

# iCARE - Sold & Pending

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## General presentation

### Objective of the application

BW application used to populate data from Order Book to Salesforce, using MFT process as middleware between the systems.

Tool and IT leaders of the application are:

- BW OtC : Felipe Rodrigues (Pending orders & Account on BW)
- Salesforce : Emmanuel Gaheri / Dina Mendes
- WebMethods : Reiner Hellstern / Nikhil Bhosle
- Developer: Felipe Rodrigues

### Usage information

This project have only Salesforce users.

### History

The project removed the SAP function module dependency, getting data directly from order book to be invoiced report.

## Roles & Access

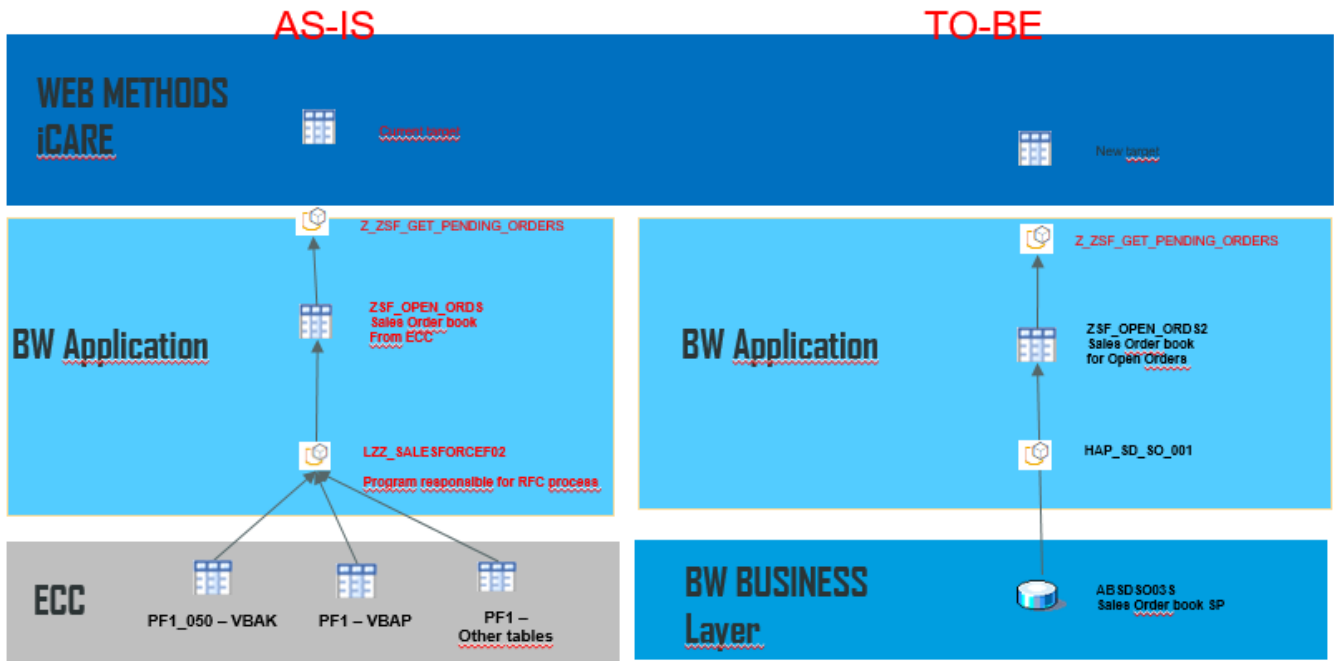
### Roles and access

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

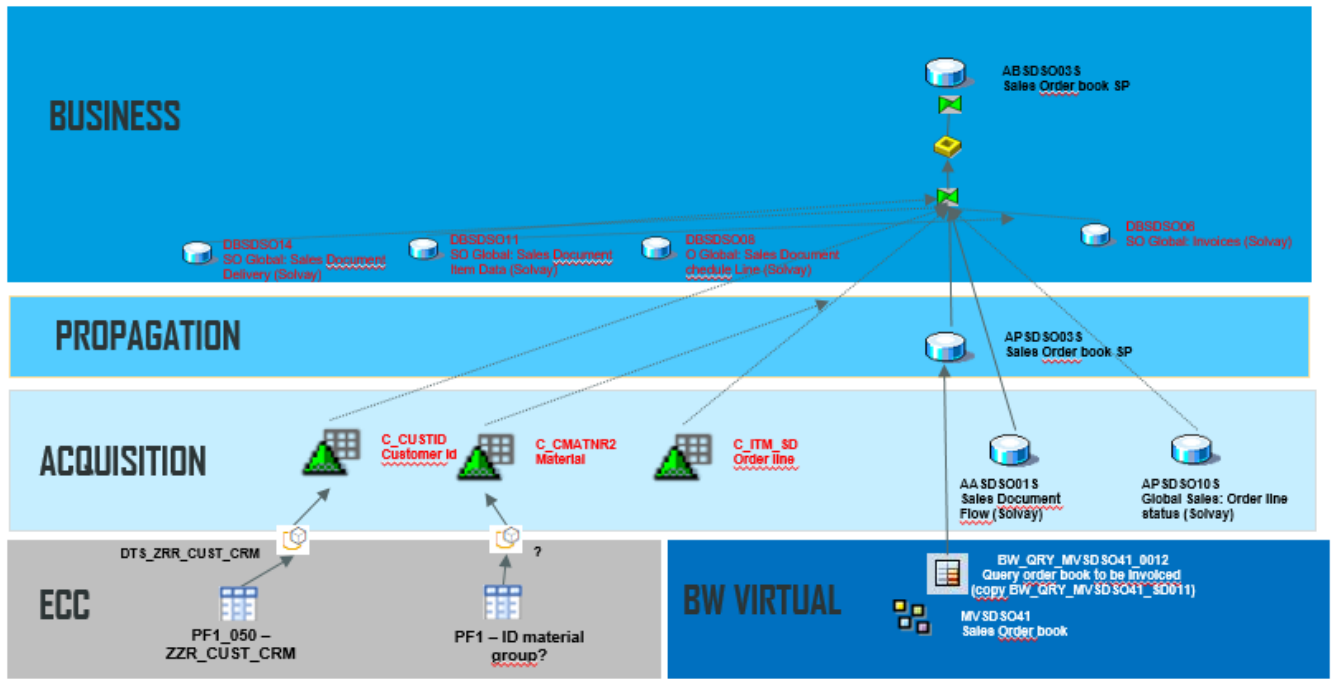
Role Code	Role Description	Explanation

## Dataflow overview

The old process used to get data from PF1 tables by function module, the current process gets data from BW ADSO based on records used in the report Order book: To be invoiced Full (BW\_QRY\_MVSDSO41\_SD011).

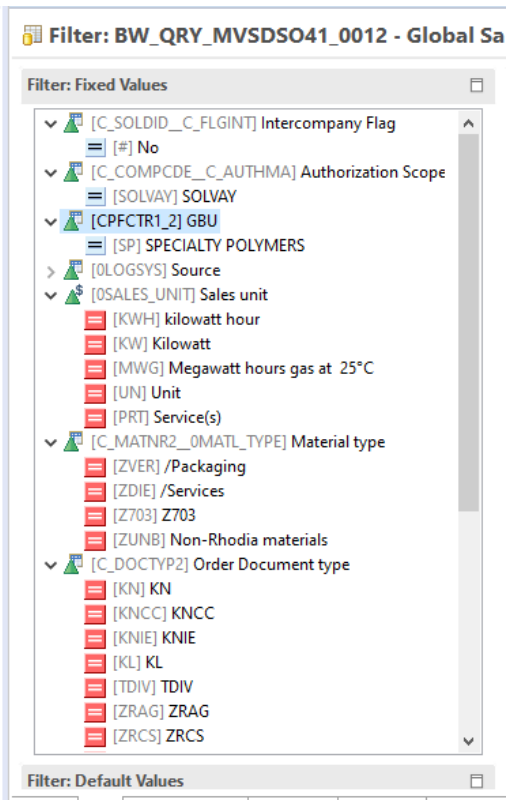


The table ABSDSO03S uses data from two queries, according to the date, the first 10 days of the month, the base is query BW\_QRY\_MVSDSO41\_0013, current and previous month data from SpP in the currency of the order, from day 11 query BW\_QRY\_MVSDSO41\_0013 using only the current month, both are a copy of the report BW\_QRY\_MVSDSO41\_SD011.



## Functional and Technical rules on Workbench + Reporting Rules & Explanations

Source of the process: queries BW\_QRY\_MVSDSO41\_0012 and BW\_QRY\_MVSDSO41\_0013 work only with GBU SP and no as intercompany data flag.



The key figures are the same used BW\_QRY\_MVSDSO41\_SD011, the main difference as mentioned above, the second one gets data based on M-1 for the first ten days of the month.

**Sheet Definition: BW\_QRY\_MVSDSO41\_0012 - Global Sales: Orde (iCare)**

Columns

- Key Figures
  - TOTAL Net Value (CO)
    - [BW\_RKF\_MVSDSO41\_0018] Invoiced Net Sales M (CO)
    - [BW\_RKF\_MVSDSO41\_0015] Shipped Not Billed Net Value M (CO)
    - [BW\_CKF\_MVSDSO41\_0170] TOTAL Open Order Net Value (M, M+1, M+2, >M+2)
  - TOTAL QTY (UOM)
    - [BW\_CKF\_MVSDSO41\_0171] TOTAL Open Order (M, M+1, M+2, >M+2)
    - [BW\_RKF\_MVSDSO41\_0017] Shipped not invoiced qty M
    - [BW\_RKF\_MVSDSO41\_0019] Invoiced qty M

**Sheet Definition: BW\_QRY\_MVSDSO41\_0013 - Global Sales: Or first 10 days (iCare)**

Columns

- Key Figures
  - TOTAL Net Value (CO)
    - [BW\_RKF\_MVSDSO41\_0018] Invoiced Net Sales M (CO)
    - [BW\_RKF\_MVSDSO41\_0307] Invoiced Net Value M-1
    - [BW\_RKF\_MVSDSO41\_0015] Shipped Not Billed Net Value M (CO)
    - [BW\_RKF\_MVSDSO41\_0113] Shipped not invoiced net value <M
    - [BW\_CKF\_MVSDSO41\_0170] TOTAL Open Order Net Value (M, M+1, M+2, >M+2)
    - [BW\_RKF\_MVSDSO41\_0006] Open order net value <M
  - TOTAL QTY (UOM)
    - [BW\_CKF\_MVSDSO41\_0171] TOTAL Open Order (M, M+1, M+2, >M+2)
    - [BW\_RKF\_MVSDSO41\_0001] Open order QTY <M
    - [BW\_RKF\_MVSDSO41\_0017] Shipped not invoiced qty M
    - [BW\_RKF\_MVSDSO41\_0114] Shipped not invoiced qty <M
    - [BW\_RKF\_MVSDSO41\_0019] Invoiced qty M
    - [BW\_RKF\_MVSDSO41\_0308] Invoiced QTY M-1

The propagation layer ADSO APSDSO03S receives data from these queries, aggregating the key figures according to the key below.

Rule	Rule Name	Posi	Key	InfoObject	Ico	Descript.
→	OLOGSYS	1	🔑	OLOGSYS	📊	Source System
→	C_DOCNUMB	2	🔑	C_DOCNUMB	📊	Sales document
→	C_ITM_SD	3	🔑	C_ITM_SD	📊	Sales document item
→	C_DELNUM2	4	🔑	C_DELNUM2	📊	Delivery number
→	C_DELITM2	5	🔑	C_DELITM2	📊	Delivery Item (Core)
→	C_BILLNUM	6	🔑	C_BILLNUM	📊	Billing document
→	C_BILLITM	7	🔑	C_BILLITM	📊	Billing Line

On this point, the key figures are checked to identify and threat, the currency without decimal places, like JPY and CLP by the BAPI: BAPI\_CURRENCY\_C ONV\_TO\_INTERNAL

```

133 IF SOURCE_FIELDS-FIELDNM003 <> 0
134 AND SOURCE_FIELDS-DOC_CURRCY NE 'EUR'.
135
136 CLEAR: lv_amount_ext, lv_amount.
137 lv_Amount_Ext = SOURCE_FIELDS-FIELDNM003.
138
139 CALL FUNCTION 'BAPI_CURRENCY_CONV_TO_INTERNAL'
140 EXPORTING
141     currency           = SOURCE_FIELDS-DOC_CURRCY
142     amount_external    = lv_Amount_Ext
143     max_number_of_digits = 23
144 IMPORTING
145     AMOUNT_INTERNAL    = lv_amount.
146
147 CLEAR: V_IN, V_OUT, v_date, v_endmonth.
148
149 v_date = sy-datum.
150
151 CALL FUNCTION 'SN_LAST_DAY_OF_MONTH'
152 EXPORTING
153     DAY_IN             = v_date
154 IMPORTING
155     END_OF_MONTH      = V_ENDMONTH.
156
157 V_CURR = SOURCE_FIELDS-DOC_CURRCY.

```

And the conversion to VKG by Z\_MD\_CONVERT\_MATERIAL\_UNIT2,

```

144
145 V_UNIT = SOURCE_FIELDS-fieldnm002.
146 V_Q_IN = SOURCE_FIELDS-FIELDNM001.
147
148 CALL FUNCTION 'Z_MD_CONVERT_MATERIAL_UNIT2'
149 EXPORTING
150     I_MATNR           = SOURCE_FIELDS-/BIC/C_MATNR2
151     I_LOGSYS          = SOURCE_FIELDS-LOGSYS
152     I_IN_ME           = V_UNIT
153     I_OUT_ME          = 'VKG'
154     I_MENGE           = V_Q_IN
155 IMPORTING
156     E_MENGE           = V_Q_OUT
157 EXCEPTIONS
158     ERROR_IN_APPLICATION = 1
159     ERROR                = 2
160     OTHERS               = 3.
161
162 IF SY-SUBRC = 0.
163     RESULT = V_Q_OUT.
164 ENDIF.
165 ELSE.
166     RESULT = SOURCE_FIELDS-FIELDNM001.
167 ENDIF.

```



```

-- Check precedent documents for each order line.
PRECTBA = SELECT a."LOGSYS",
                 a."/BIC/C_DOCNUMB",
                 a."/BIC/C_ITM_SD",
                 b.VBELN,
                 c.FKSTK,
                 c.FKSAK
FROM :INTAB AS a
INNER JOIN "/BIC/AAASDS001S2" AS b
  ON a."LOGSYS" = b."LOGSYS"
  AND a."/BIC/C_DOCNUMB" = b.VBELV
  AND RIGHT( a."/BIC/C_ITM_SD", 6 ) = b.POSNV
INNER JOIN "/BIC/AAASDS009S2" AS c
  ON a."LOGSYS" = c."LOGSYS"
  AND c."VBELN" = b.VBELN
WHERE b.vbtyp_n IN ( 'J', 'T' )
      AND b.stufe IN ( '00', '01' )
      AND ( c.FKSTK <> ''
            OR c.FKSAK <> '' );

-- Build the status according to the order line.
VBFA = SELECT "LOGSYS",
              "/BIC/C_DOCNUMB",
              "/BIC/C_ITM_SD",
              MAX( FKSTK ) AS FKSTK,
              MAX( FKSAK ) AS FKSAK
FROM :PRECTBA AS a
GROUP BY a."LOGSYS", a."/BIC/C_DOCNUMB", a."/BIC/C_ITM_SD";

```

Rule3) It's assign values into fields for all tables mentioned in the list below.

```

METHOD PROCEDURE BY DATABASE PROCEDURE FOR HDB LANGUAGE SQLSCRIPT OPTIONS READ-ONLY USING /BIC/ADBS01100 /BIC/PC_ITM_SD
/BIC/PC_CUSTID /BIC/PC_MATNR2 /BIC/ADBS01400 /BIC/ADBS00800 /BIC/ADBS00600 /BIC/ADPS01600 /BIC/ADPSDTR3200
/BIC/AAASDS010S2 /BIC/AAASDS001S2 /BIC/AAASDS009S2.

```

```

LEFT JOIN "/BIC/ADBS01100" AS b
  ON a."LOGSYS" = b."LOGSYS"
  AND a."/BIC/C_DOCNUMB" = b."/BIC/C_DOCNUMB"
  AND a."/BIC/C_ITM_SD" = b."/BIC/C_ITM_SD"
LEFT JOIN "/BIC/PC_ITM_SD" AS c
  ON a."LOGSYS" = c."LOGSYS"
  AND a."/BIC/C_DOCNUMB" = c."/BIC/C_DOCNUMB"
  AND a."/BIC/C_ITM_SD" = c."/BIC/C_ITM_SD"
  AND c.OBJVERS = 'A'
LEFT JOIN "/BIC/PC_CUSTID" AS f
  ON a."LOGSYS" = f."LOGSYS"
  AND a."/BIC/C_SOLDID" = f."/BIC/C_CUSTID"
  AND f.OBJVERS = 'A'
LEFT JOIN "/BIC/PC_CUSTID" AS g
  ON a."LOGSYS" = g."LOGSYS"
  AND a."/BIC/C_SHIPTID" = g."/BIC/C_CUSTID"
  AND g.OBJVERS = 'A'
LEFT JOIN "/BIC/PC_MATNR2" AS h
  ON a."LOGSYS" = h."LOGSYS"
  AND a."/BIC/C_MATNR2" = h."/BIC/C_MATNR2"
  AND h.OBJVERS = 'A'
LEFT JOIN "/BIC/ADBS01400" AS i
  ON a."LOGSYS" = i."LOGSYS"
  AND a."/BIC/C_DELNUM2" = i."/BIC/C_DELNUM2"
  AND a."/BIC/C_DELITM2" = i."/BIC/C_DELITM2"
LEFT JOIN :SCHTAB AS j
  ON a."LOGSYS" = j."LOGSYS"
  AND a."/BIC/C_DOCNUMB" = j."/BIC/C_DOCNUMB"
  AND a."/BIC/C_ITM_SD" = j."/BIC/C_ITM_SD"
LEFT JOIN "/BIC/ADBS00600" AS k
  ON a."LOGSYS" = k."LOGSYS"
  AND a."/BIC/C_BILLNUM" = k."/BIC/C_BILLNUM"
  AND a."/BIC/C_BILLITM" = k."/BIC/C_BILLITM"
  AND a."/BIC/C_DOCNUMB" = k."/BIC/C_DOCNUMB"
  AND a."/BIC/C_ITM_SD" = k."/BIC/C_ITM_SD"
LEFT JOIN "/BIC/ADBS01000" AS l

```

#### ABAP Code

Rule1) Case the order is not in EUR, the process convert to EUR according to the billing status.

1.1) Fully invoiced (STS\_BILL = 'C')

Last day of month, based on CAR3 rate.

```

IF SOURCE_FIELDS-sts_bill = 'C'.

v_date = SOURCE_FIELDS-/bic/c_tbidate.

CALL FUNCTION 'SN_LAST_DAY_OF_MONTH'
  EXPORTING
    DAY_IN      = v_date
  IMPORTING
    END_OF_MONTH = v_endmonth.

CALL FUNCTION 'CONVERT_TO_LOCAL_CURRENCY'
  EXPORTING
    DATE           = v_endmonth
    FOREIGN_AMOUNT = V_IN
    FOREIGN_CURRENCY = V_CURR
    LOCAL_CURRENCY = 'EUR'
    TYPE_OF_RATE   = 'CAR3'
    READ_TCURR    = 'X'
  IMPORTING
    LOCAL_AMOUNT   = V_OUT
  EXCEPTIONS
    NO_RATE_FOUND  = 1
    OVERFLOW       = 2
    NO_FACTORS_FOUND = 3
    NO_SPREAD_FOUND = 4

```

## 1.2) Pending orders

CAR4, based on begin of the month.

```

CONCATENATE SOURCE_FIELDS-/bic/c_tbidate(6) '01' INTO v_date.

CALL FUNCTION 'CONVERT_TO_LOCAL_CURRENCY'
  EXPORTING
    DATE           = v_date
    FOREIGN_AMOUNT = V_IN
    FOREIGN_CURRENCY = V_CURR
    LOCAL_CURRENCY = 'EUR'
    TYPE_OF_RATE   = 'CAR4'
    READ_TCURR    = 'X'
  IMPORTING
    LOCAL_AMOUNT   = V_OUT
  EXCEPTIONS
    NO_RATE_FOUND  = 1
    OVERFLOW       = 2
    NO_FACTORS_FOUND = 3
    NO_SPREAD_FOUND = 4
    DERIVED_2_TIMES = 5.

```

The last BW object used is the HANA Analysis Process, which is responsible to get the codes from ABSDSO03S, convert them into texts according to their respective master data in the procedure, and store the results to be used by webMethods interface (Z\_ZSF\_GET\_PENDING\_ORDERS) into ZSF\_OPEN\_ORDS2 table.

# Display SAP HANA Analysis Process HAP\_SD\_SO\_001

SAP HANA Analysis Process      HAP\_SD\_SO\_001      Gl. Sales: iCare

Overview    Data Source    Data Target

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**Data Source**

InfoProvider            Gl. Sales: Order book (iCare)

Near-Line Access

Database Table     

SAP HANA Analysis Process     

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**Data Analysis**

Function or Script     

Procedure            HANA Procedure

Generate Procedure

Schema            Package     

ABAP Managed Database Procedure

Name     

---

**Data Target**

Analytic Index     

DataStore Object (Classic)     

Database Table            Table to keep pending orders

Embedded in Data Transfer Process

i.e.:

Data Browser: Table ZSF\_OPEN\_ORDS2 Select Entries      200

Cl.	VBELN	POSNR	Date	B	Text	Id CRM	Customer	Ctr	SD_I_STATU	DELIV_STAT	BILL_STATUS	SD_TYPE	Billing Date	SD_CREATEDBY	Customer	SHIPTO_NAME
400	0005435629	000010	03.03.2021			0016000000Vqpn	0000019264	ES	Open	Not delivered	Not relev for bill	TD Standard Order		Stephane Daniel MOULY	0000019264	MINERCOM S.L
400	0005448593	000010	03.03.2021			0013200001Gz3K	0004013742	CN	Open	Not delivered	Not relev for bill	TD Standard Order		Flora HUANG	0004024068	SUZHOU IBOS
400	0005449378	000010	03.03.2021			0010e000010sVd	0004024622	CN	Open	Not delivered	Not relev for bill	TD Standard Order		Si Jun (Nicole) MENG	0004024622	SUZHOU GENE
400	0005449387	000010	03.03.2021			0016000000VqsNY	0004403041	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Aya KODO-EXT	0004414103	NOK CORPORA
400	0005450092	000010	03.03.2021			0013200001Gz3K	0004013742	CN	Open	Not delivered	Not relev for bill	TD Standard Order		Flora HUANG	0004024068	SUZHOU IBOS
400	0005455684	000010	03.03.2021			0016000000U7Dk8	0004404652	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Aya KODO-EXT	0004404657	TORAY INDUS
400	0005458754	000010	03.03.2021			0016000000VqsNQ	0004401880	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Ayumi MORIKURA	0004401880	KURABE INDUS
400	0005458820	000010	03.03.2021			0010e00001J3TnX	0004022377	CN	Open	Not delivered	Not relev for bill	TD Standard Order		Hui Qing CHEN	0004022377	COOPER STAN
400	0005463203	000010	03.03.2021			0016000000U7Djd	0004402533	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Kayo SEKIGUCHI	0004404085	SUNLINE CO.,I
400	0005463205	000010	03.03.2021			0016000000U7Djd	0004402533	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Kayo SEKIGUCHI	0004404085	SUNLINE CO.,I
400	0005468899	000010	03.03.2021			0016000000FRh08	0001024416	DE	Open	Not delivered	Not relev for bill	TD Standard Order		Dario MORETTI	0001024416	ROECHLING PF
400	0005470095	000010	03.03.2021			0016000000VqsNI	0004404256	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Aya KODO-EXT	0004404256	TAKEHARA RU
400	0005472356	000010	03.03.2021			0016000000VqsNI	0004400928	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Ayumi MORIKURA	0004400928	GOMUNOINAK
400	0005473127	000010	03.03.2021			0016000000eNmFF	0004401540	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Noriko YOKOI	0004411321	TONAMI TRAN
400	0005473143	000010	03.03.2021			0016000000eNmFF	0004401540	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Noriko YOKOI	0004417178	KANAMORI INI
400	0005473265	000010	03.03.2021			0016000000eNtI	0004400008	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Kayo SEKIGUCHI	0004400008	A RAYMOND J
400	0005475558	000010	03.03.2021			0016000000f3WVo	0004413858	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Ayumi MORIKURA	0004416118	GOTSU CO, LT
400	0005476377	000010	03.03.2021			0016000000W05J5	0004404841	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Ayumi MORIKURA	0004410623	UCHIYAMA MA
400	0005477044	000010	03.03.2021			0016000000eNmFF	0004401540	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Noriko YOKOI	0004401541	KANAMORI INI
400	0005480153	000010	03.03.2021			0016000000VqsNf	0004403812	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Ayumi MORIKURA	0004416583	KIMURA-UNITY
400	0005482610	000010	03.03.2021			0016000000RnUzX	0004400012	JP	Open	Not delivered	Not relev for bill	TD Standard Order		Noriko YOKOI	0004410765	FUJI LOGISTIC

## Dependencies with other applications

**Salesforce** : is the CRM which receives data from SAP (PF1 WBP 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](mailto:fas-salesforce@solvay.com)

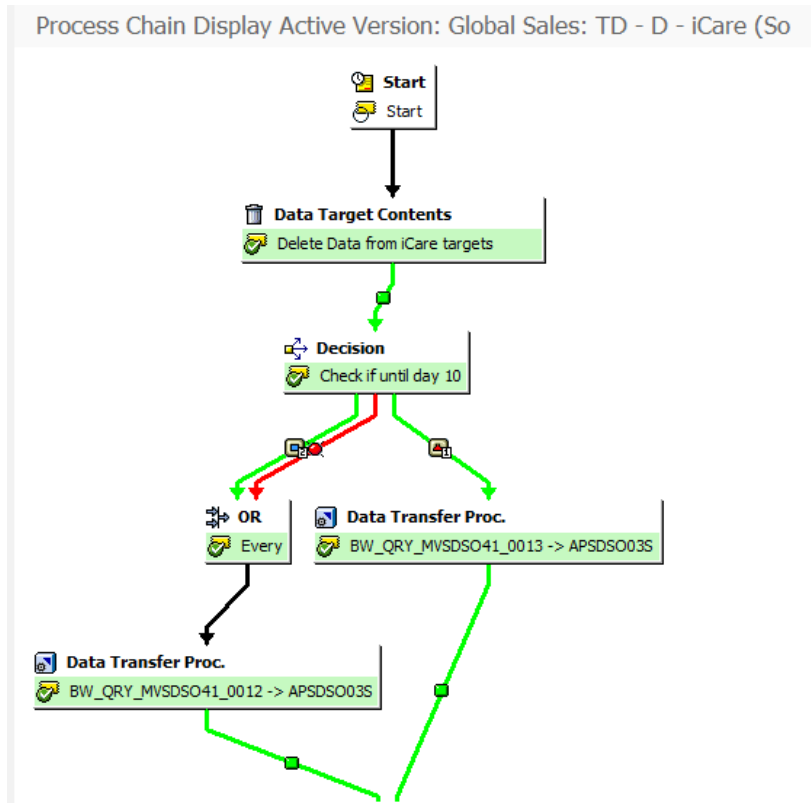
**WebMethods** : is the middleware which triggers the step from SAP and SF.

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

## Data loadings

# Info providers and objects loaded

PC\_SDSO\_03



Loading frequency

Full load daily, except weekends and holidays (BE calendar).

## Average performance

The process is linked to the PC\_OBAS\_REPORTING, starting around 5:30 AM and it takes around 5 minutes to be complete daily.

Key Figure	Estimation
~ Average Process Chain Runtime	5 min
~ Average nb of rows loaded per load	
~ Total nb of rows loaded (if full)	19.000 records
~ Average Runtime for 10k lines	2 min

## Record Keeping

Full load keeping only the last two months in the first ten days of the month and the current month in the other days.

## Reporting

### Queries End User Documentation

N/a

## Maintenance

### Known bugs

The Salesforce interface requires corresponding Salesforce ID for the fields customer (table ZSF\_ACCOUNTS) and material group (ZSF\_PRODUCTS), the Salesforce should be contacted in these cases.

The same in case of creation of the new pick list.