Order Change Management (OCM)

Applies to:
SAP Shop Floor Control (Production Orders) – R/3 and ECC 6.0
For more information, visit the Product Lifecycle Management homepage.

Summary:
This is an article explaining the application of Order Change Management component in the manufacturing process. In this article, required configuration settings and process are explained with an example.

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Introduction

Engineering Change Management (ECM) allows us to change various master data in a coordinated manner when they have to be changed together within a change process. Future procurement elements (For Ex: Production Orders) can thus be created directly with a changed product structure.

Using Order Change Management (change management for production orders), in short OCM, it is possible to include existing procurement elements (production orders, planned orders, purchase orders) that are also affected by a change, in the change process. The change process begins when a sales order or master data is changed.

- The change process in OCM is based on Initiating Objects. These initiating object records refer to changes in sales orders or in master data, which, in turn, necessitate changes to production orders.
- The initiating object determines which procurement elements are affected by a change and a Procurement Element Change Record is created for each one.
- On the basis of the procurement element change records, a controlled change of production orders takes place. In detail, changes are determined, checked and executed. The change process is completed when the production order has been changed.

This article focuses only on the changes related to master data.

Configuration Settings

Create Change Profile (T-Code OPL7)

SPRO → Production → Shop Floor Control → Operations → Change Management for Production Orders (OCM) → Define Change Profile

In this profile we make settings to handle conflict situations.

We can specify whether particular actions in change management represent a conflict depending on the processing state of the order or the objects involved. The objects, actions and conflicts involved are:

- **Objects**: Operations, Sub operations, components, directly produced components, PRTs
- **Actions**: Change, Delete, Create, Reassign
- **Level of Conflict**: No conflict, information, Warning, Error.

For each object and action there are various situations for which we can specify which level of conflict should apply. The following are examples of possible settings:

- Change a released operation : Information
- Delete a released operation : warning
In the general tab, flag “when warning appears, execute and mark changes” and “individual change steps can be executed” and select components check box under “Do not delete manually added objects”.

With these settings, system will copy the changes to the production order with change indicators. It allows us to execute change process step wise (Determine changes, check changes and change original order.)
Manually added components will not be deleted automatically by the system instead system sets the status "Do not Execute"

### Change View "Change profile Order Change Management"

<table>
<thead>
<tr>
<th>Situation</th>
<th>Conflict</th>
<th>None</th>
<th>Info</th>
<th>Warning</th>
<th>Error</th>
<th>Do not execute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order Released</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Order Partially Confirm.</td>
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<td>☐</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Order Confirmed</td>
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<td>☐</td>
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<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### Reassign order

<table>
<thead>
<tr>
<th>Situation</th>
<th>Conflict</th>
<th>None</th>
<th>Info</th>
<th>Warning</th>
<th>Error</th>
<th>Do not execute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Op. Released</td>
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<td>Source Op. Confirmed</td>
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<td>☐</td>
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<tr>
<td>Component Withdrawn</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>Target Op. Released</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Target Op. Confirmed</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Under Order header, select the required radio buttons (conflicts) for a change action depending on the order status.

### Change View "Change profile Order Change Management"

<table>
<thead>
<tr>
<th>Situation</th>
<th>Conflict:</th>
<th>None</th>
<th>Info</th>
<th>Warning</th>
<th>Error</th>
<th>Do not execute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delete</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Operation Released</td>
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<tr>
<td>Op. Partially Confirmed</td>
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<tr>
<td>Operation Confirmed</td>
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<tr>
<td>Purchase Order Exists</td>
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<tr>
<td>Component Withdrawn</td>
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<tr>
<td>Component manual</td>
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</tbody>
</table>

### Operation

<table>
<thead>
<tr>
<th>Situation</th>
<th>Conflict:</th>
<th>None</th>
<th>Info</th>
<th>Warning</th>
<th>Error</th>
<th>Do not execute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Released</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Op. Partially Confirmed</td>
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<td></td>
</tr>
<tr>
<td>Operation Confirmed</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase Order Exists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component Withdrawn</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Create
Similarly for component object, set the required conflicts those are to be displayed for different actions during change process.

**Define Overall Change Profile**

**SPRO** → **Production** → **Shop Floor Control** → **Operations** → **Change Management for Production Orders** → **Define Overall Change Profile**

Assign change profile to the overall change profile.
Maintain Release Key

SPRO ➔ Logistics – General ➔ Engineering Change Management ➔ Release Key ➔ Define Release Key

Define the release key with the flag checked for “Rel.OCM” check box. With this setting an initiating object can be written in order change management for basic data changes with this release key.

Master Data Settings

Assign this overall change profile Z00001 to finish material in the work scheduling view of the material master.

Display Material FINISH2 (Finished)
Process Flow Steps

I am simulating the process considering the changes in the BOM. Assume that we have already a production order (60003985) available for this FINISH2 material.

Materials used are FINISH2 (Finish Product), RAW2, RAW3, RAW4 & RAW5 (Components)

Currently, FINISH2 material BOM has three components RAW2, RAW3 & RAW4.

1. **Create Change master (T-Code CC01)**

   ![Create Change Master: Initial Screen]

   Change Number

   Type
   - Change Master
   - ECR

   Function
   - Without Release Key
   - With Release Key

   - Change Package

   Control
   - Change Type
   - Effectivity Typo
   - Profile

   Select type as “change master” and function as “with release key”

   With Release key function we will have the control to transfer the changes to a particular area for ex: Planning or production or costing.
Without Release Key function changes will be transferred automatically to all application areas.

In the change header enter change number description, valid from date and set the change number status as "01" (Active).

After that click on object types and for BOM object, flag the check boxes "actv.", "Object", "MgtRec".

- Check box "actv." indicates that this object type is active for this change number
- Check box "Object" indicates that an object management record is required for this object
- Check box "MgtRec" indicates that management records are created automatically for all objects with these types that are processed using this change number.
2. Make changes to the BOM with reference to change number (500000000069)

In the BOM delete component RAW4 and add the component RAW5 and save the bill of material.
3. Release the change master to Order Change Management (T-Code CC02)

Release the change master to Order Change Management (T-Code CC02)

### Change Master: Initial Screen

<table>
<thead>
<tr>
<th>Change Master</th>
<th>Edit</th>
<th>Goto</th>
<th>Extras</th>
<th>Settings</th>
<th>Environment</th>
</tr>
</thead>
</table>

Change Number: 500000000069

### Change Master: Change Header

<table>
<thead>
<tr>
<th>Change number</th>
<th>500000000069</th>
<th>BOM Changes</th>
</tr>
</thead>
</table>

Description:
- **Valid From:** 08/25/2009
- **Authorization group:**
- **Reason for Change:**

**Status Information**
- **Change no. status:** 1 Active
- **Release key:** 04
- **Usage**
- **Deletion Flag**

Set the release key as 04 (Release changes to OCM) and save the change master.

This means we are releasing the changes made with reference to this change number (500000000069) to OCM.

**Note:** Once we release the key to OCM, we can’t reverse it back.
4. **Search for Initiating Objects (T-Code COCM)**

Flag change number check box and enter corresponding change number and execute. System will display all initiating objects for that change number.

Flag change number check box and enter corresponding change number and execute. System will display all initiating objects for that change number.
Select the initiating object and click on procurement element to get the effected production orders.

System will display all the effected production orders. Select the required production order and execute for change process.
Select the required procurement element and execute change process.

Here system will propose us to carry out the change process step wise. We can carry out the change process step by step or we can process all the steps at a time.

Once the change process completed, we can see the following markings against each steps.
By clicking the changes push button we can see the changes which are going to be applied to the production orders.

Negative indicator indicates “object still has to be deleted” and positive indicator indicates that “object is added”.

5. **Confirm the changes in the production order (T-Code CO02)**

In the components overview of production order, we can see change symbols against these components.

These changes will be affective only if these change actions are confirmed.
To confirm these changes, select these two components go to component menu → Change action → confirm.

After confirming the changes, change symbols will be disappeared and deleted component will be shown in the blue color.

Save the production order.

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity Withdrawn</th>
<th>Reagent Date</th>
<th>Fragment</th>
<th>Item</th>
<th>Pur</th>
<th>Purchase</th>
<th>PIC</th>
<th>Or</th>
<th>Chg</th>
<th>ChangePr</th>
<th>ChangeNbr</th>
<th>Stt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0810 RMA2</td>
<td></td>
<td>08/25/2008</td>
<td>08:37:53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0820 RMA3</td>
<td></td>
<td>08/25/2008</td>
<td>08:37:53</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0830 RMA4</td>
<td></td>
<td>08/25/2008</td>
<td>08:37:53</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0840 RMA5</td>
<td></td>
<td>08/25/2008</td>
<td>08:37:53</td>
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<tr>
<td>0850</td>
<td></td>
<td>08/08/2008</td>
<td>08:08:00</td>
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</tbody>
</table>
Restrictions
We can carry out the full change process only for production orders. Fixed planned orders and purchase orders cannot be changed in the change process, but they can be identified as affected procurement elements when changes to sales orders occur.

The order change process does not support changes in

- Components for which a batch split has been executed
- Co-products
- Sequences

With master data changes, the order change process does not support changes in

- Materials for which discontinued parts have been defined
- Alternative Items
- Trigger points
- Headers of phantom assemblies
- Production resources/tools
- The network structure in collective orders
- The usage of alternative dates in change numbers

References
Order Change Management
Engineering Change Management

For more information, visit the Product Lifecycle Management homepage.
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