

BW OTC - iCare

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General presentation

Objective of the application

To transfer data between BW and Salesforce (iCare) which is CRM tool of Specialty Polymers. It will be used only Specialty Polymers GBU. There are 3 main areas, which are:

1. Account
2. Overdue
3. Pending orders

These data will be sent to Salesforce by WebMethod weekday.

The iCare application was migrated from PQ1 to WBP in October 2017 by PQ1 decommissioning project and consist in developing a BW flow and Function Modules, regarding Accounts, Pending Orders and Overdues to be sent to Salesforce (SF).

Function Modules(FM) are used, through multiple type of operations, to synchronized Salesforce & BW.

WebMethods (WM) is used as a Middleware between both .

Tool and IT leaders of the application are:

- BW RtR : Guillaume Thevenet (Process Chain & Overdue's DSO)
- BW OtC : Craig Wanamake (Pending orders & Account on BW)
- Salesforce : Emmanuel Gaheri / Dina Mendes
- WebMethods : Reiner Hellstern / Nikhil Bhosle
- PF1 program: ??
- Project manager : Anon Kasemvilas
- Developer: Dan Messas

Usage information

This project have only Salesforce users and only Specialty Polymers GBU

History

This project consist on a migration of existing Function Modules and BW objects from PQ1 to WBP.

Roles & Access

Roles and access

List of application role + menu role and explanation if we have several applications role with specials rules.

| Role Code | Role Description | Explanation |
|-----------|------------------|-------------|
| | | |
| | | |
| | | |

Authorization objects

Authorization to access report is managed by Salesforce because the reports are in salesforce platform. For BW, it is only preparing data on tables and DSO in order to load to SF

Dataflow overview

Scheduling Time

Reporting documentation drive folder:

<https://drive.google.com/drive/folders/1U515rmYzjIK8woYba1bUs0-zJUWMozfm>

Functional and Technical rules on Workbench + Reporting

Rules & Explanations

As WebMethods is used as a Middleware, it triggers every steps of each application (BW, SF), and send data from a side to the other.

[The document of SF and WM team is here](#)

1. Accounts : FM Z_ZSF_GET_ACCOUNT_DATA

This interface has been done to provide Customers information from SAP (Sold To) to Salesforce (Accounts) and Products from Salesforce to SAP-BW. The Scope for Accounts is limited to Specialty Polymers Customers, however all Products in SFDC are being sent to BW.

The data will be automatically refreshed once a day (during the night) - starts at 22:00 CET.

There are 4 steps (Operations) :

1. Operation U (P_TYPE = S (salesforce)):
 - a. WM (WebMethods) extract from SF (Salesforce) the account list that are already synchronized and send it ton BW through the FM.
 - b. Check in table [ZSF_LOG](#) if accounts from the previous list have been called less than 30 minutes ago. If no go to c., if yes go to e.
 - c. IE_ACKID = 'OK'. And set ZSF_LOG text filed as 'ACCEPTED'.
 - d. Fill ZSF_ACCOUNTS field DELETED as 'X' when SOLDTO is not empty. If the SF_ID is matched from data sent by SF, the deletion flag is cleared.
 - e. IE_ACKID = 'KO'. And set ZSF_LOG text filed as 'REJECTED'.
2. Operation N :
 - a. WM extract from SF the account list that are not yet synchronized (new) and send it to BW.
 - b. BW create a job S_SF_UPDATE_TIME (Program ZSF_GET_ACCOUNT_DATA) in WBP with user WMTH_BW (it called FM Z_ZSF_GET_ACCOUNT_DATA operation T)
3. Operation T :
 - a. Check loading duplicate
 - b. Call function Z_ZSF_CHECK_UPDATE_TIME in [PF1_020](#) table [ZZR_CUST_CRM](#) to map SFDC ID with Sold to.
 - c. PF1 Function will get Credit information (CDHDR, KNVP,KNVV,KNA1) to be inserted in BW table [ZSF_ACCOUNTS](#) and then Copy PF1 table [ZZR_CUST_CRM to BW table ZSF_SOLDTOS](#).
 - d. Fills BW tables [ZSF_ACCOUNTS](#) and [ZSF_SOLDTOS](#).
 - e. Marks entries as 'must be sync'.
 - f. Table [ZSF_PRODUCT](#) is filled in with SFDC Products.
4. Operation S :
 - a. BW reads entries from table [ZSF_ACCOUNTS](#) with flag 'must be sync' and where 'deleted' is null.
 - b. Get the detail of account for name text and vat_reg_no from C_CUSTID
 - c. SF receives response from BW (through WM) and include entries that are included in the temporary mapping to be updated.
 - d. Sends the Ack to WBP (via WM) starting operation 'A'.
5. Operation A :
 - a. Clear MUSTBE_SYNC field, when AckID is present.
 - b. BWP updates 'last sync' field of [ZSF_ACCOUNTS](#) and SF updates entries.

Other operations :

- Operation D : Delete the table content (No variables)
- Operation I : Init the synchronization for an ACKID (Variables : IE_ACKID) to reload data to SF.
- Operation H : Init the synchronization for a date (Variables : IE_ACKID)
- Operation G : Change entries in DB for test purpose (No variables)

Monitoring :

In SAP WBP_400 :

Check if job is complete with success : Transaction SM37 Job name: S_SF_UPDATE_TIME

Check if SAP table ZSF_ACCOUNTS has records to sync.Field 'MUSTBE_SYNC' = 'X' and DELETED = empty.

2. Overdues : FM Z_ZSF_GET_OVD_INVOICES

The aim of the interface is to daily load the invoices in overdues from SAP into Salesforce CRM.

The scope is limited to the invoices and will present the purchase orders and the materials associated to the invoice for GBU Specialty Polymers.

The data will be automatically refreshed once a day (during the night) starts in SFDC at 02:00 CET.

Every day, all overdues data are deleted from SFDC and loaded from SAP into SFDC.

There are 5 steps :

- i. Process Chain : PC_SFDC_OVD_01 load the overdues in DSO DBFIAR22. At the end of the PC, FM is triggered with Operation U :
- ii. Operation U:
 1. Empty the 3 tables [ZSF_OVD_INVC](#), [ZSF_OVD_INVC_MAT](#) and [ZSF_OVD_INVC_PO](#)
 2. Then those tables are filled from DBFIAR22 DSO + Data from PF1 by calling function module [Z_ZSF_GET_OVD_INVOICES](#) (program [ZSF_GET_OVERDUES_DATA](#)). July 2022, request to remove material group Z60* (Product hierarchy RW* XL Compounds on WO000000040369). Add program to filter selection from DBFIAR22 to exclude this material group.
 3. Update X on field 'Must be sync' flag on [ZSF_OVD_INVC](#) when returncode = 00 and SF_ID <> ""

a. Returncode of the function module meaning

| Return Code | Meaning |
|-------------|---|
| 00 | OK |
| 01 | Can't find information of FI document header (BKPF) |
| 02 | FI doc does not have type VBRK (BKPF) |
| 03 | Can't find information in billing document (VBRK) |
| 04 | Can't find information from the items of the billing doc (VBRP) |
| 06 | Can't find information from PO order (VBAK) |

- iii. Operation S :
 1. BW send [ZSF_OVD_INVC](#) when returncode = 00 and SF_ID <> " and MUSTBE_SYNC = 'X' to SF by table [TI_DATA](#) as parameter
 2. BW update ACKID fields = current date and time on table [ZSF_OVD_INVC](#)
 3. WM deletes all the overdues in SF and update data in SF
 4. Once WM synchronize completed with SF. WM call operation A
- iv. Operation A :
 1. BW update the [LAST_SYNC](#) field in the overdues table [ZSF_OVD_INVC](#) (from current date of BW).
 2. BW clear [MUSTBE_SYNC](#) on table [ZSF_OVD_INVC](#)
- v. Operation I : SF send ID of overdue to BW the couple ID/External ID and BW will map ID with they key to update SF_ID of 3 tables [ZSF_OVD_INVC](#), [ZSF_OVD_INVC_MAT](#) and [ZSF_OVD_INVC_PO](#)
- vi. Operation P : BWP send to SF informations about material & PO.
 1. BW send [ZSF_OVD_INVC_MAT](#) when [SF_ID_OVD](#) <> " and [ID_SF_MATGROUP](#) <> " and to SF by table [TI_MATKL](#) as parameter
 - a. Jul 2022, a user request to remove material group Z60* (Product hierarchy RW* XL Compounds on WO000000040369). Add program to delete internal table of [ZSF_OVD_INVC_MAT](#).
 2. BW send [ZSF_OVD_INVC_PO](#) when [SF_ID_OVD](#) <> " and [BSTNK](#) <> " to SF by table [TI_PO](#) as parameter

Other Operations :

- Operation J : Update by job (No variables)
- Operation H : Init the synchronization for a date (Variables : IE_ACKID)
- Operation R : Delete table contents (No variables)

Monitoring :

In BW:

- Check job of process chain PC_SFDC_OVD_01

- Table ZSF_OVD_INVC has to be
 - LAST_SYNC and ADCKID have to be updated for the date of sending/loading
 - MUSTBE_SYNC has to be empty
 - Return code should be 00 for some records

See 'Dependencies with other applications > Salesforce' Chapter.

Validation :

Table ZSF_OVD_INVC will keep detail of billing document from PF1_020 and PI1_020. In case of source from PI1_020, there will be possible to check on both systems but the billing number will be different

Billing document (PF1-FB03) will be on field BELNR, BUZEI, BUKRS,and GJAHR

Billing document (PI1-FB03) will be on field ORIG_BELNR, ORIG_BUZEI, ORIG_BUKRS, and ORIG_GJAHR

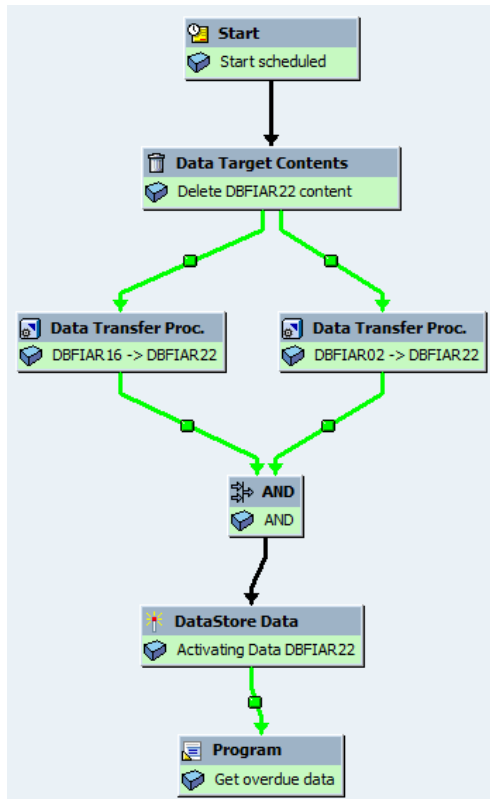
Data Browser: Table ZSF_OVD_INVC Select Entries 2,300

| MAN... | BUKRS | BELNR | BUZEI | GJAHR | LAST_SYNC | MUSTBE_SY... | ORIG_BUKRS | ORIG_BELNR | ORIG_BUZEI | ORIG_GJAH |
|--------|-------|------------|-------|-------|------------|--------------|------------|------------|------------|-----------|
| 400 | 5782 | 6111127452 | 1 | 2017 | 25.01.2018 | | 4044 | 5000106725 | 1 | 201 |

Data loadings:

Info providers and objects loaded

There is only one process chain on this project. It's for the overdues : PC_SFDC_OVD_01. It loads data from DSOs DBFIAR02 & DBFIAR16 to the newly created DSO : DBFIAR22.



Loading frequency:

The process chain is running every day at 2AM.

3. Pending Orders : New solution by WebMethod

iCARE - Sold & Pending

Record Keeping

Reporting

Queries End User Documentation

The reports are available only on Salesforce

Main queries

Main functionalities

Broadcast

Maintenance

Known bugs

Recurring procedure

Planned Evolution

We modify pending orders to use WebMethod instead

3. Pending Orders : FM Z_ZSF_GET_PENDING_ORDERS (OBSOLETE)

This interface has been done to provide Sold and Pending information from SAP and link it with Salesforce Accounts.

The Scope is limited to Specialty Polymers Customers.

The data will be automatically refreshed once a day (during the night) - start in SAP at 22:15 CET (00:00 CEST) and starts in SFDC at 22:00 CET (11:00 CEST).

There are 3 steps (Operations) :

1. Program Z1F_ZSF_PEND_ORDERS_DATA_V3 with variant PRODUCTION is schedule on PF1 (22:15) to
 - a. Delete table [ZSF_OPEN_ORDS_DB](#)
 - b. [Find pending order and fill ZSF_OPEN_ORDS_DB table in PF1](#)
 - c. Update log on table [ZSF_LOGS](#) in PF1. The job is finished around 01:xx and last log will display total of record
 - d. Create control record to have number of record on the first line of the table [ZSF_OPEN_ORDS](#)
 - e. Update BW table by calling FM Z_ZSF_GET_PENDING_ORDERS operation C in BW
 - f. Operation C:
 - Fill table [ZSF_OPEN_ORDS](#) in BW from table [ZSF_OPEN_ORDS_DB](#) in PF1
 - Mark MUSTBE_SYNC = 'X' on table [ZSF_OPEN_ORDS](#)
2. Operation S :
 - BW send table [ZSF_OPEN_ORDS](#) where mustbe_sync = 'X' to WM via parameter TI_DATA
 - WM reads entries from table [ZSF_OPEN_ORDS](#) to check if the control record contains number of records. If yes, WM delete all entries of pending order in SF
 - Then, WM receives response and insert new entries
 - BW update ACKID field = current date and time on table [ZSF_OPEN_ORDS](#)
3. Operation A :
 - BW update MUSTBE_SYNC flag = " and update LAST_SYNC = today on table [ZSF_OPEN_ORDS](#) when ACKID = ACKID from WM

Other Operations :

- Operation J : Update by job (Variables : i_origin)
- Operation U : Update data from the query (Variables : i_origin)
- Operation H : Init the synchronization for a date (Variables : IE_ACKID)
- Operation I : Put entries for the be synch (Variables : i_origin)
- Operation B : Copy Backup Table to S&P Table (No variables)

Monitoring :

In SAP PF1_020 :
Check the job status in transaction SM37. Job name: 'SF_PEND_ORDERS'
Check table ZSF_LOGS it must have this line

In SAP WBP_400 :

Check in table ZSF_OPEN_ORDS if there are entries to synchronize (MUSTBE_SYNC = 'X')
*Remark: In case table ZSF_OPEN_ORDS has no new data from PF1 (check on LAST_SYNC date), it needs to run job SF_PEND_ORDERS or program Z1F_ZSF_PEND_ORDERS_DATA_V3 with variant PRODUCTION again. The user to run this job/program has to setup the **decimal notation as 1.234.567,89** otherwise, the program will be error since there is a conversion number in the routine.

Function Module Variables :

I_ORIGIN - Possible values are : 'P' (Perform actions) and 'S' (Simulation)

I_OPERATION : Different operations previously explained ('S', 'A', 'I', 'P' for Overdues)

Dependencies with other applications

Salesforce : is the CRM which receives data from SAP (PF1 BWP SF)

Monitoring :

- Check if SFDC job is complete with success : Setup Jobs Apex Jobs Apply View: [Select a View]
- For more detailed info, please refer to Document : [IS - Appl - CRM - Monitor Interfaces](#)
- In case of failure : please contact : fas-salesforce@solvay.com

WebMethods : is the middleware which triggers the step from SAP and SF.

- [Technical document of WM process is here](#)
- In case of failure : create a freshdesk ticket and assign it to IS-CAPG-ERP group

Z_ZSF_CHECK_UPDATE_TIME