Logistic Integration

- Logistic integration integrates business processes in SAP Customer Relationship Management (SAP CRM) with processes in SAP ECC Central Component (SAP ECC).

The following Logistic scenarios can be used for procurement of materials and services:

- Reservation of Materials
- Purchase Requisitions of materials
- Purchase orders for services and materials
- Material Withdrawal

The Logistic scenarios based on the customization of item categories in CRM Service transactions (see table CRMC_SRV_LOG_SC), the Purchase Requisition, Purchase order, reservation or automatic procurement will be created in ECC. Additionally on ECC side you can create follow-ups, such as deliveries or good receipts, to those Material Management (MM) documents.

Example: Service Order (Created in CRM) --> ECC Purchase Order (Triggered by CRM) --> ECC Goods Receipt (Created in ECC as follow-up)

- Business Transaction Event in ECC

There is a general customizing required to make Logistic integration run. For these requirement Business Transaction Events (BTE) must be active to get updates from ECC to CRM.

If you create a follow-up transaction on ECC side, like reservation, purchase requisition or purchase order a Event (BTE) will be triggered. The purpose of these event is sending updates to the related CRM business transaction. The required function modul is assigned to the relevant BTE. The assignment are stored in database table TBE31.

Please note, to create the same type, different follow-up transaction can trigger different Business Transaction Events (BTE).

see example:

![Table: TBE31](image)

The assignment of the relevant function modul should be done with transaction FIBF (SAP Business Transaction Events). Then choose "Settings --> P/S Modules --> ... of an SAP Application" in the Menu of FIBF.
An example of call stack to call the associated function module to send a doc-flow update to CRM is the following:

- SAPLITSR          FUNCTION    BF_FUNCTIONS_FIND
- SAPLBT0C          FUNCTION    OUTBOUND_CALL_01000760_E
- SAPLEINR          FUNCTION    ME_POST_HISTORY
- SAPMM07M          FORM        BUCHEN_AUSFUEHREN
- SAPLMBWL          FUNCTION    MB_CREATE_MATERIAL_DOCUMENT_UT
- SAPLMBWL          FUNCTION    MB_POST_GOODS_MOTION
- SAPLMB_BUS2017    FORM        MB_POST_GOODS_MOTION
- SAPLMB_BUS2017    FUNCTION    BAPI_GOODSMVT_CREATE

In this case a goods movement was created and it triggered event 01000740 via setting 01000740//NDI/CRM_SRV_GOODS_RECEIPT_TRIGGER from table TBE31.

Function module CRM_SRV_GOODS_RECEIPT_TRIGGER will be called upon creation of the goods movement to send an update to CRM if applicable.

In case you want to debug the function modules, please note some of these function modules processed in the update task, therefore please make sure to activate "Update debugging" in the settings of the debugger.

If you not have a clue which event is triggered, you can put a breakpoint in function module BF_FUNCTIONS_FIND and run the scenario and from the call stack you can see which event is called (e.g. OUTBOUND_CALL_01000760_E).

In case the ECC follow-up document is missing in the CRM Transaction history, first of all it's advisable to check the relevant assignment in table TBE31 (Tx. FIBF) on ECC side, afterwards you had to debug the associated function module, de-register the generated queues debug the receiving/mapping modules.

Logistic integration use BDOC Type CRM_SRV_EXT for data exchange with ECC, the relevant Validation module is CRM_SRV_EXT_VAL.

- **Customizing in ECC**

The customizing for CRM Logistic integration on ECC side are located in the Transaction SCRM Menu (Customer Relationship Management --> Settings for Service Processing --> Logistics Integration)

- **Logistic Scenario for Material Withdrawal**

The logistics scenario allows you to determine the withdrawal and posting of the spare parts that were
confirmed in a CRM service process. The different types of service logistics scenario for material withdrawal can be selected according to the CRM business transaction and the service organization.

The standard logistics scenario for material withdrawal is the withdrawal of the spare parts from the technician's consignment stock.

- Set Purchasing Document Types for CRM Logistics Integration

Here you specify which purchasing document type is to be used for which logistics scenario for procuring materials and services.

The following requirements must be fulfilled:

- You have executed all the IMG activities for determining a logistics scenario for a service order item.
- In SAP R/3 Customizing, you have set the purchasing document types for Purchase requisitions or purchase orders.

- Copying Rules for Texts When Creating Purchasing Documents

In this IMG activity, you specify, in the context of logistics integration, which texts from the SAP CRM service order or in-house repair order are copied to which texts in the ERP purchasing documents (purchase requisition or purchase order).
You have made settings for the text IDs in the ERP- and CRM systems in Customizing (details in the IMG document which is assigned to the IMG activity).

- **Grouping of Items**

In this IMG activity, you define how CRM service order items are grouped to get a meaningful division of items in one or several purchasing documents in the procurement process.

The following three types of groupings are possible:

- Collective document: All items are collected in one purchasing document
- Single document: A purchasing document is created for each item
- Grouping takes place according to its own logic, which you can define with BAdI: Item Grouping.

Important Note:

If you have made settings for Controlling on item level in the IMG activity Establish Controlling Type, Controlling Levels, and Controlling Scenarios, you can only use the group type: Single documents for the reservation. If you do not perform Customizing, a purchasing document is created for each item (group type: Single document).

- **Customizing in CRM**

Customizing are available in CRM in the SPRO under (Customer Relationship Management --> Transactions --> Settings for Service Transactions --> Integration --> Logistic Integration)

- **Define Logistic Scenario for the Procurement of Materials and Services**
Here you can define the criteria used to determine the logistics scenario for the procurement of materials and services (abbreviated to: logistics scenario).

The following criteria are offered for selection:

- Transaction type
- Item category
- Service organization
- Service team

You can use placeholders for the item category, service organization, and service team.

**Change View “CRM Service: Customizing Table for Logistics Scenarios”:**

In this example for item of category ZRMP in a transaction of type REPA under organization 50000007 a purchase order will be created in ERP. This information is stored in table CRMC_SRV_LOG_SC.

- **Assign Plant and Storage Location to Service Organizational Units**

In this activity you define which plant and which storage location of this plant is assigned a combination of service organization, service team and service employee.

The assignment applies to service processes in SAP CRM and is used to determine the correct plant and storage location when withdrawing or reserving spare part items.

For each combination, enter the respective plant that should be found in the **Plant** and **Storage Location** columns. Use * for a wildcard search for the **Service Organization**, **Service Team** and **Service Employee** fields.

This creates a placeholder that permits user-defined values for the respective entry, unless a specific entry is available elsewhere. Make sure that the service organization key is filled from left to right.
**Define Transfer Parameters for the Goods Movement**

You use this activity to enter the movement type and special stock indicator that are required by an external system to execute a goods movement. The movement type and special stock indicator created are dependent on transaction types and item categories. The movement types and special stock indicators used must be available in the external system.

**Special Customizing for Scrapping Items in SAP CRM**

You have defined the parameters for goods movement from the sales order stock for the item category for scrapping (SCRP) in Customizing for CRM under Transactions --> Settings for Complaints --> Integration --> Logistics Integration --> Define Transfer Parameters for the Goods Movement.

**Example from F1-help**

You can control the system in such a way that a goods movement in the scrapping category is created for the goods movement transfer in the ERP system. You have to enter the following values for this example:

- BADI CRM_SRV_MVT_R3A for the transfer flow of the goods movement
- Note: This BAdI implementation is only valid for item categories of business object type Scrapping (BUS2000185).
- Transaction type: "REPA" for a SAP repair
- Item category: "SCR" for scrapping
- Parameter for the movement type: "551" for the Withdrawal for Scrapping movement type in the ERP system
- Parameter for the special stock indicator: "E" from sales order stock for unrestricted use
• **Business Add In (BADI)**

  * on CRM side

  The list of available BAdIs in CRM can be found in SPRO:
  Customer Relationship Management --> Transactions --> Settings for Service Transactions --> Integration -->
  Logistic Integration:

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  • **Business Add-In: Filter for Reservation (CRM_FILTER_RESERV)**

  This Business Add-In (BAdI) filters the transaction types and item categories that should be transferred to the OLTP system for material reservation. Insert a Business Add-In implementation to set the cv_for_reservation flag for a transaction type, and one or more item categories.

  The Business Add-In is active. The Business Add-In can be used multiple times. All implementations are active. The Business Add-In is not filter-dependent.

  • **Determination of Plant and Storage Location (CRM_SRV_SP_LOCATION)**

  You can use this Business Add-In within CRM Service logistics integration to assign a plant and a storage location for the spare parts required for performing a service.

  This assignment is used in different parts of logistics integration:
  - Availability information for the planned spare parts within service-relevant business transactions
  - When transferring planned spare part items - for which a reservation is created using the plant that was determined - to the OLTP system.
  - When transferring confirmed spare part items to the OLTP system. Spare part items for which a goods issue based on the reservation is executed, using the plant and storage location determined.

  The BAdI is active in the standard system. The default coding is executed automatically. The active implementation LOCATION_FROM_SRVORG is delivered.

  The Business Add-In cannot be used multiple times. The Business Add-In is not filter-dependent.

  • **Determination of Logistics Scenario for Procurement of Materials and Services (CRM_SRV_FIND_LOG_SC)**

  It determines the logistics scenario for the procurement of materials and, which runs in the OLTP system and is used to procure a product (for example, spare part, service).

  This Business Add-In is active in the standard system. The default coding is executed automatically. The CRM_SRV_DFLT_LOG_SC active implementation is delivered.

  This Business Add-In cannot be used multiple times. The Business Add-In is not filter-dependent.

  The standard implementation of this Business Add-In derives the logistics scenario based on the following criteria:
  - Transaction type
  - Item category
  - Service organization
  - Service team
**Mapping of CRM Data for SAP ECC Proxy BAPI Call (CRM_LOG_EXTERNAL_MAP_BADI)**

It prepares the data structure of the SAP CRM business transaction for transfer to ERP. The standard implementation of this BAdI provides sample data for ERP.

You use this BAdI to:

- Enhance the data that is transferred to the OLTP system using additional fields
- Change the data that the standard implementation provides

This Business Add-In is active in the standard system. Default coding is executed automatically. The CRM_SRV_MAP_TXT_BADI active implementation is delivered.

The Business Add-In can be used multiple times. The Business Add-In is not filter-dependent.

**BAdI CRM_SRV_MVT_R3A for the transfer flow of the goods movement**

Note: This Business Add-In (BAdI) implementation is only valid for item categories of business object type Scrapping (BUS2000185).

**on ECC side**

In ECC start transaction **SCRM** to open customizing for

CRM Service Integration --> Settings for Service Processing --> Controlling Integration --> Business Add-Ins for Logistic Integration:

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**Determination of Logistics Scenario (CRM_SRV_AUTOLOG_BADI)**

You can use this BAdI to determine the logistics scenario for the procurement of materials and services in the ERP system if you have selected the logistics scenario: Automatic Procurement (OLTP) in SAP CRM in the IMG activity: Define Logistics Scenario for the Procurement of Materials and Services.

This Business Add-In is active in the standard system. Default coding is executed automatically. The Business Add-In is not designed for being used multiple times.

The Business Add-In is not dependent on a filter.

The default implementation of the BAdI determines the logistics scenario in the following way:
For services: A purchase order is created
For materials: It is determined whether the material master exists in the ERP system:
- If there is no material master, a purchase requisition is created on the basis of the CRM material group.
- If the material master exists, then it is determined whether it is intended to keep the material in stock:
  - If the material is inventory-tracked, a reservation is created
  - If the material is not inventory-tracked, a purchase requisition is created

- **Business Add-In: Item Grouping (CRM_SRV_GROUP_BADI)**

  It controls whether all purchase order items of a service order or in-house repair in a document (reservation, purchase requisition, or purchase order) are collected
  or are distributed to several documents.

  This function is only available to you if you have selected Group Type: Ind. Grouping (BADI) in the IMG activity Grouping of Items for the corresponding business object type.

  This Business Add-In is not active in the standard system. Default coding is executed automatically. The Business Add-In is not designed for being used multiple times.

  The Business Add-In is not dependent on a filter. The filter is the business object type of the document.

  The active implementations CRM_SRV_GROUP_PO_STD, CRM_SRV_GROUP_PR_STD, and CRM_SRV_GROUP_RS_STD are delivered externally.

  The logic for the procurement logistic scenarios is as follows:
  - Reservation
    Customizing of the IMG activity “Establish Controlling Type, Controlling Level, and Controlling Scenarios” is read.
    - If the Controlling level is set to transaction in Customizing for the corresponding CRM transaction type, a collective document is created.
    - If the Controlling level is set to item in Customizing for the corresponding CRM transaction type, a single document is created.
  - Purchase Requisition
    A collective document is created.
  - Purchase Order
    Items are grouped depending on the source of supply.

- **Processing of Transferred Data for Purchase (CRM_SRV_MAP_PR_BADI)**

  You can use this BAdI to
  - Change or enhance purchase requisition data.

  In SAP CRM, you have already mapped the data to proxy BAPI structures by using the IMG activity BAdI: Mapping CRM Data for R/3 Proxy BAPI Call.
- Decide whether the purchase requisition needs to be changed or not. Not all changes to a CRM business transaction necessarily require a change to the purchase requisition.

This Business Add-In is not active in the standard system. The Business Add-In is not designed for multiple use. The Business Add-In is not dependent on a filter.

- **Processing of Transferred Data for Purchase (CRM_SRV_MAP_PO_BADI)**

You can use this BAdI to

- Change or enhance purchase order data.

In SAP CRM, you have already mapped the data to proxy BAPI structures by using the IMG activity BAdI: Mapping CRM Data for R/3 Proxy BAPI Call to Proxy BAPI Structures.

- Decide whether the purchase order needs to be changed or not.

Not all changes to a CRM business transaction necessarily require a change to the purchase order.

This Business Add-In is not active in the standard system. The Business Add-In is not designed for multiple use. The Business Add-In is not dependent on a filter.

- **Processing of Transferred Data for Reservation (CRM_SRV_MAP_RS_BADI)**

In SAP CRM, you have already mapped the data to proxy BAPI structures by using the IMG activity: BAdI: Mapping CRM Data for R/3 Proxy BAPI Call.

You can use this BAdI to change or enhance reservation data.

In the default setting, this BAdI is not active. The BAdI is not reusable. The BAdI is not filter-dependent.

- **Mapping of CRM Data to ERP Quality Notification (CRM_QM_NOTIF)**

When transferring data from a transaction or transaction item, from SAP CRM to a quality notification in the ERP system, you can use the BAdI CRM_COMPL_QM_NOTIF to modify Mapping of the data from SAP CRM in a generic data container.

You can use this BAdI to map data to the corresponding ERP data structures. The method MAP_BAPIMTCS_TO_QM_NOTIF is available to you for this purpose.

To use the Business Add-In, an implementation must be created for the available definition of the BAdI and the associated method must be programmed.

This BAdI is not active in the standard system. There is no active implementation. This BAdI is not designed for being used multiple times. This BAdI is not dependent on a filter.