store In-transit inventory. It is also important to set the "Allow Customer Order Invoicing" flag to Yes or No. If you do not intend to invoice in CSM for transfer orders, this question must be answered 'No'.

An enterprise warehouse trade relation can have ties to information in other objects. Within the Enterprise Warehouse Trade Relations object, you can use options on the Display and Maintain menus, or certain list, graph, or overview cards, to see information in other objects related to a selected enterprise warehouse trade relation.

The default cards are; General, Demand Details, Supply Details, Replication and About.

Transfer Demand Orders

Object 3: Transfer Demand Orders. From the Enterprise Demand Order Details screen you will see the demand transfer order, the line items on the demand transfer order, comments, and the supply order.

From this screen you can also click on an Overview tab, a Ship to tab and an About tab to access more attribute fields that may have relevant data to be maintained or displayed.

The Overview tab will show the transfer order and line status.

The Ship to tab will show the ship to address and allow for you to add to it or over write it.

The About tab will display data important to the replication process.

A transfer demand order can have ties to information in other objects. Within the Transfer Demand Items object, you can use options on the Display and Maintain menus, or certain list, graph, or overview cards, to see information in other objects related to a selected transfer demand item.

Transfer Order Set up

From the Enterprise Warehouse Trade Relations object you can open up the detail of the relations controls. With the use of the General detail tab, Demand detail tab, Supply detail tab and the Replication detail tab you can set up relationships between enterprise warehouses for ship and receive of transfer orders.

The control attributes consist of demand local, inventory ownership, multi-vendor, receiving location, in-transit location, company number, customer number, due date confirmations, customer invoicing, carrier, ship instructions. From here you can also view inquiry information of the replication destination, replication references, and any urls.

The supply enterprise warehouse must be identified with the producing planning warehouse within the setup procedure. And then by using the ML Enterprise Warehouse Trade Relations object we can identify the supply and demand warehouse's relationship.

MPSP with ML

Material Logistics must interface correctly when a transfer item in the requesting warehouse is controlled by MRP, but it is a MPSP item in the producing warehouse.

Planned requirements for transfer items that are generated by MRP in the requesting warehouse are placed in the Transfer Order Master File (XFRMST). As required, MPSP in the producing warehouse will retrieve these planned requirements and store them as expected customer demand. Once the demand is stored in MPSP, it will operate normally.

MRP & OBPM with ML

Planned requirements for transfer items that are generated by MRP in the Demand warehouse are placed in the Transfer Order Master File (XFRMST). As required, MRP in the Supply warehouse will retrieve these planned requirements and store them as forecasted demand. Once the demand is stored in MRP, it will operate normally.

The interface between ML and OBPM and MRP has been enhanced to make the ML transfer orders visible in MRP Recommendation in OBPM and in MRP Review/Approve Items. ML transfer orders have a "T" prefix and can be changed and deleted through the enhanced interface. In addition, users without ISL/MISL can create the ML transfer orders through OBPM and MRP.

USE OBPM:

OBPM is initially not active. Once the user has begun to use OBPM the use of the application does not change, except now you will see ML T orders in OBPM when MRP is generated.

ML Interface ACTIVE and NOT ACTIVE:

Users with ISL/MISL will continue to create ONLY ISL/MISL orders through these applications, unless they turn on the "Activate ML Interface" option in ML application settings. At that point, they will be able to create ONLY ML transfer orders through these applications.

For users with ISL or MISL, the "Activate ML Interface" flag will do two things 1) Switch the automatic demand transfer function from using the ISL/MISL item, planner, and

vendor default files over to use the new ML Supply Enterprise Warehouse ID found on the Item Warehouse ML card. 2) Change the OBPM/MRP order create and release functions to stop creating ISL/MISL orders and start creating ML transfer orders.

The "Activate ML Interface" setting should not be turned on until all Enterprise Warehouse Trade Relations have been setup and the Supply Enterprise Warehouse ID has been established on the ML card of the Item Warehouse object for all items previously defined in the default files of ISL/MISL. (It may be helpful to Subset by Warehouse, Planner, or vendor and use mass change). After activating the interface, an MRP planning run will be necessary to ensure that the default supply warehouses for transfer orders in OBPM and MRP reflect the setup for ML and not those setups in the past for ISL/MISL. This is especially important if you choose to change the way that supply warehouses are identified in ML to be any value other than the supply side transfer warehouse ID that was previously used by ISL. For non ISL/MISL users, the "Activate ML Interface" flag does not need to be set, since it is automatically considered active when ML is installed and ISL/MISL is not installed.

COM/CSM with ML

Material Logistics uses the customer order process in COM/CSM as a vehicle to create actual order demand for released transfer orders, in the producing warehouse. During the Order Release process initiated from MRP or ML, information is sent by client transactions to create customer orders in the producing warehouse. These orders are created for the customer number that was assigned in ML to the demand warehouses in Enterprise Warehouse Trade Relations.

These orders exist in COM/CSM until they are shipped complete. For Non-Invoicing ML Orders, no booking information is created. No maintenance to these orders can be made in COM/CSM. Only ML can maintain these orders. However, you can use the COM/CSM pick list functionality, if the orders must be shipped through COM/CSM.

IM/MM with ML

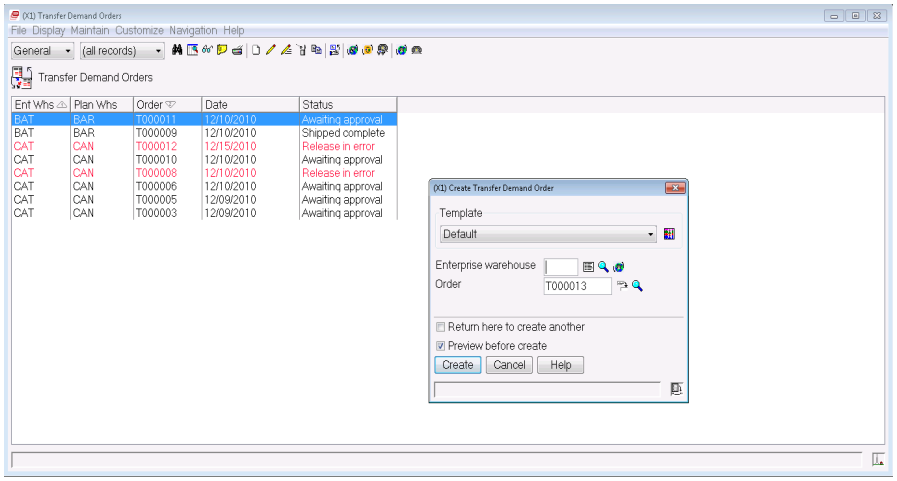
ML uses IM/MM warehouse maintenance to define the transfer warehouses central to Material Logistics. For controlled planning warehouses and for transfer warehouses ML depends upon IM/MM location detail maintenance to define inventory locations for each warehouse.
IM/MM will use the location and order information generated through ML and COM/CSM in its inventory status and availability displays and reports. Open orders in demand warehouse are treated as purchase supply and in the supply warehouse as customer demand.

To begin the process a Planning Demand Warehouse and a Planning Supply Warehouse must exist. We then can build related enterprise warehouses in the ML Enterprise Warehouse object file. We then can relate these warehouses to each other for the purposes of transfer. We do this by creating relationships with the enterprise warehouses in the object Enterprise Warehouse Trade Relations.

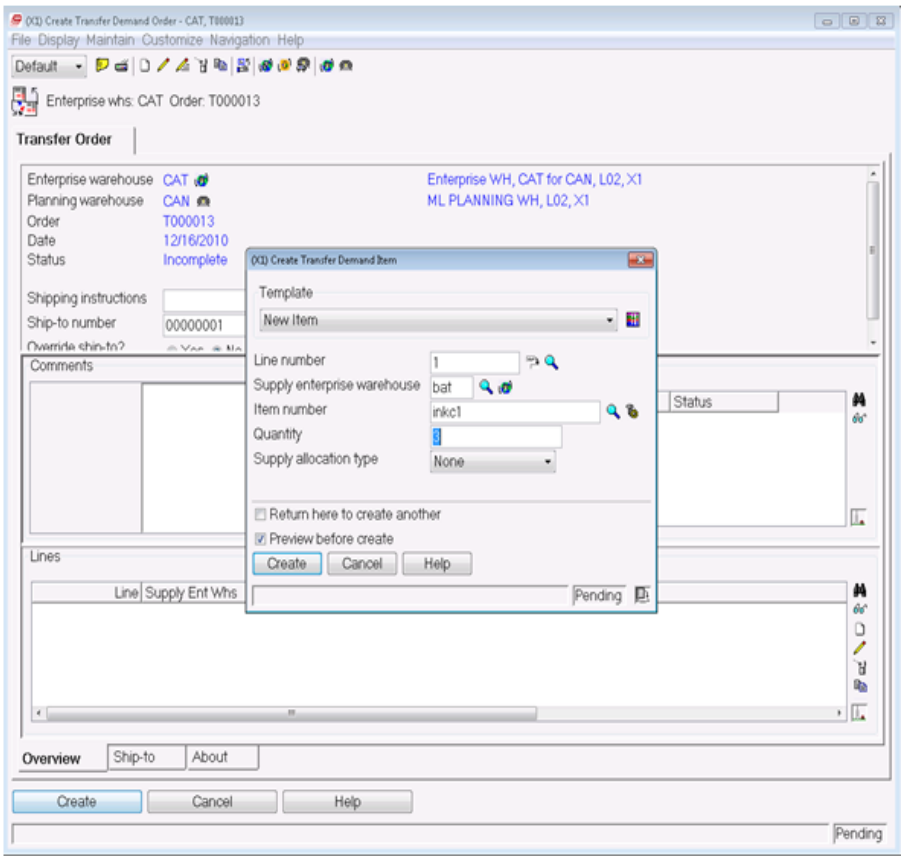
Transfer Order Creation

If you choose to add a new transfer order directly through Material Logistics, you will go to Transfer Demand Orders object icon. You will enter the enterprise warehouse requesting the Transfer order. If warehouse security is enabled you must have the proper capability level to proceed.

Click on Create: When the create Transfer Order window appears you will need to enter the enterprise demand warehouse for the item and the quantity which is associated with the planning warehouse from where the item is being requested. The item must be set up in the existing demand enterprise and supply enterprise transfer warehouses and in the main planning warehouses. The predefined warehouse relationship that was previously set up in Warehouse relations will then allow for this transaction to proceed.



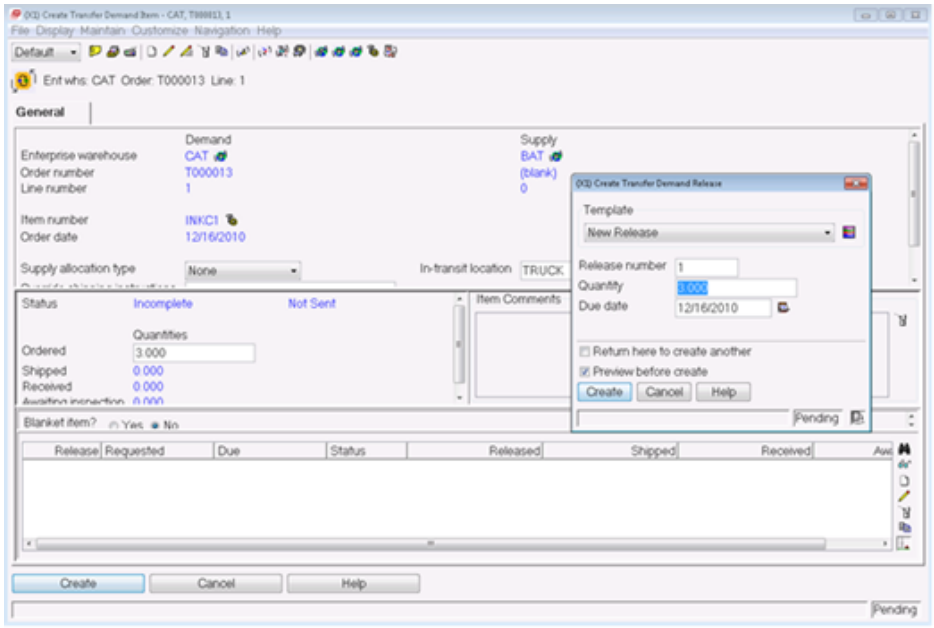
After the user clicks the create button the creation window for the “Create Demand Transfer Order” appears:



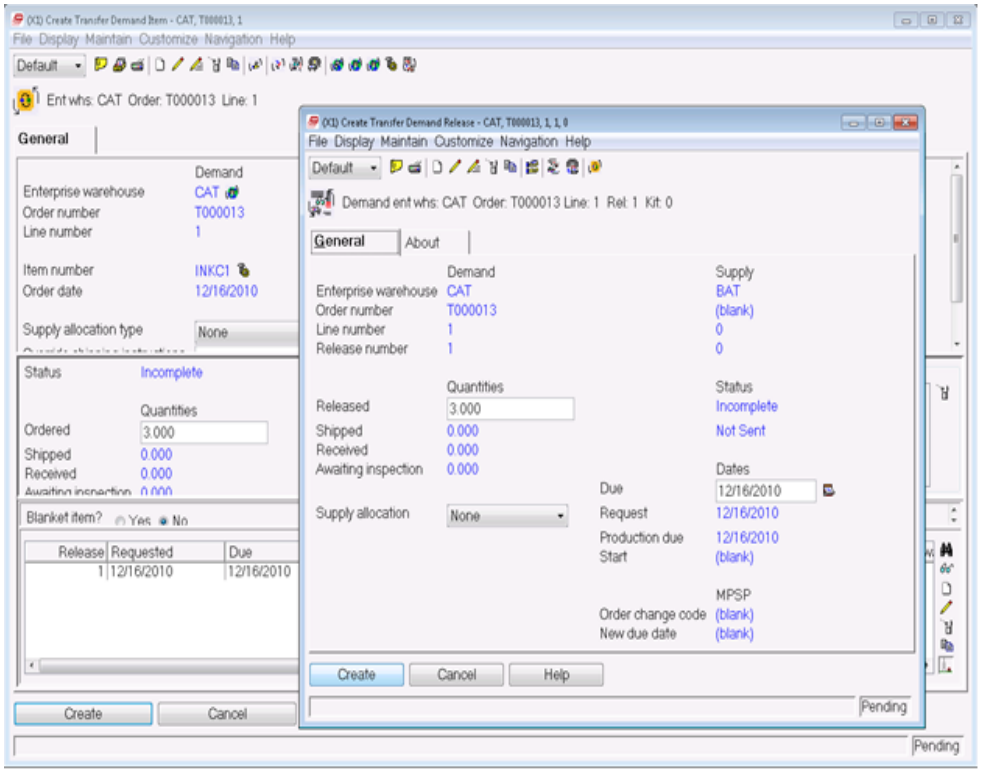
From the Create Transfer Demand Order window the user needs to know the "Supply Enterprise Warehouse", the item required and the quantity required.

After clicking the creation button for the item creation the user can create more than one line item per item creation. The user would click on the Create button on the right side of the Lines window. This extra step allows for the user to have blanket releases for this item by using the Transfer Demand Release.

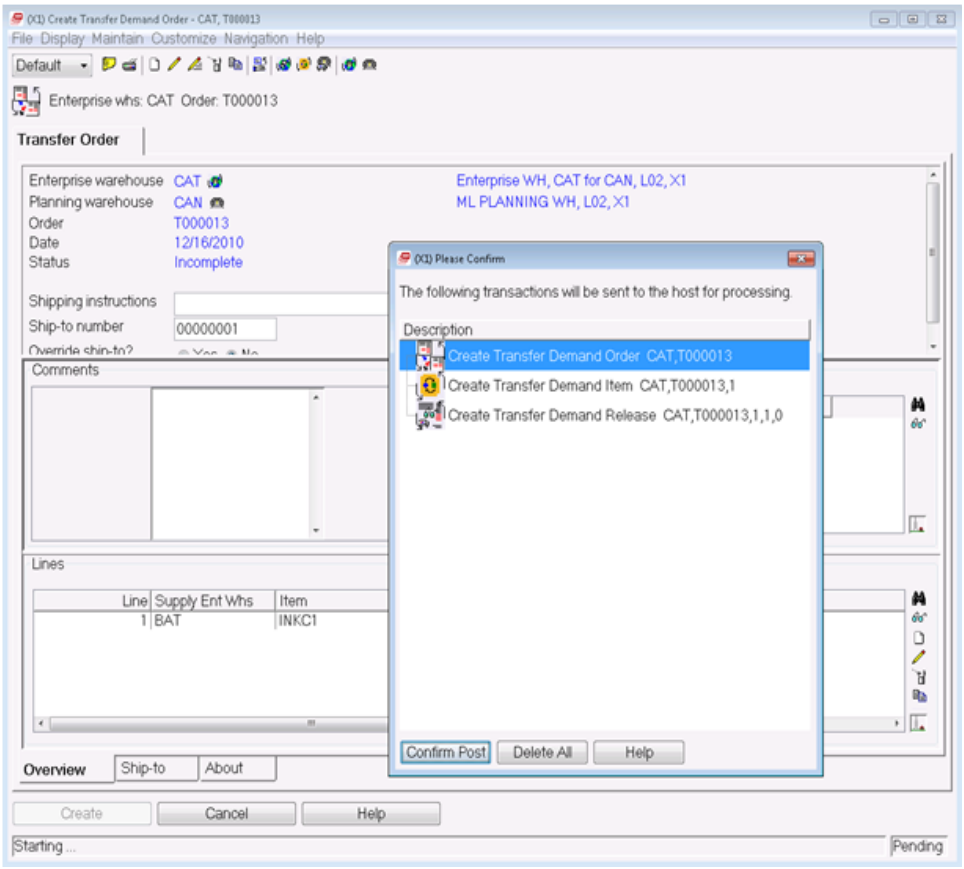
Whether the order is created through MRP, OBPM or Material Logistics it must be "released". And if the IM application settings has your company IM application questionnaire set as 'Yes' for "transactions in batch mode only" you must manually release through the IM Transaction register. No matter which method is used to create and release a transfer order Material Logistics will then drive actual demand in the producing warehouse by creating an associated customer order in COM/CSM for the requested item in the producing warehouse. The COM/CSM order is not created until the Material Logistics Order Release icon is clicked.



Click the Create button in lower left corner of the Create Transfer Demand Release window.



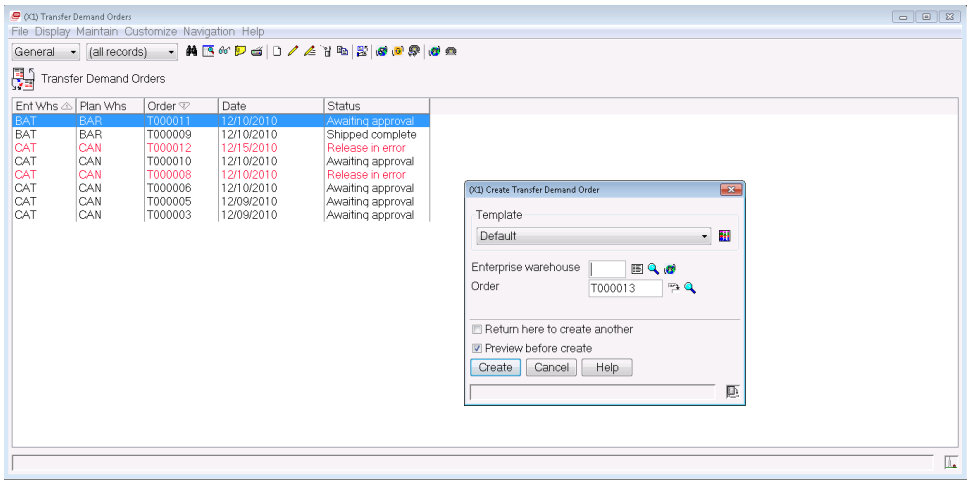
So in conclusion, items pre-defined as transfer items a “T”, for Transfer, will appear in the Manufacture/Purchase/Schedule code. The reason this happens is due to how the “Item Warehouse” (Item Balance) has identified the item as a transfer item. When we created the item in the Enterprise Item Warehouse we identified that this is a ML transfer item for the related planning warehouse. When we then create the line item and its related release lines we will click “confirm” to have ML sequentially assign a transfer order number and it will be flagged for release.



When an order creation is attempted against a planning warehouse in which the item is not defined (i.e., no item balance record exists), an error message will appear with that information. Material Logistics will not let you proceed until you create the necessary records in the planning warehouse.

Note that the status of this Transfer Order has been “Confirmed” for Release but the status is still “Incomplete” this is because we have not yet clicked on the “Release Transfer Demand Order“ icon at the top of the Transfer Demand Orders window.

Highlight the Transfer Demand Order line that you want to release and click on the “Release Transfer Demand Order” icon in the toolbar at the top of the screen. And then click continue in the “Release Transfer Demand Order” window.



Tip: If you place your cursor over the icon in the toolbar a message box will appear and define that icon for you.

Transfer Order Shipping

The function of shipping ML orders is contained within COM and/or CSM. You can use the COM pick-list, just as you do with any other COM/CSM orders.

Shipments are processed against the supply warehouse and until the transfer order is released by the demand warehouse the order is not available for processing.

The ML order number will be found in the customer PO for the customer orders linked to Material Logistics. The demand enterprise warehouse will follow the 7 digit order numbers in that field. In CSM the order view can be customized to show these values for easy reference ML Transfer Orders always begin with the letter "T".
Because all ML orders are the specific customer numbers assigned through Enterprise Warehouse Trade Relations. They can also be identified and subset by selecting their associated customer number.

Transfer Order Receiving

Receipt of ML transfer orders is performed within Materials Management application by entering into the Receiving tab. In the Receipts object file you can look up the item you are trying to receive and highlight that line. Receipts are processed in the requesting environment and warehouse. Until a shipment is processed by the producing warehouse, the order is not available for receiving. If a partial shipment is received, additional receipts are not allowed until more shipments are made.

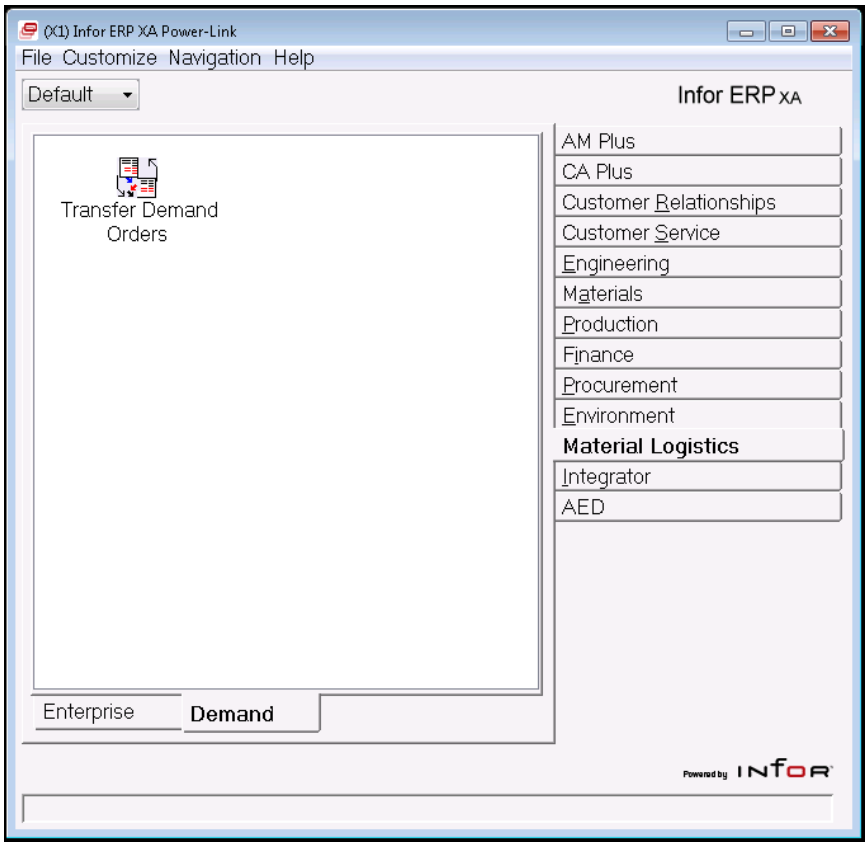
Transfer orders cannot be considered complete by the requesting warehouse if the producing warehouse has not shipped complete. If the requesting plant wishes to complete an order in this condition, the order quantity must be changed to the shipped and/or the order deleted.

If change/delete is not allowed, the producing warehouse will be required to process a shipment at zero ("0") and flag the order as complete. The requesting warehouse can then receive zero ("0") and complete the order. If the Over/Under Percentage is enabled this may not be possible.

If change/delete is allowed, the requesting warehouse can perform the needed transfer order maintenance. However, if order locks are in place the producing warehouse must remove the transfer order lock before the requesting warehouse can perform change/delete maintenance. See Order Maintenance above for more details on transfer order change/delete.

Chapter 6. TRANSFER DEMAND ORDERS

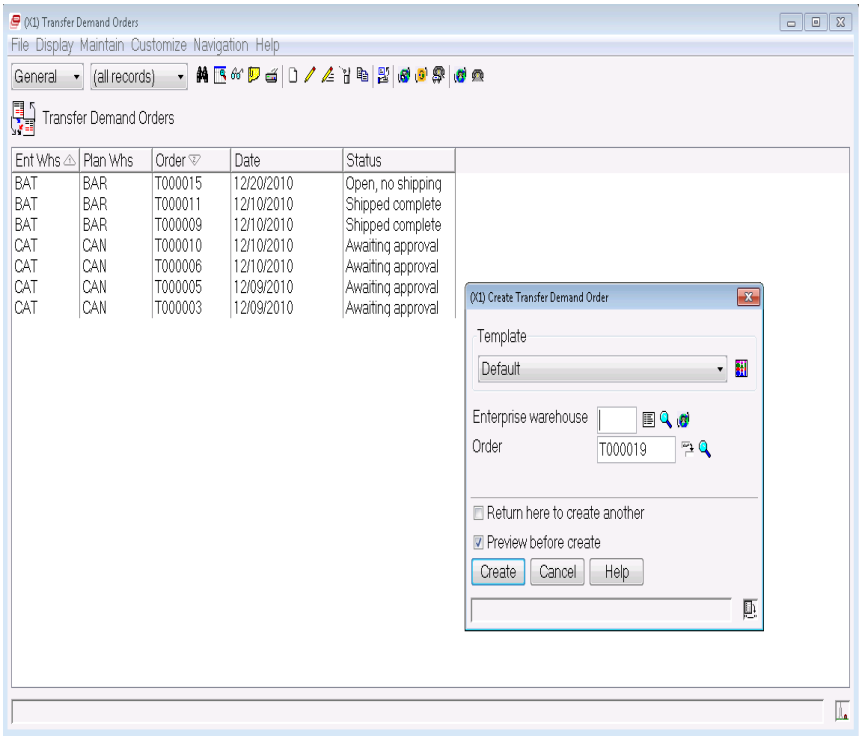
From the Material Logistics tab, when you select the Demand tab, and click on Demand Transfer Orders, you can view and create transfer orders.



Transfer Demand Order Create

The Transfer Demand Order Create can be done by using this Transfer Demand Order listing window.

By clicking on Create, another window appears to allow for the creation of the new Transfer Demand Order. The next sequential transfer order number will automatically be assigned at this time.



By typing in the Enterprise warehouse and clicking on the Create button in this window, the Create Transfer Demand Order Card will open.

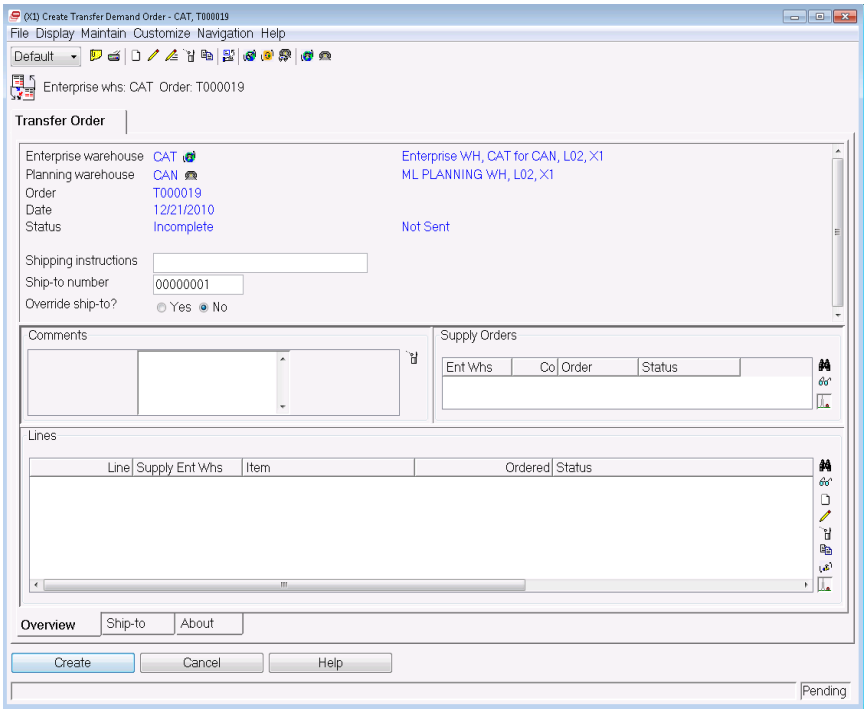
Transfer Demand Order Card

From here you can view the Enterprise warehouse and its related (Demand) Planning Warehouse, the Transfer Order number, and the date this order was created. The status of this order is also displayed on this card.

Three attribute fields can be edited; Shipping Instructions, Ship-to Number, and the Override ship-to?

Also, from this card you'll also see the 'Comments' window, the 'Supply Orders' window and the 'Lines' window for this supply order.

From the 'Ship-to' tab you can verify the ship to address and from the 'About' tab you can verify who created this order and Replication information.



Lines List Attribute Fields:

Line. The item line number.

Supply Ent Whs. The enterprise warehouse where the item is being supplied.

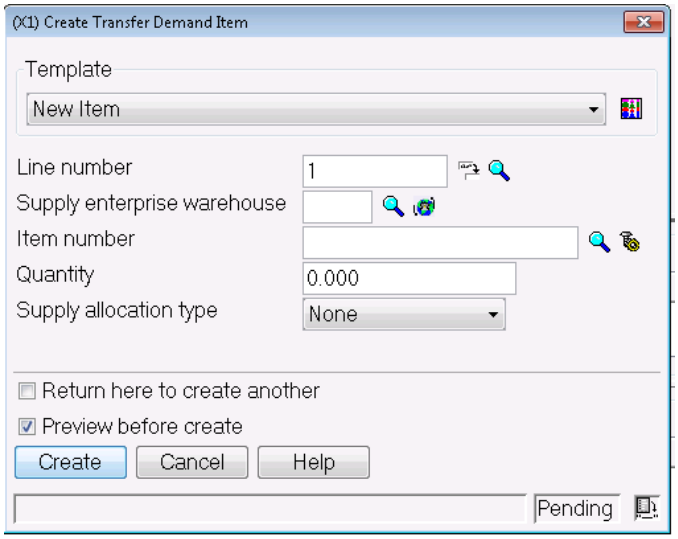
Item. The number and description of the item to be ordered as entered.

Ordered. The quantity that was ordered for this line.

Status. The order status for this line (See possible statuses below)

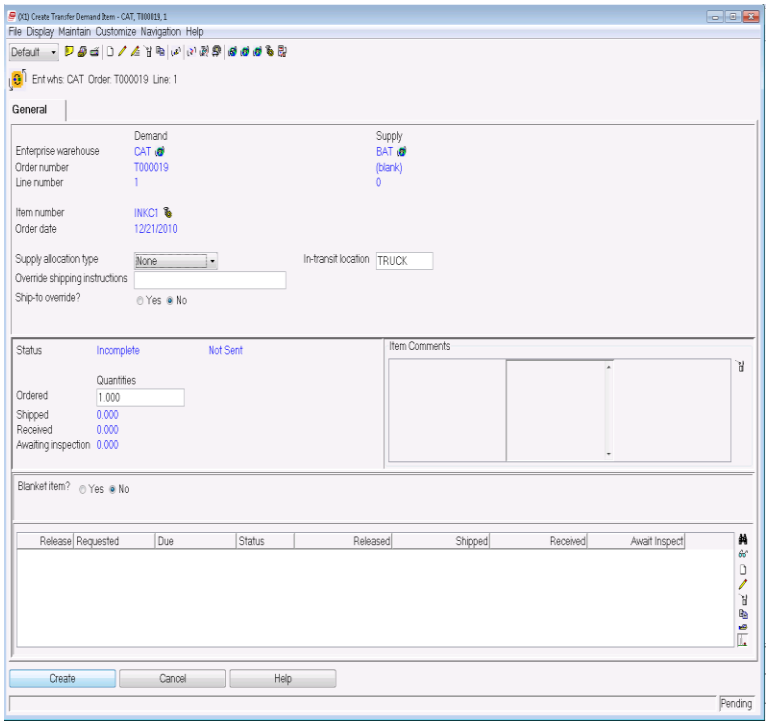
Transfer Demand Order Item Create

To create an item line you would click on the create button at the right side of the Lines window. From the Create Transfer Demand Item window we can enter the Supply enterprise warehouse, the Item number and the Quantity. Also, the Supply allocation type of "None, Discrete or Warehouse allocation" can be selected.



Note that after the Create button is clicked the Create Transfer Demand Item screen appears again with the Item, the Supply warehouse and the quantity.

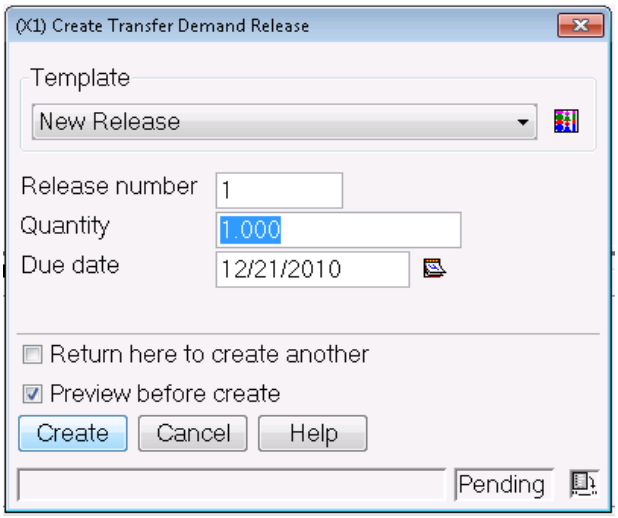
Transfer Demand Order Item Card



Transfer Demand Order Item Line Release

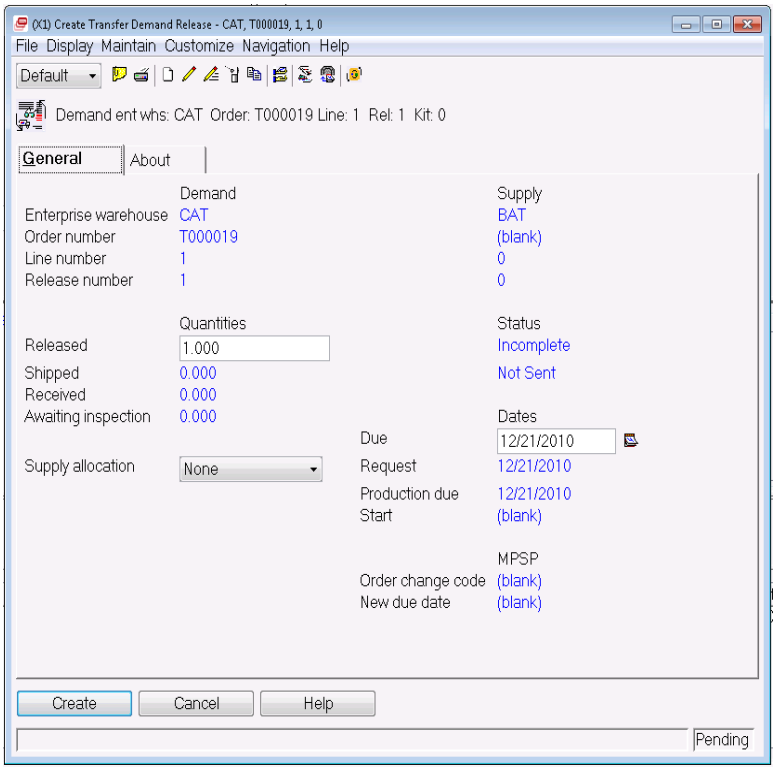
At the bottom of the screen now is a new window for Blanket Item Releases. At least one release line per item is always needed. To do this we click on the Create button at the right side of the Release lines window.

The Create Transfer Demand window appears for you to verify what quantity and due date you want for this release line for this item. You may also override the In-transit Location and Shipping Instructions at this time.



*You may uncheck "Preview Before Create" if you are satisfied with data.

After the Create button is clicked the Create Transfer Demand Release list window is displayed so that you can verify all the details before creation.



After you click Create for the release line you return to the Transfer Demand Item window where you verify the release line you just created. If this is correct you can click Create at the bottom of the window to create this line item.

Create Transfer Demand Release General Card Attribute Fields

Enterprise Warehouse. The number and description of the warehouse representing transfers for its planning warehouse. (Demand and Supply WH)

Order Number. The order number. (Demand WH)

Line Number. The item line number.

Release Number. The release line number for the item.

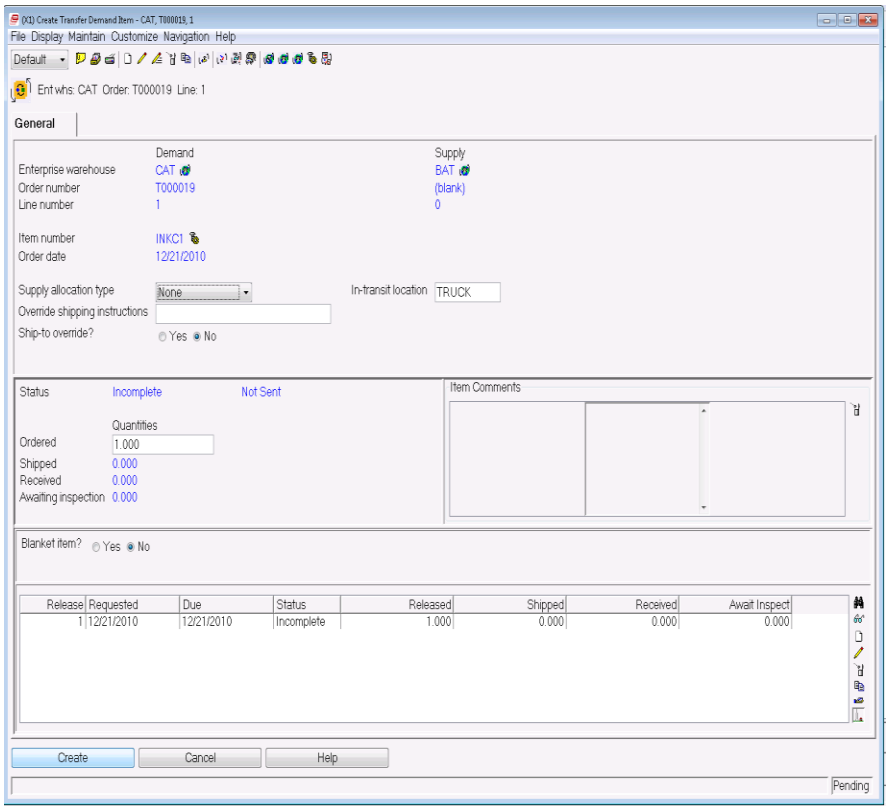
Quantities. The Released quantity, sipped quantity, received quantity, awaiting inspection quantities. (Demand WH)

Supply Allocations.

Status. The status of the order (Supply WH)

Order Due Date. The due date at the requesting plant for the Transfer order.

Request date, Production date, Start date. For this transfer Order.



Releases List Window Attribute Fields

Blanket item?. Identifies if this item is part of a blanket order.

Release. The release line number for the item.

Requested. The date this item was requested to be delivered.

Due. The date this item is due to be delivered.

Status. The status of the order (Supply WH)

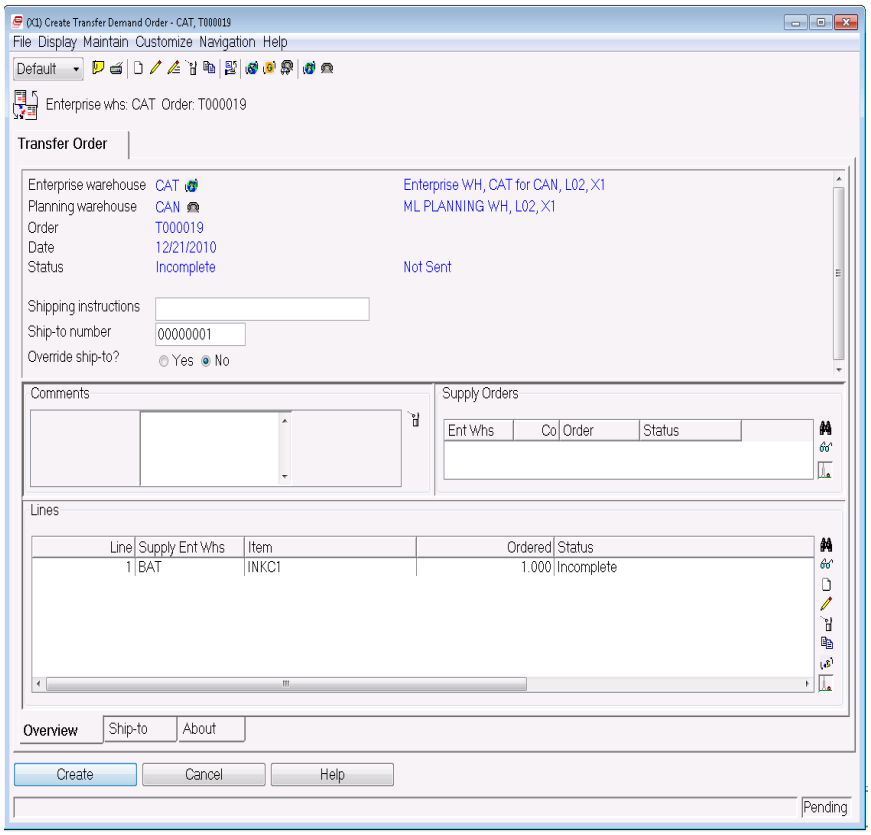
Released. The quantity that was released at the requesting plant for the Transfer order.

Shipped. The quantity that has been shipped.

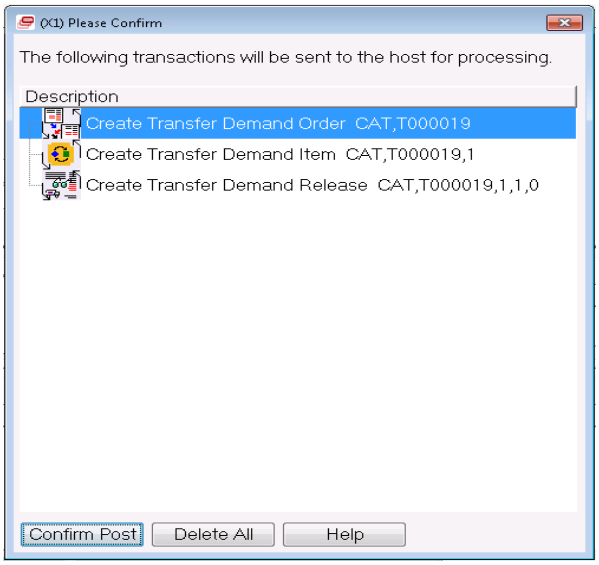
Received. The quantity that has been received.

Await Inspect. The quantity that is still waiting to be inspected.

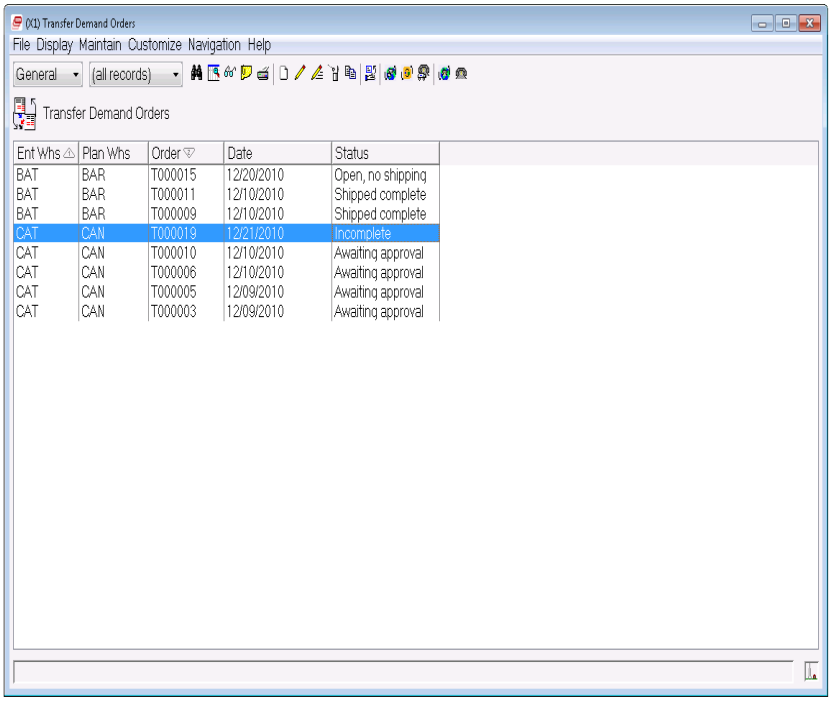
Once you have entered all the lines and releases it is necessary to then confirm creation of this order by clicking on the Create button at the bottom of the Create Transfer Demand Order.



The Please Confirm window will appear at this time for you to Confirm Post the creation of this Transfer Demand Order.

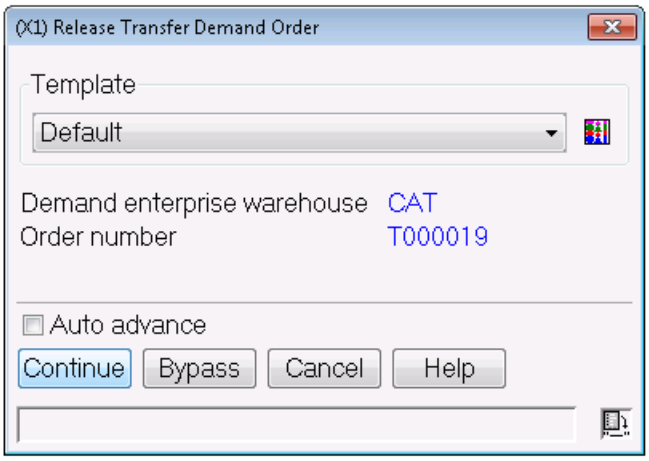


The Transfer Demand Order that you just created is now listed on the Transfer Demand Order listing window. At this time, the Transfer Demand Order can be highlighted and you can click on the Release Transfer Demand Order from the toolbar at the top of the window.



Transfer Demand Order Release

The Release Transfer Demand Order window will appear and you can click on continue to release this order.

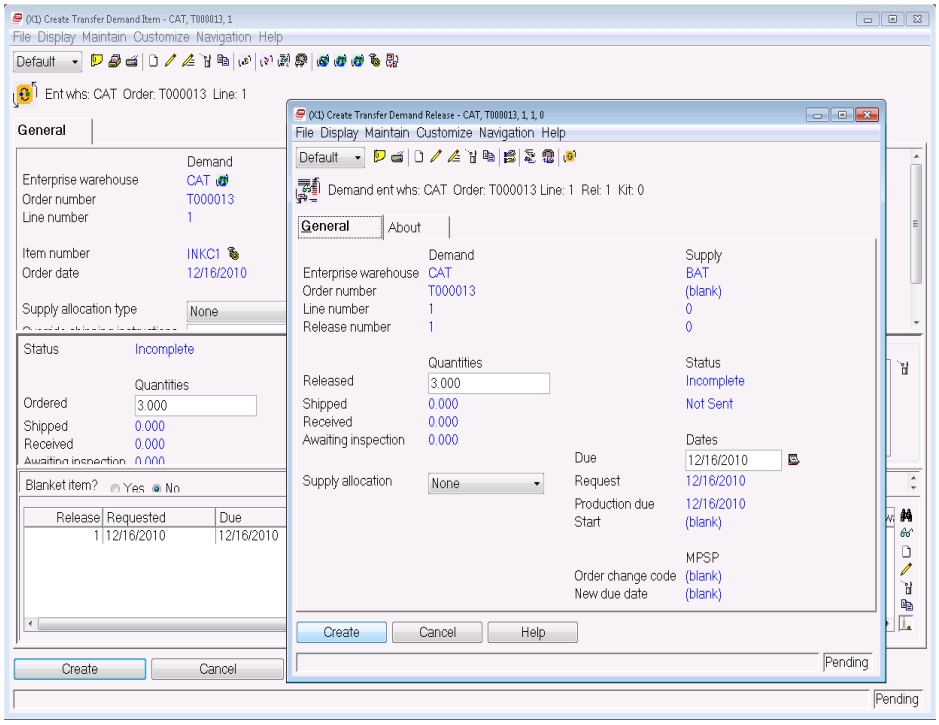


The Transfer Demand Order Status will be “Awaiting Approval” until the Supply Order is created. Then the status will become “Open, No Shipping”.

Transfer Demand Order Line Item Change / Delete

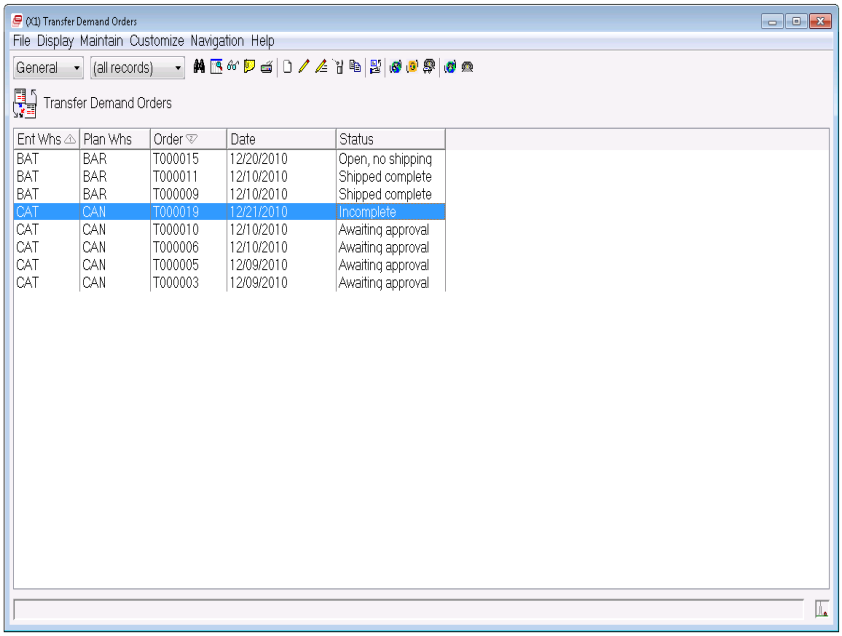
To delete the line item and its release line the user would use the toolbar icons on the right side of the screen after highlighting the release line and then click on Delete. You would also need to click Delete for the Line item if there was only one release line.

For a change (edit) click on Change in the toolbar on the right side of the Release window. The Create Transfer Demand Release window appears and on the 'General' card you can change the release quantity and the line due date.



Transfer Demand Order Change / Delete

Note: When you choose to delete an entire Transfer Demand Order that has not been shipped you simply highlight the Transfer Demand Order on the Transfer Demand Order listing window and click on Delete at the top of the window.

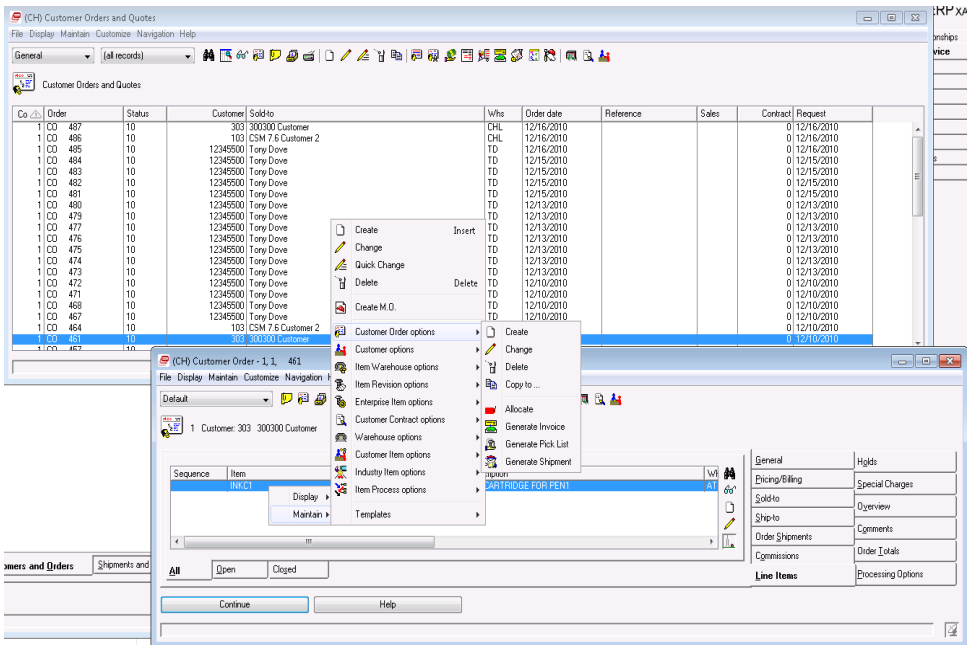


Chapter 7. SHIP/RECEIVE TRANSFER ORDERS

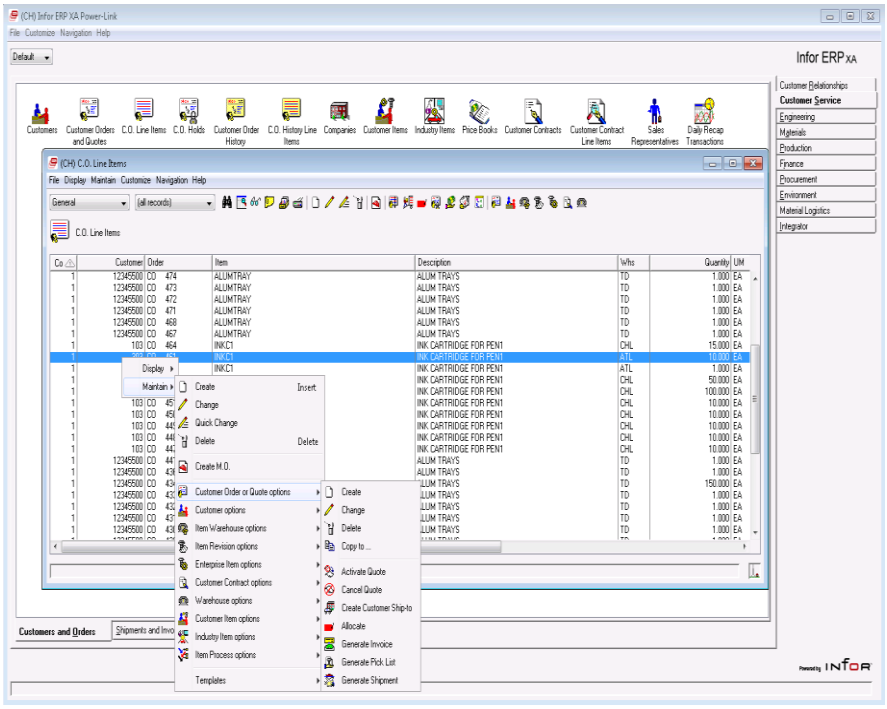
Ship Transfer Orders

When you Ship Transfer Orders the ship transaction takes place in CSM or COM depending on your install. From CSM you can access the order for shipping through two objects. One object is called Customer Orders and Quotes the other is called C.O. Line Items. From the object listing windows you can use subsets to find the order and then highlight it. After you highlight the line you can then right mouse click on the line and ship the line of the order.

Note that CSM ships ML orders in the same way as with other customer orders. Additional picking and shipping options for partial quantities are available through COM.



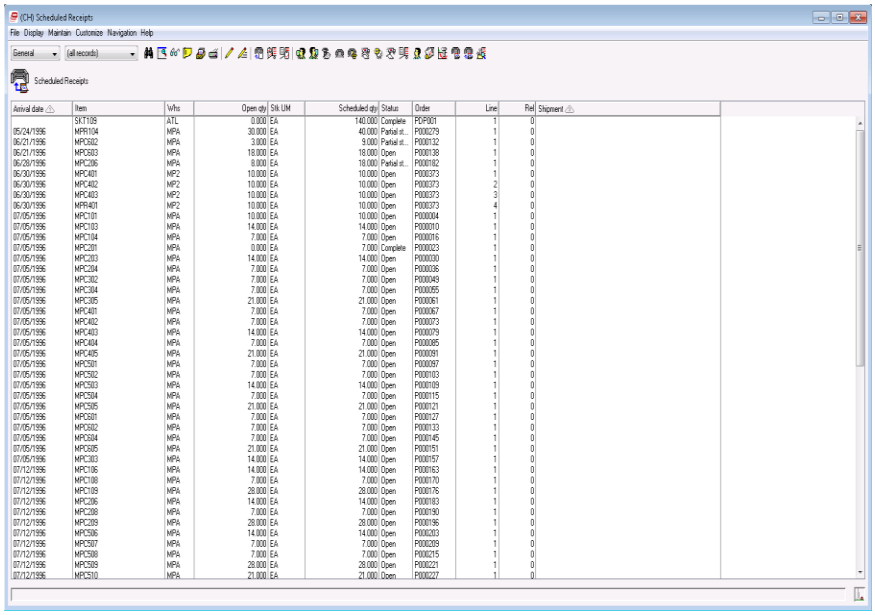
From the C.O. Line Items object file you can also ship the line.



What Information you need: You need the planning warehouse from where you wish to ship a Transfer order from, the quantity, the item number and the order number you are shipping.

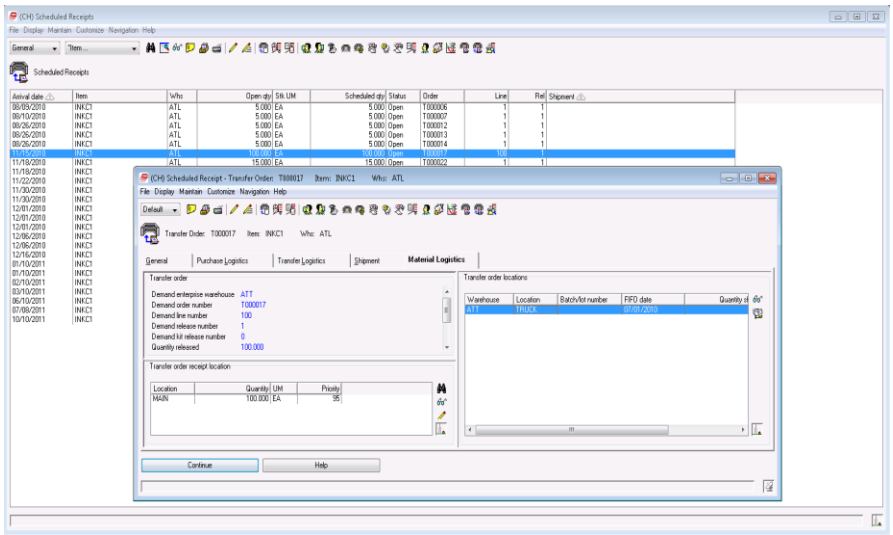
Receive Transfer Orders

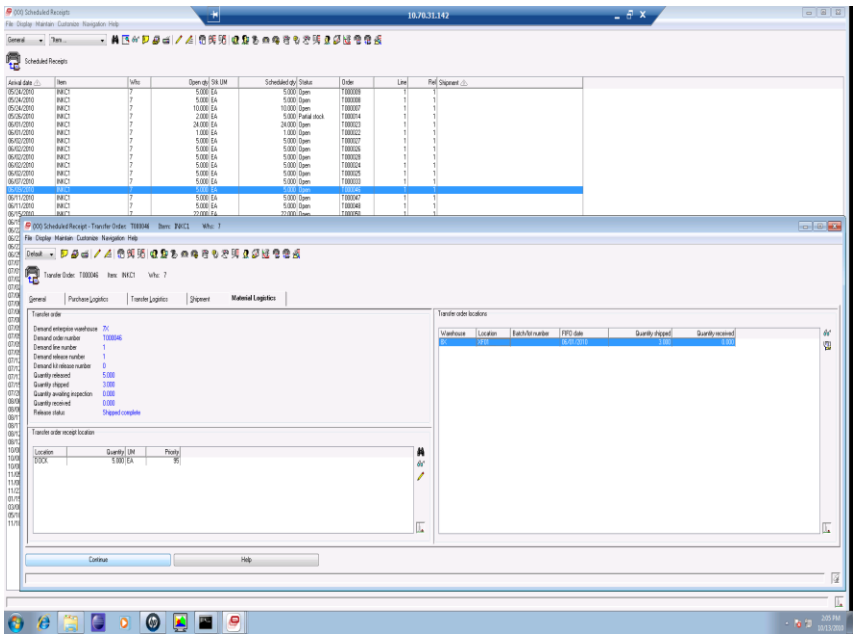
From the Materials Management Tab you can drill down into the Receiving Tab at the bottom of the screen and then into the 'Scheduled Receipts' object. Use this object to receive a Transfer Order. From this Schedule Receipts listing window you can use the subset and locate features to find the item to be received.



What Information you need: The requesting warehouse and the Transfer Order that you wish to receive.

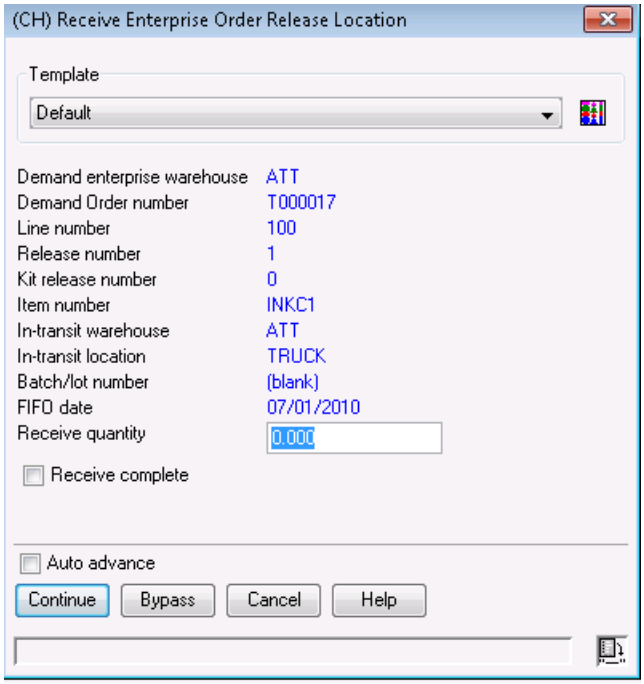
The basic steps to receive Transfer orders follow:





What to do

- Highlight the Transfer order location line that you want to receive.
- Click on the Receive Enterprise Order Release Location icon on the right side of the Transfer Order Locations window.
- Type in the quantity being received and click on the Receive complete box and then click on the Continue button.



Inquiry Fields:

Transfer Order Section:

Demand Enterprise Warehouse. The warehouse used as the transfer warehouse for the Demand Planning Warehouse.

Demand Order. The Transfer Order from the Demand Planning Warehouse that is being received.

Demand Line Number. The item line number that was requested on this transfer order.

Demand Release Number. The Release line for the Demand Line Number that may have one release or more to cover the quantity on the Demand Line Number.

Demand Kit Release Number. The release number for a Kit Order.

Quantity Released. The quantity shipped to date against the Transfer order.

Quantity Shipped. The quantity currently shipped, but not yet received for the transfer order. This is the quantity currently in-transit.

Quantity awaiting inspection. The quantity that has been shipped but has been received into QC01. (Quality Control location is not yet visible for sales or mrp)

Quantity Received. The quantity that has been received so far into the requesting planning warehouse.

Release Status. The status of this Transfer order:

Release Status Codes

00 – Incomplete

06 – Awaiting Approval

07 – Error

08 – Rejected

09 – Held

10 – Open, No shipping

20 – Shipping Activity

25 – Receiving Activity

30 – Complete

Entry Fields:

Transfer Order Receipt Location Section:

Line. Allows for location change by using the change icon to the right when the line is highlighted.

Entry Fields:

Transfer Order Locations:

Lines. Each line can be received by highlighting it and then clicking on the ”Receive Enterprise Order Release Location” icon.

APPENDIX A.

This appendix will address other details not specifically defined in in previous chapters:

Single and Multiple Environments on one or more servers with ML
Single Environments
Multiple Environments and servers

Turning on the ML Interface
Activating the ML interface

ML Compared to ISL/MISL

Transaction Defined When Using ML

Material Logistics Word Definitions

Materials Management Extension with ML
Identifying an items ML default

Materials Logistics Pre-requisites to use ML
List of pre-requisites needed to use ML

Single and Multiple Environments on one or more servers with ML

Single Environment:

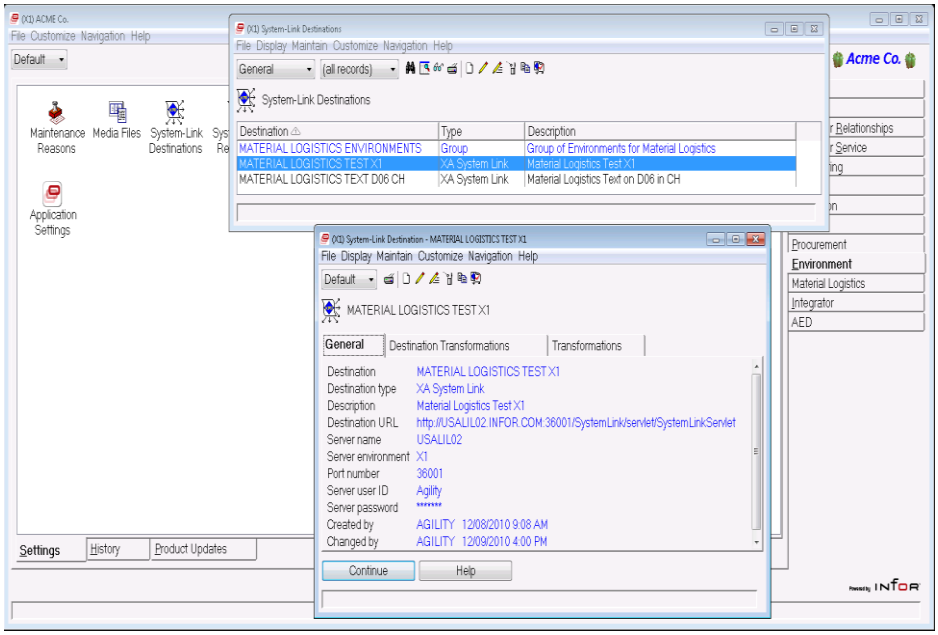
Material Logistics' basic design does not have to use the XA System Link for single-environment communications. Since there is not a need for a replication function the System Link Destinations do not need to exist.

The ML application will allow for the single environment warehouse to warehouse transactions to take place with the use of a Transfer Demand Order after the set up of the Enterprise Warehouse Trade Relationships.

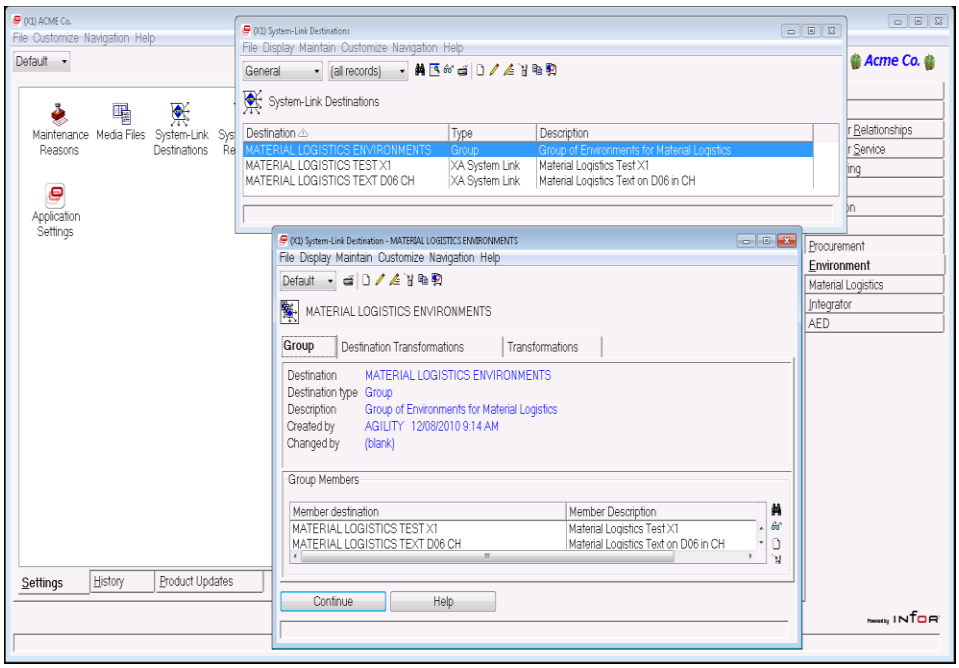
Multiple Environments one or more servers:

Material Logistics' basic design uses a XA System Link for multi-environment communications. From the Environment tab you can drill down into an object called "System Link Destinations". From this object we can set up destinations for our own environment as well as other environments where data is being transferred or "replicated". Then set up the warehouse assigning an owning destination for each warehouse. Also, enter a 'Group Destination' for Replication Destination to be used when ML information must be sent to all environments. Then set up the customer / supplier relationships between pairs of warehouses in Enterprise Warehouse Trade Relations

The company number assigned to the COM/CSM order in the supplying warehouse will use the company number that is assigned during the creation of the Enterprise Warehouse Trade Relations.



Notice that in this second screen capture that this is a “group” type destination. This destination is created so that one relationship is used in Enterprise Warehosue creation might be easily assigned to many environments as a member of this group.



Turning on the ML Interface

Activating the ML interface

BEFORE ACTIVATION:

When ML is installed in an environment that also contains ISL or MISL, the ML interface with MRP planning and OBPM is initially not active. So those who have been using ISL/MISL will initially see those applications and their interfaces function as in the past.

The MRP planned demand will be transferred between the warehouses based upon ISL item, planner, and vendor defaults. For "OBPM" and "MRP Review and Approve All Items" the default supply warehouses will still be determined based upon ISL item, planner, and vendor defaults. Also in "OBPM" and "MRP Review and Approve All Items", the release of "InterSite Orders" will result in the creation of ISL/MISL orders.

When users have setup the Material Logistics Enterprise Warehouses, Enterprise Warehouse Trade Relations, and filled in the supply warehouses for items on the ML card of the Item Warehouse file, they can choose to "Activate the ML Interface" in Application Settings for Material Logistics.

AFTER ACTIVATION:

What happens when we switch on the "Activate ML Interface" during the install? The planning functions that are supplied by Material Logistics, in many aspects, duplicate those supplied by ISL/MISL, consequently, they must replace the functions supplied by those applications.

So when the ML interface is activated, the switch will deactivate the ISL/MISL interface for MRP and OBPM.

The MRP planned demand will be transferred between warehouses based upon the ML supply warehouses setup in the "Item Warehouse" object.

In the "OBPM" and in the "MRP Review and Approve All Items", the default supply warehouses will now be determined based on ML supply warehouses. For "OBPM" and "MRP Review and Approve All Items", the release of "InterSite Orders" will result in the creation of Material Logistics "Transfer Orders".

After activating the interface, an MRP planning run will be necessary to ensure that planned orders in MRP reflect the defaults setup in Material Logistics and not those previously defined for ISL/MISL.

Note that the "OBPM" and "MRP Review and Approve" screens will show both ISL/MISL "InterSite Orders" and ML "Transfer orders". Regardless of the ML Interface setting, users will still be able to maintain both types of orders. However the method of planned demand transfer and the type of orders created will depend upon the interface setting.

ML compared to ISL/MISL

Basic Functional and Set up Differences

FUNCTIONAL DIFFERENCES:

ML Application:	ISL/MISL Application:
✓ Transfer Orders	✓ Intersite Orders
✓ Transfer orders have a "T" prefix.	✓ Intersite orders have an “X” prefix.
✓ Shipping: Ship entry from the COM/CSM application using.	✓ Shipping: Ship entry from the ISL/MISL shipping option.
✓ Use COM/CSM standard Pick / Pack shipping functions.	✓ Use ISL/MISL Manifest template function.
✓ Receiving: Use Materials Management, Receiving, Schedule Receipts.	✓ Receiving: Use ISL/MISL receiving option.
✓ The Enterprise Warehouse is created in ML and already exists as an INFOR Item Warehouse where ML items are identified.	✓ Item Planner and Vendor defaults are entered through the ISL/MISL menu options and this is used to identify an item as ISL/MISL.
✓ Demand Enterprise Warehouse	✓ Originating or Planning Warehouse.
✓ Supply Enterprise Warehouse	✓ Receiving or Planning Warehouse.
✓ IW and RW transactions used for transferring.	✓ TW (IW/RW) transactions used for transferring.
✓ SA and NS transactions used for shipping transactions.	✓ SA transaction used for all shipping transactions.
✓ Use System Link and Replication processing to communicate transfer across environments.	✓ Use ISL/MISL option Remote Transfer set up that uses DDM (Data Demand Management)

SET UP DIFFERENCES:

ML Application:

- ✓ Ship Location: Use the ML Demand Warehouse Customer Stage Location in COM/CSM Customer set up for shipping from the supply warehouse.
- ✓ Receiving Location: Set the receiving location in the Demand Item Warehouse.
- ✓ In-transit Location: Use the In-transit location setup in the Enterprise Warehouse Trade Relationship card.
- ✓ Warehouse Relationships: Set up in Enterprise Warehouse Trade Relationships.

ISL/MISL Application:

- ✓ Ship Location: Use the ISL/MISL menu option to set up shipping locations from the Intersite warehouse.
- ✓ Receiving Location: Use the ISL/MISL menu option to set up receiving locations for the Planning Warehouse.
- ✓ Intersite Warehouse Location: Use the ISL/MISL menu option to set up shipping locations from the Intersite warehouse. This is also the Intersite Warehouse location.
- ✓ Warehouse Relationships: Set up in MISL Defaults, Work With ISL Warehouses.

Definitions of transactions with ML

Transactions Defined When Using ML

The following section provides a summary of each of the inventory transactions available and used during a Material Logistics transaction.
Description of the ML transactions from this document outlines the design for the handling of inventory in the ML application. The goal of the ML application is to perform inventory movements with minimal changes to the standard inventory procedures in XA. This will be done using standard objects such as scheduled receipts and shipment notices. It will also use new functions where appropriate.

Issue sales item invoiced **(SA)**

The issue sales item (SA) transaction issues an item to a customer sales order. In MM this transaction is called a sales shipment. (SA)
This transaction updates sales information used by other XA applications.
When there is a transaction involving Material Logistics shipments and the "Invoice" button is selected in "Warehouse Trade Relationships", all the sales orders generated from this trade relationship will be invoiced.

Issue sales item not invoiced **(NS)**

A new transaction was needed to accommodate the needs of the order scenarios listed in this document. The issue sales item (NS) transaction issues an item to a customer sales order. In MM this transaction is called a sales shipment. (NS)
This transaction updates sales information used by other XA applications.
This transaction is called (NS) instead of (SA) when shipping in CSM or COM without invoice.

When there is a transaction involving Material Logistics shipments and the "Invoice" button is not selected in "Warehouse Trade Relationships", all the sales orders generated from this trade relationship will not be invoiced.
This transaction does the shipping but prevents the invoicing for non-invoice orders.

Receive transferred item **(RW)**

The receive transferred item (RW) transaction receives an item as part of transferring it to another warehouse location. In MM, this transaction is called an inter-warehouse receipt (RW)

When there is a transaction involving Material Logistics shipments and a transfer warehouse has been created and is being used in the "Warehouse Trade Relationship" an (RW) transaction will always be used to receive the quantity into that transfer warehouse when the (NS) or (SA) ship transaction takes place.
An (RW) transaction will also take place for the receiving warehouse when a transfer order quantity is received during an MM Scheduled Receipts transaction.

Issue transferred item **(IW)**

The issue transferred item (IW) transaction issues an item as part of transferring it to another warehouse location. In MM this transaction is called an interwarehouse (IW)

When there is a transaction involving Material Logistics shipments and a transfer warehouse has been created and is being used in the "Warehouse Trade Relationship" an (IW) transaction will always be used to issue the quantity out of that in-transit warehouse when the (RW) transaction takes place into the receiving warehouse.

Development of flow of the above transactions:

- CSM Booking Records
  - The creation of booking records needed to be prevented if the order is non-invoice.
  - We put an attribute on the Customer Order in CSM for whether or not the order is going to be invoiced.

The Four Possible Order Scenarios

The movement of inventory is dependent on the order settings. There are four possible scenarios that affect the movement of inventory.

- Demand owned inventory with invoicing
- Supply owned inventory with invoicing
- Demand owned inventory without invoicing
- Supply owned inventory without invoicing

Material Logistics List of Definitions:

Material Logistics

Material Logistics is a new IDF level 2 module, just released for XA 9.0. This application replaces ISL, MISL, and a 3rd party application from Agility Inc. called Customer Fulfillment Logistics (CFL). This application allows passing demand and supply orders between multiple plants or facilities, drop shipping from suppliers or remote facilities, invoicing between companies and tracking in-transit shipments. Material logistics allows manufacturers to track transfer orders and shipments across multiple plants, companies, i-series machines, environments, languages, and currencies.

Environment

This is the partition of the computer that has all of the INFOR Applications with licenses that can access all data for all the companies, engineering sites and warehouses defined for this environment.
An enterprise can have more than one environment on more than one computer. Each computer would have its own environment usually with all the financial and operating data unrelated to the other environment.
However, due to the technical design, and the use of Replication XML, Material Logistics can share and update important inter-environment and company data in the way of Supply and Demand Transfer Orders.

Demand Enterprise Warehouse

This is the warehouse that is requesting or demanding the items from a supply enterprise warehouse.

Supply Enterprise Warehouse

The supply enterprise warehouse can be set up with the following attributes: Warehouse description, System-Link destination, Environment, Planning warehouse, In-transit location, Replication status and Replication source information.

Demand Environment

This is the environment that contains the Demand Enterprise Warehouse and Demand Transfer order.

Supply Environment

This is the en**v**ironment that contains the Supply Enterprise Warehouse and the Supply Customer Order.

Enterprise Warehouse Trade Relations

From the Enterprise Warehouse Trade Relations Details we can view the relationship between the "demand" enterprise warehouse and the "supply" enterprise warehouse.
We can view the "customer number" and associated company number that is set up for the "demand warehouse". This provides a supplier customer relationship for 'inter' and 'intra' warehouse relationships. We can view vendor numbers, if necessary, for providing financial exchanges between company transfer transactions.
Inventory ownership and horizon day locks are also found on this screen and can be maintained from the cards associated to the relationship.

Transfer Demand Order

From the Enterprise Demand Order Details screen you will see the demand transfer order, the line items on the demand transfer order, comments, and the supply order.
From this screen you can also click on an Overview tab, a Ship to tab and an About tab to access more attribute fields that may have relevant data to be maintained or displayed.
The Overview tab will show the transfer order and line status.
The Ship to tab will show the ship to address and allow for you to add to it or over write it.
The About tab will display data important to the replication process.

Replication System-Link Destination

A publish transaction is a stock XA SOA transaction that will use System-Link to publish an object to a selected destination. For Material Logistics several objects will be published using System-Link destinations that represent other System-Link environments.
Each customer needs to setup a series of System-Link destinations for Material Logistics to work across environments. A System-Link destination will need to be created for each XA environment participating in ML orders. In addition a group System-Link destination will need to be created that references all of the environment destinations.
Each enterprise warehouse will point to two System-Link destinations. One will be for the environment that the enterprise warehouse is located in. The enterprise warehouse will also point at the group destination and will use it as its SOA replication destination.

Receiving Warehouse Location

This is a default location that could be designated when receiving an item into the demand enterprise warehouse.

In-transit Warehouse

This is the warehouse that is set up for identifying each warehouse trade relationship with the demand or supply warehouse.

In-transit Warehouse location

This is the warehouse location that is set in the Supply Warehouse and is a non-netable location.

Enterprise Warehouse

This is the warehouse that is set up for identifying each warehouse trade relationship with the demand or supply warehouse.

Enterprise Warehouse location

This is the warehouse location within the In-transit warehouse set up.

Supply Side Customer options

This is the customer assigned to this supply warehouse so that shipping, invoicing and basic transfer integration can be traced.

Inventory Ownership

This refers to the owner of the inventory while it is in transit. This can either be the demand or the supply environment. (FOB means that the stock in transit it owned by the demand side)

Allow Invoicing

This is a setting that determines whether the supply environment will invoice the customer order or simply ship the product without invoicing.

Supply allocation type

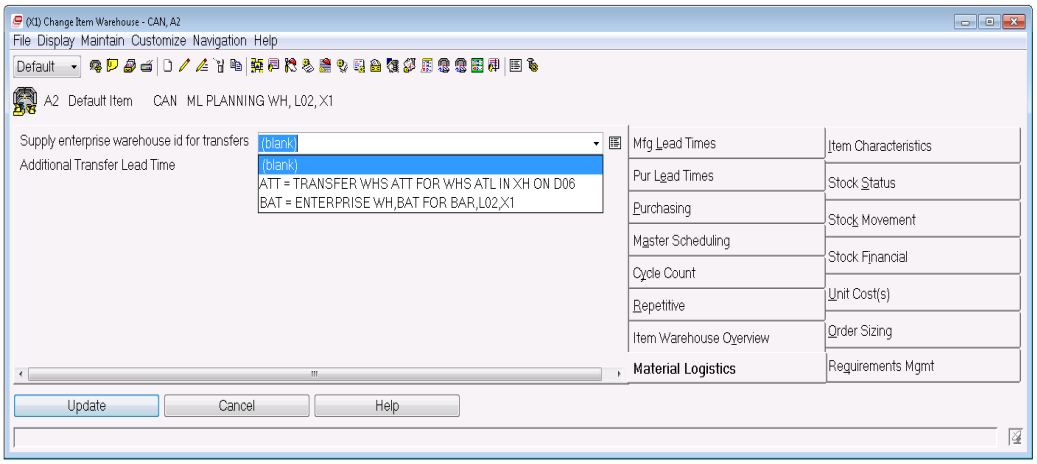
This is the setting for how the requester warehouse has chosen the type of allocation. From; none, item warehouse, or environment.

Materials Management Extension with ML

Item Warehouse ML Card

NOTE: In the Item Warehouse there is a tab called Materials Logistics. From this card we can identify: 1. The lead time that can be added on to the Customer Ship Lead time for mrp calcualtions in the supply warehouse.

2. The Primary warehouses ability to identify a defualt for the “Enterprise Warehouse” to be used for this item. See below.



Material Logistics Prerequisites

System Link – needed for cross environment & Enterprise Integrator – needed to modify ML

The following prerequisites must be satisfied to operate Material Logistics (ML):

- COM/CSM, and their individual required modules, are required for Material Logistics. Their interfaces must be turned on and activated. MRP will work and so will OBPM but they are not pre-requisites.
- In IM or MM the tailoring question “Transactions in Batch Mode” (I0002) should be answered “N”.
- Material Management or Inventory Management tailoring must also be set to allow inventory locations to go negative.
- The Manufacturing Calendar must be set up through Inventory Management File Maintenance.
- COM/CSM must be set up to ‘automatically’ assign customer order numbers in the company(s) used with Material Logistics.
- If maintenance logging is selected in COM/CSM (either at the company or customer level), a valid maintenance reason code is required to maintain (change or delete) a customer order. Because a COM/CSM order is associated with each Transfer order, a maintenance reason code is also required in order to change or delete an ML Transfer Order. If maintenance logging is activated in COM/CSM, then ML users MUST create a maintenance reason code of "IX" using code file maintenance in COM/CSM. This will enable the maintenance of ML orders.

Toolbar Objects Defined:

Along the top of the listing screens are several toolbar icons.

 **Enterprise Warehouse Details –**

From this object file we can view three attribute cards. Click on the Enterprise warehouse icon found on the toolbar at the top of the listing screen for the selected line.

From the Enterprise warehouse window we can see the three cards: General List, Replications, About. And we can see the relationships between the supply and demand warehouses.

You can also view and create more demand supply warehouse relations.

From this object we can view the supply relations for the demand enterprise warehouse and the order number associated to it.

 **Transfer Demand Order Transfer Demand Item –**

This object shows the list of line items per transfer demand order.

 **Transfer Order Enterprise Relations Demand -**

From this screen we can view the supply company number, the supply enterprise warehouse, the supply order number and the supply order type.

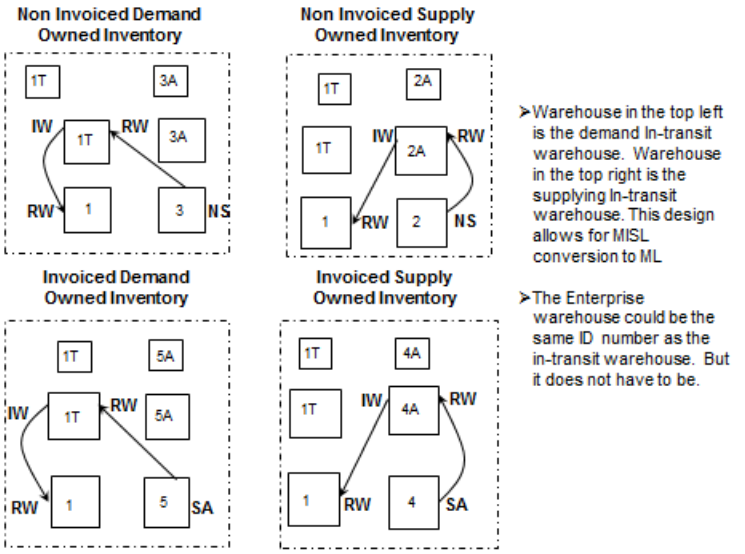
From the Release Transfer Demand Order screen you will see the demand transfer order, the line items on the demand transfer order, comments, and the supply order.

 **Release Transfer Demand Order -**

From this icon we can release the transfer demand order by clicking on this icon.

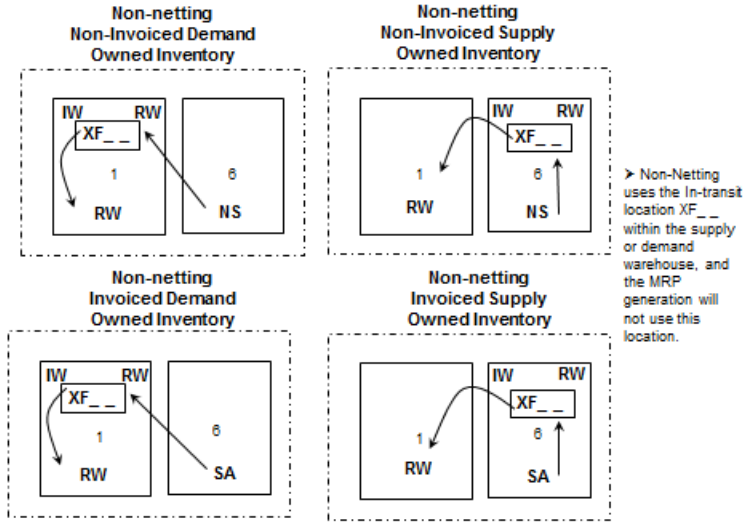
ML Diagram Transaction Flows:

In-Transit Warehouse with Location Set up:



- Warehouse in the top left is the demand In-transit warehouse. Warehouse in the top right is the supplying In-transit warehouse. This design allows for MISL conversion to ML
- The Enterprise warehouse could be the same ID number as the in-transit warehouse. But it does not have to be.

Non Netable Location Set up:



- Non-Netting uses the In-transit location XF_ _ within the supply or demand warehouse, and the MRP generation will not use this location.