

Integration of Production Supply (PP) in Extended Warehouse Management (EWM)

This component allows you to use an SAP Extended Warehouse Management (SAP EWM) system together with an SAP ERP system to manage the storage and material staging of products in connection with production and process orders (manufacturing orders).

Integrating the production supply into the processes of the SAP EWM system provides you with tools which you can use to enhance processes in your strategically-organized warehouse, by staging products for the production.

You can use the following production supply (PP) application components for production supply in SAP EWM:

- Production Orders (PP-SFC)
- Process Order (PP-PI_POR)
- Repetitive Manufacturing (PP-REM)
- Kanban (PP-KAB)

The information between the systems is exchanged using delivery documents. The SAP ERP system creates the deliveries, and sends them to the SAP EWM system.

When staging products for a production order or process order, you transport the products to the production supply area (PSA). If you are using an SAP EWM system, you must pick the products in the warehouse, and transport them to the PSA.

For more information about manufacturing orders, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order**.

The following staging types are defined:

- Pick parts
- Release order parts
- Crate parts

There are multiple ways to stage products required for a production or process order:

- The required products are pick parts in the case of individual orders, or release order parts in the case of multiple orders, which you stage in time and in the required quantity for production supply.
- You stage products that you use continually independently of existing orders. Containers, which are requested by production, are available in the warehouse. Kanban is a special method for managing crate parts.

A crate part is a material that is stored in a crate or another standard container, and is staged independently of manufacturing orders in the quantity defined by the program **Schedule Replenishment**.

If you no longer require the products for further production or process orders, you can return them to the warehouse. The system then posts goods issue of the products from the PSA. This is usually done by backflushing during the production confirmation.

For more information about integrating production planning into SAP EWM, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management**.

Organizational Model for Production Supply

Use

There are different models for organizing stocks in the production supply areas (PSAs) in SAP Extended Warehouse Management (SAP EWM).

Separate Storage Bins in the SAP EWM System

The system manages the stocks in the PSA separately from the other stocks. This increases the transparency at storage bin level in the SAP EWM system, and at storage location level in the SAP ERP system. When staging at the PSA, the SAP EWM system executes a posting change by changing the stock type. In the SAP ERP system, this is a stock transfer between the storage locations.

SAP EWM-Managed Storage Location

The PSA stocks are only managed in SAP EWM, and are therefore transparent in the SAP EWM system only. When staging at the PSA, the system does not execute a posting change.

MM-IM Managed Storage Location

The PSA stocks are not managed in the SAP EWM system. They are managed in the SAP ERP system at MM-IM storage location level. Staging at the PSA is an outbound delivery from an SAP EWM perspective, and, from an SAP ERP perspective, a posting change to a storage location outside of the SAP EWM system.

SAP EWM-Managed Storage Location in Another SAP EWM Warehouse

The PSA stocks are managed in the SAP EWM system in another warehouse number. The staging takes place in a two-step posting change:

1. Of the outbound delivery from the sending SAP EWM warehouse
2. Of the inbound delivery to the receiving SAP EWM warehouse

Process

The following matrix shows the possible processes:

Process Flow	2 SAP EWM-managed storage locations/ 1 warehouse	SAP EWM-managed storage location	MM-IM-managed storage location	2 SAP EWM-managed storage locations/2 warehouses
<u>Pick Parts Using Two EWM-Managed Storage Locations</u>	P1			
<u>Pick Parts Using One EWM-Managed Storage Location</u>		P2		
<u>Pick Parts Using Inventory-Managed (MM-IM) Storage Location</u>			P3	
<u>Pick Parts Using Two EWM-Managed Storage Locations by Inbound and Outbound Delivery</u>				P313
<u>Release Order Parts Using Two EWM-Managed Storage Locations (Posting Change)</u>	R1			
<u>Release Order Parts Using Inventory-Managed (MM-IM) Storage Location</u>			R3	
<u>Release Order Parts Using Two EWM-Managed Storage Locations (Posting Change)</u>				R313
<u>Crate Parts Using Two Storage Locations in the EWM System</u>	C1			
<u>Crate Parts Using One EWM-Managed Storage Location</u>		C2		

Process Flow	2 SAP EWM-managed storage locations/ 1 warehouse	SAP EWM-managed storage location	MM-IM-managed storage location	2 SAP EWM-managed storage locations/2 warehouses
Release Order Parts and KANBAN Using an Inbound and Outbound Delivery	K1		K3	K313
Repetitive Manufacturing				

For more information about the processes in Kanban and repetitive manufacturing, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Kanban/Processes in Production and Process Order**.

Process Flow for Pick Parts Using Two EWM-Managed Storage Locations (P1)

Use

In this process, a manufacturing order in the SAP ERP system triggers the production supply. The SAP ERP system creates a production supply delivery, and replicates it to the SAP EWM system. From the SAP EWM perspective, the production supply delivery is a posting change. In the SAP EWM system, this contains important information for the production supply, such as the following:

- Production supply area (PSA)
- Order number
- Source and target stock types

The user creates the warehouse tasks for the material staging with reference to the production supply delivery. Alternatively, the Post Processing Framework (PPF) action can also trigger this automatically. When executing the warehouse tasks, a warehouse specialist stages the components to the storage bin of the PSA assigned to these components. Since the stock of the PSA belongs to another storage location (which is a separate stock type in SAP EWM), the SAP EWM system performs a posting change, and sends this on to the SAP ERP system (movement type 411 – Posting change storage location to storage location).

Subsequently, confirming the manufacturing order in the SAP ERP system triggers the creation of an outbound delivery for the consumption posting. This contains the information about the PSA, meaning that for each component the SAP EWM system determines the storage bin of the PSA from which goods issue is to be posted.

The standard setting is for the system to process the consumption posting automatically, without any user interaction.

For more information about confirmations, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation/ Processes in Repetitive Manufacturing Final Confirmation**.

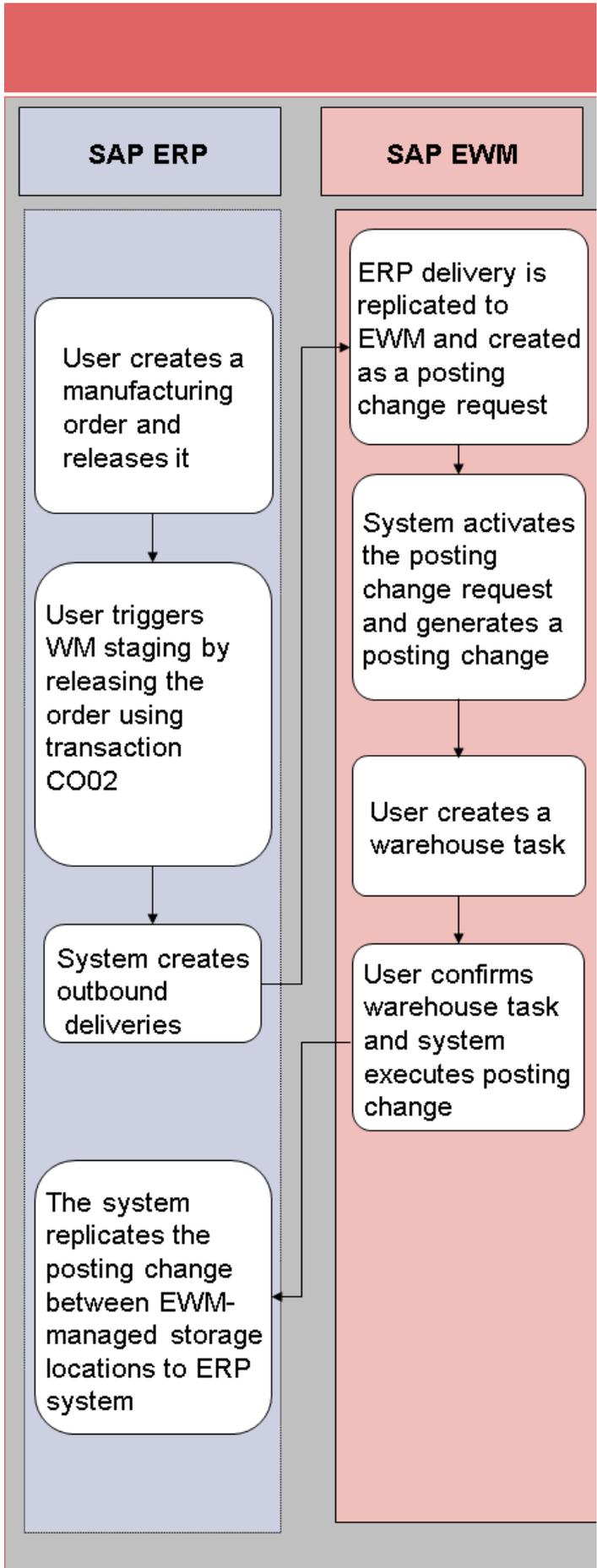
Process

You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction CO01 or COR1), and save it. Choose **Logistics Production Shop Floor Control Order Create**.
2. Release the manufacturing order.
3. Activate staging for the products (transaction CO02 or COR2). Choose **Logistics Production Shop Floor Control Order Change**.
4. The SAP ERP system then generates an outbound delivery with a reference to the manufacturing order.

5. This outbound delivery is automatically replicated to the SAP EWM system, where it is created as a posting change request.
6. The SAP EWM system activates this posting change request, and generates a posting change from it.
7. You use the manufacturing order number to find and check the posting change. To call transaction /SCWM/IM_PC, choose **Extended Warehouse Management Delivery Processing Posting Change Maintain Posting Change**.
8. Create a warehouse task for the posting change. Choose **Extended Warehouse Management Work Scheduling Create Warehouse Task for Warehouse Request Stock Removal for Posting Change**.
9. Confirm the warehouse task. This triggers the posting change. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.
10. The SAP EWM system replicates this goods movement to the SAP ERP system.
11. In the SAP ERP system, a posting change from the issuing storage location to the receiving storage location takes place with reference to the SAP ERP outbound delivery.

The following is a graphical representation of the process:



Process Flow for Pick Parts Using One EWM-Managed Storage Location (P2)

Use

In this process, the posting change does not trigger an update of the stock in the SAP ERP system. The stock in the production supply area (PSA) is managed in the same storage location as the stock in the warehouse (AFS).

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

Process

You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction `CO01` or `COR1`), and save it. Choose **Logistics Production Shop Floor Control Order Change**.
2. Release the manufacturing order.
3. Activate staging for the products (transaction `CO02` or `COR2`). Choose **Logistics Production Shop Floor Control Goods Movements Pull List** or **Logistics Production Shop Floor Control Order Change**.
4. The SAP ERP system then generates an outbound delivery with a reference to the manufacturing order.
5. This outbound delivery is automatically replicated to the SAP EWM system, where it is created as a posting change request.
6. The SAP EWM system activates this posting change request, and generates a posting change from it.

7. You use the manufacturing order number, for example, to find and check the posting change (transaction /SCWM/IM_PC). Choose **Extended Warehouse Management Delivery Processing Posting Change Maintain Posting Change**.
8. Create a warehouse task for the posting change. Choose **Extended Warehouse Management Work Scheduling Create Warehouse Task for Warehouse Request Stock Removal for Posting Change**.
9. Confirm the warehouse task. This triggers the posting change. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.
10. The SAP EWM system replicates this goods movement to the SAP ERP system.
11. In the SAP ERP system, a posting change takes place with reference to the SAP ERP outbound delivery.

The following is a graphical representation of the process:

Process Flow for Pick Parts Using Inventory-Managed (MM-IM) Storage Location (P3)

Use

In this process, the SAP ERP system manages the stock of the production supply area (PSA) in an MM-IM storage location. An SAP EWM-managed storage location stages the components. From the SAP EWM perspective, the production supply delivery is an outbound delivery. It contains the PSA, enabling the warehouse specialist to know where he or she has to stage the products. After confirming the warehouse task, the system posts the stocks in SAP EWM as goods issue. Posting the outbound delivery in the SAP EWM system leads to a posting change in the SAP ERP system from storage location to storage location (movement type 411).

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of**

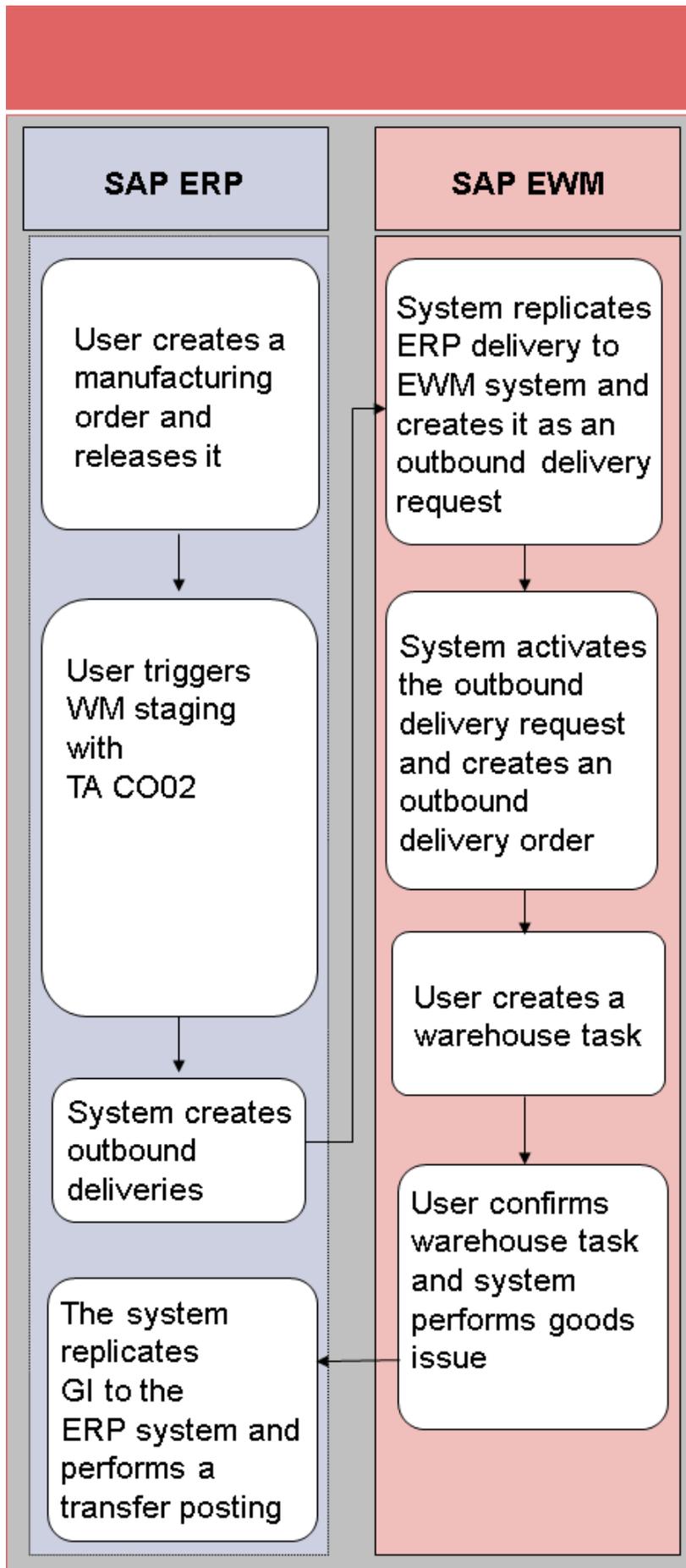
Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation.

Process

You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction `CO01` or `COR1`), and save it. Choose **Logistics Production Shop Floor Control Order Create**.
2. Release the manufacturing order.
3. Activate staging for the products by calling transaction `CO02` or `COR2`.
4. You use the manufacturing order number to find and check the outbound delivery. To call transaction `/SCWM/PRDO`, choose **Extended Warehouse Management Delivery Processing Outbound Delivery Maintain Outbound Delivery Order**.
5. Create a warehouse task for the outbound delivery order. Choose **Extended Warehouse Management Work Scheduling Create Warehouse Task for Warehouse Request Stock Removal for Outbound Delivery Order**.
6. Confirm the warehouse task. This triggers goods issue, depending on your settings in Customizing and in the PSA. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.

The following is a graphical representation of the process:



Process Flow for Pick Parts Using Two EWM-Managed Storage Locations by Inbound and Outbound Delivery (P313)

Use

In this process, staging at the production supply area (PSA) is triggered by inbound and outbound delivery (movement types 313 and 315). The advantage of triggering the production supply using an inbound and outbound delivery is that you can use the following functions:

- Transport functions, which you can use to supply the production in different halls
- Printing shipping documents

At goods issue, the system posts the stock as stock in transfer of the receiving storage location. The SAP ERP system generates an inbound delivery automatically.

Note

Note that the goods receipt in the production storage location is posted to the stock type used for the production supply. Do not use the **In Putaway** stock type, otherwise the stock in transfer of the receiving storage location cannot be reduced in the SAP ERP system.

At goods receipt, the system posts the stock from the stock in transfer to unrestricted-use stock.

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

Process

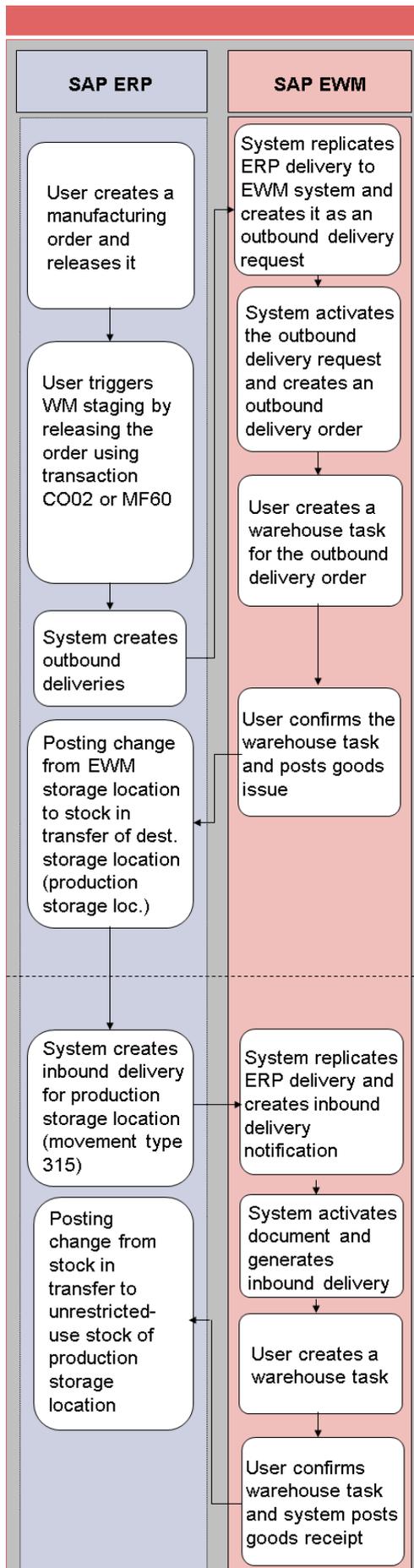
You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction `CO01` or `COR1`), and save it. Choose **Logistics Production Shop Floor Control Order Create**.
2. Release the manufacturing order.
3. Activate staging for the products (transaction `CO02` or `COR2`). Choose **Logistics Production Shop Floor Control Order Change**.
4. The SAP ERP system then generates an outbound delivery with a reference to the manufacturing order.
5. This outbound delivery is automatically replicated to the SAP EWM system, where it is created as an outbound delivery request.
6. The SAP EWM system activates this outbound delivery request, and creates an outbound delivery order.
7. You use the manufacturing order number to find and check the outbound delivery order. To call transaction `/SCWM/PRDO`, choose **Extended Warehouse Management Delivery Processing Outbound Delivery Maintain Outbound Delivery Order**.
8. Create a warehouse task for the outbound delivery order. Choose **Extended Warehouse Management Create Warehouse Task for Warehouse Request Stock Removal for Outbound Delivery Order**.
9. Confirm the warehouse task. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.
10. Post goods issue for the outbound delivery using transaction `/SCWM/PRDO`.
11. The SAP EWM system replicates this goods movement to the SAP ERP system.
12. In the SAP ERP system, the goods movement for the delivery represents the first step of the stock transfer. The component is now part of the stock in transfer of the receiving storage location. In parallel to this, the SAP ERP

system creates an inbound delivery for the production storage location with movement type 315.

13. The system replicates the SAP ERP delivery to the SAP EWM system, and creates an inbound delivery notification.
14. The system activates the document, and generates an inbound delivery.
15. Create a warehouse task for the inbound delivery. Choose **Extended Warehouse Management Work Scheduling Create Warehouse Task for Warehouse Request Putaway for Inbound Delivery**.
16. Confirm the warehouse task. This triggers the goods receipt. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.
17. The SAP EWM system replicates this goods movement to the SAP ERP system.
18. In the SAP ERP system, the goods receipt with reference to the inbound delivery takes place. Here, the SAP ERP system posts the products of the stock in transfer to the unrestricted-use stock of the production storage location.

The following is a graphical representation of the process:



Process Flow for Release Order Parts Using Two EWM-Managed Storage Locations (Posting Change) (R1)

Use

In this process, you trigger staging of the release order parts for multiple orders using transaction `MF60`.

For this reason, the production supply delivery does not contain an order number. The SAP ERP system does not update the reservation of the components.

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

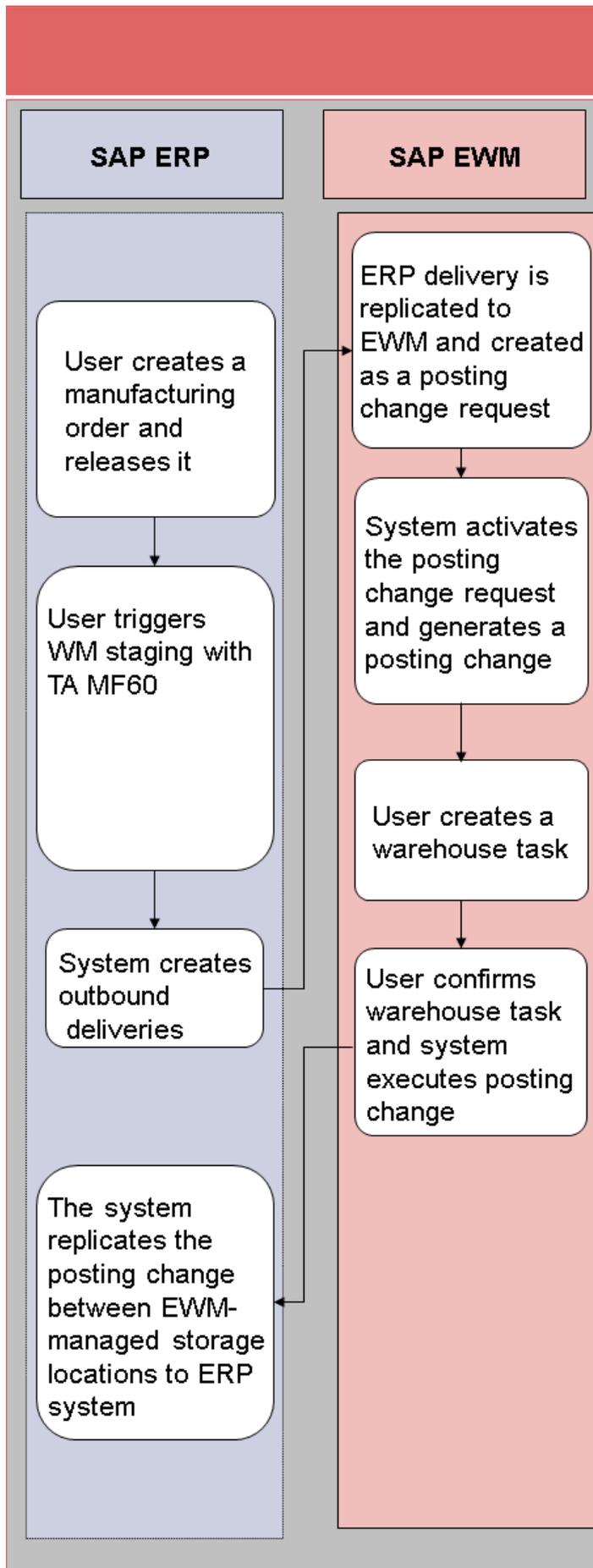
Process

You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction `CO01`), and save it. In the SAP ERP system, choose **Logistics Production Shop Floor Control Order Create**.
2. Release the manufacturing order.
3. Activate staging for the products (transaction `MF60`). In the SAP ERP system, choose **Logistics Production Shop Floor Control Goods Movements Material Staging Pull List**.
4. The SAP ERP system generates an outbound delivery.
5. This outbound delivery is automatically replicated to the SAP EWM system, where it is created as a posting change request.

6. The SAP EWM system activates this posting change request, and generates a posting change from it.
7. You determine and check the posting change using the SAP ERP delivery number or the product, for example. To call transaction `/SCWM/IM_PC`, choose **Extended Warehouse Management Delivery Processing Posting Change Maintain Posting Change**.
8. Create a warehouse task for the posting change. Choose **Extended Warehouse Management Work Scheduling Create Warehouse Task for Warehouse Request Stock Removal for Posting Change**.
9. Confirm the warehouse task. This triggers the posting change. Choose **Extended Warehouse Management Execution Confirm Warehouse Task**.
10. The SAP EWM system replicates this goods movement to the SAP ERP system.
11. In the SAP ERP system, a posting change from the issuing storage location to the receiving storage location takes place with reference to the SAP ERP outbound delivery.

The following is a graphical representation of the process:



Process Flow for Release Order Parts Using Inventory-Managed (MM-IM) Storage Location (R3)

In this process, you stage the release order parts using transaction `MF60`. The production supply delivery does not contain an order number. The SAP ERP system does not update the component reservation.

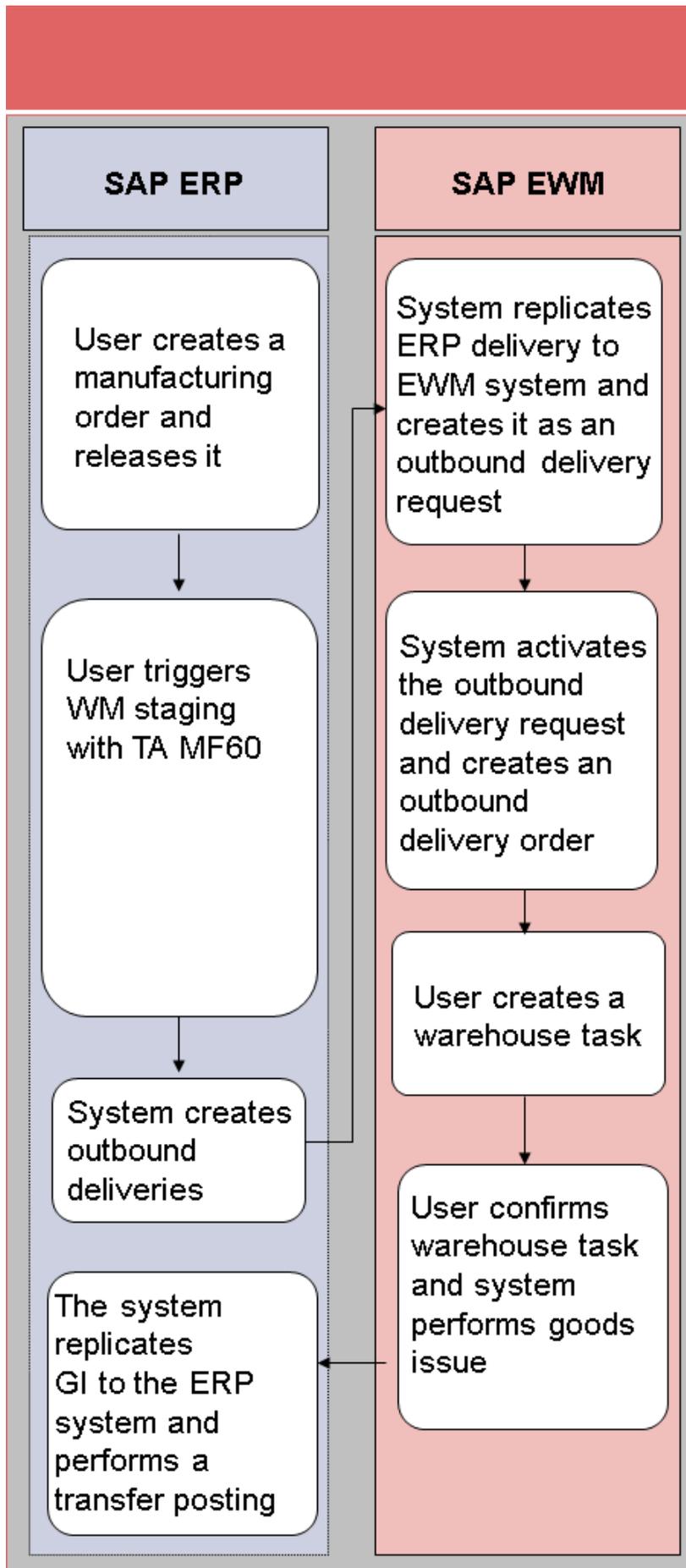
For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

Process

You execute most of the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Create a manufacturing order in the SAP ERP system (transaction `CO01` or `COR1`), and save it. Choose **Logistics Production Shop Floor Control Order Create**.
2. Release the manufacturing order.
3. Activate staging for the products using transaction `MF60`. In the SAP ERP system, choose **Logistics Production Shop Floor Control Goods Movements Material Staging Pull List**.
4. You determine and check the outbound delivery using the SAP ERP delivery number or the product, for example. To call transaction `/SCWM/PRDO`, choose **Extended Warehouse Management Delivery Processing Outbound Delivery Maintain Outbound Delivery Order**.
5. Create a warehouse task for the outbound delivery order.
6. Confirm the warehouse task.

The following is a graphical representation of the process:



Process Flow for Release Order Parts and KANBAN Using an Inbound and Outbound Delivery

You use this process for the inbound and outbound delivery of release order parts and Kanban parts. Inbound and outbound deliveries are used for staging instead of posting change deliveries.

For more information about KANBAN and confirmations, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Kanban**.

Process Flow for Crate Parts Using Two Storage Locations in the EWM System (C1)

Use

This process allows you to execute staging to production for crate parts using two storage locations in two systems. You trigger material staging using transaction `/SCWM/REPL`. You can also trigger material staging automatically, if the stock in the production supply area (PSA) falls below the minimum stock you have specified for the product. You can control the replenishment according to the following replenishment functions:

- Planned replenishment
- Order-related replenishment
- Crate part replenishment

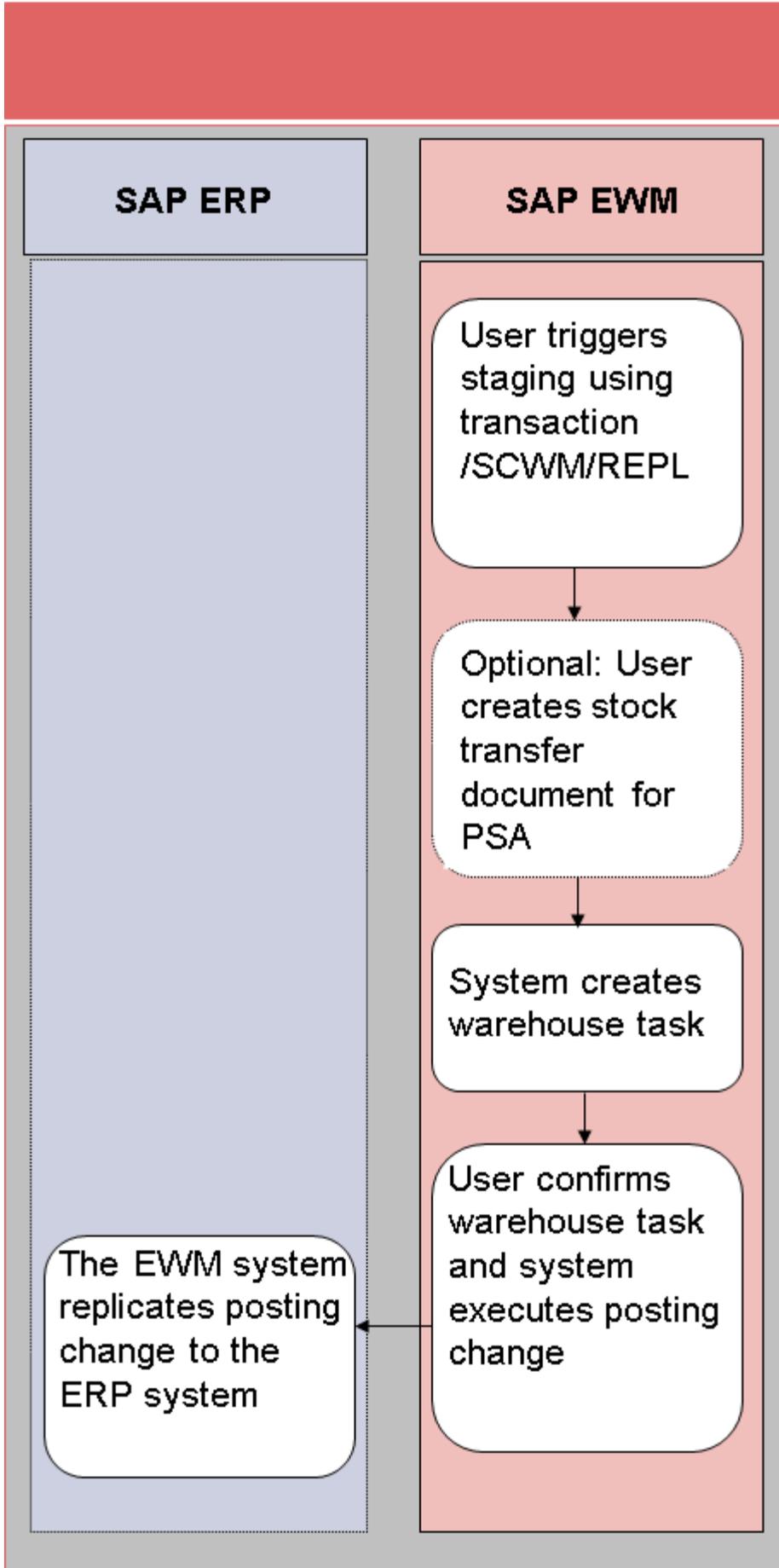
For more information about replenishment functions, see the **SAP Easy Access** screen **Extended Warehouse Management Work Scheduling Schedule Replenishment**.

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

Process

You can execute the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Activate staging for the products using transaction `/SCWM/REPL`.
Choose **Extended Warehouse Management Work Scheduling Schedule Replenishment**.
2. The system creates a warehouse task. Alternatively, the program can create a stock transfer. You then create the warehouse task manually.
3. Confirm the warehouse task.
4. The system executes the posting change, and replicates this to the SAP ERP system.



Process Flow for Crate Parts Using One EWM-Managed Storage Location (C2)

Use

This process takes place in the SAP EWM system only.

For crate parts, you trigger material staging using transaction `/SCWM/REPL`. You can also trigger material staging automatically, if the stock in the production supply area (PSA) falls below the minimum stock you have specified for the product. You can control the replenishment according to the following replenishment functions:

- Planned replenishment
- Order-related replenishment
- Crate part replenishment

For more information about replenishment functions, see the **SAP Easy Access** screen **Extended Warehouse Management Work Scheduling Schedule Replenishment**.

For more information about the confirmation, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Production Order Confirmation**.

Process

You can execute the process steps of the following process manually. To a large extent, you can also automate the process to match your requirements.

1. Activate staging for the products using transaction `/SCWM/REPL`. Choose **Extended Warehouse Management Work Scheduling Schedule Replenishment**.
2. The system creates a warehouse task. Alternatively, the program can create a stock transfer. You then create the warehouse task manually.

3. Confirm the warehouse task.

The following is a graphical representation of the process:

SAP ERP

SAP EWM

User triggers staging using transaction /SCWM/REPL

Optional: User creates stock transfer document for PSA

System creates warehouse task

User confirms warehouse task

Customizing Settings for the Production Supply

Use

BC Set /SCWM/PROD_SUPPLY contains the standard settings that you require to use an SAP Extended Warehouse Management (SAP EWM) system in connection with an SAP ERP system for storage and material staging of products and finished products. It contains:

- New storage types **Production Supply** (1000), **Production Supply GI** (1005), and **Goods Receipt Production Supply** (9015) for the production supply, and entries that are dependent on these, such as storage sections and activity areas.
- New stock types P2, P4, and P6 for stocks in production, and entries that are dependent on these, such as availability group 003.

There are new stock types, which refer to availability group **Stock in Production**.

- New availability group for **Stock in Production**, to separate the production supply stock from the stock in the warehouse. You can assign this availability group to a production storage location in the SAP ERP system, which is different from the SAP EWM production storage location, but managed in the SAP EWM system.
- New warehouse process types 2100, 3100, 4100 and entries that are dependent on these.

For more information about settings in the SAP ERP system for the PP-EWM integration, see **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Settings for the PP-EWM Integration**.

For more information about setting the control cycle in the SAP ERP system, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management EWM Control Cycle**.

Activities

Perform the following activities:

- Define storage types for the production supply

Storage type role **K — Production Supply** is available for storage types. You assign storage bins of this type to a production supply area (PSA). Depending on whether you are using a separate production storage location in SAP ERP, you assign the availability group **Goods Compl. Available** (002) or stock in **Production** (003) to the storage type. In the standard system, SAP delivers two storage types for the storage type role **K — Production Supply**:

- Storage type 1000 for separate production storage locations in SAP ERP (with availability group 003)
 - Storage type 1005 for non-separate production storage locations in SAP ERP (with availability group 002)
 - For inbound deliveries for the production supply, SAP delivers the new inbound delivery staging area 9015, which serves as a separate staging area for the production supply.
- Define stock types for the production storage location

If you have a production storage location in SAP ERP, you must create or define new stock types for this production storage location on the SAP EWM side. The standard system uses the following stock types:

- P2 (unrestricted-use stock for production)
- P4 (quality inspection stock for production)
- P6 (blocked stock for production)

All three stock types use availability group 003 (stock in production).

If you have defined the new stock types in the system, for example, by activating the BC Set, you must then assign availability group 003 to SAP ERP storage location in Customizing for SAP EWM.

For more information, see Customizing for **Extended Warehouse Management** under **Interfaces ERP Integration Master Data Map Production Supply Area (PSA)**.

- Warehouse process types for the production supply

SAP delivers three new warehouse process types for the production supply:

- Warehouse process type 2100 for the production supply with outbound delivery (see also organizational model IM Managed Production Storage Location)
 - Warehouse process type 3100 for the production supply with internal goods movement
 - Warehouse process type 4100 for the production supply with posting change delivery
- Assignment of PSAs

You can replicate PSAs from the SAP ERP system.

On the **SAP Easy Access** screen, choose **Interfaces ERP Integration Replicate Production Supply Area (PSA)** (transaction `/SCWM/PSA_REPLICATE`)

The system makes the assignment between the PSAs in the SAP ERP system and the PSAs in the SAP EWM system automatically. You make the assignment in the **SAP Easy Access** menu.

Choose **Extended Warehouse Management Master Data Production Supply Area (PSA)**

Customizing Settings for the Delivery

Use

The following BC Sets contain standard settings for the delivery that are provided by SAP for staging and consuming pick parts, release order parts, crate parts, and Kanban parts for production supply. These include the standard settings for the

document types and item types of the production supply. They are all warehouse-number-independent.

For release order parts, you can use the BC Sets for pick parts or Kanban parts. Using the BC Sets for pick parts has the advantage that you can create outbound delivery orders or transfer postings manually in SAP Extended Warehouse Management.

- /SCWM/DLV_TRANSFER_PS_ORDER: Transfer posting of pick parts and release order parts
- /SCWM/DLV_TRANSFER_PS_KANBAN: Transfer posting of Kanban parts
- /SCWM/DLV_OUTBOUND_PS_ORDER: Outbound delivery of pick parts and release order parts
- /SCWM/DLV_OUTBOUND_PS_KANBAN: Outbound delivery of Kanban parts
- /SCWM/DLV_INBOUND_PS_ORDER: Inbound delivery for two-step stock transfer of pick parts and release order parts
- /SCWM/DLV_INBOUND_PS_KANBAN: Inbound delivery for two-step stock transfer of Kanban parts
- /SCWM/DLV_STOCK_TRANS_PS: Stock transfer of crate parts
- /SCWM/DLV_OUTBOUND_PC: Consumption posting for the production as backflushing
- /SCWM/DLV_OUTBOUND_PC_KAN: Consumption posting for Kanban with consumption to cost center

Activities

1. Activate the BC Sets that you require.

Example

For backflushing with pick parts in a warehouse, you require the following BC Sets:

- /SCWM/DLV_TRANSFER_PS_ORDER
- /SCWM/DLV_OUTBOUND_PC

Example

For release order parts using a shuttle process and two warehouse numbers, you require the following:

- **BC Set** /SCWM/DLV_OUTBOUND_PS_ORDER in the system of the issuing warehouse
- **BC Sets** /SCWM/DLV_INBOUND_PS_ORDER and /SCWM/DLV_OUTBOUND_PC in the system where the warehouse number for the production is located

After activating the BC Sets, you can adjust Customizing as described in the documentation for the BC Sets (for example, for using serial numbers).

2. For the consumption posting, set whether the system is to automatically post goods issue when creating the outbound delivery order, and how the system is to behave if an error occurs.

If you want to post the goods issue automatically, make sure that, if changes are made to the document type, the action profile of the outbound delivery order contains action /SCWM/PRD_OUT_POST_GI_PP.

In Customizing for **Extended Warehouse Management**, choose **Goods Issue Process Outbound Delivery Production Supply Post Goods Issue for Consumption Posting**.

If you are using backflushing, check whether the default implementation of Business Add-In (BAdI) /SCWM/EX_CORE_PROD_STOCK matches your requirements. If this is not the case, develop your own implementation.

For more information about this BAdI, see Customizing for **Extended Warehouse Management**. Choose **Business Add-Ins (BAdIs) for Extended Warehouse Management Cross-Process Settings Goods Movements for Delivery BAdI: Select and Sort Stock for Consumption Posting Delivery**.

3. If you want to automatically post goods issue from the production area for staging using outbound deliveries to an inventory-managed (MM-IM) storage location, make the following settings:

- In Customizing for **Extended Warehouse Management**, choose **Goods Issue Process Outbound Delivery Production Supply Maintain Settings for Aut. Goods Issue for Production Supply**.
- Schedule the report **Post Goods Movement for Production Supply Area** (transaction /SCWM/R_DLV_POST_GI_PSA).

Recommendation

Consider the following for the scheduling frequency:

- The more often the report runs, the quicker the stock is posted, and the quicker the stock information in the ERP system is updated. However, item splits and delivery splits often occur. This increases the load on the system.
- If you schedule the report in such a way that the stock for the individual deliveries is available in the production supply area (PSA) meeting your expectations, you can avoid splits and therefore reduce the load on the system.

On the **SAP Easy Access** screen, choose **Delivery Processing Outbound Delivery Post Goods Issue in PSA**.

- If you expect a goods issue posting to happen seldomly for a production supply area (PSA), instead of scheduling report /SCWM/R_DLV_POST_GI_PSA to run regularly, you can select the **Trigger GI in PSA** indicator to schedule the report when needed upon confirming the warehouse task.

On the **SAP Easy Access** screen, choose **Extended Warehouse Management Delivery Processing Outbound Delivery Post Goods Issue in PSA**.

- Define subobject DLV_GM_PP_SCHED in application log /SCWM/ACT_LOG. On the **SAP Easy Access** screen, choose **Extended Warehouse Management Settings Activate Application Log**.

Settings for the Replenishment of Crate Parts

Use

The function allows you to organize the replenishment of crate parts for production supply. Crate parts are to be available in a particular quantity in a particular production supply area (PSA).

Two methods are available to you:

- Quantity-based crate part replenishment

You define a minimum quantity for crate parts, which must not fall short

- Crate part replenishment based on the packaging specification

The system uses the [packaging specification](#) determination to calculate the replenishment quantity.

For more information, see [Packaging Specification Determination](#).

Depending on the procedure that you define in the **Type of Quantity Calculation** field, you then define the parameters of the dependend fields.

Activities

Settings in Customizing for Extended Warehouse Management and for SCM Basis

1. Define a product group type for the production supply.

In Customizing for SCM Basis, choose **Master Data Product Product Groups Define Product Group Types**.

2. Create a product group with this product group type.

In Customizing for SCM Basis, choose **Master Data Product Product Groups Define Product Groups**.

3. Make sure that the storage type for staging does not have the **Replenishment Level** field selected in under **Replenishment**. By doing this, you have selected **Storage Bin Level for Fixed Bins**.

In Customizing for **Extended Warehouse Management**, choose **Master Data Define Storage Type**.

4. Assign the product group type to the warehouse number.

In Customizing for **Extended Warehouse Management**, choose **Master Data Production Supply Maintain Product Group Type for PSA Assignment**.

5. Activate the replenishment strategy for the storage type and define whether you want to request the replenishment through an immediately created warehouse task or a warehouse request. If you select the field **WT Immed.**, the system creates a warehouse task only.

In Customizing for **Extended Warehouse Management**, choose **Internal Warehouse Processes Replenishment Control Activate Replenishment Strategies in Storage Types**.

6. Make sure that the storage types from which the replenishment occurs are part of the storage type search sequence.

The system determines the replenishment quantity.

In Customizing for **Extended Warehouse Management**, choose **Goods Issue Process Strategies Specify Storage Type Search Sequence**.

7. Schedule the program **Schedule Replenishment**. When executing the program manually, you can make quantity changes for the scheduled items, and change the setting for the **WT Immed.** indicator.

On the **SAP Easy Access** screen, choose **Extended Warehouse Management Work Scheduling Schedule Replenishment**.

Settings in Master Data

1. Assign the product group type and product group defined in Customizing in steps 1 and 2 to the corresponding products.

Enter the product group type and product group on the **Properties 2** tab page.

On the **SAP Easy Access** screen, choose **Master Data Product Maintain Product**.

2. Define the parameters you require for controlling the replenishment. You fundamentally have to decide whether you want to control crate part replenishment based on the packaging specification, or based on quantity. You define this using the **Type of Quantity Calculation** field. Then define the relevant fields that are dependent on the **type of quantity calculation**.

Alternatively, you can perform this for the entire product group instead of for individual products.

On the **SAP Easy Access** screen, choose **Master Data Production Supply Area (PSA) Assign Bin to PSA/Product/Entitled in Warehouse Number**.

3. You can activate the log for crate part replenishment using the subobject **REPLENISHMENT**.

On the **SAP Easy Access** screen, choose **Settings Activate Application Log**.

Production Supply Area (PSA)

Definition

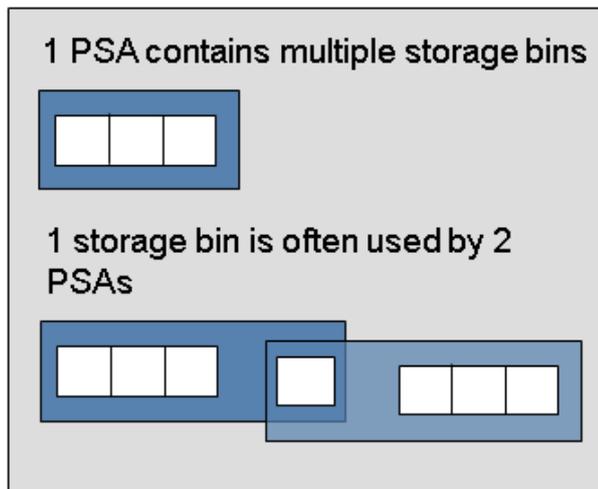
An area in production or in the warehouse where products are staged or withdrawn.

To stage products for a manufacturing order, a warehouse must know where it has to take the products. For manufacturing orders in the SAP ERP system, the PSA contains this information.

A PSA usually contains one or more storage bins where you can stage the products of a manufacturing order. For this reason, the SAP EWM system needs information about the PSAs to find out the correct storage bin for staging the products, depending on the following:

- Product number

- Party entitled to dispose
- PSA itself



Structure

- You can create a PSA manually in the SAP EWM system.
- You can replicate existing PSAs from the SAP ERP system to the SAP EWM system.
- One storage bin can be used by multiple PSAs.
- One PSA can have multiple storage bins.
- You can assign multiple PSAs to a storage bin.
- You can assign a storage bin to a combination of PSA, party entitled to dispose, and product, or to a combination of PSA and party entitled to dispose.

- Stock counting in the PSA is possible.
- A PSA is displayed in the stock overview of the warehouse monitor.
- The production supervisor can display the stock of a particular PSA.

Assignment of Storage Bins to a Production Supply Area (PSA)

Use

You do not assign a storage bin to a production supply area (PSA) directly, instead you define the storage bin in which you want to stage a particular product or product group within a PSA. By making this assignment, you define the following:

- Determination of the storage bin for staging to the PSA
- Determination of the storage bin for the consumption of products from the PSA
- Determination of the storage bin for the physical inventory in the PSA
- Controlling staging of crate parts

For more information, see [Settings for the Replenishment of Crate Parts](#).

- Various monitoring functions, such as displaying stock for a PSA, or displaying the storage bins for a PSA

For the organizational models (1) Production storage location in SAP EWM and (2) AFS-Production storage location, the product is stored in this bin from staging until consumption posting.

For the organizational models (3) IM storage location and (4) Production storage location in another warehouse number, the product is stored in this bin after picking. However, the stock is posted to the staging outbound delivery during goods issue posting.

For more information about organizational models, see [Organizational Model for Production Supply](#).

Features

Assignment of Storage Bins to a Production Supply Area (PSA)

You can manage the storage bin assignment at multiple levels for each PSA:

- Default storage bin for each party entitled to dispose
- Storage bin for each party entitled to dispose and product group
- Storage bin for each party entitled to dispose and product

For the organizational models (3) IM storage location and (4) Production storage location in another warehouse number, you do not need to enter a storage bin. As an alternative, you can select the **Staging Determination for Outbound Delivery** indicator. In this case, the system determines the staging area as in the standard outbound delivery process.

For the storage bin assignment for each product group, you must also do the following:

- Define a product group type in Customizing.

For more information, see Customizing for **SCM Basis** under **Master Data Product Product Groups Define Product Group Types**.

- Define the product group in Customizing.

For more information, see Customizing for **SCM Basis** under **Master Data Product Product Groups Define Product Group Types**.

- Assign the product group type to a warehouse number in Customizing.

For more information, see Customizing for **Extended Warehouse Management** under **Master Data Production Supply Maintain Product Group Type for PSA Assignment**.

- Assign a product group to the products.

On the **SAP Easy Access** screen, choose **Extended Warehouse Management Master Data Product Maintain Product Properties 2**.

Displaying the Storage Bin Assignment for a PSA

You can also display the storage bin assignment:

- In the storage bin display
- In the warehouse management monitor

Activities

You make the assignments on the **SAP Easy Access** screen.

Choose **Extended Warehouse Management Master Data Production Supply Area (PSA)** and then the following transactions:

- **Assign Bin to PSA/Product/Party Entitled to Dispose in Warehouse Number** (transaction /SCWM/PSASTAGE).

This function allows you to manage the storage bin assignments of all PSAs in the warehouse number.

- **Assign Bin to Product/Party Entitled to Dispose in PSA** (transaction /SCWM/PSASTAGE2).

This function gives you an overview of all storage bin assignments within a PSA. Multiple users can manage storage bin assignments to different PSAs at the same time.

Process Steps of the Production Supply

Use

The production supply in SAP Extended Warehouse Management (SAP EWM) is divided into the steps of staging and consumption.

Staging is when you take the stock from the warehouse to the production supply area (PSA) in the SAP ERP system. Alternatively, you take the stock directly to the PSA through an ad hoc movement

For more information, see [Production Supply Area \(PSA\)](#) and [Ad Hoc Movements in the Production Supply](#).

Consumption is when you withdraw products from the PSA. The system posts the consumption.

Process

1. **Staging** of the products

Transporting the products to the PSA. The system finds the destination storage bin for the production supply delivery.

2. **Consumption** of the products from the PSA

The confirmation of the manufacturing order triggers the consumption posting.

Inbound Delivery Process

Use

This process allows you to take the products to the production supply area (PSA) at the destination storage location (production storage location). This process runs:

- In the second part of a two-step stock transfer.

For more information about processes using a two-step stock transfer, see [Process Flow for Pick Parts Using Two EWM-Managed Storage Locations by Inbound and Outbound Delivery \(P313\)](#) and [Process Flow for Release Order Parts Using Two EWM-Managed Storage Locations \(Posting Change\) \(R1\)](#).

- If the inbound delivery item is not relevant for putaway. In this case, the system posts the goods receipt directly in the PSA.

In the same way, the system supports using the PSA in other inbound delivery processes. For example, if you have recorded a PSA for an inbound delivery of a purchase order, the system finds the destination storage bin during putaway using the PSA.

You can use transaction `/SCWM/TODLV` to see the destination storage bin that the system has determined.

Process

The process flow is as follows:

1. The system creates an inbound delivery notification.
2. The system creates an inbound delivery.
3. The user posts the goods receipt.
4. The user creates a warehouse task for the inbound delivery.
5. The user confirms the warehouse task.

Outbound Delivery Process

Use

This process allows you to stage products in the staging bay, and post goods issue from the warehouse. The system determines a staging bay using the production supply area (PSA).

The outbound delivery process takes place in the following processes:

- Processes in which the destination storage location is not an SAP Extended Warehouse Management (SAP EWM) managed storage location, but an inventory-managed (MM-IM) storage location. The SAP EWM system executes the staging.
- Processes with a two-step stock transfer using two SAP EWM-managed storage locations and two warehouse numbers, such as shuttle processes.

For more information about the defined processes in production supply, see [Organizational Model for Production Supply](#).

You can use transaction `/SCWM/PRDO` to see the staging bay that the system has determined for the production supply area. On the **SAP Easy Access** screen, choose **Extended Warehouse Management Delivery Processing Outbound Delivery Maintain Outbound Delivery Order**.

Note

If the delivery is not relevant for picking, the system determines the goods movement bin from the PSA and not the staging bay.

If you map your production supply using a shuttle process, in other words, if you are using multiple warehouses and have to transport the products across a road, the system assigns a storage bin as it does for other deliveries.

If you have activated shipping and receiving functions, the system determines the PSA from the information within the shipping and receiving functions. Use the shuttle process if you are working with shipping and receiving functions.

For more information about the settings for shipping and receiving, see Customizing for **Extended Warehouse Management** under **Cross-Process Settings Shipping and Receiving**.

Prerequisites

You have defined the PSAs and assigned storage bins to these.

On the **SAP Easy Access** screen, choose **Extended Warehouse Management Master Data Production Supply Area (PSA)**.

Prerequisites for Automatic Goods Issue Posting

If you want to post goods issue automatically when confirming the warehouse task at the PSA, you must make the following settings:

1. You have made the following settings in Customizing for **Extended Warehouse Management**:
 - You have registered the document type of the assigned outbound delivery order for the automatic goods issue posting.
 - You have made the settings for the program **Activate Application Log**.

In Customizing for **Extended Warehouse Management**, choose **Goods Issue Process Outbound Delivery Production Supply Maintain Settings for Aut. Goods Issue for Production Supply** and **Post Goods Issue for Consumption Posting**.

2. You have scheduled the report **Post Goods Movement for Production Supply Area** (transaction /SCWM/DLV_GIPSA) to run regularly. By doing this, you post the stocks at the PSA as a goods issue from an SAP EWM-managed storage location to an MM-IM inventory-managed SAP ERP storage location.
3. As an alternative to step 2, you can schedule the report /SCWM/R_DLV_POST_GI_PSA automatically when you confirm the warehouse task at the PSA. This is appropriate if you use the PSA only rarely.

Process

1. The SAP ERP system replicates the outbound delivery request to the SAP EWM system. From this, the SAP EWM system creates an outbound delivery order.
2. You create a warehouse task for the outbound delivery order.
3. You confirm the warehouse task. Depending on your settings, the system posts goods issue automatically when confirming the warehouse task.
4. You post the goods issue.

Posting Change Process

Use

This process allows you to take the products within a warehouse from the storage bin to the production supply area (PSA). The system maps the stock change using a posting change delivery.

The system uses the posting change delivery for the following:

- Processes using two SAP Extended Warehouse Management (SAP EWM) managed storage locations in one warehouse
- Processes using one SAP EWM-managed storage location in one warehouse

For an overview and description of all the processes that are available for the production supply, see [Organizational Model for Production Supply](#).

The system creates a posting change if:

- The SAP ERP system replicates a posting change request to the SAP EWM system.
- You want to stage products as well. In this case, you create a posting change in the SAP EWM system manually.

You can use transaction `/SCWM/IM_PC` to see the destination storage bin that the system has determined. The system determines the destination storage bin using the PSA. Define and assign the PSA. On the SAP **Easy Access** screen, choose **Extended Warehouse Management Master Data Production Supply Area (PSA)**.

For more information about posting changes in **Extended Warehouse Management**, see [Posting Change for Stocks](#).

Process

1. When the SAP ERP system sends a posting change request, the SAP EWM system creates a posting change delivery.

The user can also create a posting change delivery in the SAP EWM system manually.

2. The user creates a warehouse task for the posting change delivery in the SAP EWM system.
3. The user confirms the warehouse task in the SAP EWM system.

Ad Hoc Movements in the Production Supply

Use

This function allows you to supply production with the required components using ad hoc movements. This also allows you to return components that are left over from production back to the warehouse, or to stage components to the production supply area (PSA) quickly, in the case of unplanned excess consumption.

For more information, see [Ad Hoc Movement](#) and [Production Supply Area \(PSA\)](#).

Activities

Staging Using an Ad Hoc Movement

1. Create the ad hoc warehouse task as described in [Ad Hoc Movement](#), and as the receiving storage bin, specify the bin that is assigned to the product and to the PSA.

For more information, see [Assignment of Storage Bins to a Production Supply Area \(PSA\)](#).

2. When the user confirms the movement, the product in the PSA is available for goods issue posting.
3. If you are using a separate storage location for the production, you must make sure of the following:
 - The destination storage type in the Customizing settings for the storage type must contain the availability group relevant for this storage location.
 - The **Availability Group Mandatory** field must be set, so that the posting change to the production storage location occurs when the components arrive at the PSA.

To make these settings, in Customizing for **Extended Warehouse Management**, choose **Master Data Define Storage Type**.

Putback Using an Ad Hoc Movement

1. Create the ad hoc warehouse task as described in [Ad Hoc Movement](#). You can make your selection using the storage bin that is assigned to the product and to the PSA.

For more information, see [Assignment of Storage Bins to a Production Supply Area \(PSA\)](#).

2. You can either specify the destination bin manually, or determine it automatically using the putaway strategies.

For more information, see the section about putaway strategies in Customizing for **Extended Warehouse Management**. Choose **Goods Receipt Process Strategies**.

3. If you are using a separate storage location for the production, the destination storage type inside the warehouse must contain an availability group that does not match the production storage location. The **Availability Group Mandatory** field must be set so that the posting change from the production storage location to the general storage location occurs upon arrival inside the warehouse.

Consumption Posting Delivery for Production Supply

Use

This function allows the SAP ERP system to generate a consumption posting delivery when backflushing while confirming the manufacturing order. It then replicates this consumption posting delivery to the SAP Extended Warehouse Management (SAP EWM) system. The outbound delivery order in the SAP EWM system is not relevant for picking. The system posts goods issue immediately upon creating the outbound delivery order.

The system defines the goods movement bin from the assignment of the production supply area (PSA) to the storage bin. For more information about the PSA assignment, see [Assignment of Storage Bins to a Production Supply Area \(PSA\)](#).

Prerequisites

You have made the necessary Customizing settings for the production supply and for the delivery. For more information, see [Customizing Settings for the Production Supply](#) and [Customizing Settings for the Delivery](#).

Activities

Exception Handling When Goods Issue Fails

For cases where goods issue fails, you define in Customizing whether the system is to create a data record automatically, in order to process the failed goods

movements for the production confirmation in the SAP ERP system again. You can define whether the system is to do the following:

- Post a partial goods issue for all items for which goods issue is possible
- Adjust the delivery quantity and send the information to the SAP ERP system

Post Partial Goods Issue

If part of the goods issue is successful, you can post partial goods issue.

Example

For example, if the system could post 9 out of 10 items, you can have the system post goods issue for these 9 items, and handle the incorrect item as described under **Adjust Delivery Quantity**. Alternatively, you can have the system set all items to 0, and handle them as described under **Adjust Delivery Quantity**. The system forwards this information on to the SAP ERP system.

If you want to post partial goods issue, you must make the following settings in Customizing for **Extended Warehouse Management**:

- You have selected the **Automatic GI for Consumption Posting Delivery** checkbox.
- You have selected the **Post Partial GI** checkbox.

Adjust Delivery Quantity

If you want to adjust the delivery quantity, you must make the following settings in Customizing for **Extended Warehouse Management**. A user in the SAP EWM system must process the delivery manually; for example, the user must post goods issue after correcting the original error, or adjust the delivery quantity.

- You have selected the **Automatic GI for Consumption Posting Delivery** checkbox.
- You have selected the **Adjust Quantity** checkbox.

If you do not want to adjust the delivery quantity, the quantity remains the same, and the system does not post goods issue.

To make these settings, in Customizing for **Extended Warehouse Management**, choose **Goods Issue Process Outbound Delivery Production Supply Post Goods Issue for Consumption Posting**.

Assignment of Stock to the Goods Issue Bin

For example, if multiple suitable stocks are in a handling unit in the goods movement bin in an unpacked state, the system uses the Business Add-In (BAI) to select a suitable stock.

In the standard implementation, the system sorts all stocks of the PSA using the first-in first-out (FIFO) principle.

You can implement BAI /SCWM/EX_CORE_PROD_STOCK to sort the stocks at the PSA for consumption posting according to the following criteria:

- Sort the stocks per delivery item
- Reduce the quantity of stock items
- Delete stock items from the list

For more information about this BAI, see Customizing for **Extended Warehouse Management**. Choose **Business Add-Ins (BAIs) for Extended Warehouse Management Cross-Process Settings Goods Movements for Delivery BAI: Select and Sort Stock for Consumption Posting Delivery**.

Physical Inventory in Production Supply

Use

You can perform a physical inventory of stocks that are located in a production supply area (PSA).

Activities

You perform a physical inventory on stocks of a PSA as follows:

1. When creating a physical inventory document, select all storage bins that are assigned to the PSA.

On the **SAP Easy Access** screen, choose **Physical Inventory Create Physical Inventory Document**.

2. Enter a PSA in the advanced search. The system selects all storage bins that are assigned to this PSA.

Cancellation of Consumption Posting Delivery

You use this function to cancel consumption posting deliveries.

When you cancel a consumption posting delivery, the SAP ERP system triggers a cancellation of the outbound delivery and goods movements that were posted for the components. The SAP Extended Warehouse Management (SAP EWM) system cancels goods issue of the components and transfers this information to the SAP ERP system. This increases the stock of the components. The SAP EWM system then reduces the deliveries to 0 and informs the SAP ERP system about this reduction.

1. In `CO14`, you can display the updated data for the manufacturing order. The system has now set the **Cancellation Indicator**. The SAP EWM-managed components and SAP EWM-managed finished product are no longer displayed in the **Goods Movements** overview.
2. You call transaction `/SCWM/PRDI` in the SAP EWM system, and enter the SAP ERP delivery number. You then choose the function **Reverse Goods Receipt**.
3. The SAP ERP system posts the goods movement for the material, and reduces the stock of the material correspondingly.
4. The SAP EWM system reverses the goods receipt, and transfers this information to the SAP ERP system.
5. The SAP ERP system updates the stock situation for the finished material by posting goods issue and reducing the stock.

For more information about canceling confirmations, see SAP Library under **SAP ERP Central Component Logistics Logistics Execution (LE) Integration of Extended Warehouse Management Processes in Production and Process Order Cancellation of a Confirmation**.

BAdIs in the Production Supply

The following Business Add-Ins (BAdIs) are available:

BAdI /SCWM/EX_PSA_GENERATE_NAME

You can use this BAdI to assign a name to the production supply areas (PSAs) that you replicate from the SAP ERP system. This may be necessary to avoid naming conflicts between the SAP Extended Warehouse Management system and the SAP ERP system.

BAdI /SCWM/EX_CORE_PROD_STOCK

You can use this BAdI to influence which of the stocks available in the production supply area are to be posted for goods issue (GI). This BAdI is called during goods issue posting of the consumption posting delivery. It returns a list of the available stocks for each delivery item, which you can then sort according to your own criteria.

