DYNAVISION

Documentation:
Purchase & Procurement Center

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1 Introduction

Use the Purchase & Procurement module to centralize purchases in a company where the (expected) demand originates from multiple shops. The setup allows for different procurement strategies.
This document will describe three distinct strategies.

1. **PC-S-PC**
    1.1. The demand is captured in each shop by the Procurement Center, using the requisition worksheet in the individual shops.
    1.2. The replenishment information is transferred to the Procurement Center, using the Message Framework.
    1.3. The requisition worksheet in the procurement center is run to create the different purchase orders for the shop inventories.
    1.4. The shops are informed by the procurement center. They will transfer the information they receive from the vendors of the purchase orders.
    1.5. The ordered items are delivered to each shop. The shops inform the Procurement Center that the items are received.
    1.6. The procurement center invoices the purchase orders to the shops

2. **S-S-PC**
    2.1. The demand is determined and captured in the shops.
    2.2. The requisition worksheet in the (individual) shops is run to create the different purchase orders that are needed for each individual shop.
    2.3. The individual shops communicate the orders to the vendors. These purchase orders are sent to the Procurement Center, using the Message Framework.
    2.4. The ordered items are delivered to each shop. The shops inform the Procurement Center that the items are received.
    2.5. The Procurement center invoices the purchase orders to the shops.

3. **PC-PC-PC**
    3.1. The demand is determined and captured in each shop, using the requisition worksheet in the individual shops.
    3.2. The replenishment information is transferred to the Procurement Center, using the Message Framework.
    3.3. The requisition worksheet in the procurement center is run to create the transfer orders for replenishing the inventory in the shops, using the items available in the Procurement Center.
    3.4. In case the Procurement Center does not have enough inventory, the requisition worksheet will also suggest the needed purchase orders, in order to replenish the Procurement Center inventory.
    3.5. The transfer orders are sent to the shops by the Procurement Center, using the Message Framework, and are registered as Purchase orders in the shops.
    3.6. The items are delivered to the shops (*using transfer order in Procurement Center)*, and the shops inform the Procurement Center that the items are received.
    3.7. The Procurement center invoices the items to shops by sending the Purchase invoice.

Remark*: the Dynavision TRADE app implements some functionalities (completely received, create back order, transfer code (out), …) that are recommended for optimal operation of PPC. The use of Dynavision TRADE is recommended in combination with PPC.*

2 Installation

It is highly recommended that the Dynavision Sync and Trade module is also installed in conjunction with the Dynavision Purchase & Procurement module.

2.1 Extension

The Dynavision Purchase & Procurement Center module is a separate Business Central extension.
1. Choose the search icon, enter **Extension Management**, and then choose the related link.
2. Choose **Manage** in the Action bar on the page and choose action **Extension Marketplace**.
3. In the search bar, enter **Dynavision Purchasing and Procurement Center** and install this app.

3 Configuration

3.1 Prerequisites

3.1.1 Master data

The Dynavision Purchase & Procurement center application requires that some master data that will be used in the all companies are configured the same in each individual company. The master data that needs to have the same configuration is:

1. Customers (Serial numbers),
2. Vendors (Serial numbers),
3. Items (Serial numbers) ,
4. Locations,
5. Ship-to addresses for the customer and location combinations,
6. Purchase strategies,
7. Partners, and
8. Message types.

For the master data mentioned above, it is advised to work with the Dynavision Advanced Sync application to guarantee synchronization and alignment between all companies.

3.2 General setup

In following sections, the different setup information that needs to be configured is listed and explained.

1. Define the relationships between the different companies using the **Partners** page.
2. Make sure that the messages are configured correctly on the **Message Types** page in the **Message Type Card**
   a. The Message Types can be set up manually, (see Dynavision Connect manual) or can be set up by choosing the plus sign next to the action **New**, choosing **Get Default Data…** and choosing **Apply** for the Message Type that needs to be set up for communication between the companies.

3.2.1 Purchasing and Procurement Center Setup

1. Choose the search icon, enter **Purchasing and Procurement Center Setup**, and then choose the related link.
2. Fill in the fields on the page if needed or use the page to run through the other necessary set up by using the actions noted on the page.
   a. **Caption Incoming**
      Specifies the specific caption for the Incoming label in field captions.
   b. **Caption Outgoing**
      Specifies the specific caption for the Outgoing label in field captions.
3. After setting the information on this setup page, use the actions that are defined on the header action bar to navigate to the different other pages that are needed to complete the setup.

3.2.2 Purchase Strategies

On the page **Purchasing and Procurement Center Setup,** choose the action **Purchase Strategies**.
1. Choose the action Purchase Strategies to set up the different purchase strategies that will be used in order to replenish the inventory of the companies. This will define how the purchase orders, the replenishment system, purchase receipts, and purchase invoices are handled.
   a. **Code**
      Specifies the Code, used to identify the strategy.
   b. **Description**
      Specifies the description for the strategy.
   c. **Purchase Orders**
      Specifies in which company the Purchase Orders will be created.
      The options are:
      i. Current Company, and
      ii. Intercompany.
   d. **Replenishment System**
      Specifies the default replenishment system for the requisition lines.
      The options are:
      i. Purchase,
      ii. Prod. Order,
      iii. Transfer, and
      iv. Assembly.
   e. **Purchase Receipts**
      Specifies in which company the Purchase Receipts will be created.
      The options are:
      i. Current Company, and
      ii. Intercompany.
   f. **Purchase Invoices**
      Specifies in which company the Purchase Invoices will be created.
      The options are:
      i. Current Company, and

> ii. Intercompany.

g. **Intercompany Vendor No. and Name**

Specifies the Vendor No and name of the "Vendor" that will receive the message, using the Message type. *Example given: this will be empty for strategy S-S-S; and will be PPC when this is PC-C-PC for the Purchase orders and purchase invoices.*

h. **Purchasing Code**

Specifies the purchasing code used to create purchase orders. In this field, a **Purchasing Code** can be selected, or created for the strategy.

This document describes 3 distinct strategies, as mentioned in the introduction.

1. **PC-S-PC**

The need arises in the SHOP company, goods are ordered by the PPC, goods are delivered to the SHOP company, invoicing is done by the PPC.

2. **S-S-PC**

The need arises in the SHOP company, goods are ordered by the SHOP, goods are delivered to the SHOP company, invoicing is done by the PPC.

3. **PC-PC-PC**

The need arises in the SHOP company, goods are ordered by the PPC, goods are delivered to the PPC company, invoicing is done by the PPC.

Code	Purchase Orders	Replenishment System	Purchase Receipts	Purchase Invoices	IC Vendor No.	Purchasing Code
PC-S-PC	Intercompany	Purchase	Current Company	Intercompany	PPC	PC-S-PC
S-S-PC	Current Company	Purchase	Current Company	Intercompany	PPC	S-S-PC
PC-PC-PC	Intercompany	Transfer	Intercompany	Intercompany	PPC	PC-PC-PC

The **Purchase Strategy** can be configured on following pages:

1. On the **Item Card** in the **tab Replenishment**,
2. On the **Vendor Card** in the **General Tab**, and
3. On the **SKU Card** in the **Replenishment Tab**.

Note that these strategies must only be added to the companies where demand is created for the procurement center.

3.2.3 Locations

1. Choose the action **Locations** to view the list of set up locations in the company.
2. Configure extra locations for receiving the items from the Procurement Center if needed.

3.2.4 Ship-to addresses

In order for the PPC functionality to work, it is necessary that for the PPC customers in the PC company, the ship-to addresses are created for each location that can be used when shipping PPC orders for the customer.

3.2.5 Message Types

1. Choose the action **Message Types** to open the list of set up Message Types.
2. Set up the Message Types for the working of the Procurement Center.
    a. The **Message Types** can be set up **manually**, (*see the Dynavision Connect manual*)
    b. The Message Types can be set up by choosing the plus sign next to the action **New**, choosing **Get Default Data…** and choosing **Apply** for the Message Type that needs to be set up for communication between the companies.
    c. *It is important that the **Communication Method** is set to **Database** on the Message Type Card.*

3.2.6 Partners

1. Choose the action **Partners** to open the list of partners that have been set up for the company.
2. Set up the Partners for the working of the Procurement Center.
    a. The Partners can be set up **manually**, (*see the Dynavision Connect manual*)
    b. The Partners can be set up by choosing the plus sign next to the action **New**, choosing **Create Companies as Partner** and choosing **Apply** for the Message Type that needs to be set up for communication between the companies.
    c. When the action **Create Companies as Partner** is chosen, and the company is selected and added, the Message Types that are set up for the PPC working will be assigned automatically. If the Partners are added manually, these Message Types will have to be assigned manually as well.
3. Set up all needed Mappings for the different Message Types. Choose the value in the column **Mappings**, or select the line and choose the action **Mappings**.
4. The setup below is done in the **Purchase Procurement Center Company (PPC).**
    a. Add the PPC partner line or execute the action **Create Companies as Partner** and select the own company.
    b. Select the PPC partner line and choose the action **Mappings.**

c. Select, or create if necessary both a **PPC customer and a PPC vendor**.
Both a source type Customer and Vendor need to be added and used here.

Source Type ↑		Source Code ↑	Source Description	Partner Code ▼
→ Customer	⋮	PPC	PPC	PPC
Vendor		PPC	PPC	PPC

5. The setup below is done in a company, here named SHOP. *If there are multiple shops, repeat the process below in each 'shop' company.*
   a. Add the PPC partner and the shop company line or execute the action **Create Companies as Partner** and select the own company and the PPC company.
   At least the Company PPC, and one SHOP company need to be added.
   b. Select the PPC Partner line, and choose the action **Mappings**.
   c. Select, or create if necessary, both a PPC customer and a PPC vendor.
   Both a source type Customer and Vendor have to be added and used here. *As can be seen in the image above for the PPC configuration.*
   d. Select the PPC warehouse location that has been set up.
   e. Select the SHOP Partner line, and choose the action **Mappings.**
   f. Select, or create if necessary both a SHOP customer and a SHOP vendor.
   Both a source type Customer and Vendor have to be added and used here.

Source Type ↑		Source Code ↑	Source Description	Partner Code ▼
→ Customer ⌄	⋮	K00001	SHOP 1	SHOP1
Vendor		SHOP 1	SHOP 1	SHOP1

6. In order to assign the message types to the created partners, select either the value (-) in the column **Message Types**, or choose the action **Message Types** (*with the partner to which needs to be assigned selected).*
   a. Add all Message Types that need to be configured for the partner.
7. In case intercompany Dimensions need to be configured, choose the action **Intercompany Dimensions**. This will open the list in which dimensions can be added, deleted, imported/exported, edited, etc.

3.2.7 Intercompany mapping

3.2.7.1 Dimensions mapping between partners

Dimensions can be mapped between partner companies. This makes it possible to have correct translations for the dimensions in the other companies that also use dimensions.
1. Choose the search icon, enter **Intercompany Dimensions**, and then choose the related link.
2. Set up the Intercompany Dimensions. More information about how to set up these dimensions can be found in the [documentation of Microsoft](#).

3.2.7.2 Ledger accounts mapping between companies

General ledger accounts can be mapped using the standard Intercompany functionality of Business Central. More information can be found in the [documentation of Microsoft](#).

4 Usage

4.1 PPC tiles

In order to make the management and follow-up of the ongoing purchases and messages more efficient, tiles have been added to the roll center. These tiles are displayed in the **Messages** tab. They display the messages that need to be processed, and the messages that gave an error.

4.2 Requisition worksheet – SHOP company

In the SHOP companies, the **Requisition Worksheet** is used to determine the demand. Depending on the used Purchase strategy, messages will be sent to the necessary companies.
1. Navigate to the **Requisition Worksheet** and choose the action **Calculate Plan** to fill the worksheet.
2. Enable the option **Show Sent IC lines** to display the lines that were sent to the Procurement Company in the worksheet.
   When this is disabled, only the not carried out lines will be shown.
3. The 2 fields **IC Status Outgoing and Incoming** which will update according to the statuses of the messages that are sent from and received in the company.

4.3 PPC Company - Processing the messages

In case the Purchase Strategy is that the PPC will create the purchase orders for the underlying shops, when the lines in the SHOP company are carried out, a message will be sent to the PPC company.

In the PPC Company, **incoming Messages** will be automatically processed, if this has been configured, and will be visible in the requisition worksheet in the shop company batch.
This processing is done using **Job Queue entries** that have been added automatically when the lines were send from the shop company.
If this automatically processing of messages has not been set up, the messages can be processed on the **Messages** page. This can also be used for error handling of messages if needed.
Messages can be processed manually using the action **Process**. When the Messages have been processed successfully, the messages will be colored green.
*For the automatically processing of messages, make sure that the Auto process/send Booleans are toggled on the relevant **Message Type Cards**.*

1. Navigate to the **Requisition Worksheet** in the PPC Company. The lines that were sent trough the shop companies will be visible in the worksheet.
2. Set the **Accept Action Message** and choose the action **Carry Out Action Message** to create the Purchase Orders in the PPC company to the Vendors noted in the lines received from the SHOP companies.
3. When the Purchase Orders are **released** in the PPC Company, based on the set Purchase Strategy, a message will be sent to the shop.
   This Message will create a Purchase Order in the shop company.
4. In the field Messages on the Purchase Order in the PPC center, it is visible if the Message has been sent to the Shop company.

4.4 Processing the received items in the shop company

An incoming message from the PPC to the shop has type IC order. This message contains the purchase order on which the receipt can be registered.
Based on the set Purchase Strategy, per receipt in the shop, a message will be sent to the PPC Company.
There are two possible scenarios to process the order.
1. **Completely receiving the items of a purchase order**.
   The items that have been ordered are completely received. When this happens, the field **Completely Received** on the Purchase order will be set to **Yes**. This information will also be send to the PPC company.
2. **The order is not completely received.**
   It is possible that not all items from the purchase order are received. If the items will not be received anymore, it is possible to either use the function **Completely Received** or **Create Backorder**, in order to further process the purchase order.
   The PPC Company will always be informed via a message.

4.5 Batch confirm purchase orders

It is possible to batch confirm purchase orders in the SHOP company, in order to process t

1. Choose the search icon, enter **Batch Confirm Purchase Orders**, and then choose the related link.
2. This report can be used to mark multiple Purchase Orders as completely received, or to create back orders if needed. *Set the necessary filters and options to complete the desired orders.*

4.6 Invoice from PPC to the Shop

Once the items are received in the shop, based on the set up Purchase Strategy, the PPC company will be informed via a Message.
The linked Purchase Order in the PPC Company will be indicated as completely received.
From this moment on, the sales invoice can be created for the Purchase Order in the PPC company.
Once the Sales invoice is created and released in the PPC Company, a message will be sent to the Shop Company, in case this is set up in the Purchase Strategy.
This message is processed in the shop company. For the Purchase Order, the posted Purchase invoice will be added in the shop company.

# 5 Example cases & flows

5.1 Case 1: PC-S-PC

The need arises in the SHOP company, purchase orders are sent from the PPC to vendors, goods are delivered to the SHOP company and invoicing is done by the PPC to the SHOP company.
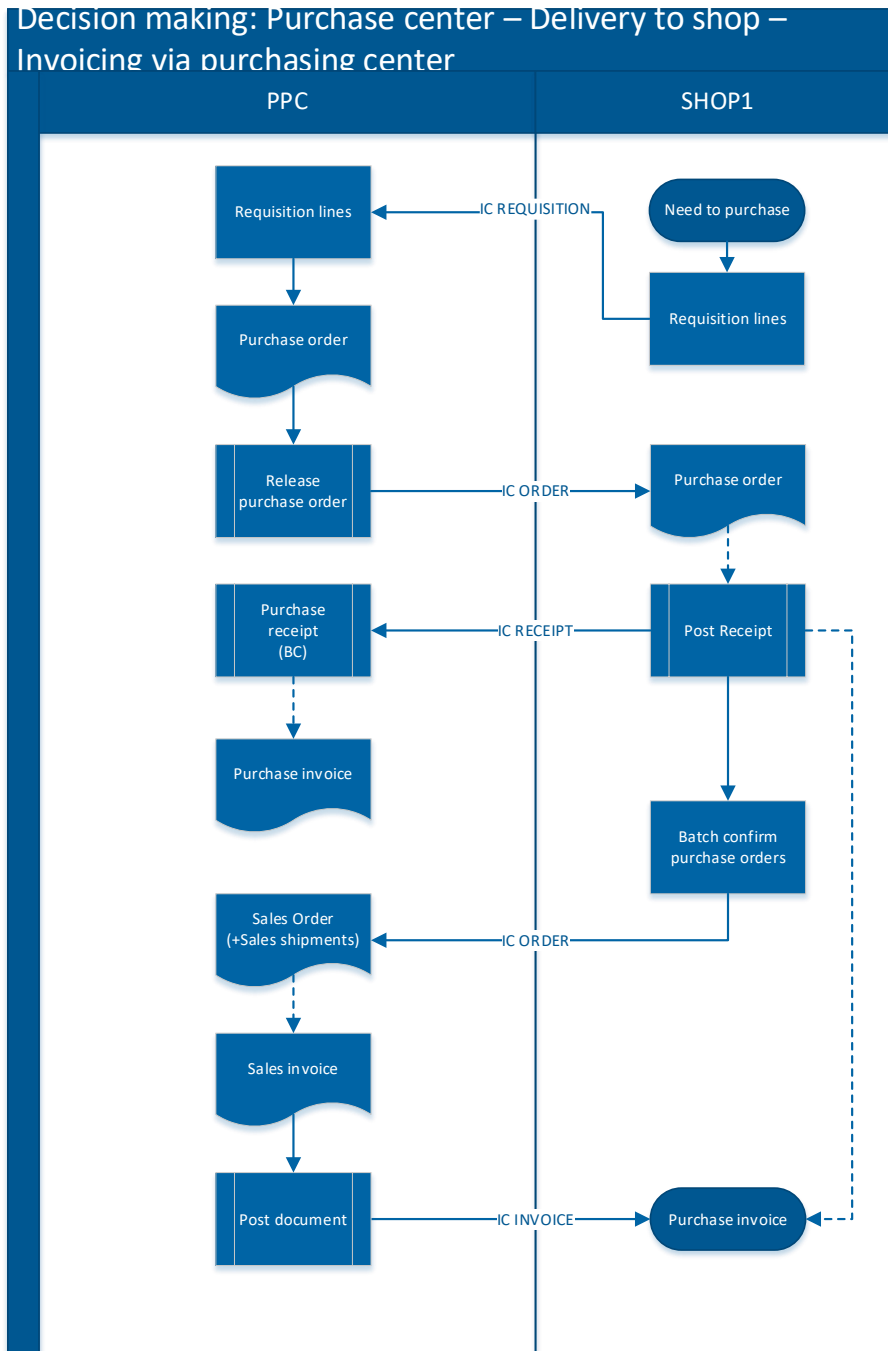
1. <u>In the SHOP Company</u>, the **requisition worksheet** is used to send the requested items to the PPC Company.
2. Choosing the **Carry out Action Message** action triggers the message framework which sends an IC REQUISITION message from SHOP Company to PPC Company.
3. That **IC REQUISITION message** creates lines in the requisition worksheet of the PPC Company.
4. Choosing the **Carry out Action Message** action creates purchase orders in the PPC Company.
5. **Releasing** the purchase order in the PPC Company, sends an **IC ORDER message** from the PPC Company to the SHOP Company.
6. The **IC ORDER message** creates a copy of the purchase order in the SHOP Company.
7. After the items are physically received in the SHOP Company and the **receipt is posted**, an **IC RECEIPT message** is sent from the SHOP Company to the PPC Company.
8. The **purchase receipt is posted** by the **IC RECEIPT message** in the PPC Company.
9. A **purchase invoice** can now be created in the PPC Company.
10. Using the **batch confirm purchase order** function, purchase orders in the SHOP Company can be marked completely shipped, can be skipped or a backorder can be created if so desired.
    Regardless of the option an **IC ORDER message** is sent from the SHOP Company to the PPC Company.
11. The **IC ORDER message** creates both a Sales Order and linked posted sales shipments.
12. The sales order is posted by creating a sales invoice and using the action **Get Shipment Lines.** After the invoice is posted an **IC INVOICE** message is sent to the SHOP Company.
13. The **IC INVOICE message** creates a purchase invoice in the SHOP Company. The purchase invoice is posted by using the action **Get receipt lines.**

5.2 Case 2 S-S-PC

*The need arises in the SHOP company, items are ordered from the SHOP, items are delivered to the SHOP company, and invoicing is done by the PPC.*

Decision making: Shop – Delivery to shop – Invoicing via purchasing center
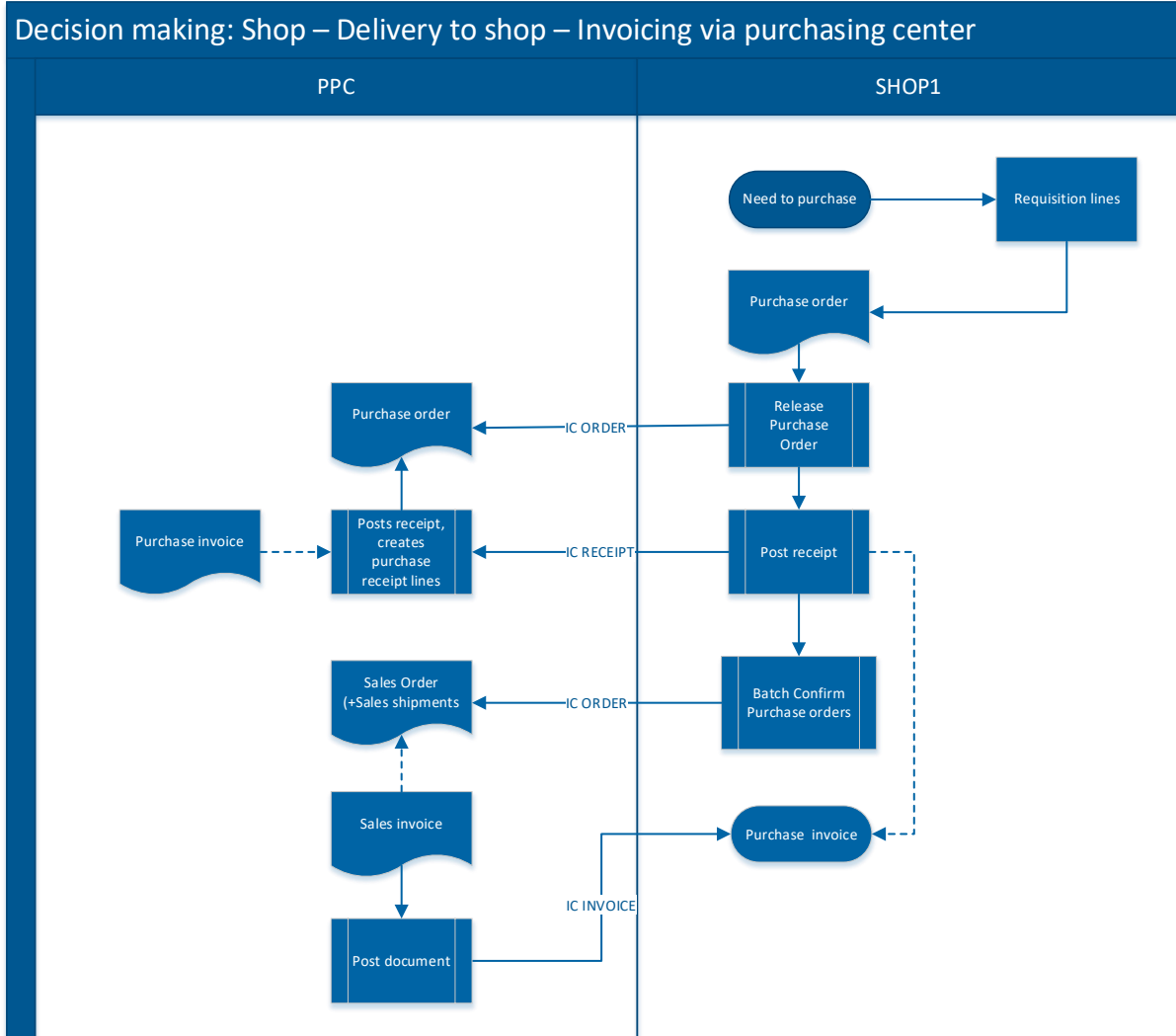
1. In the SHOP Company, the **requisition worksheet** is used to **create purchase orders**.
2. **Releasing** the purchase order in the SHOP Company, sends an **IC ORDER message** from the SHOP Company to the PPC Company.
3. The **IC ORDER** creates a copy of the purchase order in the PPC Company.
4. After the items are physically received in the SHOP Company and the **receipt is posted**, an **IC RECEIPT message** is sent from the SHOP Company to the PPC Company.
5. The **purchase receipt is posted** by the **IC RECEIPT message** in the PPC Company.
6. A **purchase invoice** can now be created in the PPC company.
7. Using the **batch confirm purchase order** function, purchase orders in the SHOP Company can be marked completely shipped, can be skipped or a backorder can be created if so desired.
    Regardless of the option an **IC ORDER** message is sent from the SHOP Company to the PPC Company.
8. The **IC ORDER message** creates both a **sales order and linked posted sales shipments**.
9. The **sales order is posted** by creating a **sales invoice** and using the action **Get Shipment Lines.** After the invoice is posted an **IC INVOICE message** is sent to the SHOP Company.
10. The **IC INVOICE** message creates a purchase invoice in the SHOP Company. The **purchase invoice is posted** by using the action **Get receipt lines.**

5.3 Case 3 PC-PC-PC

The need arises in the SHOP company, goods are ordered from the PPC, goods are delivered to the PPC company and sent to the SHOP Company, invoicing is done by the PPC.
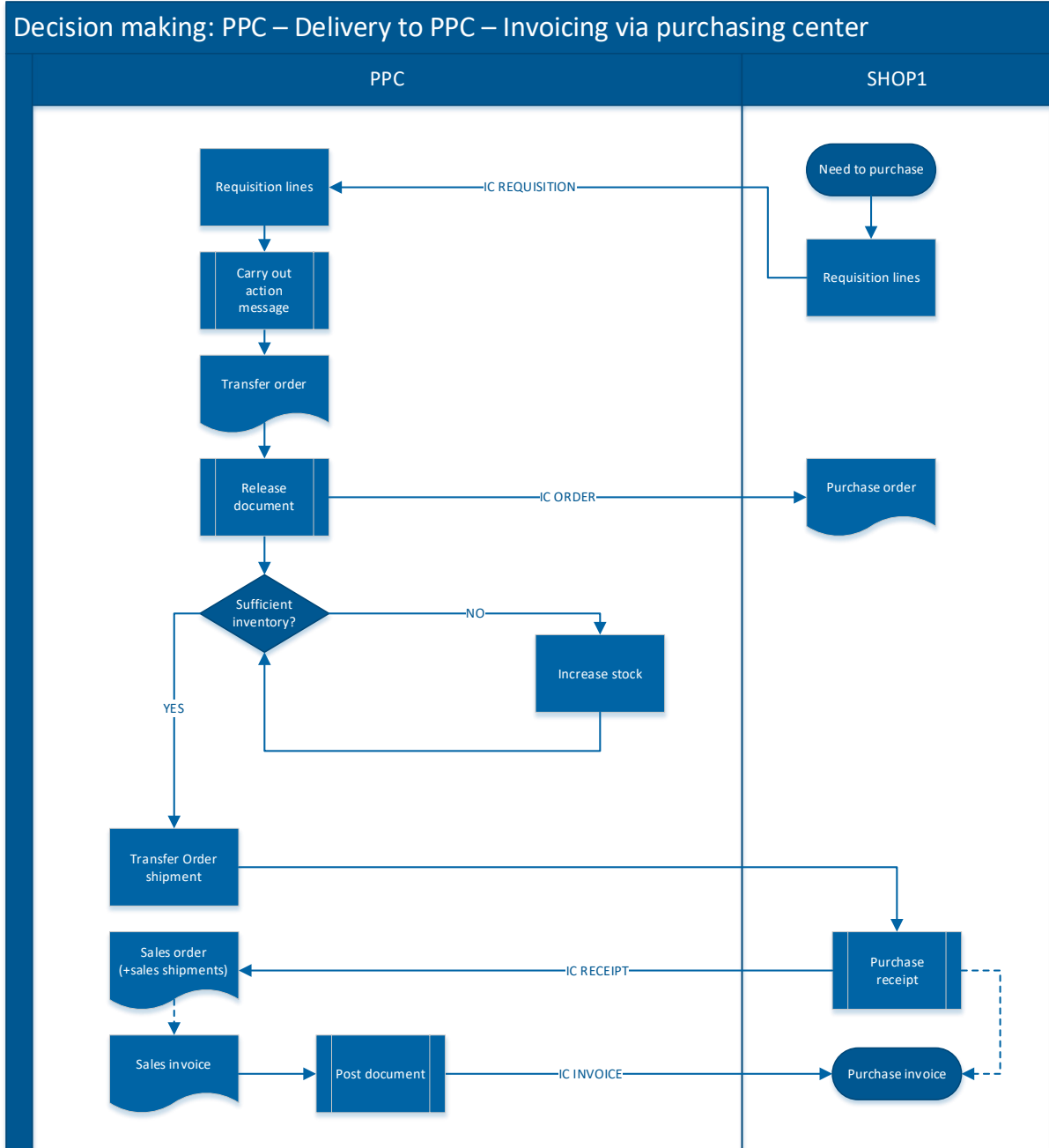
1. In the SHOP Company, the **requisition worksheet** is used to send the requested items to the PPC company.
2. Clicking on the **Carry out Action Message** action, triggers the message framework which sends an **IC REQUISITION message** from SHOP Company to PPC Company.
3. That **IC REQUISITION message** creates lines in the **requisition worksheet** of the PPC Company.
4. Choosing the **Carry out Action Message** action creates a **transfer order** in the PPC Company. Since the replenishment system set to **transfer** in this example.
   In case there is not enough inventory in the PPC Company, stock is increased through standard purchase or production flow.
5. **Releasing the transfer order** sends an **IC ORDER message** from PPC Company to the SHOP Company.
6. The **IC ORDER** creates a **purchase order** in the SHOP Company.
7. After the goods are physically received in the SHOP and the **receipt is posted**, an **IC RECEIPT message** is sent from the SHOP Company to the PPC Company.
8. This **IC RECEIPT message** creates a **sales order** and **posts the corresponding sales shipment**.
9. The **sales order is posted** by creating a **sales invoice** and using the action **Get Shipment Lines.** After the **invoice is posted** an **IC INVOICE message** is sent to the SHOP Company.
10. The **IC INVOICE message** creates a **purchase invoice** in the SHOP Company. The **purchase invoice is posted** by using the action **Get receipt lines.**

5.4 Completely received with transfer as replenishment system

For transfer orders, the **Qty. To Receive** has to be the same as the **Qty. To Ship**.
In the scenario where fewer goods are delivered than initially ordered, the variance will be posted using a new transfer order to a 'lost' location.
Define this location on field **Variance Location** on the in-Transit location.

From the moment the action message **Completely Received** is used on the purchase order, not only an **IC RECEIPT message** will be sent, but **also an IC ORDER message** that will **post the existing transfer order** (to be executed after the IC RECEIPT message since that will post the delivered amount noted on the purchase order).
The **IC ORDER message** will also **create a new transfer order for the lost items** and post them to the variance location that has been setup.

5.5 Deletion of purchase orders in PPC

Once a purchase order is released in PPC Company, the corresponding purchase order is created in SHOP Company.
It may still occur that the purchase order in PPC Company is canceled or deleted (to the extent that receipts have not yet been posted).
If a PC-S-PC purchase order is successfully deleted in PPC Company, **a delete message** is created in the corresponding SHOP Company.

Note that a **purchase order must have status open to be deleted**, which would initially fail since the orders are received with status released.
A user first needs to **reopen the purchase order in SHOP Company**. Afterwards, the failed delete message can be executed again, and the purchase order will be deleted (if no receipts are booked yet).
This way, the SHOP is also informed that an order has been removed by PPC.