

Material



HELP.PSMAT

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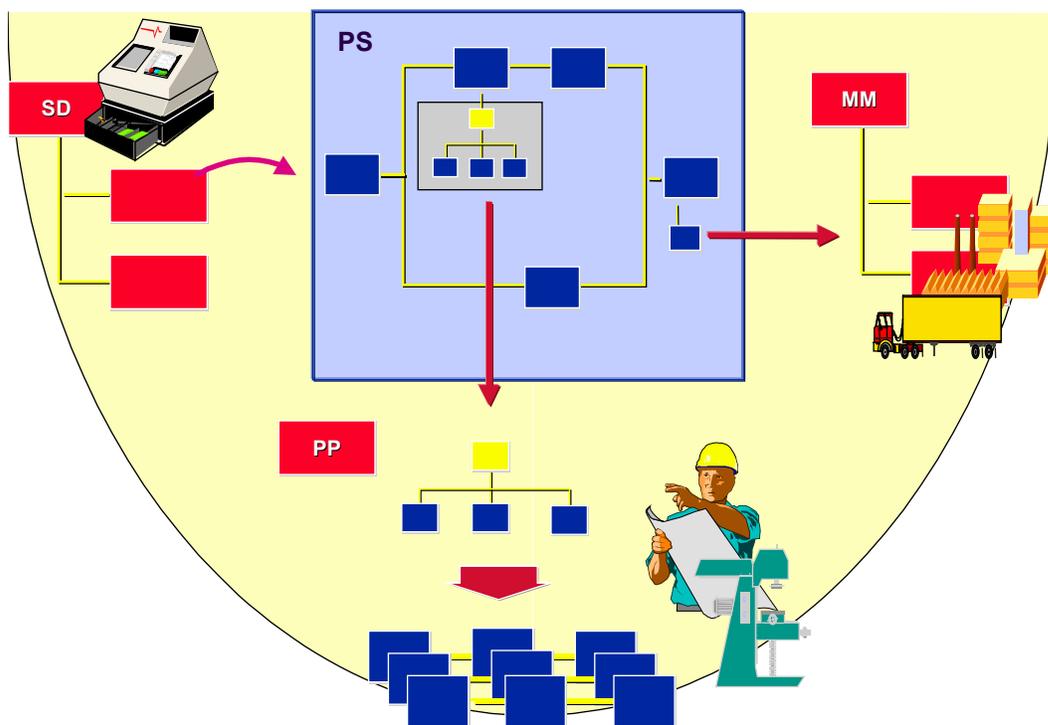
Material

Purpose

Use this component to plan and monitor the material requirements and costs in projects, to control the flow of materials and for scheduling.

Integration

Material forms a link from a project to *Sales*, *Materials Management (Purchasing and Inventory Management)*, and *Production Planning and Control*.



Features

Assignment

Via the assignment of material components to network activities, you determine the assemblies and raw materials that must be reserved or ordered for a project and trigger procurement via MRP or purchasing.

Depending on your type of project, there are various ways of assigning material components.

- In projects that have few material requirements, you can assign the network activities [material components individually \[Page 20\]](#).

Material

- You can assign a material with a BOM to an activity and then [explode the BOM \[Page 28\]](#) (level by level).
- If you work with BOMs that contain a large number of components or that are still been built up, you can expect to make several changes to the BOM during the project. You can minimize the amount of work involved in making these changes in the project by using [BOM transfer \[Page 88\]](#). Here you create logical connections between BOM items and the network activities. To update the changes in the BOM in the project, you only have to execute the assignment again.
- If you use standard networks for creating your networks, you can predefine material assignments by [assigning material to activities in standard networks \[Page 53\]](#). When you then create a network, these component assignments are copied. You can use this method together with variant configuration, if you use projects to manufacture “products” that differ but use the same material components and have a similar project structure. In this case, you create a configurable standard network that is assigned a super BOM, which contains all possible components. When you create a network, the system copies the necessary components to the network, based on the characteristic value assignment.
- [Assembly processing \[Page 139\]](#) is a special case of this process, in which the Project System has a direct connection to sales: If you enter a material that has been set up in the correct manner in a sales document item and this material is assigned to a standard network, a project structure is generated automatically from the sales document. The material requirements can be predefined in the standard network as above.

Procurement

When you assign a material, you can determine how it is to be procured via the [item category \[Page 14\]](#) and other settings.

- The SAP standard item category **N** (non-stock item) always leads to [direct procurement \[Page 12\]](#) and to a purchase requisition, which is generated by the network. The system does not generate reservations that are relevant to MRP. You cannot post movements to stock for components with item category N.
- Inventory management is envisaged for the SAP standard item category L (stock item). Depending on the settings in the material master and the bill of material, or the settings and assignments in the project system, the system generates for components with this item category a reservation, a reservation and a purchase requisition, or only a purchase requisition.

If during [procurement via MRP \[Page 10\]](#), the requirements cannot be covered from stock, MRP decides whether the material is produced internally or procured externally. The system then generates as a procurement element either a planned order or a purchase requisition.

If materials have a long lead time (production time or delivery time), you can generate preliminary purchase requisitions or planned independent requirements. For information about the prerequisites and settings necessary for this, see [Advance Procurement \[Page 30\]](#).

Scheduling Material Flow

During the scheduling of a project, the system also determines the [requirements dates \[Page 26\]](#) of the components in relation to the activity dates. This ensures that you can control and monitor the staging of the required components.

Due to the multi-level BOM explosion in networks, you can control dates exactly, since you can examine not only the top component but also all the subordinate BOM items.

With [Monitoring Dates \[Page 120\]](#) you have a tool with which you can manage the dates in materials procurement (internal and external).

Inventory Management

Material for a project can either be kept in general plant stock or an individual customer stock. You can use project stock to view the material components required by a project separately with regard inventory management and MRP. If a network is assigned to a sales order, you can also manage the material components in sales order stock. For more information, see [Managing Stocks of Material Components \[Page 61\]](#) and [Project Stock \[Page 60\]](#).

Delivery

If components are assigned to a project, you can create [deliveries \[Page 111\]](#) in the Project System, and as a result deliver independently of a sales order.

Via third party orders, it is possible to have externally procured components delivered directly from the vendor to the customer.

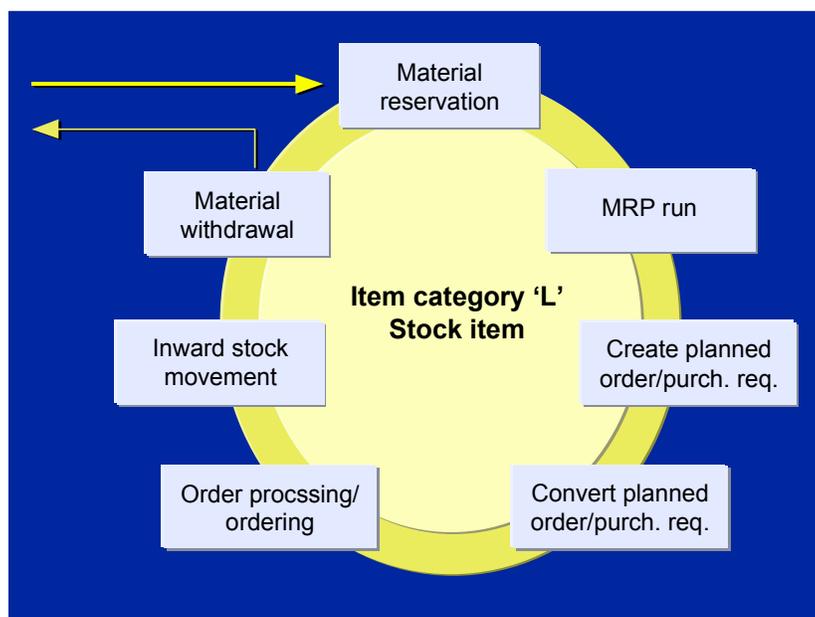
Procurement via Materials Requirements Planning

Procurement via Materials Requirements Planning

Use

If you allocate a material with the [item category \[Page 14\]](#) L and the corresponding settings in the material master to a network activity, the system generates a reservation for the material. A **reservation** is an internal document that defines the requirements of a material and reserves a specified quantity for the network activity.

The material is procured using material requirements planning (MRP). For more information on requirements planning, see the [Requirements Planning \[Ext.\]](#) (PP-MRP) component.



As soon as the reservation is activated, the system carries out an [availability check \[Page 38\]](#) for the material in the next MRP run. If there is not enough material in stock to meet the requirements, the system creates a [planned order \[Ext.\]](#). Planned orders can be converted into production orders for the actual manufacture of the material component required or into purchase requisitions/orders.



If a purchase requisition is generated the same process takes place as described in the graphic in [Direct Procurement \[Page 12\]](#).

If you use MRP, you still can decide whether to manufacture a required material internally or to buy it from an external vendor. However the decision will then be taken an MRP controller, who depending on your organization structure and the kind of material involved, may not be directly involved with your project.

Procurement via Materials Requirements Planning

Direct Procurement

Direct Procurement

Use

If you assign components that are procured directly to a network activity, the system generates a purchase requisition for the material. A purchase requisition is an internal document that defines the requirements of a material or a service. This document authorizes the [purchasing department \[Ext.\]](#) to procure the material in the quantity specified for the specified date.

You determine whether a purchase requisition is created for each material or whether one **collective requisition** for all externally procured materials and services is created per network in Customizing for the *Project System* in [Specify Parameters for Network Type \[Ext.\]](#).



Direct procurement is initiated in the following cases:

- In general for components with item category N
- For components with item category L that have either globally in the **material master** or individually in the **BOM item** *Direct procurement* set in the *Special procurement* field.

You can also change the procurement type for a BOM item using the special procurement key but without changing the item category, which you can only do by deleting the item and creating a new item with a different item category.

Externally procured materials can be delivered directly to a customer site or other location when you place a **third-party order**. You specify the address in the network and can use the same address for several components, or retrieve an address from one of the address databases in the R/3-System.

Item Category

Item Category

Definition

The item category determines together with other settings, for example in the material master, the following:

- The procurement type
- In which kinds of stock the material can be managed
- The account assignment category

If the material could potentially be kept in several [types of stock](#) the system will ask you to choose the stock, when you assign the component. For more information, read [Material Component Inventory Management \[Page 61\]](#).

Use

The following item standard categories in the SAP System are relevant for projects:

- Category L (stock item)
 - Depending on the settings in the material master or the BOM, and the settings and assignments in the Project System, the following procurement methods are available for item category L:
 - Reservation for the network in plant stock or individual stock
 - Reservation for the network in individual stock, generating a purchase requisition to cover requirements
 - Generation of a purchase requisition in individual stock as a preliminary purchase requisition or a third-party purchase requisition
 - Planned independent requirements for plant stock or individual stock
 - Purchase requisition for the network
 - It is also possible to always use item category L in BOMs and to control the procurement type through the special procurement key in the BOM item and the procurement indicator in the network.
- Item category N (non-stock item)
 - The SAP standard item category N (non-stock item) always leads to [direct procurement \[Page 12\]](#) and to a purchase requisition, which is generated by the network. The system does not generate reservations that are relevant to MRP. You cannot post movements to stock for components with item category N.
- Item category R (variable-sized item)
 - This item category is used for components that are cut to size. If you assign a material with this item category to an activity, you must also enter data for the item. The system then calculates the necessary variable-size item quantity. Otherwise processing is as for item category L.
- Item category T (text item)

Item Category

You can use the item category to assign a text of any length to an activity. Text items are not relevant for MRP.

Managing Stocks of Material Components

Managing Stocks of Material Components

Use

Material components in networks can be managed in different stocks. Depending on the network and the settings entered in the material master, you can use the following different types of stock:

- Plant stock
This material is managed in general stock. It is not assigned to any particular sales order or project.
- Sales order stock
Viewed from material requirements planning, sales orders can have their own stock. The [individual stock segments \[Ext.\]](#) are assigned to sales order items.
- Project Stock
Viewed from material requirements planning, projects can have their own stock. The [individual stock segments \[Ext.\]](#) are assigned to WBS elements.

Prerequisites

- You determine whether a material can be managed in an individual stock in the material master on the MRP detail screen using the *Individual/coll.* field. If you want to manage a material in project stock or sales order stock, this field must be set to *Individual requirements only (1)* or *Individual and collective requirements ()*.
- To use a sales order stock in a network, you must enter the sales order item that manages the stock in the network header.
- To use a project stock in an activity, you must assign the activity to the WBS element that manages the stock.
- You determine whether **project stock** is permitted for a **project** on the *Control* tab page of the project definition. The options for *Project stock* are:
 - No project stock
 - Valuated project stock
 - Non-valuated project stock

The system copies the default value from the project profile. You can change this value when you create the project.



After you have saved the project, you cannot change this setting for project stock. The setting applies to all WBS elements created for this project definition.



If you work with project stock, the WBS structure should resemble the BOM structure of the product to be produced or the assembly BOM of the asset. Otherwise the assignment of components to WBS elements differs from the assignment of the network activities to WBS elements too often.

Managing Stocks of Material Components

For more information on valuated and non-valuated project stock, see [Project Stock \[Page 60\]](#).

Activities

When you assign a material component, the system determines an account assignment category that determines the stock management and settlement. This depends on the assignment of the network and the settings in the material master. If different stocks are allowed, the system prompts you in a dialog box to determine which stock should be used.

The following graphic illustrates the possible account assignment categories for items managed in stock:

Network NW with SD doc. NW with project	Dependent requirements ind. in material master (1, 2, _)	Item category L "Stock item"	Account assignment category. (F, D, Q, _)
(F)	Individual (1)	Not possible → (2)	F, _
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation for network	F, _
(D)	Individual (1)	Reservation for SD doc.	D
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation f. SD doc/NW	D, F, _
(Q)	Individual (1)	Reservation for WBS element	Q
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation f. WBS el./NW	Q, F, _

Account assignment categories: F = Order (or *Gener.AcctAssgmt* set in Customizing)
D = Sales order stock, settled to project, Q = Project stock

Items that are procured directly, are not assigned to a stock segment. They do not pass through a warehouse. The costs are settled to the consuming object, which is the case of the Project System is either the network activity (activity-assigned networks) or the network header (header-assigned networks). If the material is to be procured in a production order, the costs are settled to the production order.

The account assignment categories and the item categories are examples from the SAP standard system. It is possible to use different values with the same settings in their place.

It is not possible to use an individual stock, if the dependent requirements indicator for the material is set to *Collective requirements only* or if the network or activity has not been assigned to an object that manages an individual stock (i.e. a sales order item or WBS element with individual stock). In this case the account assignment category is used that you entered in Customizing the Project System under *Material* → *Procurement* → *Check Acct Asst Types and Document Types for Purchase Reqs* in the *acct. assgmt gen.* field.

Managing Stocks of Material Components

For externally procured components as well as possibly deciding which stock to use, you can also decide if you want to use **third party orders** for these components, that is deliver the component directly from the vendor to the customer.

If necessary you can trigger advance procurement and instead of a purchase requisition or reservation create a preliminary purchase requisition or planned independent requirement. For more information, see [Advance Procurement \[Page 30\]](#).

On the component assignment detail screen you can assign the components to a different WBS element than the activity is assigned to. You may need to do this, for example, in the case of materials procured in advance.

You can change the stock and the procurement parameters by selecting the components and choosing *Component* → *Change procurement*.



You cannot change the procurement parameters after the network has been released.

If there is already a purchase order for a directly procured component (item category N) and you make a change, a warning appears.

For components that are procured via MRP, you also receive a warning if a change affects MRP.

Material Assignment to Networks

Use

If you only need a few material components in a project, you can assign these components to the network activities manually. In the case of materials with BOMs, you can [explode \[Page 28\]](#) the BOM level by level or all at once in the network activity.

If a material is not included in a BOM, you cannot assign it using BOM explosion or [BOM transfer \[Page 88\]](#) and therefore you must assign it manually.

Features

Requirements Date and Requirements Quantity

In material assignment, you can specify the [requirements date \[Page 26\]](#) and the requirements quantity.

You can also specify negative quantities and as a result assign [assembly items \[Page 32\]](#), which are assembled later in the network. The “requirements date” is then set automatically to the end of the activity, however the resulting goods movement is a material receipt from the network to stock.

You can use [Execution Factors \[Ext.\]](#) in network headers or activities to multiply the requirements quantities by constants.

Inventory management and Procurement

If there are different options available for [inventory management \[Page 61\]](#) or procurement, a dialog box appears during component assignment, in which you can choose

- In which stock type the component is managed
- Whether [advance procurement \[Page 30\]](#) is possible
- Whether a directly procured component is a third party order and, in this case, if the component is delivered to the customer or the construction site

You can define a **procurement indicator** in Customizing the Project System under *Material* → *Procurement* for frequently used combinations of settings. You can then save this procurement indicator in the network profile as a default or enter it in the component overview during assignment. If the system can copy all the settings from the procurement indicator, it does not display the dialog box.

After assignment you can no longer change the procurement indicator.

However you can, even if you have used a procurement indicator, change individual settings as long as the activity has not been released. To do this, select the component and choose *Component* → *Change account assignment*. If there is already a purchase order or reservation for a component, a warning appears.

Assigning Materials to a Network Manually

Assigning Materials to a Network Manually

Prerequisites

You are on the [component overview \[Page 21\]](#) for the activity.

Procedure

1. Enter the material, required quantity, unit of measure, item category and choose *Enter*.
Depending on the settings in the material master and the assignments of the network or activity, a dialog box may appear in which you enter:
 - If the material is managed in different stocks, the stock type (see [Managing Stocks of Material Components \[Page 61\]](#))
 - If the prerequisites to do so are met, you can generate preliminary requirements (see [Advance Procurement \[Page 30\]](#))
 - If the component are directly procured, you can create a third-party order. In this case the material is delivered directly from the vendor to the customer.
2. Enter the necessary data for all the material components.
On the *General Data* screen you can view the reservation number as well as the reserved quantity (required quantity). If you align the requirements to the start or finish date of the activity, you can enter an offset (see [Requirements Date \[Page 26\]](#)).
In the case of material with item category L, for which a reservation is created, you can see the number of the reservation on the *General data* detail screen.
For material that is procured directly, you can see information about whether a purchase requisition has been created in the *Purchasing data* detail screen, if [requirements have been activated \[Page 33\]](#). You can go to the purchase requisition by choosing *Purch. Req.* . You can plan dates and values for payments by choosing *Invoicing plan*.
3. If required, assign additional materials and enter the data for the material.
4. Return to the component overview.
5. To check material availability, choose *Component* → *Check availability*.
6. Save the network.

Calling up the Component Overview

Use

Use this procedure to call up the component overview either for the whole network or for individual activities. In the component overview, you can display components and execute certain functions.

Not all functions are available in the component overview for the network. For instance you can only create new component allocations in the overview for activities.

Prerequisites

You are in a transaction for editing the required network.

For example, you have called up the maintenance transaction for networks by choosing *Logistics* or *Accounting* → *Project System* → *Basic data* → *Project* → *Special maintenance functions* → *Network* → *Change*. Alternatively you can call up both overviews from the Project Builder.



The component overview in the Project Planning Board is similar to the function described. However it is a graphic representation that has slightly different features. For more details, see [Working in the Overviews \[Ext.\]](#)

Procedure

Calling up the Component Overview for the Network

In the toolbar, choose . You can do this from the following views:

- The initial screen for networks
- The network header ()
- The activity overview ()

Calling up the Component Overview for the Activities

1. Choose .

The activity overview appears.

2. Select the required activities and choose **from the toolbar below the activity overview.**

The component overview appears with the first selected activity. If you have selected several activities, you can navigate between the component overviews for individual activities with .

If you call up the component overview from network maintenance, two tab pages are available *Total* and *Purch(asing)*. On the *Total* you can see and maintain information about all the components assigned to the activity. On the *Purch.* page you can only see maintain information for components, for which a purchase requisition has been generated in the network. In general this is purchasing data. This is not available if you call up the overview from the Project Builder.

Calling up the Component Overview

The Component Detail Screen

Use

The component detail screen provides you with more information about the component assignment.

Features

The detail screen is divided into tab pages:

General data

Here you enter general data for the component assignment. In particular you can maintain details of how the requirements date is aligned to the activity dates. For more details, see [Requirements Date Determination \[Page 26\]](#) and [Aligning Activity Duration with Material Lead Time \[Page 27\]](#).

If reservations, purchase requisitions, or follow-on documents have been created for the component, the number is displayed on this screen.

Information about availability and the quantity withdrawn from stock is displayed. You can also determine whether the component is relevant to costing.

You can also enter details for delivery, such as the recipient and the unloading point here.

Procurement Parameters

On this tab page details are displayed concerning the procurement, stock management, and account assignment. Some fields from the material master regarding procurement, such as the procurement type and the material type, are also displayed.

Here you can set the *Backflush* and *Bulk material* indicators. If applicable, you can also change the stock managing WBS element.

Purchasing data

Here you maintain the data that is required for procuring a component externally, for instance vendor, info record and account details. The screen only appears if the component is to be procured externally, that is, if a purchase requisition is created for it.

Long text

Here you can maintain the long text for the component.

Size

In the case of variable-size components, you enter the sizes of the component here.

Activities

If you are working in network maintenance, you have to create a component on the component overview for the relevant activity. Otherwise (in the Project Builder or in the Project Planning Board) when you create a new component, the system goes directly to the detail screen.

If applicable, you can change the procurement type (for instance reservation for a network or for a WBS element) by choosing *Procurement*. You can also maintain unit costings by choosing *Unit costing*.

The Component Detail Screen

Copying Component Data

Use

Use this procedure to copy the *General data* and the *Purchasing data* from one component to another in the same network.

Prerequisites

You are the component overview for an activity or on a component detail screen.

Procedure

1. If you are on the component overview, select the components whose data you want to copy. on the component detail screen start at step 2.
2. Choose .
The *Copy component data* dialog screen appears. On the left is the permissible source data and on the right the possible target components.
3. If necessary, change the data that is to be copied, or cancel the indicator for data that you do not to copy.
4. Select the required target components and choose .

Result

After the following checks, the data is copied to the target components:

- If the requirements date is changed, the system sets the *Man. requirements date* indicator



Manual requirements dates are **not** adjusted if dates change.

- The system only copies the material group, if the target component does not have a material number
- The system only copies purchasing data for externally procured components
- The system only copies the account number of the vendor, if the target component does not have a purchasing info record.

Requirements Date Determination

Requirements Date Determination

Use

When you assign a material component to a network activity, you can determine the offset of the requirements date to activity dates or enter a fixed date manually. You can predefine the offset to the activity dates in the BOM.

By aligning the requirements date with the activity dates, you can ensure that the requirements dates are adjusted automatically when the activities are rescheduled.

Activities

Aligning a Requirements Date to an Activity Date

You specify on the component detail screen in the *Quantity/Reservation* section whether the requirements date is aligned with the start date or the finish date of the activity.

If you have not set the *Align. Fin. Date* indicator (stage components based on finish date) in the network profile, the system uses the start date as a default.

In the *Offset* field you can determine how long before or after the activity date the component is staged. A negative value means the component is staged before the activity date, a positive value after.



Setting *Align. Fin. Date* with an offset of -2 Days means the component is staged 2 days before the activity finish date.

Entering an Offset in the Bill of Material

You can predefine an offset on the item detail screen of the BOM. This offset refers to the start date or the finish date of the activity the component is assigned to, depending on the settings in the network.

Manually Entering a Requirements Date

You manually overwrite the requirements date proposed by the system in the *Quantity/Reservation* section of the component detail screen. The system then sets the *manual reqmts date* indicator automatically.



The system does not change requirements dates that you enter manually, if dates are changed in scheduling.

Aligning Activity Duration with Material Lead Time

Use

You can adjust the duration of a network activity to match with the lead times of all the material components assigned to it.

Prerequisites

You are on the [component overview \[Page 21\]](#) for the activity.

When calculating the overall lead time, the system only considers those material components for which you have set the indicator *Align.Fin.date* on the component detail screen.

Procedure

1. On the component overview for the activity, select those components whose lead times should determine the activity duration.
2. By double-clicking on the component in the component overview call up the detail screen and set the *Align. Fin.date* indicator. Return to the component overview.
3. Choose *Component → Duration deliv. time*
4. Save the network.

Result

The system determines the whole procurement lead time and the maximum duration of the activity from the following factors.

- The planned delivery time of externally procured material components
- Total replenishment lead time for internally produced components or the in-house production time, if the total replenishment lead time has not been entered on the relevant *MRP* tab page.

Exploding the Bill of Material

Exploding the Bill of Material

Use

If you have allocated a material with a bill of material (BOM), a sales order BOM, or a WBS BOM to an activity, you can explode this BOM in the network level-by-level or completely (multi-level).

You need to explode a bill of material, if

- You want to maintain subordinate components in the BOM
- The header material is not planned using MRP, but you want to trigger MRP for subordinate components
- You want to change the structure of the bill of material as used in the current network.

For more information, see [BOM Explosion \[Ext.\]](#)

If the material component was already allocated to the activity before the BOM explosion, you have the following options.

- You select the component and proceed as below. When you do this, the “header” material is assigned the item category **T** (text item) which means that no requirements will be generated for it, just for the subordinate items.
- If you do not select the component, but enter it manually in the dialog box, it remains allocated to the network with the original item category. You can delete this component or define it as an [assembly item \[Page 32\]](#), by giving it a negative requirements quantity.

Procedure

1. On the *Component Overview* screen for an activity, choose *Components* → *Explode BOM*.

The *BOM selection* dialog box appears.

2. Enter the necessary data, for example for a WBS BOM the WBS element for which the BOM was created. The default value for the requirements quantity is the [Execution Factor \[Ext.\]](#) in the activity. You can explode the BOM level-by-level or all at once (multi-level).



If you explode the BOM all at once, requirements could be generated both in the network and in MRP, depending on control of the BOM items. Since MRP always explodes the complete BOM, this could lead to multiple requirements for the same component.

3. Choose *Continue*.

A list of all the BOM items appears. You expand or compress multi-level BOMs by choosing  or . Choose  to display the BOM as an overview tree of the BOM structure in which phantom assemblies are shown as such.



Document items are not displayed, since the system does not copy document items to network activities.

Exploding the Bill of Material

4. Select the items that you want to allocate to the network in the list or the tree and choose *Copy*.
5. If necessary, check the data for inventory management and account assignment.
6. Save the network.

See also:

[BOM transfer \[Page 88\]](#)

Advance Procurement

Use

Use this function to generate preliminary requirements when you assign a material component to a network activity. Preliminary requirements cover real requirements that are generated a later point of time. This is useful if material components have a long replenishment time (planned delivery time or in-house production time).

- In the case of components with item category N, which are externally procured without MRP, the system generates preliminary purchase requisitions (not purchase requisitions).
- In the case of components with item category L, which are procured using MRP, the system generates planned independent requirements (instead of reservations).

Prerequisites

- Material components with item category N that are to be procured in advance must be managed in individual stock, that is sales order stock or project stock.
 - If a material is procured directly for a network and is not kept in stock, the system cannot settle requirements. Therefore it is only possible for individual stocks.
- The following settings must be made for material components with item category L, which are procured using MRP, in the *Planning* section of the *MRP* detail screen of the **material master**.
 - *Mixed MRP* must have the value *Subassembly planning with final assembly* (1).
 - A *strategy group* that leads via the assigned *requirements type* to a *requirements class* with suitable settings:

In the standard system you can use **strategy group** *Planning at assembly level* (70). This leads to **requirements type** *Planning for assemblies* (VSFB) and to **requirements class** *Assembly planning* (105).

This requirements class has been set up so that planned independent requirements are generated:

Consumption indicator: *Consume planning with assembly* (1)

Planning indicator: *Net requirements planning* (1)

Consumption indicator for planning requirements: *Consume (customer requirements), reservations, dependent requirements*. (2 or 3) (Customizing for Demand Management under Planned Independent Requirements → *Default values and Presettings* → [Define default values for consumption per reqmts class \[Ext.\]](#)).

Activities

When you assign a component, you decide whether it should be procured in advance. You can change this setting up to the release of the network activity by selecting the components and choosing *Components* → *Chg. acct. assign.*.

When [requirements are activated \[Page 33\]](#), the system generates preliminary purchase requisitions and planned independent requirements for components that are procured in advance.

Advance Procurement

Materials planning treats a planned independent requirement as a requirement. Afterwards when a real requirement is generated and the system finds a component for which a sufficiently large planned independent requirement exists in the same [individual stock segment \[Ext.\]](#), then these requirements will be set off against each other. This means for project stock that the components have to be assigned to the same WBS element.

For more information on advance procurement, see the *Demand Management* (PP-MP-DEM) component.

Assembly item

Assembly item

Definition

If a material component is produced or assembled in a network activity and is consequently used, for instance for a delivery, then it is considered an assembly item.

Use

Assembly items are created in network activities and are represented as reservations with negative quantities. When you assign an assembly item to a network activity, the receipt date for the assembly item is automatically set by the system to the activity finish date.

You can assign an assembly item to an activity either manually, by entering a negative requirements quantity, or by using BOM transfer.

See also:

[Assigning Materials to a Network Manually \[Page 20\]](#)

[Defining Assembly Items for BOM Transfer \[Page 106\]](#)

Activating Requirements

Use

Use this function to determine when the system should create purchase requisitions for material components (and service activities) or when reservations should become relevant for MRP.

The following options are available in the *Reservation/Purch Req.* field:

- The system activates requirements immediately
- The system activates requirements when you **release** the network or activity
- You prevent requirements from being activated, even after release.

This is useful for instance, if you want to cost components but do not want to trigger MRP or purchasing. Another case is if you have copied assemblies from a standard network, but want to activate requirements for subordinate components first.

Activities

You can control the activation of requirements from various hierarchy levels.

- The system copies the default value for the *Reservation/Purch Req.* field from the network profile to the network. You can change this value in the network header on the *Control* tab page. This setting is then valid for all the network activities and their assigned components.
- Irrespective of the setting in the network header, you can activate all requirements for individual activities, WBS elements or the whole network manually. See [Activating all Requirements in a Hierarchy \[Page 34\]](#)

If you activate requirements for the whole network, this has - as opposed to changing the field in the network header- **no** effect on activities or component assignments that are created later.

- You can also change the *Reservation/Purch Req.* field when you assign a component to an activity or later. You can do this in either the component overview or on the detail screen for the individual component assignment.

If the system has already created a purchase requisition for a component, you can go directly from the component assignment detail screen to this purchase requisition.

The reservation number is displayed on the component assignment detail screen, even if the reservation is not relevant to MRP:

Activating all Requirements in a Hierarchy

Activating all Requirements in a Hierarchy

1. On the network header or the activity overview choose *Edit* → *Functions* → *Activate PReq/resrv*.
A dialog box appears.
2. Enter the object for which you want to activate purchase requisitions and reservations:
 - A network
The system creates purchase requisitions and MRP relevant reservations for all material components and externally processed activities in networks.
 - A WBS element
The system creates purchase requisitions and MRP relevant reservations for all activities (and the assigned material components) in networks that are assigned to the WBS element.
 - An activity
The system creates purchase requisitions and MRP relevant reservations for the activity and the assigned material components.
3. Choose *Continue*.
A message appears telling you how many entries were changed.

MRP Element Maintenance

Use

There are various ways to display or edit [MRP elements \[Ext.\]](#) created for network components.

Features

Information and Functions in the Component Detail Screen

You can see the number of the generated document (e.g. reservation or purchase requisition) as well as the requirements quantity, the confirmed quantity and withdrawn quantity on the *Purchasing data* tab page. You can go directly to the purchase requisition from the component detail screen by choosing . When a purchase order is created, you see this on the *Proc. param.* (procurement parameters) tab page. You can go directly to the purchase order by choosing .

Information and Functions in the Stock/Requirements List

In the current [stock/requirements list \[Ext.\]](#) you can see all the MRP elements for a material, for example stocks, purchase requisitions, purchase orders, planned orders, and production orders.

You can call up the current stock/requirements list from the *Project Information System* screen, the *Project Planning* screen, or the *Project Execution* screen by choosing *Resources* → *Stock/requirements list*.

In the list you can display the details of MRP elements and, if applicable, change the data. For instance, you can convert planned orders to production orders or purchase requisitions, or purchase requisitions to purchase orders.

For more information, see [Current Stock/Requirements List \[Ext.\]](#) in the *Material Requirements Planning* (PP-MRP) component.

Information and Functions in the Project Information System Resources

You can display and change purchase requisitions, purchase orders and reservations for a project in the resources information system.

Behavior of the System after Changes to Quantities and Dates

If the quantities or dates in an activity change, the system reacts as follows:

- It corrects reservations automatically
- It corrects planned orders during the next MRP run
- It corrects purchase requisitions automatically

If a purchase order has already been created, you can start a [Workflow \[Ext.\]](#). The purchasing agent is notified by a mail using SAPOffice about the changes to be made and can change the purchase order(s) directly from the mail.

If you use [BOM transfer \[Page 88\]](#) to link a BOM item with a network activity and then change the quantity in the BOM, the system copies the changes to the activity and to the reservations or purchase requisitions for the component the next time you execute the BOM transfer.

MRP Element Maintenance

Copying PS texts into Purchase Requisitions

Prerequisites

You must have specified in Customizing for *Purchasing* that PS texts can be copied to purchase requisitions.

The PS text for the activity that you want to copy to the purchase requisition must have been created in SAPScript.

Procedure

1. In the network call up the component overview for a network or activity.
2. Select the components whose PS text you want copy into the purchase requisition.
3. Choose *Components* → *Copy PS text*.



Long texts and assignments to DMS documents are in general copied to purchase requisitions.

Material Availability Check

Material Availability Check

Use

Use this function to check whether material components in networks are available on the requirements date. If the requirements are not covered on the requirements date, the system determines the date on which they can be covered.

Prerequisites

- Each material, whose availability you want to check, must be assigned a **checking group** on the MRP detail screen in its material master. The checking group combines materials whose availability is checked at the same time. You can, for instance, group materials according to the material type or the MRP type.

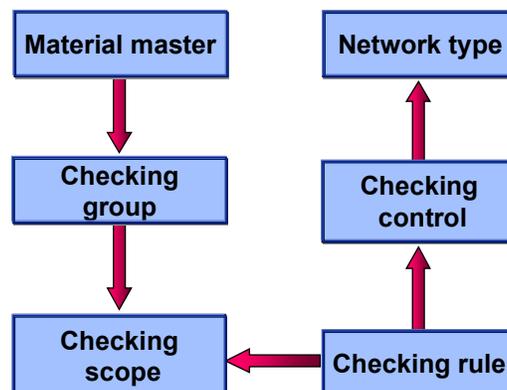


Since purchase order and purchase requisitions are irrelevant to internally produced materials, you can assign such materials to checking groups whose check scope does not include these MRP elements.



If no checking group has been entered for a material, the system does not check its availability. In this case, the system makes a corresponding entry in the material availability log.

- You must perform the following activities in Customizing for the *Project System in Material* → *Availability Check*.
 - Define **checking rules**
 - Define a **checking scope** for the combination of a **checking group** and **checking rule**. You can, for instance, determine which MRP elements and types of stock the system takes into account or whether it should assume that a material is available after the replenishment lead time.
 - In **checking control** you have assigned order types, in the Project System network types, to checking rules. You can check the availability in different applications in different ways.



Features

The system only checks those components that have [item category \[Page 14\]](#) L (stock item) that are not procured directly..

The following are not checked:

- Phantom assemblies
- Bulk materials

In the R/3 System availability is determined according to the (available-to-promise) ATP method. In this process, the system checks:

- Whether the material requirements can be covered on the requirements date
- When coverage can be ensured, if complete coverage is not possible on the requirements date

The availability can be checked at the plant or storage location level. The level at which it is checked depends on the following:

- Reservation data for the material component
- The indicator for storage location inspection in the checking scope



If availability is checked at storage location level and the component is available, the system also checks at plant level since other requirements at plant level could withdraw material from the storage location.

If the requirements refer to a sales order item or a WBS element, the system always checks the relevant [segment \[Ext.\]](#) of the sales order stock or project stock.

Activities

You can trigger availability checks manually or let the system trigger them automatically.

- You can specify in Customizing in *checking control* whether the system should **automatically** check material availability and when to run this check. You can trigger availability checks depending on the status. for example when you release a network, or when you save and changes to quantities and dates have been made that affect the components.
- You can trigger availability checks manually at any time. As opposed to automatic checks, you check the availability of individual components. **See** [Checking Material Availability \[Page 41\]](#).
- In the Information System, you can check the availability of components for several networks at the same time by using [collective availability checks \[Page 45\]](#).
- You can [reverse availability checks for components \[Page 47\]](#). In this case the confirmed quantities and dates are canceled.

More information on material availability checks is in the *Requirements Planning* (PP-MRP) component.

Material Availability Check

Checking Material Availability

Use

With this procedure you can check the availability of all material components assigned to a network, or the availability of an individual component.

If you change data in the network that influence the availability of material components, for instance dates or quantities, the system does **not** automatically trigger an availability check. To obtain current information about missing material after changes, you have to manually carry out another availability check. The same is true, if you have assigned components using [BOM transfer \[Page 88\]](#) and have executed the assignment program again.

Checking all components

In the network header, or on the activity overview, select the menu options *Edit* → *Availability* → *Material*

The system checks the availability of all material components in the network. If there is a material shortage, the network receives the status *material shortage*. A dialog box appears from which you can go directly to the [check log \[Page 43\]](#), the [missing parts list or missing parts overview \[Page 44\]](#)

In the missing parts list and missing parts overview you can also check the availability of individual components, as described below.

Checking individual components

1. Call up the component overview for an activity or network.
2. Select the components whose availability you want to check.
3. Choose *Component* → *Availability* → *Check availability*.

The *Confirmation Proposal* screen appears on which the following data is displayed:

- The confirmed quantity on the requested date
- The date for which the complete quantity can be confirmed
- A confirmation suggestion

You can go from this screen to the availability overview by choosing *ATP quantities* or display the scope availability check by choosing *Scope of check*.

4. To display the ATP quantities, choose *Goto* → *Availability check*.

On the *Availability overview* the system lists the individual MRP elements. You can display period totals or go to the detail screens of the MRP elements.



The network only receives the status *material shortage* if you check the availability of **all** components assigned to the network.

Checking Material Availability

Availability Check Log

Definition

Overview about errors in the availability check or information about material components which are not available

Use

If you check the availability of all the material components in the network header or the activity overview, if material is not available, a dialog box appears from which you can go directly to the log or the [Missing Parts List and Missing Parts Overview \[Page 44\]](#).

The log remains available until you leave the transaction. To call up the log, choose *Extras* → *Logs* → *Mat availability*.

The log presents an overview of the collected messages. You can display individual messages by double-clicking on them.

Missing Parts List and Missing Parts Overview

Missing Parts List and Missing Parts Overview

Definition

Show you directly in a network after an availability check, which material components are not available on the requirements date

Use

If you check the availability of all the material components in the network header or the activity overview and material is not available, a dialog box appears from which you can go directly to the [log \[Page 43\]](#) or the missing parts list and missing parts overview.

Missing parts list

In the missing parts list you can, for instance:

- List the check results for all components or just the missing parts
- Hide or show various columns from a pool
- Sort, filter and group using one or more columns
- Print the list or export it to a file
- Check the [availability of individual components \[Page 41\]](#)

Missing part overview

The missing parts overview consists of only the components that are **not** available on the requirements date together with

- The requirements quantities
- The confirmed quantities
- The corresponding dates

You can go from the overview to the component assignment detail screen. You can also check the [availability of individual components \[Page 41\]](#) here.

Executing Collective Availability Checks

Use

Use this procedure to carry out availability checks for several networks at once, to see if all the necessary components are available.

Collective availability checks are started in the Project Information System from the individual overview for networks.

Procedure

1. Choose *Information systems* → *Project System* → *Structures* → *Individual overviews* → *Networks*.

Enter the PS info profile, as necessary. The initial screen for the information system appears.

2. Enter the selection criteria and choose . You enter the required networks directly or select them via the project definition or WBS elements.

The individual overview for networks appears.

3. In the information system only a few general functions are displayed as icons. By choosing  you can display the functions you require. If the availability check is not displayed as , choose .

The *Choose functions* dialog box appears, on which you see the available functions on the left and the functions that are already displayed on the right.

4. Drag and drop *Check availability* and *Log of available material* to the right-hand side and then choose  *Copy*.

The functions *Check availability* and *Log of available material* are now displayed under .

5. Use  to select all the networks, or expand the structure and use CTRL to select individual networks or SHIFT to select blocks of networks.

6. Choose  *Check availability*.

The *Collective availability check* dialog screen appears. Here the indicators *Reset availability data* and *Execute availability check* are set as defaults. If, for instance, you only want to reset the availability data, cancel the second indicator. By choosing  *Mode* you go to another window in which you can determine what type of check is carried out and which messages the system should write in the log.

7. Choose .

Result

The system executes the availability check for the selected networks and saves the dates it determines automatically. You can call up the log by choosing  *Log of available material*.

Executing Collective Availability Checks

Resetting Availability Checking

Use

Use this procedure to reset the confirmed dates and quantities after you have checked availability for components.

The availability check is then reset on the network header for all components, and on the component overview for all the selected components.

Prerequisites

You are in the network for which you want to reset the availability for one or more components.

Procedure

- To reset the availability check for all components, go to the network header and choose *Edit* → *Availability* → *Reset material*.
- To reset the availability check for individual components, go to the component overview by choosing  and then choose *Edit* → *Availability* → *Reset material*.

Material Management in the Project Builder

Material Management in the Project Builder

Use

As well as creating and editing material assignments (see for example [Creating Project Objects \[Ext.\]](#)) in the Project Builder, you can also trigger several material management functions

Features

After you have selected a material component in the structure overview or the component overview the following functions are available:



Some of these functions are only available from particular screens, for example the component overview

Function	Menu Path	Comments
Availability check	Edit → Availability -> Material	If you have set availability checking for the Project System in Customizing, this starts an availability check for the selected component. For more information, see Material Availability Check [Page 38] .
Reset availability check	Edit -> Availability ->Reset material	Resets the confirmed dates and quantities from the availability check.
Capacity availability check	Edit -> Availability -> Capacity	If capacity requirements are generated for an activity, this checks whether the capacity is available (no overload) at the required time. For more information, see Capacity Requirements in Projects [Ext.] and Capacity Availability Check [Ext.] .
Change procurement type	Edit -> Component -> Procurement	If applicable, you can change the procurement type (e.g. reservation for network or reservation for WBS element). See, Managing Stocks of Material Components [Page 61] .

Material Management in the Project Builder

Display purchase requisition	Edit > Component -> Purchase Requisition	Displays a purchase requisition if one exists.
Change delivery address	Edit > Component -> Delivery Address	Changes the delivery address for third-party orders only.
Change invoicing plan	Edit > Component -> Invoicing plan	Changes the invoicing plan for externally procured components. For more information, see Invoicing Plans in Networks [Ext.] .
BOM explosion	Edit > Component -> Explode BOM	You can only execute this function from the component overview. For more information, see Exploding the Bill of Material [Page 28] .
Reassign a component to another activity	Edit > Component -> Reassign	You can only execute this function from the component overview. You can only reassign components within the same network.
Set the duration of the activity to the component lead time	Edit > Component -> Transfer delivery time -> duration	You can only execute this function from the component overview. For more information, see Aligning Activity Duration with Material Lead Time [Page 27] .
Align requirement date with activity finish date	Edit > Component -> Align with finish date	You can only execute this function from the component overview. If you want to set the duration to the component lead time, you have to align the requirements date with the finish date.
Copy component data	Edit > Component -> Copy component data	Copies the data from one component to another in the same network. See Copying Component Data [Page 25] .

Material Management in the Project Builder

Batch management	Edit -> Component -> Batch management	Various batch management functions are available under this menu point. You can only execute these functions from the component overview. For more information, see Batch Management [Ext.] .
Assign PS text	Edit -> Component -> Assign PS text	If a PS text has been assigned to the activity, you can also assign it to the selected component.
Delete PS text assignment	Edit -> Component -> Delete PS text assignment	Deletes the above PS text assignment.

Material Management in the Project Planning Board

Use

You use the functions described here to manage your project material components directly in the project planning board.

Features

Gantt Chart

In the Gantt chart you can carry out the following functions. These functions refer to a selected WBS element or network activity. It is not possible to select individual components in the Gantt chart. To do this, call up the component overview.

Function	Menu Path	Comments
Create component assignments	Edit → Create...	See Creating Project Objects [Ext.]
Check material availability for the network	Edit → Functions → Material availability (network)	Carries out a material availability check for all the components in the network assigned to the selected WBS element. See also: Material Availability Check [Page 38] .
Activate purchase requisition/reservation	Edit → Functions → Activate Purc Req/Res.	Irrespective of the settings in the component detail screen, you can use this function to manually create purchase requisitions or reservations for a WBS element. See also: Activating Requirements [Page 33] .

Component Overview

Several more functions, for individual components, are available from the component overview. Apart from detail screen, which can also be called up by double-clicking on the component, all functions are called up from the context menu.

Function/Menu Entry	Comment
Available quantity	The system displays the component availability as a bar chart in the component overview.
Availability check	An availability check is carried out for the selected component. For more information, see Material Availability Check [Page 38] .
Detail screen	Opens the component detail screen for the selected component. For more information, see The Component Detail Screen [Page 23] .

Material Management in the Project Planning Board

GR/GI list	A further window opens with procurement details, such as document (purchase requisitions or reservations etc) details and details of goods movements etc.
Explode BOM	If the selected component has a bill of material, this is exploded, either level-by level or the whole structure (multi-level). For more information, see Exploding the Bill of Material [Page 28] .
Dates overview	If you have maintained the requisite settings in Customizing for Monitoring Dates [Page 120] , the systems displays the dates overview.
Reassign	You use this function to reassign a component from one activity to another in the same network.
Create document	You can create a document (document info record and if necessary original application file) that is assigned to the component Be sure to a document type that can be assigned to a material component. For more information, see Document [Ext.] .
Document overview	Provides an overview of documents assigned to the component.
Delete	Deletes the component assignment, if this is allowed, that is if there are no open procurement documents such as purchase requisitions or reservations for the component.

Material Assignment to Standard Networks

Use

In standard structures you can predefine material assignments by assigning material components to the activities of a standard network.

When you create a network by using a standard network as a template, the system automatically copies the material assignments.

If you use a standard network as a template for a new **standard network**, the system also automatically copies the material assignments, **except** those assigned via a [standard BOM \[Page 56\]](#).

Prerequisites

In contrast to operative networks, you can assign material components to a standard network, if they belong to a BOM.

If a BOM does not already exist, you must create a normal BOM or a so-called standard BOM first. Both standard and normal BOMs are always defined for a plant; if you want to assign materials from different plants, you need a BOM for each plant.

A standard BOM does not have a “header material”; it is an aid that is just used for assigning material to **one** standard network.

Activities

- If you have assigned components in a BOM to a standard network or changed the assignment, you must first save the standard network and then choose *Standard network* → *Change* again, to assign components from another BOM.
- If you have already assigned material components from a BOM, a dialog box appears with the existing assignments.
- If several alternative BOMs exist for a component, you have to decide which alternative to assign.
- You do not have to enter all the detail data for a material assignment in a standard network. However, when you create a network, using this standard network as a template, you can only save the network after you have entered all the necessary data.

See also:

[Assigning Material Components to Standard Networks \[Page 54\]](#)

[Creating a Standard Bill of Material for Assigning Material to a Standard Network \[Page 56\]](#)

Assigning Material Components to Standard Networks

Assigning Material Components to Standard Networks

1. Choose *Logistics or Accounting* → *Project System* → *Basic data* → *Standard templates* → *Standard network* → *Change*.

You can also assign material to a standard network when you *create* the standard network.

2. Enter a standard network and choose  *Activities*.
3. Select the required activities in the activity overview and choose *Activities* → *Component overview* or choose *Goto* → *Comp.Overview Netwk*.

If no material components have been assigned to the standard network yet, the *Bill of Material* dialog box appears.

If material components have already been assigned to activities of the standard network, a dialog box appears in which the corresponding BOMs are displayed.

- If you want to assign further components from a bill of material (BOM) or change the existing assignments, select the BOM.
- If you want to assign components from another BOM or create a new standard BOM, choose *Other material* or *Other standard BOM*.

The further procedure is the same as if no components had been assigned.

4. You assign material components as follows:
 - If you want to assign components from an existing BOM, enter the material and plant in the dialog box and choose *Continue*.

If several BOM alternatives exist for the material, a dialog box with the alternatives appears. Select an alternative. A list of the material assignments appears.

- If no BOM exists for the material, the system asks you, if you want to create a new BOM. If you want to, choose *Yes*, create the BOM and then return to the list of assignments by choosing *Back*.
- If you do not want to create a normal BOM, you can use a standard BOM as an aid. For more information, see [Creating a Standard Bill of Material for Assigning Material to a Standard Network \[Page 56\]](#)

5. Select the BOM items that you want to assign and choose *Edit* → *New assignment*.
6. In the *New Assignment* dialog box, enter an activity or choose *Oper/act. list* to display a list of all the activities. Select an activity from the activity list.

The system assigns the BOM items to the activity.

7. If necessary repeat the last step to assign further BOM items to other activities.
8. Choose *Back*.

The activity overview appears again.

9. Save the standard network.

Assigning Material Components to Standard Networks

Creating Standard BOMs to Assign Material to Standard Networks

Creating Standard BOMs to Assign Material to Standard Networks

1. Choose *Logistics or Accounting* → *Project System* → *Basic data* → *Standard templates* → *Standard network* → *Change*.
2. Enter a standard network and choose  *Activities*.
3. Select the required activities in the activity overview and choose *Activities* → *Component overview* or choose *Goto* → *Comp.Overview Netwk*.

The *Bill of Materials* dialog box appears.
4. Enter a plant but **not** a material and choose *Standard BOM*.

The *Material Component Assignment* screen appears with the message *No valid bills of material exist. Do you want to create a BOM?*
5. Choose *Yes*.

The initial screen for creating a BOM appears. The system identification is displayed in the *Standard object* field.
6. Enter the BOM usage and choose *Enter*.

The *Create Standard BOM: Material Item Overview* screen appears.
7. Enter the material components and quantities that you want to assign to the standard network.
8. If required, enter detailed data about the BOM.

For more information, see the *Bill of Materials* (PP-BD-BOM) component.
9. Choose *Back* to save the standard BOM and to return to the component overview.
10. Select the material components.
11. To assign the material components to standard network activities, choose *New assignment*.
12. Save the standard network.

Editing Material Assignments in Standard Networks

Use

Use this procedure to display material assignments to standard networks and to edit the assigned BOM.

Procedure

1. There are the following options for displaying and editing assignments to standard networks.
 - To display all assignments for a standard network, on the header or in the activity overview choose *Goto → Comp.overview netwk.*

The *Change Standard Network: Material Assignment* screen appears, on which all BOM components are listed. If a component is assigned to an activity, the activity number is listed in one of the columns.
 - To display the assignments for individual activities, select the relevant activities in the activity overview and choose *Activity → Component overview.*

The *Change Standard Network: Material Assignment* screen appears with all the components for the activity. If you have selected several activities, you can move between the individual activities by using the arrow buttons.

To access the detail screen for a component from one of these overviews, select the component and choose *Details → Component → General* or *Administrative data.*
2. To reassign components, select the components on the *Change Standard Network: Material Assignment* screen and choose *Edit → Reassign.*

A dialog box appears in which you can enter an activity to reassign the component or you call up a list of activities and select one. To assign the component to this activity, choose *Choose.*
3. To delete assignments, select the components on the *Change Standard Network: Material Assignment* screen and choose *Edit → Delete.*

When you confirm the deletion, the assignment of the material component to the activity is deleted. The system still displays the component in the component overview for the standard network.
4. To assign BOM components that have not yet been assigned or to additionally assign a component to another component, select the components and choose *Edit → Reassign.* This function is only available on the component overview for the whole standard network.
5. To edit the assigned BOM, in the component overview choose *Goto → Bill of Material → Edit BOM.*

The BOM item overview appears. You can now change or delete BOM items or create new BOM items.

When you return to the component overview, the changes are displayed. If you are in the component overview for an activity, all new BOM items are automatically assigned to the activity.

Editing Material Assignments in Standard Networks

Configurable Material

Definition

Material that has several variants. These variants have characteristics (for example color) that can have different values (in this example red, green, blue etc.). Their bill of materials contain components that are only chosen for a particular variant.

Use

You can assign a configurable material to a standard network or a network. To uniquely specify the material, you have to assign characteristic values. The system passes this characteristic value assignment via the reservation for the material to MRP.

Characteristic Value Assignment

If you assign a configurable material to a network, the system requires you to assign characteristic values for the material, as soon as you create a [MRP relevant reservation \[Page 33\]](#) or when you save the network (if the characteristic values cannot be copied from the network, as described below).

You can assign and display characteristic values in the component overview by choosing *Extras* → *Configuration*.

Using the Network Characteristic Value Assignment

If you assign a configurable material to a configurable standard network or to a network that has been created using configuration, you can use the network characteristic value assignment for the material.

To do this, the variant class for which the characteristic values were assigned in the network must agree with the variant class of the material. In this case, you cannot assign the characteristic values for the network and the material separately.

See also:

For more information on configuration, see the *Variant Configuration (LO-VC)* component.

Project Stock

Project Stock

Definition

Viewed from material requirements planning, projects can have their own stock. Materials that are needed to carry out the project are managed in project stock.

Each WBS element in a project definition has a separate [individual stock segment \[Ext.\]](#). Each stock segment is permanently assigned to a WBS element and, from a MRP view, is only available for this WBS element. However you group stock segments for a project together. For more information, see [Grouping for Individual Project Planning \[Page 84\]](#)

Unlike general stock, you must enter the relevant WBS element, as well as the plant and storage location, when entering a goods movement.

Project stock can be valued or non-valuated. See [Valuated Project Stock \[Page 69\]](#) and [Non-Valuated Project Stock \[Page 80\]](#)

Use

You use project stock in complex make-to-order production if:

- You want to use a work breakdown structure to monitor the costs of goods you manufactured yourself as they pass through the stages of production
- It is necessary, from the inventory management or materials planning points of view, to separate the materials needed for one project from those needed for another
- You want to order materials with long delivery times at an early stage in your project
- You want to plan configurable materials, since MRP for configurable is only possible in individual stock.

Integration

Since working with project stock affects several areas in a company, you should involve the people responsible for inventory management, controlling and possibly purchasing in the decisions about suitable scenarios and settings.

See also:

[Managing Stocks of Material Components \[Page 61\]](#)

[Monitoring Costings in Complex Make-To-Order Production \[Page 66\]](#)

Managing Stocks of Material Components

Use

Material components in networks can be managed in different stocks. Depending on the network and the settings entered in the material master, you can use the following different types of stock:

- Plant stock
This material is managed in general stock. It is not assigned to any particular sales order or project.
- Sales order stock
Viewed from material requirements planning, sales orders can have their own stock. The [individual stock segments \[Ext.\]](#) are assigned to sales order items.
- Project Stock
Viewed from material requirements planning, projects can have their own stock. The [individual stock segments \[Ext.\]](#) are assigned to WBS elements.

Prerequisites

- You determine whether a material can be managed in an individual stock in the material master on the MRP detail screen using the *Individual/coll.* field. If you want to manage a material in project stock or sales order stock, this field must be set to *Individual requirements only (1)* or *Individual and collective requirements ()*.
- To use a sales order stock in a network, you must enter the sales order item that manages the stock in the network header.
- To use a project stock in an activity, you must assign the activity to the WBS element that manages the stock.
- You determine whether **project stock** is permitted for a **project** on the *Control* tab page of the project definition. The options for *Project stock* are:
 - No project stock
 - Valuated project stock
 - Non-valuated project stock

The system copies the default value from the project profile. You can change this value when you create the project.



After you have saved the project, you cannot change this setting for project stock. The setting applies to all WBS elements created for this project definition.



If you work with project stock, the WBS structure should resemble the BOM structure of the product to be produced or the assembly BOM of the asset. Otherwise the assignment of components to WBS elements differs from the assignment of the network activities to WBS elements too often.

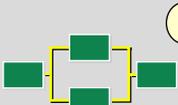
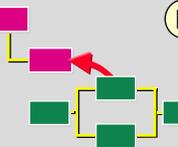
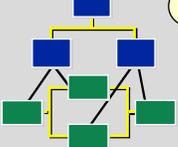
Managing Stocks of Material Components

For more information on valuated and non-valuated project stock, see [Project Stock \[Page 60\]](#).

Activities

When you assign a material component, the system determines an account assignment category that determines the stock management and settlement. This depends on the assignment of the network and the settings in the material master. If different stocks are allowed, the system prompts you in a dialog box to determine which stock should be used.

The following graphic illustrates the possible account assignment categories for items managed in stock:

Network NW with SD doc. NW with project	Dependent requirements ind. in material master (1, 2, _)	Item category L "Stock item"	Account assignment category. (F, D, Q, _)
	Individual (1)	Not possible → (2)	F, _
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation for network	F, _
	Individual (1)	Reservation for SD doc.	D
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation f. SD doc/NW	D, F, _
	Individual (1)	Reservation for WBS element	Q
	Collective (2)	Reservation for network	F, _
	Indiv./Collective	Reservation f. WBS el./NW	Q, F, _

Account assignment categories: F = Order (or *Gener.AcctAssgmt* set in Customizing)
D = Sales order stock, settled to project, Q = Project stock

Items that are procured directly, are not assigned to a stock segment. They do not pass through a warehouse. The costs are settled to the consuming object, which is the case of the Project System is either the network activity (activity-assigned networks) or the network header (header-assigned networks). If the material is to be procured in a production order, the costs are settled to the production order.

The account assignment categories and the item categories are examples from the SAP standard system. It is possible to use different values with the same settings in their place.

It is not possible to use an individual stock, if the dependent requirements indicator for the material is set to *Collective requirements only* or if the network or activity has not been assigned to an object that manages an individual stock (i.e. a sales order item or WBS element with individual stock). In this case the account assignment category is used that you entered in Customizing the Project System under *Material* → *Procurement* → *Check Acct Asst Types and Document Types for Purchase Reqs* in the *acct. assgmt gen.* field.

Managing Stocks of Material Components

For externally procured components as well as possibly deciding which stock to use, you can also decide if you want to use **third party orders** for these components, that is deliver the component directly from the vendor to the customer.

If necessary you can trigger advance procurement and instead of a purchase requisition or reservation create a preliminary purchase requisition or planned independent requirement. For more information, see [Advance Procurement \[Page 30\]](#).

On the component assignment detail screen you can assign the components to a different WBS element than the activity is assigned to. You may need to do this, for example, in the case of materials procured in advance.

You can change the stock and the procurement parameters by selecting the components and choosing *Component* → *Change procurement*.



You cannot change the procurement parameters after the network has been released.

If there is already a purchase order for a directly procured component (item category N) and you make a change, a warning appears.

For components that are procured via MRP, you also receive a warning if a change affects MRP.

Logistical Processing and Project Stock

Logistical Processing and Project Stock

Purpose

From a logistics point of view you work with project stock in complex make-to-order production if:

- The materials should be managed separately in inventory management
- Materials with long replenishment times are being used
- You are managing configurable materials in stock

Process Flow

Requirements

In the Project System you can create various types of material requirements for project stock. Project stock reservations or purchase requisitions are generated using material components in networks.

A distinction is drawn between advance procurement and normal procurement for both non-stock components and stock components.

See [Internal Procurement of Materials \[Page 10\]](#) and [External Procurement of Materials \[Page 12\]](#)

In the case of [advance procurement \[Page 30\]](#), you can only use reservations to trigger advance requirements if the relevant network activity does not consume the component itself.

Material Requirements Planning

You can execute an MRP planning run for each WBS element that has its own project stock.

MRP-relevant planned independent requirements are created when you assign material in the network. Depending on how you have maintained the control data in the material master, the MRP planning run generates planned orders or purchase requirements assigned to the WBS element. The same is true of dependent requirements, which are generated using multilevel BOM explosions, provided the material in the BOM is also managed on an individual basis.

See [Material Requirements Planning in BOM Transfer \[Page 104\]](#)

In-House Production

If planned orders are converted into production orders, the production orders and the components held in stock for them are assigned to the WBS element which is to carry the stock. Subsequent documents, such as material reservations and purchase requisitions, inherit this assignment via MRP-controlled components.

The production orders for semi-finished goods deliver the materials produced into project stock. You can then issue them from project stock to the productions for materials further down the production chain (superior items in the BOM).

External Procurement

You can create purchase requisitions for material components that are accounted to stock in the following ways:

- In the case of non-stock components, directly from the network

Logistical Processing and Project Stock

- In the case of stock components, in one of the following ways:
 - By converting planned orders
 - Using the MRP planning run

You then assign the purchase orders so generated to the stock-bearing WBS element. In purchasing, the purchase requisitions are then converted into purchase orders.

When you receive materials procured externally, you first post them to project stock. You can then reserve materials for the network or production order. The processing is different to direct procurement for networks (account assignment category F and account assignment object network or network activity).



In the standard system, account assignment category Q is used for items in purchasing documents

The stock-bearing WBS element acts as the account assignment element.

Material Movements

All material movements relating to materials managed as project stock pass through project stock. You post such movements using MM movement types, with special stock indicator Q.

For more information, see the *Materials Management (MM)* component.



Material components with a negative quantity represent issues of material from the network activity to stock. The material is delivered to project stock.

See also:

[Assembly items \[Page 32\]](#)

[Delivery from Projects \[Page 111\]](#)

Costs in Complex Make-To-Order Production

Costs in Complex Make-To-Order Production

The main feature of complex make-to-order production is that the product to be delivered requires order-specific changes or complete redesign. In such cases, you must plan and monitor costs and revenues at a detailed level.

Various process are available to handle this scenario:

- Cost object controlling using projects (Engineer-to-Order) for complex production
 - In this case, you can work with:
 - Valuated project stock, in conjunction with cost and revenue bearing WBS elements
 - Non-valuated project stock, in conjunction with cost and revenue bearing WBS elements
 - Direct cost monitoring, using the sales order item where there is a connection to a sales order (make-to-order)
 - In this case, you can work with:
 - Valuated sales order stock, in conjunction with cost and revenue bearing sales order items
 - Non-valuated sales order stock, in conjunction with cost and revenue bearing sales order items

For detailed information on the role of cost object accounting in complex make-to-order production, see [Product Cost by Sales Order \[Ext.\]](#) in the *Cost Object Controlling (CO-PC-OBJ)* component.

Constraints on Valuated and Non-Valuated Project Stock

Constraints on working with **valuated** project stock:

- Not possible to separate quantities and values

Since Release 3.0, it has been possible to use sales order stock in combination with projects (standard account assignment category D in sales order item). The quantities are managed in non-valuated sales order stock and the costs in WBS elements. This scenario cannot be supported for valuated sales order stock.
- No complete actual costs from external procurement in projects

If price differences arise on receipt of the goods or during invoice verification, they are managed in Financial Accounting, with no other assignment. There is no additional debit to WBS elements.

Constraints on working with **non-valuated** project stock:

- Incomplete actual costs in production orders or network activities

As withdrawing materials managed as project stock does not lead to a matching debit to the production order, the actual costs in the production order are not complete. Where production is multi-level, the production order shows only the additional value-added portions from the production level which arise from internal activities or material issues. The material costs for semi-finished goods are not included.
- Complete actual costs only in the project

Costs from external procurement are posted directly to the stock-keeping WBS element, when the goods or the invoice are received. All the actual costs of manufacture for production are always debited to the project. You cannot use standard price evaluation for materials in individual stock. When the production orders are settled, no price differences are posted. This means that meaningful cost object accounting is only possible at WBS element or overall project level.
- Incomplete plan costs for production orders and apportioned networks

The only place where you can obtain details on the full planned costs for network components managed in individual stock is in preliminary planning networks.
- To calculate the WIP in the production orders assigned to the project, you must carry out profitability analysis for projects.
- You cannot calculate variances in production orders.
- Results analysis only makes a collective valuation of the different materials managed in project stock.
- Transferring stocks is complicated because individual material prices do not appear in the stock. You must determine the material price manually and transfer it manually in CO.
- Cross-company code processing requires corrections in Financial Accounting to be made manually.

Constraints on Valuated and Non-Valuated Project Stock

Valuated Project Stock

Definition

Project stock in which every material in stock is managed on a both a quantity basis and a value basis. The monetary value of each quantity of material is calculated separately. All goods movements for the make-to-order stock trigger corresponding postings in the stock accounts in Financial Accounting.

Use

From the accounting point of view, working with valuated project stock offers the following advantages over working with non-valuated project stock:

- All goods movements are immediately reflected in Financial Accounting.
Viewed from Financial Accounting, the value flow is the same as for make-to-stock production. The system automatically capitalizes stock-relevant costs for finished or semi-finished goods when the goods are actually received. Goods issue postings lead to corresponding reductions in stock.
- Actual costs are complete at all production levels.
As goods issued from project stock lead to actual costs in the order, the system displays the complete actual costs in the order. Variance calculation is possible.
- Materials managed in project stock are valuated separately
Materials that are kept in project stock are valuated separately.
- Cross-company code material issues are possible, as are issues from orders for other projects.
- Simple processes are available for inventory processing and stock revaluation.
- Work in processing is calculated separately for production orders
Production orders for valuated individual stock are treated exactly the same as production orders for normal make-to-stock production, i.e. they are taken into account during results analysis for the project. To capitalize stockable costs from production orders, you may need to initiate a separate WIP calculation. This would not be necessary, for example, if all the costs in the production orders are shown as work in process in the reconciliation ledger and can be posted to Financial Accounting.
- Funds tied up in stock are shown in the WBS elements as statistical actual costs.
- Plan costs for material components managed as make-to-order stock are displayed in the production orders and management networks.

See [Logistical Processing When Working with Project Stock \[Page 64\]](#) and [Constraints on Working with Valuated and Non-Valuated Project Stock \[Page 67\]](#)

Integration

The materials uses in goods movements are controlled by means of the price control indicator in the material master; valuation is the same as for valuated sales order stock.

Valuated Project Stock

For detailed valuation information, read [Valuated Sales Order Inventory: Valuation \[Ext.\]](#) in the CO cost object accounting documentation. Unless otherwise indicated, the make-to-order stock object "sales order item" can be replaced with a WBS element.

Valuated Project Stock: Scenario

Prerequisites

Project Definition

When creating a project, the *Valuated project stock* indicator must be set in the *Project stock* section in the project definition.

Material

In the material master, the *Individual/Collective* indicator on the *MRP 4* tab page must be set to *Individual (1)* or *Individual/Collective ()*.

A valuation class for project stock must be entered in the relevant *Accounting* tab page. If you do not maintain a specific valuation class for the project stock, the system uses the valuation class from plant stock.

Cost Elements for Stock Accounts

In the stock bearing WBS elements, you can post statistical actual costs for the stock movements in and out to the stock accounts in Financial Accounting. You can then use the Project Information System to display the funds committed as stock.

In order for the stock lines from financial accounting documents to be posted as statistical actual costs in CO/PS, statistical cost elements of cost element type 90 for each of the relevant stock accounts have to be created.

Process Flow

The description which follows only covers the special features for valuated individual stock. For a general description of the logistical processes, see [Logistical Processing When Working with Project Stock \[Page 64\]](#).

Planning

From the network costing point of view, there are two assignments for a material component in valuated project stock:

- From procurement, referencing the stock object (= WBS element)
- From usage, referencing the consumer (= network activity)

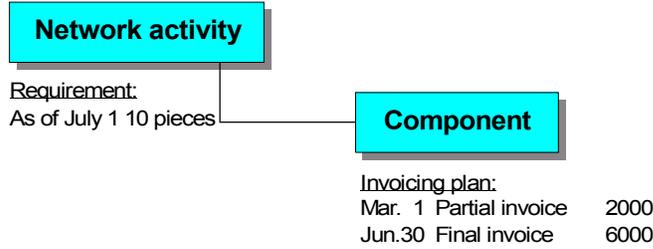
You can separate responsibilities for network activities and material components by entering different WBS assignments for them.

Looking at the component from the **procurement** point of view, it may be a good idea to undertake a cost component split (for example, in the form of a unit costing) if you are producing the component internally. If you are procuring externally, you may want to apportion the procurement costs over time (by, for instance, maintaining an invoicing plan). When the user (network activity, production order) draws the material, the procurement element is credited with the costs. In the period-related view of committed funds, the incurrence of costs is kept chronologically separate from forwarding of costs.

Looking at the component from the **use** point of view, it is the costs that are of interest; when these are incurred they are displayed, evaluated using a consumption cost element. In such

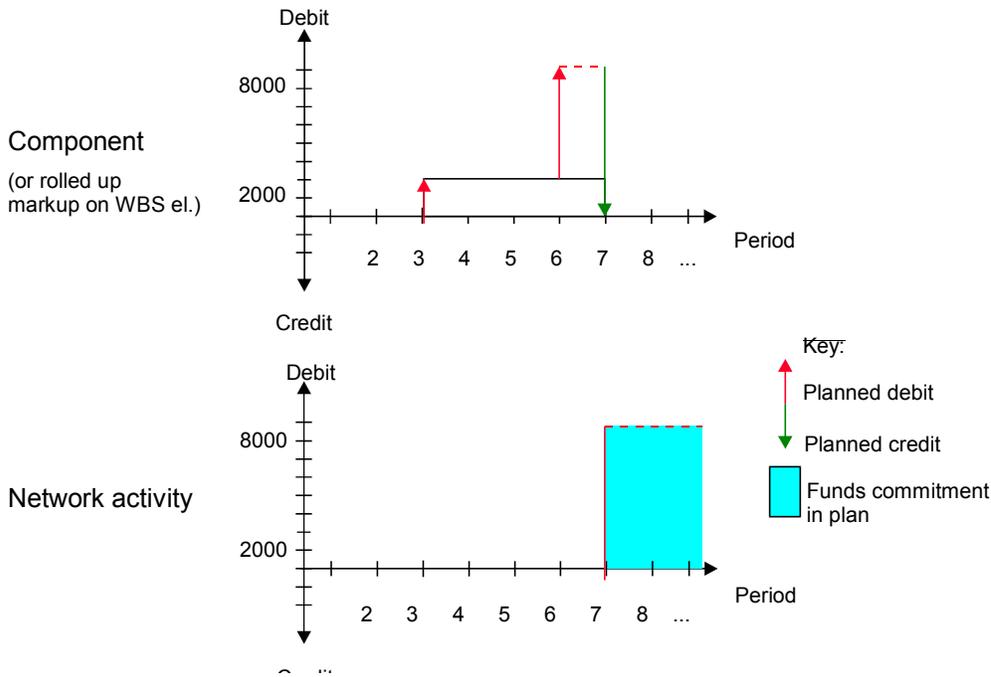
Valuated Project Stock: Scenario

cases, there is no difference between this and direct external procurement/general production, because the user is debited with the material price only.



Object	Cost element	Period	Value	
Component	Stock	03	2000	} View: Procurement
	Stock	06	6000	
	Stock	07	- 8000	
Activity	Usage (MTO stock)	07	8000	} Usage

The diagram below shows the funds commitments in plan.



Note the following points relating to planning of components managed in individual stock:

- Components managed as individual stock are managed as separate objects in the commercial PS object hierarchy and represent the procurement view. They are shown in the hierarchy directly under the relevant WBS element.

The following planned values are recorded directly in the component:

- Planned debits for procurement under an inventory cost element
- Planned credits for issues under an inventory cost element

Valuated Project Stock: Scenario

If there is an invoicing plan for the component, the cost debits are evaluated as of the invoice dates and the credits as for the requirement dates. The planned credits are eliminated in the hierarchy reports in the costs information system as for internal business volume. The planned values for the components are not relevant for MRP. In the case of non-stock components, the planned procurement payment flow - possibly based on the invoicing plan- is written to the component. The credit arising from the issue has no payment effect.

- The consumption of material components managed as individual stock is shown in the relevant network activity or production order. The planned values are not relevant to MRP, regardless of the settings entered in the order type - that is, they are not included in the remaining order plan value in the WBS element. Consumption in the network activity has no payment effect.
- Components that are [procured in advance \[Page 30\]](#) (preliminary purchase requisitions and planned independent requirements) are of no costing relevance as far as use in the network activity is concerned because they appear at other points in the project where they are used, either directly as network components or in lower BOM levels as components in production orders. Therefore components procured in advance are not valuated with planned costs in the network activity. Plan values in the component are recorded in the same way as for normal components (see first point in this list).
- In the case of [assembly items \[Page 32\]](#) (network components with negative quantities), a planned credit is charged to the network activity and a planned debit to the network component as of the requirement date and in the amount of the component price. Unlike in components with positive quantities, there are no planned values from procurement in the component.



Planned cost values in the network component and planned payments in network activities and components are only generated using asynchronous network costing.

Valuated and non-valuated project stocks behave in the same way with regard to the MRP planning run.

In-House Production

The production orders are credited when the orders are delivered to stock. Higher-level production orders are debited as appropriate when semi-finished goods are taken from project stock. If this is the first delivery to project stock for that item, the system calculates a price in line with the price control data and values the quantity delivered accordingly. The goods issue is always valuated at the price in the individual stock segment.

External Procurement

The cost commitment arising from the purchase requisition/purchase order appears in the WBS element under a stock cost element.



For technical reasons, purchase requisitions created by the MRP planning run do not create cost commitments or payment obligations in the WBS elements to which they are assigned. This only happens when the purchase requisitions are converted into purchase orders.

Valuated Project Stock: Scenario

The goods receipt is to project stock and is posted to the stock accounts in Financial Accounting.

When the invoice is received, an additional debit is entered for the material still in stock; or the value is posted to the price difference accounts, depending on price control .

Assembly in Networks

When you begin assembly using networks, goods are issued for the reservations. This leads to a reduction in stock and costs of consumption being posted to the network activity.

If you post a goods receipt to project stock using an assembly item in the network , the price of the component is credited to the relevant network activity and the stock value increases.

Delivery to Customer

When the goods are delivered to the customer, goods are issued for the reservations. Project stock is credited and appropriate cost postings take place to the relevant network activities.

Period-end closing

Commercially speaking, period-end closing for production orders is the same as for normal make-to-stock production.

The production orders have a settlement rule (received when planned orders are converted) where the project stock is entered as the settlement receiver.

You can carry out the following closing operations in the production orders:

- WIP calculation
- Variance calculation
- Order settlement

The balance remaining after actual costs incurred and the delivery create have both been posted is charged to stock or the price different account, depending on the price control data specified. In addition, variances in the production orders are passed on to Profitability Analysis (CO-PA).



Profitability Analysis in WBS elements does not include the values from production orders assigned to the elements.

Quantities and Values in Valuated Project Stock: Example

For a detailed example illustrating the quantity and value flow in relation to valuated sales order stock, see [Example Customer Project - Controlling with valuated Customer Project stock: Flow of Quantities and Values \[Ext.\]](#) in the *Cost Object Controlling* (CO-PC-OBJ) component. The current example illustrates only the special points which affect project stock.

Planning

Material FIN-M is assigned to network activity V10 and is managed in the project stock for WBS element P/4711.1.

The network type is flagged as appended and apportioned to the WBS.

Before the first MRP planning run or before the planned orders are converted into purchase requisitions or production orders, the following amounts appear in WBS element P/4711.1:

- Planned costs of \$500,00
- Remaining order plan value of \$300,00

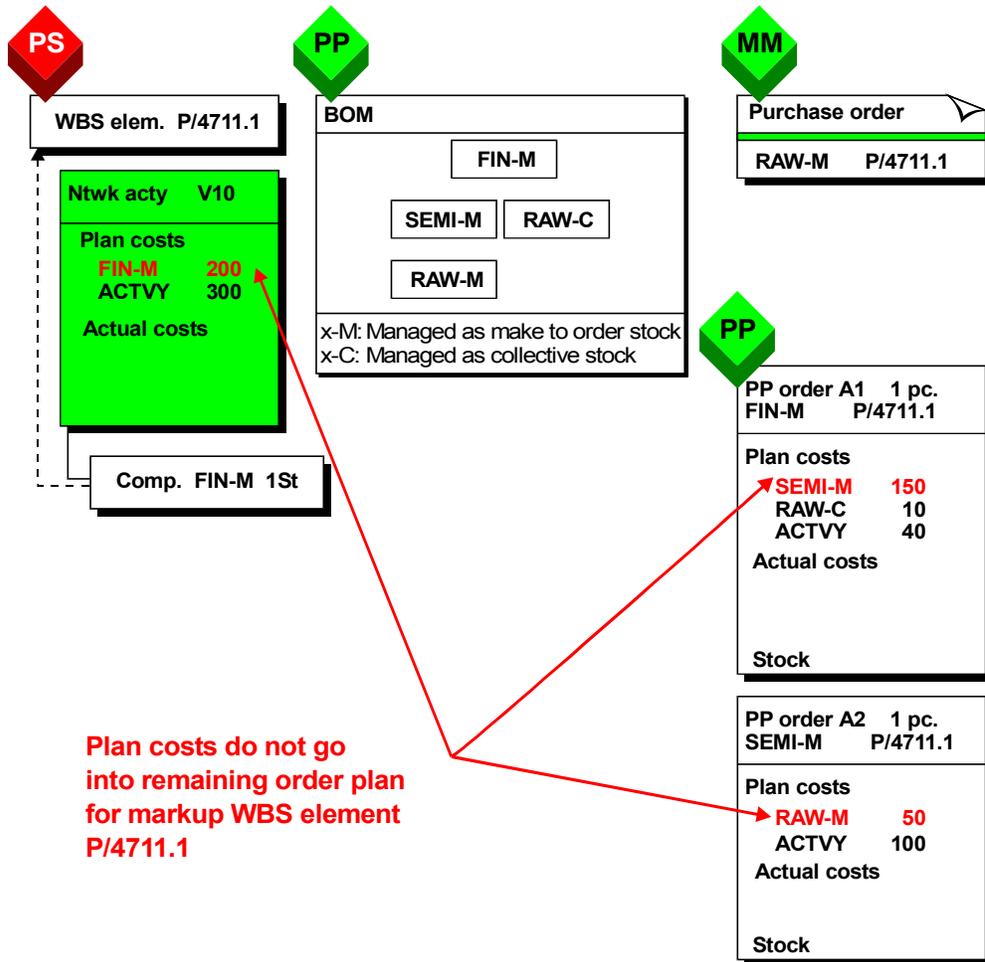
The MRP controller begins by converting the planned orders. First, the planned order for the material RAW-M is converted into a purchase requisition and the planned order for the material SEMI-M is converted into production order A2.

The order type is flagged as not appended and apportioned to the WBS.

The remaining order plan value in the WBS element changes by the amount of the internal activities portion of production order A2 to \$400,00 (300,00 + 100,00).

After the purchase requisition is converted into a purchase order, a cost commitment of \$50,00 also appears in WBS element P/4711.1.

Quantities and Values in Valuated Project Stock: Example



External Procurement

Valuated goods are received for the purchase order, but the price is \$10 different at \$60. Assuming that material RAW-M is price-controlled, this gives rise to a debit posting of \$60,00 in the stock account and credit posting of \$60 in the GR/IR clearing account (Financial Accounting).

If the inventory accounts was created as a cost element in CO, the following appear in WBS element P/4711.1:

- Statistical actual costs of \$60,00 in the stock cost element
- A cost commitment of \$0,00

If material RAW-M is price-controlled the standard price is \$50,00, the postings in Financial Accounting are: \$50,00 debit to a stock account \$10,00 debit to a price difference \$60,00 credit to the GR/IR clearing account

In this case, the only figure in the WBS element would be statistical actual costs of \$50,00.

In-House Production

Production order A2 is released. Material RAW-M is issued from project stock. The costs of \$60,00 are debited to production order A2 under a consumption cost element. The credit posting

Quantities and Values in Valuated Project Stock: Example

is to WBS element P/4711.1 under the statistical stock cost element. As the production order is assigned to the WBS element, \$60,00 in actual costs continue to appear there.

The completion confirmation settles internal activity costs of \$120,00. The order plan value caused by production order A2 in WBS element P/4711 is reduced to zero. The production order shows work in progress valued at \$180,00.

Material SEMI-M is then delivered into project stock.

If this is the first delivery, the system will value the goods based on the production order costing. \$150,00 are credited to the production order and debited to the WBS element with statistical actual costs under a stock cost element.

If the planned order for material FIN-E is converted into production order A1, the remaining order plan value in the WBS element rises by \$40,00 + \$10,00 = \$50,00.

Material issues of \$150,00 for SEMI-M and \$10,00 for RAW-C and internally activity costs of \$30,00 lead to WIP of \$190,00 in production order A1. These are delivered to project stock at a price of \$200,00. An order plan value of \$10,00 remains in the WBS element until the production order is completed technically.

Assembly in Networks

If material FIN-M is assembly on the customer’s own premises, a delivery from the project may take place at this point.

For more information, see [Delivery from Projects \[Page 111\]](#)

From the accounting point of view, the delivery is treated in a way similar to that for a “normal” goods issue to the network activity.

This means that \$200,00 is credited to the WBS element under the stock cost element and debited to the network activity under a material consumption cost element.

The completion confirmation from assembly activity increases the actual costs in the activity by \$300,00.

The hierarchy reports in the PS Information System show the following values in the individual objects:

Object	Plan	Actual	Variance
WBS P/4711.1	\$500,00	\$520,00	\$20,00
Nac V10	\$500,00	\$500,00	\$0,00
To A1	\$200,00	\$190,00	\$10,00
To A2	\$150,00	\$180,00	\$30,00

Period-end closing

After delivery, production order A1 has a negative balance (reserve for missing costs) of \$10,00. A2 has a positive balance (WIP) of \$30,00. As there is no more project stock, the amounts are settled to price difference accounts. In the case of production order A1, the debit posting is to change of stock and the credit to the price difference account. The reverse is true for A2.

Valuation of Material Components

Valuation of Material Components

Use

The system values material components in valued stock according to the strategy below.

During the first goods receipt, the system saves a standard price in the individual stock segment for a material, plant and WBS element. Afterwards you can only change this price by using Transaction MR21. If the standard price was determined during the first goods receipt, for example by using User-Exit COPCP002, it is not determined during further goods receipts.

In the case of materials with moving average prices, the system also determines the moving average price for each goods movement.



You cannot create segments with Transaction MR21.

Features

For goods movements the system values material components in valued stock according to the following strategy.

1. It uses the standard price from the individual stock segment for the combination of WBS element, plant and material. The system determines the standard price for the individual stock segment during the first goods receipt.
2. If applicable, it uses the valuation from User-Exit COPCP002.
3. If a sales order item is account assigned to the WBS element and there is a product costing for the sales order item, the system looks for the corresponding costing item and uses this for the valuation, if the costing allows this. Only those costs are copied that are relevant for stock valuation.
4. It uses the value from the unit costing for the material component in the network or from the Seiban product costing. You must have previously activated Seiban product costing with Transaction CKW4.
5. The system uses the production order costing for material, plant and WBS element. The production order must have been costed without any errors.
6. The system uses the price from the material master.

The strategy is determined in the above sequence in the following cases:

- For valuating the first goods receipt, whereby strategy 1 cannot be used.
- For valuating components for the preliminary costing of production orders or networks (only item category L)
- For valuating planned and actual credits to a production order



You can use unit costing for a material component in a network to define a price for valuation. Since only one standard price is saved for each combination of material plant and WBS element, it is pointless to execute another unit costing for the same

Valuation of Material Components

combination, for example for another network. The system always uses the value it determined first.

Non-valuated project stock

Non-valuated project stock

Definition

Project stock where each material is managed on a quantity basis only, without being valuated directly in terms of money. Goods movements to individual stock are not valuated and do not give rise to postings in Financial Accounting. In general you calculate the value of the project stock in total at the period end by results analysis; the values are then transferred to Financial Accounting.

Use

From the accounting point of view, working with valuated project stock offers the following advantages over working with non-valuated project stock:

- Compatibility with data in releases prior to 4.0A.
- All the actual production costs appear in the project because no price variances can occur and all external procurement follow-up costs are debited to the WBS element.
- You can use project resource-related billing and show the goods receipt as an expense to be billed.
- There are view line items relevant to billing because there are no CO documents for goods movements between project and production orders/networks.



Unless you are compelled by the need for compatibility with earlier data to use non-
valuated project stock, we recommend that you use valuated project stock because
future program development will extend this functionality.

You cannot convert existing projects with non-
valuated individual stock.

See also:

[Logistical Processing When Working with Project Stock \[Page 64\]](#)

[Constraints on Working with Valuated and Non-Valuated Project Stock \[Page 67\]](#)

Non-Valuated Project Stock: Scenario

Prerequisites

The *Non-valuated project stock* indicator must be set in the project definition.

In the material master, the *Individual/Collective* indicator on the *MRP 4* tab page must be set to *Individual (1)* or *Individual/Collective ()*.

Process Flow

The text which follows describes only the special features of non-valuated make-to-order stock. For a general description of the logistical processes, see [Logistical Processing When Working with Project Stock \[Page 64\]](#).

Planning

You only obtain complete planned costs for network components managed in individual stock in planning networks because these networks are only intended for use in planning and never carry actual costs. The planned costs for these components do not appear in apportioned orders because no actual costs arise on the non-valuated goods issues arising when these are used; this is the only way that a meaningful plan/actual comparison can be guaranteed.

Additional planning of production costs - using, for example, a unit costing in the WBS - may be necessary because results analysis requires complete cost planning.

No planned value flow is updated to non-stock components.

Valuated and non-valuated project stocks behave in the same way with regard to the MRP planning run.

In-House Production

The production orders created when planned orders are converted have a settlement rule, which stipulates the stock-bearing WBS element as the settlement receiver.

The production orders are not credited when the material is delivered to stock. Only the quantity is posted as a receipt to stock. Similarly, no costs are debited to the production order when you draw semi-finished goods from project stock.

All internal activity/material costs arising when you draw on general plant stock are settled to the WBS element.

External Procurement

External procurement via project stock follows the same cost procedure as direct procurement for the project.

The cost commitment arising from the purchase requisition or purchase order appears under a material consumption cost element in the WBS element.



For technical reasons, purchase requisitions created by the MRP planning run do not create cost commitments or payment obligations in the WBS elements to which they are assigned. This only happens when the purchase requisitions are converted into purchase orders.

Non-Valuated Project Stock: Scenario

Goods received are posted on a quantity basis to project stock. When valuated goods are received, the costs are posted to the WBS element as an expense, under a material consumption cost element.

When the invoice is received, an additional debit is entered (or a first debit if the goods receipt was not valuated) to the WBS element, under an material consumption cost element.

Assembly in Networks

When you begin assembly using networks, goods are issued from goods reservations. This leads only to quantity-based stock reductions. No consumption costs are debited to the network activity, meaning that the actual costs remain in the WBS element.

If you use an assembly item in the network to post an addition to project stock, there is no credit posting to the relevant network activity. The project stock managed on a quantity-basis is increased; no debit posting is made to the WBS element.

Delivery to Customer

When you deliver to your customer, non-valuated goods are issued from reservations. The project stock is credited on a quantity basis only. No cost postings are made in the affected WBS elements or network activities.

Period-end closing

The values of assigned production orders are included in results analysis for WBS elements because the incompleteness of the actual costs in the production orders makes it impossible to determine separate values for WIP and variances in these production orders.

For a complete example illustrating the quantity and value flow using non-valuated sales order stock, see [Example: Non-Valuated Sales Order Stock \[Ext.\]](#) in the *Product Cost Controlling* (CO-PC) component.

Non-Valuated Sales Order Stock Assigned to Projects: Scenario

Purpose

There are various ways of processing complex make-to-order production. If you want to process customer projects using the Project System, you can either use project stock or non-valuated sales order stock, with account assignment to your project.

This scenario has quantity-based inventory management being processed using the sales document item. The values for all the relevant postings are assigned to the non-valuated project stock.

To be able to use this scenario, use a requirement class with account assignment category D (standard customizing) for your sales document item. This account assignment category controls the following:

- The quantities for the sales document item by means of special stock indicator E
- The values in the WBS elements, by means of consumption indicator P

The advantage of this scenario is that there is only one stock (as viewed from MRP). The MRP planning run can simply assign the elements, triggering and covering material requirements in this stock.

There are also disadvantages to this scenario, arising from the use of non-valuated project stock.

See also:

[Constraints on Working with Valuated and Non-Valuated Project Stock \[Page 67\]](#)

For more information on sales order stock, see [Non-valuated sales order: Constraints \[Ext.\]](#) and [Sales Order Item That Carries Costs and Revenues \[Ext.\]](#) in the *Cost Object Controlling* (CO-PC-OBJ) component.

Grouping for Individual Project Planning

Grouping for Individual Project Planning

Use

If you use valuated project stock, the material components are kept, from a MRP view, in individual stock segments for individual WBS elements. As a result, neither requirements consumption nor stock settlement can take place between WBS elements.

In grouping the requirements from WBS elements in one or more projects are combined for material planning.

The joint planning and procurement of material components required for a project leads to improved logistic processes and to savings due to larger lot sizes.



You can facilitate requirements consumption and stock settlement for individual material components by assigning the components to other WBS elements in the component assignment detail screen or in [transfer control for BOM transfer \[Page 107\]](#).

Prerequisites

You can only use grouping for [valuated project stock \[Page 69\]](#). This means that when you **create the projects** involved, you must set the *Valuated stock* indicator on the *Control* tab page of the project definition.

You must have assigned the materials that are to be grouped for MRP to a MRP group that is intended for grouping in the material master.

To make sure that MRP really only creates one procurement element for all the requirements for one material and grouping WBS element,

- Enter a periodic lot size (for instance *MB - monthly lot size*) in the material master.
- In Customizing for material requirements planning, work step *Check lot-sizing procedure*, set the *MTO lot size* indicator to the value 2 (*Lot size as in planning horizon*) for the periodic lot sizes.

Features

In grouping the system groups several stock owners (WBS elements) together in one [Grouping WBS element \[Page 87\]](#).

MRP creates procurement elements (planned orders or purchase requisitions) for the requirements from the grouped WBS elements. These procurement elements are account assigned to the grouping WBS element.

In the individual stock of the grouping WBS element, all the materials are kept that are to be grouped and those materials that are required in the grouped WBS elements.

The procurement costs are settled to the grouping WBS element. When the procured material is withdrawn, the costs are posted to the original source of the requirements.

The different forms of grouping, which differ in their complexity, are described below:

Grouping for Individual Project Planning

Automatic Grouping of all WBS Elements in a Project

In the simplest case all the requirements from all the WBS elements in a project are grouped in one grouping WBS element. As a result a project stock segment is created for the whole project. Here you can use the [Automatic Grouping \[Ext.\]](#) function.

You set the *Auto reqmnts grouping* indicator on the *Control data* tab page of the project definition or in the project profile. Only one grouping WBS element is permissible for all materials in the project. As a standard setting the system proposes the first WBS element on level 1 as the grouping element, except if you are creating using a template and another default is proposed. You can reset the indicator for the WBS element in question and choose another WBS element to be the grouping element.



If you change the grouping WBS element when there are already requirements in the project, you must be aware that the requirements in the project will then be grouped on different WBS elements.

Manually Assigning WBS Elements to Several Grouping WBS Elements

You can also assign WBS elements from one or more projects manually to different grouping WBS elements. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Planning* → *Requirements grouping* → *Assign WBS elements individually*.

Assigning Materials to Different Grouping WBS Elements According to the MRP Group

If you want to assign the material components in one WBS element to different grouping WBS elements, you can do so by using the combination of plant and MRP group. To do so, the grouping WBS elements must have the characteristic value *Grouping WBS element for selected MRP groups (2)*.

To assign the combination of MRP group and plant to the grouping WBS elements, choose *Logistics* or *Accounting* → *Project System* → *Material* → *Planning* → *Requirements grouping* → *Assign MRP groups*.

Activities

1. In Customizing for the *Project System* activate MRP for grouping by choosing *Material* → *Procurement* → *Activate MRP Groups for Requirements Grouping*. If necessary, create special MRP groups in *Customizing for Requirements Planning* beforehand.
2. In their material masters assign the material components, whose requirements you want to group, to one of the MRP groups that is intended for grouping.
3. Define [Grouping WBS Elements \[Page 87\]](#) for the project or projects.
4. If you are not working with automatic requirements grouping, assign WBS elements, whose requirements you want to group, to the grouping WBS elements manually.
5. If you want to group additional requirements depending on the material, assign the grouping WBS elements valid combinations of MRP group and plant.

For more information on special scenarios from the MRP point of view, see [Material Planning and Requirements Grouping \[Ext.\]](#).

Grouping for Individual Project Planning

Grouping WBS element

Definition

A Grouping WBS element is a WBS element that has valuated project stock on which the requirements from several WBS elements are grouped together for materials requirement planning (MRP).

Use

You determine that a WBS element is a grouping WBS element by making the following settings for the *Grouping WBS element* field on the WBS element detail screen (on the *Basic data* tab page in the standard system)

- If this WBS element is to be the grouping WBS element for all components assigned to the WBS elements that have been assigned to this grouping WBS element, enter *Grouping WBS element for all materials* (1).
- If the material components assigned to a WBS element are to have different grouping WBS elements, enter *Grouping WBS element for selected MRP groups* (2). This could be the case, for instance, if you want to plan electrical and mechanical parts separately.

The valid grouping WBS element is then selected on the basis of the MRP group and plant of the material.

Integration

If you have set the *Automatic requirements grouping* indicator in the project definition of a project, only one grouping WBS element is allowed in the project. In this case the first WBS element on level 1 is suggested as the grouping element. You must then have defined the WBS element as *Grouping WBS element for all materials* (1).

Bill of Material Transfer

Bill of Material Transfer

Purpose

The bill of material transfer component makes it easier for you to assign material components to network activities and keep this information up-to-date.

If you assign bill of material (BOM) items to a network activity manually by exploding the BOM and then change the BOM, you have to manually make these changes in the network as well.

Making the assignment and keeping this information up-to-date can be a lot of work, particularly if you

- Want to assign a very large number of components
- Want to assign components during the design phase and you expect to have to make several changes to the BOMs.

When you use the BOM transfer function to assign individual BOM items to network activities, the system creates a logical link using a reference point. Unlike the manual assignment of single components, you can automatically update subsequent BOM changes in the network activity.

For instance, if you change quantities or the material description in a BOM, you can automatically transfer these changes to the network as well as to the corresponding purchase requisitions and reservations. You only have to execute the assignment program regularly to keep the data up-to-date during the design phase of your project.

Features

You can assign items from several types of bills of material such as:

- Material BOMs
- Sales order BOMs

For more details on sales order BOMs, refer to [Order BOM \[Ext.\]](#)

- WBS BOMs

WBS BOMs are mainly used together with [production lot \[Ext.\]s](#). They are bills of material that are valid only for a particular WBS element. For information on how to create WBS BOMs, refer to [Creating Single-Level Work Breakdown Structure BOM \[Ext.\]](#) or [Creating Multi-Level Work Breakdown Structure BOMs \[Ext.\]](#). (Note that if you want to use WBS BOMs with the Project System, it is not necessary to create production lots)

- BOMs from external systems

You can select activities from all the networks in a project. You can select complete assemblies or single items; you can also assign BOM items that do not have a reference point. You use various criteria to select the items, for instance by selecting according to BOM usage you can exclude certain assemblies from the selection.

You can use BOM transfer to assign text items or assign material components with material number "0".

You can use [assembly items \[Page 32\]](#) to identify assemblies created in the network.

You can **simulate** assignments by running the assignment program, and then changing the results afterwards or not saving the results or the changes.

Activities

After a BOM item has been successfully assigned to a network, the system generates [requirements \[Page 104\]](#) if the requirements have been activated.

The system uses the execution factor in the network activity to determine the required amount. You can decide whether the system generates real requirements (purchase requisitions or reservations) or preliminary requirements (preliminary purchase requisitions or planned independent requirements).

For the assignment of a large number of components using BOM transfer, you can use priorities for stock types in [inventory management \[Page 105\]](#) . In this manner you can, for example, determine that components should be managed in sales order stock if possible or, if the component does not allow this, in plant stock.

This means that you can [assign costs to another WBS element \[Page 107\]](#) than that to which the activity is assigned. If the components are kept in project stock, the stock segment changes.

Assigning BOM Items using Bill of Materials Transfer

Assigning BOM Items using Bill of Materials Transfer

Purpose

If you use bill of material (BOM) transfer to assign BOM items to a network activity, subsequent changes in the BOM are automatically updated in the network.

You can only assign reference points for items in a bill of material, not for the component in the header. You can only assign such components as [Assembly Items \[Page 32\]](#)

You cannot assign BOM items to a **standard network** using reference points. You can however enter reference points in the data fields which have been defined for this purpose, so that when you use this standard network to create an operative network the system also copies the reference points.

During assignment using reference points, the system ignores material components that you have already manually assigned to a network activity. These material components do not appear in the list of assignments.

Prerequisites

To use BOM transfer, one of the following prerequisites must be met for the activities or the network.

- All the network activities, to which you want to assign components, must be assigned to a WBS element. You can use different WBS elements within a project. The system ignores the WBS assignment of the network header. In [Transfer Control \[Page 107\]](#), you can assign individual material components to other WBS elements (than the WBS element in the network header).
- The network must be assigned to a sales order.

Process Flow

1. You [maintain the reference point in the BOM item \[Page 92\]](#).
2. You [maintain the reference point in the network activity \[Page 93\]](#).

The reference point in the BOM must agree with the reference point in the corresponding network activity.



If, prior to Release 4.6A, you defined other fields in BOM items and network activities as reference fields, you must copy these definitions in Customizing the Project system by choosing *Material* → *BOM transfer* → *Define Fields in BOM and Activity as Reference Point*.

3. You [execute the BOM transfer assignment program \[Page 94\]](#).
4. After this you can [allocate manually or change existing assignments \[Page 97\]](#).

Result

The BOM items and the activities are linked logically.

Assigning BOM Items using Bill of Materials Transfer

For information about how changes to BOMs affect the network, if you execute the assignment again, see [The Effects of Changes in Bills of Material and BOM Transfer \[Page 103\]](#).

Maintaining Reference Points in the Bill of Material Item

Prerequisites

You have defined reference points in Customizing the Project System under *Material* → *BOM transfer*.

Procedure

1. Choose *Logistics* → *Production* → *Master data* → *Bills of material* → *Bill of material* → *Material BOM*, *Order BOM*, or *WBS BOM* → *Create* or *Change*.
2. Enter the relevant data on the initial screen and choose .
The item overview appears.
3. Go to the detail screen of the item by double-clicking on the relevant item number.
4. Enter a reference point in the *Basic data* tab page. You can only enter reference points that have been defined in Customizing for the *Project System*.
5. Save the BOM.



- The reference point in the BOM item must agree with the [reference point in the network activity. \[Page 93\]](#)
- Several bill of material items may have the same value as a reference point however only one network activity may have this value. During assignment, the system checks whether the reference point in the selected network is unique.

Maintaining the Reference Point in the Network Activity

1. Choose *Logistics* or *Accounting* → *Project System* → *Basic data* → *Project* → *Special maintenance functions* → *Network* → *Change*.
2. Choose .
The activity overview appears.
3. Select the required activities and double-click on the activity numbers to access the activity detail screen.
4. Enter a reference point on the *Assignments* tab page.
5. Move between activities with  or choose .
6. Save the network.



- The reference point in the network activity must agree with the [reference point in the BOM item \[Page 92\]](#).
- Several bill of material items may have the same value as a reference point however only one network activity may have this value. During allocation, the system checks whether the reference point in the selected network is unique.
- It is possible to use generic entries for the reference point in network activities. However, in contrast to earlier versions (before Release 4.6), you must define the generic reference point in Customizing first. For instance, you have used reference points b12, b13, b14, and b15 in BOM items and want to assign all these items to one activity. You can define a reference point b* or b1* in Customizing and assign it to the activity. All of the BOM items are then assigned to the activity.

Executing the Assignment Program in BOM Transfer

Executing the Assignment Program in BOM Transfer

Use

To assign BOM items to a network activity or to bring the assignments up-to-date, enter the selection criteria and execute the program.

You can simulate the assignment when you execute the program, but do not save the resulting assignments or changes.

Prerequisites

You have entered reference points in the BOM items and the network activities.

Procedure

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Planning* → *BOM transfer*.
2. For activity selection enter a *project definition*, a *WBS element*, a range of WBS elements, a *sales document item*, a *network*, or a range of networks.
3. If applicable, enter a profile you have created in Customizing and choose .

The system copies the selection parameters from the profile.

You do not have to create a profile, but this is helpful, if you use the same settings frequently.

4. To display, and if required change, the selection parameters, choose . For more information, read [Selection Parameters \[Page 96\]](#).
5. Enter the material for the selection of the BOM items. In the selection parameters you must select the relevant BOM category, *Material BOM*, *Sales order BOM*, or *WBS BOM*.



Always perform the assignment on the top level of the BOM so that the system can identify items that are used several times, for instance for changes in quantity.

6. Choose .

The system selects the BOM items and network activities based on your criteria and automatically assigns all items with reference points.

- If the system can assign all items automatically, the *Result Overview* appears, in which all assignments are displayed.
- If the system cannot assign all items, the [Manual Assignments \[Page 97\]](#) screen appears, where you can assign the remaining components manually.

You can also call up an overview of the selected network activities and BOM items from the results overview.

7. Save your assignments.

If you have not predefined [priorities in inventory management \[Page 105\]](#), the system will display a dialog box where you can choose the appropriate stock.

Executing the Assignment Program in BOM Transfer**Result**

When you save, the system assigns the BOM items to network activities and if applicable, [generates the corresponding \(preliminary\) requirements \[Page 34\]](#).

Selection Parameters

Selection Parameters

The selection parameters determine amongst other things:

- *Material BOM* , *Sales order BOM* or *WBS BOM*

You thus determine which type of BOM the system should select.

- *External datar*

Use this indicator to assign **bills of material from external systems** (via a user exit). For more information about the customer enhancements for exploding BOMs from external systems or additional processing of internal BOMs, see the IMG of the *Project System*.

- *Multi-level*

Use this indicator to determine that the system explodes the BOM completely (multi-level). In this case the system also generates requirements for subordinate assemblies in the network.

This is useful for instance, if you want to generate requirements in advance for components that have a long delivery time or take long to produce. To do so, you also set the *Preliminary requirements* indicator: The system then creates planned independent requirements or preliminary purchase orders that can be consumed by real requirements later.



If you only set the *multi-level* indicator but not the *Preliminary reqmnts* indicator, then you run the risk that the system will generate excess requirements. If afterwards you generate requirements for a superior assembly, materials planning will also generate requirements for the subordinate assembly, since bills of material are **always** exploded. If however there are already sufficiently large planned independent requirements the system consumes them.

For more information, see [Material Requirements Planning in BOM Transfer \[Page 104\]](#).

- *All items*

Use this indicator to determine that BOM items that do not have reference points are also selected. In the case of items that the system could not assign automatically, the system prompts you to assign manually.

Creating and Deleting Manual Assignments

Use

On the *Manual assignment* screen in BOM transfer, you can manually perform more assignments or change the existing assignments.

On the left-hand side of the list you see all the BOM items that could not be automatically assigned. By choosing  *view* you can switch between:

- Displaying all the BOM items that have not been assigned and
- Displaying the BOM items that have not been assigned **per assembly**, by navigating with *Next assembly* and *Previous assembly*.

On the right-hand side you see all the network activities in the project. These activities can be in several networks.

Prerequisite

You have executed the [BOM transfer assignment program \[Page 94\]](#).

Manually Assigning Components

1. Select one or more BOM items.
2. Select the network activity to which you want to assign the BOM item(s).
3. Choose .
BOM items that have been assigned are no longer displayed.
4. Repeat steps 1 to 3 for all the other items that you want to assign.
5. Choose .
A dialog box appears.
6. Confirm that you want to update the assignments with Yes.

Deleting Existing Assignments

1. To access the overview of all assignments, choose  *Results*.
The system displays a list of all the previous assignments containing all the BOM items that have been automatically or manually assigned.
2. If you want to delete an assignment, select the relevant BOM item and choose .
The item will then appear in the list of components that can be manually assigned.

Displaying the Activity and BOM Item Overviews

1. Call up the list of results by choosing  *Results*.
2. Choose either  *Network activities* or  *BOM items*.
The overview of either the network activities or BOM items appears together with the reference points.

Creating and Deleting Manual Assignments

You can switch between the *list of results*, the *Manual assignment* screen and the overview of the network activities and BOM item as often as you like.

Confirming Assignments

To confirm the new or changed assignments, save your data.

If you have not predefined [priorities in inventory management \[Page 105\]](#) , the system will display a dialog box where you can choose the appropriate stock.

Result

The BOM items are assigned to the network activities and if applicable the [corresponding \(preliminary\) requirements \[Page 33\]](#) are generated.

BOM Transfer in the Order Browser

Purpose

With BOM transfer in the order browser, you can execute BOM transfer on one of the following levels:

- For the whole multi-level BOM for a sales order item
- For a sub-tree
- For an individual assembly

Since in this case the system always knows the current position within the BOM, even if you access it via a sub-tree or assembly, it can determine the characteristic value assignment and quantity for multi-level configuration.

For more information on order BOMs and the order browser, see [Order BOM \[Ext.\]](#) or [Working with the Order Browser and Order Analysis \[Ext.\]](#)

Prerequisites

If you work with variant configuration, you have selected the result-oriented order BOM in the [Configuration profil \[Ext.\]e](#) for the configurable materials.

You have maintained the reference points in the BOM items and in the network activities.

Process Flow

1. You check in order [analysis \[Ext.\]](#), whether one or more assemblies are used several times in the multi-level BOM for a sales order item.

If this is the case, swap the material in the corresponding node in the order browser, before you continue with the next steps. For more information, see [Transfer and Assemblies used more than once \[Ext.\]](#).

2. Before you trigger the transfer, refresh the BOM explosion in the order browser if necessary, to ensure that the current status is transferred.
3. You select a node and trigger the BOM transfer.

The system transfers the whole tree or sub-tree below the selected node, to the Project System. If configurable assemblies are contained in the tree or sub-tree, the system determines the configuration and transfers the components, which were selected during [characteristic value assignment \[Ext.\] for this node](#).

The *BOM transfer* screen appears.. The data in the selected node is copied to this screen.

4. You execute BOM transfer.

Result

If you start BOM transfer from the order browser, the system determines the quantities of each component as the product of the following quantities:

- The component quantity of the BOM item
- The component quantities of all superior assemblies up to the material in the sales order item

BOM Transfer in the Order Browser

- The quantity in the sales order item

Transferring BOMs to Project System

Use

You use the order browser for BOM transfer, if you want to transfer a bill of material on a particular node of the overview tree to Project System.

Prerequisites

The general prerequisites for BOM transfer to Project System apply here. You can find further information in the *PS - Project System* documentation in [Bill of Material Transfer \[Page 88\]](#).

You have ensured that no assembly in the multi-level BOM for the sales order item is used more than once. For more information, see [BOM Transfer and Assemblies Used More than Once \[Ext.\]](#).

You have selected the *New Version* in the *Order browser: Initial Screen*.

Procedure

You are in the order browser.

1. Click  to ensure that you are working with the most current processing status.

The system updates the multi-level BOM.

2. Select the header of the bill of material you want to transfer to Project System.
3. In the BOM header context menu select *BOM transfer to PS*.

The *BOM Transfer* screen appears. The following fields already contain data and are not ready for input.

- Sales document (sales order number)
- Sales document item (sales order item)
- Material
- Plant
- BOM usage

In the following fields there are default values that you can overwrite:

- BOM category (material BOM or sales order BOM)
- BOM application
- Requirement quantity

4. Enter the data that is not already given and click .

See also:

[BOM Transfer to Project System \[Ext.\]](#)

BOM Transfer and Assemblies Used More than Once

BOM Transfer and Assemblies Used More than Once

Use

In general assemblies that are used more than once in the same bill of material pose no problem for BOM transfer. However if you use sales order BOMs, errors in the calculation of quantities could occur in particular circumstances. Material BOMs and WBS BOMs are not affected.

Assemblies Used More than Once in Order BOMs

Before you trigger a BOM transfer to the Project System, ensure that all assemblies you transfer, can be uniquely identified. This guarantees that the system determines the quantities for all items correctly. This is only the case if no assembly in the multi-level BOM is used on more than one node.

Activities

Check in [order analysis \[Ext.\]](#), whether one or more assemblies are used several times in the multi-level BOM.

1. Choose *Logistics* → *Production* → *Master data* → *Bills of material* → *Bill of material* → *Order BOM* → *Order browser*.

The *Edit Order BOM* screen appears.

2. Choose  *Order analysis*.

The *List of Results for the Analysis* screen appears..

3. Choose the *Multiple assemblies* tab page.

The assemblies listed on this tab page are used more than once in the multi-level BOM for the sales order item.

If an assembly is used more than once, replace the material on the individual nodes, so no two BOM headers in the multi-level BOM have the same material number.

For **configurable** assemblies use [instantiation \[Ext.\]](#) in variant configuration to do this.

For **non-configurable** assemblies use [material replacement \[Ext.\]](#) in the order browser.

The Effects of Changes in BOMs and BOM Transfer

Use

This function automatically copies changes in BOMs to the network.

Activities

If you are using BOM transfer and change a BOM, the network activity will be up-dated with these changes the next time you execute the assignment program.

The system also updates the purchase requisitions and reservations generated by the network

Effect of changes in BOMs when using the assignment program in BOM transfer

Change	Effect
Quantity	The system changes the material quantity in the network activity and adapts the corresponding procurement element (purchase requisition or reservation).
Text	The system changes the text in the network activity and the purchase requisition
BOM item: Substituting components	The system deletes the assignment of the old material and assigns the new material.
BOM item: Adding new items with reference points	The system assigns the new material components to the network activity with the corresponding reference point automatically.
Reference point	The system assigns the material component to another activity in the network.

Material Requirements Planning in BOM Transfer

Use

When you have assigned material components to network activities using BOM transfer and [activated requirements \[Page 33\]](#), the system produces requirements when you save the network.

Features

You can explode a BOM top-down (multi-level) or just single level for the assignment. If you explode it for all levels, the system generates requirements for all levels in the BOM.

You can generate preliminary requirements for lower-level components by selecting both the *Multi-level* indicator and the *Preliminary reqmnts* indicator. You use the *Preliminary reqmnts* indicator to create requirements in advance which can later be posted against real requirements. To do this you must have made the appropriate settings in the material master.



If you have not generated preliminary requirements, and explode a BOM, excess requirements are generated, since bills of material are **always** exploded multi-level during material requirements planning.



If the higher-level assembly is an [assembly item \[Page 32\]](#), the system generates real requirements in the form of purchase requisitions or reservations despite the *Preliminary reqmnts* indicator.

In advance procurement the system generates:

- Preliminary orders for components procured directly from the network
- Planned independent requirements for components that are procured by materials planning

MRP interprets a planned independent requirement as a normal requirement. Afterwards, when you generate a real requirement and the system finds a component for which a sufficiently large planned independent requirement exists in the same type of stock, then these requirements are set off against each other.

For more information on advance procurement and its prerequisites, see [Advance Procurement \[Page 30\]](#).

Setting Priorities for Inventory Management

Use

If you assign a material component that can be kept in different types of stock, a dialog box asks you to enter the stock type in which the component should be kept.

You can predefine the stock type for every material component in a project, so that this dialog box does not appear. This is very useful if you have a large number of material components to assign.

Procedure

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning* → *BOM transfer*.
The *BOM Transfer* screen appears.
2. Choose *Stock/acct. assignmt.*
3. Enter the project definition of the project for which you want to set priorities for the stock type.
4. Enter the priority for the stock.

For instance, with priority **1** for project stock and **2** for plant stock, you specify that the system should manage all material components in project stock. If this not possible, they should be managed in plant stock.

5. Save your data.

For information about the conditions for keeping a material component in a particular stock type see [Managing Stocks of Material Components \[Page 61\]](#).



You can also store the priorities for inventory management in the profiles or specify them on the selection screen for BOM transfer by choosing .

Defining Assembly Items for BOM Transfer

Defining Assembly Items for BOM Transfer

Use

Use transfer control to define components as [assembly items \[Page 32\]](#) in BOM transfer.

The transfer control has two functions:

- You can define material components as assembly items using reference points as described below.
- You can assign individual material components to other WBS elements than the WBS element that the network activity is assigned to. See [Assigning Material Components to Other WBS Elements \[Page 107\]](#)

Procedure

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning* → *BOM transfer*.
2. Choose  *Transfer*.
3. Enter the project in which you want to assign an assembly item.
4. Enter the material and reference point.
5. Save your data.

Result

If you assign the material defined as an assembly item to an activity using [BOM transfer \[Page 88\]](#), the system automatically enters a negative quantity.

The reference point of the assembly items is passed on to all the lower-level BOM items.

Assigning Material Components to Other WBS Elements

Use

You use transfer control to assign individual material components to another WBS element.

Transfer control has two functions:

- You can assign individual material components to other WBS elements, as described below.
- You can define material components as assembly items. See [Defining Assembly Items for BOM Transfer \[Page 106\]](#)

Procedure

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning* → *BOM transfer*.
2. Choose  *Transfer*.
3. Enter the material and the WBS element that you want to assign the material component to.
4. Save your data.



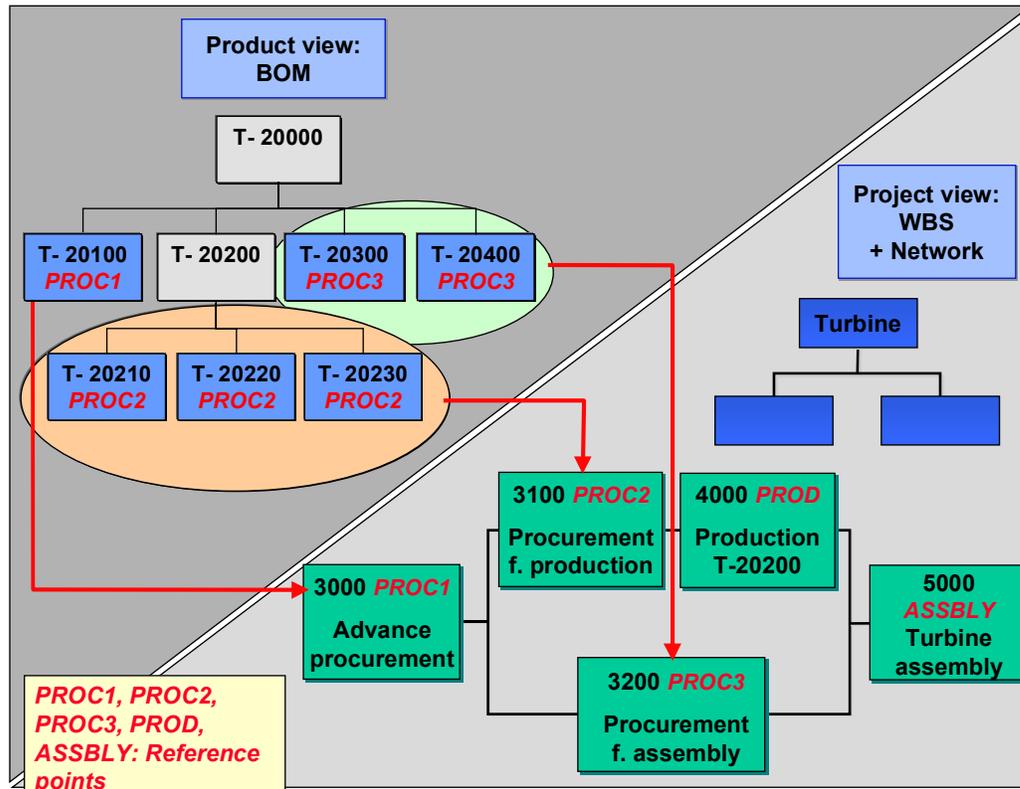
If the component is kept in [project stock \[Page 60\]](#), the system also changes the stock segment.

If you want the requirements of the corresponding components to be consumed (if they are in project stock), they must both be assigned to the same WBS element, since [requirements consumption \[Page 104\]](#) takes place only within the same stock segment and not across projects.

BOM Transfer: Example

BOM Transfer: Example

In this example we produce and assemble a turbine using a network. We assign the items from the two-level BOM to various network activities using BOM transfer.



Item **T-20100** is a directly procured material (item category N) with a long delivery time. It is assigned via the [reference point \[Ext.\] PROC1](#) to activity **3000** "Advance procurement"

The sub-items **T-20210**, **T-20220**, **T-20230** for the production of assembly **T-20200** are to be procured in activity **3100**. Since these BOM items are all procured in the same activity, they have the same reference point **PROC2**.

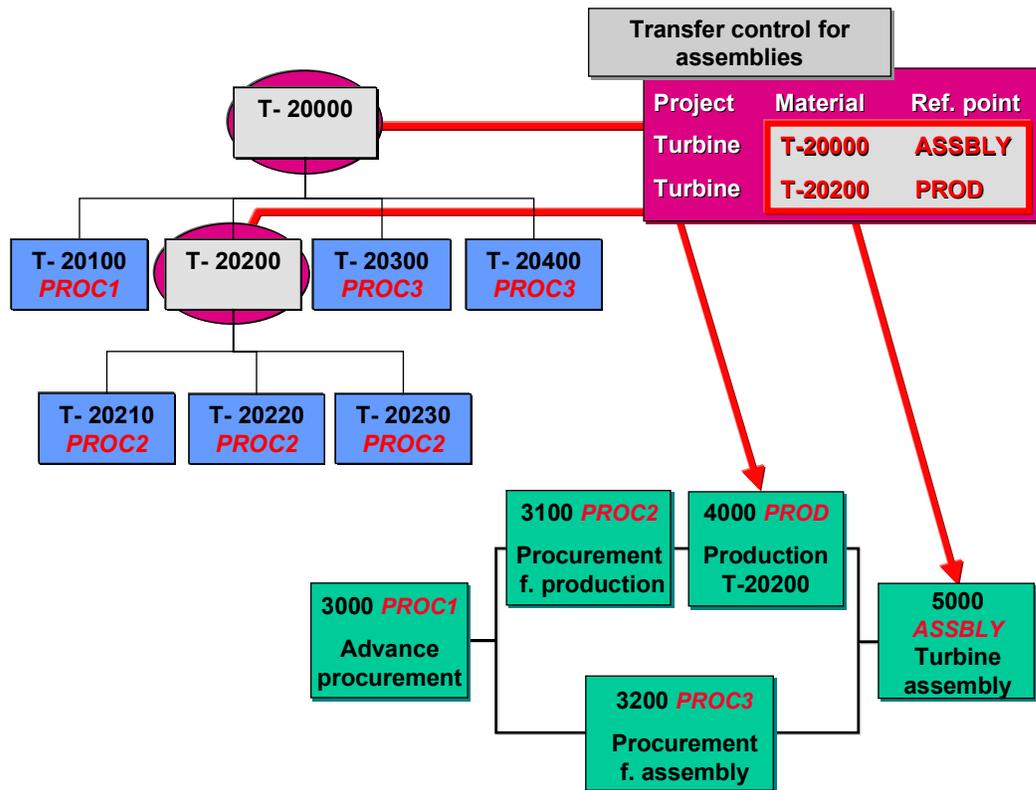
Turbine assembly also requires material component **T-20300** and **T-20400** that are procured using MRP ([item category \[Page 14\] L](#)). They are assigned via the reference point **PROC3** to activity **3200**.

Assembly Items

Instead of using production orders, the production of assemblies can be modeled using [assembly items \[Page 32\]](#). In the transfer table you enter the project, the assembly to be produced and the reference point of the activity in which the assembly is produced.

In this example, assembly **T-20200** is produced in activity **4000** with reference point **PROD**, and turbine **T-20000** is assembled in activity **5000** with reference point **ASSBLY**. The system assigns these assembly items with quantity -1 ("receipt from activity") and sets the requirements date to the finish date of the activity.

BOM Transfer: Example



Allocation and Material Requirements Planning (MRP)

After you have defined reference points in the BOM and the network activities, and the assignment in transfer control, you execute the BOM transfer assignment program

You enter as selection parameters the *Project definition*, the *Material* T-20000 and set the *Multi-level* and *Preliminary reqmnts* indicators.

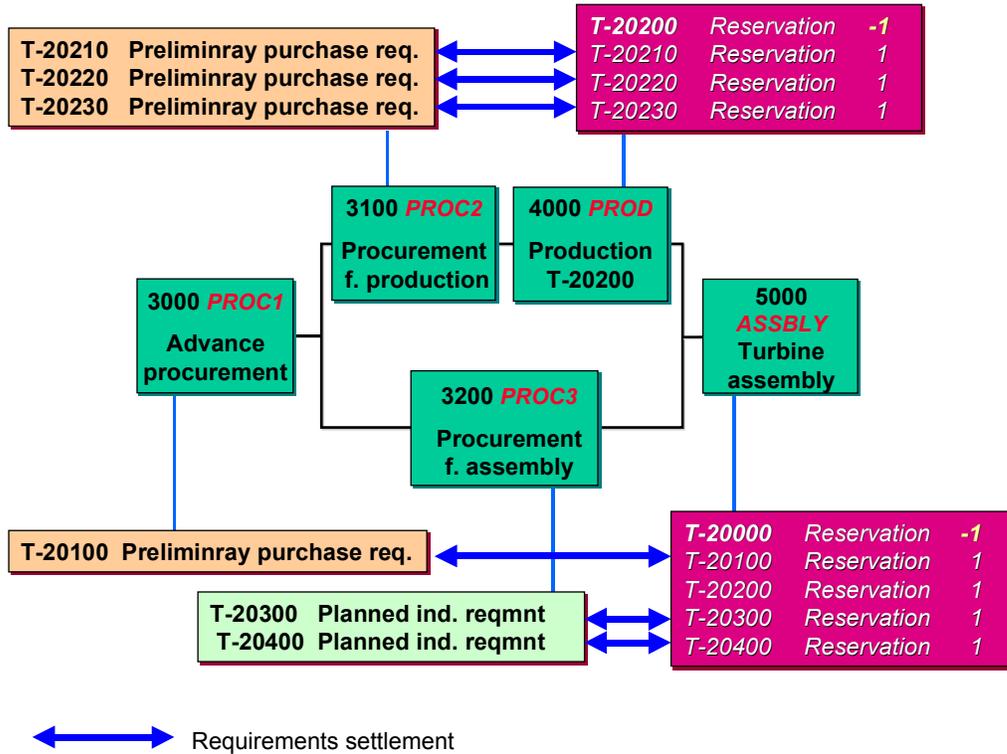
The system assigns the BOM items to the network activities and when the system [activates requirements \[Page 33\]](#), it generates reservations and preliminary requirements as follows:

- In activities 5000 and 4000 reservations are created for the assembly items T-20000 and T-20200 with quantity -1 in both cases. The “requirements date” is the finish date of the respective activity.
- Although the *Preliminary reqmnts* indicator is set, real requirements are generated for the subordinate components in the assembly items in the form of reservations for the activity start date.
- As a result, reservations (dependent requirements) are generated for components T-20210, T-20220, and T-20230 in activity 4000. These components are consumed during the assembly of T-20200. However, since these components have a different reference point than the superior assembly, with which they are assigned to activity 3100, preliminary requirements are generated in activity 3100. In the case of externally procured components these are preliminary purchase requisitions.
- Similarly, preliminary requirements are generated for the components, for which dependent requirements are generated in activity 5000, but which are assigned via reference points to

BOM Transfer: Example

other activities. If the components are procured via MRP, the preliminary requirements are planned independent requirements, as in the example for T-20300 and T-20400.

As illustrated in the following graphic, the system settles preliminary requirements against the reservations that are generated later. The prerequisite for this is that the material is managed in the same individual stock segment in both activities, that is. both activities are assigned to the same WBS element.



Delivery from Projects

Purpose

You can use this component to create deliveries in the Project System and consequently to deliver material components that are assigned to a project.

For instance, you can deliver material components, which are assigned to different network activities at different dates. These dates can be linked with the relevant phase in the project, for instance pre-assembly and assembly.

You can also deliver independently of a sales order. You save the data necessary for the delivery, such as sold-to-party, delivery address or delivery date in the project. The [general data \[Page 116\]](#) is valid for all delivery items that have not been assigned special [delivery information \[Page 113\]](#).

You can select the material components for a delivery via:

- A project
- A WBS element
- A sales order
- A network

The components can also be filtered using component attributes, for instance, the plant, the material number or using data from the assigned delivery information, such as the shipping point, the goods recipient or the delivery date.

Integration

A delivery that you created in the Project System can be processed further in shipping, for example for picking or packaging. For more information, refer to the [Shipping \[Ext.\]](#) component (LE-SHP).

You can evaluate all deliveries, including those you created in the Project System, in the sales information system. For more information, see [Sales Information System \[Ext.\]](#) in the Logistics Information System component (LO-LIS).

Features

When it selects material components, the system takes components into account that have been assigned to either a network or a production order. To select materials in production orders, the production order header must be assigned to a WBS element.

You can also deliver materials for third party orders and, in contrast to delivery processing in SD, you can deliver materials from project stock.

If you create a delivery from a project, every delivery item has a direct reference to the reservation in the network. In this context purchase requisitions for externally procured materials are also considered to be reservations. This direct reference has the following advantages:

- If you deliver partial quantities, the system [automatically determines dependent values \[Page 117\]](#), such as the available open quantity and uses this value as default for future deliveries.
- The system copies account assignments from the reservation.

Delivery from Projects

- The system checks the availability of the delivery items in the stock that has been entered in the reservation.
- The system posts the goods issue of the delivery automatically with reference to the reservation. The quantity withdrawn is updated correspondingly.
- The system posts the actual costs as of the time of issue according to the stock and the account assignment of the material components.

For a delivery in SD that refers to a **sales order**, the requirements for the delivery item consume the requirements for the order item.

In deliveries from projects the requirements for a material component in a reservation are not affected by a delivery from the project. Therefore it is laid down in Customizing that the system does not create requirements for a delivery item that has a reference to a project. This prevents multiple requirements from being generated.

Constraints

- You can only deliver material components that have a material number. You cannot deliver material components that only have a text description.
- You must have [activated requirements \[Page 33\]](#) for the material components to be delivered.
- You cannot deliver materials that are marked for deletion.
- You cannot deliver materials that are defined as assembly items (negative requirement quantity). If you want to deliver components that are assembled in a network, you must assign them to a subsequent activity with positive requirements quantities and deliver them from this activity.
- You cannot extend deliveries that you have already created with items that have a reference to a reservation (similar to deliveries in shipping without reference to a sales order). To deliver further material components that have been assigned to a project, you should create a new delivery.
- You can copy third-party orders from a network, directly procured components and components that are backflushed to the delivery document, but you cannot post a goods movement by posting a goods issue of the delivery. For such components only one pro forma goods issue is carried out via the delivery.

Delivery Information

Definition

Contains the information that is required for a delivery, for example the sold-to-party or delivery date. Since you can create deliveries in a project independently of a sales order, this data is saved in delivery information in the Project System.

You can assign delivery information to the following objects:

WBS elements (for activity assigned networks)

Network headers (for header assigned networks)

Network activities

Components in the network

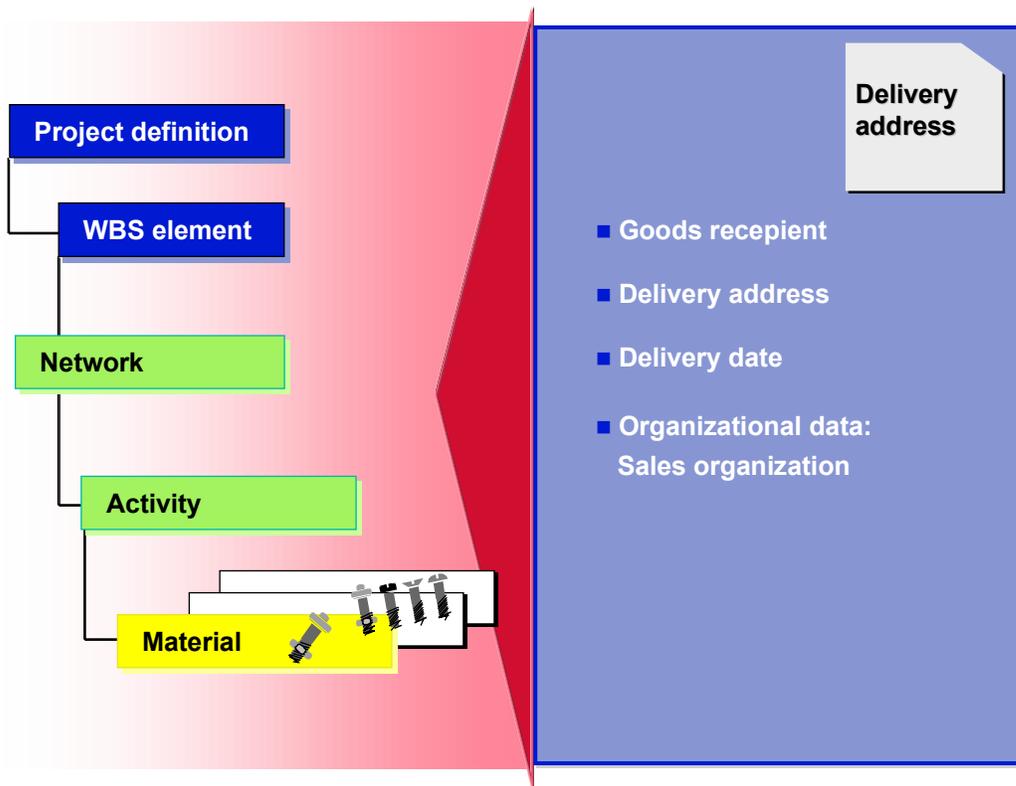
Use

When you create a delivery from the Project System, the delivery information for the selected components is determined as follows

If the component itself does not have any delivery information, the delivery information from the higher-level network activity, network header (for header assigned networks) or WBS element (for activity assigned networks) is used.

If none of these objects has delivery information the [general data \[Page 116\]](#) is used.

Delivery Information



The delivery information is evaluated as follows:

It is used as a filter criterion, so that only certain components are selected, for instance those for a particular recipient or for a particular delivery period.

If you use such a filter criterion, the system selects both material components that meet the filter criterion and those which have had no delivery information explicitly assigned.

You can enter individual data (delivery date, delivery address) for each component in the delivery information. Specific delivery information takes preference over [general data \[Page 116\]](#) for the delivery.

If you enter different delivery dates or delivery addresses for several selected components, the system automatically creates several delivery documents, in which the components for one delivery address and one delivery date are entered in one delivery document.

See also:

[Creating Delivery Information \[Page 115\]](#)

Creating Delivery Information

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Execution* → *Delivery information* → *Create*.

2. Enter a name for the item of delivery information and choose .

You can copy an existing item of delivery information and then change the copied data.

3. Enter the project to which you want to assign the delivery information.

4. Enter the necessary data about the delivery.

- If you want to enter a different delivery address for a goods recipient, choose *Delivery address*. To enter a new address, choose *Create*. To edit an existing address, enter an *Address number*.



Selection occurs exclusively in address group *PSL2*, which contains addresses that have been created in deliveries from PS.

- You can only enter the organizational data all together. The three fields, *Sales org.*, *Distr. channel* and *Division* form a sales area.

5. If you want to assign delivery information to a WBS element, a network or an activity, choose  *Assignments*.

6. In the assignments overview choose .

The *Assign delivery info* dialog box appears.

7. Select the object to assign the delivery information to, enter the relevant number and choose  *Assign*.



You can only assign delivery information to a network header in the case of header-assigned networks.

The explicit assignment of an item of delivery information to material components takes place in network maintenance. Here you choose *Details* → *Delivery information* (see [Assigning Materials to Network Manually \[Page 20\]](#))

8. To change or display existing delivery information on the *Delivery information* screen, choose *Change* or *Display*.

In change mode, you can also delete delivery information by choosing , as long as no assignments exist.

General Data

General Data

Definition

Data that the system needs to create a delivery. This includes:

- The shipping point
- The ship-to party
- The planned goods issue date
- The organizational data

The *general data* is relevant for all delivery items, for which no data has been explicitly saved as delivery information.

Use

As far as possible, the system defines the general data automatically as follows:

- Using sales order items that are assigned to the project.

If the sales order item itself has been selected or if it has been selected via a network with assignment to a sales order item, then this data is copied. If several sales order items exist for the project, a list appears from which you select the item to copy the data from.

- From a delivery information item

If the *general data* cannot be defined from a sales order item, the system copies it from an item of delivery information, as long as the data agrees with that of the selected components, otherwise the fields remain empty.

You can change the *general data* that has been created as above; you have to edit manually the data that could not be defined automatically.

Quantity Calculation

Use

For individual delivery items the system calculates following quantities for the delivery.

Quantity	Description	Calculated from
Requirements quantity	Total component quantity to be delivered	Reservation
Quantity withdrawn	Component quantity whose goods issue has already been posted	Reservation
Quantity in delivery	Actual component quantity contained in open (partial) deliveries. No goods issue has been posted for these components	All deliveries that you have created for reservation
Open quantity	Quantity for which you must create a delivery to complete the requirements quantity	Requirements quantity - quantity withdrawn - quantity in delivery = open quantity
Available open quantity	Component quantity that is available on the goods issue date, according to the Available-to-Promise system (ATP). In which stocks the system checks depends on the data in the reservation.	Is not larger than the open quantity
Delivery quantity	Component quantity in the delivery. You can change the delivery quantity.	Available open quantity (default)

These quantities are on the details screen of the delivery item.



The system does not check the availability of materials for third party orders.

Creating a Delivery from a Project

Creating a Delivery from a Project

Procedure

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Execution* → *Delivery from project*.

An entry screen appears.

2. Enter the selection and filter criteria for the material components that you want to deliver.



Selection via a project definition automatically excludes simultaneous selection via a sales order. You can, however, select both a WBS element and a sales order.

3. Choose  *Components*.

If there are several sales order for the chosen project, a dialog box appears. Select the sales order that the general data should be copied from.

A dialog box appears with the general data for the delivery.

4. Check the general data that the system proposes and change or append it, if necessary. Then choose  *Copy*.

The system checks the availability of the selected material components on the planned goods issue date.

A screen appears for editing the delivery items.

5. Enter the delivery quantities for each item.

The system proposes the available open quantity is proposed as the default.

- To reach the details screen of a delivery item with the corresponding quantities, select the delivery item and choose *Details* in the context menu.
- To access the general data for the delivery, choose *General data* in the context menu. If, for instance, a component is not available on the planned date, you can change the date on this screen. The system check the availability of the components again.

6. Save the delivery.

Result

The system then creates the delivery documents - as many as required - if different goods recipients or different delivery dates were entered. It takes all components into account whose delivery quantity is larger than zero.

You can then [display \[Page 119\]](#) deliveries that you have created from projects in an overview.

Displaying Deliveries

Procedure

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Execution* → *Delivery from project*.

An entry screen appears.

2. Enter the project definition, for which you want to see the deliveries that have been created.

3. Choose  *Deliveries*.

An overview of the deliveries appears.

4. Select a delivery and choose *Select*.

An overview appears with the quantities of the delivery items.

Result

You can branch from the overview to distribution where you can edit the deliveries, for instance

- By deleting items
- By changing quantities
- By adding new items

Every time you change the quantities, an availability check is carried out. However you cannot add new items that have a reference to reservations in the project. If you want to deliver further material components from a project, create a new delivery from the project

For more information, see [Delivery Processing \[Ext.\]](#) in the Shipping (SD) component.

Monitoring Dates

Monitoring Dates

Purpose

Use this process to monitor the dates of any events connected with components in a project. This means that you can keep these dates, for instance in the procurement process, better under control.

Prerequisites

To use *Monitoring Dates*, you **must** have previously defined **events** in Customizing the Project System under *Material* → *Monitoring Dates*.

You **can** assign **reference dates** to these events in Customizing. There are four date types available, which you can assign to an event: **baseline**, **plan**, **forecast**, and **actual**. In the standard system you can use date fields from the network activity and the sales document as reference fields. However, you can use a customer assignment to assign other dates as reference dates. If you have assigned a reference date to a date type, you can no longer change this date manually.

In Customizing you can also *Define Statuses* and *Define Profiles for Monitoring Dates*.

Process Flow

1. In Customizing you define events, and if necessary assign these events reference dates, define statuses, and create profiles.
2. On the initial screen for *Monitoring Dates*, you enter the project, the WBS elements, or the networks for which you want to monitor the dates of the components.

The system selects all the components for the objects entered.

In order to monitor different components and events together in the *Dates overview*, you require at least one group to which components and events are assigned.
3. You [create groups \[Page 122\]](#) to which you assign the components and events, whose dates you want to monitor.

If you have made any entry in *Group* in the profile, the system automatically creates an initial group, which contains all the selected components.
4. You [assign components to the groups \[Page 124\]](#). If you want to work with the group created from the profile, delete any components in this group that are not of interest.
5. You [assign events to the groups \[Page 126\]](#). If you have assigned a milestone to an event in Customizing, you now have to link the event with a real [milestone \[Page 128\]](#), so that the system can determine the reference date.
6. You [call up Monitoring Dates \[Page 131\]](#).

Result

An overview of the dates for the components and events that are assigned to a group appears. On the dates overview you can filter or sort according to criteria, edit the dates or highlight date variances. For more information, see [Functions in the Dates Overview \[Page 132\]](#).

Creating Groups

Creating Groups

Use

Use this procedure to create groups, for components and events in *Monitoring Dates*. With groups you can monitor certain dates together.

In the dates overview, the system only displays dates for components and events that have been assigned to one group. You can also use groups for filtering and sorting.

If you have entered a profile on the initial screen and this profile contains an entry in the *Group* field, the system automatically creates an initial group, which contains all the selected components.

Procedure

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning or Execution* → *Monitoring dates*.
2. On the initial screen, enter the object(s) for whose components you want to monitor the dates. Such an object could be:
 - A *Project*
 - A *WBS element* or a range of WBS elements
 - A *network* or a range of networks

3. Choose  *Groups*.

The *Groups* screen appears on which any groups that exist for the selected components are listed.

4. Enter a group name.

5. Select a group and choose

-  *Event* to [assign events to the group \[Page 126\]](#).
-  *Components* to [assign components to the group \[Page 124\]](#).



The groups are saved with the components. If you have not assigned components to a group, this group is not saved even if you have assigned events. If you choose , the system displays a message to this effect.

6. Depending upon whether you only want to create groups or continue working in *Monitoring Dates*, leave the *Groups* screen as follows:
 - If you want to leave *Monitoring Dates*, choose  to save the groups.
 - If you want to go to the dates overview, choose  *Dates*.

Assigning Components to a Group

Assigning Components to a Group

Use

You use groups to monitor the dates of certain components and events together.

In the dates overview, the system only displays dates for components and events that have been assigned to a group. You can also use groups for filtering and sorting.

If you have entered a profile on the initial screen and this profile contains an entry in the *Group* field, the system automatically creates an initial group, which contains all the selected components.

Prerequisites

You have [created groups \[Page 122\]](#) for the selected components in *Monitoring Dates*.

Procedure

If you are already on the *Groups* overview screen, start at step 4.

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Planning* or *Execution* → *Monitoring dates*.
2. On the initial screen, enter the object(s) for whose components you want to monitor the dates. Such an object could be:
 - A *project*
 - A *WBS element* or a range of WBS elements
 - A *network* or a range of networks
3. Choose  *Groups*.

The *Groups* overview screen appears. If no groups exist, first [create groups \[Page 122\]](#) for the selected components.
4. Select a group and choose  *Components*.

An overview of the components appears. On the left you see those components that have been assigned to the group, and on the right the selected components that have **not yet been assigned**.
5. Use the arrow icons to assign components or to delete assignments:
 - To assign individual components, select the components and choose .
 - To assign all the components, choose .
 - To delete all the assignments, choose .
 - To delete individual assignments, select the assigned components and choose .
6. Depending upon whether you only want to assign components or continue working in *Monitoring Dates*, leave the *Components* screen as follows:
 - If you want to leave *Monitoring Dates*, choose  to save the changes to the assignments.

Assigning Components to a Group

- If you want to assign the group more events or change the existing assignments, choose  *Events*.
- If you want to go to the dates overview, choose  *Dates*.

Assigning Events to a Group

Assigning Events to a Group

Use

Use this procedure to assign events to a group, so that you monitor dates for certain events and components together. You can, for instance, group event together that describe the progress of the procurement process.

Prerequisites

- You have defined **events** in Customizing the *Project System* under *Material* → *Monitoring Dates*.
- You have [created groups \[Page 122\]](#) for the selected components in *Monitoring Dates*.

Procedure

If you are already on the *Groups* overview screen, start at step 4.

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning or Execution* → *Monitoring dates*.
2. On the initial screen, enter the object(s) for whose components you want to monitor the dates. Such an object could be:
 - A *Project*
 - A *WBS element* or a range of WBS elements
 - A *network* or a range of networks
3. Choose  *Groups*.

The *Groups* overview screen appears. If no groups exist, first [create groups \[Page 122\]](#) for the selected components.
4. Select a group and choose  *Event/date*.

An overview of the events appears. On the left-hand side you can see the events that have been assigned to the group, and on the right-hand side the events that have been defined in Customizing but have not yet been assigned to the current group.
5. Use the arrow icons to assign events or to delete assignments:
 - To assign individual events, select the events and choose .
 - To assign all the events, choose .
 - To delete all the assignments, choose .
 - To delete individual assignments, select the events and choose .
6. If you have assigned an event that references a milestone date, you now have to [assign the milestone \[Page 129\]](#) itself, so that the system can determine the date.
7. Depending upon whether you only want to create groups or continue working in *Monitoring Dates*, leave the *Events* screen as follows:
 - If you want to leave *Monitoring Dates*, choose  to save the assignments.

Assigning Events to a Group

- If you want to assign the group more components or change the existing assignments, choose  *Components*.
- If you want to go to the dates overview, choose  *Dates*.

Assignment of Milestones to Events

Assignment of Milestones to Events

Use

Use this function to assign existing milestones to events that you have already assigned milestones dates as references in Customizing. You can assign an event any milestone that belongs to the selected network. A milestone can **only** be assigned to **one** event.

Using milestone dates as reference dates offers the following advantages:

- You can assign network activities as many milestones as you like. As a result, you can assign events dates that do not necessarily directly affect the component.
- You can align milestones with the network activities and schedule them together.
- You can confirm milestones.

Integration

In contrast to the other objects, whose dates you can assign in Customizing to events, milestones are not directly assigned to components. Consequently – as well as assigning a milestone date in Customizing – you must also specify from which milestone the system should obtain the date.

Prerequisites

- In Customizing the *Project System* (under *Material* → *Monitoring Dates*) **events have been created**, and the relevant events have been assigned **milestone dates as reference dates**.
- You have [created groups \[Page 122\]](#) for the components that you want to monitor by linking the event dates with a milestone, and you have [assigned the events to this group \[Page 126\]](#).
- The selected network has **milestones**.

Activities

[Assign milestones to the events \[Page 129\]](#).

Assigning a Milestone to an Event

If you are already on the *Events* screen, because for instance you have just assigned events to a group, start at step 5.

1. Choose *Logistics* or *Accounting* → *Project System* → *Material* → *Planning* or *Execution* → *Monitoring dates*.
2. On the initial screen, enter the object(s) for whose components you want to monitor the dates. Such an object could be:
 - A *project*
 - A *WBS element* or a range of WBS elements
 - A *network* or a range of networks

3. Choose  *Groups*.

4. Select a group and choose  *Event/date*.

An overview of the events appears. On the left-hand side you can see the events that have been assigned to the group, and on the right-hand side the events that have been defined in Customizing but have not yet been assigned to the current group.

5. On the left-hand side select the required event and choose .

The *Milestone/Event Assignment* screen appears, on which all the milestones in the selected networks are listed. Milestones that have already been assigned to an event are highlighted.

6. Select the required milestone and choose .

You return to the *Events* screen, on which you can see assigned milestone in the row for the selected event.



If a milestone date has not been assigned to the event as a reference date in Customizing, a message to this effect appears. The milestone assignment is saved, but the system can only use the date after the event has been linked with a milestone date in Customizing.

7. To delete the assignment of a milestone to an event, select the event and choose .
8. Depending upon whether you only want to assign milestones or to continue working in *Monitoring Dates*, leave the *Events* screen as follows:
 - If you want to leave *Monitoring Dates*, choose  to save the changes to the assignments.
 - If you want to assign the group more components or change the existing assignments, choose  *Components*.
 - If you want to go to the dates overview, choose  *Dates*.

Assigning a Milestone to an Event

Calling up the Dates Overview

Prerequisite

- You have defined **events** in Customizing the Project System under *Material* → *Monitoring Dates*.
- You have assigned the relevant components and events to a **group**.
In the dates overview, the system only displays dates for components and events that have been assigned to a group.
If you are using a profile for monitoring dates and you have made an entry in the *Group* field of the profile, when you call up *Monitoring Dates* the system automatically generates a group that contains all the selected components. If you want to work with this group, you only have to assign it the relevant events

Procedure

1. Choose *Logistics or Accounting* → *Project System* → *Material* → *Planning or Execution* → *Monitoring dates*.
2. On the initial screen, enter the object(s) for whose components you want to monitor the dates. Such an object could be:
 - A *project*
 - A *WBS element* or a range of WBS elements
 - A *network* or a range of networks
3. Choose  *Dates*.
You can also call up the dates overview from the overview screens for groups, components, and events, if for instance you have previously checked or changed the groups.

Result

An overview of the dates appears. This contains the dates for the components and events that are assigned to a group. Date variances are highlighted and have a traffic light displayed. You can filter or sort the overview according to various criteria.

If you have the necessary authorization, you can change the dates that the system does not derive from reference dates.

For more information, see [Functions in the Dates Overview \[Page 132\]](#).

Functions in the Dates Overview

Use

Use the functions in the dates overview to present the dates as you wish so that you can monitor and edit your dates efficiently.

Features

Overview

The rows of the dates overview contain all the components that have been assigned to a group, together with all the date types or those date types specified in the profile.

The columns contain the events with the corresponding status – as well information about the component, for example, the network or the group.

You can edit the dates and status of events that are not linked to reference fields, if you have the necessary authorization.

Detail Screen

You call up a [dates detail screen \[Page 134\]](#) for each component. On this screen all the dates and variances are displayed.

Display of Variances

You can [highlight date variances \[Page 136\]](#).

Filters

You can [filter \[Page 137\]](#) the dates overview according to various criteria.

Mass Change of Dates

For an event you can [change the dates of several components simultaneously \[Page 135\]](#).

Environment

For dates that the system derives from reference fields, you can display the **source document**. To do so, place the cursor on the relevant date and choose  *Origin*.

In the case of a component, you can go to the **material master** or the **component detail screen**. To do so, select the component and choose  *Material* or  *Component*.

Updating Dates

If you want to update reference dates that may have changed, choose  *Dates*. The system updates the displayed dates.

Sorting

You can sort the overview according to *Material*, *Description*, *Group*, and *Material group* by selecting the relevant column and choosing  or .

Activities

Check or edit the dates.

If you want to edit the assignment of [components \[Page 124\]](#) or [events \[Page 128\]](#) to groups, choose  *Groups* to go to the groups overview.

If you have made any changes, either in the dates overview or in the assignment of components or events to groups, choose  to save the changes and leave Monitoring of Dates.

Calling up the Dates Detail Screen

Calling up the Dates Detail Screen

Use

You use this procedure to display all the dates for a component on one screen.

Prerequisites

You are on the [dates overview screen \[Page 131\]](#).

Procedure

To call up the dates detail screen for a component, double-click on the relevant line or select the component and choose .

You can also select several components (or all components with ) and then double-click on one of the lines or choose .

Result

The *Dates* detail screen appears, on which the dates for the component are displayed as follows:

- The events that fit any filter conditions are displayed in the rows
- All the date types are displayed in the columns, even if not all date types were shown on the dates overview

If you have selected several components, you can navigate between the individual components by using the arrow icons .

On the detail screen you can see a traffic light for the [date variance \[Page 136\]](#) of each **event**, in contrast to the overview screen where this information is summarized as a traffic light for each **component**.

If you have the necessary authorization, you can change the dates that the system does not derive from reference dates. You accept these dates by choosing  to leave the detail screen.

Entering Dates for Several Components

Use

Use this procedure to enter the dates of an event for several components in one step. This could be the case if you have created a common purchase order for several components, for example.

Procedure

1. Select the column for the event whose dates you want to edit.
2. Select the relevant components.
3. Choose  *Date*.

The *Set Dates* dialog box appears. Here you enter all four date types for the selected event.

4. Enter the dates, as required.
5. To copy the dates choose .

Result

The system sets the date for the relevant date types for all the selected components .

Highlighting Date Variances

Highlighting Date Variances

Use

Use this procedure to emphasize date variances by highlighting and by setting traffic lights.



You can save the settings for the traffic lights in profiles in Customizing. However you can change these setting at any time in *Monitoring Dates*.

Procedure

1. To specify which light should appear for which type of variance, choose  *Traffic light*.
The *Variance display* dialog box appears. Here you decide which color light the system displays for which type of date variance.
For example, you can use  to indicate that the forecast date is after the planned date, and  to indicate that the actual date is after the planned date.
2. To change the color of a traffic light, click on the traffic lights icon next to the relevant condition. The lights changes color. If necessary, click again until the lights have the required color.
3. Accept the settings by choosing .

Result

If there are date variances for a component, the system displays the corresponding traffic lights in the first column of the dates overview. If there are variances for more than one event or date type, the system displays the "worst" case. For example if for one component one variance has  and all the other variances  or  is set for the component.

You can see all the traffic lights for a component on the detail screen, by double-clicking on the component.

Additionally, the relevant dates are highlighted in red in the dates overview and on the detail screen.

Setting Filters

Use

With this procedure you can use filters with various criteria in the dates overview:

- According to objects, for example *Material*, *Group* or *Network*
- According to date attributes, for example, *Date type*, *Variance*, *Date interval*, or *Status interval*
- According to *Event*

Procedure

Filter according to objects

1. Choose .
2. Select the object to filter and enter the restriction.

In restrictions, you can use the wild card *. For instance, if you enter P-13* in *WBS element*, the system only displays WBS elements that begin with P-13.
3. Accept the filter criterion by choosing .
4. To remove a filter set for an object, choose .

Filter according to date attributes

1. Choose  *Date*.
2. Enter your filter criteria:
 - To only display a particular date type, select the date type in the *Date type* section.
 - To only display dates whose variance is larger than the tolerance you entered in [Assigning Events to a Group \[Page 126\]](#), set an indicator for the relevant condition in the *Variance* section.
 - To only display a particular period, enter an interval for the relevant date type in the *Date interval* section.
 - To filter according to statuses that you have defined and set, you can set the statuses in the *Status interval* section. For example, you can only display events that you consider to be critical, via the status.
3. Accept the filter criteria by choosing .
4. To remove a filter, choose  *Date*.

This pushbutton appears in the standard toolbar, if you have entered a restriction in *Variance*, *Date interval*, or *Status interval*. It does not appear, if you have only filtered according to date type. Consequently you cannot remove the filter with  *Date*.

Filter events

1. Choose  *Event*.

Setting Filters

A list of events that are assigned to the current groups appears. The currently displayed events are selected.

2. Deselect any events that you do not want to display..
3. If you want to sort the events in a different order, select the relevant events, cut them out by choosing , select the event where they should be inserted, and paste by choosing .



You can do the same in the overview by moving columns. In this case, however, the status column is **not** moved automatically with the event to which it belongs.

4. Accept the filter by choosing .
5. To cancel the filter conditions, choose  *Event* again and select the required events.

Assembly Processing in the Project System

Purpose

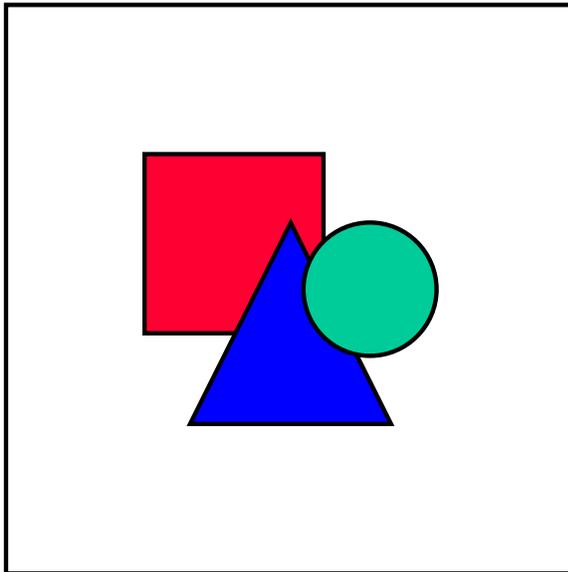
Assembly Processing in General

An assemble-to-order environment is one in which the product or service is assembled on receipt of the sales order. Key components are planned in anticipation of the sales order. Receipt of the order initiates assembly of the customized product. This business process is called assembly processing.

This process is used throughout SAP R/3 logistics applications to automatically generate the following order types:

- Planned order
- Production order
- Process order
- Service order
- Network (project)

The order that the system generates is sometimes referred to as an "assembly order".



There is no one object called an assembly order in the R/3 System. It is a generic term referring to all orders that can be created using assembly processing.

The order type used in the Project System is the network.

Assembly processing in the Project System uses the static procedure, in which there is only one network for each sales document item.

This section focuses on assembly processing in the Project System, with networks. For information about the other order types, refer to [Assemble-to-order \[Ext.\]](#).

Assembly Processing in the Project System

Assembly Processing in the Project System

Business Scenario

Assembly processing is relevant for businesses using the Project System to plan products or services that are produced or carried out several times in a similar constellation. Although the projects, for example, for different customers, they consist of similar activities, but the structure of the project remains the same. Details, such as quantities or the amount of work involved, can differ.

Configuration

You can account for different product alternatives by using variant configuration together with assembly processing. If you manufacture a product using the Project System offering various options, you can use variant configuration to plan the project based on the chosen options. When you create a sales order for the product, you are automatically prompted to enter the options the customer requires.



The IDES system uses an elevator as an example of assembly processing using configuration. Depending on the capacity of the elevator and whether the walls are to be made of wood, metal or glass, the elevator is designed differently. A heavier elevator requires a more powerful motor; the capacity of the elevator determines the size. When a sales order is created, the material (and subsequently the network) are configured to account for these differences.

For more information, see [Variant Configuration \[Ext.\]](#) (LO-VC).

Prerequisites

To use assembly processing in the Project System, you have to have created a standard network in the system. The system uses this standard network to create the executable network during assembly processing. For more information, see [Maintaining the Standard Network \[Page 152\]](#).

You need to have set up a [material master \[Page 150\]](#) that supports assembly processing.

You should maintain a link between the material master and the standard network. This is done in the Project System and is described in [Linking Materials and Standard Networks \[Page 158\]](#). If you do not maintain this link, the system prompts you for the standard network during assembly processing.

If you wish to use configuration, you also have to have made the necessary settings. For more information, see [Settings for Configuration \[Page 153\]](#).

Process Flow

In the Project System only networks can be generated directly from a sales document during assembly processing. Indirectly the system can also generate work breakdown structures, when it creates the network.

1. You start assembly processing by creating a sales document for a material. This sales document can be
 - An inquiry

Assembly Processing in the Project System

- A quotation
 - A sales order.
2. The system then:
 - a. Configures the material, if necessary
 - b. Creates a network using the standard network as a template
 - c. Configures the network, if necessary
 - d. Schedules the network backwards from the required delivery date
 - e. Checks material availability
 - f. Costs the network and transfers these costs to the sales document.
 3. When you save the sales document, the system saves the network together with the sales document.

If applicable, it also generates a project definition and work breakdown structure. The project number is derived from the sales document number.

Advantages of Assembly Processing

Assembly processing creates a link between the sales document and the project. This means that the same information is available to the employees in the sales department and to project management. The system automatically updates changes to the sales document in the network and vice-versa.

Since the system schedules the network and checks material availability when you create a sales document, you can immediately inform the customer whether you can complete the project on the date he/she requested. If not, the system proposes a date on which it is possible to complete the project.

Alternatives to Assembly Processing

If you work with material components and want to allocate the components to the standard network, the details of the components should be known before you use assembly processing. In the case of configuration, possibly in the form of a maximum bill of material (BOM), in which all possible components are listed.

If the components in your project have not been decided on when you create the sales document, consider using the [BOM/PS transfer \[Page 88\]](#) function. Here you can create a link between the network and the bill of material, without having to know the details of the components. Changes to the bill of material can be updated in the network using this function. You can also use this function in conjunction with assembly processing. For instance, you can create the network structure using assembly processing and then use the BOM/PS transfer function to link the network to a bill of material.

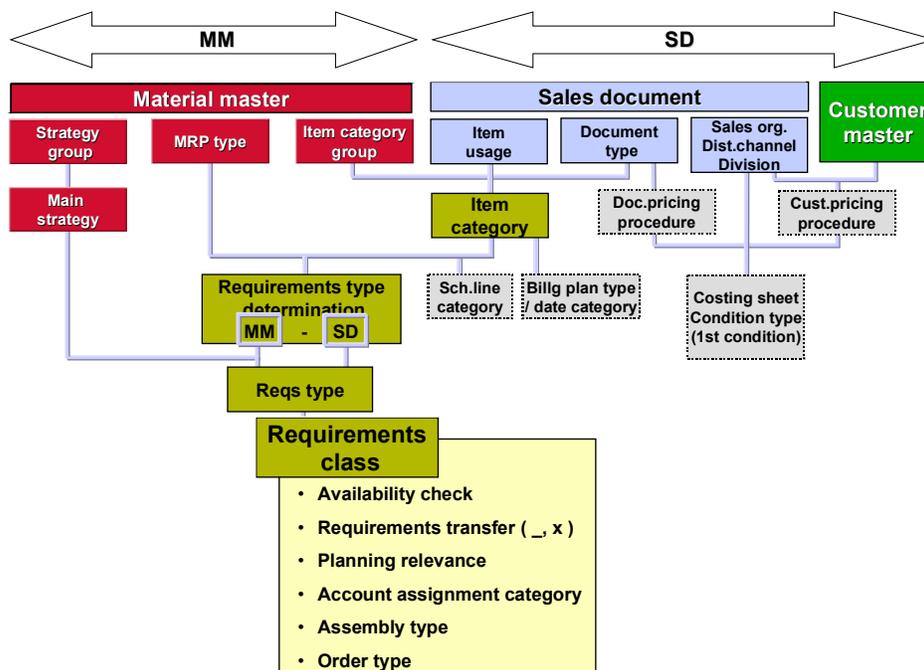
Material Requirements in Assembly Processing

Material Requirements in Assembly Processing

The standard system has been set up so that you do not need to change the settings, to be able to use assembly processing. However, it is helpful if you understand these settings so that you can set up the material master and the standard network to meet your business requirements. The following topic discusses the influence of Customizing settings on assembly processing with the Project System.

Requirements Type Determination and Requirements Class

How an order for a particular material is processed by the system, depends on the requirements type and the requirements class. This is illustrated in the graphic below.



There are two objects in the R/3 system that influence how a sales document is processed: the material master and the sales document itself. On the SD side the item category group and the sales document type determine the default item category.

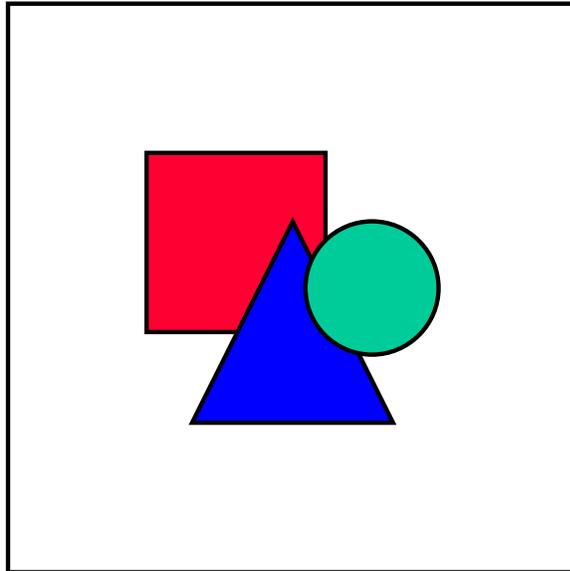
The combination of the item category and the MRP type from the material master determines the origin of the requirements type, that is whether the strategy in the material master or the SD item category determine the requirements type. It does so by listing possible combinations in a Customizing table. If an entry does not exist in this table for the current combination, the strategy determines the requirements type.

The requirements type in turn determines the requirements class. The requirements class determines how the sales document is processed.

There are three fields that are important for assembly processing in the requirements class: the *assembly type*, the *account assignment category* and the *order type*.

Material Requirements in Assembly Processing

The assembly type determines which type of orders the system can create during assembly processing. For use with networks this field should always have the value *Production order, network or service (static)* (2).



A static assembly order, as opposed to a dynamic order, is one in which there is a rigid 1:1 relationship between the sales document item and the assembly order, in the case of the Project System the network. Dynamic orders are more flexible and have 1:n relationships. Dynamic orders are not supported in the Project System.

The order type is in this case the same as the network type. It determines whether the network is header-assigned or activity-assigned, whether internal and external numbers are used, and other parameters of the network. Whether you use header- or activity-assigned networks depends on the amount of detail you require. In general we recommend that you use internal numbers. For more information, see [Network Type and Network Parameters \[Ext.\]](#) or [Settings in the Standard System \[Page 159\]](#).

The account assignment category determines how the system treats stock quantities and values. This field is described in more detail in [Account Assignment \[Page 146\]](#).

Requirements Transfer

Depending upon whether the sales document is an inquiry, a quotation or a sales order, you may or may not want to transfer requirements for the sales document and the follow-on orders, such as production orders and purchase requisitions. For a quotation you may want information about material availability, but you do not want to transfer requirements.

In order to use availability checking, the requirements transfer indicator in the requirements class has to be set (in Customizing for the Project System choose *Material* → *Control of Sales-Order-Related Production*).

Networks are not linked with a material of their own accord. (In the case of assembly processing, you maintain this link manually.) The material that you enter in the sales document is often a sales material, which means that there is no actual product with this material number. Networks themselves cannot cover requirements in materials requirements planning (MRP) and are therefore not taken into account in MRP runs. If the sales document item were to generate requirements, these requirements could not be covered. Therefore you should prevent

Material Requirements in Assembly Processing

requirements from being generated for the sales document item in MRP. To do so, you must set the *No MRP* indicator in the requirements class, or the *MRP type* indicator in the material master to *No planning (ND)* (see [Settings in the Material Master \[Page 150\]](#)).

You can generate requirements for components in the network. For more information, refer to [Activating Reservations and Purchase Requisitions \[Page 33\]](#).

Inventory Management and Assembly Processing

Features

In the standard system you should use sales order stock, if you are working with assembly processing. As with project stock, you can decide whether this stock is valuated or nonvaluated.

Valuated Stock

Valuated stock is stock in which every material is managed on a both a value basis and a quantity basis. All goods movements for the make-to-order stock trigger corresponding postings in the stock accounts in Financial Accounting.

Non-Valuated Stock

Non-valuated stock is stock where each material is managed on a quantity basis only, without being valuated directly in money terms. Goods movements in make-to-order stock are not valuated and do not give rise to postings in Financial Accounting. The value of the stock is calculated in total at the period end by results analysis; the calculated values are then transferred to Financial Accounting.

Activities

You determine whether the sales order stock is valuated or nonvaluated in the requirements class, which you maintain in Customizing for the *Project System* (*Project System* → *Material* → *Control of Sales-Order-Related Production* → *Check Requirements Classes*).

For more information, see the IMG for requirements classes.

Account Assignment

Account Assignment

Use

In assembly processing the cost object is either the sales order or the project (WBS element). In most cases you use the project as the cost object. However, if you do not want to work with projects, but want to use networks, you can use the sales order as the cost object.

Features

Account Assignment Category

The account assignment category decides whether the sales order or the project is the cost object. You specify the account assignment category in the [requirements class \[Page 142\]](#). It determines how the system treats stock quantities and values. Two indicators in the account assignment category that are important for assembly processing are:

- Special stock

This indicator specifies in which kind of stock the materials in the assembly order are managed. In the Project System in general these could be:

- Plant stock
- Sales order stock
- Project stock

However at present (Release 4.5B), you can only use sales order stock or general plant stock together with assembly processing. You should be able to use project stock in future releases.

The two standard requirements classes *202* and *212* for assembly processing with projects use the account assignment categories *E* and *D* respectively. Both of these categories use sales order stock.

- Consumption posting

This indicator specifies to which object costs and revenues are posted. For assembly processing in the Project System possible values are the sales order(E) or the project (P). These two options are used in account assignment categories E and D, respectively.

Restrictions

You cannot use activity assigned networks together with sales orders as cost objects in assembly processing. If you try to do, the system displays an error message. However you can use header assigned networks account with either the sales order or the project .

If a header assigned network is assigned to a WBS element, the system automatically assumes that the cost object is the project. In this case you cannot use account assignment category E.

In general, we recommend that you use account assignment category D, with the project as the cost object (requirements class 212, strategy 85 in the standard system).

Handling Costs in Assembly Processing

Use

The planned and actual costs of a project or a network can be handled in different ways in assembly processing.

Features

As described in [Account Assignment \[Page 146\]](#), the controlling object for assembly processing with the Project System can be either the sales order or the project.

The account assignment category is specified in the requirements class (see [Material Requirements in Assembly Processing \[Page 142\]](#)).

If you select the project as the cost object (account assignment category D), you can see the costs from the network in the sales order on the *Pricing* tab page. Here the costs form the basis for price determination. However the project not the sales order is used in controlling.

For more information about price determination and conditions, refer to *Pricing and Conditions* in the *Sales and Distribution* (SD-BF-PR) component.

Activities

Header/Activity Assigned Networks

Activity Assigned Networks

If you use an activity assigned network, you have more options for structuring your costs in the project. Since each activity can be assigned to a different WBS element, more detailed cost information is available.

In this case the cost object for assembly processing is the project. If you use activity assigned networks for assembly processing, the sales order has to be account assigned to the project (account assignment category D).

Header Assigned Networks

In this case the costs are passed directly to the network header. You can use either the sales order or the project as the cost object. If you are working only with a network, you have to use header assigned networks, since activity-assigned networks cannot have a sales order as a cost object and no project exists.

Valuated/Non-Valuated Stock

If you use valuated stock, every goods movement produces a corresponding posting in financial accounting (FI). This does not happen with non-valuated stock. For more information, see [Valuated Project Stock \[Page 69\]](#) and [Non-valuated project stock \[Page 80\]](#).

You can only use valuated sales order stock together with header assigned networks that are not assigned to a WBS element. For more details, see [Account Assignment \[Page 146\]](#).

Handling Costs in Assembly Processing

Restrictions

If you use the sales document as the cost object, the system only transfers those costs that originate directly in the network to the sales order. This means that costs that originate from a subnetwork or directly on a WBS element are not transferred to the sales order. This means that you should be careful how you structure your project, if you use the sales order as the cost object.

If you use projects as cost objects, this problem does not arise.

Settings for Assembly Processing

Purpose

Before you can use assembly processing in the Project System, you have to set up the system.

Process Flow

Set up the relevant objects as described in the following topics:

[Settings in the Material Master \[Page 150\]](#)

[Maintaining the Standard Network \[Page 152\]](#)

[Billing Plans and Assembly Processing \[Page 156\]](#)

[Making Settings for Configuration \[Page 153\]](#)

[Linking Materials and Standard Networks \[Page 158\]](#)

Settings in the Material Master

Settings in the Material Master

Use

The material for which a sales document item is created, determines, together with information from the sales document, how the order is to be processed. It is therefore essential that the correct settings are made in the material master. For more details on requirements class determination, refer to [Material Requirements in Assembly Processing \[Page 142\]](#)

Procedure

To maintain the material master, choose *Logistics* → *Production* → *Master data* → *Material master* or *Logistics* → *Material management* → *Material master* and then *Material* and *create(special or general)* or *change*.

In addition to the other settings in the material master, you have to maintain the following indicators and fields correctly, to enable assembly processing.



Make sure you use a material type in which you can maintain the relevant views (*Sales: Sales Org, MRP*).

Delivering Plant

This field, which in the standard system is on the *Sales: Sales Org.* view sets the default delivery plant in the sales order. The system requires this information in order to carry out assembly processing. If you do not maintain this field, assembly processing does not function with the material.

Item Category Group

This indicator is part of the link between the material master and the sales document. When you create a sales document item for this material, the combination of the item category group and the sales document type determine the item category. You can find this field on the *Sales: Sales Org.* view. We recommend the following settings for the field : *Configuration (0002)* or *Milestone-Bill Plan (0005)*, depending on whether you want to use configuration or not.

MRP type

This indicator, on the *MRP* view of the standard system, determines how the material is planned, for example using MRP or MPS (master production scheduling). As discussed in [Material Requirements in Assembly Processing \[Page 142\]](#), since you want to use network planning for this material, you do not want to use MRP for this material. One way of doing this is to set this field to *No planning (ND)*. However it is preferable to set the *No MRP* indicator in the requirements class.

This field does not affect how network components are to be planned. You make these settings in the material master records of the component materials.

Settings in the Material Master**Strategy Group**

This indicator, on the *MRP* view in the standard system, specifies which strategies are permissible for the material. You can specify a main strategy and several additional strategies, which can also be used.

In the standard system there are two strategy groups for assembly processing with the Project System:

Assembly processing, network without project (083)

Assembly processing, network with project (085)

Availability Check

This indicator, on the *MRP* view in the standard system, determines how the availability is checked for the material in general. An availability check is run, when you trigger assembly processing.

Individual/Collective Requirements

This indicator, on the *MRP* view in the standard system, determines whether individual and/or collective requirements are allowed for the dependent requirements generated by the material. It should be left blank or set to *1*. Since assembly processing uses sales order stock, which is an individual stock, you should not choose *only collective requirements*.

See also:

[Making Settings for Configuration \[Page 153\]](#)

Maintaining the Standard Network

Maintaining the Standard Network

Use

In assembly processing in the Project System, you use a standard network as a template to generate a network when you create a sales document item for the relevant material.

Procedure

For information about standard networks and how to maintain them, refer to [Standard Networks \[Ext.\]](#).

For information about how to allocate material components to standard networks, refer to [Allocating Material Components to Standard Network \[Page 54\]](#).

You do not have to make any specific settings for assembly processing in the standard network. However if you want to create a work breakdown structure during assembly processing, you have to assign the standard network to a standard work breakdown structure. You do this in the header of the standard network. You can also assign individual activities to standard WBS elements.

Assigning Standard Network Headers to Standard WBS Elements

1. Choose *Logistics* → *Project management* → *Basic data* and then *Standard structures* → *Standard network* → *Change*.
2. Enter the number of the standard network on the initial screen and then choose *Details* → *Std. network header*.
3. Enter a standard WBS element.
4. Save the standard network.

Assigning Standard Network Activities to Standard WBS Elements

1. Choose *Logistics* → *Project management* → *Basic data* and then *Standard structures* → *Standard network* → *Change*.
2. Enter the number of the standard network on the initial screen and then choose *Enter*.
3. On the activity overview, change the standard WBS element. (The default is the element you entered in the header, as above.)
4. Save the standard network.

You can also do this on the individual activity detail screens.

Numbers for Standard WBS

Since the system determines the number of the WBS from the sales document, the standard WBS number should be longer than 10 characters, unless you are using editing masks, which we recommend.

For more details, refer to [Determining Project Numbers from Sales Documents \[Ext.\]](#)

Making Settings for Configuration

Use

Two objects used in assembly processing in the Project System can be configured: the standard network and the material. You can use both a configurable material and a configurable standard network in one assembly order.

To use configuration, you assign a configuration profile to the configurable object. This profile contains details about the class to be used.

For information about variant configuration in the R/3 System, refer to the R/3 Library for *Variant Configuration in Logistics - General* (LO-VC).

Prerequisites

If you want to use configuration, you have to have previously created the characteristics that you want to use in the variant class. For more information, refer to [Maintaining Characteristics and Classes for Config \[Ext.\]](#).

If both the material and the standard network are configurable, they should be assigned to the same class. If the standard network has not been assigned to a class (it does not have a configuration profile), then the configuration from the material is used. This is also the case, if the class for the standard network is part of the class for the material. Otherwise the characteristic values are assigned separately when the network is created.

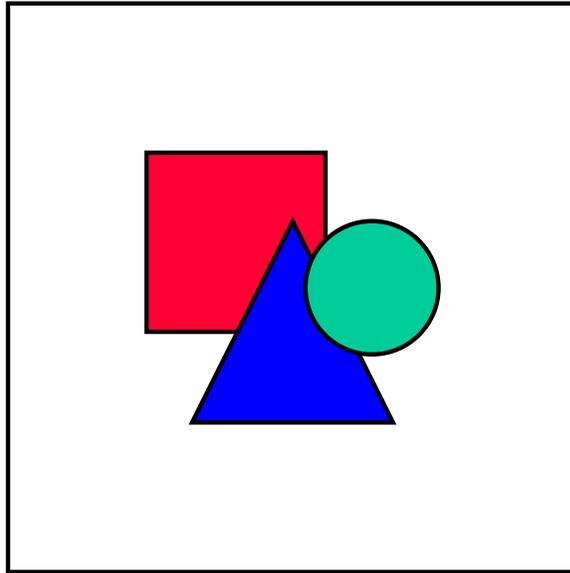
To use configuration with a material, you have to have set the *Material is configurable* indicator on the *Basic data* view (in the standard system) of the material master.

Procedure

Creating Classes

1. Choose *Logistics* → *Central functions* → *Classification* and then *Class* → *Create*.
2. On the initial screen enter the name of the new class and the class type. In the standard system the class type for configuration is **300** throughout the R/3 System.

Making Settings for Configuration



The class system is also used for other purposes in R/3. In such cases other class types are used. For instance, class types 013 and 014 are used for summarization in the Project System.

3. Choose *Enter* and on the next screen enter a description of the class.
4. Choose *Goto* → *Characteristics*.
5. Enter the characteristics that you want to use in this class.
6. Save and exit.

Creating Configuration Profiles for Materials and Standard Networks

The procedure for creating a configuration profile for standard networks and materials is basically the same.

For Materials

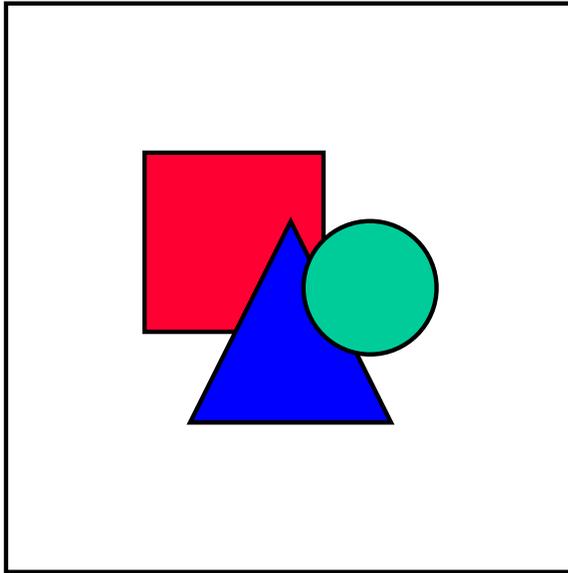
1. Choose *Logistics* → *Materials management* → *Material master* and then *Environment* → *Configuration profile* → *Create*.

For Standard Networks

1. Choose *Logistics* → *Project management* → *Basic data* and then *Standard structures* → *Standard network* → *Configuration profile* → *Create*.

In both cases the *Select Configurable Object* dialog box appears. Make sure that the correct object has been selected, change if necessary.

Making Settings for Configuration



If instead of the dialog box the initial screen for the incorrect object appears (for example, if you want to create a configuration profile for a material and the initial screen for standard networks appears), choose *Extras* → *Change configurable object*. The *Select Configurable Object* dialog box appears.

Continue for both objects as follows:

2. Choose *Continue*.
3. Enter the number of the material or the standard network on the initial screen. Choose *Enter*.
4. On the next screen enter a name for the profile and the class type 300. You can also restrict the organizational areas in which the profile is valid by making an entry in the *Org. areas* field.
5. Choose *Goto* → *Class allocations*.
6. Enter the class that you defined previously.
7. Save your entries.

For more information on configuration in the Project System, see [Configuration \[Ext.\]](#).

Billing Plans and Assembly Processing

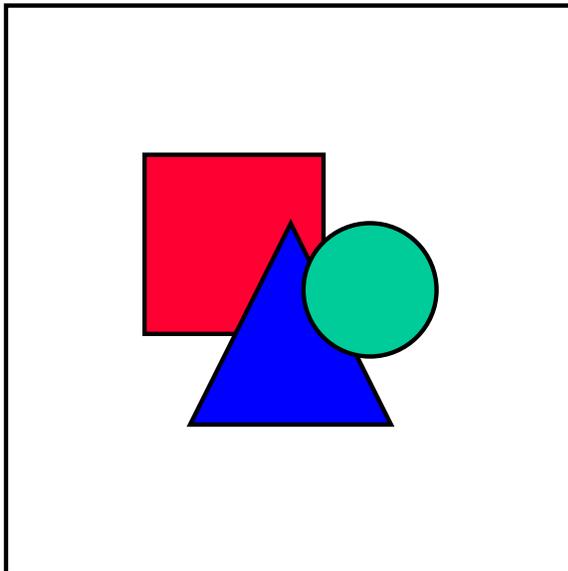
Use

You use billing plans to plan the dates on which payment requests or invoices affecting sales are sent to customers.

Features

There are two ways of creating billing plans, if you are working with assembly processing and the Project System:

1. Create a billing plan directly in the sales document. Here you can either copy a template or use an existing billing plan. For more details, see [Billing Plans \[Ext.\]](#).



You cannot create a billing plan in a standard work breakdown structure as in an executable work breakdown structure.

2. Use billing milestones in the standard network.

Milestones

Milestones have the advantage that billing is only triggered when a particular activity or WBS element is reached. This means that you can associate billing documents with certain phases in your project, for example signing the contract or completing design. If any phase of the project is delayed for any reason, the milestones are rescheduled accordingly. This prevents billing documents from being created too early.

When you create an assembly order using a standard network that contains billing milestones, the dates of the milestones are copied to the billing plan for the sales document. If you then create or delete a milestone in the executable network, the billing plan is automatically updated.



Billing Plans and Assembly Processing

Although you can create billing milestones in a standard WBS, these are not copied to the billing plan in the sales document.

You cannot use dates that refer to milestones in another network.

Activities

For details on milestones in the Project System, refer to [Milestones \[Ext.\]](#).

To use milestones in billing plans in sales documents, make sure you set the *Sales document date* indicator in the milestone. Otherwise the milestone is not copied to the billing plan.

Linking Materials and Standard Networks

Linking Materials and Standard Networks

Use

In assembly processing you need to link the material, to be used in the sales document item for, and the standard network

If you do not create this link, a dialog box appears when you create the sales document, in which you are asked to enter the standard network.

Procedure

1. On the SAP R/3 screen, choose *Logistics* → *Project management* → *Basic data* and then *Standard structures* → *Network parameters from sales order* → *Edit*.

A list of the existing links appears.

2. Choose *Edit* → *Create parameters*.

An entry screen appears.

3. Enter the material number, order type, standard network, and a profile for the network to be created.

You specify the network type (order type) itself in the requirements class. Here you specify for which network types the link is valid. If you enter *, the standard network is valid for all network types.

You can also enter:

- A standard WBS element as a default for the sales document account assignment.
- A network profile for the new network
- An MRP controller for the new network.

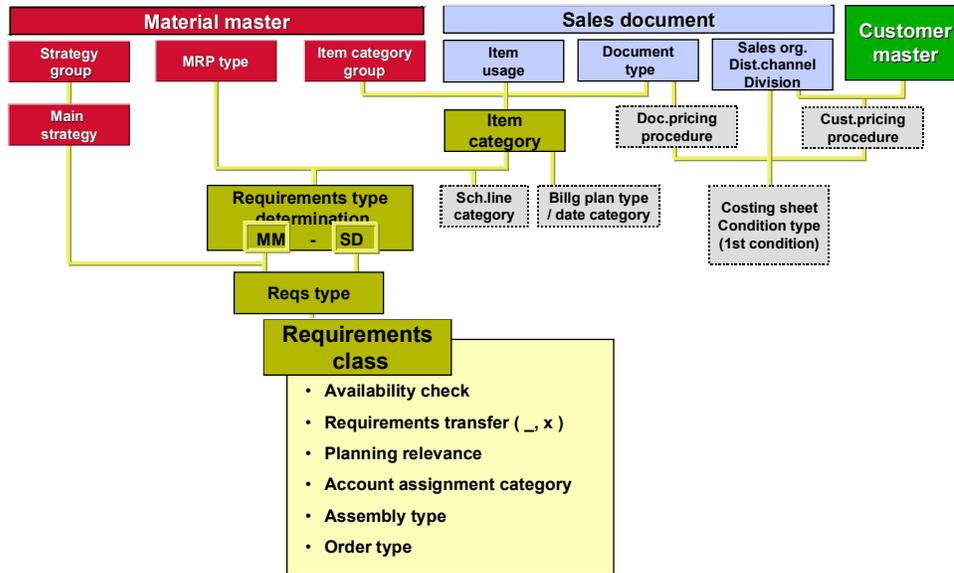
You can either enter the MRP controller directly or specify where the system should take the information from, the network profile (1) or the material master (2).

- How external relationships to other standard networks in the same sales order are handled. You can
 - Manually select the relationships to copy to the network
 - Copy no external relationships
 - Copy all external relationships
 - Copy the external relationships to networks in the same main sales order item
4. Save your entries.

Settings in the Standard System

In the standard system there are two strategy groups with corresponding main strategies:

- Assembly processing, network without project (strategy 83)
- Assembly processing, network with project (strategy 85)



Determining the requirements class for a sales document item

Assembly Processing without Project (Strategy 83)

The strategy and not the item category determines the requirements type. Strategy 83 leads to requirements type KMNP, which in turn leads to requirement class 202. This requirement class has the following settings:

- Assembly type 2: As described in [Material Requirements in Assembly Processing \[Page 142\]](#) this is the only assembly type that is available for assembly processing in the Project System.
- Special stock E: Sales order stock. The *Valuation* indicator for this stock is set to *M*, which means that the stock is valuated and that a separate valuation strategy can be defined for this stock.
- Order type PS05: The order type is identical in this case with the type of network that is created during assembly processing. PS05 is a header assigned network with internal numbers for Make-to-Order processes.
- Account assignment category E: The material is kept in sales order stock. The costs from the goods movements of the product are posted directly to the sales order.

Settings in the Standard System

Assembly Processing with Project (Strategy 85)

The strategy and not the item category determines the requirements type. Strategy 85 leads to requirements type KMPN, which in turns leads to requirement class 212. This requirement class has the following settings:

- Assembly type 2: As described in [Material Requirements in Assembly Processing \[Page 142\]](#) this is the only assembly type that is available for assembly processing in the Project System.
- Special stock E: Sales order stock. However the stock is not valued.
- Order type PS04: The order type is identical in this case with the type of network that is created during assembly processing. PS04 is an activity assigned network type for sales orders.
- Account assignment category D: When you create a sales order, the system opens a sales order stock segment in the stock/requirements list. Revenues are posted to the project.

Summary

Strategy	Requirements class	Account assignment category	Consumption posting	Account assignment object	Network type
83	202	E	E (sales order)	Sales order	Header assigned (PS05)
85	212	D	P (project)	Project	Activity assigned (PS04)

Working with Assembly Processing

Prerequisites

Before you can create a network from a sales document using assembly processing, you have to have made the necessary settings, as described in [Settings for Assembly Processing \[Page 149\]](#).

The scheduling line category must permit assembly processing. See, [Schedule Line Categories \[Ext.\]](#).

The order probability in the sales document must be larger than zero.

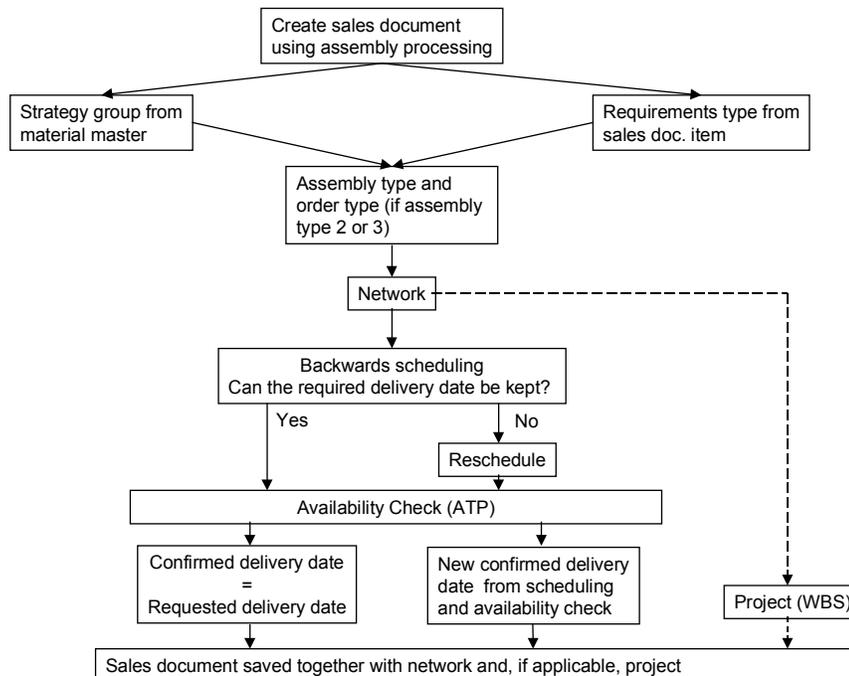
Process Flow

You trigger assembly processing by creating a sales document item for a material, for which the planning strategy is assembly processing. Although it is possible to create an assembly order for an inquiry, this would usually provide too much detail at this stage in the sales process. Consequently you generally only generate networks from quotations and sales orders.

For general information about creating these objects, refer to [Creating Quotations \[Ext.\]](#) and [Creating Sales Orders \[Ext.\]](#) in the *Sales* (SD-SLS-SO) component

Whether a network is generated when you create a quotation or afterwards when you create the sales order is determined by the requirements class (see [Material Requirements in Assembly Processing \[Page 142\]](#)).

The process flow for assembly processing (without configuration) is illustrated in the graphic below.



Working with Assembly Processing

Configuration

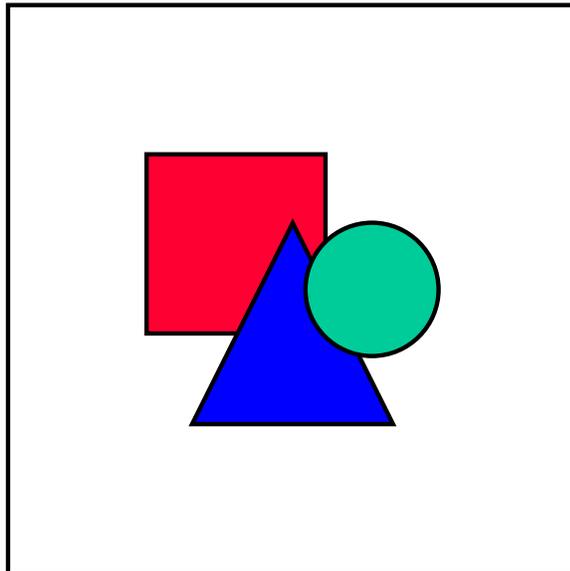
If you are using configuration, the system configures the material before it calls up the network. A dialog box appears, in which you enter values for the characteristics. If the network is also configurable, it uses the characteristic value assignment from the material. If values still have to be assigned, a dialog box appears in which you can enter the necessary data.

Creating a Network

After the material has been configured, the system creates a network using the standard network you have specified. If any necessary entries have not been made in the standard network, you are prompted to make them.

If you enter a quantity of more than 1 for the item quantity in the sales document, the system automatically sets the corresponding execution factor in the network header. For more information, see [Execution factor \[Ext.\]](#).

Note that the sales unit may differ from the unit of measure in the network. Both units can also differ from the base unit of measure. The system takes these differences into account and calculates the execution factor.



If you want to use quantities greater than 1 or if the units of measure can differ as above, make sure you set an execution factor in the activities of the standard network whose values depend on the quantity to be produced. If you leave this field blank, the system assumes that the activity has the same values, for example duration and costs, irrespective of the quantity. This could lead to errors in scheduling and costing.

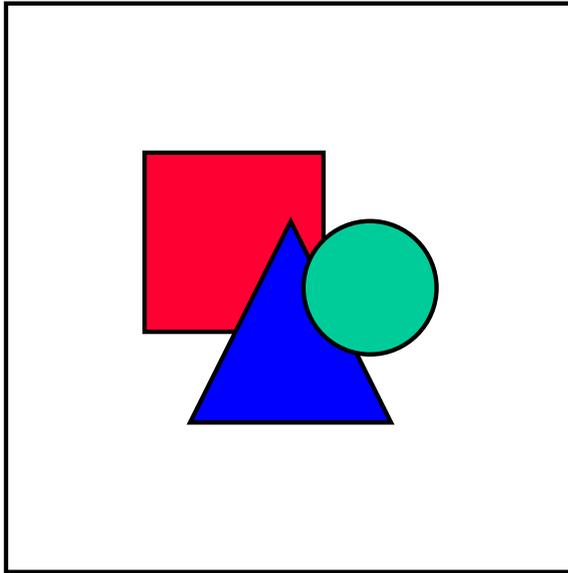
Scheduling

The network is now scheduled as described in [Scheduling in Assembly Processing \[Page 164\]](#).

Availability Check

The system uses the results from scheduling to check the material availability on the requirements dates. For more information, see [Availability Checks in Assembly Processing \[Page 167\]](#).

Working with Assembly Processing



When considering which components to include in the availability check, remember that including too many components can adversely affect performance.

When you confirm the delivery date the system transfers data from the network to the sales document. This data includes the billing data (milestone dates), costs and dates.

Costs

The system costs the network and transfers this information to the sales document.

Saving the Sales Document

When you save the sales document, the system assigns the sales document a number within the number range for the sales document type. This number is also used for the project number and subsequently for the numbers of the WBS elements. How the system does this is described in [Determining Project Numbers from Sales Documents \[Ext.\]](#).

The network is assigned an internal number that is not connected with sales document number.

The sales document, network and project (if applicable) are saved.

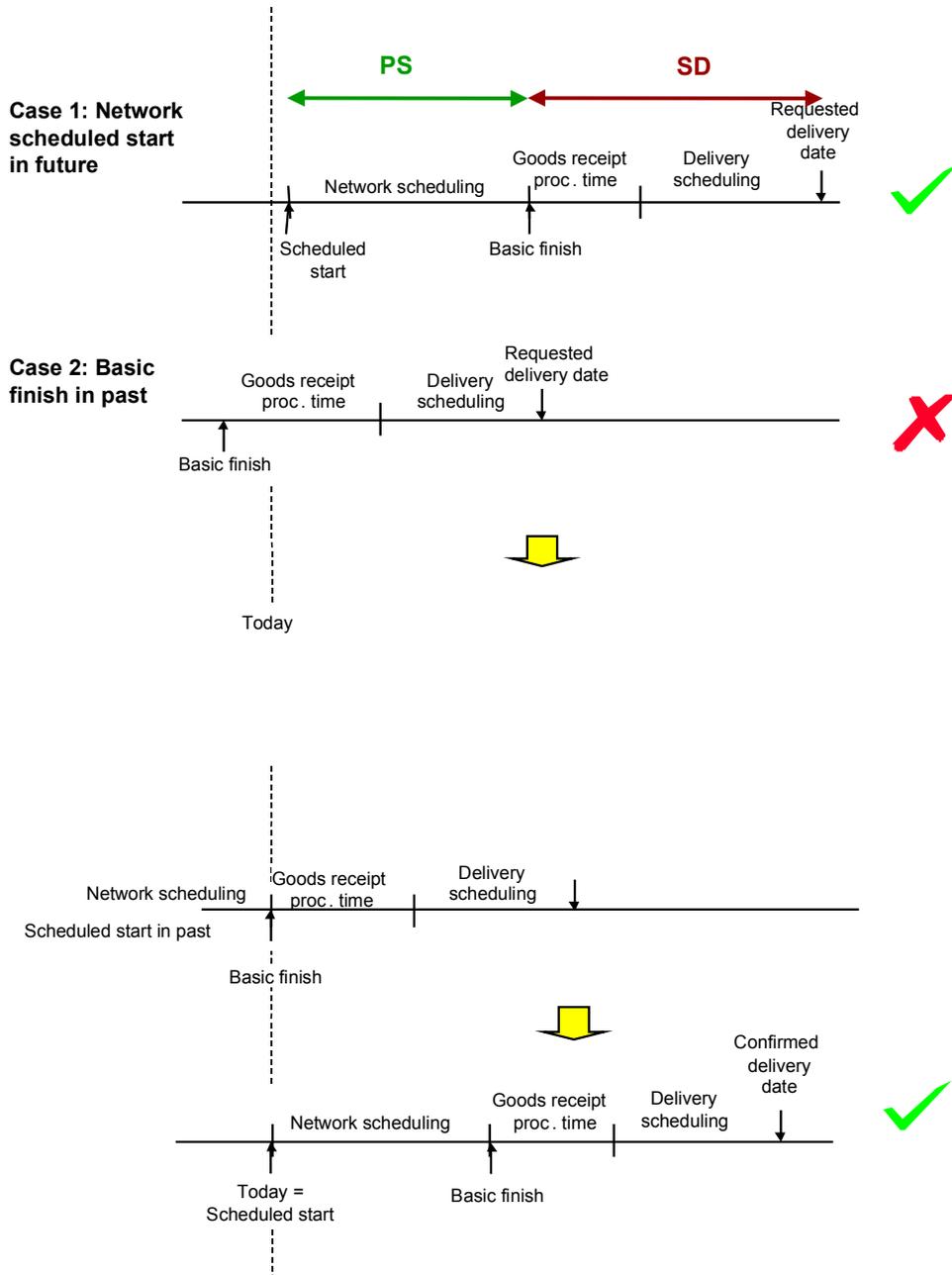
Scheduling in Assembly Processing

Use

When you create a sales order with assembly processing, scheduling is automatically carried out. The purpose of scheduling is to find out, whether it is possible to meet the requested delivery date entered by the user. If the requested delivery date cannot be met, scheduling automatically determines the earliest date on which the sales order quantity can be confirmed.

Scheduling in Assembly Processing

Activities

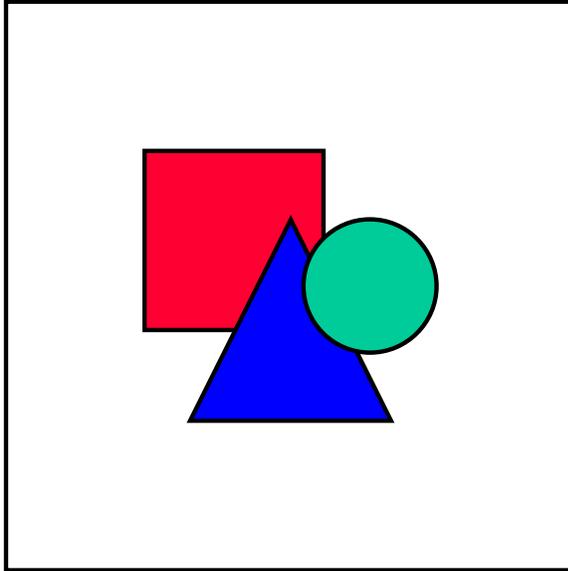


During scheduling the system proceeds as illustrated above.

The system starts at the requested delivery date and determines the basic finish date, by carrying out delivery scheduling and subtracting the goods receipt processing time. You maintain

Scheduling in Assembly Processing

the goods receipt processing time in the material master. For information on delivery scheduling, see [Transportation and Delivery Scheduling \[Ext.\]](#) in the *Sales and Distribution - Shipping (SD-SLS)* component.



Delivery scheduling is often not carried out for orders connected with projects. However you may want to use it in a make-to-order scenario, if the project management is not responsible for delivery.

If the basic finish date is in the future,

The system then schedules the network using the network scheduling parameters that have been maintained for the network type and plant in Customizing for the Project System in *Dates* → *Scheduling* → *Specify parameters for network scheduling*. If the scheduled start date is in the future or is in the past but within the time margin specified in the scheduling parameters, the requested delivery date can be confirmed.

If the scheduled start date is in the past outside the time margin specified in the material master, the system uses the reduction measures specified in the network scheduling parameters (see [Network Scheduling \[Ext.\]](#)). If this is not sufficient the system uses today scheduling, determines a new basic finish and consequently a new confirmed delivery date.

If the basic finish date is in the past,

The system also schedules the network according to the scheduling parameters. In the standard system the system moves the basic finish date to the current date, and consequently also moves the delivery date. It then schedules the network as above. Depending on the duration of the network, this could result in the delivery date being moved further into the future. This date can then be confirmed.

Availability Checks in Assembly Processing

Use

You can use availability checks to make sure that the components you need to carry out the project/network are available when they are required. There is no point in conducting an availability check for the end-product alone, since this is basically the same as scheduling the network.

For general information about availability checking with networks, refer to [Material Availability Check \[Page 38\]](#).

Prerequisites

The *Availability check* and the *Requirements transfer* indicators have been set in the relevant requirements class.

You have allocated material components to activities in the standard network.

You have assigned checking groups to the material components (in the corresponding material master - *MRP* view).

Activities

During network scheduling the system sets requirements dates for the individual components. The availability of these components are then checked.

If the materials are all available on the requirements dates

The system either confirms the requested delivery date, or if the network basic finish date is after the requested delivery date, it informs you so and requires you to confirm the later date.

If one or more materials are not available on the relevant requirements date

The system scans the differences between the requirements date and the confirmed date. It then selects the largest difference and adds this time to the basic finish date of the network to produce the overall commitment date. The system then asks you to confirm this date in the sales document.

Subsequent Changes and Assembly Processing

Subsequent Changes and Assembly Processing

Use

One of the advantages of assembly processing is that changes in the sales document are updated in the network and vice versa.

Features

Changes in the Sales Document

Any changes in customer requirements, which are made in the sales document, are passed on to the network until

The network header has the status DLT (deleted), DLFL (deletion flag), LKD (locked), TECO (technically completed) or CLSD (closed).

In the schedule line, you can change the confirmed date but you cannot change the order quantity or the requested delivery date.

Changes in the Network

Any changes made to dates and quantities in the network are updated in the sales document automatically unless the *fixed quantity and date* indicator has been set for the item in the sales document.

Any changes to costs in the network are updated in the sales document. However, if required, you can also switch off this link between the network and the sales document. To do this, select the *No update* indicator in the appropriate requirements class. If you have selected this indicator, any changes in the network are not passed on to the sales document.

Changes to Master Data

Any changes which are made to the master data after you have created the network are not updated automatically in the sales document or the network. If the changes are relevant for the sales document and network, you must update these documents manually.

Accessing the Network from the Sales Document

1. If you are not in the sales document, access it by choosing *Logistics* → *Sales and Distribution* → *Sales*, the relevant sales document type and *Change*. Enter the relevant date on the initial screen.
2. Select the item and then choose *Schedule lines*.
3. On the *Item data* screen choose *Procurement*.
The *Schedule line* screen appears.
4. On this screen there are four buttons, with which you can go to different network functions:
 - By choosing *Header*, you access the network header
 - By choosing *Gantt chart*, you access the Gantt chart for the network, where you can plan dates.
 - By choosing *Object list*, you access the network object overview.
 - By choosing *Activity Ovw.*, you access the network activity overview.

Executing Assembly Processing in PS

Executing Assembly Processing in PS

Prerequisites

Before you can use assembly processing in the Project System, you must have made the necessary settings as described in [Settings for Assembly Processing \[Page 149\]](#).

Procedure

1. To create a sales document choose *Logistics* → *Sales and Distribution* → *Sales*, then the document type you want to create (*Inquiry*, *Quotation* or *Order*) and *Create*.
2. On the initial screen enter the document type, and if required details of the sales organization. Choose *Enter*.
3. On the next screen enter the sold-to party, the number of the customer's purchase order and the item details. Mandatory entries for the item are the material number and the quantity. Choose *Enter*.
4. The system calls up the standard network, schedules the new network and checks the availability. If necessary, confirm the suggested date or change it as required.
5. Save the sales document.

Converting Quotations to Sales Orders

Use

As with normal quotations, you can convert quotations involving assembly processing to sales orders. This is the case when the customer makes a firm order for the project.

Features

How the system converts one sales document to another, for example a quotation to a sales order, depends on the settings that have been made in Customizing for *Sales and Distribution* → *Sales*. The *Pos./neg. quantity* indicator in the *Copy Control: Sales Document to Sales Document* transaction determines how the system reacts, when you convert a quotation to a sales order.

If the *Pos./neg. quantity* indicator has the value "+"

When you convert a quotation that created a network using assembly processing, the system uses the same network for the sales order. This means that any changes you made to the network during the quotation phase, for example as a result of negotiations with the customer, are automatically transferred to the sales order. This case is described in more detail below.

If the *Pos./neg. quantity* indicator has the value "0"

The system creates a new network and, if applicable, a new project for the sales order. This new network and the old network, which was created from the quotation, are independent of each other.

For more information, see *Copying Documents* in the *Sales* component (SD-SLS).



The *Pos./neg. quantity* indicator should not have the value "-" in assembly processing. If however it does, the same network is used, as if the value were "+". However the quantity in the quotation would increase, rather than decrease.

Activities

When you create a sales order by converting a quotation, the system updates the network correspondingly. In the network header you can see both the quotation and the sales order. On the activity detail screen you can only see the original document, which is usually the quotation.

The account assignment object remains the same.