**Apply to:**
Contract Manufacturing Procurement – SCM 5.0, SCM 5.1 / SNC 2007

**Summary**
This article gives a detailed overview of Contract Manufacturing Procurement process and system level interactions at various steps in Supply Chain Management.

**Contract Manufacturing Procurement**

**Purpose**
Contract Manufacturing Procurement is a business scenario within SAP SCM that is designed to keep the subcontracting purchase order, specifically the components, up to date between the time when the PO was placed and before the goods are received. The following are the main characteristics of the scenario:

- A company (customer) creates purchase orders for the subcontracting of a product.
- Components to make the product are supplied to the vendor (subcontractor) by the company.
  - Components may also be supplied to the subcontractor via the drop shipment process from another supplier.
- Subcontractor manages inventory for the components and reports back the consumption of components
- Inventory of critical components is visible to both customer and vendor, regardless of storage location or ownership.

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**Author Bio**
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Introduction to CMP

Contract Manufacturing Procurement: Configuration

Purpose

Contract Manufacturing Procurement is a business scenario within SAP SCM that is designed to keep the subcontracting purchase order, specifically the components, up to date between the time when the PO was placed and before the goods are received. The following are the main characteristics of the scenario:

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- Components to make the product are supplied to the vendor (subcontractor) by the company.
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- Subcontractor manages inventory for the components and reports back the consumption of components.
- Inventory of critical components is visible to both customer and vendor, regardless of storage location or ownership.

The screen shots below will help you in understanding the business process and in setting up the configuration.

The configuration settings are based on the following business scenarios:

- Contract Manufacturing Procurement (CMP).

Landscape

SAP R/3 4.7, ECC 5.0 / ECC 6.0; SCM 5.0 / SCM 5.1 / SNC 2007; XI / PI 7.0

Business Process

Customers usually face high amount of overhead time, to handle the administrative activities related to their Supplier Communication, using legacy and SAP applications that was resulting in a lack of focus on their core IT processes. Some Customers face high amount of overhead time while handling the Inventory of low cost high volume components procured from various Suppliers.

Customers can implement their Supplier Collaboration Network through SAP SNC and support requirements of SAP R/3 system's tight integration with near real time processes, applications, best practices and industry leading technology to benefit their business employees. SNC/ICH Supplier Managed Inventory (SMI) scenario is used for handling the Inventory of Low cost High volume components.

Solution Strategy

Implementation of SNC Scenarios e.g. CMP, Purchase Order Collaboration, Release Process, and Invoice Processing.

Key Challenges

- Cut-Over from existing Process to SNC Process.
- Supplier Training.
Basic Steps involved in Contract Manufacturing Procurement

- Subcontract Purchase order created for CMP in R/3 / ECC, is available for the vendor immediately.
- Vendor accepts the Subcontract purchase order which updates status in customer’s SAP ECC system.
- After completing the Subcontracting work vendor ships the semi-finished or finished goods to Customer using ASN.
- Vendor’s ASN gets updated in Customer ECC system and triggers an Inbound delivery.
- Customer receives goods and posts GR in ECC for the Inbound delivery. This triggers POD and the same is updated in SCM.
- Vendor can see the ASN updated with status GR complete.
Assumptions

- Master Data like material master, Vendor, Bill of material, Source list, etc that have been created in SAP R/3 or ECC 5.0 / 6.0 has been CIF’d to SCM using transaction codes CFM1 and CFM2.
- Master data in SCM has been assigned to the active model and the data has been verified.
- Basic set up has been completed in SAP R/3 / ECC 5.0 / 6.0 and is connected to SCM 5.0 using XI or PI as middleware and the relevant BADI’s and BAPI’s are active. This means basic config of R/3 / ECC, XI / PI and Config of SCM has been completed.
- User id and Password has been created for Vendor to access SCM using Web UI. Similarly maintain this for all Vendors / ICH users.
- Necessary Output types have been created using NACE for Purchase order and Inbound delivery so that it triggers an EDI when the PO is created and saved using transaction ME21N and POD proof of delivery is triggered when GR is posted for Inbound delivery VL32N in SAP R/3 / ECC 5.0 / 6.0.
- Basic configuration has been set up for inbound delivery in SAP R/3 / ECC 5.0 / 6.0.

Screen shot showing the CMP process and advantages of SNI.
Business Process Overview

This section gives an overview of the business data flow between SAP ICH and the backend systems at the customer’s (OEM) and supplier’s (contract manufacturer) site.

The following diagram provides an overview of the general data flow from a business point of view.
In the *Contract Manufacturing Procurement* business scenario, the customer can send purchase orders or purchase order updates to the SAP ICH system. The supplier can confirm the purchase order and send updates on component consumption. They can also send an ASN to inform the customer about an upcoming goods receipt.

If the supplier’s system environment is able to create an ASN message, the supplier can send the ASN message to the SAP NetWeaver system. The ASN is then published on the SAP ICH system and contributes to the “stock in transit” quantities in the inventory monitor of the platform.
Simple Steps in executing Contract Manufacturing Process

1. Create a Subcontracting PO in R/3 / ECC
   - Create a Subcontracting PO, doc type “NB” using ME21N transaction for the finished part and item category “L” for subcontracting PO.
   - Ensure that under the Item detail, Materials tab you can see all the subcomponents when you explode the BOM.
   - Upon saving the PO necessary Output type for the PO has been triggered which creates EDI.
   - This EDI is sent to SCM via XI / PI
   - Customer sent Purchase order which will be available to vendor immediately.

2. PO created in R/3 / ECC 5.0 / 6.0 should be visible to Vendor in Web UI
   - Vendor logs into Web UI using his user id and Password and should be able to see subcontract PO under PO collaboration as shown in subsequent slides.
Supplier Logon to the Web UI

After Logging in to Web UI, Vendor will be able to navigate to below screen by clicking on the left window.

Subcontract Purchase order in Web UI

3. Issuing Subcomponents / materials to Vendor in R/3 / ECC
   - This is done using transaction ME2O and creating delivery and then doing the PGI post goods issue to vendor.
   - You will be able to see the Subcomponents available at Subcontractor / Vendor’s location by using transaction MBLB.
4. Vendor Acknowledges / Confirms the quantity and requested delivery date for Subcontracting PO in web UI.

- Vendor confirms the purchase order in web UI and publishes the PO which updates status in customer’s SAP ECC system under Confirmations Tab as “AB”
5. Vendor processes the subcomponents to complete the finished product.
   - Vendor uses these subcomponents / raw materials to process the required finished product.
   - Once the product is approved by quality inspection team then it is available for shipment to customer.

6. Vendor creates ASN advanced shipping notification when the material is ready to be shipped after logging in to the web UI.
   - Create ASN for Subcontracting PO for the committed quantity in web UI and publish ASN.

Supplier creates ASN in web UI

![ASN Creation UI](image)
Once ASN is published in web UI, then the data flows from SCM to R/3 via XI and updates the PO with the ASN # and creates an inbound delivery as shown above based on the configuration settings maintained in R/3 / ECC for inbound delivery.

7. Vendor sent ASN gets updated in Customer R/3 / ECC system and generates an inbound delivery for the ASN.
   - Vendor ASN is sent from SCM to SAP R/3 / ECC via XI / PI which can be seen as “LA “under vendor confirmation tab.

8. Goods Receipt for Subcontracting PO.
   - Vendor creates the Goods receipt for the inbound delivery using VL32N accepts the purchase order which updates status in customer’s SAP ECC system.
   - Upon clicking the Post Goods receipt icon in SAP R/3 / ECC system posts the GR and triggers the output type “OPOD” / “POD “.
**GR done by customer in ECC system**

Post Goods Receipt for Inbound delivery using transaction code VL32N in R/3 / ECC system

**GR status updated in web UI:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Material</th>
<th>Delivery quantity</th>
<th>SU Detail</th>
<th>Description</th>
<th>B</th>
<th>ICa</th>
<th>W</th>
<th>WBatch</th>
<th>Vendor/Batch</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SCM-C0N-3110</td>
<td>6</td>
<td>EA</td>
<td>Engine Sub Assembly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>2</td>
<td>0.000</td>
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<tr>
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<td>0.000</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Customer receives goods in R/3 / ECC and the output type triggered for the inbound delivery updates the ASN in SCM / vendor system as GR complete.

   Once GR is posted using VL32N for inbound delivery and saved, the R/3 / ECC system triggers an output type for the inbound delivery which then sends an Idoc via XI to SCM and updates the relevant ASN status as GR complete.

   Alternatively you can create GR using MIGO transaction for inbound delivery # and save it. For the ASN status in SCM to get updated you need to do the following additional step when using MIGO for GR. Use VL32N transaction, change mode for the inbound delivery # in the PO and then manually trigger the relevant output type that has been set up by you so that the R/3 / ECC system can trigger an Idoc to SCM via XI.

10. You can check the stock of the finished goods using MMBE in R/3 / ECC in your plant and can check the material movements.

    There should be an increase in stock of the finished goods and you will be able to see the posting with a movement type 101.

    • (In SCM 5.0 the Invoice process is done manually. Whereas this can be done in SNC when using SCM 5.1 or SNC 2007)

11. Vendor sends invoice to customer.

12. Customer acknowledges the invoice.
Purchase Order Collaboration with Contract Manufacturing

The process runs as follows:

1. Create subcontract order (SAP ECC 6.0 with or without DIMP)
   The customer sends IDoc PORDCR1.PORDCR102 to SAP NetWeaver. SAP NetWeaver maps the IDoc to an XML message of type ReplenishmentOrderNotification (RON), which is sent to SAP ICH.

2. Display subcontract order (SAP ICH 5.0)
3. Change subcontract order (SAP ECC 6.0 with or without DIMP)
   The customer sends IDoc PORDCR1.PORDCR102 to SAP NetWeaver, which maps the IDoc to an XML message of type ReplenishmentOrderNotification (RON).
4. Display updated subcontract order (SAP ICH 5.0)
   SAP ICH can now display the updated subcontract order.
Related Content

1. SAP Help: www.help.sap.com
2. SAP SDN: www.sdn.sap.com
3. For more information, visit the Business Process Expert homepage.
4. For more information, visit the Business Process Modeling homepage.
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