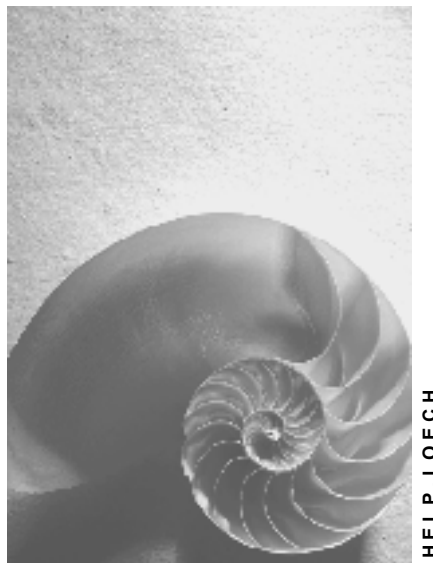


# Engineering Change Management (LO-ECH)



**Release 4.6C**



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## Icons

| Icon  | Meaning        |
|---|----------------|
|  | Caution        |
|  | Example        |
|  | Note           |
|  | Recommendation |
|  | Syntax         |

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# Engineering Change Management (LO-ECH)

## Definition

Engineering Change Management is a central logistics function that can be used to change various aspects of production basic data (for example, BOMs, task lists, materials, and documents) with history (with date effectivity) or depending on specific conditions (with parameter effectivity).

A change with history has the following distinctive characteristics:

- It takes effect under precisely defined conditions (precise date or specific effectivity parameter value).
- The changed object is saved twice: in its state before and after the changes.
- A change master record or ECR/ECO controls and documents the changes.

## Selection Criteria

The selection is recommended if you frequently carry out complex master data changes and want to document the changes.

**See also:**

[Maintaining a Change Master Record \[Page 15\]](#)

[Maintaining Objects with Reference to a Change Number \[Page 161\]](#)

[Displaying a Change Master Record \[Page 189\]](#)

[Automated Processing of Business Transactions Using Engineering Change Requests \[Page 246\]](#)

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Changes With and Without History

## Changes With and Without History

For technical and commercial reasons, it is necessary to change industrial products from time to time.

Technical reasons for changes include, for example, technical faults that have to be put right and the introduction of new environmental or safety regulations. For commercial reasons, it may be necessary to start using cheaper materials or to change a product to suit customer requirements.

In the R/3 System, you can make changes to objects both with and without history.

### Changes without history

These are changes that occur during the development phase of a product and that are not documented. The state of the object (for example, bill of material or task list) before the change is **not** documented. When you change and save data, the old data is overwritten. You can only recall the data that you saved last.

### Changes with history

These are changes that may affect further activities in the procedure and should thus be documented. For example, changing a material could incur a change in the bill of material (BOM) and likewise then the task list and inspection plan.

Within the R/3 System, you can document changes with *Engineering Change Management*. In the case of specific change objects (such as a material, document, or bill of material), *Engineering Change Management* can be used separately for each object.



The following section describes how to make changes using *Engineering Change Management*.

## Changes With History

You can carry out a change with history with reference to a change master. This means that you can:

- Determine under which conditions the change becomes effective.  
 You enter an effectivity based on time (*valid-from* date) in the standard system. You can also make changes irrespective of dates or time. These changes become effective under other conditions (for example, serial number effectivity).

- Reproduce the processing status of a change object in different change statuses.

The change object (for example: bill of material) is stored twice: in its state **before** and **after** the change. The new data records that are created when you make a change are saved by the system in the original object.

In the standard system, the state of the object before the change ends with the valid-to date. The state after the change begins with the valid-from date.

Exceptions:

- Material

The new data records that are created when you make a change are saved by the system in a change document.

- Document

The system saves the change number in the document info record. Changes to the document info record are saved in change documents.

If you foresee making fundamental changes to the document info record, then you should create a new version with reference to a different change number.

If you define the effectivity using parameters and not the valid-from date, the parameter values determine under which conditions the change becomes effective.

- You can document the changes.
- You can identify particular processing statuses of a material or document by defining revision levels.
- With the help of SAP Business Workflow you can organize and automate related work steps in *Engineering Change Management*.
- In certain situations, you can use a digital signature to ensure that only authorized employees can make any changes.

The following graphic shows the information that you must maintain in the change master record:

## Changes With History



When?

| BOM  |       |                   |
|------|-------|-------------------|
| Itm. | Comp. | from to           |
| 10   | XX    | 12/01/96 12/31/99 |

| BOM  |       |                   |
|------|-------|-------------------|
| Itm. | Comp. | from to           |
| 10   | X     | 05/01/96 12/01/96 |

Status **after** the change

Change on 12/01/96

Status **before** the change

Why?

## Authorization Objects

The authorization concept in *Engineering Change Management* is derived from the general authorization concept of the R/3 System. The general authorization system is described in the *System Administration* document.

In addition to the authorization concept of the application (such as *Bills of Material* or *Document Management*), there is also an authorization concept for *Engineering Change Management*.

The authorization objects for *Engineering Change Management* are allocated to the **Production planning** object class.

In the standard system, the following three authorization objects are defined for *Engineering Change Management*:

- Change master - authorization group (C\_AENR\_BGR)
- Change management - revision level for material (C\_AENR\_RV1)
- Change management - revision level for document (C\_AENR\_RV2)

The following tables show, for each of these authorization objects, which fields control the user authorizations for change management.

### Authorization Object for Authorization Group

This table shows the authorization object C\_AENR\_BGR. This object controls, for example, whether a user can create, change, or display change masters. However, there may be certain change masters that you want to make available only to particular groups of users. For this purpose, you can define authorization groups.

#### Fields of Authorization Object C\_AENR\_BGR

| Fields                         | Possible values | Meaning  |
|--------------------------------|-----------------|--|
| ACTVT<br>(activity)            | 01              | Create   |
|                                | 02              | Change   |
|                                | 03              | Display  |
|                                | 06              | Delete (change master)   |
|                                | 22              | Enter (change number in object)  |
|                                | 73              | Digital signature  |
|                                | 81              | Schedule (change number)   |
| BEGRU<br>(authorization group) | 0000 - ZZZZ     | Used to further restrict the authorizations for the change master (change header). |

### Authorization Object for Revision Level (Material)

This table shows the authorization object C\_AENR\_RV1. This object controls whether a user can create or change revision levels for a material.

#### Fields of Authorization Object C\_AENR\_RV1

**Authorization Objects**

| Fields              | Possible values | Meaning          |
|---------------------|-----------------|------------------|
| ACTVT<br>(activity) | 01<br>02        | Create<br>Change |

The authorization system is described in greater detail in the *System Administration* document.

**Authorization Object for Revision Level (Document)**

This table shows the authorization object C\_AENR\_RV2. This object controls whether a user can create or change revision levels for documents.

**Fields of Authorization Object C\_AENR\_RV2**

| Fields              | Possible values | Meaning          |
|---------------------|-----------------|------------------|
| ACTVT<br>(activity) | 01<br>02        | Create<br>Change |

# Change Master Record

## Definition

The change master record is a master record that contains information necessary for the management and control of changes.

The change master record contains data of a descriptive character (such as the reason for the change) and control data (such as effectivity data, object type indicators). Besides this data that the user maintains, there is also data that is automatically updated by the system (management data).

## Structure

The most important change master record data is grouped as follows:

- Change header (description, effectivity data, status information)
- Object type indicators (for example, BOMs, task lists, documents)
- Object overviews for the different object types
- Detail screens for the different objects (object management records)

Exactly which data is maintained depends on the function that the change master record adopts in the change process. For example, you do not need to maintain object type indicators for a change master record that has been created with the *Leading change master record* function.

## Integration

In the R/3 System, change master records are identified by a change number. [Number Assignment \[Page 17\]](#) is made according to defined criteria.

In the change process, a change number can identify change master records with the following tasks:

- Simple change master record (with or without release procedure)
- ECR / ECO
- Change master record of an engineering change hierarchy
  - Change leader (Leading change master record)
  - Change package

---

Creation of a Profile

## Creation of a Profile

### Use

The profile for creating a change master record groups together default values and presettings for the change master record.

This data is standard information that is needed repeatedly in a similar form when maintaining change master records. The profile helps you when creating a change master record and makes it easier to manage change data.

### Prerequisites

You must have defined the profiles in Customizing for *Logistics - General* under *Engineering Change Management* → *Maintain profiles*.

### Features

You can enter the following default values as change master record data:

- Change number status
- Authorization groups
- Reasons for change
- Status Profile
- Object type profiles

You use the object type profile to define which object types can be processed with reference to the change number.

The object type profile is therefore irrelevant to profiles for creating change master records with the *Leading change master record* (*Change leader*) function.

### Activities

1. Define the profile in Customizing.
2. Enter the profile on the initial screen when you create the change master record.

The system adopts the change master record profile values as default values. You can overwrite these default values in the change master record. Default values for a profile that you overwrite in the change master record are only stored in the change master record and not in the profile.

When an object type profile is assigned to the change master record profile the system also copies the object type indicators that you have set there. If you set the indicator in Customizing for the object type profile *Can be overridden* you can change the object type indicators in the change master record.



## Number Assignment for the Change Master

### Use

You use this function when you create a change master record.

### Features

Depending on your company's requirements, you can assign either a numeric key or an alphanumeric key.

The SAP System supports two types of number assignment:

- **Internal number assignment**

If you want to assign consecutive numbers that are purely numeric, do not enter a change number when you create a change master. When you save the change master, the system assigns the next available number from the number range defined for change masters. The system displays this number in a message.

In the Customizing for *Engineering change management*, under *Define number ranges*, you can check which number has been reached in the internal number range.

- **External number assignment**

In the standard SAP System, an external number range is defined for (purely numeric) numbers.

If you want to assign an alphanumeric key, you enter an alphanumeric character string.



Please check which special characters you use. The following special characters can be used anywhere within the change number: " – " , " / " , " \_ "

If you use the standard settings for external number assignment, you can enter any alphanumeric key. However, if you want to restrict the external number range for alphanumeric characters, define an additional external number range with the interval you require. You also need to select the *NR check for alpha* indicator to activate checks on alphanumeric numbers.

### Additional Checks for Alphanumeric Change Numbers during External Number Assignment

If you assign change numbers manually, the system performs the following checks:

- If you enter a purely **numeric** key, the system **always** checks whether the key is from a number range defined for external number assignment.
- If you enter an **alphanumeric** key (for example, K-01), the system only checks the key if this is defined in Customizing. In Customizing for *engineering change management*, under *Set up control data*, you can define whether or not the system checks alphanumeric fields as well. To do this, you use the *Number range check for alpha fields* indicator.
  - If you do not select this indicator, the system does **not** check number ranges for alphanumeric numbers. In this case, you can enter any alphanumeric key.

## Number Assignment for the Change Master

- If you select this indicator, the system checks **all** the external number ranges that are defined for alphanumeric numbers.



For example, you defined an external number range for alphanumeric numbers. The upper and lower limits of the interval are as follows:

*From number:*        AAAAAAAAAAAAAA


*To number:* CCCCCCCCCCCC

The *Number range check for alpha* indicator is selected. If you enter the number K-01, which is not within the defined number range, you see the following error message:

*Change number K-01 not defined for external number assignment*

The following numbers can be entered: A-23-D, B22, CA45.

## Activities

To display an overview of the number ranges and the current number status on the initial screen, click  *No.range*.

You define number ranges in Customizing for *Engineering Change Management* by choosing *Define number ranges*.

## Maintaining the Create Initial Screen

1. Choose *Logistics* → *Central functions* → *Engineering change management* → *Change master* → *Create*.

The *Create Change Master: Initial Screen* appears.

2. Enter an change number.

Do not enter anything if you want the system to assign a number itself. For more information, see [Number Assignment for the Change Master Record \[Page 17\]](#).

3. Select the type:

- Change master
- Engineering change request (ECR)

To find out about the differences between the two types, see [ECR/ECO \[Page 247\]](#).

4. Select the change master record's function:

- Without release key
- With release key
- Lead. chg. mast. (leading change master record)
- Change package

For more information, see [Determination of the Function of a Change Master Record \[Page 20\]](#).

5. If you want to create an engineering change request, select a change type.

For more information, see [Change Type Affects Change Process \[Page 249\]](#).

6. If you want to create a change master record with parameter effectivity, enter an effectivity type.

For more information, see [Creating a Change Master Record with Parameter Effectivity \[Ext.\]](#). If you enter an effectivity type, the system creates a change master record with date validity.

7. If you want to transfer the pre-defined settings from a profile defined in Customizing to the change master record, enter the name of the profile.

For more information, see [Creation of a Profile \[Page 16\]](#).

8. In the *Copy from* dataset, you can enter the change number of an existing change master in order to copy data (for example, change header data or object type indicators) to the new change master as default values.

Here the system also copies all object management records from the change master record you are using as a reference. Check which object management records you require and delete any superfluous object management records from the new change master record if necessary.

9. Click .

---

Determination of the Function of a Change Master Record

## Determination of the Function of a Change Master Record

### Use

By using the change master record function, you can define how the change process is to be controlled using the change master record. You decide how the release procedure takes place and if the change is controlled with a change hierarchy.

You can maintain both simple change master records (without additional functions) and change master records with special functions in the standard system.

For example, you can organize small changes in a simple process with reference to a simple change master record. Complex changes are more complicated as regards planning, execution, and release. It is usually best to plan complex changes with reference to a change master record that allows a release procedure.

### Integration

You can change all objects that are to be processed with engineering change management with reference to a simple change master record (without additional functions).

At the present moment in time, you can process the following objects using additional functions:

- All BOM categories
- Task list types:
  - Routings
  - Reference operation sets
- Characteristics
- Characteristics of class
- Classification

### Prerequisites

You can activate the release procedure in Customizing for *Logistics - General* under *Engineering Change Management* → *Set up control data*.

### Features

If you have activated the **release procedure**, you can choose between the following functions:

- [Engineering Change Hierarchy \[Page 21\]](#)
- [Release Procedure Using the Release Key \[Page 27\]](#)

# Engineering Change Hierarchy

## Use

The change hierarchy enables you to make complex changes to several objects with reference to several change numbers and group these complementary changes together for management purposes. The many different change objects can be structured in a clear and transparent way from different views (for example, organizational and functional) in the change hierarchy.

## Integration

At the present moment in time, you can process the following objects using a change hierarchy:

- All BOM categories
- Task list types:
  - Routings
  - Reference operation sets
- Characteristics
- Characteristics of class
- Classification

## Prerequisites

You must activate the release procedure in Customizing for *Logistics - General* under *Engineering Change Management* → *Set up control data*. Set the *Release active* indicator in the *Effectivity* data set.

## Features

### Structure

Change master records with the functions *Change leader* and *Change package* form a single-level change hierarchy. They fulfil the following functions:

- Change leaders (Leading change master records)
 

The leading change master record (change leader) is the superior change master record in a change hierarchy. It groups several change numbers (change packages) together.

The following information is maintained in the leading change master record:

  - Determination of the effectivity of a change (for example, *valid-from* date)
  - Release procedure
 

The release key controls which areas the changes that are made with reference to the allocated change numbers (change packages) are released for.
  - Deletion flag (global)
 

You can only set this deletion flag if the deletion flag is set for all the allocated change packages.

## Engineering Change Hierarchy

- Change packages

The change package is the inferior change master record in a change hierarchy. All the change packages are allocated to a change leader. The object changes in a change hierarchy are with reference to the change packages.

Change packages can be formed from different points of view. For example, from an organizational point of view, the change package would just contain the objects from the product structure that are controlled by mechanical engineering (material, BOM, engineering/design drawing, and so on). A change package from a functional point of view would contain the objects that form a logical unit in the product structure, for example, material, BOM, document, routing for a gearbox.

The following information is maintained in the change package:

- Choice of change objects (object management records), for example BOMs
- Control of the processing procedure using system status and user status, where appropriate
- Control of the processing procedure using SAP Business Workflow
- Deletion flag (local)

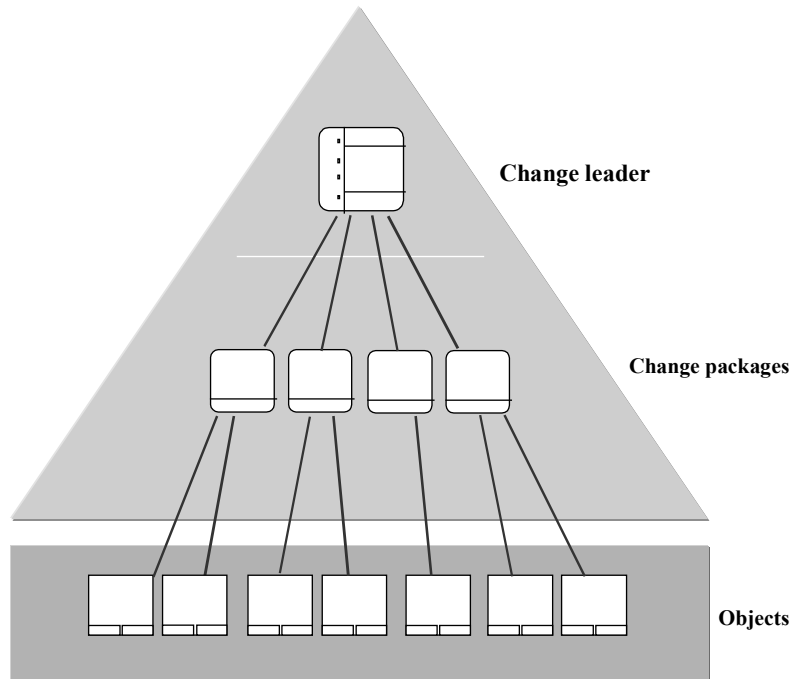
This deletion flag is only relevant to one individual object. You can only set a deletion flag for the change leader if the deletion flag is set for all the allocated change packages.



You can only include an ECR / ECO in an engineering change hierarchy if you use the *Change package* function because you can only enter the change objects for a change package.

## Graphical Representation

The following graphic shows the relationship between change leader, change packages and change objects.



## Releasing Changes

Changes that are made with reference to a change hierarchy have to be released using a [Release Procedure \[Page 27\]](#)

## Display

You can [display \[Page 25\]](#) an engineering change hierarchy in a tree structure.

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Creating the Change Hierarchy

## Creating the Change Hierarchy

### Verwendung

You can control a complex change involving several change objects by using a [Change Hierarchy \[Page 21\]](#).

### Prerequisites

You must activate the release procedure in Customizing for *Logistics - General* under *Engineering Change Management* → *Set up control data*. Set the *Release active* indicator.

### Procedure

1. Create a change master record.
  - Choose the leading change master record / change leader function on the initial screen.
  - Enter the required data on the *Change header* screen, for example values for the effectivity and the release key.  
Save the change leader.
2. Create another change master record.
  - Choose the change package on the initial screen.
  - Enter the required data on the *Change header* screen, for example the change leader that the change package is to be allocated to.
  - Enter the object type indicators.
  - Go to the object overview. Enter the objects that are relevant to the change (for example, BOMs).  
Save the change package. If required, enter further change packages for the same change leader and allocate other change objects to them.

### Result

You have created a change hierarchy consisting of a superior leading change master record and several change packages. All the changes that you make with reference to the different packages become effective under the conditions defined in the leading change master record.



## Displaying the Change Hierarchy


### Prerequisites

You have created a change hierarchy with a change leader that has one or more than one change packages allocated to it.

### Procedure

1. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Value Assignment* → *Change Hierarchy*.

The *Change hierarchy* screen appears.

2. Enter the data for the datasets *Main selection* and *Selection according to date*. You limit the choice of leading change master record with this data.
- 3.
4. In the *Further data* dataset, you can define the scope of the data that is to be displayed. You can decide whether the object management records that have been allocated to the change packages should also be displayed.
5. Click .

The *Change hierarchy* screen appears. The hit list of the change numbers that meet your selection criteria appears.

You can also display a change hierarchy using the [Product Structure Browser \[Ext.\]](#).

### Result

The change hierarchy is displayed in the form of a tree structure.

There is a separate explosion path for each change hierarchy:

- The **leading change master record** is the root object on the uppermost level of the path.
- Change leaders that have at least one **change package** allocated to them are displayed with a **+** next to them in the tree structure.

You can expand this part of the structure. A list of all the allocated change packages appears.

- The further display of the tree structure depends on the settings for the scope of the data to be displayed (initial screen). If the **object management records** should also be displayed, all the change packages that have object management records are shown with the **+** sign next to them.

You can expand this part of the structure. A list of all the allocated object management records appears.

You can display the change master records and save the change hierarchy list in different formats (for example, Rich Text Format).

## Processing Objects in a Change Hierarchy

### Prerequisites

You have maintained change master records with the following functions: Change leader and change package.

See: [Engineering Change Hierarchy \[Page 21\]](#)

### Procedure

1. Process the objects (for example, BOMs) with reference to the change numbers of the **change packages**. Save your change.
2. If you feel it is necessary, check the changes again after you have made all the object changes with reference to the change packages. At this processing stage, the changes are not yet released in the adjoining work areas (for example, production).



You can simulate a change that has not yet been released as released. See: [Simulating a Change Status as Released \[Ext.\]](#).

3. Release the changes in the **change leader**. On the *Change Header* screen, choose a release key that is defined as *Released globally*.

### Result

The changes are taken into account in operative work areas after they have been released globally (release key) in the change leader.

## Release Procedure Using the Release Key

### Use

The procedure for releasing object changes in the operative areas (for example, planning, production) is controlled by the change master record release key.

- Change statuses of objects that have been changed with a change master record that has not been released are not taken into account by the operative areas.
- Change statuses of objects that have been changed with a change master record that has been released are taken into account by the operative areas. This ensures that the changes made to the objects become effective in the operative areas as one logical unit. For example, you cannot then have the case of drawings and routings not fitting together.

This regulated release procedure ensures that the changes are activated in the operative areas in a controlled, step-by-step way.

### Integration

You control the release procedure by using a release key. You define the release key with the *Release active* indicator in Customizing for *Engineering Change Management*. You select the release key in the change master record (change header).

### Prerequisites

You must perform the following activities in Customizing for *Logistics - General* → *Engineering Change Management*.

- Activate the release procedure under *Set up control data*.
- Define the release keys for the release procedure under *Define release keys*.

### Features

You decide whether you want to create a change master record with or without a release key on the initial screen (for creating a change master record).

- **Without** release key  
No release procedure takes place. The changes are released automatically for the operative areas.
- **With** release key  
You can define the release key in Customizing so that the release only affects certain areas of your company. You can also use the release key to determine whether Order Change Management (OCM) processes are started automatically.

### Using the Release Key to Control the Release Procedure

#### Release for Enterprise Areas

The release procedure is designed in such a way so that you can release changes either globally for all operative areas, or release them for a specific area or areas (for example, costing, planning, or production). For example, if a product structure that has been changed has not yet

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**Release Procedure Using the Release Key**

been released for planning and production, but must be used for preliminary costing, the *Released for costing* indicator is set in the appropriate change master record. You can perform the release for other (or all) areas at a later date.

- As long as you are making object changes, you must choose a release key that has not been defined as released. You should not choose a release key that is defined as released until you have finished making the object changes and you want them to be taken into account in the adjoining work areas.
- You can also simulate the changes for production so that you can check new developments or changes for production in simulation orders. For example, you receive information earlier for your simulation telling you whether all the changed data (for example, BOM, routing, document) fits together.

**Making Changes Later**

Planned changes cannot always be implemented, for example, when sales orders or projects that are affected by a change have already been planned in production and converted to production orders. However, you can adapt production orders that are already being used in production to the changed product structure by using the Order Change Management (OCM) tool.

You can initiate the changes, for example a design change, by using a change request. Releasing a change in the design or performing a date shift automatically starts the OCM process.

## Change Process With Release Procedure

### Purpose

You can control and activate complex object changes step-by-step for operative areas using a regulated release procedure.

### Prerequisites

You performed the following activities in Customizing for *Logistics - General* → *Engineering Change Management*.

- You have activated the release procedure under *Set up control data*.
- You have defined the release keys for the release procedure under *Define release keys*.

### Process Flow

1. Create a change number.
  - a. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Change master* → *Create*.  
 You see the *Create Change Master: Initial Screen*.
  - b. Enter the required data. In the *Function* dataset, choose the function you require (for example, *With release key*).
  - c. Confirm your entries.  
 The *Change Header* screen appears.
  - d. Maintain the data that is required for the function you selected.  
 Select a release key for the duration of the object changes. The key must not support release for operative processes.
  - e. Enter further required data, for example object type indicators.
  - f. Save the change master record.
2. Process the change objects (for example, BOMs) with reference to the chosen change number.

Save your changes.



At this processing stage, the changed object data is not yet taken into account in the operative areas because the changes have not yet been released in the change master record.

In this processing situation you can simulate the changes as being effective.

3. After you have finished making the object change, and you want the change to be taken into account in adjoining processes (for example, costing, requirements planning, and production), you change the release key in the change master record.

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**Change Process With Release Procedure**

- a. Choose *Logistics* → *Central functions* → *Engineering change management* → *Change master* → *Change*.
- b. On the *Change Header* screen, choose a release key for your chosen area or one that is defined for the required processes (costing, requirements planning, production) as *Released globally*.

For a change hierarchy, you define the release key in the change leader.

- c. Save the change master record.

The changed data is now read in the adjoining processes.

## Locking the Change Master Record After Release

### Use

You can release changes that you make with reference to a change number for specific enterprise areas by using a release key. You can lock a change master record that the changes have been released for against any other changes.

You can only process the following objects when you have set the lock:

- Release key
- Deletion flag

### Prerequisites

You have set a release key for the change master record that releases the changes for at least one of the following areas:

- Global release (all areas)
- Release for costing
- Release for planning
- Release for production

You have set at least one of the *Lock change number* (using release key) indicators under *Set up control data* in Customizing for *Engineering Change Management*.

### Procedure

1. In Customizing for *Engineering Change Management*, under *Set up control data*, set the *Lock change number* (using release key) for the area that the change master record should be locked for when you perform the release, for example, *Release for costing*.
2. Change the release key in the change master record.

If you set a release key with an indicator that causes the change master record to be locked, the system immediately locks all data against any other changes.

For example, if you set release key 04 (*Release for costing*), the change master record is locked on the basis of your settings in Customizing.

### Result

You can only change the release key and the deletion flag. If you want to make any other changes to the change master record, you must first set a release key that does not support a lock.

## Release in a Change Hierarchy

### Use

You can use a [Release Key \[Page 27\]](#) to control the release of objects in a [Change Hierarchy \[Page 21\]](#). This ensures that all the objects involved in this complex change become effective as a logical unit in the operative areas.

### Integration

In a change hierarchy, the object changes are with reference to the change packages. The release of **all** the changes that were made with reference to the change packages is by means of the release key in the superior change leader that they are allocated to.

### Features

You can release the changes in a leading change master record either by using a release key or by using the *Technical release* function.

#### Release key

The release key is a required entry in the leading change master record.

- Change leader (Leading change master record)  
All the changes in a change hierarchy are released by the release key in the leading change master record.
- Change packages  
You release object changes that are made with reference to change packages with the release key in the leading change master record. After releasing the changes in the leading change master record, they are taken into account in the operative areas.

### Technical Release

The *Technical release* indicator helps to control the completeness of changes in the change hierarchy.

In the standard system, you can only perform a technical release for a leading change master record if all its change packages have been technically released. You release the change leader or the packages technically by using the *Technical release* function. The system then automatically sets the *Change package released technically* indicator in the change header of the leading change master record or the change package. The changes are then released, for example, for production or globally, depending on your settings.

You cannot withdraw the technical release. However, if you make special settings for [Late Packages \[Page 33\]](#), you can make changes to the change leader even after you have released it.



## Creating a Late Package

### Use

In the standard system, the change packages are allocated to a change leader before it has been released for production or globally. Under certain circumstances, however, the change also affects other objects and these should then also be included in the change hierarchy for organizational reasons, for example.

You can allocate another package to a leading change master record that the changes have already been released for. We call these packages that you allocate to a leading change master record after it has been released, late packages.

### Prerequisites

You must allow late packages for your company in Customizing for *Logistics - General* → *Engineering Change Management*. Set the *Late packages allowed* indicator under *Set up control data*.

### Features

You can perform the following functions if you allow late packages:

- Release change leaders even if all its packages have not been released
  - The system:
    - releases the change leader and sets the *Technical release* indicator
    - indicates the package that has not been released as a late package

You can process other change objects with reference to this late package.
- Create a change package for a change leader that has been released
  - The system:
    - copies the data it requires (for example, effectivity data) from the leading change master record
    - indicates the package that you have created as a late package

You can process other change objects with reference to this late package.

## Releasing a Leading Change Master Record

You must release the change leader, for example, even if all the changes are not complete but you want the released changes to take effect in the operative areas (planning, production).

If you want to release a leading change master record that has packages allocated to it that have not yet been released, proceed as follows:

1. Change the leading change master record that you want to release.
2. Choose *Edit* → *Technical release* from the menu in the change header.

You receive a warning that not all the assigned packages have been released.

**Creating a Late Package**

3. Confirm this warning. After you save, the change leader is released. You can still process other change objects with reference to the late package.

**Creating a Change Package for a Change Leader that has been Released**

You must create a change package for a change leader that has been released, for example, if changes that you made have already been released for the operative areas using the change leader, but you want to make some more changes to one or more objects.

If you want to allocate a change package to a change leader that has already been technically released, proceed as follows:

1. Create a change master record using the *Change package* function.
2. Allocate this package to the change leader that has already been released.  
You receive a warning that the leading change master record has already been released.
3. Confirm this warning.
4. You can enter all the data required for the change package, for example setting object type indicators.
5. After you save, you can process other change objects with reference to this change package.

## Defining as a Basic Change

### Use

If you want a change status to be generally accepted as effective, even if other changes exist for other effectivity periods, you can define the changes as **always effective** for a specific change number. This could be useful for a routing, for example, if one machine has been replaced by another and you only want the routing that takes the new machine into account to be selected.

### Integration

Defining a change status as a basic change is only supported for leading change master records. You can define a basic change in the leading change master record using the *Define basic change* function and this includes all the changes from all the assigned change packages.

### Prerequisites

In Customizing Logistics General → *Engineering Change Management* you have set the *Assign alternative date* indicator in *Setup control data*.

Additionally the following prerequisites must also filled:

- The leading change master record
  - has been maintained with a date effectivity (*valid-from* date)
  - has been released for production
- All the allocated change packages have been released technically.

### Features

The following rules apply when you define a change as a basic change:

- The change master record is effective
  - without any time limits (always)
  - without any status restrictions
- You cannot create any [Late packages \[Page 33\]](#) for the leading change master record, even if the *Late package* indicator is set.
- You cannot withdraw a basic change.

### Activities

4. Change the leading change master record that the changes are to be defined as basic changes for.
5. Choose *Define basic change* from the menu in the change header.
 

You see a warning telling you that you cannot withdraw the definition as a basic change.
6. Confirm the warning and save the change master record.

## Change Header Data


## Change Header Data

The change header contains both fields that define and describe the change and administrative data on the change master. The administrative data is updated by the system.

This data is maintained in the following data blocks:

- **Description of the change number**

- Short text for the *Change number* (obligatory)

In this field, you describe the change made with this change number. When also have entered a long text the system displays the icon  next to the short text.

**See also:** [Describing a Change Master Record \[Page 39\]](#) and [Creating Accompanying Documents \[Page 40\]](#)

- Function

This field is only displayed if you have activated the release procedure in Customizing.

The system displays the short text for the chosen function, for example *Engineering change order with release key*.

- *Validity from* or *Validity date*, or *Effectivity*

- Valid-from dates

In the standard SAP System, commencement of effectivity is controlled by the *Valid-from* date. This is the date when the changes for all objects take effect. If certain requirements are met, the date can be shifted. For some change objects, you can replace this general valid-from date with an object-specific alternative date.

**See also:** [Valid from date \[Page 42\]](#)

- *Effectivity*

The function *Effectivity* is active when the change master record contains parameter effectivity.

**See also:** [Working with Parameter Effectivity \[Ext.\]](#)

- *Rank*

This field can only be maintained when the change master record has parameter effectivity.

**See also:** [Rank for the Same Effectivity Type \[Ext.\]](#)

- *Authorization group* for the change master record

If you enter an authorization group, only the users who have this authorization value in their user profile can maintain this change master record.

The authorization group is part of the *Authorization group for the change master record* authorization object.

**See also:** [Authorization Objects \[Page 13\]](#)

- *Reasons for change*

## Change Header Data

You can enter a reason for change for **all** objects (for example BOMs).

You can add information about individual changes in the object management record.

You can also maintain a long text for the object-specific description.

- **Status information**

- *Status* of a change number

This shows the actual processing status of the change number. The status determines whether objects (for example, BOMs, task lists) can be changed with reference to the change number and whether a date shift can take place.

You define the status in Customizing for *Engineering Change Management*, step *Define status for change master record*.

- *Release key*

This field is only active if you have chosen a function with a release procedure.

**See also:** [Release Process using the Release Key \[Page 27\]](#)

- *Deletion flags*

Use this indicator to if you want the change master record to be deleted in the next archiving session.

You cannot enter any change objects or process any objects with reference to the change number when this indicator is set.

- **Legal overlap period**

This data is only relevant to the *dangerous goods* object type.

- *Date when the legal regulation takes effect*

- *Date when the legal overlap period expires.*

- **Administrative data**

This data is generated by the system. This data tells you when and by which user the change master record was created and last changed.

You can maintain further data in the change header after completing additional functions.

- **Accompanying documents**

If you want to enter detailed documentation on the reason for change, you can use the *Document Management* functions. To do this, you have to assign one or several document info records to the change header as accompanying documents.

**See also:** [Creating Accompanying Documents \[Page 40\]](#)

- **User status**

This field will not be displayed until you have defined a status profile. Defining a status profile allows a change master record to run through a company-specific status network.

You define status profiles by choosing *Define status profiles* in Customizing for *Engineering Change Management* → *Define status profile*.

**See also:** [Maintaining the User Status by Means of a Status Network \[Page 64\]](#)

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Change Header Data

## Describing a Change Master

You describe the change master record on the *Change header* screen:

**To describe a change master record, proceed as follows:**

1. Enter a short text that applies to **all** the objects that can be changed with reference to this change number (for example, bill of material, document, or task list).
2. If you want to enter a description that is longer than 40 characters, use the long text function.  
To do this, choose *Extras* → *Chg header long text*. Save your text. Next to the short text, you see an icon for accessing the long text.
3. Enter the *Reason for change*, which applies to all objects.

If object management records are supported for the individual change objects (for example, document AD-01 DRW 001 01) of an object type (such as document), you can store specific information on the reason for changing these objects in the object-related management record. It is possible to enter object-specific long texts.

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Entering Accompanying Documents

## Entering Accompanying Documents

You can maintain any type of accompanying document for a change master record. Accompanying documents can take the form of a detailed documentation of the change or just contain supplementary data on the change.

These documents have a master record (document info record) and you can maintain them with the *Document Management* (DMS) functions.

From these documents, you can, for example, start workstation applications (such as Microsoft Word or CAD programs) or maintain comprehensive documentation (such as text files or drawings).

Accompanying documents are linked to the change header. This is why you call the related functions from the *Change header* screen.

### To enter accompanying documents:

1. Assign one or more document info records to the change master as accompanying documents, as required.

To do this, choose *Extras → Accompanying docs*. You see a dialog box, in which you can enter documents.

- If you do not know the data of the document info record, you can search for the document directly from the processing functions for the change master (choose *Find document*).
  - You can display original application files (such as text files or drawings) directly from the change master (choose *Display originals*).
2. In the dialog box containing the allocated document info records, you also see the document statuses. If a document is part of a document hierarchy, you see an indicator next to the *Hierarchy (Hr)* field.
  3. To display the basic data of a document info record, double-click on its key field.
  4. If several documents are assigned to your change master, you can restrict the list to contain only the current versions.



## Entering Business Documents

### Use

You use Business Documents for the change documentation. The Business Document Service offers general and easily integrated document management functionality for various SAP applications. Business Documents are managed via the SAP ArchiveLink.

### Procedure


You enter Business Documents as follows:

You are in the change header.

1. Select *Extras* → *Business Document*.

The [Business Document Navigator \[Ext.\]](#) appears. This user interface offers simple document management functions such as displaying, creating and deleting documents.

Detailed documentation on the Business Document Navigator can be found in the SAP library under *Basis* → *Basis Services / Communications Interfaces (BC-SRV)* → *Business Document Service (BC-SRV-BDS)*.

2. In the Business Document Navigator create one or more Business Documents.
3. Click on  to go back to the change master record.

## Valid-from dates

## Valid-from dates

### Use

In the standard system, the effectivity of an object change is defined solely by the *valid from* date.

The *valid-from* date specifies the time the change becomes effective from for **all** the allocated change objects. You can also define a special *valid-from* date (alternative date) for individual objects.

When choosing the *valid-from* date, you should account for the effectivity of the change objects that are to be processed with this change number.

### Integration

When you change an object (for example, a bill of material) with reference to a change number, the system verifies if the object (for example, the bill of material) is effective from the *valid-from* date.

When you create the different change objects (without reference to a change number), the system sets different commencement dates for the effectivity, depending on the object or how you create it (for example, whether you create a material immediately or whether you schedule it).

#### Commencement of the validity when creating change objects (without change number)

| Change object                 | Commencement of effectivity |                |
|-------------------------------|-----------------------------|----------------|
| BOMs                          | Key date                    |                |
| Routings                      | Key date                    |                |
| Documents                     | No limitations              |                |
| Materials                     | Create → Immediately        | No limitations |
|                               | Create → Schedule           | Key date       |
| Classification system objects | No limitations              |                |
| Substances                    | Key date                    |                |
| Phases                        | Key date                    |                |

### Examples:

#### Object in the Classification System

There is no limitation on the valid-from date for an existing object (for example, characteristic) in the classification system.

If you create a characteristic on May 10th 1997, you can edit it with reference to a change number with a *valid-from* date set for January 1st 1997.

#### Material BOM

You create a material BOM on the key date.

If you create the material BOM on May 10th 1997, it is effective from this date. You cannot edit it with reference to a change number with a *valid-from* date set for January 1st 1997.

## Features

### Entering the valid-from date

You can maintain the *valid-from* date at various processing stages, depending on the *Create* function you use.

- If you are creating a **simple change master record** you must enter a *valid-from* date **immediately** in the change master header.
- If you are creating an **engineering change request** you do not have to enter a *valid-from* date immediately. You can still enter and check the change objects without a *valid-from* date. You do not have to enter a *valid-from* date until you want to change the engineering change request to an engineering change order.

See also:

[ECR / ECO \[Page 247\]](#)

### Changing the Valid-From Date

You can change the valid-from date. In the change header, this is only possible as long as **no** changes to objects have been made with reference to the change number. As soon as an object has been changed, the field is no longer ready for input. In this case, you must carry out a date shift.

**See also:**

[Protected Time Period \[Page 44\]](#)

[Date Shift for the Valid-From Date \[Page 46\]](#)

[Shifting the Valid-From Date \[Page 52\]](#)

[Date elements \[Page 53\]](#)

## Protected Time Period

## Protected Time Period

In Customizing for *Engineering Change Management*, under *Set up control data*, you can define a time frame for additional date checks in the *Date shift* dataset. You define a protected time period that is checked in the following processing situations:

- Change master record maintenance
  - Entering the valid-from date
  - Entering an alternative date
  - Shifting the valid-from date or an alternative date
  - Allocating an alternative date to a change object or deleting the allocation
- Processing a change object with reference to a change number with a valid-from date in the protected time period
  - Changing a change object (for example, BOM or task list)
  - Assigning or changing a revision level

For this date check, you can specify whether a warning message or an error message is displayed when you try to perform these functions within the protected time period.

For example, you can specify that changes in the past are not allowed. Process flows for *Materials Requirements Planning* (MRP) may be relevant to the change. If materials have to be replaced by new materials, the replenishment lead time must be taken into account when you change the BOM.

## Calculating the Protected Time Period

The baseline date for the check is the current date. The system calculates the warning or error time (in calendar days) either forwards or backwards in time from the current date. The protected time period covers the key date calculated and all dates before this date.

- **Warning time in days**

You can process objects in this time period but you receive a warning message to remind you that the change objects need checking.

- **Error time in days**

You are not allowed to process objects in this time period.



If you enter a negative value (for example, 10-), the system calculates the protected time period from the current date backwards.

### Example: Calculating the Protected Time Period (Warning)

Suppose you want to perform a date shift on the valid-from date of a change master record. The following settings are defined in Customizing:

| Customizing        | System Checks          |
|--------------------|------------------------|
| Date check: active | Current date: 10.10.97 |

## Protected Time Period

|                                       |  |
|---------------------------------------|--|
| <i>Warning time:</i> 10 calendar days | Protected time period: 10.20.97 and the days before it |
|---------------------------------------|--|

If you attempt to shift the valid-from date of your change master record to October 15, 1997, a warning message appears because October 15, 1997 is in the protected time period. If you confirm the warning message, you can shift the date to October 15, 1997.



If you have an *Error time in days* of 10 days instead, the earliest date you can shift the valid-from date to is October 21, 1997.

---

**Date Shift for the Valid-From Date**

## Date Shift for the Valid-From Date

Using the date shift function, you can shift the valid-from date of a change master even if changes to objects (bills of material, task lists, or classification system objects) have already been made.

The system checks the control data settings in Customizing.

**See also:**

[Protected Time Period \[Page 44\]](#)

Whenever you shift the valid-from date, the system recalculates the valid-to date for each effectivity period.

- You cannot shift the valid-from date if the consistency of the following change objects is not ensured:
  - BOM
  - Routing
  - Object in the classification system (for example, characteristic)
  - Material or phrase

In this case, the system creates a temporary protocol that lists the change objects that prevent a date shift.

**Example of Inconsistency:**

A BOM *header*, for example with the change number N1, valid-from date May 12th 1997, has been changed.

You are editing another change number (for example, N2). The same BOM has been entered as the change object for this change number. You want to apply a date shift and have chosen the valid-from date of change number N1 as your new date.

You can receive a warning for a BOM *item* in the same processing situation.

- Using the authorization object C\_AENR\_BGR (change master authorization group), you can define the users who are allowed to shift the valid-from date. When you do this, the system checks activity 81 - *Schedule*.

[Authorization Objects \[Page 13\]](#)

**See also:**

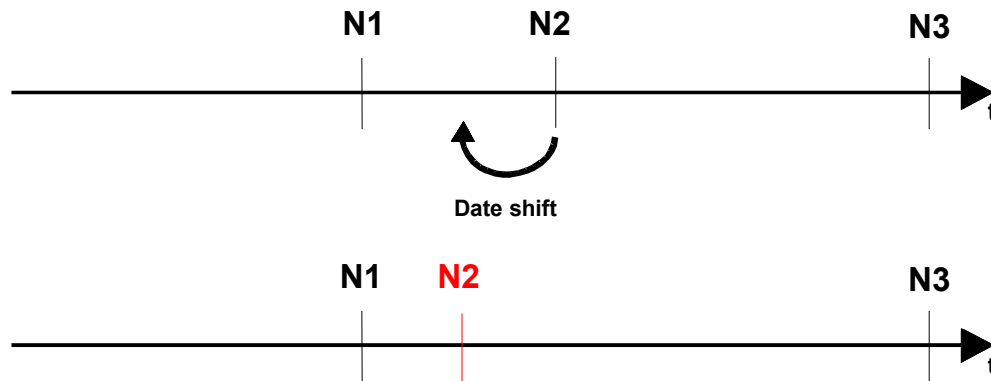
[Simple Date Shift \[Page 47\]](#)

[Date Shift Changes Sequence of Effectivity Periods \[Page 48\]](#)

[Special Checks for BOMs \[Page 49\]](#)

## Simple Date Shift

In a simple case, only the valid-to date is recalculated if you bring the effectivity period forward. This situation is illustrated in the following figure.



---

Changed Sequence of Effectivity Periods

## Changed Sequence of Effectivity Periods

A date shift redefines the valid-from date. Valid-to dates are recalculated by the system.

This can change the sequence of effectivity periods for a change object (such as a characteristic or the characteristics of a class). This produces a negative effectivity: The valid-to date is **before** the valid-from date. Two effectivity periods overlap. In this overlap period, different versions with different change numbers exist (see the following example for a BOM item).

In this case, you **cannot** perform the date shift. The system creates a temporary log listing all the change objects that prevent a date shift. (see: [Special Features of Object Types \[Page 68\]](#)).

### Exceptions

For the following objects, you can still perform a date shift despite a change in the sequence of effectivity periods:

- BOM
- Routing

If the date shift results in a change to the sequence of effectivity periods, you usually see a **warning** message. You can then check the BOMs and routings affected. You can perform the function as soon as you confirm the warning message.

In Customizing for *Engineering Change Management*, under *Set up control data*, you can use the *Error messages only* indicator in the *Date shift* dataset to specify that warning messages are always converted to **error messages** in these processing situations. This means that as soon as you perform a date shift that changes the sequence of effectivity periods of a BOM or task list, an error message appears and you cannot perform the date shift.



## Special Checks for BOMs

If you perform a date shift that changes the sequence of effectivity periods of a BOM, two effectivity periods may overlap. This means that different item versions with different change numbers exist in the overlap period.

### Example: Effect of Date Shift on a BOM Item

Suppose a BOM item is created at time t1.

- On three later occasions, the same BOM item is changed with three different change numbers (N1, N2, and N3).  
For each item change made with reference to a change number (N1, N2, and N3), the system creates an item record for the effectivity period concerned (A, B, C, and D).
- Then a date shift is performed on change number N2 (the valid-from date is brought forward).

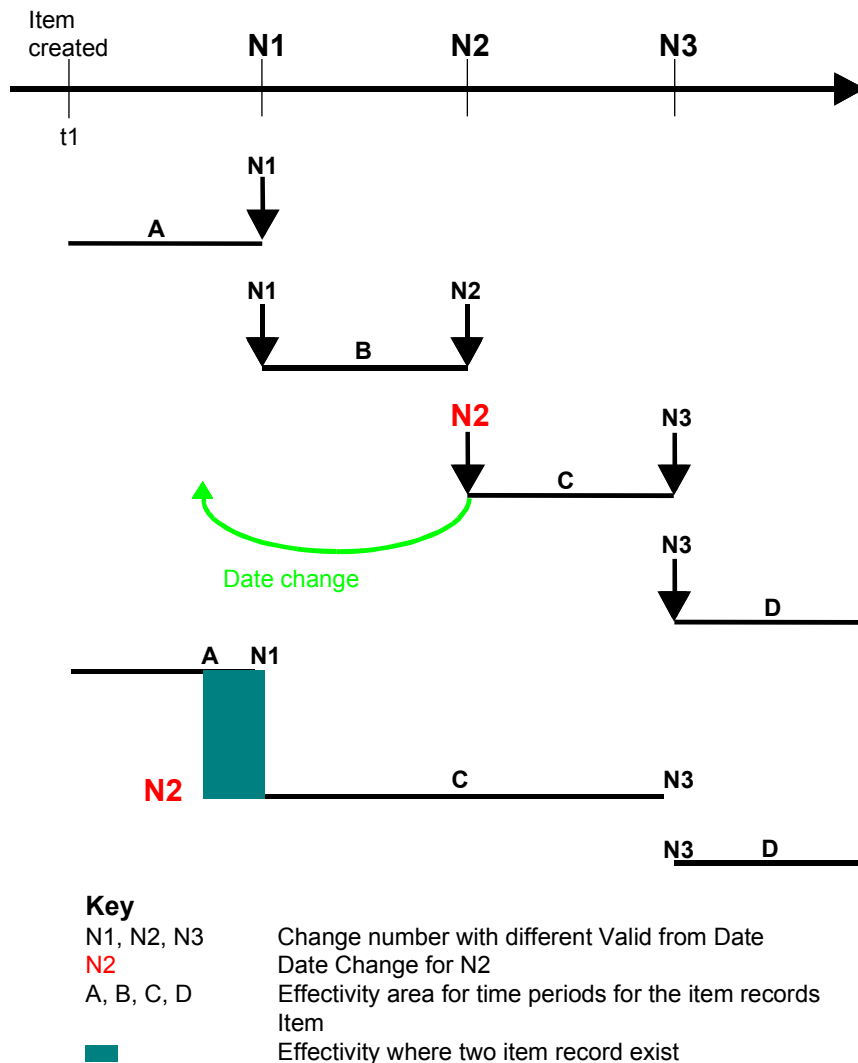
### Graphic: Date Change with Overlapping Period

The graphic below illustrates how an overlap period can come into existence.

The first section shows the time period in which the item was created and then changed with three change numbers. Then a date shift is performed on change number N2 (the valid-from date is shifted into the past).

The second section shows the result of this date shift.

## Special Checks for BOMs



This has the following effects:

- Effectivity period C is brought forward. This causes effectivity period B to be deleted.
- Effectivity periods A and C partially overlap.

You can perform this date shift if only the sequence of effectivity periods for bills of material changes as a result, and if the system is configured such that a warning is displayed. To proceed with the function, you must confirm the following message:

*Date shift changes sequence*

Since the sequence of effectivity periods changes, a temporary log for bills of material is produced.

### Controlling the BOM Explosion in the Overlap Period

If you process the BOM in the **overlap period**, versions of the item exist with different change numbers.

## Special Checks for BOMs

You can define which item is valid for the BOM explosion in Customizing for *Bills of material*, under [Define modification parameters \[Ext.\]](#). With the indicator *Explosion BOMitm*. (Explosion control for BOM items) you control whether and according to which rules the system determines a unique change status. This occurs when you display, change, or assign values to a BOM for a date within the overlap period.

You have the following options:

- **All versions of an item**  
 The system determines all item versions. They are listed with the same item number and the different change numbers.  
 Example from the graphic *Date shift with overlap period*:  
 If you process the BOM in the overlap period, any item that was changed with change number N2 is listed twice. In this case, you should process the item with the change number that has the more current valid-from date (change number N2, in this example).
- **Newest version for each date created**  
 If more than one item is valid in an overlap period the system determines the one that was created last.
- **Newest version for the valid from date**  
 If more than one item is valid in an overlap period the system determines the one that was closest to the current date.

---

Shifting the Valid-From Date

## Shifting the Valid-From Date

### Use

If changes have already been made to objects, you can no longer change the *valid-from* date. In this case, you must use the *Shift date* function.

The system checks the control data settings in Customizing.

**See also:**

[Protected Time Period \[Page 44\]](#)

### Procedure

**If you want to shift the valid-from date, proceed as follows:**

1. Go to the *Change header* screen.
2. Choose *Edit* → *Other* → *Shift date*.  
You see the *Shift date* dialog box.
3. Enter the new valid-from date and confirm your entry. The system checks the change objects. One of the following situations will result:
  - If the date can be shifted for all objects without any restriction, the system accepts the new *valid-from* date for the change master.
  - If the sequence of the validity periods changes and you see a warning, confirm the warning.
  - If the date cannot be shifted, you receive an error message.

Confirm this message and cancel the date shift function.

If the date shift causes a warning or error message to be displayed, the system generates a temporary log for all the BOMs and task lists concerned. This log lists all the change objects that do not allow the *valid-from* date to be shifted.

- To display the log for bills of material, choose *Extras* → *Log* → *BOM*.
- To display the log for task lists, choose *Extras* → *Log Task list*.

Check the effectivity periods of the change objects as required.

## Alternative Dates

In the standard system, the *valid-from* date in the change header is automatically valid for all the change objects that are changed with reference to this change number.

However, you can replace this date with an alternative one for some change objects (for example, BOM A, task list A, document 1). This is useful, for example, if the BOM is to be changed earlier than the task list.

- To do this, you create **alternative dates**, for example DE1 and DE2. Each of these alternative dates has its own *valid-from* date, for example DE1 - 08.12.1996 and DE2 - 15.12.1996.
- By allocating each alternative date to one or more change objects, you can make the change effective on different dates but with reference to **one** change number.

## Change Objects That Support Alternative Dates

You can only enter an alternative date for change objects that you can maintain an object management record for.

You can currently link alternative dates to the following change objects:

- BOM
- Routing
- Document
- Material

The following graphic shows different *valid-from* dates for a change master record (*valid-from* date of the change header and two alternative dates). These different *valid-from* dates are allocated to different change objects.

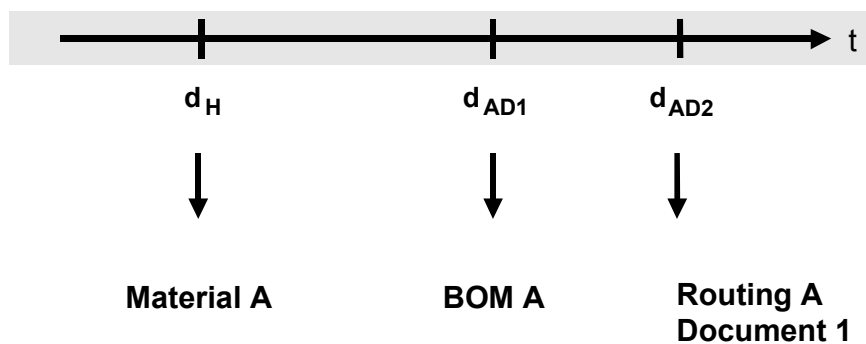
## Alternative Dates for a Change Master

## Alternative Dates for a Change Master

$d_H$  - Valid-from date  
(change header)

$d_{AD1}$  - Alternative date

$d_{AD2}$  - Alternative date

**See also:**

[Entering Alternative Dates \[Page 55\]](#)

[Allocating an Alternative Date \[Page 56\]](#)

[Special Features of Object Types \[Page 68\]](#)

## Entering an Alternative Date

### Use

When you create an alternative date, the system checks (as for a date shift) the settings in Customizing for *Engineering Change Management*, under *Set up control data*.

In the *Date shift* dataset, you can define a time frame within which a date shift is allowed (warning time) or not allowed (error time).

**See also:**

[Protected Time Period \[Page 44\]](#)

### Procedure

To enter an alternative date:

You are processing a change master record or engineering change request.

1. Click  Alternative dates.

The *Alternative date: Overview* screen appears.

2. Enter the alternative dates required.

- In the *Alternative date* field, enter an alphanumeric key to identify the alternative date (for example, DAT-01).

You can assign this key only once per change number.

- In the *Valid from* field, enter the specific valid-from date.

If you enter a date that is within a time limit for a warning message, you can still create the alternative date. However, you need to check the change objects to which you want to allocate the alternative date.

If you enter a date that is within a time limit for an error message, you cannot create the alternative date.

You can enter as many alternative dates as you need.



The overview screen also shows the *Object allocations* indicator in the *ObjID* field. The system sets this indicator automatically as soon as at least one object management record is assigned to the alternative date.

**See also:**

[Object Management Record \[Page 84\]](#)

## Allocating an Alternative Date

## Allocating an Alternative Date

In the standard system, the valid-from date in the change header is automatically valid for all the change objects that are changed with reference to this change number.

However, you can replace this date with a special valid-from date for some change objects. You can do this, for example, if you want changes to a bill of material and to a routing that you make with reference to **one** change number to be effective from different dates.

If, for a particular change object (for example, bill of material), you want to replace the general valid-from date in the change header with another valid-from date, you assign one or more change objects to the alternative date.



You can only complete this function if object management records exist for the change objects concerned (for example, BOM, task list).

The system performs an object-specific date shift for the chosen objects. The same checks are made as for an ordinary date shift. For example, the system checks the control data settings in Customizing.

**See also:**

[Protected Time Period \[Page 44\]](#)

If it is not possible to shift the date for at least one BOM or task list without any restriction, you see a temporary log.

**See also:**

[Entering Alternative Dates \[Page 55\]](#)

[Date Shift for the Valid-From Date \[Page 46\]](#)

[Special Features of Object Types \[Page 68\]](#)

**To allocate a management record to an alternative date:**

1. On the overview of alternative dates, choose the date to that you want to allocate one or more change objects to.
2. Choose the *Object allocation* pushbutton or, from the menu, choose *Goto → Alternative date → Object allocation*.

You see an overview of all the change objects allocated to the change master.

The system may set the following indicators for the individual objects:

|               |  |
|---------------|--|
| <i>Ind.</i>   | <i>Indicator: Selected via object search</i><br>The change object has been selected with the <i>Find object</i> function.          |
| <i>Alloc</i>  | <i>Indicator: allocated to the alternative date displayed</i><br>The change object is allocated to the alternative date displayed. |
| <i>GenAll</i> | <i>Indicator: allocated to an alternative date</i><br>The change object is allocated to an alternative date.                       |



**Allocating an Alternative Date**



If the required change object does not have an object management record, you must create one first.

3. Select the object that you want to assign the alternative date to.
4. Choose the *Allocate alt. date* pushbutton.  
The system automatically sets the *Allocated to alternative date displayed (Alloc.)* indicator.

## Alternative Date Assignment in Object Maintenance

### Use

You use this function when you want the system to automatically generate an object management record when an object (such as a BOM) is being processed.

You do not want changes to be valid on the date in the change master record header, but on an alternative date in the change master record.

### Integration

This function is available for the following change objects:

- BOMs
- Routings
- Documents
- Materials

### Prerequisites

In *Engineering Change Management Customizing* you have set the *Assign alternative date* indicator in *Setup control data*.

You have set the *MgtRec* indicator for the object type you are processing, in the change master record.

Apart from this you have also created one or more alternative dates in the change master record.

### Features

When you process an object using a change master record, which already contains one or more alternative dates, the system automatically displays a dialog box on the object maintenance initial screen (such as, for creating a BOM), where you can directly assign the object to an alternative date.

## Undoing the Allocation of an Alternative Date

### Use

You can undo the assignment of an alternative date to a change object. In this case the valid from date of the change header is then valid.

### Procedure

If you want to undo the allocation of a change object to an alternative date, proceed as follows:

1. Click  *Alternative dates*.

An overview of all the alternative dates of the change number appears.

2. Choose the alternative date whose object assignment you want to change.

3. Click  *Object assignments*.

An overview of all the change objects that are allocated to the change number appears.

The system sets the *Allocation to displayed alternative date* indicator in the *Assign* field for the change objects that are allocated to the chosen alternative date. You can only undo the allocation for these change objects.

4. Choose the change object whose allocation you want to undo.

5. Select  *Remove assignment*.

### Result

For the chosen change object, the system deletes the indicator *Allocated to the alternative date displayed* from the *Assign* field.

You can assign an object management record to another alternative date.

---

**Temporary Log for Date Shift**

## Temporary Log for Date Shift

If a date shift changes the sequence of validity periods of a change object (for example, a characteristic), then you **cannot** perform a date shift. This rule does not apply to the object types BOMs and task lists. For these object types you would receive a warning message in the standard system.

A temporary log lists the change objects that prevent a date shift or cause a warning message. The log is created for each change object separately, for example:

- BOMs
- Task lists
- Classification system objects

These logs are only created temporarily. This means that when you finish editing and saving a change master record, the log entries are deleted.

**See also:**

[Date Shift for the Valid-From Date \[Page 46\]](#)

[Displaying the Log \[Ext.\]](#)

## Special Features of Object Types

*Engineering Change Management* is used object specifically for the different change objects. The most important differences are listed below.

[Object Management Record and Object Type \[Page 69\]](#)

[History Requirement and Object Type \[Page 70\]](#)

[Valid-From Date and Object Type \[Page 72\]](#)

[Special Features for BOMs \[Page 73\]](#)

[Special Features for Documents \[Page 74\]](#)

[Special Features for Materials \[Page 75\]](#)

[Special Features for the Classification System \[Page 77\]](#)

[Special Features for Variant Configuration \[Page 78\]](#)

## User status

# User status

## Use

You can use company-specific user statuses to control the process flow for changes of a change master record and of object management records. When you process a change master record, the system determines which user statuses are supported in the current situation.

## Prerequisites

The user status can be represented in the form of a status profile. You define status profiles by choosing *Define status profiles* in Customizing for *Engineering Change Management* → *Define status profile*.

When you define a status profile, you must allocate the status profile to an object type. This allocation determines whether the status profile is defined for change master records or object management records.

The following object types are relevant to *Engineering Change Management*:

- **Engineering Change Management (ECH) Master Record**

With this status profile, which is defined for the change master, you can process only the change header.

- **Engineering Change Management Objects**

With this status profile, which is defined for the object management record, you can process only object management records.



In Customizing you have the option of defining a status profile that is valid for changes to both the change header and object management record.

## Features

The process flow is controlled for the change header and object management records:

- The user status of the change header controls changes to the change master record (for example, CHG-01).
- The user status of the object management records controls changes to the individual object management records (for example, *Material BOM MA-1*, *Plant 0001*, *Usage 1*).



There is no link between the user statuses of different object management records for a change master record. There is also no link between these user statuses and the user status of the change header. The system does not check the status of other objects when you set a user status.

If you want to use user statuses to control the change to the change header or object management record, you maintain a **status profile** in the change master.

## Status Network

The status profile represents a network of statuses. In this network, different statuses are connected to each other.

In any processing situation, you can only set a status that is allowed in this situation. You can display the latter with the possible entries function.

**See also:**

[Maintaining the User Status by Means of a Status Network \[Page 64\]](#)

## Maintaining the User Status with a Status Network

### Prerequisites


Before you perform this function, you must define a status profile for the required sequence of statuses in Customizing for *Engineering Change Management*, by choosing *Change type* → *Define status profiles*. This status profile must be supported for the change header or the object management record.

### Procedure

The function used to maintain the user status is the same for the change header and for object management record. When you choose the possible entries key, you see the status profiles for the object type (change header or object management record) you are currently processing.

- If you want to use the user status to control changes to the **change master record**, go to the **change header**.
- If you want to use the user status to control changes to a **change object**, go to the **detail screen of the object management record** concerned.

#### To maintain a user status:

1. Choose *Edit* → *Set status profile*.
2. The *Status profile* dialog box appears. From the possible entries,  copy the status profile that you require.  
The system:
  - The screen you called the function from (for example, *Change header*).
  - An extra line for user statuses.  
When you define a status profile, you define which statuses are shown and the order in which they are shown by assigning a position and priority to individual statuses.
3. To display the user status with its description, choose the *Status mgmt* pushbutton (or choose *Goto* → *Status management* from the menu).

The *Change status* screen appears. This screen shows some system statuses (for example, *Created*) as well as the user statuses. This system status only offers information in a *simple* change master record. It offers controlling functions for an *engineering change request*.

The user statuses are displayed that can be set in this processing situation in the right-hand side of the screen.

4. Select a user status.

When you save the change master, the user status is saved as well.



## Classifications

### Use

Using the classification system, you can describe change masters by means of characteristics and their characteristic values. If you group together similar change masters into classes according to your own criteria (characteristics), this can help you find a change master quickly in the system.

### Prerequisites

The following requirements must be met before you can classify a change master:

- At least one class type must be defined for change masters.  
In the SAP standard system, class type **025 - Change master** is defined for change masters.
- In the classification system, at least one class must exist for the defined class type.  
The class should have characteristics. Characteristics with values assigned to them are an important search criterion for change masters. You obtain a hit list that is precisely on target, and there is less workload on the system.
- If you want to assign the class to a class group, this group must be defined in Customizing for *Classification*. Select in Customizing *Cross-application Components* → *Classification* → *Classes* → *Define class group*.

### Features

The classification system provides you with additional options for processing the change number. You can access a change master using the *Find object* function, which is a very efficient search method thanks to the powerful search options of the classification system.

If you classify your change masters, you have the following advantages:

- When processing a change master, you do not have to enter the exact change number. On the initial screen, you can choose the change number using the possible entries function.
- You can expand the fields in a change master record and process them on a special classification screen.

To do this, you must define these fields as characteristics and allocate them to a class. The class type of this class must be defined for *Engineering Change Management*. From the processing functions for the change master, you can assign values to characteristics on the classification screen.

If you group together similar change masters into classes according to your own criteria (characteristics), this can help you find a change master quickly in the system.

**See also:**

[Classifying a Change Master Record \[Page 66\]](#)

---

Classifying a Change Master

## ***Classifying a Change Master***

You have two options for classifying a change master:

- You can allocate the change master to a class using the classification system.  
This procedure is described in the R/3 Library in the *CA Classification Guide*.
- You can classify the change master directly while processing it. To do this, proceed as follows:
  - Go to the change header or an overview screen, such as *Object types*.
  - Choose *Extras* → *Classification*.  
You see the *Change (Create) Change Master: Classification* screen.
  - Choose a class type and enter one or several classes.  
To display a class you have entered, double-click on it.
  - Assign values to the class(es).  
You can use all active functions for the classification system.

When you save the change master, the classification data is also saved.

## Object Types

You can change various change objects with reference to one change master as often as you need to. Objects with the same attributes are allocated to the same object type. For example, materials are allocated to the *Material* object type, BOMs to the *BOMs* object type.

You can process the following object types with reference to a change number:

- BOMs
- Task lists
- Documents
- Materials
- Classification system objects
  - Characteristics
  - Characteristics of class
  - Classification
- Variant configuration objects
  - Object dependencies
  - Configuration profiles
  - Contents of a variant table
- Objects in the Environment, Health and Safety System
  - Substances
  - Phases
  - Dangerous goods

**See also:**

[Special Features of Object Types \[Page 68\]](#)

[Object Sub-Types \[Page 79\]](#)

[Object Type Indicators \[Page 81\]](#)

[Maintaining the Object Type Indicators \[Page 83\]](#)

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**Special Features of Object Types**

## Special Features of Object Types

*Engineering Change Management* is used object specifically for the different change objects. The most important differences are listed below.

[Object Management Record and Object Type \[Page 69\]](#)

[History Requirement and Object Type \[Page 70\]](#)

[Valid-From Date and Object Type \[Page 72\]](#)

[Special Features for BOMs \[Page 73\]](#)

[Special Features for Documents \[Page 74\]](#)

[Special Features for Materials \[Page 75\]](#)

[Special Features for the Classification System \[Page 77\]](#)

[Special Features for Variant Configuration \[Page 78\]](#)

## Object Management Record and Object Type

Object management records are provided for some change objects. The object management records provide a number of additional functions. Objects that have an object management record can, for example, have their own valid-from date and a special status network.

The following table shows which object types support object management records, and which not.

**Object Types and Object Management Records**

| Object Types<br>(Object<br>Management<br>Records<br>Supported) | Object Types<br>(Object<br>Management<br>Records not<br>Supported) |
|--|--|
| BOMs   | Characteristics  |
| Task lists   | Characteristics of Class   |
| Documents  | Classification   |
| Materials  | Object dependencies  |
|  | Configuration profiles   |
|  | Contents of a variant table  |
|  | Substances   |
|  | Phases   |
|  | Dangerous goods  |

## History Requirement and Object Type

## History Requirement and Object Type

There is a history requirement for most change objects.

- **History Requirement**  
When you have edited a change object with reference to a change number, you can only edit these objects subsequently with reference to a change number.
- **Without History Requirement**  
When you have edited a change object with reference to a change number, you can edit these objects subsequently even without reference to a change number. However, this may lead to gaps in the documentation of your change objects.

### Object Type and History Requirement

| Object Type With History Requirement   | Object Type Without History Requirement |
|--|---|
| BOM  | Task lists                              |
| Exception via authorization object C_STUE_NOH (possible to edit BOM without change number) | Materials                               |
| Characteristics  |   |
| Characteristics of Class   |   |
| Classification   |   |
| Object dependencies  |   |
| Configuration profiles   |   |
| Contents of a variant table  |   |
| Substances   |   |
| Phases   |   |
| Dangerous goods  |   |

### Note for BOMs

With authorization object C\_STUE\_NOH you can change BOMs that have already been edited with reference to a change number without a change number.

For the authorization object C\_STUE\_NOH you should maintain the field NOHIS (authorization to edit BOMs without change number). To assign this authorization, enter the value X.

We advise you to only assign this authorization to change BOMs without a change number in exceptional cases. Otherwise, there may be gaps in the documentation of your changes to BOMs.

## Note for Documents

The change number for documents is maintained in the document info record. No data records for effectivity periods are created dependently of the change number.

## Valid-From Date and Object Type

## Valid-From Date and Object Type

When you edit a change object with reference to a change number, the valid-from date in the change master record is established as a change date. The following checks are available for different change objects.

### Valid-From Date Check in the Change Master Record

| Change object   | Valid-From Date Check   |
|---|---|
| BOM   | BOM must be effective   |
| Routing   | Task list must be effective   |
| Documents   | No limitations  |
| Material<br><i>Create → immediately</i><br><i>Create → schedule</i> | Valid-from date <b>not</b> in the future<br>Valid-from date in the future |
| Classification system objects                                       | No limitations  |
| Variant configuration objects                                       | No limitations  |
| Substances  |   |
| Phases  |   |
| Dangerous goods   |   |



## Special Features for BOMs

There are special functions for BOMs. If you change a BOM with reference to a change number, the system creates a new header record and/or a new item record.

### Exceptions

If you change the BOM with reference to a change number, you will not always necessarily create a new header record or item record.

#### Header Record

The following header data is **not** changed with history even when changed with reference to a change number:

- BOM text
- External BOM number
- Entries for the lot-size range

#### Item Record

If you change the sub-items of an item, then you will create only one item record if a new item quantity is calculated due to the quantity change of the sub-items.

The item record is **not** duplicated if you withdraw the change in the current transaction.



You change the item quantity from 1 to 2. Before you save the BOM, you withdraw the change. The item quantity returns to 1.

If you change the following item data, then a new item record will be created even if you withdraw the change later.

- Sub-item
- Object dependencies
- Long text

#### See also:

[Representation of a BOM Group in a BOM List \[Page 95\]](#)

[BOM Changes \[Page 214\]](#)

---

**Special Features for Documents**

## Special Features for Documents

As far as documents are concerned, no data records for effectivity periods are created dependently of the change number. The change number is maintained in the basic data in the document info record.

You can only process a document with reference to **one** change number. Once you save the change number in the document info record, you cannot change it.

However, you can reserve a document for one or more change numbers. To do this, you must enter an object management record for the document in the change master. At this point, you have not yet entered a change number in the document info record.

When you change the document later on, you see a dialog box that lists all the change numbers for which the document has been reserved by means of an object management record.

There are revision levels for documents.

**See also:**

[Revision Level \[Page 102\]](#)

[Document List \[Page 218\]](#)

## Special Features for Materials

Processing of a material in *Engineering Change Management* depends on which function you used to create the material.

### Creating a Material

You can create a material with reference to a change number using two functions.

- If you create a material with *Create* → *Immediately*, the system creates a material master record **immediately**.

You can change the material immediately with reference to a change number whose valid-from date is **not** in the **future**. The changes you make are then valid with immediate effect (as of today's date) or as of the date in the past.

There are revision levels for these materials.

- If you create a material with *Create* → *Schedule*, the system first creates a document (and no material master record). If you schedule the material with reference to a change number, the system takes the valid-from date from the change master record. The *Valid-from* date must be in the **future**.

The system does not create the material master record until the scheduled material is activated on the valid-from date of the change master record. The current date is set as the create date. You can then process this "real" material master record either with or without a change number.



If you schedule to create a material with reference to several change numbers, the system overwrites the existing organizational areas when it is activated.



As an example, you schedule a material with reference to the change number N1 and maintain data for *engineering design* and *materials planning*.

You then schedule the same material with reference to the change number N2 and maintain data for engineering design and storage.

You activate the material for the valid-from date of change number N1. If you activate the material for the valid-from date of change number N2, the engineering design data is overwritten. Only the state with reference to change number N2 is saved.

There are **no** revision levels for scheduled materials.

### Change material

There are two functions that you can use to change a material with reference to a change number.

- If you process a material with *Change* → *Immediately*, then you can change the material with reference to a change number if the valid-from date is **not** in the **future**.
- If you process a material with the function *Change* → *Schedule*, then you can change the material with reference to a change number if the valid-from date is in the **future**.

---

**Special Features for Materials**

You should then activate the scheduled change for the valid-from date of the change master record.

**See also:**

[Materials List \[Page 219\]](#)

## Special Features for the Classification System

Some special features of the different object types are listed below:

### Characteristics

Engineering change management functionality is supported for changes to all fields in a characteristic, except for restrictions to class types.

If you want to use the change number for characteristics with object dependencies, you should define the settings for object types such that object dependencies can be processed with reference to this change number.

### Characteristics of class

Changes to class header fields are not stored historically in engineering change management. Engineering Change Management only covers changes made to class characteristics.

If you want to use the change number for class maintenance, you should define the settings for object types such that characteristics and object dependencies can be processed with reference to this change number.

### Classifications

In the Customizing for *Classification*, you can define for each class type whether Engineering Change Management is active for classification. In Customizing go to *Cross-application Components* → *Classification* → *Classes* → *Maintain object types and class types*.

#### See also:

[Entering Maintenance Values for the Effectivity Parameters \[Ext.\]](#)

[Change Objects from the Classification System \[Page 220\]](#)

## Special Features for Variant Configuration

### Object dependencies

Engineering change management is only used to process **global** object dependencies that can be identified by the name of the dependency.

Local object dependencies are saved in the SAP object which is maintained locally (for example: BOM item).

### Configuration profiles

If you want to use the change number for configuration profiles with object dependencies, you should define the settings for object types such that object dependencies can be processed with reference to this change number.

### Variant Tables

You can process the contents of a variant table with reference to a change number. You cannot process the table structure with reference to a change number.

## Object Type Specification

### Use

You can manage objects of the *Bill of material* and *Task list* object types more specifically if you set the indicators for object sub-types accordingly.

### Features

For each of these object types, the following table shows the object sub-types for which you can control processing individually via the change number.

#### Object Sub-Types in the SAP Standard System

| Object type | Object Sub-Types  |
|-------------|---|
| BOMs        | Materials<br>Equipment BOM<br>Document structure:<br>Functional location BOM<br>Standard BOM<br>Customer order BOM<br>Project BOM   |
| Task lists  | Routings<br>Reference operation set<br>Inspection plan<br>Instructions<br>Equipment task list<br>Master recipe<br>Rate routing<br>Reference route rating<br>Routing for functional location |

This means that you enter the [Object Type Indicators \[Page 81\]](#) that control processing with reference to the change number separately for each individual object type you have selected. You can, for example, define that a change number can be used for material BOMs but not for document structures.

### Optional

If you maintain a simple change master record in the standard system (for example, with a *valid-from* date without a release key), the object sub-types are optional for BOMs and routings.

## Object Type Specification

### Required



The object sub-type is required for routings if you create a change master record with the following functions:

- With release key
- Change package
- Define the effectivity using an effectivity type

Because you cannot use these functions for every routing type, you cannot set an indicator for routings on the *Object types* screen. You cannot set this indicator until you have set the routing sub-type indicator.

### Activities

You are in a change master record.

1. Click  *Object types*.
2. Select *Edit* → *Other* → *Specify object types*.  
The *Object type specification* dialog box appears.
3. Set one or both of these indicators:
  - *Bill of mat. according to type in ECH (BOMTypSpec)*.
  - *Task list according to type in ECH (TLTypeSpec)*
4. Click .



If you have already processed bills of material or task lists (for example, routings) with reference to this change number, there are limits to the changes you can make to the indicators for object sub-types. You can only reset the object sub-types indicator for an object type (for example, bill of material) to obtain a single entry again (for example, material BOM, document structure → bill of material) if all object sub-types of this object type have the same indicators set for this object type.



## Object Type Indicators

The following indicators control the processing of the individual object types:

### Indicators That are Relevant for all Object Types

These indicators are relevant to all object types: You use them to control which change objects may be processed with the change number.

- **Object type active for change number (Act.)**

You must set this indicator if you want to change objects of a particular object type (for example, bill of material) with the change number.

If, for example, you want to change a material BOM with reference to a change number and this indicator is not set for the *Bill of material* or *Material BOM* object type, you see an error message when processing the bill of material.

- **Management record required for each object (Object)**

If you set this indicator, it is possible to create management records for objects of this object type.

For each change master, you can create any number of object management records.

The management record describes the actual change made to a particular object (for example, material BOM for men's racing bicycle PP- HRR01). If certain requirements are met, the objects can also have an object- specific valid-from date and an object-specific status network.

- **Object type locked for changes (Lock)**

If you set this indicator, you lock an object type for changes with the chosen change number. The object type remains locked until you remove the indicator.

### Indicators That Generate Object Management Records

You can control per object type whether and how the system is to generate management records. Management records are only available for selected object types (see: [Object Management Record and Object Type \[Page 69\]](#)).



You cannot generate object management records for an ECR/ECO. Additional checks take place in this change process.

Automatic generation of management records is controlled by the following indicators:

- **Object management record generated (MgtRec)**

When you process (that is, create or change) an object with reference to the change number, the system generates a management record automatically.

In the change master, the system enters the object in the appropriate object list (for example, material BOM), from where you can describe the change in detail and, depending on how your indicators are set, control it.

For example, if you want to assign a revision level to a material, an object management record must exist for the material. The change master record can be defined such that changes to materials are supported (*Object type active for change number*) but there is

## Object Type Indicators

no object management record for the material. If, however, the *Object management record is generated (MgtRec.)* indicator is set, you can assign the revision level from processing the material master record because then the object management record is created automatically.

You can control **how** the management records are generated for each object type. You can only make this setting if the *Object management record is generated (MgtRec.)* indicator is set.

- **Object management record generated for new records (Gen new)**

The system only generates management records automatically when you create an object with reference to the current change number.

*Please note the following situation:*

A bill of material already exists in the system. You want to change it with reference to a change number for which the *Management record generated automatically only for new objects* indicator is set.

This is now only possible if you have created a management record for the bill of material before making the change.

- **Generation in dialog mode (GenDial)**

The system creates management records automatically when you change an object with reference to this change number. From the processing functions for the object, the system goes to the change master, which appears in a dialog box. Here you can describe the change to the object immediately (for example, material BOM for men's racing bicycle PP-HRR01).

## Maintaining the Object Type Indicators

You maintain the [Object Type Indicators \[Page 81\]](#) on the *Object Types* screen.



You can only change these indicators for object types that support the function.

Routing sub-types are required in some processing situations.

**See also:** [Object Sub-Types \[Page 79\]](#)

### Procedure

1. Decide which object types are affected by the change you want to make.  
For these object types, set the indicator *Object type active for change number (Act)*.
2. For the object types that you want to maintain a management record for, set the *Management record required for each object (Object)* indicator.
3. Decide if you want the system to generate the object management records. If you do, set the *Object management record generated (MgtRec.)* indicator.

If you want to decide on a case-to-case basis how the system is to generate management records, consider setting the *Management record generated automatically only for new objects (Gen new)* and *Generation with dialog (GenDial)* indicators.

### Special Feature for Routing Sub-Types

---

Object Management Record

## Object Management Record

You use an object management record to control changes to **one particular** object and document these changes. The number of objects that you can process with reference to a change number is unlimited.

The object management record supports the following functions for the change object:

- Special documentation
- Object-specific valid-from date (alternative date)
- Object-specific status network (user status)
- Revision level (for materials and documents)

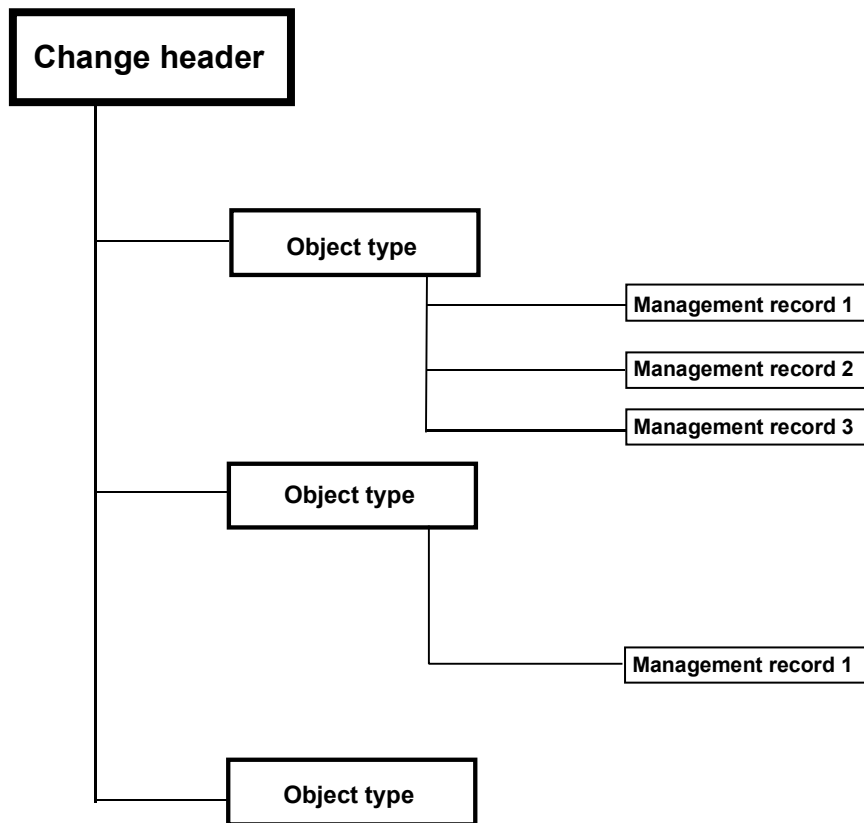


You can only enter an object management record if the indicator: *Management record required for each object (Object)* is selected for the object type concerned (for example, bill of material).

## Graphic: Management Records for Object Types

The following graphic illustrates object management records in a change master for different object types.

- For example, the first object type could be material BOM. In this case, there are three object management records for three material BOMs.
- The second object type could be task list. In this case, there is one object management record for one task list.
- The third object type could be document. The change master record supports changes to documents, but no object management record has been created for a document yet.



---

Object Overview

## Object Overview

### Use

You use this function when you:

- Want to have an overview of the object management records of a change master record
- Want to create new object management records
- Want to process existing object management records

### Features

The object overview is set up as a table with several tab pages:

- On the first tab page you see a general object overview where **all** change objects are listed that were created as change objects. This is regardless of the object type. For example, the list can contain bills of material, task lists, documents, and materials.
- 
- The other tab pages are special object overviews where the change objects for **each individual object type** is listed, such as material bills of materials (material BOMs).

### Activities


1. Click  *Objects*.

The *Object: Overview* screen appears.

All change objects of **all** object types are on the first tab page.

2. If you want to display a **special** object overview for a particular object type select the tab page for that object type, such as *MaterialBOM*).

Each change object has an object management record. You use this object management record to control changes to this object more precisely and with greater ease.

When you want to display the detail data of an object management record, select the object management record and choose .

## Creating an Object Management Record

When you create an object management record, the system makes different checks, depending on the object type concerned. For details of these differences, see the following table:

### Creating an Object Management Record

| Object type | Special Feature  |
|-------------|--|
| BOMs        | The system checks whether the header object of the BOM (for example, material or document) exists.<br>The BOM itself need not exist yet.   |
| Routings    | The task list group for the entered task list type need not exist yet.   |
| Documents   | When you enter all four parts of the document key, the system checks whether the document exists.<br><br>You can bypass the document check by entering the special character * in the <i>Version</i> field. This entry covers <b>all</b> versions, whether they exist yet or not.<br><br>In the following situations, you see a warning message:<br><br>1) The document has already been allocated to another change number.<br><br>2)<br>One version of the document has already been entered as a change object in the current change master record. |
| Materials   | The system does not check whether the material exists because the material might only be scheduled. In this case, there may only be a change document for the material and no master record.   |

## Options for Creating an Object Management Record

You have two options for creating an object management record:

- You create the object management record directly in the change master record:  
[Creating an Object Management Record \[Page 88\]](#)  
[Creating an Object Management Record Using the Product Structure \[Ext.\]](#)
- The system **generates** the object management record automatically:  
[Generating an Object Management Record \[Page 89\]](#)


---

Creating an Object Management Record

## Creating an Object Management Record

You create an object management record on the object overview for the object type concerned (for example, material BOM or document).

**You insert an object management record as follows:**

1. Click  *Objects*.  
To go to the object overview. All change objects of **all** object types are on the first tab page.
2. Select the tab page of the object that you want to add an object management record (for example *MaterialBOM*).
3. Enter the object data (for example, material BOM) and a text to describe the object management record.
4. Save your data.



## Generating an Object Management Record

If you want the system to generate an object management record, this is how you set the indicators in the change master:

1. Go to the *Object Types* screen.  
Check whether the indicator *Object management record generated (MgtRec.)* is set for the object type(s) concerned (for example, material BOM). If not, set this indicator.
2. If you want management records to be generated only when an object is created, set the *Management record generated automatically only for new objects (Gen new)* indicator.
3. If the system is to generate the management records and you want to describe the change immediately with a short text, set the *Generation with dialog (GenDial)* indicator.  
When you process the object, you see a dialog box where you can describe the change. Later on, you can enter a long text on the detail screen of the object in the change master.
4. Save your settings.

---

Copying a Change Object Using Drag and Drop

## Copying a Change Object Using Drag and Drop

### Use

You can copy objects from the product structure to a master record or any other structure by using the drag and drop function.

### Prerequisites

You have selected the *New Version* in your settings for the product structure.

### Procedure

When you process the change master record, you can copy the change objects from the product structure to the change master record if you have set the *Object type active for change number* indicator (for example, documents).

Please note that the product structure is exploded automatically according to the [Filter \[Ext.\]](#) that you have activated for the product structure.

1. In the change mode for the change master record, choose Go to → *Select object*.

You see the *Select Objects* initial screen.

2. Enter the data for the initial object.
3. Start the product structure explosion by choosing *Continue*, or perform any other activities you require (for example, define a filter).
4. If you are exploding an object that has been maintained with parameter effectivity, enter the parameter values and display the trace log.
5. You see the *Select Objects* screen.

The *Select Objects* screen is divided into two:

- First section: structure of the change number

This part of the screen lists all the object types that the *Object type active for change number* indicator is set for (for example, documents). The objects are copied to this part of the screen.

- Second section : product structure of an initial objet

This part shows the product structure for the initial object. You can use the drag and drop function to copy all the objects that are displayed with the *Move* icon to the change master record. You copy the objects by placing the cursor on the object you want to copy, pressing the left mouse button, and dragging the object to the first part of the screen.

Objects that have already been allocated to the change master record are shown by the check mark icon.

If you decide that you do not want your selected object to be copied after all, you can copy it back to the product structure by using the drag and drop function. The system then changes the icon from *Selected* to *Move* again.

6. Choose *Continue*.

## Result

The system copies your selected objects to the change master record.

---

**Detail Data of an Object Management Record**

## **Detail Data of an Object Management Record**

For each object management record, you can also maintain detail data.

**See also:**

[Detail Data \[Page 93\]](#)

[Representation of a BOM Group in a BOM List \[Page 95\]](#)

[Displaying a BOM List \[Page 97\]](#)

[Choosing a BOM List \[Page 98\]](#)

## Detail Data

### Features

You see the following data:

#### Revision Level

If a material or document was marked with a *revision level*, you see the revision level in this field.

#### Change type

If you are editing an engineering change request (that is, a change master with a change type allocated to it), you can enter a change type for the change object and control the processing flow via the system status and, if required, a user status.

**See also:**

[ECR / ECO \[Page 247\]](#)

#### System status and user status

The lines are displayed when you have a status profile set for the change object.

**See also:**

[Maintaining the User Status by Means of a Status Network \[Page 64\]](#)

#### Valid-from dates

The valid-from date indicates when the change to the object is valid from. This is usually the date from the change header.




You cannot change the valid-from date on the detail screen.

To create an object-specific valid-from date, you must allocate an alternative date to the object. The alternative date marks the beginning of the change. In order to change the latter, you must change the alternative date. For this reason, the alternative date is displayed in the *Effectivity (Validity)* dataset.

#### Administrative data

To display administrative data, choose *Administrative data*. You find information on who created and who last changed the management record. In addition, you see who last changed the object (such as BOM) and when this happened.

### Activities

From the object overview, select an object, then choose  *Details* to go to the detail data screen of the object management record.



In the *Object management* dataset, enter the general detail data. You can also display management data:

If you want to describe the individual changes with a long text select *Extras* → *Long text object*.

You can lock or unlock the object for changes with this change number using the *Lock* indicator.

---

**Detail Data**

If you have selected several management records from the object overview and want to display their detail screens, you can control the processing sequence of the detail screens of the marked objects using the *Detail +*  and *Detail -*  pushbuttons.

## Representation of a BOM Group in a BOM List

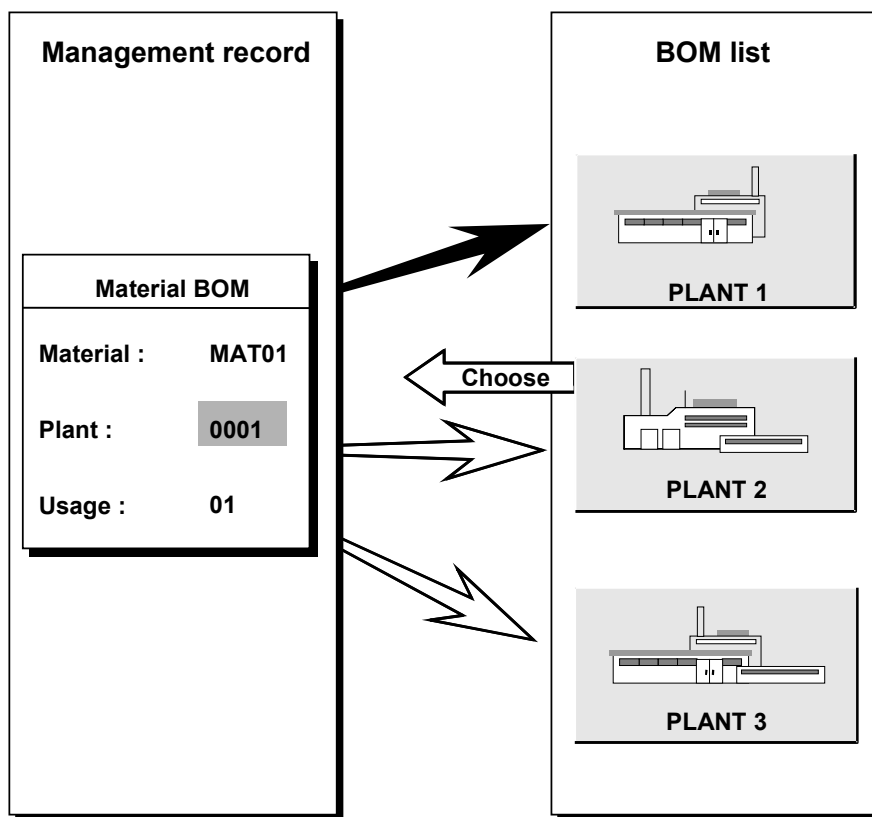
The system stores the bills of material of a BOM group under an internal BOM number. This happens, for example, when

- A variant is added to a material BOM
- A material BOM is allocated to another plant

The system usually creates an object management record for the first BOM in this BOM group. This management record is then valid for all the BOMs in the BOM group.

### Example: One Management Record for Multiple BOMs

The following graphic shows that the material BOM for material MAT01 in plant 0001 with usage 1 has a management record. Because of the plant allocations, this BOM is also effective in plant 0002 and plant 0003. The BOM is stored under one internal BOM number. For this reason, the object management record for plant 0001 is also effective for plants 0002 and 0003.



The object overview of the change master contains only the bill of material that was the **first** BOM from the BOM group to be entered in the change master. In this example, this is the BOM

**Example: One Management Record for Multiple BOMs**

in plant 0001. However, you can select another BOM in the BOM group, such as the BOM in plant 0002.

If an object management record is for several BOMs in a BOM group, you can display a list of the BOMs that are represented by the management record. To do this, you can use the function:

[Displaying a BOM List \[Page 97\]](#).

**Situations in Which More Than One Object Management Record is Generated**

There are also exceptions, in which more than one management record is generated in the change master record for BOMs of a certain BOM group. In the following situations, a BOM group can have **several** management records:

**Case 1)**

In the change master, under the *Material BOM* object type, you enter a material and BOM data. However, only the material exists and **not** the BOM. The bills of material in the BOM group will be created **after** the change master has been saved.

You create a bill of material for the material you entered in a specific plant. You use the *Create plant allocation* function to allocate this BOM to an additional plant.

**Case 2)**

In the change master, under the *Material BOM* object type, you enter two materials and sets of BOM data. However, only the materials exist and **not** the BOMs. The bills of material in the BOM group will be created **after** the change master has been saved.

You create a bill of material for one of the materials you entered. Then you use the *Create variant of* function to create a bill of material for the second material. The variant is a variant of the BOM for the first material.

**See also:**


[Choosing a BOM List \[Page 98\]](#)



## Displaying a BOM List

You can display the complete bill of material that is represented by a management record from the general overview or a specific object overview.

### To display all bills of material of a BOM group:

1. Select the object (for example, material BOM or equipment BOM) whose entire BOM group you want to see.
2. Select the function  *BOM Display*.

The *BOM List* screen appears.

This list contains all the bills of material of a BOM group that have been created under the same internal BOM number.

The system may set one of the following indicators for the BOMs:

|                  |   |
|------------------|---|
| <i>BOMex</i>     | A bill of material exists for the displayed material.         |
| <i>Objmgmtex</i> | An object management record exists for the displayed material |



As a rule, the *Object management record exists (Objmgmtex)* indicator is only set for BOMs. This bill of material stands for the entire BOM group in the object overview.

The exceptions are explained in: [Displaying a BOM Group \[Page 95\]](#)

You can choose another bill of material from the current BOM list. This is useful, for example, if the bill of material for which the object management record was created has meanwhile been deleted.

## Choosing a BOM List

### Choosing a BOM List

#### Choosing a BOM List if Only One Management Record Exists

There is usually only one object management record for a BOM group.

If you want a different BOM to represent the entire BOM group, you can choose this BOM directly from the current BOM list.



The example in the graphic below shows that the BOM in plant 0001 is also allocated to plants 0002 and 0003. The object management record exists primarily for the BOM in plant 0001. This BOM is deleted at a later date. In this case, it is useful to choose a BOM in another plant (for example, plant 0002).

##### To choose a management record from the BOM list:

1. On the object overview, select the BOM whose BOM list you want to see.
2. Choose *Object* → *BOM list* (or the *BOM list* pushbutton).

You see a list of all the BOMs in this BOM group.

3. Place the cursor on the line containing the BOM that you want to use to represent all other BOMs in the BOM group. Select the BOM by double-clicking on it.

You see the object overview again. In this overview, you see the BOM you just selected and for which the management record for the entire BOM group exists.



If only one management record exists for each BOM group, you see the change header, not the object overview.

#### Choosing a BOM if More Than One Management Record Exists

This situation is an exception.

The exceptions are explained in: [Displaying a BOM Group \[Page 95\]](#) If there is more than one management record for a BOM group, you must select **one** management record.

As soon as you try to edit the change master which contains at least one change object with several object management records, you see the following message:

*Please check the object management records*

Edit the change master record:

- If you are in **display mode**, this message is displayed as a warning. Check the management records in the change master. If you change the change master record, you must choose one management record.
- If you are in **change mode**, you see the *Change Change Master: BOMs* screen with a message displayed in the status bar. Before you can execute any function for the change master record, you must select a management record from the BOM list.

### Choosing a BOM List

- The *Change Change Master: BOMs* overview lists the BOM(s) that have at least one management record. These BOMs are identified by the BOM category (such as material BOM) and the internal BOM number (for example, 00003028).
- Select one BOM and choose *Object* → *BOM list* (or the *BOM list* pushbutton).  
You see a list of all the BOMs in this BOM group. At least two of these BOMs have the *Object management record exists for displayed material* indicator set for them.
- Place the cursor on the line containing the BOM that you want to use to represent all other BOMs in the BOM group. Select the BOM for the object management by double-clicking on it.

If only one management record exists for each BOM group, you see the change header.  
If more than one management record exists for each BOM group, you see the object overview.

---

**Additional Functions for Object Management Records**

## **Additional Functions for Object Management Records**

You can perform the following additional functions for change objects with object management records:

[Allocating an Alternative Date \[Page 56\]](#)

[Undoing the Allocation of an Alternative Date \[Page 59\]](#)

[Deleting an Object Management Record \[Page 101\]](#)

[Revision Level \[Page 102\]](#)

## ***Deleting an Object Management Record***

You can delete an object management record from the general or specific object overview.

Please note the following:

- Only the object management records that no object has been changed with are deleted.
- BOMs:  
The object overview lists only one selected bill of material from a BOM group. There may be other BOMs in the BOM group that have already been changed. In this case, the management record cannot be deleted.
- Documents:  
You cannot delete a management record if:
  - A revision level has been allocated to the document.
  - The document has a status for which the release indicator has been set in Customizing (document status)
  - The engineering change order has already been completed.

### **To delete an object management record:**

1. Go to the object overview and choose the object whose management record you want to delete.
2. Choose *Edit* → *Delete*.

You see a dialog box containing a confirmation prompt. When you confirm, the management record is deleted.

If no changes have been made to the objects in the object management record, you see the object overview again. The chosen management record has been deleted from the list. Otherwise you see an error message.

## Revision Level

### Revision Level

You can identify material or document changes that are made with reference to a change number by the use of revision levels.

When you want to process the BOMs for these materials or documents at a later date, you can find and call them using either the change number or the revision level.

### Requirements in Customizing

You can make the required settings for revision levels in Customizing for *Logistics - General* → *Engineering Change Management*:

- *Set up control data.* You can activate the revision level here and specify how it should be assigned.

You decide, for example, whether the user is entitled to assign the revision level (external assignment) or whether the system automatically allocates the next revision level from the predefined revision level sequence (internal assignment).

- *Define revision level sequence for materials or documents*

You can define a different sequence for the revision levels of an object.

### System Checks

When a revision level is assigned, the system determines:

- the revision levels that have already been assigned
- the predefined sequence for the revision levels
- the next available revision level

Revision level assignment depends on the settings in Customizing:

- For **external** revision level assignment, you see the next available revision level as a default value, but you can overwrite it with any other value you wish.
- For **internal** revision level assignment, you see a dialog box telling you which revision level is being assigned.

### Requirements in the Change Master Record

Before you can assign a revision level to a material or document for a particular change number, the following requirements must be met in the change master:

- For the *Material* or *Document* object type, the *Object type active for change number* and *Management record required for each object* indicators must be set.
- A management record must exist for the object concerned.  
The management record can either be created manually in the change master, or it can be generated automatically by the system (Indicator: *Object management record generated*). If the object management record is generated automatically, the system creates the record automatically as soon as you process the material or document with reference to the change number.
- If you want to assign the revision level with reference to an engineering change request (that is, a change master with a defined change type), the engineering change request

must have been approved and converted to an engineering change order (system status).



The assignment of a revision level to the processing status of an object (material or document) is unique. This means that only **one** revision level (for example, 02) can be assigned to an object that you want to change with **one** change number (for example, CHG-0011).

A new revision level can only be assigned to a change that you make with reference to a different change number.

## Additional Checks

The following additional checks are possible:

- In Customizing for *Engineering Change Management*, under *Set up control data*, you can define additional checks that take place when a revision level is created or changed in the *Date shift* dataset.

See also:

[Protected Time Period \[Page 44\]](#)

- You can control authorizations for creating and changing a revision level with the following authorization objects:
  - C\_AENR\_R1 - Authorization object for revision level (material)
  - C\_AENR\_R2 - Authorization object for revision level (document)

The system checks the authorizations if you try to:

- Process a revision level with a direct function call from *Engineering Change Management*
- Assign or change a revision level while processing a material master record
- Assign or change a revision level while processing a BOM

See also:

[Authorization Objects \[Page 13\]](#)

Revision levels for materials are assigned differently from revision levels for documents.

**See also:**

[Assigning a Revision Level to a Material \[Page 104\]](#)

[Assigning a Revision Level to a Document \[Page 106\]](#)

[Changing the Revision Level \[Page 108\]](#)

## Assigning a Revision Level to a Material

# Assigning a Revision Level to a Material

## Use

You can assign a revision level to a material either from an engineering change management function or while you are processing a material master record or BOM for the material.

This section explains how to change the revision level from engineering change management functions.

## Prerequisites

You can only assign a revision level to a material that has a material master record.

- If you create a material with *Create* → *Immediately*, the system creates a material master record immediately. In this case, the revision level can also be allocated immediately.
- If you create a material with *Create* → *Schedule*, the system first creates a document (and no material master record). In this case, the revision level cannot be assigned yet. The material master record is not created until you activate the scheduled material, and then a revision level can also be assigned.


## Procedure

From the *Engineering Change Management* menu, choose the *Revision level* option. The following options are available: create, change, and display material revision level.

### To create a revision level for a material:

1. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Revision Level* → *Create*.

You see the *Create Revision Level: Initial Screen*.

2. Enter the material that you want to assign a revision level to and select .

You see the *Create Revision Level: Detail*.

3. Enter the change number that you want to assign a revision level to.
4. The possible entries in the *Revision level* field depend on your company-specific settings (Customizing for *Engineering change management* under *Set up control data*).
  - If internal number assignment is defined for revision levels, do not make an entry in the *Revision level* field. Confirm your entry. The system assigns the next available revision level from the defined number sequence. You can overwrite this default value with another value. However, the revision level you enter must be defined in the sequence and must not have been assigned to the material so far.
  - If external number assignment is defined for revision levels, the system still assigns the next available revision level from the defined number sequence. You can overwrite this default value with another value. However, the revision level you enter need not be defined in the sequence.





**Assigning a Revision Level to a Material**

You can define the settings in Customizing such that a higher revision level must be assigned for both external and internal number assignment.

A message appears telling you which revision level has been assigned to the material.

5. Save the revision level for your material.



When assigning the revision level from the processing functions for the material master or the bill of material, you find the functions for maintaining the revision level under the menu option *Extras*.

## Assigning a Revision Level to a Document

### Assigning a Revision Level to a Document

You cannot assign a revision level to a document using *Engineering Change Management*.



With *Engineering Change Management*, you can only change and display revision levels for a document.

Revision levels can only be assigned to a document while you are processing the document info record. The automatic assignment of revision levels to documents is controlled by the document type and document status.

### Settings for Revision Levels in Customizing for Document Management

If you want to assign a revision level to the processing status of a document version, please note the following points:

- In Customizing under *Define document types*, you can define that a document version is automatically assigned a revision level when it is first released with reference to a change number.
- In Customizing under *Define document statuses*, you set the *Released* indicator for the status that defines the document as released. When you process a document with reference to a change number and release it for the first time, a dialog box automatically appears. This dialog box shows you the revision level that is about to be assigned, or the default revision level, which you can overwrite.

#### To assign a revision level to a document info record:

Choose the function for changing documents from the *Document Management* menu (*Document* → *Change*).

1. Check whether a change number is entered for the document.  
You can only assign a revision level if you change the document with reference to a change number.
2. Assign a new document status that has the *Released* indicator set in Customizing for *Document Management* under *Define document statuses*.  
What happens next depends on how the status network is defined for the document type.
  - You may see the *Log field*, dialog box, which allows you to document the status change.
  - The status defined as *Released* may have status type *Locked* or *Original processing*. In this case, you see a message telling you that you can no longer make an entry in certain fields. You can only perform certain functions on the document.
3. When the function for assigning revision levels is called, the system checks:
  - which revision levels already assigned to a document version have been released
  - the sequence of revision levels defined, in order to find the next available revision levelHow the revision level is assigned depends on the control data settings:

### Assigning a Revision Level to a Document

- For external revision level assignment, you see the next available revision level as a default value, but can overwrite it with any other value you want.
- For internal revision level assignment, you see a dialog box telling you which revision level is being assigned for this version.



Because you can only use **one** change number to process a version of a document, a revision level always uniquely identifies a version.

4. Save your document.

The system saves the new document status and the assigned revision level. The next time you process the document, you see the release date and the status of the released version. The release date is the valid-from date in the change master record.

## Changing a Revision Level


### Changing a Revision Level

You can change the revision level that identifies the processing status of a material or document.

**To change the revision level of a material or document:**

1. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Revision Level* → *Change*.

The *Change revision level <object>: Initial Screen* appears.

2. Enter the object whose revision level you want to change and select .

The *Change revision level <object>: Overview Screen* appears.

This overview lists all the revision levels that have been assigned so far. In addition, you see the change number, the valid-from date, and the change number description.



As an alternative, you can have them sorted by valid-from date or change number.

3. Change one or several revision levels. To do this, overwrite the *RevLev (revision level)* field.
4. Save your change.

## Enhancements to the SAP Systems in the Area of PLM

### Purpose

You can optimize your work processes in the area of [Product Lifecycle Management \[Ext.\]](#) (PLM) by changing and enhancing the scope of functions the standard SAP System. The enhancements are part of the standard SAP System and can be set up in your SAP System by means of enterprise-specific logic.

### Enhancements

The following is an overview of the supported enhancements in the area of PDM.

| Enhancement   | Note  |
|---|---|
| <b>Customer exit</b><br><b>See also:</b><br><a href="#">Customer Exits [Ext.]</a> | <p><b>Use</b></p> <p>The function process of the standard SAP System is done by means of customer exit within the SAP System enhancement concept. The exits provided with the system do not have any functionality of their own. They simply represent a starting point for additional document distribution functions which you can develop using company-specific logic.</p> <p><b>Integration</b></p> <p>The customer exits are programmed as function module exits. You create an enhancement project by editing an enhancement that SAP has supplied. The enhancement contains the function module for the required function. The function module leads to an include program where you encode the enterprise-specific function requirements.</p> <p><b>Prerequisites</b></p> <p>When you use a function exit, you must create a company-specific include program that matches the programming logic of the function module. For example, the data that can be transferred from the include program to the standard program, and vice versa, is predefined here. Since each call for a customer-specific function module used contains both export and import parameters, the customer-specific function modules are also equipped with this predefined interface.</p> |

## Enhancements to the SAP Systems in the Area of PLM

|  |  |
|--|--|
| <a href="#">Business Add-In [Ext.]</a>   | <p><b>Use</b></p> <p>Business Add-Ins are defined parts within a source that can add coding for different software levels, such as branches, partners, or customers, without changing the original program itself. The coding of the standard SAP System allows you to add implementation where the methods for the enterprise-specific processing are set.</p> <p><b>Integration</b></p> <p>The coding of the standard SAP System contains the definitions of the interfaces as well as the calls for the application programs. This enhancement is made of an interface and a method.</p> <p>Each Business Add-in is made up of various methods that can be called in preset processing situations. The methods set the operations for the documents or their original application files. The enterprise-specific coding is entered in <i>Implementation</i>.</p> <p><b>Prerequisites</b></p> <p>You must enter the enterprise-specific enhancements in an implementation. You must create an implementation for the Business Add-In you have chosen and enter the required coding for the method. After the implementation is active you can use it when executing the application program.</p> |
| <p>Business Transaction Events</p> <p><b>See also:</b></p> <p><a href="#">Using Business Transaction Events [Ext.]</a></p> | <p>You can use two types of interfaces for modifying and enhancing the standard SAP System:</p> <ul style="list-style-type: none"> <li>• Publish &amp; Subscribe interface (informative interfaces)<br/>The interface informs that a particular result has been produced and transfers the data to external software.</li> <li>• Process interface (Process)<br/>This interface replaces the standard processes from the SAP System.</li> </ul>  |
| <p><b>User exits in Customizing</b></p>  | <p>You determine in Customizing of the application which enterprise-specific changes you want to carry out. You will find detailed notes in the IMG.</p>   |



Use the ABAP Workbench for the customer exits as well as for business add ins. Modification to SAP sources and ABAP Dictionary Objects are done within SAP Software Change Registration (SSCR).

These changes are upward compatible. This means that they remain effective even after an upgrade or installation of a support package.

## Enhancements for Objects from the Area of PDM

The following overview shows which enhancements are supported for which SAP objects.

Enhancements to the SAP Systems in the Area of PLM

| SAP Object                                      | Customer exit | Business Add-In | Business Transaction Events | User Exits |
|---|---------------|-----------------|-----------------------------|------------|
| <a href="#">Document [Page 112]</a>             | X             | X               |                             | X          |
| <a href="#">Material [Page 145]</a>             | X             |                 | X                           |            |
| <a href="#">Change master record [Page 147]</a> | X             |                 |                             |            |
| <a href="#">Bills of Material [Page 149]</a>    | X             |                 | X                           |            |

## Enhancements in Document Management

## Enhancements in Document Management

### Use

You can set up work processes in the area of *Document Management* with different enhancements at an enterprise level.



Information about enhancements as well as an overview of planned enhancements to SAP objects in the area of PDM can be found in [Enhancements to the SAP System in the Area of PDM \[Page 109\]](#).

### Features

The following overview shows which enhancements are supported in the standard SAP System in the area of DMS.

| Enhancement   | Use   |
|---|---|
| <a href="#">Enhancements using Customer Exits [Page 113]</a><br><b>See also:</b> <a href="#">Customer exit [Ext.]</a>     | You can set up Document <i>distribution</i> using customer exits in an enterprise-specific way.   |
| <a href="#">Enhancements using Business Add-Ins [Page 130]</a><br><b>See also:</b> <a href="#">Business Add-In [Ext.]</a> | The coding of the standard SAP System allows you to add more than one implementation where the methods for the enterprise-specific processing of document info record and original application files are set. |
| <a href="#">Enhancements using User Exits in Customizing [Page 143]</a>   | You determine in Customizing of the Document Management which enterprise-specific changes you want to carry out. You will find detailed notes in the IMG.   |



## Enhancements using Customer Exits (Document)

### Use

In order to optimize the business processes in document management you can change some functions of the SAP System by using [Customer Exits \[Ext.\]](#). You can, for example, add additional authorization checks.

#### See also:

[Enhancements of the SAP System in the Area of PDM \[Page 109\]](#) and [The SAP System Enhancement Concept \[Ext.\]](#)

### Prerequisites

When you use a function exit, you must create a company-specific include program that matches the programming logic of the function module.



You want to determine the original application files for a distribution order. You create an enhancement project where you use the enhancement CVDI0003 (*Determine original application files*). The enhancement contains the function module for the required function (for example, EXIT\_SAPLCVV1\_003). The function module branches to the include program zxcvv5u02. You use this include program to program your specific functional requirements.

### Features

The tables below show the enhancements for customer exits used in document distribution (development class CVDI).

#### Enhancements for Function Group XCVV1 (Recipient List)

| Use   | Enhancement | Function Module                              |
|---|-------------|--|
| Save recipient list                               | CVDI0001    | <a href="#">EXIT_SAPLCVV1_001 [Page 115]</a> |
| Modify initial values for screen 100              | CVDI0002    | <a href="#">EXIT_SAPLCVV1_002 [Page 117]</a> |
| Determine original application file               | CVDI0003    | <a href="#">EXIT_SAPLCVV1_003 [Page 120]</a> |
| Determine document part and version of a document | CVDI0004    | <a href="#">EXIT_SAPLCVV1_004 [Page 122]</a> |
| Create distribution order                         | CVDI0005    | EXIT_SAPLCVV2_001                            |

#### Enhancements for Function Group XCVV2 (Distribution Order)

| Use                       | Enhancement | Function Module                              |
|---------------------------|-------------|--|
| Create distribution order | CVDI0005    | <a href="#">EXIT_SAPLCVV2_001 [Page 122]</a> |

**Enhancements using Customer Exits (Document)**

|                      |          |  |
|----------------------|----------|--|
| Check part order     | CVDI0006 | <a href="#">EXIT_SAPLCVV2_002 [Page 123]</a> |
| Create initial order | CVDI0007 | <a href="#">EXIT_SAPLCVV2_003 [Page 124]</a> |

**Enhancements for Function Group XCVV5 (Events)**

| Use               | Enhancement | Function Module                              |
|-------------------|-------------|--|
| Determine context | CVDI0008    | <a href="#">EXIT_SAPLCVV5_001 [Page 126]</a> |

**Enhancements for Function Group XCVVW (ITS Access)**

| Use        | Enhancement | Function Module                              |
|------------|-------------|--|
| ITS access | CVDI0009    | <a href="#">EXIT_SAPLCVVW_001 [Page 128]</a> |

## Finding Recipient Lists (EXIT\_SAPLCVV1\_001)

### Definition

Function module that is called by customer exit CVDI0001 when a recipient list is saved and **before** the data is written to the database.

### Use

You cannot change the program logic. You can only change the data in the logic.

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter | Parameter value<br>Result | Direction | Description   |
|-----------|-----------|---------------------------|-----------|---|
| importing | i_action  | I<br>U                    | →<br>→    | Create a recipient list<br>Change a recipient list                |
| exporting | e_return  | 0<br><>0                  | ←<br>←    | OK<br>Error   |
| changing  | c_drzao   |                           | ↔         | As database structure DRZAO<br>(general data in a recipient list) |

#### Tables Whose Fields can be Processed in the Function Module

| Table   | Description   |
|---------|---|
| T_DRZA  | As database structure CVIDRZA (recipient-document relations)    |
| T_DRZAT | As database structure CVIDRZAT (language-dependent description) |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv1u01`.

---

**Screen: Basic Data for Maintaining Documents**

## **Screen: Basic Data for Maintaining Documents**

### **Definition**

Function module that is called by customer exit CV110001.

### **Use**

You can add to and enhancement the dialog for maintaining document data (function module in development class CV, function group CV110).

### **Integration**

You can enter your company-specific programming logic in the source code of include program ZXCV110U01.

## Screen: Recipient Lists (EXIT\_SAPLCVV1\_002)

### Definition

Function module that is called by customer exit CVDI0002 **after** the data for recipient list screen (screen 100, program **SAPLCVV1**) has been read.

### Use

Depending on the function (i\_function) called, documents, recipients, or general data is determined. You can change this data in the include program. The modified data is then displayed on screen 100 (program **SAPLCVV1**).

If you change recipient data, for example, the changes must also be made in the following tables:

- Table T\_DRZA (document recipient relation)
- Table T\_REC (to display the change in the table control)

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter | Parameter value | Direction | Description |
|-----------|-----------|-----------------|-----------|-------------|
| exporting | e_return  | 0<br><>0        | ←         | OK<br>Error |

## Screen: Recipient Lists (EXIT\_SAPLCVV1\_002)

|           |              |    |   |  |
|-----------|--------------|----|---|--|
| importing | i_function   | CR | → | Create recipient list                                      |
|           |              | CH |   | Change recipient list                                      |
|           |              | DI |   | Display recipient list                                     |
|           |              | RD |   | Display all recipients of a document                       |
|           |              | DR |   | Display all documents sent to a recipient                  |
|           |              | SC |   | Display  |
|           |              | SW |   | Start distribution with Recipient Lists                    |
|           |              | SN |   | Start distribution with dialog                             |
|           |              | SR |   | Start distribution without dialog                          |
|           |              | ST |   | Start distribution without reading existing recipient list |
|           |              | RE |   | Start distribution with standard recipient list            |
|           |              | RP |   | Restart distribution with dialog                           |
|           |              |    |   | Restart distribution of a package with dialog              |
|           | i_ass_id     |    |   | Number of the recipient list                               |
|           | i_ref_ass_id |    |   | Number of the template for Recipient Lists                 |

## Tables Whose Fields can be Processed in the Function Module

| Table     | Description  |
|-----------|--|
| T_DRZA    | As database structure CVIDRZA (document/recipient relation)                                      |
| T_DOC     | As database structure CVIDOC_TAB (documents displayed in the table control)                      |
| T_REC     | As database structure CVIREC_TAB (recipients displayed in the table control)                     |
| T_IMP_OBJ | As database structure CVDIOBJ (table with selected document that was used to start the function) |

|        |  |
|--------|--|
| T_TEXT | As database structure CVITEXT (language-dependent description of the recipient list) - for recipient list functions only |
|--------|--|

## Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv1u02`.

**Determine Original Application File (EXIT\_SAPLCVV1\_003)**

## Determine Original Application File (EXIT\_SAPLCVV1\_003)

### Definition

Function module that is called by customer exit CVDI0003 to determine the original application file that is to be sent.

### Use

If the file is to be distributed manually (in dialog mode), this value is a default value and can be overwritten.

### Structure

The interface is structured as follows:

**Parameters that can be processed in the Function Module**

|           | Parameter | Parameter value | Direction | Description |
|-----------|-----------|-----------------|-----------|-------------|
| exporting | e_return  | 0<br><>0        | ←         | OK<br>Error |



Determine Original Application File (EXIT\_SAPLCVV1\_003)

|           |            |  |   |  |
|-----------|------------|--|---|--|
| importing | i_function | CR<br>CH<br>DI<br>RD<br><br>DR<br><br>SC<br><br>SW<br>SN<br><br>SR<br><br>ST<br><br>RE<br>RP | → | Create recipient list<br>Change recipient list<br>Display recipient list<br>Display all recipients of a document<br>Display all documents sent to a recipient<br>.<br>Start distribution with Recipient Lists<br>Start distribution with dialog<br>Start distribution without dialog<br><br>Start distribution without reading existing recipient list<br>Start distribution with standard recipient list<br>Restart distribution with dialog<br>Restart distribution of a package with dialog |
|           | i_objkey   |  |   | Document key as key in the form of document type, document number, version, part document<br>For example:<br>DRWAH01.....01000   |
|           | i_context  |  |   | Context  |
| changing  | c_original |  | ↔ | Determined original application file 1,2 or A<br>(for 1 and 2)   |

## Integration

You can enter your company-specific programming logic in the source code of include program zxcvv1u03.

## Document Part and Version (EXIT\_SAPLCVV1\_004)

### Definition

Function module that is called by customer exit CVDI0004. This function module is used to determine the key fields “document part” and “version” for the document to be distributed.

The customer exit is called when distribution is started for the recipient list (transaction CV17).

### Use

The last version released is determined and proposed as a default for all documents in the recipient list. To determine a different version, enter your own logic for determining the version in the include.

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter | Parameter value<br>Result | Direction | Description      |
|-----------|-----------|---------------------------|-----------|------------------|
| importing | e_doktl   |                           | →         | Document part    |
|           | e_dokvr   |                           |           | Document version |
|           | e_return  | 0<br><>0                  |           | OK<br>Error      |
| exporting | i_doknr   |                           | ←         | Document number  |
|           | i_dokar   |                           |           | Document Type    |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv1u04`.

## Create Distribution Order (EXIT\_SAPLCVV2\_001)

### Definition

Function module that is called by customer exit CVDI0005.

This customer exit is checked in the `create` method of BOR object BUS1082 (function module `CVV2_DDO_CREATE` – create distribution order). The exit is called after an initial order has been created and the INITIATED event has been generated.

### Use

The distribution order parameters can be modified in the include. Individual part orders that are not relevant for distribution can be deleted from the table. Status *IG* or *ER* must be set in the customer exit for these part orders. You can use function module `CVV3_DDOC_SET_READY` (set part order status) for this purpose.

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter | Parameter value | Direction | Description   |
|-----------|-----------|-----------------|-----------|---|
| exporting | e_return  | 0<br><>0        | ←         | OK<br>Error   |
| changing  | c_drzo    |                 | ↔         | As database structure DRZO<br>(distribution order data) |

#### Tables Whose Fields can be Processed in the Function Module

| Table  | Description  |
|--------|--|
| T_DDOC | List of part order numbers (structure: CVIORDERCOMP) |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv2u01`.

## Check Part Order (EXIT\_SAPLCVV2\_002)

## Check Part Order (EXIT\_SAPLCVV2\_002)

### Definition

Function module that is called by customer exit CVDI0006.

This customer exit is checked in the `check` method of BOR object BUS1082 (function module CVV2\_DDO\_CHECK – check distribution order). The exit is called after an initial order has been created and the INITIATED event has been generated.

### Use

The status of the part order is set to ER (error) if the `e_return` parameter returns a value  $\neq 0$ . A special process is implemented in the workflow for part orders that contain errors.

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter | Parameter value | Direction | Description                                       |
|-----------|-----------|-----------------|-----------|---|
| exporting | e_return  | 0<br>$\neq 0$   | ←         | OK<br>Order part has errors,<br>do not distribute |
| importing | ddoc_id   |                 | →         | Part order number                                 |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv2u02`.

## Create Initial Order (EXIT\_SAPLCVV2\_003)

### Definition

Function module that is called by customer exit CVDI0007 when the system creates an initial order.

### Use

The initial order data and part order data can be modified. You can also specify a status to be set for the part orders. If an error occurs in this customer exit, it must be output with the following statement: `MASSEGE ID id TYPE mtype NUMBER n raising ERROR.`

### Structure

The interface is structured as follows:

#### Tables whose Data can be Changed (Changing)

| changing | Description   |
|----------|---|
| c_drzoi  | Initial order data (structure DRZOI)  |
| c_status | Status<br>SY - start immediately<br>AS - start in the background<br>MA - start manually in distribution log |

#### Tables Whose Fields can be Processed in the Function Module

| Table   | Description                    |
|---------|--------------------------------|
| T_DRZOC | Part orders (structure: DRZOC) |

#### Interface Parameters for Exceptions

| Parameter | Description     |
|-----------|-----------------|
| ERROR     | Error situation |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv2u03`.

**Determine Context (EXIT\_SAPLCVV5\_001)****Determine Context (EXIT\_SAPLCVV5\_001)****Definition**

Function module that is called by customer exit CVDI008 if distribution is started by an event.

**Use**

The context that is to be used for distribution can be determined here. You can specify a context for an event in Customizing for Document Distribution. If other contexts are also to be included for this event, you must use this customer exit.

The function module is called in the following function modules:

- CVV5\_EVENT\_START\_DISTRIBUTION (start distribution – initiated by an event)
- CVV5\_EVENT\_START\_DIST\_ECM (start distribution when change master record event is released)

**Structure**

The interface is structured as follows:

**Parameters that can be processed in the Function Module**

|           | Parameter                                | Parameter value | Direction | Description   |
|-----------|--|-----------------|-----------|---|
| exporting | e_return                                 | 0<br><>0        | ←         | OK<br>Error   |
| importing | i_event<br><br>i_objkey<br><br>l_objtype |                 | →         | Event (such as SWEINSTOU-EVENT)<br><br>Object key (such as SWEINSTOU-OBJKEY)<br><br>Object type (such as SWEINSTOU-OBJTYPE) |
| changing  | c_context                                |                 |           | Context   |

**Tables Whose Fields can be Processed in the Function Module**

| Table             | Description                        |
|-------------------|------------------------------------|
| T_EVENT_CONTAINER | Event container (structure SWCONT) |

## Integration

You can enter your company-specific programming logic in the source code of include program `zxcvv5u02`.

## ITS Access (EXIT\_SAPLCVW\_001)

### Definition

Function module that is called by customer exit CVDI0009 if the original application file is to be accessed via the Internet Application Server (ITS).

### Use

Additional authorizations, for example, can be checked in this customer exit.

The exit is called in function module CVVW\_GET\_ORIGINAL (read original application file from application server).

### Structure

The interface is structured as follows:

#### Parameters that can be processed in the Function Module

|           | Parameter     | Direction | Description                     |
|-----------|---------------|-----------|---------------------------------|
| importing | e_doknr       | →         | Document number                 |
|           | i_dokar       |           | Document Type                   |
|           | i_doktl       |           | Document part                   |
|           | i_dokvr       |           | Document version                |
|           | i_filename    |           | File name on application server |
|           | i_ddoc_id     |           | Part order number               |
|           | i_application |           | Workstation application         |

#### Interface Parameters for Exceptions

| Parameter | Description     |
|-----------|-----------------|
| ERROR     | Error situation |

### Integration

You can enter your company-specific programming logic in the source code of include program `zxcvwwu01`.



## Determining the Application (EXIT\_SAPLCVV1\_005)

### Definition

Function module that is called by customer exit CVDI0010.

### Use

You can determine which workstation application was used to process the original application files that are to be distributed with this function module.

## Enhancements using Business Add-Ins (Document)

### Use

In order to optimize processes in your enterprise when working with document processing you can use Business Add-Ins to enhance the processing functions of the standard system.

**See also:**

[Enhancements of the SAP System in the Area of PDM \[Page 109\]](#) and [Business Add-Ins \[Ext.\]](#)

### Integration

The coding of the standard SAP System contains the definitions of the interfaces as well as the calls for the application programs. This enhancement is made of an interface and a method.



You can use a Business Add-In to set that when a workstation application is started that compressed original application files are reproduced.

### Prerequisites

You must create an implementation for the Business Add-In you have chosen and enter the required coding for the method.

### Features

The following overview shows the Business Add-Ins that are supported in the Document Management System (development class CV).

#### Business Add-Ins for the Document Management System

| Description   | Business Add-In                               |
|---|---|
| Checking Authorization from the Document Management Systems | <a href="#">DOCUMENT_AUTH01 [Page 132]</a>    |
| Processing of Original Application Files                    | <a href="#">DOCUMENT_FILES01 [Page 133]</a>   |
| General document processing                                 | <a href="#">DOCUMENT_MAIN01 [Page 135]</a>    |
| Status checks   | <a href="#">DOCUMENT_STATUS01 [Page 137]</a>  |
| Transport of Original Application Files                     | <a href="#">DOCUMENT_STORAGE01 [Page 138]</a> |

#### Business Add-In without the Documentation in the SAP Library

The following Business Add-Ins were added to the notes 02200177:

| Description   | Business Add-In   |
|---|-------------------|
| Document exits and Menu enhancements for PAI in CV01N, CV02N, CV03N | DOCUMENT_MAN02    |
| Enhanced number checks  | DOCUMENT_NUMBER01 |
| Filter for DMS processes  | DOCUMENT_PROC01   |

Enhancements using Business Add-Ins (Document)

|   |                      |
|---|----------------------|
| Enhancements for the DMS@Web scenarios        | DOCUMENT_WEB01       |
| Enhancements for Microsoft Office integration | DOCUMENT_OFFINTEGR01 |

## Checking Authorization from the Document Management Systems

## Checking Authorization from the Document Management Systems

### Definition

Interface for an enhancement that the customer can use to extend the authorization check of the standard SAP System to include enterprise-specific authorization checks.

### Use

You program the enterprise-specific authorization checks for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method          | Call   | Example of a special check              |
|-----------------|--|---|
| CHECK_AUTHORITY | After checking the authorization of the following authorization objects:<br><br>C_DRAW_TCD<br>C_DRAW_TCS<br>C_DRAW_DOK | Enterprise-specific logic when deleting |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_AUTH01.

## Processing of Original Application Files

### Definition

Interface for an extension where the customer's enterprise-specific requirements for processing original application files are implemented.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method                  | Call   | Example of a special check   |
|-------------------------|--|--|
| BEFORE_ASSIGN_FILE      | Before the assignment of a physical file (original application file)   | <ul style="list-style-type: none"> <li>Automatic definition of an original application file</li> <li>Enterprise-specific checks</li> </ul> |
| AFTER_ASSIGN_FILE       | After the assignment of a physical file (original application file)  | Check whether the original application file is valid   |
| BEFORE_START_APPL       | Before starting the application  | Reproduces compressed files  |
| AFTER_START_APPL        | After starting the application   | Deletion of temporary files  |
| BEFORE_COPY_FILE_DIALOG | When you create a new version and when the original application files are not checked in before the dialog box for entering a copy path is displayed | Automatic determination of the file name of the new version  |
| AFTER_COPY_FILE_DIALOG  | When you create a new version and when the are not checked in after the original application files were copied                                       | Check whether an original application file exists  |
| GENERATE_COPY_FILE_NAME | When you create a new version and when the are not checked in and before the standard process for generating file names is run                       | Enterprise-specific name conventions for original application files when creating a new version  |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_FILES01.

---

**Processing of Original Application Files**

Used more than once? If yes, where?

## General Document Processing

### Definition

Interface for an extension where the customer's enterprise-specific requirements for processing documents are implemented.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method                        | Call   | Example of a special check   |
|-------------------------------|--|--|
| BEFORE_READ_DATA              | After the main screen <i>Create, Change, Display</i> and before reading the data | <ul style="list-style-type: none"> <li>Number check</li> <li>Version determination</li> <li>Company authorization check</li> </ul> |
| AFTER_READ_DATA               | After the main screen <i>Create, Change, Display</i> and before reading the data | <ul style="list-style-type: none"> <li>Set the default values</li> <li>Change data</li> </ul>                                      |
| ASSIGN_NUMBER                 | When saving  | Number determination (instead of routine GET_NUMBER in program MCDÖKZNR)   |
| BEFORE_SAVE                   | Before saving the document but after calling the internal number assignment      | Check the data   |
| BEFORE_DELETE                 | Before setting the deletion indicator  | Enterprise-specific logic when deleting  |
| AFTER_SAVE                    | After saving the document data   | Enterprise-specific logic after saving   |
| AFTER_DETERMINE_VALID_VERSION | After determining the valid version  | Enterprise-specific determination of the valid versions  |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_MAIN01.

Used more than once? If yes, where?

## General Document Processing (II)

### Definition

Interface for an enhancement you can use to check menu enhancements at the PAI time point.

These checks take place in the following processing situations:

- Create document (CV01N)
- Change document (CV02N)
- Display document (CV03N)

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method          | Call   | Example of a special check                                     |
|-----------------|--|--|
| D100_BEFORE_PAI | Before the actual PAI of the <a href="#">screen [Ext.]</a> 100 | Enterprise-specific checks when selecting a function in DMS    |
| D101_BEFORE_PAI | Before the actual PAI of the screen 101                        | Enterprise-specific checks when selecting a function in DMS    |
| D100_PAI_CU1    | PAI for menu enhancement 1 (+D100_CU1) screen 100              | Menu enhancement for the initial screen of document processing |
| D100_PAI_CU2    | PAI for menu enhancement 1 (+D100_CU1) screen 100              | Menu enhancement for the initial screen of document processing |
| D100_PAI_CU3    | PAI for menu enhancement 1 (+D100_CU1) screen 100              | Menu enhancement for the initial screen of document processing |
| D101_PAI_CU1    | PAI for menu enhancement 1 (+D100_CU1) screen 101              | Menu enhancement for the initial screen of document processing |
| D101_PAI_CU2    | PAI for menu enhancement 1 (+D100_CU1) screen 101              | Menu enhancement for the initial screen of document processing |
| D101_PAI_CU3    | PAI for menu enhancement 1 (+D100_CU1) screen 101              | Menu enhancement for the initial screen of document processing |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_MAIN02.



## Status checks

### Definition

Interface for an extension where the customer's enterprise-specific requirements for status check are implemented.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method              | Call  | Example of a special check   |
|---------------------|---|--|
| AFTER_CHANGE_STATUS | After every status change according to the status checks of the standard system | Status dependent enterprise-specific checks                                |
| BEFORE_LIST_STATUS  | Before the list of possible statuses is displayed                               | Restriction of the list of possible statuses for the selected status check |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_STATUS01.

## Transport of Original Application Files

## Transport of Original Application Files

### Definition

Interface for an extension where the customer's enterprise-specific requirements for transport of original application files are implemented.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method                 | Call   | Example of a special check  |
|------------------------|--|---|
| BEFORE_CHECKIN         | Before physically transporting the original application file (Check-in)  | <ul style="list-style-type: none"> <li>Compress original application file</li> <li>Specify storage area</li> </ul>              |
| AFTER_CHECKIN          | After physically transporting the original application file (Check-in)   | <ul style="list-style-type: none"> <li>Delete original application file on the frontend computer</li> <li>Set status</li> </ul> |
| BEFORE_CHECKOUT        | Before physically transporting the original application file (Check-out)<br>create when displaying, changing, printing or copying<br><br>The call also is possible for original application files that are not checked in. | <ul style="list-style-type: none"> <li>Convert file name</li> <li>Set path for additional files</li> </ul>                      |
| BEFORE_LIST_STORAGECAT | Before displaying the possible storage categories  | Application-specific filter for the list of possible storage categories   |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_STORAGE01.

## Checking the Attributes of the Document Key

### Definition

Interface for an enhancement you can use to check enterprise-specific requirements you made in attributes.

The following attributes can be checked:

- Document number
- Document version
- Document part

You can also determine the last and next version number.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method              | Call   | Example of a special check                     |
|---------------------|--|--|
| DOCNUMBER_CHECK     | Directly before the standard check in DMS  | Enterprise-specific check for document number  |
| DOCVERSION_CHECK    | Directly before the standard check in DMS  | Enterprise-specific check for document version |
| DOCPART_CHECK       | Directly before the standard check in DMS  | Enterprise-specific check for document part    |
| DOCVERSION_GET_NEXT | When creating a new version for determining the template (source) document.      | Enterprise-specific report of the last version |
| DOCVERSION_GET_LAST | When creating a new version for determining the next template (source) document. | Enterprise-specific report of the next version |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_NUMBER01.

## Filter for DMS processes

## Filter for DMS processes

### Definition

Interface for an enhancement you can use to check enterprise-specific requirements you made in [processes \[Ext.\]](#). These processes can be integrated into the following functions:

- Find document (transaction CV04N)
- Web scenarios

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method              | Call                                     | Example of a special check  |
|---------------------|--|---|
| BEFORE_LIST_PROCESS | Before displaying the possible processes | Enterprise-specific checks for processes and making processes available |
| BEFORE_LIST_STATUS  | Currently not implemented                |   |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_PROC01.

## Enhancements for Internet Scenarios

### Definition

Interface for an enhancement you can use to check enterprise-specific requirements you made in Web scenarios in the area of DMS.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method       | Call   | Example of a special check   |
|--------------|--|--|
| FILTER_FILES | Before transferring document data to the IST | Checks and provision of original application files in the Web scenario |
| GET_URL      |  | Determine URL for checkout in the Web                                  |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_WEB01.

## Enhancements for Microsoft Office integration

### Definition

Interface for an enhancement you can use to check enterprise-specific requirements you made in [Office Integration \[Ext.\]](#) in the area of DMS.

### Use

You can use one or more methods for implementing the interface. You program the enterprise-specific requirements for the method of the Business Add-In.

### Structure

The interface of the Business Add-In includes the following method:

| Method          | Call   | Example of a special check  |
|-----------------|--|---|
| EDIT_LINK_ITEMS | Before transferring data from the SAP System to the Microsoft Office application | Transfer of more data from the SAP System to a Microsoft Office application |
| AFTER_OPEN      | After opening an original application file using Office integration              |   |

### Integration

You implement the enhancement by using Business Add-In DOCUMENT\_OFFINTEGR01.

## Enhancements using User Exits (Document)

### Use

In Customizing *Document Management* you can use user exits to create enterprise-specific enhancements and extensions for document processing. You can also use them to extend the standard SAP System with enterprise-specific checks or replace standard ones.

### Integration

The enterprise-specific checks can be integrated by means of the ABAP workbench. As opposed to [Customer Exits \[Ext.\]](#) you can use user exits to access program parts and data objects of the standard system.

Some upgrades and support packages will however overwrite the modifications and they must be reentered later.



Verify after an upgrade whether enterprise-specific functions still exist or whether they cause conflicts.

### Features

The following overview lists the possibilities for customer-specific changes. The documentation is in the IMG of each activity.

| Function                                      | Activity in IMG Document Management  | Notes and indications to the SAP Library   |
|---|--|--|
| Create alternative screen                     | <i>Control data</i> → <a href="#">Define document types [Ext.]</a> (detail screen)                               | The alternative screen is only read by the <i>old</i> transactions CV01 to CV03.   |
| Document number assignment                    | <i>Control data</i> → <a href="#">Define document types [Ext.]</a> (detail screen)                               | <b>See:</b> <a href="#">Document number [Ext.]</a>   |
| Setting enterprise-specific additional fields | <i>Control data</i> → <a href="#">Define document types [Ext.]</a> (detail screen)                               | <b>See:</b> <a href="#">Additional Data for a Document [Ext.]</a>  |
| Extensions to the object link                 | <i>Control data</i> → <i>Define document type</i> → Navigation step <a href="#">Determine object link [Ext.]</a> | <b>See:</b> <a href="#">Adding Other Objects [Ext.]</a> .  |
| Executing a workflow task                     | <i>Control data</i> → <i>Define document type</i> → <a href="#">Define document status [Ext.]</a>                | <b>See:</b><br><a href="#">Overview of Additional Functions After Status Changes [Ext.]</a><br><a href="#">Processing a Document Info Record (CA-DMS) [Ext.]</a> |

---

Enhancements using User Exits (Document)

|  |   |  |
|--|---|--|
| Executing enterprise-specific program routines | <i>Control data</i> → <i>Define document type</i> → <a href="#">Define document status [Ext.]</a> | <b>See:</b> <a href="#">Overview of Additional Functions After Status Changes [Ext.]</a> |
|--|---|--|



## Enhancements Using Customer Exits (Material Master)

### Use

To optimize work flows, you can use [customer exits \[Ext.\]](#) to change some of the functions in the standard material master.



SAP Enhancement MGA00003 makes it possible to edit the display of material numbers as required. For example, if a material is assigned the number 123, you can use this enhancement to define that the material number is displayed with a prefix such as MAT-, even though the number in the database is still 123.

For more information, see the SAP library documentation *Changing the SAP Standard (BC) Customer Exits [Ext.]*.

### Features

The following overview shows the enhancements defined for customer exits in the material master.

#### Enhancements for Function Group XMG0 (General)

| Use   | Enhancement | Function Module  |
|---|-------------|--|
| Extending and adding checks, and (to a restricted extent) changing data | MGA00001    | EXIT_SAPLMGMU_001<br>(enhancements for material master tables)   |
| Influencing how material numbers are assigned                           | MGA00002    | EXIT_SAPLMG02_001<br>(internal number assignment)<br><br>EXIT_SAPLMG02_002<br>(external number assignment) |

**Enhancements Using Customer Exits (Material Master)**

|  |          |  |
|--|----------|--|
| Influencing how material numbers are displayed | MGA00003 | EXIT_SAPLOMCV_001<br>(number conversion from display format to DB format (input: start))<br><br>EXIT_SAPLOMCV_002<br>(number conversion from display format to DB format (input: end))<br><br>EXIT_SAPLOMCV_901<br>(number conversion from DB format to display format (output: start))<br><br>EXIT_SAPLOMCV_902<br>(number conversion from DB format to display format (output: end)) |
|--|----------|--|

**Enhancements for Function Group XMGV (Distribution of Material Master Data by ALE)**

| Use              | Enhancement | Function Module   |
|------------------|-------------|---|
| ALE distribution | MGV00001    | EXIT_SAPLMV01_002<br>(IDoc creation)<br><br>EXIT_SAPLMV02_002<br>(IDoc posting) |

**Enhancements for Function Group XMG3 (Filter Objects for Material Master Distribution)**

| Use  | Enhancement | Function Module   |
|--|-------------|-------------------|
| Reading customer-defined filter objects for a material | MGV00002    | EXIT_SAPLMV03_001 |

**Additional Information**

In the SAP library documentation [Material Master \(LO-MD-MM\) \[Ext.\]](#):

- [Material Numbers \[Ext.\]](#)
- [Transfer and Distribution of Material Master Data \[Ext.\]](#)

## Enhancements in the Area Engineering Change Management

### Use

You can change some functions in the area of Engineering Change Management (ECH) with the use of [Customer Exits \[Ext.\]](#) in order to optimize your work processes.



When the person responsible saves a change master record you may want to run self-defined checks to discover any discrepancies in the data and also to keep this data from being saved on the database. You create an enhancement project by using the enhancement PCCD0004 (*Check before saving a change number*). The enhancement contains the function module EXIT\_SAPMC29C\_005. This exit refers to the include program ZXCCAU05. Enter the program code in the include program.

### See also:

[Enhancements to the SAP System in the Area of PDM \[Page 109\]](#) and [The SAP System Enhancement Concept \[Ext.\]](#)

### Prerequisites

When you use a function exit you must create an enterprise-specific include program that fits the program logic of the appropriate function module.

### Features

The following overview shows the enhancements that are supported for the customer exits in the area of Engineering Change Management (ECH) (development class CC).

#### Enhancements for the Function Group XCCA

| Description                                  | Enhancement | Function Module                        |
|--|-------------|--|
| Customer field in the change master          | PCCD0001    | EXIT_SAPMC29C_001<br>EXIT_SAPMC29C_002 |
| Check of the values of parameter effectivity | PCCD0002    | EXIT_SAPMC29C_003                      |
| Check when setting a system status           | PCCD0003    | EXIT_SAPMC29C_004                      |
| Check before setting the change number       | PCCD0004    | EXIT_SAPMC29C_005                      |
| Check at initial screen                      | PCCD0005    | EXIT_SAPMC29C_006                      |

The documentation for the individual customer enhancements can be found in each of the enhancements itself in the SAP System. The following shows how to access the documentation for individual customer enhancements:

1. Go to *Tools* → *ABAP Workbench* → *Help* → *Enhancements* → *Definition*.
2. Enter the name of the customer enhancement.
3. Highlight the *Documentation*, option and select *Display*.



## Enhancements in BOMs

### Use

You can display workflows in the *BOM* area, in a company-specific way, using various enhancement options.



Information about the enhancement options aswell as an overview of the planned enhancements for SAP objects in PDM is contained in [Enhancements of the SAP System in PDM \[Page 109\]](#)

### Features

The following overview displays the enhancement options for the standard SAP System in *BOMs*.

| Enhancement Options   | Implementation  |
|---|---|
| <a href="#">Enhancements using Customer Exits [Page 150]</a><br><b>See also:</b><br><a href="#">Customer Exits [Ext.]</a> | You can display the processing of BOMs in a company-specific way using Customer Exits.                            |
| <a href="#">Enhancement using business transaction events [Page 152]</a>  | You can write separate programs that are performed when specific events are triggered in the standard SAP System. |

## Enhancements Using Customer Exits (BOMs)

## Enhancements Using Customer Exits (BOMs)

### Use

In order to optimize the BOM processing processes in your business, you can change some functions of the SAP System in *BOMs* by using [Customer Exits \[Ext.\]](#).



If an administrator enters a new item in a BOM, you want the system, for example, to automatically check whether the material entered is allowed in this BOM. You create an enhancement project where you use the enhancement PCSD0005 (*component check for material items*). The enhancement contains the function module EXIT\_SAPLCSDI\_006. This links to the include program ZXCSAU10. Enter your program code into this include.

#### See also:

[Enhancements of the SAP System in the Area of PDM \[Page 109\]](#) and [Customer Exits \[Ext.\]](#)

### Prerequisites

When you use a function exit, you must create a company-specific include program that matches the programming logic of the function module.

### Features

The tables below show the enhancements for customer exits used in BOMs (development class CS).


#### Enhancements for Function Group XCSA

| Description  | Enhancement | Function Modules  |
|--|-------------|---|
| Enhance maintenance of material BOMs               | PCSD0001    | EXIT_SAPLCSDI_001   |
| Customer fields in item                            | PCSD0002    | EXIT_SAPLCSDI_002<br>EXIT_SAPLCSDI_003                      |
| Customer fields in header                          | PCSD0003    | EXIT_SAPLCSDI_004<br>EXIT_SAPLCSDI_005                      |
| BOM comparison                                     | PCSD0004    | EXIT_RCS14001_001<br>EXIT_RCS14001_002<br>EXIT_RCS14001_003 |
| Component check for material items                 | PCSD0005    | EXIT_SAPLCSDI_006   |
| Mass Changes                                       | PCSD0006    | EXIT_SAPMC29M_001   |
| Check on the changes to BOM header                 | PCSD0007    | EXIT_SAPLCSDI_007   |
| WBS BOM: Customer-specific explosion during create | PCSD0008    | EXIT_SAPLCSWB_001   |

Enhancements Using Customer Exits (BOMs)

|  |                                 |                   |
|--|---------------------------------|-------------------|
| Determine standard URL for BOM browser                           | <a href="#">PCSD0009 [Ext.]</a> | EXIT_SAPLCSSO_001 |
| BOM browser: Determine Explosion Date                            | <a href="#">PCSD0010 [Ext.]</a> | EXIT_SAPLCSSO_002 |
| Knowledge Based Order BOM: Parallel Updates                      | <a href="#">PCSD0011 [Ext.]</a> | EXIT_SAPLCSSF_001 |
| Customer material number/material type during material exchange  | <a href="#">PCSD0012 [Ext.]</a> | EXIT_SAPLCSME_001 |
| Customer specific processing of an explosion for the BOM browser | <a href="#">PCSD0013 [Ext.]</a> | EXIT_SAPLCSSO_003 |

You can find the documentation for the individual customer enhancements in the appropriate enhancement in the SAP System. To display the documentation for the individual customer enhancements you:

4. Choose *Tools* → *ABAP Workbench* → *Utilities* → *Enhancements* → *Definition*.
5. Enter the name of the customer enhancement.
6. Select *Documentation*, and click on  *Display*.

## Enhancements using Business Transaction Events (BOMs)

## Enhancements using Business Transaction Events (BOMs)

### Use

In order to optimize *BOM* processes in your enterprise you can use Business Transaction Events to enhance the processing functions of the standard SAP System.

Business Transaction Events are defined parts within a source that can add coding for different software levels, such as branches, partners, or customers, without changing the original program itself.

You use Business Transaction Events, to enhance the standard SAP System with extra components. You can link in-house function modules, or a product from a third party, to the standard SAP System.

**See also:**

[Using Business Transaction Events \[Ext.\]](#)

### Features

Enhancement interfaces are defined in coding of the standard SAP System. If an event is triggered, the system calls up the function modules in which the customer-specific coding is executed.

The tables below show the enhancements for Business Transaction Events used in BOMs (development class CS).

**Enhancements for Function Group CSBE**

| Description   | Event<br>SAP-Function Module           | Sample Module for Customer<br>Module |
|---|--|--------------------------------------|
| <a href="#">Update Bills of Material [Page 153]</a> | CS000010<br>OPEN_FI_PERFORM_CS000010_E | SAMPLE_INTERFACE_CS000010            |

### Activities

1. Create your own function modules (customer modules).  
At the same time, copy the sample module as a template.
2. Enter your program code into the customer modules.
3. In table TBE11 activate the application CS.  
This has to be done before the SAP function module calls up the customer modules.
4. Assign an event to each customer module in the table TBE34.  
If the event is triggered, the system calls up the customer modules, which are assigned to the event in this table.



## Update of a BOM (CS000010)

### Use

You use this Business Transaction Event to start additional in-house programs during a BOM update.



For example, you can start up external software to check a BOM against your own consistency rules.

### Features

The function module OPEN\_FI\_PERFORM\_CS000010\_E is called up when the user saves a BOM, but before the system updates the data in the database.

The customer modules are called up using the function module OPEN\_FI\_PERFORM\_CS000010\_E.

All data for the corresponding BOM is transferred to the customer module.

### Constraints

The interface does not return any data to the standard SAP System.

## Enhancements in the Classification System

## Enhancements in the Classification System

### Use

In order to optimize the business processes in the classification system, you can change some classification functions of the SAP System by using customer exits.



If a user in characteristics maintenance has not maintained default values for finding objects, you can use enhancement CLCTMS01 (*Default values for finding objects*) to define default values in a table or add further values. The enhancement contains the function module EXIT\_SAPLCTMS\_001. This links to the include program ZXCTMSU01. Enter your program code in this include.

#### See also:

[Enhancements to the SAP System in the Area of PDM \[Page 109\]](#)

[Customer Exits \[Ext.\]](#)

### Prerequisites

When you use a function exit, you must create a company-specific include program that matches the programming logic of the function module.

### Features

The following is an overview of the enhancements supported in the classification system (development class CL).


| Description                                     | Enhancement | Function Modules   | Include    |
|---|-------------|--------------------|------------|
| Default values for finding objects              | CLCTMS01    | EXIT_SAPLCTMS_001  | ZXCTMSU01  |
| Check for same classification                   | CLCTMS02    | EXIT_SAPLCTMS_002  | ZXCTMSU02  |
| Change or predefine classification of an object | CLFM0001    | EXIT_SAPLCLFM_001  | ZXCLFU01   |
| Call before updating classification data        | CLFM0002    | EXIT_SAPLCLFM_002  | ZXCLFU02   |
| Selection of objects for mass processing        | CLMMD001    | EXIT_SAPLCLMMD_001 | ZXCLMMDU01 |
| Manipulation of the search result               | CLSC0001    | EXIT_SAPLCLSC_001  | ZXCLSCU01  |
| Object dependencies in object search            | CLCTMS03    | EXIT_SAPLCTMS_003  | ZXCTMSU03  |

The documentation on individual customer enhancements is in the SAP System with the enhancements themselves. To display the documentation on a customer enhancement:

1. Choose *Tools* → *ABAP Workbench* → *Utilities* → *Enhancements* → *Definition*.

---

**Enhancements in the Classification System**

2. Enter the technical name of the customer enhancement.
3. Select *Documentation* and choose  *Display*.

## Enhancements in Variant Configuration

## Enhancements in Variant Configuration

### Use

In order to optimize the business processes in variant configuration, you can change some variant configuration functions of the SAP System by using customer exits.



If a user works with very complex, multilevel configurations, you can control the level of detail shown for the configuration. You can use enhancement CCUX0800 to determine whether all assemblies are exploded or only the configurable assemblies. The enhancement contains function module EXIT\_SAPLCUKO\_002. This links to include program ZXCUCU05. Enter your program code in this include.

#### See also:

[Enhancements to the SAP System in the Area of PDM \[Page 109\]](#)

[Customer Exits \[Ext.\]](#)

### Prerequisites

When you use a function exit, you must create a company-specific include program that matches the programming logic of the function module.

### Features

The following is an overview of the enhancements supported in variant configuration (development class CU).



Constant additions are being made to customer enhancements for variant configuration and this documentation may not include all the possible enhancements. To see the most up-to-date list of enhancements call the F4 help for *Enhancements* and the *Development class CU\** for *Infosystem*.

| Description                                 | Enhancement | Function Modules  | Include                             |
|---|-------------|---|-------------------------------------|
| Variant configuration:<br>external APIs     | CAVC0000    | EXIT_SAPLCAVC_CFG_001<br>EXIT_SAPLCAVC_INST_001<br>EXIT_SAPLCAVC_INST_002 | ZXCAVCU01<br>ZXCAVCU02<br>ZXCAVCU03 |
| Customer-specific batch-input<br>processing | CCUCEI0B    | EXIT_SAPLCEI0_020   | ZXCEI0U12                           |
| Processing of planning tables               | CCUP0001    | EXIT_SAPLCUD2_800<br>EXIT_SAPLCUTS_800                                    | ZXCUPU02<br>ZXCUPU01                |
| Additional checks on<br>configurations      | CCUX0000    | EXIT_SAPLCUKO_001   | ZXCUCU02                            |
| Functions for loading<br>configurations     | CCUX0001    | EXIT_SAPLCUD0_001<br>EXIT_SAPLCUXC_001                                    | ZXCUCU01<br>ZXCUCU03                |


Enhancements in Variant Configuration

|  |          |                   |           |
|--|----------|-------------------|-----------|
| Reaction to conflict when finding an object for a class node             | CCUX0002 | EXIT_SAPLCUD0_002 | ZXCUCU04  |
| Parameters for finding an object for a class node                        | CCUX0003 | EXIT_SAPLCEIS_001 | ZXCUCU17  |
| Postprocessing of configuration with object dependencies                 | CCUX0004 | EXIT_SAPLCUKO_003 | ZXCUCU07  |
| Transfer of item category after material variant matching                | CCUX0005 | EXIT_SAPLCEB1_001 | ZXCUCU10  |
| Fixing an order BOM  | CCUX0006 | EXIT_SAPLCUKO_007 | ZXCUCU13  |
| Definition of the BOM category for instantiation                         | CCUX0007 | EXIT_SAPLCEB1_002 | ZXCUCU14  |
| No BOM explosion for externally procured components                      | CCUX0008 | EXIT_SAPLCUKO_008 | ZXCUCU15  |
| Synchronization of initialization of variant configuration               | CCUX0100 | EXIT_SAPLCUD0_003 | ZXCUIU01  |
| Configuration: Additional processing for changing variant table contents | CCUX0510 | EXIT_SAPLCUD3_001 | ZXCUTU02  |
| Effectivity date for order BOM   | CCUXDATE | EXIT_SAPLCASL_002 | ZXCUC1U03 |
| Control of the level of detail in multilevel configurations              | CCUX0800 | EXIT_SAPLCUKO_002 | ZXCUCU05  |
| Explosion date for result-oriented order BOMs                            | CCUXDATU | EXIT_SAPLCASL_001 | ZXCUC1U01 |
| Maintenance of additional data for instantiation                         | CCUXIACD | EXIT_SAPLCEB1_100 | ZXCUC1U02 |
| Effectivity date for order BOM   | CCUXDATE | EXIT_SAPLCASL_002 | ZXCUC1U03 |
| Modification for external number assignment for instantiation            | CCUXINST | EXIT_SAPLCUKO_004 | ZXCUCU09  |
| Find material variants with the same value assignment                    | CCUCEI0V | EXIT_SAPLCEI0_023 | ZXCI0U15  |
| Assigned values file and object characteristics                          | CCUCEI0A | EXIT_SAPLCEI0_021 | ZXCEI0U13 |
| Change F4 help for characteristics in configuration                      | CCUCEI0H | EXIT_SAPLCEI0_022 | ZXCEI0U14 |
| Object types for finding objects for class nodes                         | CCUXOBTY | EXIT_SAPLCEIS_002 | ZXCUCU19  |

**Enhancements in Variant Configuration**

|   |          |  |  |
|---|----------|--|--|
| Definition of the BOM status for instantiated materials                 | CCUXSTAT | EXIT_SAPLCEB1_003  | ZXCUCU16   |
| Multilevel configuration with material variants                         | CCUXMVAR | EXIT_SAPLCUKO_009  | ZXCUCU20   |
| Component quantity for set development                                  | CCUXSETQ | EXIT_SAPLCUKO_010  | ZXCUC2U01  |
| Availability of customer functions in the configuration editor          | CEI00000 | EXIT_SAPLCEI0_010<br>through<br>EXIT_SAPLCEI0_019                                | ZXCEI0U01<br>ZXCEI0U02<br>ZXCEI0U03              |
| Configuration: Determine superior material                              | CUBX0001 | EXIT_SAPLCUBX_001<br>EXIT_SAPLCUBX_002<br>EXIT_SAPLM60P_003                      | ZXCUBXU01<br>ZXCUBXU02<br>ZX60PU03               |
| Additional logic deleting classification data from the LO-VC view       | CUCPDELE | EXIT_SAPLCLDL_002<br>EXIT_SAPLCUCP_003<br>EXIT_SAPLCUCP_004<br>EXIT_SAPLCUCP_005 | ZXCUCPU01<br>ZXCUCPU02<br>ZXCUCPU03<br>ZXCUCPU04 |
| Additional logic deleting classification data from the LO-VC view CBASE | CUCPDEL1 | EXIT_SAPLCUCP_006<br>EXIT_SAPLCUCP_007<br>EXIT_SAPLCUCP_008                      | ZXCUCPU05<br>ZXCUCPU06<br>ZXCUCPU07              |

The documentation on individual customer enhancements is in the SAP System with the enhancements themselves. To display the documentation on a customer enhancement:

4. Choose *Tools* → *ABAP Workbench* → *Utilities* → *Enhancements* → *Definition*.
5. Enter the technical name of the customer enhancement.
6. Select *Documentation* and choose  *Display*.

**See also:**

[Specifying Enhancements in the Configuration Editor \[Ext.\]](#)

## Deleting a Change Master

### Prerequisites

Before you can delete a change master, the system makes certain checks.

- To maintain the authorization for deleting a change master, you use authorization object C\_AENR\_BGR (authorization object for activities and authorization group). Activity 06 controls the authorization for deleting a change master.
- A change master can only be deleted if there are **no** changes to objects with reference to the change number.




However, object management records can be marked for deletion. This means that an object management record has already been created in the change master for a change object that does not yet exist in the system. For example, you enter a material BOM in the change master. The header material of the BOM has a material master record, but the BOM itself does not yet exist in the system. When you delete the change master, these management records are deleted as well.

### Procedure

1. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Change master* → *Change*.

The *Change Change Master: Initial Screen* appears.

2. In the *Change number* field, enter the number of the change master you want to delete and select .

The change header screen appears.

3. Choose *Change master* → *Delete*.

A dialog box containing a confirmation prompt appears.

4. Confirm the prompt.

### Result

If the above requirements are met, the system deletes the change master and displays the initial screen again.

If not, you see an error message in the status bar.

---


Setting the Deletion Indicator

## Setting the Deletion Indicator

### Procedure

1. Choose *Logistics* → *Central functions* → *Engineering Change Management* → *Change master* → *Change*.

You see the *Change Change Master: Initial Screen*.

2. Enter the change number that you want to delete and select .
3. Set the indicator *Deletion indicator*.
4. Save the change master record.

### Result

The change master record will be deleted during the next archiving session.

The following functions are therefore no longer available:

- creating new change objects
- processing change objects with reference to the change number

### Checks for an Engineering Change Hierarchy

Additional checks take place for change master records that are in an engineering change hierarchy.

- The deletion flags for the **change leader (leading change master record)** and allocated **change packages** are compared. The setting in the change leader (leading change master record) takes precedence.

For example, when you set the deletion flag for the change leader, the allocated change packages also have the deletion flag set next to them.

- You cannot allocate a change package to a change leader that already has a deletion flag set next to it.



## Maintaining Objects with Reference to a Change Number

This section describes how to use *Engineering Change Management* for different objects.

The following description is based around a design change to a men's racing bicycle. A material is replaced in the saddle support assembly PP- SATST01.

[Change Master Record: Example PP-SATST \[Page 162\]](#)

[Changing a BOM with Reference to a Change Number \[Page 164\]](#)

[Changing BOM PP-SATST01 \[Page 165\]](#)

[Changing a Task List with Reference to a Change Number \[Page 167\]](#)

[Changing Task List PP-SATST01 \[Page 169\]](#)

[Changing a Document with Reference to a Change Number \[Page 171\]](#)

[Changing Document PP-SATST \[Page 172\]](#)

[Changing a Material with Reference to a Change Number \[Page 174\]](#)

[Changing Material PP-SATST01 \[Page 175\]](#)

## Change Master Record: Example PP-SATST

## Change Master Record: Example PP-SATST

Suppose the tubing for the saddle support of a bicycle has to be replaced. Because of this design change, changes have to be made to a bill of material, a task list, a document, and a material master record. All these objects are changed with reference to the same change number.

The overview below shows the SAP objects that are to be changed with this change number.

### Key Data of Change Objects

| <u>BOM</u>                            | <u>Routing</u>            | <u>Document</u>                  | <u>Material</u>                       |
|---------------------------------------|---------------------------|----------------------------------|---------------------------------------|
| <i>Material number:</i><br>PP-SATST01 | <i>Type:</i><br>N         | <i>Document number:</i><br>SATST | <i>Material number:</i><br>PP-SATST01 |
| <i>Plant:</i><br>A100                 | <i>Group:</i><br>0000A100 | <i>Document type:</i><br>DRW     |                                       |
| <i>Usage:</i><br>1                    |                           | <i>Document part</i><br>001      |                                       |
|                                       |                           | <i>Version:</i><br>01            |                                       |

### Change Master Record Data

All changes are made with reference to change master record PP- SATST.  
The following data is maintained for this change master record:

### Change Header Data of PP-SATST

| <u>Fields</u>                     | <u>Field Value</u>       |
|-----------------------------------|--------------------------|
| <i>Change number description:</i> | Change to saddle support |
| <i>Valid from:</i>                | 01.10.1998               |
| <i>Status of change number</i>    | 01 (active)              |
| <i>Reason for change</i>          | Material replacement     |

### Object Type Indicators

| <u>Indicator</u>                                   | <u>Field Value</u>  |
|--|---|
| <i>Object type active for change number (Act.)</i> | Set for the following object types:<br>BOM<br>Task list<br>Material<br>Document |
| <i>Object management record generated (MgtRec)</i> | Set   |



The object overviews contain no objects at first.

### Object Management Records

**Change Master Record: Example PP-SATST**

In this change master record, the indicators are set such that object management records are generated for bills of material, task lists, documents, and materials when you process the objects with reference to the change number.

Since the design data of material PP-SATST01 is to be changed on September 25 1998, the object management record for material PP-SATST01 is entered manually in the *Material BOM* object overview.

The object management record for material PP-SATST01 is then allocated to an alternative date to give the material this alternative valid-from date.

**Alternative Dates**

Alternative date DAT-01 is created in the change master record. This date is to replace the general valid-from date in the change master header for material PP-SATST01.

Alternative date DAT-01 is used to define the following date: 25.09.1998.

September 25 1998.

Only material PP-SATST01 is allocated to this alternative date.

---

Changing a BOM with Reference to a Change Number

## Changing a BOM with Reference to a Change Number

You can create, change, and display BOMs with reference to a change number. Unless you select object sub-types for BOMs, you can process both material BOMs and other categories of BOM (for example, equipment BOMs and document structures) under the *Bill of material* object type.



If you create or change a bill of material with reference to a change number, there is a history requirement if you wish to change the BOM later on.

You need a special authorization to change the BOM later on without reference to a change number.

### See also:

[Special Features of the BOM Object Type \[Page 73\]](#)

You can carry out mass changes to BOM components with reference to a change number. This allows you to replace a material, document, or class in several BOMs with one function call.



This section describes a change to a variant BOM. For more information on changes to BOMs, see the document *Bills of Material Guide*.

An individual change to a variant BOM, using bill of material PP- SATST01 as an example, is described below.

## Changing BOM PP-SATST01

In variant **PP-SATST01**, component **PP-ROHR01** (carbon fiber tubing) is replaced with material **PP-ROHR02** (steel alloy tubing).

To call the *Bills of Material* menu, choose: *Logistics* → *Production* → *Master data* → *Bills of material*.

**To change a BOM with reference to a change number:**

1. From the *Bills of Material* menu, choose: *Material BOM* → *Change*.  
The *Change Material BOM:Initial Screen* appears.
2. Enter the data on the initial screen:
  - Do not make an entry in the *Alternative* field. For variant BOMs, the material/plant/usage combination uniquely identifies a bill of material.
  - In the *Validity* dataset, enter the change number. You can choose a change number with the possible entries function.  
If the BOM has not yet been processed with reference to the chosen change number, the system creates an object management record automatically, in accordance with the settings for the *Bill of material* object type in the change master.

The system copies the valid-from date from the change master record.



If the material has been processed with this change number before, and revision level A was assigned to the processing status attained with this change, you can call the task list group with processing status A by entering the revision level. If you enter the value **A** in the *Revision level* field, the system determines the correct material master with its valid-from date.

- Confirm your entries.  
A message appears telling you which valid-from date was copied from the change master record.

Confirm this message.



If the date is in the past or more than a year in the future, another message appears. Confirm this message.

3. The *Material* item overview appears.
  - Items whose effectivity period falls within the effectivity period of the change number you entered, are highlighted. You can only change these items with reference to the chosen change number.
  - If you want to change data on the item overview (for example, replace a component), make your change.  
In bill of material **PP-SATST01**, material component **PP-ROHR01** is replaced with material **PP-ROHR02** by overwriting the material number.
  - Confirm your entry.

**Changing BOM PP-SATST01**

If the new material has a different unit of measure, the system copies the component description from the material master record and a different unit of measure for the component,

4. If you want to maintain detail screens for the new material component, select the item and choose *Goto* → *Item* → *<Item detail screen>*.
- Enter your item data.



If you create or change sub-items for an item, the change is only saved with history if the item quantity changes.

5. If you want to maintain header data, choose *Goto* → *Header* → *<Header detail screen>*.

All the fields you can change are highlighted.



Even if you change a BOM with reference to a change number, not all header data is changed with history. Exceptions are the *BOM description* and the *BOM group*.

If the BOM is a multiple BOM, entries for the *Lot-size range* are also saved without history.

6. Once you have made your changes, save the BOM.  
To do this, choose *Bill of material* → *Save*.

The initial screen appears again, with the following message confirming the change:

*BOM for material <material number> changed*



Changes to other categories of BOM (for example, document structures and equipment BOMs) are made in the same way.

Since revision levels can only be assigned to change statuses of materials and documents, changes with reference to a revision level are only supported for material BOMs and document structures.

## Changing Task Lists with Reference to a Change Number

Like BOMs, you can create, change, and display task lists with reference to a change number. Unless you select object sub-types for task lists, you can process both routings and other types of task lists (for example, inspection plans and rate routings) under the object type *Task list*.



If you create or change a task list with reference to a change number, you can still change the task list later on without reference to a change number. The history for the task list may, therefore, contain gaps.

In some task lists, you can carry out a mass change with reference to a change number.

The mass change function allows you to do the following:

- Replace a work center in task lists
- Replace a reference operation set in task lists
- Replace a PRT in task lists
- Replace characteristics in inspection plans
- Replace methods in inspection plans

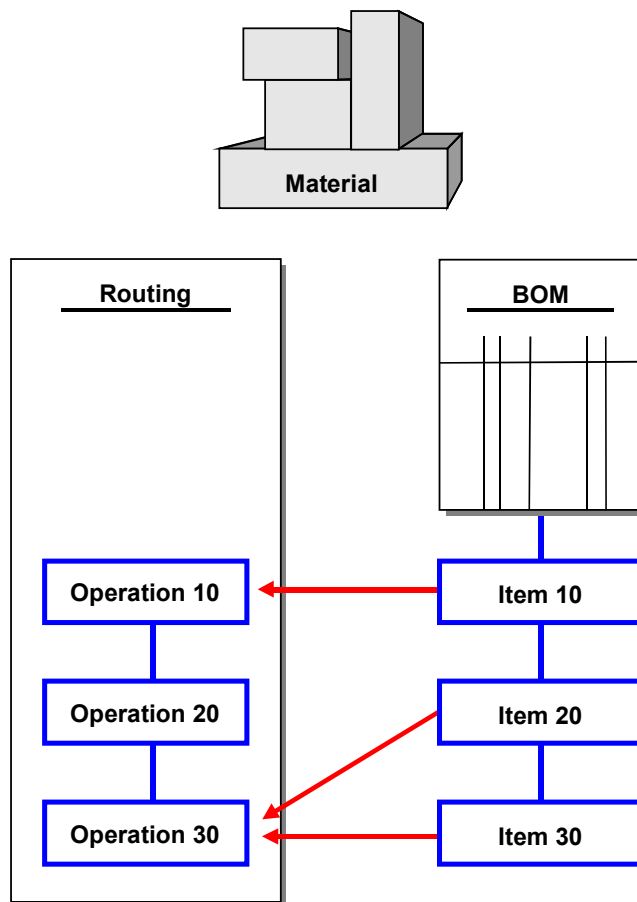
If you change a task list with reference to a change number, the system uses the valid-from date from the change master record as the *Key date* for the change. The system selects all task list objects from the database that are valid on this date.



This section describes making changes to a routing. For more information on changes to task lists, please refer to the specialist documentation, for example, on *Routings* or *Inspection planning*.

Making changes to a routing is described using the routing for material PP-SATST01 as an example. This routing has a standard sequence. The following graphic shows which operations are entered and which material components are allocated to which operations.

## Changing Task Lists with Reference to a Change Number






## Changing Routing PP-SATST01

Because of the design change to the product PP-SATST01 (saddle support), both the routing and the bill of material for this product (material replacement) have to be changed. Since the new material PP-ROHR02 (steel alloy tubing) is to be used, a new operation has to be inserted in the routing.

To call the routings menu, choose: *Logistics* → *Production* → *Master data* → *Routings*.

### To change a routing with reference to a change number:

1. From the routings menu, choose *Routing* → *Change*.  
You see the *Change Routing: Initial Screen*.
  2. Enter your data on the initial screen.
    - Enter the number of the material whose routing you want to change, and the plant.
    - If you do not know the group, you can choose one using the possible entries function or make no entry in this field.  
The system determines the routing or group on the basis of your entries for the material and plant.
    - Enter the number of the change master record (change number). This number identifies the change master record.  
  
If the BOM has not yet been processed with reference to the chosen change number, the system creates an object management record automatically, in accordance with the settings for the *Bill of material* object type in the change master.  
  
The valid-from date of the change master defines the key date for the change (in this example, October 1, 1996). All changes can be documented in the change master.
- 
- If the material has been processed with this change number before, and revision level A was assigned to the processing status attained with this change, you can call the task list group with processing status A by entering the revision level. If you enter the value **A** in the *Revision level* field, the system determines the correct material master with its valid-from date.
- In the *Selection criteria* dataset, enter any relevant data which may restrict the selection.
  - Confirm your entries.  
A message appears telling you which valid-from date is copied to the *Key date* field from the change master record.  
Confirm this message.
3. The *Change Routing: Operation Overview* screen appears since there is only one task list group with one task list for the material **PP-SATST01**.
  4. To insert an operation, place the cursor on the line containing the operation **before** which you want to insert an additional operation.
  5. Choose *Edit* → *Insert line*.

**Changing Routing PP-SATST01**

6. On the operation overview, enter data to describe the operation in more detail. In the example, the operation is carried out at work center **PP- CHR** (chrome plating).
7. If you want to maintain detail screens for the new operation, select the operation and choose *Operation* → *<operation detail screen>*.  
Enter your operation data.
8. Once you have made your change, save the routing by choosing *Routing* → *Save*.  
The initial screen appears again, with the following message confirming the change:  
*<Task list type> was saved with group <group number> and material  
<material number>*



Changes to other types of task list (for example, inspection plans or rate routings) are made in the same way.

## Changing a Document with Reference to a Change Number

The *Document Management System* (DMS) does not use *Engineering Change Management* to store processing statuses of a document with history. This is done using version management.

**See also:**

[Special Features of the Document Object Type \[Page 74\]](#)

If you enter a change number in a document info record of a document, you have the following processing options:

- You can group together documents and any other SAP objects that belong together under one change number.
  - You can manage single, independent documents that exist without reference to other objects in the system.  
In this case the change is simple. The single document is changed and further object checks are not required.
  - Documents can also be linked to other objects (such as the material master record, equipment BOMs, functional location BOMs). Under these circumstances it is not immediately obvious which objects must be taken into account when a change is being made.  
For example, a single product can have a bill of material, a task list and several documents (drawings, photographs, detailed descriptions).  
In this case you should enter the same change number for the document that was chosen for the other SAP objects.
- The valid-from date in the change master record is the same for all the objects.  
This link is especially useful if you want to change the date of the change. You carry out a date shift in the change master record, and all objects processed with reference to this change number automatically have the new valid-from date.
- You can assign a revision level to specific change statuses of a document.  
You can only assign a revision level while you are processing the document info record. The change status to which you want to assign a revision level is defined specifically for each document type (see *Revision levels*).



You can only process a document with reference to a change number if the *Change number* field is defined as available for entry or required entry for the chosen document type. You can make the appropriate settings in Customizing for the *Document Management System*, under *Define document types*. If this is the case, the *Valid from* field is shown.

## Changing Document PP-SATST

## Changing Document PP-SATST

Document PP-SATST (design drawing) is functionally related to the BOM for material PP-SATST01 and the routing that goes with it, and therefore must be included in the change process.

**To enter a change number in a document info record:**

1. From the *Document Management* menu, choose *Document* → *Change*.

You see the *Change Document: Initial Screen*.

2. Enter your data on the initial screen.

Make the following entries to enable the system to select an individual document:

- Document number
- Document type

You can make generic entries in the following fields:

- Document part
- Document version

To find a document generically, enter an asterisk (\*). Place the cursor on the line containing the document you want to change. Double-click on the line to choose the document.

Confirm your entries.



If the document has been reserved for one or more change numbers, the *Reservations in engin. change mgmt* dialog box appears, listing all the change numbers for which the document has been reserved. In this case, you can only change the document with reference to one of these change numbers or use no change number at all.

3. The *Change Document:<Document type>* screen appears.

On this screen, the *Change number* field is available for entry. The valid-from date is determined by the system.

4. Enter the number of the change master record (change number).

- Confirm your entry.
- The system determines the valid-from date from the change master record and shows it in the *Valid from* field.

If the document version is allocated to an alternative date in the change master record, the alternative date appears.



Once you save the change master, you can no longer change the change number for this document version.

5. Once you have made entries in, or changes to, any other fields as required, save the document. To do this, choose *Document* → *Save*.

---

**Changing Document PP-SATST**

The initial screen apperas again, with the following message confirming the change:

*Document info record <number/type/part/version> changed.*

---

Changing a Material with Reference to a Change Number

## Changing a Material with Reference to a Change Number

Changes to a material are stored in a change document rather than being saved in the material master record itself. The valid-from date is stored in the change document header.

Changes to the material master record with reference to a change number are made independently of the function.

**See also:**

[Special Features of the Material Object Type \[Page 75\]](#)

## Changing a Material Immediately

You can change the data in a material master record **immediately**. To do this, choose the *Material* → *Change* → *Immediately* function (transaction MM02).

- For this function, the valid-from date of the change master record cannot be in the future.
- The changes you make are then valid with immediate effect (as of today's date) or as of the date in the past.

## Scheduling Material Changes

Changes to materials can be scheduled. To do this, choose the function *Material* → *Change* → *Schedule* (Transaction MM12). If you do this, you will schedule the change to take place on a future date.

- The valid-from date of the change master record **cannot** be in the **past**.
- You must activate the scheduled change for the valid-from date of the change master record.
- The scheduled changes do not take effect until after the activation on a specific date in the future.

When you activate scheduled changes, **all** changes to this material are read and transferred to the batch-input interface. A "real" change document is created. When you activate changes, the document number of the new "real" change document is saved to the change documents for the changes being activated, as activation data.

The "real" change document contains the information that it was created by activating changes.



This section describes a change to the design data in material master record **PP-SATST01**.

## Changing Material PP-SATST01

The material replacement has changed the gross weight of material **PP-SATST01**. Since the material is allocated to alternative date **DAT-01**, the change is made on September 25, 1998, not on October 1, 1998 (the valid-from date in the change master header). The change is made with the *Change material* function.

### To change a material with reference to a change number:

1. From the material master menu, choose *Material* → *Change*.  
You see the *Change Material: Initial Screen*.
2. Enter the material and the change number.  
Confirm your entries.
3. Select the view you require and an organizational level if required, for example, *Engineering/design* in plant A100.  
The screen you selected appears, for example *Change Material: Engineering/design*.
4. Enter or correct your material data.
5. Save your data.

### To display the material data changed with reference to a change number in the material master record:

1. From the material master menu, choose *Material* → *Display*.  
You see the *Display Material: Initial Screen*.
2. Enter the material.  
Confirm your entries.
3. In the dialog box, select the view you require and an organizational level if required, such as the *Engineering/design* view in plant A100.  
The screen you selected appears, for example *Display Material: Engineering/design*.
4. Choose *Environment* → *Display changes*.

You see the *Display Changes: Material Overview* screen with a list of the change documents that have been created. The documents are listed in chronological order. The last document created is in the first line.

The following data is shown for each change document: *Date*, *Time*, user the material was last *Changed by*, *Change number*, and *Transaction code* of the change function.

For example, you can make the following transactions with reference to a change number:

MM01 *Create material general*

MM02 *Change material*

MM11 *Create material (schedule)*

MM12 *Change material (schedule)*

MM13 *Activation of scheduled changes at a key date*

---

**Changing Material PP-SATST01**

5. Place the cursor on the line containing the change document that you want to display the actual change for.
6. Choose the *Choose* pushbutton.

You see the *Display Changes: Change Number* screen.

- The header of the document tells you who made the change, when the change was made, and which change number was used.
- You then see a list of the individual changes, such as the change to the *Gross weight* and *Unit of weight* fields. You see both the old and the new value.



## Change Status

### Define

An object's (such as a BOM item) processing status. The system generates a new change status when you process an object with reference to a certain change master record for the first time.

### Structure

| When you   | The system creates  |
|--|---|
| Create an object with reference to a change master record  | The first change status   |
| Change an object with reference to a change master record  | A new change status   |
| Change an object with reference to a change master record you have used before to create or change | No new change status. Your change takes effect for the whole change status. |

A change status has the same validity as the change master record with which it was generated. Therefore, a change status can have date validity or parameter effectivity:

- Date validity

A change status's validity is only dependent on the date. All change statuses come in chronological sequence. A change status's validity period starts on the change master record's valid-from date with which you generate the change status and finishes immediately before the valid-from date of the change status following. If no change status follows, a change status's validity is open-ended.

- Parameter effectivity

A change status's effectivity depends on criteria you can freely define in the change master record. The change statuses do not have to be in chronological sequence. So the system can determine whether a change status is effective, you have to assign values to the effectivity parameters.

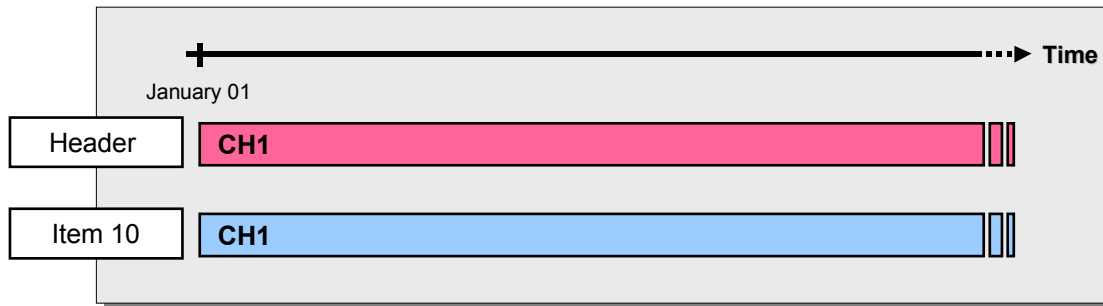
## Example: Change Statuses with Date Validity

## Example: Change Statuses with Date Validity

## Create BOMs

You create a bill of material with one item, using change number CH1. CH1 is valid from January 01. This is how the bill of material looks:

Bill of Material after Creation using CH1



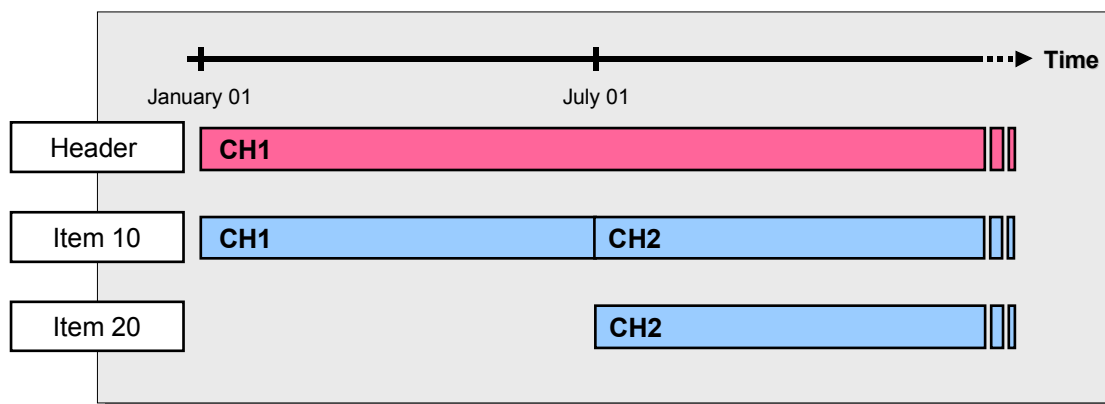
## BOM Changing

You change the bill of material using change number CH2, which is valid from July 01. You make the following changes:

- You change the component quantity in item 10.
- You add another item.

This is how the change statuses look:

Bill of Material after Changing using CH2



Item 10 has two change statuses:

- The first change status that was created using CH1, is valid from January 01 to June 30.
- The second change status that was created using CH2, is valid from July 01.

---

**Example: Change Statuses with Date Validity**

Item 20 has one change status that is valid from July 01.

**Example: Change Statuses with Parameter Effectivity**

## Example: Change Statuses with Parameter Effectivity

### Create Change Master Records

You create two change master records with the SERNR (serial number) effectivity type, which is set in the R/3 Standard. You define the following effectivity in the change master records:

| Change Master Record | Material Number | Serial Number Interval |
|----------------------|-----------------|------------------------|
| SER01                | M1              | 1001 – 2000            |
| SER02                | M1              | 2001 – 3000            |

### Create BOMs

On January 01, 2005 you create a bill of material with two items, with reference to the change master record SER01.

The R/3 Standard gives a BOM header date validity, which is valid from the date of creation. The items are assigned the effectivity from change master record SER01.



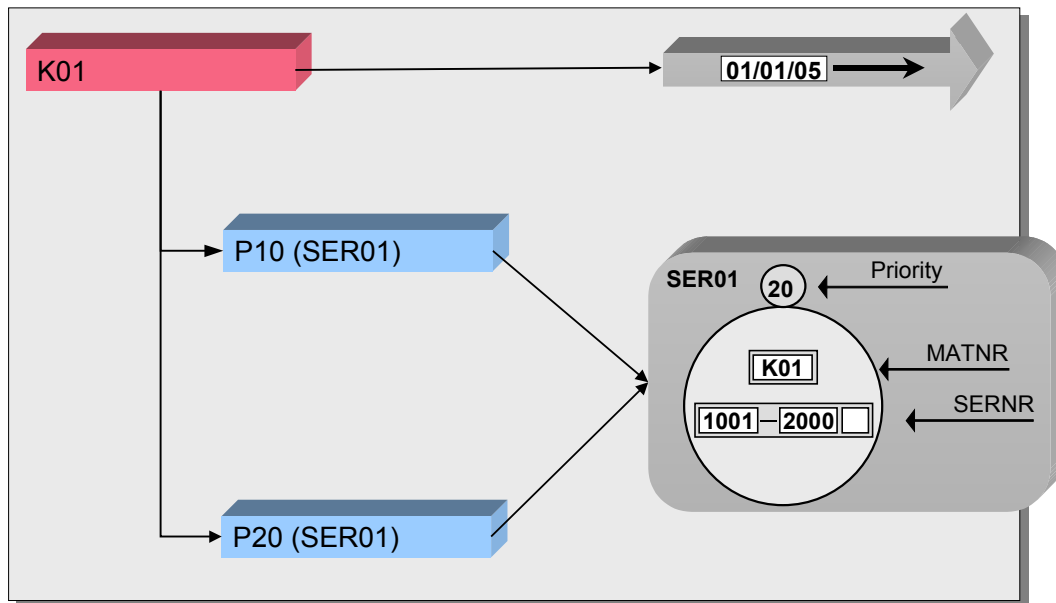
In *Bills of Material Customizing* you set the type of validity with which a BOM header is created, when you **create** a BOM with reference to a change master record with parameter effectivity:

- The header is given the validity that is defined in the change master record
- The header is always valid from the date of creation (standard)

You set this in BOM Customizing by choosing *Control data for Bills of Material* → *Define Modification Parameters*.

#### **BOM Created using SER01**

Example: Change Statuses with Parameter Effectivity



## BOM Changing

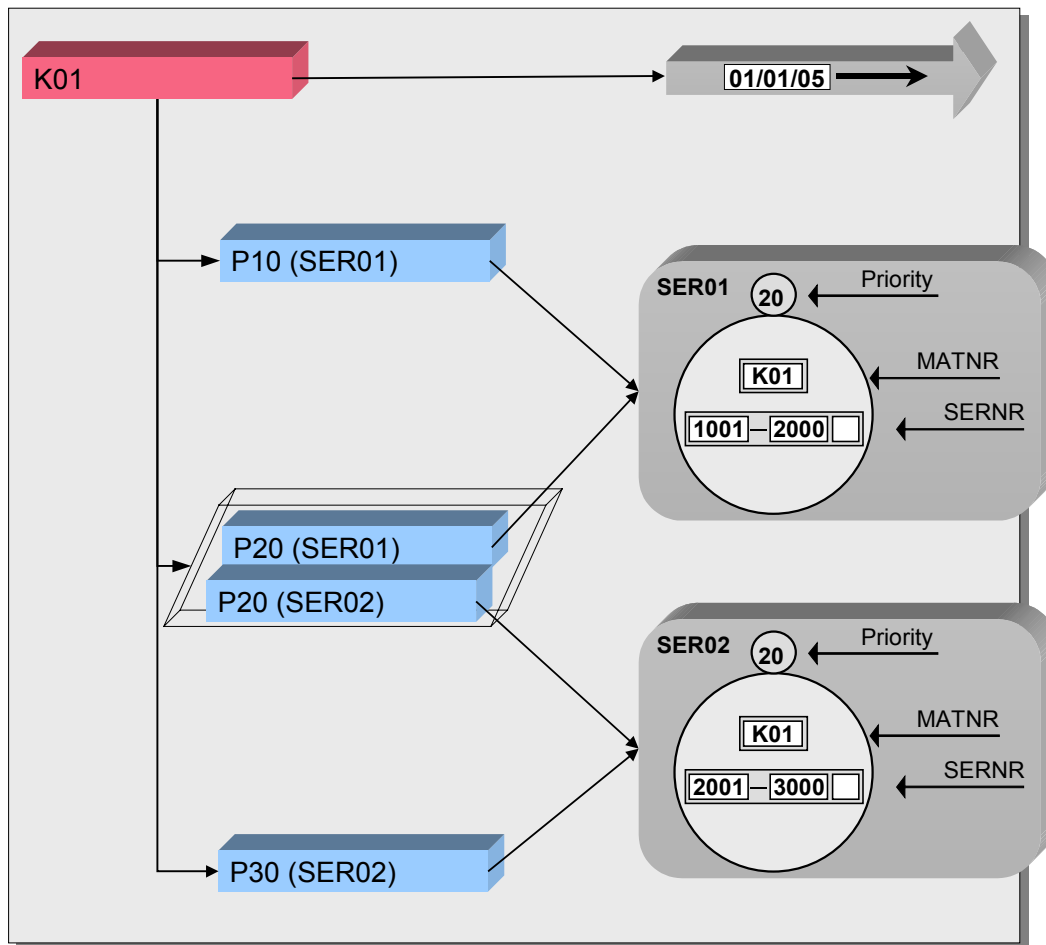
You change the BOM with reference to change master record SER02:

- You change the component quantity in item 20
- You add another item

This is how the change statuses look:

### Change Statuses after Changing using SER01

## Example: Change Statuses with Parameter Effectivity



Item P20 now has two change statuses, which are valid according to various criteria.

## Development Status

### Define

An object's (such as a BOM) processing status that consists of part objects (such as BOM headers and items), that are changed with reference to change master records.

### Structure

Some change objects consist of part objects, such as:

- BOMs
- Routings
- Classifications

When you process these objects with reference to change master records, the system generates change statuses for each part object that you create or change.



For example, when you process a BOM with reference to a change master record, the system generates change statuses for certain items or the BOM header.

The processing status for the whole object (such as a BOM) is described as the development status.

If you only use date validity, for a specific date you have a specific development status.

#### See also:

[Example: Development Statuses with Date Validity \[Page 184\]](#)

If you use parameter effectivity, you have to enter a parameter variant to generate a specific development status.

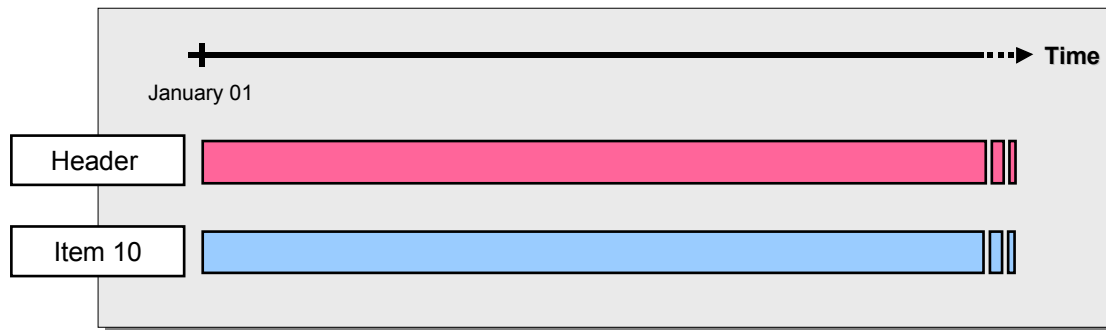
However, different parameter variants can produce the same development status.

#### See also:

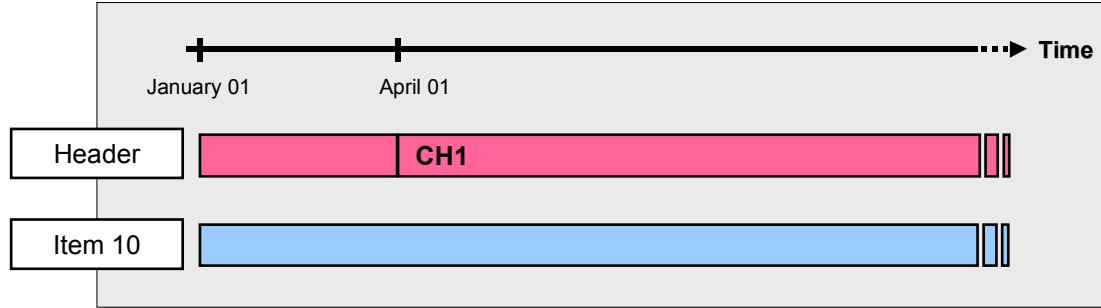
[Example: Development Statuses with Parameter Effectivity \[Page 187\]](#)

**Example: Development Statuses with Date Validity****Example: Development Statuses with Date Validity**

On January 01 you create a BOM **without** a reference to a change master record. This BOM only contains one item.

**BOM after Creation**

You change the BOM header with reference to change master record CH1, which is valid from April 01. This causes a second change status for the BOM header to be generated.

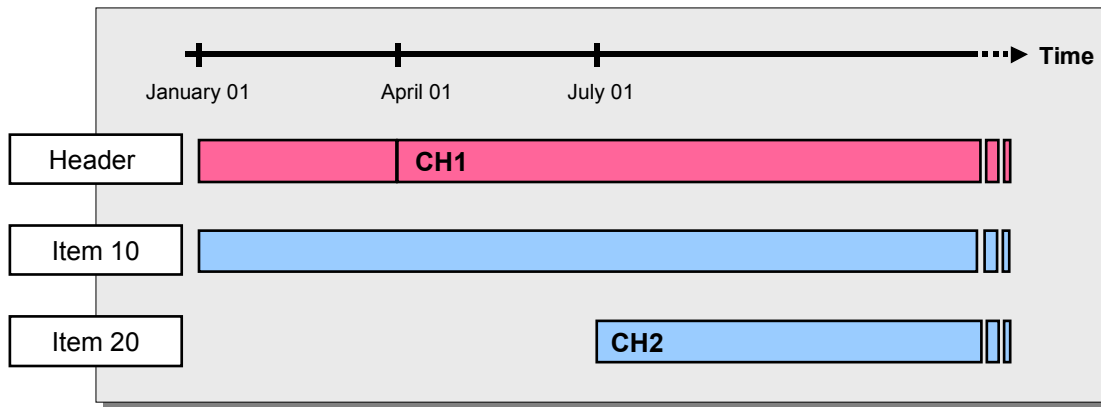
**New Change Status for BOM Header**

With reference to change master record CH2, which is valid from July 01, you add a new item (item 20). Item 20 is therefore also valid from July 01.

**New Item**

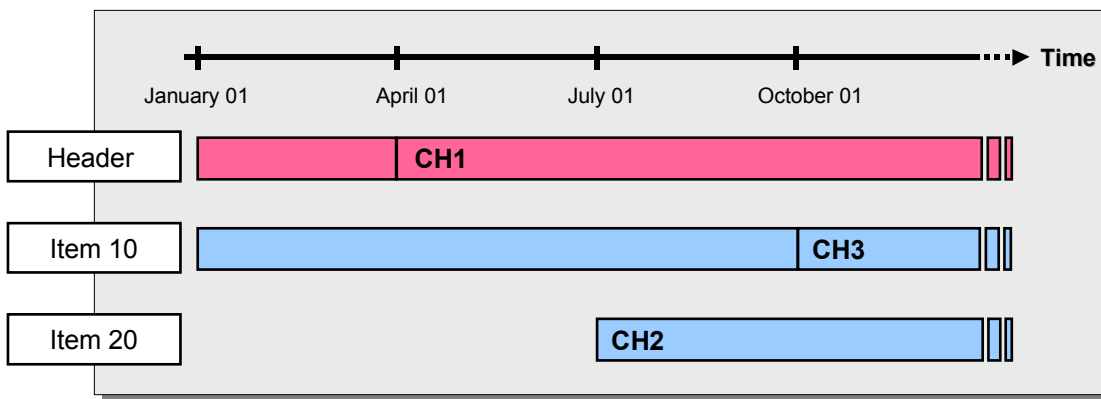


**Example: Development Statuses with Date Validity**



With reference to change master record CH3, which is valid from October 01, you change item 10. This causes a new change status to be generated for item 10.

**New Change Status for Item 10**

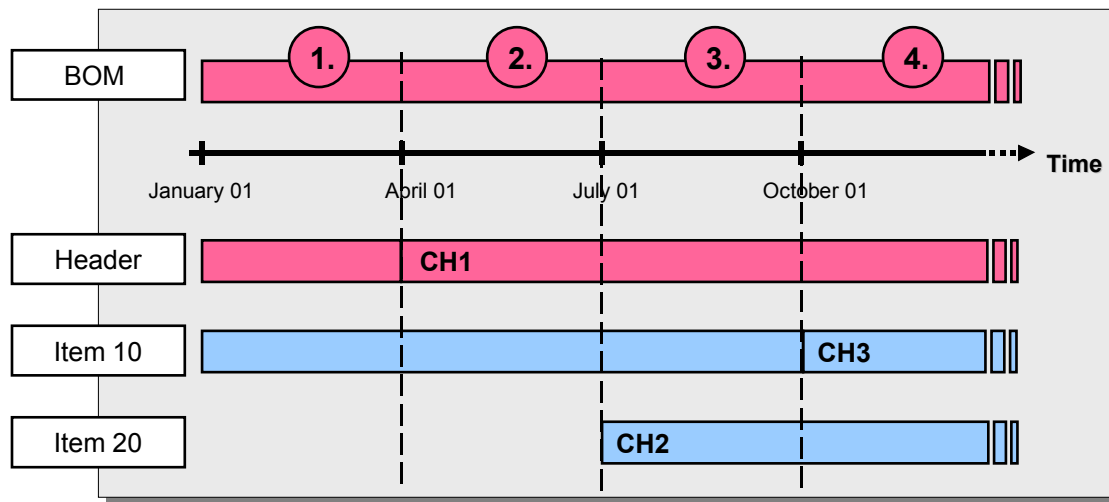


A look at the BOM as a whole shows you that it has four development statuses.

- The first development status is valid from January 01 to March 31.
- The second development status is valid from April 01 to June 30.
- The third development status is valid from July 01 to September 30.
- The fourth development status is valid from October 01.

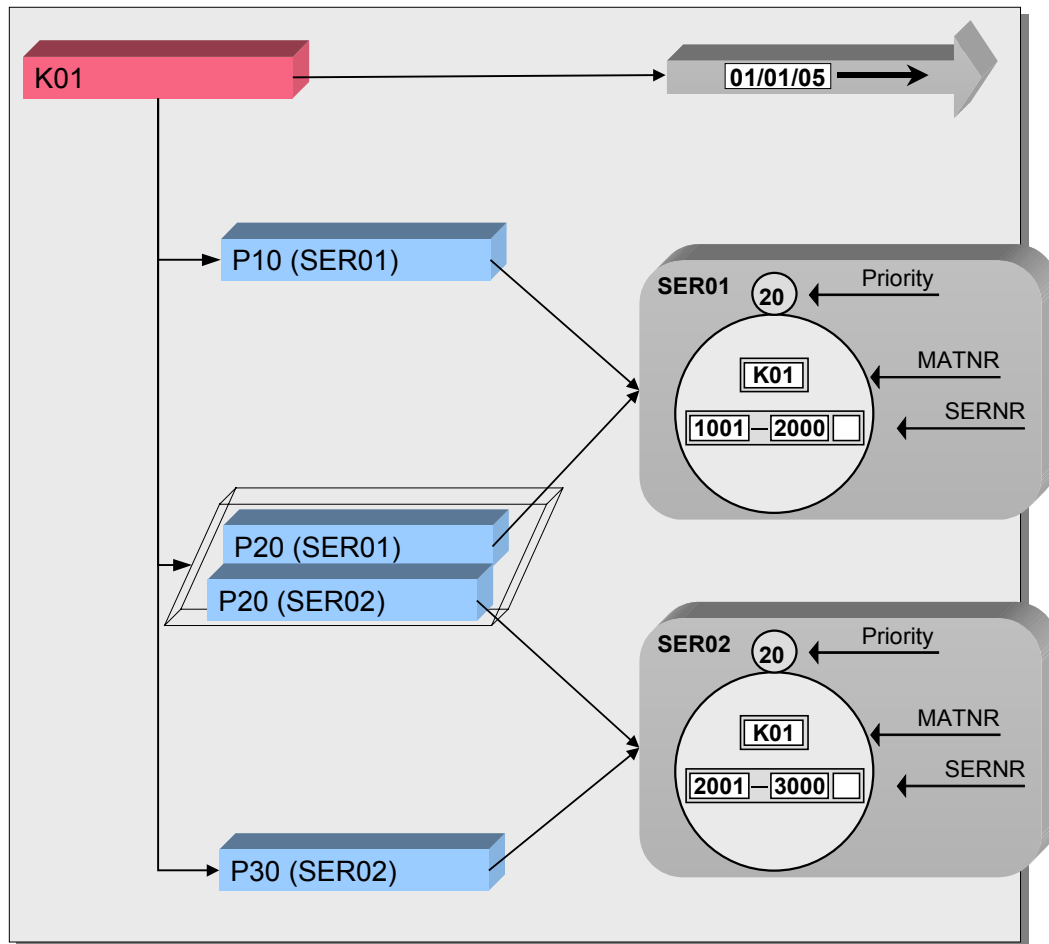
**Development Statuses with Date Validity**

## Example: Development Statuses with Date Validity



## Example: Development Statuses with Parameter Effectivity

You have processed a BOM with reference to several change master records with parameter effectivity, as in [Example: Change Statuses with Parameter Effectivity \[Page 180\]](#). The following [change statuses \[Page 177\]](#) were generated for the items in your BOM:



### Assigning Values to Effectivity Parameters

You create a sales order for material K01. The system requires you to assign values to the effectivity parameters. You enter the following values:

#### Parameter Variant

| Effectivity Parameter | Value      |
|-----------------------|------------|
| Date                  | 07/15/2005 |

**Example: Development Statuses with Parameter Effectivity**

|                 |      |
|-----------------|------|
| Material number | K01  |
| Serial number   | 2500 |

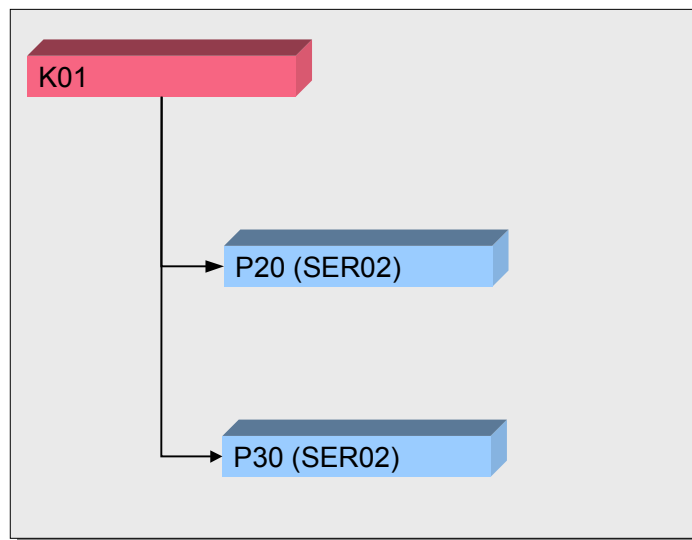
**Development Status Determination**

You execute a planning run for material K01. The system refers to the parameter variant from the sales order and determines the effective change statuses. These are then transferred to the planned order.

The system first checks whether the BOM header is effective. Since this is the case, the system checks each individual item for an effective change status:

- Item P10 is not effective, since it only has one change status and this does not fulfill the parameter variant. This change status is only then effective if the serial number lies between 1001 and 2000.
- Item P20 has one effective change status:
  - The change status that was created with reference to SER01 does not fulfill the variant and is therefore invalid.
  - However, the change status that was created with reference to SER02 **is** valid, as it fulfills the variant. The material number you entered corresponds with the material number in the change master record. The serial number 2500 is within the interval defined in the change master record.
- Item P30 is also effective, as its effectivity fulfills the parameter variant.

The development status of your BOM looks like this:

**BOM Development Status**

## Displaying Change Information

This section describes how to display change information for a change master record, engineering change request, or engineering change order.

Since you maintain the same data for all of these objects, the functions are described using a change master record by way of example. You will find information on the additional data in an engineering change request or engineering change order where required.

### Displaying the Change Master

[Display options for the Change Master or Engineering Change Request \[Page 191\]](#)

[Maintaining the Initial Screen \[Page 193\]](#)

[Displaying the Change Header \[Page 194\]](#)

[Displaying Long Text \[Page 195\]](#)

[Displaying Accompanying Documents \[Page 197\]](#)

[Displaying Classification Data \[Page 198\]](#)

[Displaying Data for New Validity Type \[Page 199\]](#)

[Displaying the Object Type Indicators \[Page 200\]](#)

[Displaying Alternative Dates \[Page 201\]](#)

[Displaying an Object Management Record \[Page 202\]](#)

[Displaying All Object Management Records \[Page 203\]](#)

[Displaying Special Object Management Records \[Page 204\]](#)

[Displaying Detail Data for Object Management Records \[Page 205\]](#)

[Displaying Status Management \[Page 206\]](#)

[Displaying the Status Report \[Page 207\]](#)

[Displaying Change Documents \[Page 212\]](#)

### Displaying Information on Change Objects

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**Displaying Change Information**

[Displaying Object Changes \[Page 213\]](#)

[BOM Changes \[Page 214\]](#)

[Task List Changes \[Page 217\]](#)

[Document List \[Page 218\]](#)

[Materials List \[Page 219\]](#)

[Change Objects from the Classification System \[Page 220\]](#)

[Displaying Master Records of Change Objects \[Page 221\]](#)

[Displaying Originals \[Page 222\]](#)

**Displaying Changes to a Change Master**

[Change Overview \[Page 224\]](#)

[Displaying a Change Overview \[Page 226\]](#)

## Display Options for the Change Master or Engineering Change Request

There are two ways of displaying a change master or engineering change request:

- When you are processing a change object (such as a bill of material or document), you can branch from the object you are processing to the change master, and use all active display functions for change masters.  
To do this, place the cursor on the *Change number* field and double-click. You see the change master header screen, from which you can use all active display functions.
- You can also display the change master record directly from the *Engineering Change Management* menu. This functionality is described in detail in this section.

See also:

[Displaying a Change Master or Engineering Change Request \[Page 192\]](#)

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**Displaying a Change Master or Engineering Change Request**

## Displaying a Change Master or Engineering Change Request

This function is used to display a change master or an engineering change request. Different authorization checks take place before you can display this data.

The system checks the authorization object C\_AENR\_BGR (authorization object for activities and authorization group). Activity 03 controls the functions for displaying a change master. If you try to display a change object from a processing function for the change master, the system also checks whether you are authorized to display the chosen change object (such as bill of material or document).

**See also:**

[Maintaining the Initial Screen \[Page 193\]](#)


[Displaying the Change Header \[Page 194\]](#)



## Maintaining the Initial Screen

If you want to display a change master record or engineering change request, proceed as follows:



If you want to display a change master record you recently processed, click . The system displays a list of the last ten change master records you created, changed or displayed. A double-click will take you to the respective change master record.

1. Choose *Logistics* → *Central functions* → *Engineering change management* → *Change master* → *Display*.

The *Display Change Master: Initial screen* appears.

2. Enter the number of the change master record (change number).

If you do not know the change number, you can select one using the possible entries button. If you use the possible entries function, you will see several tab pages, on which you can, for instance, search for change numbers by class or only change packages with a particular leading change master record.

3. Click .

---

Displaying the Change Master Header

## Displaying the Change Master Header

If you want to display a change header, proceed as follows:

1. Once you enter the change number on the initial screen and confirm your entry, you see the *Change Header* screen.

While you are processing the change master record, you can display the change master header from any screen (*Goto* → *Change header*).
2. Next to the change number, you see a short description of the change number.
3. The screen contains three datasets *Change number description*, *Status information*, and *Administrative data*. Each dataset contains different information, such as:
  - The *valid-from* date indicating when the changes to all the objects are effective from. This date is not relevant to objects that have an alternative date.
  - *Change number status*

This field contains the processing status of the change master. The processing status indicates, for example, whether the change master is released for changes (*active*) or not released (*inactive*). You define the status in Customizing for *Engineering Change Management*, step *Define status for change master record*.
  - *Authorization groups*
  - *Reasons for change*

For this field, you can only maintain a short text. If object management records are defined for the change master record, there may be an object-specific long text for one or more object management records. You can display this long text from the detail screen of the object management record.
  - *User status* and *Status management*, if you have allocated a status profile to the change header.
4. The third dataset contains administrative data.

This data tells you when and by which user the change master record was created and last changed.

**See also:**

[Displaying Long Text \[Page 195\]](#)

[Displaying the User Status \[Page 196\]](#)

[Product Structure Browser \[Ext.\]](#)

[Displaying Accompanying Documents \[Page 197\]](#)

[Displaying Classification Data \[Page 198\]](#)

## ***Displaying Long Text***

If a long text exists for a change number, the *Long text* icon is shown next to the description. To edit the long text in the text editor, double-click on the icon.

A number of text editing functions are available, such as searching for text strings using (*Edit* → *Find*).

- You see a dialog box, where you can enter the string you want to find, and other search criteria.
- Confirm your entries.  
The system displays the first string that meets the search criteria. If no string meets the search criteria, a message will appear in the status bar telling you this.
- When you have finished processing the long text, return to the change header.

---

Displaying the User Status

## Displaying the User Status

For the change master record, you display the user status from the change header. For the change objects, you display the user status from the detail screens of the change objects.

1. To display the user status with its description, choose the *Status mgmt* pushbutton (or choose *Goto → Status management* from the menu).

The *Display status* screen appears.

Apart from the user status, this screen also lists the system statuses (for example, *Created*).

2. To display all the business transactions defined in the status network, choose *Bus. transactions*.
3. From the *Extras* menu, you can call the *Overall* function as well as information on the *Status object*.
4. From the *Environment* menu, you can call a function for displaying the change documents for the system status and the user status.

## ***Displaying Accompanying Documents***

You can display accompanying documents from any detail screen.

To do this, choose *Extras* → *Accompanying docs*.

A list of all accompanying documents appears. You can select the accompanying documents allocated to the documents: display either the current version or all versions. A dialog box shows the current document status and information on whether the document is part of a hierarchy.

---

**Displaying Classification Data**

## ***Displaying Classification Data***

You can display classification data from any detail screen.

To do this, choose *Extras* → *Classification*.

A list of all the classes that are assigned to the change master appears. To display all the characteristics of a class including the values for the current change master, use the *Values* pushbutton.

## Display Parameter Effectivity Data

### Prerequisites

You have defined the validity of the changes for the material master record with effectivity parameters and not with the *valid from* date.

### Procedure

Choose *Goto* → *Effectivity*.

The *Effectivity* screen appears. This screen displays the single values and intervals, which define the effectivity of change statuses you generate with this change master record.

---

Displaying Object Type Indicators

## Displaying Object Type Indicators

If you want to display the object type indicators, proceed as follows:

Choose *Goto* → *Object types*.

The *Display Change Master: Object Types* screen.

- The indicators that control changes for the different object types are shown.
- For each object type, the user who first entered the indicators and the user who last changed the indicators are displayed. The dates on which the indicators were first entered and last changed are also displayed.



## Displaying Alternative Dates

You can display the alternative dates from any processing screen.

### To display the alternative dates:

Choose *Goto* → *Alternative date* → *Alternative dates*.

- The *Alternative Date: Overview screen* appears.
- This list contains the keys of all alternative dates and their valid- from dates.  
If a change object is allocated to the alternative date, the system automatically sets the *Object allocations* indicator.

### To display the change objects allocated to an alternative date:

1. Select the alternative date.
2. Choose *Goto* → *Alternative date* → *Object allocation*.  
An object overview appears, containing all change objects for this change master record.
  - All change objects that are allocated to the alternative date you selected are automatically marked with the *Allocation to displayed alternative date* or the *Allocation to alternative date* indicator.
  - All change objects that are allocated to a different alternative date are automatically marked with the *Allocation to alternative date* indicator.
  - The *Selected via object search* indicator (for objects selected using the *Find object* function) is a temporary indicator which is only relevant when you are creating an object management record.

---

Displaying Object Management Records

## Displaying Object Management Records

There are two ways of displaying the object management records of a change number:

- You can display the management records for **all** object types in an overview.
- You can display the management records for one selected object type in an object-specific overview.

**You will find information on these subjects in the following sections:**

[Displaying All Object Management Records \[Page 203\]](#)

[Displaying Special Object Management Records \[Page 204\]](#)

[Displaying Detail Data for Object Management Records \[Page 205\]](#)

## Displaying All Object Management Records

To display management records for all object types:

1. Choose *Goto* → *Object overview* → *All objects*.

The *Change Master: Object Overview* screen appears.

This list contains all change objects that have been processed with reference to this change number and all objects that have been entered directly in the change master as change objects.

The following data also appears for each change object:

- *Object type*  
This shows you which object type the change object belongs to. For example, **MatBOM** shows you that the object is a material BOM; **EquiBOM** shows you that the object is an equipment BOM.
  - *Object*  
This field contains the key fields of the change object. For example, a material is identified by the material number, whereas a document is identified by four key fields (document, document type, document part, document version).
  - *Indicator: Selected via object search*  
This indicator is only relevant to the current processing situation. The system sets this indicator for objects that were selected via the *Find object* function in the current processing situation.  
This indicator disappears as soon as you save.
  - *Alternative date*  
If the change object has been allocated to an alternative date, the key of the alternative date is shown here. To see the alternative valid-from date itself, either go to the object management record detail screen or choose *Goto* → *Alternative date* → *Alternative dates*.
  - *Description (Short text)*  
To see a long text description, go to the detail screen of the object management record.
  - *System status*  
This field is only relevant if a status profile is allocated to the change master record, or if you are processing an engineering change request (ECR).  
The system statuses which the object has already had are shown sequentially from left to right.
2. To see more detailed data on an object management record, select one or more objects. Then choose the *Details* pushbutton.

**See also:**

[Displaying Detail Data for Object Management Records \[Page 205\]](#)

## Displaying Object Management Records for a Specific Object Type

To display management records for specific object types:

1. Choose *Goto* → *Object overview* → *<Object type>* (for example, *Material*).

The *Change Change Master: <Object type>: Overview* screen appears.

This list contains all change objects of the selected object type (for example, all materials) that have been processed with reference to this change number, and all objects that have been entered directly in the change master as change objects.

The key fields and the description of each change object are also displayed.



In the overview for materials, you also see the revision level. The revision level for documents is shown on the detail screen.

2. To see more detailed data on an object management record, select one or more objects. Then choose *Details*.

**See also:**

[Displaying Detail Data for Object Management Records \[Page 205\]](#)

## Displaying Detail Data for Object Management Records

Starting from the general or object-specific overview, you can display detail data for object management records.

To do this, proceed as follows:

1. Select one or more management records.  
Choose *Details*.

The *Display Change Master: <Object Type> Detail* screen appears with the change data that is specific to the selected object.

The following data also appears for each change object:

- The first dataset contains data that identifies the change object.  
For example, for a material BOM, you see the internal BOM number, the material, the plant, and the BOM usage.
- The *Object management* dataset contains the description for all objects.  
If an object-specific long text exists, you see the *Long text* icon to the right of the description. To display the long text, double-click on this icon.



For some objects, additional data is shown. For example, if a revision level has been assigned, you see the revision level for materials and documents.

If a status profile has been allocated to a change object, the *Status mgmt* pushbutton is displayed.

If you are processing an ECR, you see the following additional fields: *Change type*, *System status*, and *User status*.

- The *Effectivity (Validity)* dataset shows the object-specific valid-from date for the change. This is usually the valid-from date from the change master header. If the change object is allocated to an alternative date, the key of the alternative date appears, and the specific valid-from date itself in the *Valid from* field.
  - In the *Control data* dataset, the indicator that locks the object against changes with reference to this change number appears.
2. If you choose the *Admin. data* pushbutton, you see information on who created and who last changed the object management record. You also see who last processed the object with reference to a change number, and when this happened.



For bills of material, the *BOM list* function is also active. With this function, you can display a list of all the bills of material stored under the same internal BOM number in a BOM group.

---

Displaying Status Management Data

## Displaying Status Management Data

You can display status management data in the following situations:

- If you are processing a change master record that has a status profile allocated to either its change header or its change objects:

Change transactions are subject to a company-specific status profile (user statuses). Some of the system statuses are displayed for information only.

- If you are processing an ECR:

Change transactions are subject to an internally-defined status profile (system statuses), possibly in conjunction with a company-specific status profile (user statuses).

The statuses that have been attained so far are shown for the change master record and for each individual change object.

### To display status management data for the change master header:

1. Go to the *Change Header* screen (*Goto* → *Change header*).
2. Choose *Goto* → *Status management*.  
The *Display Status* screen appears. This screen displays all the system statuses or user statuses that have been attained so far.

From this screen, you can use all the active functions of status management. For example, if you want to see an overview of all statuses in the status network, choose *Extras* → *Bus. transactions*. This overview also shows which business transactions are *allowed* and which are *disallowed* in the current processing situation.

### To display status management data for a specific change object:

1. Go to either the general object overview or an object-specific object overview.
2. Select the object for which you want to see status management data.
3. Choose *Goto* → *Status management*.  
From this point, the procedure is the same as for displaying status management data for the change master record.

### See also:

[Displaying the Status Report \[Page 207\]](#)

## Displaying the Status Report

You can display the status report in the following situations:

- You are processing a change master for which you can maintain a status profile (user status) for both the change header and the change objects.
- You are processing an engineering change request or an engineering change order. In this case, the system status for the change header and the change objects has already been defined internally. You can define the change type in such a way that you also have the option of controlling the processing functions for the change header and the change objects using a user status. If user statuses are maintained, this is shown in the status report.

**If you want to display the status report, proceed as follows:**

- From the *Environment* menu, choose *Reporting* → *Status report*.  
You see the *Engineering Change Management Status Report* screen.
- First, you see the processing status of the change master, for example, whether the change master record is still being processed or if it has already been completed.
- This is followed by a dataset for the change header, which contains the change number and its description.  
In the lines that follow you see the statuses that the change header has already had. The status information is enhanced with information about the date the status was set, and who set it.
- The next datasets contain information on the individual objects that have been changed with reference to the change number. The first line of each of these datasets identifies the change object. For example, for a material BOM, you see the material, the plant, and the usage.  
In the lines that follow you see the statuses that this change object has already had. The status information is enhanced with information about the date the status was set, and who set it.

## Information System

### Use

With the Engineering Change Management information system, you get an overview of change numbers, change documents as well as changes to objects all on one screen.

### Prerequisites

If you work with the user status, and want to select change numbers with specific user statuses in the information system, you first have to define a status selection profile. You do this in Customizing Engineering Change Management in the work step *Define selection profile*.

### Features

According to criteria that you define yourself, you generate reports for activities in Engineering Change Management, in order to display them on the screen, print them out or export them.

### Selection

You can precisely define which change numbers you want to display. You select

- Using the status

For example, you can exclusively display ECRs that have a specific status. You can therefore get an overview of all ECRs with the status *'to check'*.
- Using values in any of the change number fields (free selection)

You yourself define the fields you want to use for the selection.



For example, you can display all change master records that

- were created in a specific time period
- were last change by a specific user
- have a specific effectivity type
- are flagged as late packages

### Reporting lists

On the left hand side of the screen, the selected change numbers are displayed in an overview tree. In this overview tree, you can navigate between the related objects.

If, for example, you work with [Change hierarchies \[Page 21\]](#) you can immediately see the assignments of change packages to change units in the overview tree.

If an ECR/ECO is generated from a [change message \[Page 227\]](#) or assigned to a change message, this is also displayed in the information system.

By clicking on the change number in the overview tree, you display the details in the right screen area. For each change number, you can display the object changes in an overview or in detail as well as displaying the individual change documents.




The reporting lists for the object overview change documents and change messages, can be sorted and filtered. The result can be printed out or exported in various formats such as spreadsheets.

For more information on the functions of lists, see [ABAP List Viewer \(ALV\): Grid Control \[Ext.\]](#).

## Activities

To go to the Engineering Change Management information system, select *Logistics* → *Central functions* → *Engineering Change Management* → *Reporting* → *Information system*.

### Selection via System Status

To select change numbers with specific system statuses, set the relevant indicator on the initial screen of the information system and select .

### Selection via User Status

To select change numbers with specific user statuses, create a status selection profile for the relevant field on the initial screen of the information system.



On the initial screen of the information system you can determine whether the object management record is to be displayed in the reporting list or not (indicator *with object management record*). Resetting this indicator improves performance.

#### See also:

[Selecting a change number from any field \[Page 210\]](#)

[Saving selection variants \[Page 211\]](#)

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Selecting a change number from any field


## Selecting a change number from any field

1. Click .

The system hides a window with two screen areas.

In the left hand screen area, an overview tree with all fields of a change master record, is displayed.

In the right hand screen area (*free selection*) the fields that you can use to make a selection, are displayed.

2. By double-clicking on a field name in the overview tree of the left hand screen area, you transfer the field into the right hand area or you remove it further
3. In the fields in the right hand screen area, enter the fields according to which you want to select.
4. Click .


## Saving Selection Variants

### Use

If you regularly use an evaluation list according to the same selection criteria, you can save the selection criteria in a selection variant.

### Procedure

You are in the Engineering Change Management Information System on the screen *Change number selection*.

1. Set the indicator for your selection. As required, also determine *free selection*.
2. Click .


The *Save as variant* screen appears.

3. Enter a name and a description for the selection variant.

On this screen, you can determine additional field attributes for each field of the selection screen, as required.

4. Save the selection variants.

### Result

When you call up the information system again, you can call up the selection variants by clicking on .

## Displaying Change Documents

## Displaying Change Documents

### Use

Major changes to the change master record are stored in change documents and can be displayed from any screen. You can either display all change data or select specific information that you want to see.

You can display the following change document information:

- *All documents*
- *Header*  
The changes made to the header data are stored.
- *Object types*  
The changes made to the object type indicators are stored.  
For each object type (for example, material), you see the indicators that have been changed. You then see the indicators that have been changed for the relevant object types.
- *Object management*  
The system stores the changes that you make on the detail screen of an object management record, as well as information on alternative dates.  
The objects are identified by their object type (such as **41** for *Material*) and their internal object key (for example, material number). You see the description of the object type in the dataset that follows the identifying data.
- *Alternative dates*  
The system stores the changes made to alternative dates.  
For each alternative date, there is a separate dataset. This is made up of one section with identifying data (description and valid-from date) and another section with information on the field that was changed.
- *Engineering change hierarchies*
- *Effectivities*
- *Maintenance Values*

#### To display change documents:

1. Choose *Environment* → *Change documents* → *<Document information>*.

In the document header, you see the identifying data of the change master record (for example, change number, description, client).

This is followed by a list of the objects (for example, alternative dates) for which change documents have been created.

2. You see a list of the fields (technical name and description) that have been changed.

## Displaying Object Changes

You can display a list of the objects that have been processed with reference to a specific change master record.

This process is slightly different for the different object types, so a separate list is created for each object type.

You can display a list for each of the following object types:

- BOM changes
- Task list changes
- Documents
- Materials
- Change objects in the classification system
- Substance changes
- Phrase changes

**To display the changes for the different objects:**

1. From the *Environment* menu, choose *Reporting* → <Object type> (for example, *Material BOM*).
2. You see the <Object Type> *Changes for Change Number* screen (for example, *BOM Changes for Change Number*).

The lists are different for the various object types. The following sections describe these lists.

**See also:**

[BOM Changes \[Page 214\]](#)

[Task List Changes \[Page 217\]](#)

[Document List \[Page 218\]](#)

[Materials List \[Page 219\]](#)

[Change Objects from the Classification System \[Page 220\]](#)

**BOM Changes**

## BOM Changes

The BOMs are sorted by BOM category.

If more than one BOM is listed in the one BOM category, the object numbers are sorted in ascending order.

The header or item record is duplicated in every change with a history requirement. The list of changes contains several display blocks with the following information:

- Block that identifies the **BOM** (compulsory):  
*Alternative, <Object number> (for example, Material), Short text, Plant*  
This block is generated for every BOM change.
- Block for changed **header record** (optional):  
*Base quantity, Base quantity unit of measure, Short text, Created by* (user who created the new header record by making the change,)
- Block for changed **item record** (optional):  
Item number, Component, Item type, Component quantity, Component unit of measure, Component description

You can select and compare the header and item records. The system displays the old and new values of the changed data on a special screen.

### Processing Indicators for Header and Item Records

The display blocks for the changed header and item records begin with the column **CHG**. The processing indicators show how the header or item record was processed with reference to the change number.

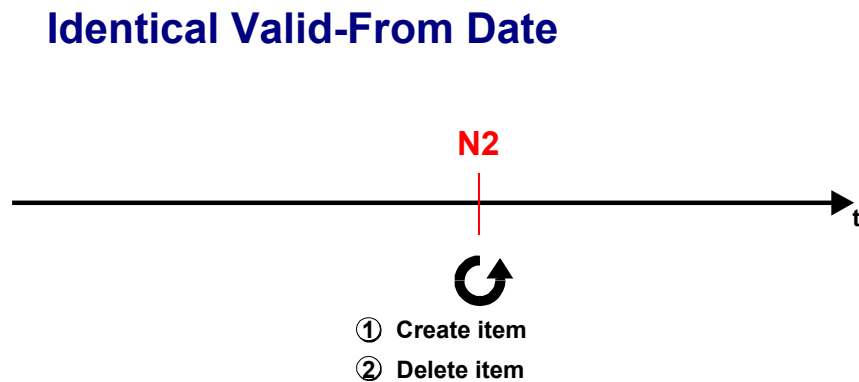
#### Processing Indicators for Header and Item Records

| Header and Item Records | Abbreviation | Meaning  |
|-------------------------|--------------|--|
| Active                  | New          | The record was created.  |
|                         | Old          | This happens when you save or change an existing header or item with reference to a change number.<br><br>The record was changed. This can happen when you change an existing header or item with reference to a change number.<br><br>The header or item is replaced. |
| Logical delete          | Del          | This happens when you explicitly delete an existing header or item with reference to a change number.<br><br>The header or item is not replaced.   |
| Inactive                | Inn and Ind  | The valid-from date of the item is greater than or equal to the valid-to date (for example, due to a date shift).  |
|                         | Inn and Ind  | The item becomes valid with the change number.<br><br>The item becomes invalid with the change number.   |

## Example 1 (Identical Valid-From Date)

You create an item with change number N1 and delete it with change number N2. Both these change numbers have the **same** valid-from date.

The following graph illustrates this.



### Change master record changes:

- Change master record changes **N1**
  - Before deletion: New
  - After deletion: Inn
- Change master record changes **N2**
  - After deletion: Ind

## Example 2 (Date Shift)

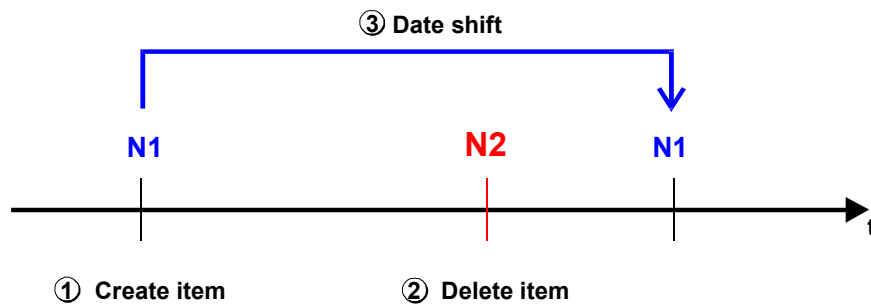
You create an item with change number N1 and delete it with change number N2. These change numbers have **different** valid-from dates.

The date can be shifted in the following ways:

- The N2 date is shifted to before the N1 date
- The N1 date is shifted to after the N2 date.

The following graph illustrates shifting the N1 date to after the N2 date.

## Date Shift

**Example 2 (Date Shift)****Change master record changes:**

- Change master record changes **N1**
  - Before the date shift: New
  - After the date shift: Inn
- Change master record changes **N2**
  - Before the date shift: Del
  - After the date shift: Ind



## Task List Changes

The task list groups are sorted by type. All task list types are displayed in a separate list.

There is a separate dataset for each task list group. In the heading line, you see the identifying data (task list type, task list group). This is followed by a list of the task lists (including their group counters) that were changed with reference to the current change number.

You see the following changes to task lists:

- *Header changes* (for example, if the usage of a task list has been changed.)
- *Sequence changes* (for example, if the alignment key has been changed.)
- *Operation changes* (for example, if an operation has been added.)
- *Material component changes* (for example, if a material component allocated to an operation is allocated to a different sequence)
- *PRT changes* (for example, if the allocation to an operation has been deleted.)



You can also display changes to fields in a specific task list from the *Routings* menu. To do this, start from the main routings menu and choose *Reporting → Task list changes*.

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**Document List**

## Document List

The *Document Management System* does not use *Engineering Change Management* functionality to store document data with history. This is done with version management. With *Document Management* functionality, you give documents an effectivity period and link them to other SAP objects that are also affected by the change.

In the list of document changes therefore, only the key data of the documents that are linked to the change number is displayed.

The short text from the document info record is displayed as a description.

## List of Materials

The list of materials contains all the materials that have been changed with reference to a particular change number.

- From this list, you can display all active changes that have been made to the individual materials. These changes are stored in change documents. To display the active changes, choose *Changes* from the list of materials.
- For materials, you also have the option of scheduling changes for activation on a later date. To display a list of the planned changes, *Planned changes* from the list of materials.

## Change Objects in the Classification System

### Characteristics

This list shows all the characteristics that have been processed with reference to the change number concerned. The characteristics are listed according to technical name and characteristic description. The characteristic sort is alphabetical for the technical name.

Each characteristic is shown in a special display block. For each characteristic, you see a separate dataset with the values that existed when the characteristic was saved with reference to the change number concerned.

This means that you also see characteristics that were created at an earlier date (possibly with reference to a different change number).

### Characteristics of Class

This list contains only classes for which at least one characteristic has been processed with reference to the change number concerned. For each class, you see these characteristics immediately after the line with the class data.

To display a class, place the cursor in a field of the corresponding class dataset and choose the *Choose* pushbutton. The *Basic data* screen appears, from which you can also display the characteristics.

### Classification

This list contains all the objects that have been classified with reference to the change number concerned. In the line containing the object data, you also see the class to which the object was assigned.

Immediately after the line containing the object data, you see the characteristics to which values have been assigned with reference to the change number.

### Object Dependencies

This list contains all the object dependencies that have been processed with reference to the change number concerned. From the list, you can display the master record for the dependency or call the where-used list for the object dependency.

### Configuration Profile

This list contains all the configurable objects whose configuration profile has been processed with reference to the change number concerned.

There is a separate dataset for each configurable object. The dataset contains the configuration profiles that have been processed with reference to the change number concerned.

To display the individual classes that are allocated to a configuration profile, choose the *Display* pushbutton.

## Displaying the Master Records of the Change Objects

You can display the master record of a change object directly from a processing function for the change master record, provided an object management record exists for this change object.

Since it is not possible to maintain object management records for change objects from the classification system, you cannot display the master records of these change objects.

You can display the master records of the following objects from the change master record:

- Document  
Display the document info record. If original application files have been maintained for a document, you can display these as well.  
[See also:](#)  
[Displaying Originals \[Page 222\]](#)
- Material  
(for *Material* and *Material BOM* change objects)
- Equipment  
(for *Equipment BOM* change object)
- Functional location  
(for *Functional location BOM* change object)

### To display a master record:

1. Go to the required object overview.
  - If you want to display objects of different object types (for example, *document*, *material BOM*), choose *Goto → Object overview → All objects*.
  - If you want to display objects of one object type only, choose *Goto → Object overview → <Object type>* (for example, *document*).

You can also display the master record from the detail screen of an object management record.
2. From an overview screen, select the change object whose master record you want to display.
3. Choose *Environment → Display <object type>*.  
The master record of the selected change object appears. You can use all active functions of the master record.

## Displaying Original Application Files

### *Displaying Original Application Files*

You call this function from the *Environment* menu.

There are two processing situations in which you can choose this function. In each situation, the system displays different original application files. The processing screen from which you call the function determines whether you see an original application file of a document info record or an original application file from optical archiving.

### **Original Application File of a Document Info Record**

In the following processing situations, you can display the original application file of a document info record:

- You are in the object overview for documents and have selected a document that you want to edit. (You are displaying the *Document: Overview* screen).
- You are processing the object management record of a document (*Document: Detail* screen).

If two original application files have been maintained for the document info record, a dialog box appears where you can select a display application (for example, Bitmap). The dialog box also shows the data carrier of the original application file.

Select an application. The original application file (for example, design drawing) appears, provided your frontend computer can start the application.

### **Original Application File from Optical Archiving**

If you are displaying neither the document overview nor a detail screen for a document when you call the function for displaying original application files, a file that was linked to the change master record via the *Early archiving* office function appears.

With the *Early archiving* function, you scan paper documents (for example, customer complaints) into the system before creating an SAP document and pass them on for processing via SAP Business Workflow.

- The above can take place, for example, in the central mail room of a company, where incoming letters are opened, sorted, prepared for processing, and scanned in.
- The scanned-in document (such as a customer complaint) is displayed in the scan dialog box.
- In the R/3 window, an authorized user selects an organizational unit from the Workflow settings.
  - The authorized user then allocates a document type to the original application file displayed. With Workflow functionality, an SAP transaction (for example, *Create engineering change request*) is allocated to the file. This transaction will be completed at a later date.
  - If you proceed with the *Early archiving* function, the original application file is automatically checked into the optical archive.
  - In addition, a work item in the work list is generated for the user responsible (for example, a user in charge of *Engineering Change Management*).

**Displaying Original Application Files**

The authorized users are determined by means of the organizational plan and the role definition in SAP Business Workflow.

- A user from the application concerned then processes the work item. This automatically activates an application transaction that is defined for this document type in Workflow (for example, *Create engineering change request*).
- The user creates the change master record. The original application file (for example, a scanned-in customer complaint) is linked to the change master record by means of an internal link table. You can display the scanned-in original using the *Display originals* function.

## Change Overview

# Change Overview

The change overview gives you information on one or more change master records or ECRs. You can use output parameters to define the scope of the information you see. You can call this information and print it from the *Engineering Change Management* menu.

## Limiting Selection Criteria

You can limit the choice of change numbers using the following data:

- Status
- Change type (for ECR / ECO)
- *Authorization group*

## Output Parameters

The output parameters determine the scope of information in the change overview.

You can display the following data from the change master record or ECR:

- Object management records

If you select this indicator, all the object management records for the change number are displayed.

The object management records are sorted by object type. For example, first you see all the records for material BOMs, then the records for documents, and so on.
- Object types

If you select this indicator, the object types that can be processed with this change number are displayed. The *Object type active for change number* indicator is set for these object types.

If object management records are supported for an object type (*Object management record required per object* indicator), this object type is indicated by the term *Object management*.
- Alternative dates

If you select this indicator, all the alternative dates are displayed. You see the key and the date itself.
- Long text

If you set this indicator, all the long texts for the change number are displayed in full.
- Change number status

If you select this indicator, the following data is displayed for each change master record:

  - System status (for ECR / ECO)
  - User status (if available)
- Object management data status

If you select this indicator, the following data is displayed for each object management record:



- System status (for ECR / ECO)
- User status (if available)
- Displaying active statuses only

This indicator controls the range of statuses displayed. You can use this indicator if you have selected either the *Change number status* indicator or the *Object management data status* indicator.

**Setting the indicator:**

Set this indicator if you want only the **active** status to be taken into consideration. To do this, select *Goto → Status administration* (Maintaining the change master record).

A status is regarded as active if it:

- has been selected as active (for example, *All objects checked*)
- is selected as active (for example, *ECO incomplete*)

An active status is displayed with history. Every time a status is selected or deleted, the action is logged with date and user.

However, if the last action was to delete the status, it will no longer be active in the current processing situation and therefore cannot be found in the list.

**Choosing not to select the indicator:**

If you want all statuses that have already been selected or deleted to be taken into account, then do not select the indicator.

You see the change header data and the master data you selected in a display block.

**See also:**

[Displaying a Change Overview \[Page 226\]](#)

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Displaying a Change Overview

## Displaying a Change Overview

If you want to display a change overview, proceed as follows:

1. From the *Engineering Change Management* menu, choose *Reporting* → *Change overview*.  
The *Change Overview: Initial Screen* appears.
2. Enter the change number whose data you want to see.  
You can also execute this function for multiple change numbers in one function call. To do this, choose *Multiple selection*.  
The *Multiple selection for change number* dialog box appears.
  - If you define single-value restrictions, you get information on the exact change numbers you enter.
  - You can also enter more than one interval of change numbers.
  - To copy the selected values to the initial screen, choose *Copy*.
3. Enter indicators for your output parameters.

**See also:**

[Change Overview \[Page 224\]](#)

4. To start the reporting function, choose *Execute*.
5. On the result screen, all change numbers with data from the change header (valid-from date, description, and status) appear.  
After this change header data, you see the master data you selected from the output parameters.  
The datasets are produced for each change number, with a dividing line between change numbers.

# Change Notifications

## Purpose

The change notification enables you to report design errors or ask whether specific changes to a product are possible, without knowledge of the SAP System or of Engineering Change Management by using the functions of the **internal service request**. The change notification acts as the preliminary stage for a [Change request \[Page 247\]](#).



For example, the sales employee would like to suggest an improvement to a product. Via the Intranet, he creates a change notification to ask whether a change is possible.

This function can be used by people that do not, or only occasionally, work directly in the SAP System. The employee subgroup that has access to the company Intranet includes not just employees from various departments (sales, service, purchasing and so on) but also business partners (customers, development partners, suppliers and so on).

## Prerequisites

The prerequisites for [Creating notifications in the Intranet \[Ext.\]](#) apply.

## Process Flow

1. You **create** a change notification as an internal service request using the Intranet in your web browser.  
 Neither authorization nor knowledge are required to create a change notification, in order to meet all the necessary limitations for a [Change request \[Page 247\]](#) (such as change type, effectivity parameters, release key).  
 You simply create the subject as simple text in the change notification.
2. The change notification is automatically forwarded to a central location where it is **processed** by the person responsible.  
 This checks whether the suggested changes are useful and feasible and whether change requests with similar contents already exist.
3. According to each subject described in the change notifications the processor either rejects the query, creates a change request or assigns the change notification to a change request that already exists.
4. The person who created the change notification as an internal service request can find out about the status of the notification via the Intranet.

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Change Notification

## Change Notification

### Purpose

With a change notification, you arrange the changes to product data that is controlled by Engineering Change Management.

You create a change notification for example, if you want to inform the engineer of a design error or if you want to suggest a product improvement.

### Special Features

The change notification:

- has to be approved
- does **not** carry costs

### Order Process up to Execution

1. You create the subject as simple text in the change notification.  
In addition a little knowledge of the Engineering Change Management or of the work processes in design or work scheduling is essential.
2. The person responsible gets the notification via a workflow or in his worklist and then checks the subject.
3. The processor either approves or rejects the query.  
If the query is rejected, the process ends.
4. If the processor has approved the query, he carries out one or more of the following activities:
  - Create change notification (as follow-up notification)
  - Assign ECR
  - Create ECR

The person, who created the ECR, defines the necessary settings such as the [change type \[Ext.\]](#). The other processes in Engineering Change Management are controlled by the change type.

#### See also:

[Activities for Change Notifications \[Page 239\]](#)

[ECR / ECO \[Page 247\]](#)

## Notification Processing (All Notification Categories)

### Purpose

In this processing mode, you use the extended processing view to create and process notifications of all notification types. You can create quality notifications, maintenance notifications, service notifications, claims, or general notifications. In contrast to the procedure for simplified notification processing, you cannot change the notification type once a notification has been created.

### Prerequisites

All required settings have been made for the respective notification types in Customizing (see *Cross-Application Components → Notification → Overview of Notification Type*).

### Process Flow

1. You create a notification to record a problem or information about a subject matter.  
When you create the notification, you select the desired notification type.
2. You record the required information for the notification (for example, short and long texts for subject matter, partner information, notification priority, items, tasks, and activities).  
Among other things, you can also:
  - Execute follow-up functions via the [action box \[Page 236\]](#)
  - Print the notification data
  - Change the [processing status of the notification \[Ext.\]](#) (for example, put the notification in process)
3. After you have entered all of the required data, you save the notification.  
The notification data is saved and the initial screen reappears.

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Processing Notifications Using Worklist

## Processing Notifications Using Worklist

### Use

Using the worklist for notifications, you can select notifications on the basis of different criteria and process them. You can select the notifications as follows:

- You select the notifications using the *My worklist* function. The system then displays the following notifications for further selection and processing:
  - All notifications to be processed by you as the "person responsible" or that fall within your department's area of responsibility
  - All notifications to be processed by you as a *<Partner function>*
  - All notifications you created
  - All notifications that were last processed by you
- You select the notifications using the *General selection* function. The system then displays all notifications for further selection and processing. Make sure the preset selection criteria contain the values you want (for example, notification status, selection period).

### Prerequisites

If you use the *General selection* function and you want to process notifications for which you are not responsible or which you did not create, you must have the corresponding authorization.

### Activities

You choose *Logistics* → *Central Functions* → *Notification* → *Worklist* → *Notifications* to call up the worklist for notifications.

You enter the required data and choose *Execute*.

#### See also:

[Select and Process Notifications Using Worklist \[Page 231\]](#)

## Select and Process Notifications Using Worklist

### Use

You want to use the worklist for notifications to select and display a list of notifications. For example:

- You want to display or change a specific notification, but you do not know the number of the notification.
- You want to display or change several notifications with certain attributes.
- You want to perform certain functions simultaneously for several notifications with particular attributes.
- You want to select the notifications that you are responsible for processing.

### Prerequisites

If you want to select notifications on the basis of partner functions:

- Partner functions must be defined in Customizing
- Users or departments must be assigned to the partner functions

### Procedure

1. Choose *Logistics* → *Central Functions* → *Notification* → *Worklist* → *Notifications*.

The dialog box *Worklist: Notifications* appears.


2. If you want to create your own **personal** worklist, choose the *My worklist* tab page.

If you want to create a list of **all** notifications that meet certain selection criteria, choose the *General selection* tab page.

3. Enter the desired selection criteria.



| If you want to   | Then  |
|--|---|
| Select only the notifications that are assigned to you for processing  | Set the <i>For processing by me</i> indicator on the <i>My worklist</i> tab page.   |
| Select only the notifications that were created by you   | Set the <i>Created by me</i> indicator on the <i>My worklist</i> tab page.  |
| Select only the notifications that were last processed by you  | Set the <i>Last processed by me</i> indicator on the <i>My worklist</i> tab page.   |
| Select only the notifications assigned to you as a specific partner (for example, in your capacity as an "author") | Set the <i>In my role as</i> indicator on the on the <i>My worklist</i> tab page and choose a partner function in the list field. |

## Select and Process Notifications Using Worklist

|   |   |
|---|---|
| Select notifications that were created within a specific time period                    | <p>Set the indicator:</p> <ul style="list-style-type: none"> <li>• <i>1 week</i>, if you want to select notifications that were created up to one week before the current date.</li> <li>• <i>1 month</i>, if you want to select notifications that were created up to one month before the current date.</li> <li>• <i>3 months</i>, if you want to select notifications that were created up to three months before the current date.</li> <li>• <i>1 year</i>, if you want to select notifications that were created up to one year before the current date.</li> <li>• <i>Defined by me</i> and enter the desired time interval if you want to select notifications that were created within a specific time period.</li> </ul> |
| Select a specific notification or several notifications of a specific notification type | Enter the desired notification number or notification type.   |
| Format the list display to meet your own specific requirements                          | <p>Choose the desired layout in the <i>Layout</i> list field.</p>  <p>You can store the following information in a layout:</p> <ul style="list-style-type: none"> <li>• List column structure</li> <li>• Sort criteria</li> <li>• Filter conditions</li> </ul>   |



Select and Process Notifications Using Worklist

|  |  |
|--|--|
| Specify which criterion the monitor column in the list of notifications references | <p>In the list field <i>Reference field for monitor</i>, choose a reference field. The monitor column is then displayed with the corresponding status.</p>  <p>If you do not choose a reference field, the monitor column is not displayed.</p>  <p>For example, if you chose the desired start/end date as a reference field, the colors in the monitor column have the following meaning:</p> <ul style="list-style-type: none"> <li>• <b>Green:</b> the desired start date has not been reached</li> <li>• <b>Yellow:</b> the desired start date has been reached, but the desired end date has not been reached</li> <li>• <b>Red:</b> the desired end date has been surpassed.</li> </ul> <p>The notifications displayed in red are critical and should be processed with the highest priority.</p> |
| Select notifications with a specific status  | Select the corresponding indicator on the <i>General selection</i> tab page or enter the desired selection profile.  |
| Select notifications that have been assigned specific partners                     | In the <i>Partner</i> area of the <i>General selection</i> tab page, choose the desired partner function(s) and/or enter the partner number.   |



If you always want to use the same selection criteria in your worklist, enter the desired data and choose *My defaults*.

4. Choose *Execute*.

The system displays a list of notifications that meet your selection criteria.

5. You can use the functions described below to process selected objects in the list further.

| Function   | Procedure   |
|--|---|
| Switch between the <i>Display notification</i> and <i>Change notification</i> transactions                           | Choose the <i>Change &lt;-&gt; Display</i> pushbutton.  |
| Display a graphic (for example, how many notifications were created on a particular date or for a specific material) | Position the cursor on a column header text, select the desired objects in the list, and then choose <i>Graphic</i> . |
| Export notification list to MS Excel   | Choose <i>Spreadsheet</i> .   |

**Select and Process Notifications Using Worklist**

|   |   |
|---|---|
| Display document flow for one or more notifications                             | Select one or more objects in the list and then choose <i>Display document flow</i> .             |
| Initiate an outgoing telephone call ( <i>SAPphone</i> component must be active) | Select a notification and then choose <i>Telephone call</i> .                                     |
| Display notification long text  | Select a notification and then choose <i>Long text</i> .  |
| Display or change notifications (branch to notification header)                 | Select one or more objects in the list and then choose <i>Notification</i> .                      |
| Display a portfolio   | Position the cursor on a column header and then choose <i>List → Portfolio</i> .                  |
| Compare notification processing dates (requested start and end dates)           | Select one or more objects in the list and then choose <i>Goto → Schedule graphic</i> .           |
| Display report documentation  | Choose <i>Goto → Report documentation</i>   |
| Print one or more notifications   | Select one or more objects in the list and then choose <i>Notification → Print notification</i> . |



If you selected more than one object in the list, the system displays the first selected object in the list (in the display or change mode). When you have finished processing the first object, choose *Goto → Back*. The next selected object is automatically displayed.

## Processing Notifications Using Workflow

### Use

If a notification is created or put in process in the system, the system can automatically notify the person(s) or department(s) responsible via the *SAP Business Workflow* that:

- The notification must be processed or tasks need to be defined
- Defined tasks need to be executed
- All notification tasks have been completed and the notification must either be completed or additional tasks must be defined for the notification

You receive the information about the notification that needs to be processed as a *work item* in your inbox (*Business Workplace*). Your inbox provides an overview of all notifications that you are responsible for processing. You can begin processing the work item directly from your business workplace.

### Integration

You can access your business workplace by choosing *Office* → *Workplace* from the SAP menu. Then choose *Inbox* → *Workflow* to display any work items that may be present.

### Prerequisites

The required system settings to activate the *SAP Business Workflow* have been made.

### Activities

If there is a work item in your inbox, proceed as follows to begin processing the work item:

- You double click the work item to display a description of the notification.
- You choose *Execute* to process the work item. The system calls up the transaction to process a notification.

## Action Box

## Action Box

### Use

When you process notifications, you can use the **action box** to execute **follow-up functions**. A follow-up function is a function that:

- Can either be executed as part of an overall business process or independently of such a process
- You can select and execute in the action box by means of a mouse click while you are processing a notification or task

### Prerequisites

The follow-up functions in the action box are defined in Customizing for *Cross-Application Components* under *Notification* → *Notification processing* → *Additional Notification Functions*. The follow-up functions that:

- Have been predefined in the standard system can be used without any further preparations
- Are displayed in the action box, but which you do not need, can be deleted in Customizing
- You have programmed yourself and are to be included in the action box must also be defined in Customizing

### Features

The following table contains the most important information you need to know about setting up and using the action box.

| Function                     | What you should know  |
|------------------------------|---|
| Appearance of the action box | <p>In the standard system, the action box is displayed as an overview tree. In this display mode, the follow-up functions are displayed in a list in different colors. The colors have the following meaning:</p> <ul style="list-style-type: none"> <li>• <b>Blue:</b><br/>The follow-up function is active and can be executed.</li> <li>• <b>Black:</b><br/>The follow-up function is inactive and cannot be executed (yet).</li> <li>• <b>Gray:</b><br/>The follow-up function has been executed and cannot be executed again.</li> </ul> <p>If you set the <i>Action box: Table</i> indicator in the user default values, the system displays the action box as a table. In this mode, the system only displays the follow-up functions that can be executed (without the color coding).</p> |

**Action Box**

|   |  |
|---|--|
| Follow-up functions and dependent follow-up functions | <p>Depending on your settings in Customizing, the action box can include follow-up functions that you:</p> <ul style="list-style-type: none"> <li>• Can execute more than once and independently of other follow-up functions in the action box</li> <li>• Can execute only once and/or after certain other follow-up functions have been executed (for example, follow-up functions within a process)</li> </ul>  |
| Control parameters for a follow-up function           | <p>In Customizing, you can specify:</p> <ul style="list-style-type: none"> <li>• In which processing view a follow-up function will be displayed for use (for example, in the simplified or extended notification processing modes)</li> <li>• In which transactions a follow-up function will be displayed for use (for example, in the create or change mode)</li> <li>• Whether a follow-up function will be displayed for use in the transactions for notification processing and/or task processing</li> <li>• Whether a follow-up function will be documented as a task or activity in the notification, or whether it will not be documented at all That all follow-up functions documented as tasks or activities will be available for use in the action box when you create or change a notification The follow-up functions that are not documented will also be available for use in the action box when you display a notification</li> </ul> |
| Assigning follow-up functions to scenarios            | <p>In addition to assigning follow-up functions to a notification type, you can also assign them to a scenario. For example, if you are processing a notification that has a scenario assigned to it, the action box will contain follow-up functions that are assigned to the notification type, as well as those that are assigned to the scenario.</p>  |
| Standard follow-up functions                          | <p>The action box contains several follow-up functions that have been predefined in Customizing. For more information about these functions, see <a href="#">Standard Follow-Up Functions [Ext.]</a>.</p>  |
| Business transactions                                 | <p>In Customizing, you can assign a business transaction to a follow-up function. A business transaction determines whether a follow-up function can be executed, based on the current status of a notification.</p>   |

**Action Box**

|  |  |
|--|--|
| Authorization check  | Each follow-up function that is documented as a task or activity is assigned a code group in Customizing. When you process a notification, the system automatically checks whether you are authorized to access the code groups assigned to the various follow-up functions. If you do not have authorization for a particular code group, the corresponding follow-up function will not appear in the action box. This means that you can only use the follow-up functions for which you have authorization.  |
| Workflow link  | You can link follow-up functions that are documented as <b>tasks</b> to the functions of the <i>SAP Business Workflow</i> component. The system can then trigger workflow tasks once a follow-up function (task) has been executed and the notification has been saved.  |
| Difference between follow-up functions and follow-up actions | Follow-up functions in the action box are different from task-related <a href="#">follow-up actions [Ext.]</a> . Both follow-up functions and follow-up actions call function modules. With a follow-up action, however, the system executes the corresponding function module when you <b>save</b> a notification. With a follow-up function, the system executes the function module as soon as <b>you execute the follow-up function</b> in the action box. Also, when you process follow-up functions, you enter information interactively in a dialog box. This is not possible with follow-up actions. |

**Activities**

To execute a follow-up function in the action box, you click the text or double-click the symbol for a follow-up function (displayed in blue). A dialog box appears, in which you can enter the data that is required to execute the function.



You can only execute a follow-up function if you select it from the action box. If you create an activity or task in the notification using the input help for a catalog, the system does not execute a follow-up function.

The system then executes the selected function. Depending on the settings in Customizing, the follow-up function is:

- Documented as an activity in the notification
- Documented as a task for the notification header
- Not documented

## Activities for Change Notifications

### Use

You use these activities when you process a change notification. In addition to the standard activities, special activities for change notifications are available in the action box.

### Prerequisites

The activities described here are only available for change notifications.

### Features

In the action box for change notifications, the following activities are also available:

| Activity                   | Use   | What you ought to know  |
|----------------------------|---|---|
| Create ECR                 | You select this activity if the subject described causes a change.  | This function is used to create an engineering change request. With this, you initiate the change process with Engineering Change Management. |
| Assign ECR                 | You select this activity if the subject is already known and you have already created an engineering change request.              | If necessary, create the relevant object management record.<br>If you save the ECR, the system assigns the ECR to the change notification.    |
| Create change notification | You select this activity if the subject described causes different changes in several areas.                                      | If necessary, you forward the new notification to the user responsible.   |
| Document flow              | With the help of the document flow, you get an overview of which ECRs have been created as a result of which change notification. | The document flow can be displayed in both the intranet and in an ECR.  |

#### See also:

[Action box \[Page 236\]](#)

[Standard activities \[Ext.\]](#)

[Document flow \[Page 243\]](#)

## Status Management for Notifications

### Use

Notifications are supported by the SAP System's status management function. Whenever you create and process a notification, you execute certain business transactions for the notification. These business transactions are documented in the SAP System by a status. The current status of a notification tells you which processing stage the notification has reached and which steps have yet to be completed.

Of the available statuses in the system, only a few need to be set at any given time. Usually, a notification must have a certain status before you can process the it further. If such a status is missing, the system displays a message to inform you of this.

### Features

A notification can have the following types of statuses:

- **System statuses**

System statuses are set when you execute certain functions for a notification. For example, when you print a notification, the system sets the status "printed" (*NOPT*). The system status tells you that a business transaction was carried out for the notification.

The system statuses for notifications are predefined in the SAP System and cannot be changed.

- **User statuses**

User statuses allow you to further restrict the functions that are allowed by a system status.

Your system administrator defines user statuses in a status profile (see Customizing for *Cross-Application Components* under *Notification Processing* → *Status Management* → *Define Status Profile*). You can assign and delete user statuses if you have the necessary authorization.

**See also:**

[Assigning and Changing User Statuses \[Ext.\]](#)



## Displaying Status Information

### Procedure

To use the functions in the following table, call up the notification in the create or change mode.

| Function  | Tab page / Pushbutton / Menu path   | What you should know   |
|---|---|--|
| Display status information in the notification header |   | <p>The current system statuses are displayed in the <i>Status</i> field of the notification header. If user statuses also exist for the notification, they are also displayed.</p> <p>The <i>Status</i> field also displays the task status. If at least one notification task is still outstanding or released, the status "task outstanding" (TSOS) is displayed. As long as this status is set, you cannot complete the notification.</p> |
| Display status information for individual tasks       | <i>Tasks</i> tab page   | The task overview contains the status of all recorded tasks.   |
| Display system and user statuses with short texts     | <i>Status detail</i> pushbutton   | All active system and user statuses for the notification are displayed on the <i>Status</i> tab page.  |
| Display general status overview                       | Choose <i>Status detail</i> pushbutton and then <i>Extras</i> → <i>Overview</i> | <p>You can see which processing steps have already been performed.</p> <p>All active and inactive system and user statuses for the notification are displayed.</p>   |
| Display statuses that can still be assigned           | Choose <i>Status detail</i> and then the <i>Business processes</i> tab page     | <p>You can see which processing steps are currently allowed or not allowed.</p> <p>If you choose <i>Transaction analysis</i>, you can see which business transactions can still be executed for the notification (green traffic light) and which ones can no longer be assigned (red traffic light).</p>   |

---

Displaying Status Information

## Document Flow

### Use

You can use this function to display the document flow for a notification as a list or network graphic. The document flow allows you to identify:

- Preceding documents (documents from which the current notification originated)
- Subsequent documents (documents that originated from the current notification)
- "To-and-from" references between documents

Each document contains the following information:

- Document number
- Document number
- Additional data (if available)
- Logical system (if any of the other documents was created in a logical system other than the one in which the original notification was created)

You can also display the detailed information for each document.

### Integration

The document flow is integrated in the following processes:

- *Materials Management* (MM)
- *Production Planning and Control* (PP)
- *Sales and Distribution* (SD)
- *Customer Service* (CS)
- *Plant Maintenance* (PM)
- *Financials* (FI)
- *Controlling* (CO)
- *Project System* (PS)

### Features

The document flow, for example, can display the following objects (among others):

- Quality notification
- Service notification
- Maintenance notification
- General notification
- Claim
- Service order

**Document Flow**

- Sales order
- Production order
- Run schedule header
- Goods movement
- Purchase order
- Inspection lot

## Displaying the Document Flow for a Notification

### Procedure

1. Call up a notification in the create or change mode.
2. Choose one of the following menu paths, depending on whether you want to display the document flow as a list or graphic:

- *Extras → Notification documents → Document flow → List*
- *Extras → Notification documents → Document flow → Graphic*



The notifications that reference other subsequent documents in the list display are labeled with a *(Ref.)* designation.

3. If you displayed the document flow as a graphic, select a document and choose *Goto → Display document*.

The detailed information for the selected document is displayed.

## Automated Processing of Business Transactions Using Engineering Change Requests

This section describes how to create an ECR (engineering change request) and convert it to an ECO (engineering change order) so that you can edit various change objects with reference to an engineering change request.

### ECR / ECO Data

[ECR / ECO \[Page 247\]](#)

[Change Type Affects Change Process \[Page 249\]](#)

[Processing Statuses \[Page 250\]](#)

[Internal System Status for all ECRs and Objects \[Page 251\]](#)

[User Status \[Page 259\]](#)

[Workflow Task \[Page 263\]](#)

[Digital Signature \[Page 267\]](#)

[Data for the Engineering Change Request \[Page 268\]](#)

### Maintaining an ECR / ECO

[Flow of Business Transaction Processing \[Page 269\]](#)

[Creating an Engineering Change Request \[Page 270\]](#)

[Checking an ECR and Converting it to an ECO \[Page 271\]](#)

[Changing Objects and Completing Changes \[Page 273\]](#)

[Object Management Record \[Page 276\]](#)

[Creating an Object Management Record in an ECR \[Page 277\]](#)

[Changing an Object Management Record \[Page 278\]](#)

[Displaying an Object Management Record \[Page 279\]](#)

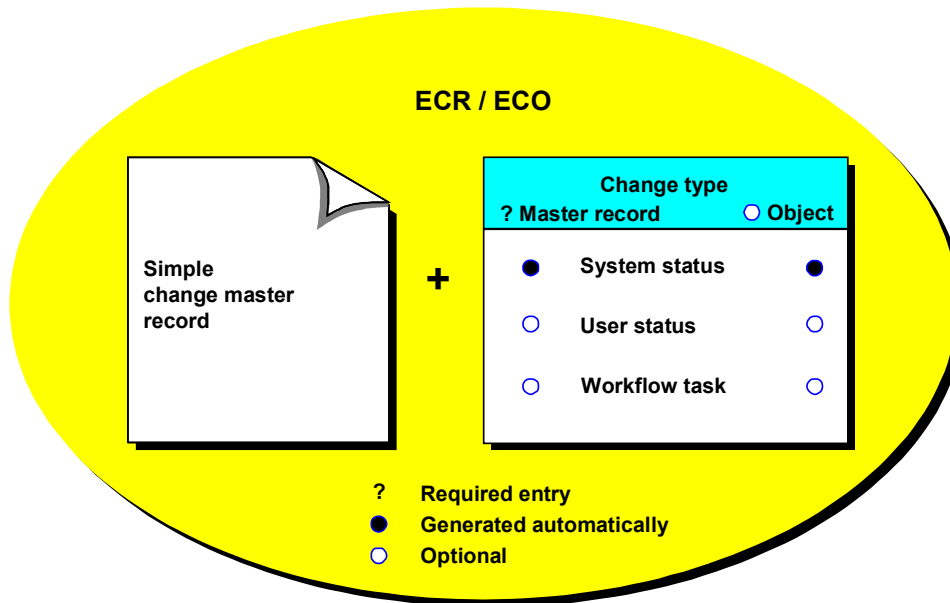
[Changing the Change Type \[Page 280\]](#)

## ECR / ECO

You can control the progress of changes with an engineering change request (ECR) or an engineering change order (ECO).

An engineering change request is a change master record with reference to a **change type**. Since processing change objects with an ECR/ECO enables you to control changes in a more precise way, you **cannot** create a change request with the *Change leader (Leading change master record)* function.

The following graphic shows some additional functions that you can use when you allocate a change type to the change master record.



The following table shows a comparison between a simple change master and an ECR / ECO.

**Comparison: Change Master Record - ECR / ECO**

| Data to be maintained                | Change Master Record | ECR / ECO                    |
|--------------------------------------|----------------------|------------------------------|
| Change type                          | -                    | X                            |
| Internal system status               | -                    | X                            |
| User status                          | X                    | X                            |
| Object management records            | X                    | X                            |
| Generating object management records | X                    | -                            |
| Entering valid-from date             | immediately          | until ECR becomes ECO        |
| Editing change objects               | immediately          | ECR must be converted to ECO |
| Digital signature                    | -                    | X                            |





## Change Type Affects Change Process

The change process of an ECR / ECO is controlled by the **change type**.

The change type affects the change process due to the following factors:

- You control the processing of the change master and of the change objects via different **statuses**.

See also:

[Processing Statuses \[Page 250\]](#)

- In the Workflow workbench, you can define **workflow tasks** that the user should perform once a certain status is set for the change master record or the change object.

See also:

[Workflow Task \[Page 263\]](#)

- You can specify whether a **digital signature** is necessary as an additional authorization check in certain processing situations.

## Defining Change Types

You define change types in Customizing for *Engineering Change Management*. The following table contains the work steps.

### Work Steps for Change Types

| Work step                                    | Object               | Use   |
|--|----------------------|---|
| <i>Define change types for master record</i> | Change master record | You can control the whole change master record with these change types. |
| <i>Define change types for objects</i>       | Change object        | You can control a particular change object with these change types.     |

## Status

### Status

The status is an indicator that has the following functions:

- It informs you of the processing status that the ECR or ECO has attained (for example, *Request checked*).
- It influences which business transactions can be performed (for example, *Approve request*, *Complete order*).

The following requirements must be met before you can process a business transaction:

- At least one active status must allow the business transaction.
- No active status must disallow the business transaction.

### Status Types

The following statuses are relevant to a change type:

[Internal System Status for all ECRs and Objects \[Page 251\]](#)

[User Status \[Page 259\]](#)

## Internal System Status for all ECRs and Objects

Some process flows are relevant to **all** engineering change requests, irrespective of the change type. These process flows are controlled by means of the **system status**. For example, an engineering change request (ECR) must be converted to an engineering change order (ECO) before you can change objects with reference to the change number.

The process is controlled by the system status in the following way:

- The process flow of the status objects is controlled by a **defined status network**.
  - The status network provides a framework for all business transactions - from the opening of an engineering change request through to order release.
  - The status network is defined internally. You **cannot** change the interdependencies between the individual system statuses.
  - In any processing situation, the system determines the statuses that you can currently set.
- The system creates **status objects** in the following situations:
  - When you create an **ECR**, the system automatically creates a status object for the ECR.  
The system is set to *Open*. You set all further statuses.
  - When you enter a management record for the **change object** (for example, BOM), the system automatically creates a status object for this change object.  
The system is set to *Open*. You set all further statuses.

Different status networks that are bound together are defined for the different status objects (ECR and ECO). This means that you cannot change an ECR to an ECO until all change objects have been checked.

### See also:

[System Status for a Change Master Record \[Page 252\]](#)

[System Status for a Change Objects \[Page 253\]](#)

[Setting the System Status \[Page 255\]](#)

## System Status for a Change Master Record

## System Status for a Change Master Record

In an optimal change process, the following system statuses are contained in the status network of the **change master record**:

| Phase I as ECR | Phase II as ECO | Both phases |
|----------------|-----------------|-------------|
| Check ECR      | Complete ECO    | Lock change |
| ECR checked    | Release ECO     | Unlock      |
| Approve ECR    |                 |             |
| Convert ECR    |                 |             |

The following table shows some additional statuses which may occur:

| Phase I as ECR    | Phase II as ECO |
|-------------------|-----------------|
| Reject ECR        | ECO incomplete  |
| Withdraw approval | ECO complete    |

The following applies for the status sequence:

1. When you generate an **ECR**, you can, for the time being, only set a status from the request phase.  
See also:  
[Change Process in the Request Phase \[Page 256\]](#)
2. After you have converted the ECR to an **ECO**, you can set a status from the ECO phase. You cannot set any further status that is in the ECR phase at this point in time in the process.

See also:

[Change Process in the Order Phase \[Page 258\]](#)

## System Statuses for Change Objects

An object-specific status network (system status or user status) can only be maintained for change objects for which there are object management records.

The following table shows the change objects for which you can maintain an object-specific status network.

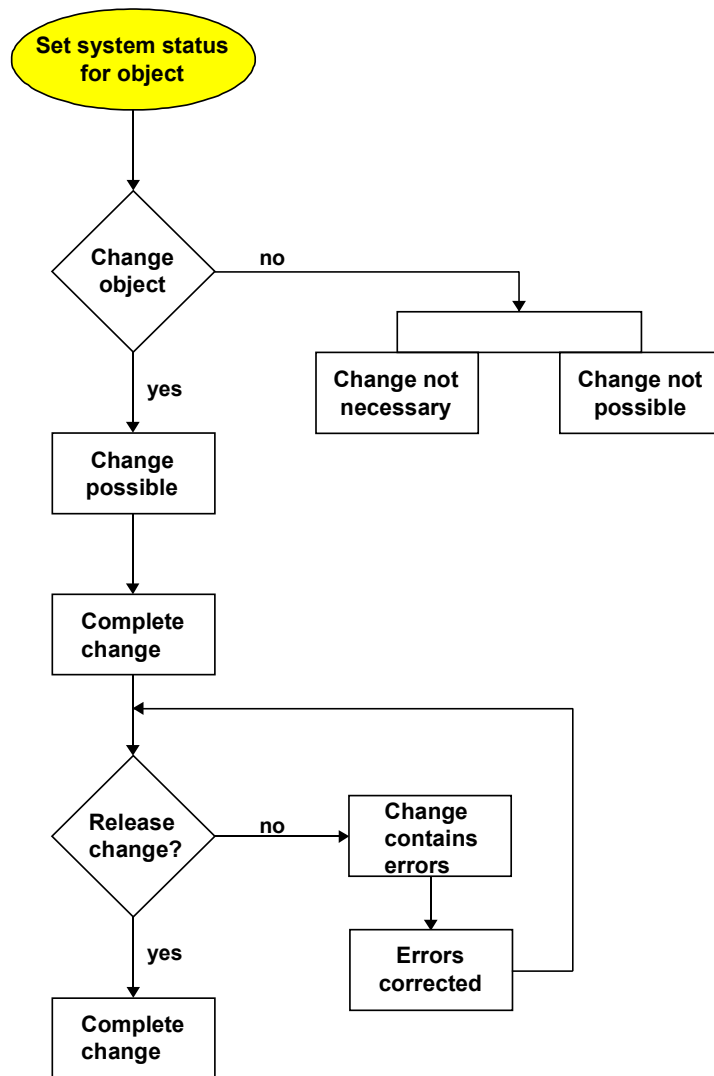
### Status Maintenance for Change Objects

| Change object                                | Status Maintenance Possible |
|--|-----------------------------|
| BOM  | X                           |
| Routing                                      | X                           |
| Document                                     | X                           |
| Material                                     | X                           |
| Classification system objects                | -                           |
| Objects in the Environment Management System | -                           |

The following graphic shows the system statuses that are available for change objects:

## System Statuses for Change Objects

## System Statuses for Change Objects



## Setting the System Status

You maintain the system status for both the change master record and the change objects.

- To maintain the user status of a change master record, go to the change header screen (*Goto* → *Change header*).
- To maintain the user status of a change object, go to the detail screen of the object management record (*Goto* → *Object overview* → *<Change object>* → *Detail screen*).

### To set the system status:

1. Go to either the change header or the detail screen of the object management record.
2. To set a new system status, choose the *Set status* pushbutton or *Edit* → *Set status*.

The *Status* dialog box appears containing all the business transactions that form the status network of the system status, with:

Die Systemstatus, die

- a check mark next to all the statuses that the object has already had
- the *Set status* pushbutton next to all the statuses that you can set in the current processing situation

3. Choose the *Set status* pushbutton for the status you require.



If you cannot set the status you require (for example, *Complete request*) in the current processing situation, check the system status of the change objects. You may need to make changes to the system status of the change objects (for example, *Complete change*).

## Change Process in the Request Phase

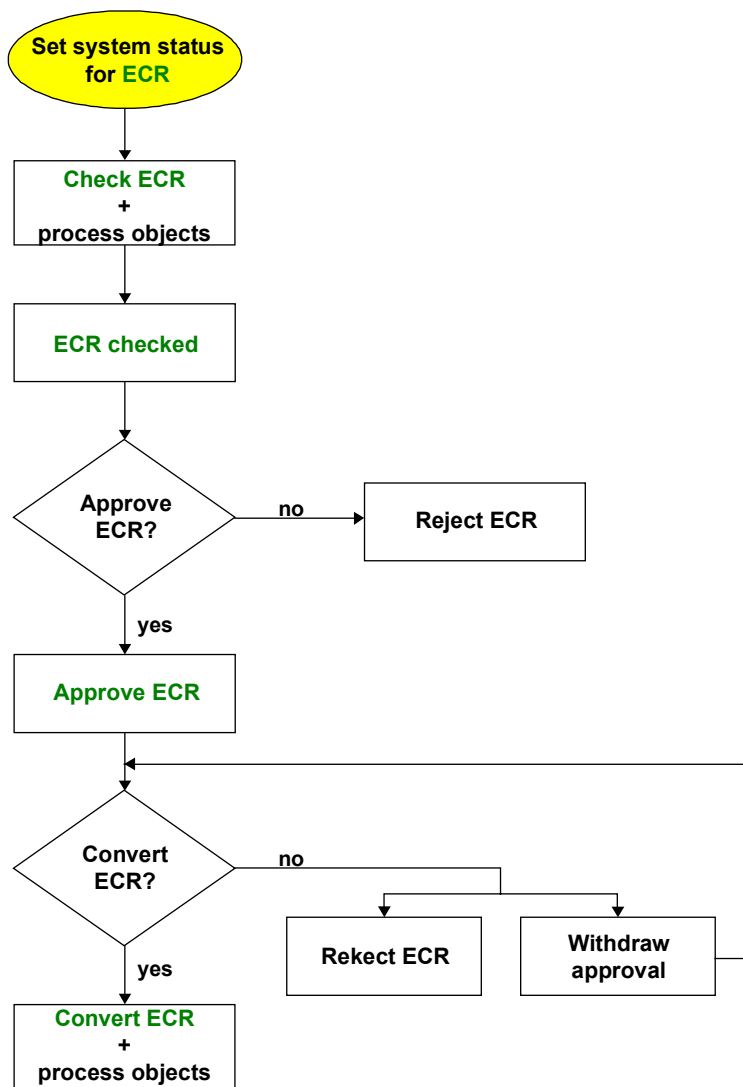
## Change Process in the Request Phase

The following graphic shows the change process in the **request phase**.

The process is always started by checking the ECR (engineering change request) and ends with its conversion to the ECO (engineering change order).

This conversion can only take place if:

- you have specified when the change should take place  
(*Valid- from* date, or values for the effectivity type parameters with a new effectivity type)
- a digital signature is made (if applicable)  
(depending on the definition of the effectivity type)







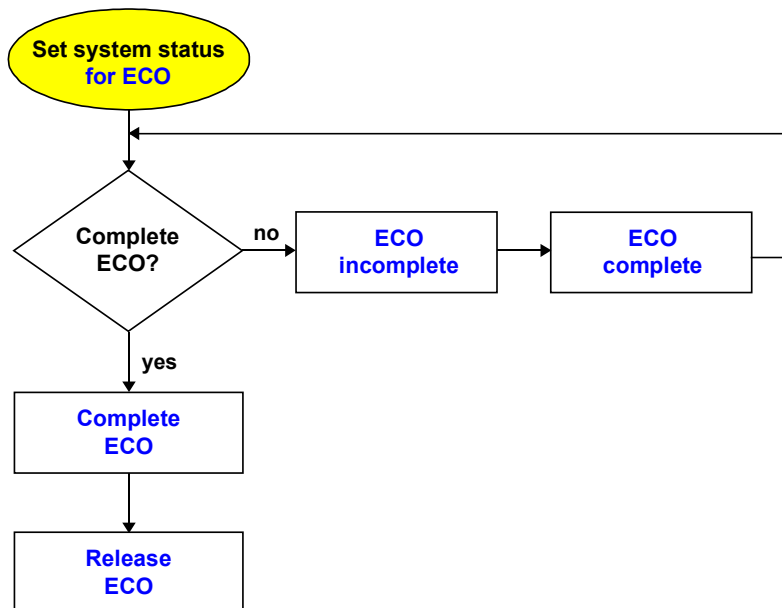
## Change Process in the Order Phase

## Change Process in the Order Phase

The following graphic shows the change process in the **order phase**.

This process is always started by checking whether the order should be completed. The process is completed by releasing the order.

A digital signature may be required for the release, depending on the definition of the change type. You cannot change data in an order that has been released. The only exception to this is the deletion flag for the archiving session.



## User statuses

The change process for an ECR and its related change objects is controlled by the internally defined system status.

A supplementary user status affords you more control over this change process.

You can maintain this user status within the framework of the defined status profile (status network) throughout the processing of your ECR or change object.

**See also:**

[Status Profile \[Page 260\]](#)

[Setting the User Status \[Page 262\]](#)

## Status Profile

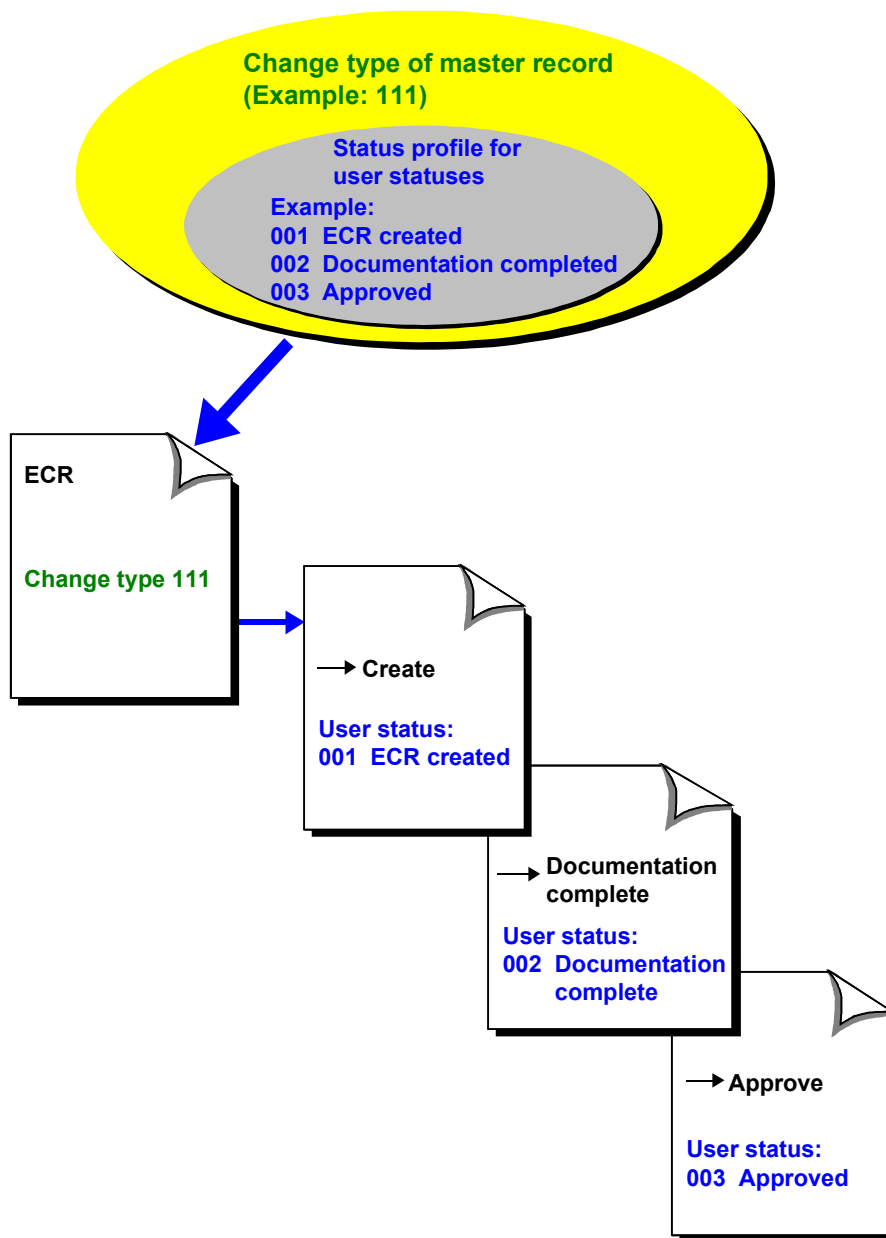
### Status Profile

You can use a company-specific status profile to control the change process (change master record or change objects).

- You define status profiles by choosing *Define status profiles* in Customizing for *Engineering Change Management*.
  - You allocate the status profile to an **object type**.  
The following object types are relevant to *Engineering Change Management*:  
**master record**  
**objects**
  - You can define **user statuses** for your status profile.  
You can allocate business transactions to each user status and define dependencies for it in the form of a status network.  
  
In any processing situation, you can choose the desired status from the statuses that are currently allowed. You can display the latter with the possible entries function.  
  
For more detailed information, see the IMG for *Engineering Change Management*, under *Define status profiles*.
- You assign the status profile to a change type in Customizing for *Engineering Change Management*, step *Define change types*.

The following graphic illustrates how the status profile of a **change type** controls the processing of an ECR or ECO.

### Change Type with User Status



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**Setting a User Status**

## Setting a User Status

You can only maintain a user status for an ECR or ECO if a user status is defined for the selected change type. You can define user statuses in Customizing for *Engineering Change Management* under *Define change types*.

You maintain the user status for the change master record and the change object on different screens:

- To maintain the user status of a change master record, go to the change header screen (*Goto → Change header*).
- To maintain the user status of a change object, go to the detail screen of the object management record (*Goto → Object overview → <Change object> → Detail screen*).

**To set a user status:**

1. Go to either the change header or the detail screen of the object management record.  
To see the current system statuses with short text, choose the *Status mgmt* pushbutton (*Goto → Status management*). The *Status* screen appears.  
On this screen, the *System status* dataset and the *User status* dataset are displayed.
2. If you want to set a new user status, choose the *User status* pushbutton (*Edit → Set user status*).

The *User Statuses Allowed* dialog box appears, containing all the user statuses in the status profile that can be set in the current processing situation.

Select a user status.

## Workflow

### Business Background

With the help of SAP Business Workflow, you can organize and automate the various related work steps in *Engineering Change Management*.

In this way, you can control to what extent the employees are involved in the change process.

There are several scenarios for *Engineering Change Management* in the standard system.

- Simple Workflow with scheduling  
This Workflow results in a slight implementation and management expense and enables you to use the entire functionality of the SAP Business Workplace. You can use this Workflow for simple change master records as well as for ECRs/ECOs.
- Workflows for Engineering change requests (ECRs) / orders (ECOs)  
The Workflow Management system has a defined data flow that ensures that the work steps of a change process are performed by the employees responsible at the correct time.

For more information, see *Basis → Business Management (BC-BMT) → SAP Business Workflow (BC-BMT-WFM) → Reference documentation → BC – Workflow scenarios in the applications → LO – Logistics - general: Workflow scenarios*.

**See also:**

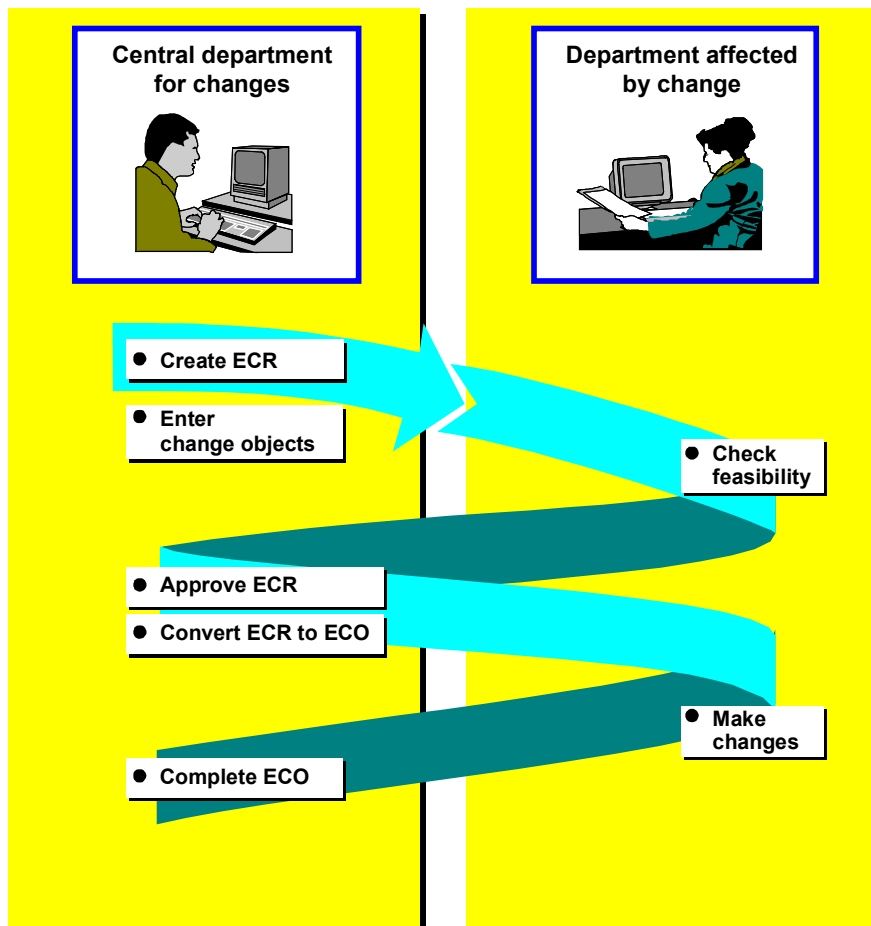
[Example: Processing an ECR \[Page 264\]](#)

[Example: Processing a BOM \[Page 265\]](#)

## Example: Processing an ECR

## Example: Processing an ECR

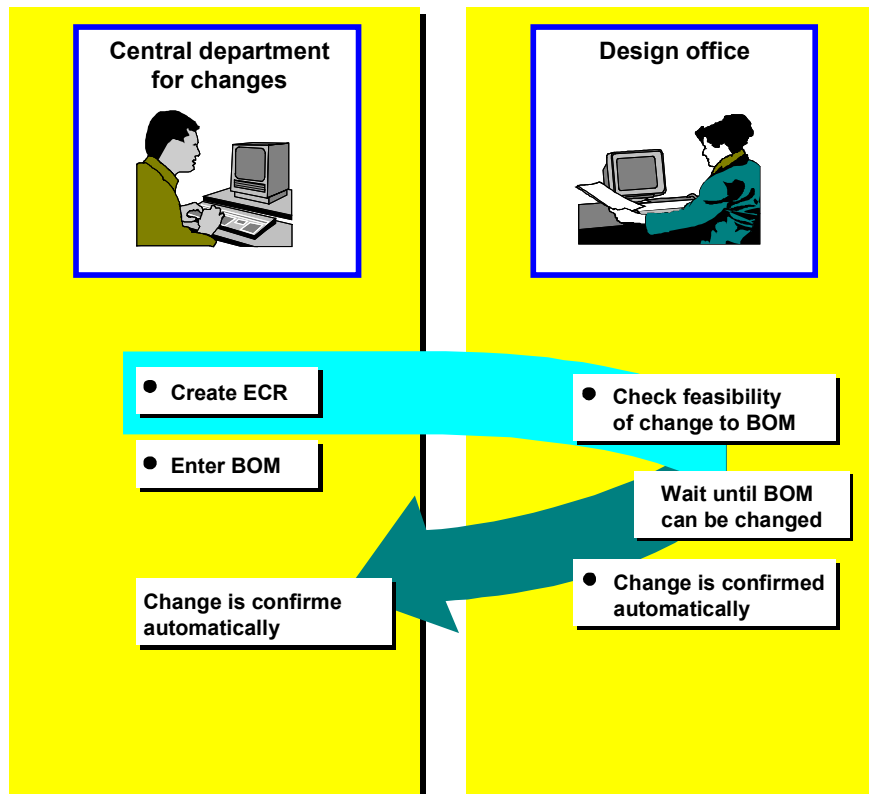
The following graphic illustrates how an ECR is processed by employees in the relevant departments:





## Example: Processing a BOM

The following graphic illustrates a BOM change with reference to an ECR:



## Tasks

## Tasks

Tasks are defined for the ECR and ECO in the standard system which, as steps in a Workflow process, trigger the desired activities.

In *Engineering Change Management*, tasks are defined for the following task types:

- For standard tasks, enter **TS**
- For workflow templates, enter **WS**

## Processing Tasks

You can process the standard tasks in the following way:

- Select *Tools* → *Business Workflow* → *Development* → *Definition tools* → *Tasks/Task groups* → *Change*.
- Enter the task type:
  - For standard tasks, enter **TS**
  - For workflow templates, enter **WS**
- You can search for the tasks for *Engineering Change Management* using the possible entries function for the *Task* field.  
Enter the following as search terms:
  - **ECM** if you are searching for tasks for the change master record
  - **ECO** if you are searching for tasks for the change object

## Standard Tasks (TS)

The operational steps for activities in the Workflow template relate exclusively to these standard tasks.

- Every standard task in *Engineering Change Management* is defined as a **single-step task** and describes, from an organizational point of view, an elementary business activity within the framework of *Engineering Change Management*.
- Standard tasks appear as **dialog work items** in the integrated inbox of the relevant employees at the appropriate point in time (automatic recipient determination) or they are processed directly by the system as **background work items**.
- All standard tasks in *Engineering Change Management* operate either on the object type **ECM** (change master) or **ECO** (change object).

## For workflow templates, enter WS

Different workflow templates are available in the standard system for the change process with reference to an ECR or ECO. These templates control example change processes.

All workflow templates in *Engineering Change Management* operate either on the object type **ECM** (change master) or **ECO** (change object).

## Approval Using a Digital Signature

### Use

The digital signature ensures that only those users with the appropriate authorization can make any changes. If you use the digital signature, you can fulfil the security requirements that are mentioned in Good Manufacturing Practices (GMP).

### Integration

In the SAP System, the digital signature is supported by SSF (Secure Store and Forward). If you use the user signature as a signature method, then you require an external security product that is connected to your SAP System by means of SSF.

### Prerequisites

So that you can work with the digital signature, you have to fulfill the prerequisites for the SAP System, as described in [Approval with a Digital Signature \[Ext.\]](#).

In Customizing Engineering Change Management you make the settings for the digital signature in the section *Change type* → *Approval*.

Furthermore, you have to define the processing situations for the digital signature. This is done in the section *Change type* in the work steps *Define change types for the master records* and *Define change types for the objects*.

You can find further information on each individual work step in the IMG for *Engineering Change Management*, under *Approval*.

### Features

You use the change type of the ECR/ECO to decide which processing situations the digital signature should be checked in.

You can define a signature network for digital signature entry. This signature network is assigned to a chosen change type. When a system status is set for the ECR/ECO or the object management record, the approval process is started according to the chosen signature strategy.

You assign the authorization for the digital signature in the authorization object C\_AENR\_BGR (change master record - authorization group), activity 73 (Making a digital signature).

#### See also:

[Approval with a Digital Signature \[Ext.\]](#)

[Monitoring and logging signature processes \[Ext.\]](#)

[Evaluate digital signature log \[Ext.\]](#)

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Data for the Engineering Change Request

## Data for the Engineering Change Request

When creating an engineering change request, you process all the data of a simple change master record. In addition to this, you maintain the following data.

The change master record is extended to cover the following fields:

- **Change type**

When you create an engineering change request, you enter the change type on the initial screen of the transaction. Once you have saved the ECR, you maintain the change type on the change header screen.

When you try to change the value, the system carries out comprehensive checks.

See also:

[Changing the Change Type \[Page 280\]](#)

- **System status**

You maintain the system status separately for the change master and the change objects.

Use the following screens to maintain the system status:

- Change Master Record: *Change Header* screen
- Change object: *Detail* screen of the object management record

The status line can display up to eight active statuses, each 4 characters long, for eight items. More than one status can be defined for the items in a status profile. However, the status with the highest priority is displayed.

See also:

[Internal System Status for all ECRs and Objects \[Page 251\]](#)

- **User status**

This field only shows values if the change master record has been assigned a change type **with status profile** (Customizing for *Engineering Change Management* under *Define change types for master record*).

See also:

[User Status \[Page 259\]](#)

To display the system statuses and user statuses with their descriptions, choose *Status management*.

- **Valid-from date**

You do not have to enter the *valid-from* date immediately in the change header. You can still enter and check the change objects without a *valid-from* date. Entering the valid-from date does not become essential until you want to convert the ECR to an ECO.

## Flow of Business Transaction Processing

There are three major stages in the flow of business transaction processing:

[Creating an Engineering Change Request \[Page 270\]](#)

[Checking an ECR and Converting it to an ECO \[Page 271\]](#)

[Changing Objects and Completing Changes \[Page 273\]](#)

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Creating an Engineering Change Request

## Creating an Engineering Change Request

In the first processing stage, you create an engineering change request and assign the change objects.

### To create an engineering change request:

1. From the *Engineering Change Management* menu, choose *Engin. change req.→ Create*.

- Enter a change type for the change request.
- Enter any further data required.

2. Choose *Continue*.

The *Change Header* screen appears.

The change header has the following three additional fields that are not in the change master:

- *Change type*
- *System status*

The system shows the abbreviations of the statuses that it has already had. The system status *OPEN* is generated automatically. This system status is also transferred to the change objects and is shown in the object overview and the detail screens for the management records.

- *User Status*

You can only maintain the user status if you have selected a change type with status profile for the change master record (see Customizing for *Engineering Change Management* under *Define change type for master record*).

To see a description of this status, select *Go to → Status management*.

3. Enter the required data.

You do not have to enter the valid-from date or other effectivity data immediately. Entering the valid-from date is not essential until you want to convert the ECR to an ECO.

4. Enter the object type indicators.

Later on, you can only enter objects of those object types whose indicators are set accordingly (ie: allow processing).

5. Enter the objects that you want to change with reference to the engineering change request (for example, material, BOM, task list).

To do this, go to the specific object overviews (for example, *Goto → Object Overview → Document*).

Choose *New Entries* and enter the master data required to identify the object.

6. Save your change request.

## Checking an ECR and Converting it to an ECO

You must check the engineering change request and all change objects assigned to it to see whether they are affected by the planned change. If at least one object has to be changed, you must convert the engineering change request to an engineering change order.

**To check an engineering change request and convert it to an engineering change order:**

1. From the *Engineering Change Management* menu, choose *Engin. change req. → Change*.

Enter the change number, then confirm. The change header appears.

2. Choose *Edit → Set status*, and change the system status to *Check request*.

This status is copied to all change objects of the engineering change request. As a result, you must check **all** these change objects.

See also:

[Setting the System Status \[Page 255\]](#)

[Setting the User Status \[Page 262\]](#)

3. Check the change objects.

Decide for **each** individual object whether or not it is affected by the change.

- To do this, from the object overview, go to the detail screen of the management record.
- From the *Edit → Set status*.

You see a dialog box, in which you decide whether the change is relevant for this object. For example, a material may be affected by the change (system status *Change possible*), whereas a document is not (system status *Change unnecessary*).

- If a change object cannot be changed for some reason (for example, due to inadequate technical requirements), you must set the system status *Change impossible* for the change object.

In this case, the system automatically sets the system status of the change master to *Locked*. You can unlock the change again (system status *Unlock*), however you should preferably discuss the desired change with the departments concerned and fulfill the missing requirements.



At this stage, you cannot yet edit the change objects with reference to this change number. The engineering change request must first be approved and converted to an engineering change order.

4. After checking **all** change objects, you can then change the ECR system status.

- *Reject request*

A request with this status cannot be converted to an order. You cannot edit any change objects (for example, BOMs) with reference to the change number.

- *Approve request*

You must use this status if you want to convert an ECR to an ECO.

---

**Checking an ECR and Converting it to an ECO**

5. If you want to convert an approved ECR to an ECO, select the system status *Convert request*.



When you save the ECR, it is converted to an ECO. **You cannot edit change objects with reference to this change number until you reach this point in the processing procedure of the change master record.**



## Changing Objects and Completing Changes

Once you have converted the change request to a change order, you can edit the change objects with reference to the change number that identifies the change order.

When you have finished changing the object, you must set a new status in the change order.

### To complete a change:

1. After changing the object concerned (for example, document), set its system status to *Complete change*.  
This step is only possible for those objects that have had the system status *Change possible*.



Only after the status *Complete change* has been set for all change objects can you complete the change order.

### Exception for documents:

For documents, the processing status *Complete* is not set in the change master. For each document type, you define when a document is complete in terms of *Engineering Change Management* via the document status (see the IMG for the *Document Management System*, under *Document status*).

If you want to set the *Complete* status while editing the document, the system checks the object management record of the document in the allocated change master. The document can only receive the status if the current system status has *Release change* as the subsequent system status. In this case, the management record is automatically changed in the change master, and the system status is set to *Release change*. Otherwise the document cannot receive a status which is *complete* in terms of *Engineering Change Management*.

2. If the persons responsible do not agree with a change to an object that has already been completed, you can edit the object again.
  - Set the system status *Error in change* in the object management record of the appropriate change object.
  - Edit the incorrect object (for example, BOM)
  - Set the system status *Errors corrected* in the object management record of the appropriate change object.
3. When all the objects that are affected by the change have the status *Complete change*, you can set the system status of the change master record to *Complete order*.
4. You can make an additional check for the change master record with the system status *Release change*.



When you save the ECR, the ECO is released. As of this point in the processing procedure of the change master record, you can no longer edit change objects with reference to this change number.



## Changing Object Mgmt Records at a Later Date

### Purpose

You have already approved an engineering change request or have converted it to an engineering change order. However, you need to add or delete an object management record, or change the system status of an object management record.

### Process Flow

1. Change the system status of the engineering change request or order as shown in the table.

| The engineering change request/order is | If you want to change an object management record, proceed as follows                 |
|---|---|
| Approved                                | Set the system status of the engineering change request to <i>Withdraw approval</i> . |
| Converted                               | Set the system status of the engineering change order to <i>Order incomplete</i> .    |
| ECO complete                            |   |
| ECR complete                            | You can no longer change any object management records.                               |
| Released                                |   |

2. Process the object management records.
3. Reset the system status of the engineering change request or order to what it was originally.

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Object Management Record

## Object Management Record

You can use the following functions for processing object management records:

[Creating an Object Management Record in an ECR \[Page 277\]](#)

[Changing an Object Management Record \[Page 278\]](#)

[Displaying an Object Management Record \[Page 279\]](#)

## ***Creating an Object Management Record in an ECR***

Since a range of status checks are made for an ECR, you cannot have object management records generated by the system as you can for change master records. For this reason, there are certain special points to note when you maintain the object type indicators.

**See also:**

[Object Type Indicators \[Page 81\]](#)

In an ECR, you **cannot** set the following indicators for object types:

- Indicator: *Object management record generated*
- Indicator: *Object management record generated for new records*
- Indicator: *Generation in dialog mode*

You create object management records for an ECR directly in the ECR.

**To create an object management record in an ECR:**

- In an ECR maintenance function, go to the *Object overview* you require (for example, material BOMs).  
Select the *New entries* pushbutton and enter the key data and a descriptive text for the change object.
- You can select a change object using the product structure. The system automatically creates an object management record for the object.

## Changing an Object Management Record in an ECR

### *Changing an Object Management Record in an ECR*

You can change an object management record directly from the processing functions for the engineering change request. You can select the object on an object overview (for example, material BOM) and make the changes on the detail screen.

You also have the option of using *Object mgmt record* from the *Engineering Change Management* menu. This is a special function for changing an object management record. This function is particularly useful for editing the status of object management records.



You should use this function if you want to change only a particular object management record. When you have completed your changes, you see the initial screen again.

#### **To change an object management record:**

1. From the *Engineering Change Management* menu, choose *Object mgmt record* → *Change*.

Enter the change number on the initial screen and confirm it. You see the object overview.

This overview shows the change objects of all object types.

You see the following data for each object:

- *Object type* (for example, material BOM, material, document)
  - Data that uniquely identifies the master record, such as:  
Material master: Material number  
Document: document number, document type, document part, document version
  - Description
  - System status
2. Select the object whose status you want to change.
  3. Choose *Detail* or the menu option *Edit* → *Set status*.
  4. Set the required status by choosing the appropriate pushbutton.



Depending on the change object, further functions may be active on the detail screens.

5. Save your change.

## Displaying an Object Management Record in an ECR

You can display an object management record directly from the processing functions for the engineering change request. You can select the object on an object overview (for example, material BOM), and make the changes on the detail screen.

You can also use a special function for displaying an object management record by choosing the menu option *Object mgmt record* from the *Engineering Change Management* menu.

### To display an object mangement record:

1. Choose *Object mgmt record* → *Display*.

Enter the change number on the initial screen and confirm it. You see the object overview.

This overview shows the change objects of all object types.

You see the following data for each object:

- *Object type* (for example, material BOM, material, document)
  - Data that uniquely identifies the master record, such as:  
Material master: Material number  
Document: document number, document type, document part, document version
  - Description
  - System status
2. Select the object whose status you want to display.
  3. Choose *Detail*. From the *Detail* screen, you can display various data, such as:
    - Status management (*Goto* → *Status management*)
    - Accompanying documents (*Extras* → *Accompanying docs*)
    - Classification data (*Extras* → *Classification*)
    - Master record data (*Environment* → *<Object type>*)

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Changing the Change Type

## Changing the Change Type

The change type has important control functions. Therefore please note the following:

- Enter the change type on the initial screen when you **create** the change master record.
- You change the change type on the *Change Header* screen.

After the ECR has been converted to an ECO, you can only change the change type if the following change type values are the same:

- Status Profile
- Workflow Task
- Settings for the digital signature