Technical Documentation - Orderbook

- 1 Access Management
- 2 Data Flow
  - 2.1 Overview
    - 2.1.1 Sales Order Book
    - 2.1.2 Purchase order (Transfers) order book
    - 2.1.3 Order Book (PO+SO)
  - 2.2 Core rules
    - 2.2.1 Sales Order Book
      - 2.2.1.1 Order line status
      - 2.2.1.2 To be invoiced date
      - 2.2.1.3 To be issued date
      - 2.2.1.4 The rest to be delivered
      - 2.2.1.5 Not invoiced
      - 2.2.1.6 Open order
      - 2.2.1.7 Open order without planned delivery
      - 2.2.1.8 Open order with planned delivery
      - 2.2.1.9 Shipped but not billed
      - 2.2.1.10 Billed
      - 2.2.1.11 Not Scheduled
    - 2.2.2 Purchase order (Transfers) order book
      - 2.2.2.1 To be invoiced date
      - 2.2.2.2 The rest to be delivered for PO's transfers
      - 2.2.2.3 Open order
      - 2.2.2.4 Delivered quantity
      - 2.2.2.5 Billed
  - 2.3 Reporting
    - 2.3.1 Sales order book
    - 2.3.2 Purchase order (Transfers) order book
    - 2.3.3 Order Book (PO+SO)
- 3 Data Loading
- 4 Data Quality Controls
- 5 Operational Documentation
  - 5.1 Procedures
  - 5.2 Scheduling
  - 5.3 Monitoring
  - 5.4 Error Handling
  - 5.5 Known Bugs
  - 5.6 Roadmap

Access Management

Roles & Access

Role Code	Role Description	Explanation
ZBI_RCS_SD_A01	Application role for Global Sales project / SD data / Orderbook	Role for the application
ZR_RCS_CA_M49	SD - Sales and Distribution	Role menu for the application

Authorization Objects

List of authorization objects mandatory for the application.

Authorization object	Explanation
CPFCTR1_2	GBU
C_COMPCDE	Legal company
C_SAL_OF	Sales office

WARNING: For the PO part the notion of sales offices doesn't exist. The restriction in sales offices will not be considered for the reports PO and PO+SO.

Data Flow

Overview

Sales Order Book

Sales Order Book is a presentation in a detailed level of all sales orders placed in SAP/PF1 system, being possible to determine:

- Sales order on going and open
- Sales Orders Shipped Not Billed
- Sales Orders invoiced

The sales order book is defined at most detailed level. That means at the schedule line level. The concept of line is very important to understand how the order book works. Each sales document can generate an item, the combination of *document number / item number* is a line.

To generate the sales order book the documents lines below are used:

- Order line
    - Schedule line
        - Delivery line
        - Shipment [(1)]
        - Billing line

Document line generation:

- Each sales order document can generate n order line.
- Each scheduled line can generate n delivery document.
- Each delivery document can generate n delivery line.
- Each delivery line can generate n billing document.
- Each Billing document can generate n billing line.

[(1)] *Global Sales doesn't use the shipment line. Informations which are necessaries to generate the sales order book are at the shipment to the end customer in the header level. For more detail please refer to Definitions and concepts (Shipment to the end customer).*

The data flow is generated from Performer Suite. The data visualization is done on the multiprovider MVSDSO41 (MP: Sales order book).

Global Sales data layers:

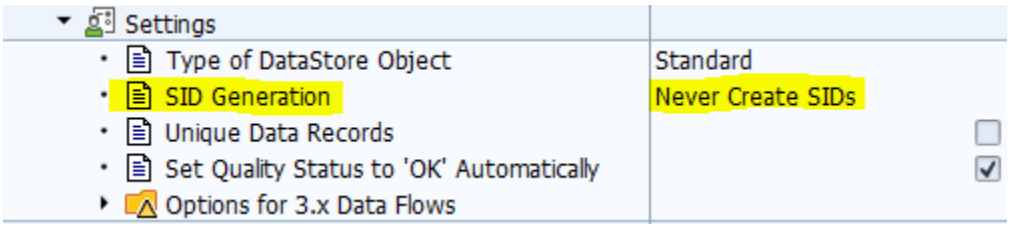
- Propagation Layer
- Business Layer
- Reporting Layer
- Virtual Layer
- Master Data

Propagation layer

List of InfoProviders used by the Sales order book:

DSO tech. name	DSO description	DTS tech. name	DTS description	Comments
DPSDSO02	Sales Document Item Data (Solvay)	2LIS_11_VAITM	Sales Document Item Data	Global Sales
DPSDSO04	Sales Document Order Delivery (Solvay)	2LIS_11_V_SSL	Sales Document Order Delivery	Global Sales
DPSD001	Deliveries (Solvay)	2LIS_12_VCITM	Delivery Item Data	Global Sales
DPSDSO07	Billing Document Item Data (Solvay)	2LIS_13_VDITM	Billing Document Item Data	Global Sales
DPSDTR22	TR Prop: Shipments & Deliveries (Solvay)	2LIS_08TRTLP	Shipment: Delivery Item Data per Section	From TIERS
DPSDTR28	TR Prop: Shipments & Deliveries Status 1-4 (Solvay)	DTS_BW_SHIP_SBS	Extract Shipment doc overall status 1 to 4	From TIERS
DPSDSO42	Sales Document Item Data (Rhodia)	2LIS_11_VAITM	Sales Document Item Data	Global Sales
DPSDSO44	Sales Document Order Delivery (Rhodia)	2LIS_11_V_SSL	Sales Document Order Delivery	Global Sales
DPSDSO70	Deliveries (Rhodia)	2LIS_12_VCITM	Delivery Item Data	Global Sales
DPSDSO47	Billing Document Item Data (Rhodia)	2LIS_13_VDITM	Billing Document Item Data	Global Sales
DPSDTR02	TR Prop: Shipments & Deliveries (Rhodia)	2LIS_08TRTLP	Shipment: Delivery Item Data per Section	From TIERS
DPSDTR08	TR Prop: Shipments & Deliveries Status 1-4 (Rhodia)	DTS_BW_SHIP_SBS	Extract Shipment doc overall status 1 to 4	From TIERS

Technical point: *We never use the propagation layer for reporting. No SIDs are generated in the propagation layer.*



Business layer

List of infoproviders used by the Sales order book:

DSO tech. name	DSO description	source DSO tech. name	source DSO description
DBSDSO01	SO: Not Invoiced (Solvay)	DPSDSO04	Sales Document Order Delivery (Solvay)
BDSDSO11	SO Global: Sales Document Item Data (Solvay)	DPSDSO02	Sales Document Item Data (Solvay)
DBSDSO14	SO Global: Deliveries (Solvay)	DPSD001	Deliveries (Solvay)
DBSDSO06	SO Global: Invoices (Solvay)	DPSDSO07	Billing Document Item Data (Solvay)
DBSDSO18	SO: OPEN ORDER W/O DLV DOC (Solvay)	DBSDSO01	SO: Not Invoiced (Solvay)
DBSDSO17	SO: OPEN ORDER WITH DLV DOC (Solvay)	DBSDSO01	SO: Not Invoiced (Solvay)
DBSDSO16	SO: SHIPPED NOT INVOICED (Solvay)	DBSDSO01	SO: Not Invoiced (Solvay)
DBSDSO09	SO global: Shipments status 1 to 7 (Solvay)	DPSDTR22 DPSDTR28	TR Prop: Shipments & Deliveries (Solvay) TR Prop: Shipments & Deliveries Status 1-4 (Solvay)
DBSDSO10	SO global: Deliveries and Shipment to the customer (Solvay)	DBSDSO09	SO global: Shipments status 1 to 7 (Solvay)
DBSDSO41	SO: Not Invoiced (Rhodia)	DPSDSO44	Sales Document Order Delivery (Rhodia)
BDSDSO51	SO Global: Sales Document Item Data (Rhodia)	DPSDSO42	Sales Document Item Data (Rhodia)
DBSDSO54	SO Global: Deliveries (Rhodia)	DPSDSO70	Deliveries (Rhodia)
DBSDSO46	SO Global: Invoices (Rhodia)	DPSDSO47	Billing Document Item Data (Rhodia)
DBSDSO58	SO: OPEN ORDER W/O DLV DOC (Rhodia)	DBSDSO41	SO: Not Invoiced (Rhodia)
DBSDSO57	SO: OPEN ORDER WITH DLV DOC (Rhodia)	DBSDSO41	SO: Not Invoiced (Rhodia)
DBSDSO56	SO: SHIPPED NOT INVOICED (Rhodia)	DBSDSO41	SO: Not Invoiced (Rhodia)
DBSDSO49	SO global: Shipments status 1 to 7 (Rhodia)	DPSDTR02 DPSDTR08	TR Prop: Shipments & Deliveries (Rhodia) TR Prop: Shipments & Deliveries Status 1-4 (Rhodia)
DBSDSO50	SO global: Deliveries and Shipment to the customer (Rhodia)	DBSDSO49	SO global: Shipments status 1 to 7 (Rhodia)

Reporting layer

List of infoproviders used by the Sales order book:

CUBE tech. name	CUBE description	source DSO tech. name	source DSO description	Comments
CRSDSO42	SO Order Book: OPEN ORDER+SHIPPED NOT INVOICED (Rhodia)	DBSDSO56 DBSDSO57 DBSDSO58	SO: SHIPPED NOT INVOICED (Rhodia) SO: OPEN ORDER WITH DLV DOC (Rhodia) SO: OPEN ORDER W/O DLV DOC (Rhodia)	
CRSDSO02	SO Order Book: OPEN ORDER+SHIPPED NOT INVOICED (Solvay)	DBSDSO16 DBSDSO17 DBSDSO18	SO: SHIPPED NOT INVOICED (Solvay) SO: OPEN ORDER WITH DLV DOC (Solvay) SO: OPEN ORDER W/O DLV DOC (Solvay)	

CRSDSO41	SO Order Book: Current month Invoices (Rhodia)	DBSDSO46	SO Global: Invoices (Rhodia)	
CRSDSO01	SO Order Book: Current month Invoices (Solvay)	DBSDSO06	SO Global: Invoices (Solvay)	
CRSDFC01	Financial Forecast	DBSDFC01	Financial Forecast	

Virtual layer

List of infoproviders used by the Sales order book:

multiprovider tech. name	multiprovider description	source DSO tech. name	source DSO description	Comments
MVSDSO41	MP: Sales order book	CRSDSO01 CRSDSO02 CRSDSO41 CRSDSO42 CRDYN11 CRDYN12 CRDYN52	SO Order Book: Current month Invoices (Solvay) SO Order Book: OPEN ORDER+SHIPPED NOT INVOICED (Solvay) SO Order Book: Current month Invoices (Rhodia) SO Order Book: OPEN ORDER+SHIPPED NOT INVOICED (Rhodia) DYN - Reporting (forecast) From SO - Devileries and Invoices (Solvay) From SO - Devileries and Invoices (Rhodia)	Global Sales Global Sales Global Sales Global Sales DYNASIS DYNASIS DYNASIS

IMPORTANT: In the multiprovider MVSDSO41, there are data coming from DYNASYS (CRDYN11 and CRDYN12). These data are not used in the Order book.

Master data

List of master data used to generate the Sales order book:

Object tech. name	Object description	source tech. name	source description	Comments
C_DOCNUMB	Sales document (with System ID)	DPFIAR06 DPFIAR05 DBSDSO9K DPSDSO6E DPSDSO6F DBSDSO11 DBSDSO51	FIAR: Credit blocked by Credit Reasons - Solvay FIAR: Credit blocked by Credit Reasons - Rhodia Global sales: Partner document VBPA (Solvay+Rhodia) VBAK/VBUK (Solvay) VBAK/VBUK (Rhodia) SO Global: Sales Document Item Data (Solvay) SO Global: Sales Document Item Data (Rhodia)	
C_ITM_SD	Sales document item	DBSDSO08 DBSDSO11 DBSDSO12 DBSDSO48 DBSDSO51 DBSDSO52 DPSDSO16 DPSDSO56	SO Global: Sales Document Schedule Line (Solvay) SO Global: Sales Document Item Data (Solvay) SO global: Sales Document Item Status (Solvay) SO Global: Sales Document Schedule Line (Rhodia) SO Global: Sales Document Item Data (Rhodia) SO global: Sales Document Item Status (Rhodia) Sales Document Header/Item Data Active docs (Solvay) Sales Document Header/Item Data Active docs (Rhodia)	Is the more critical object. Used to generate the data flow.

C_SHIPNU2	Shipment Number (Core)	DPSDTR21 DPSDTR28 DPSDTR01 DPSDTR08	TR Prop: Shipments header (Solvay) TR Prop: Shipments & Deliveries Status 1-4 (Solvay) TR Prop: Shipments header (Rhodia) TR Prop: Shipments & Deliveries Status 1-4 (Rhodia)	For more detail please see the TIERS documentation

Purchase order (Transfers) order book

The data flow is based on the LSA method. The data visualization is done on the multiprovider MVSDSO47 (MP: Transfers Order Book (Global Sales)).

Global Sales data layers:

- Propagation Layer
- Business Layer
- Reporting Layer
- Virtual Layer
- Master Data

See the detailed data flow here for the MultiProvider MVSDSO47 generated from Performer Suite.

Propagation layer

IMPORTANT: To build the PO's transfers order book, we use data coming from the propagation of SPRINT.

List of infoproviders used by the PO's transfers order book:

DSO tech. name	DSO description	DTS tech. name	DTS description	Comments
DPSDSO02	Sales Document Item Data (Solvay)	2LIS_11_VAITM	Sales Document Item Data	Global Sales
DPSD001	Deliveries (Solvay)	2LIS_12_VCITM	Delivery Item Data	Global Sales
DPSDSO07	Billing Document Item Data (Solvay)	2LIS_13_VDITM	Billing Document Item Data	Global Sales
DP_PUSL2	PO: Schedule line (Solvay)	2LIS_02_SCL	Purchasing data (schedule line level)	SPRINT
DP_PUHD2	PO : Historical Data (Solvay)	DTS_BW_EKBE	PO Historical Data	SPRINT
DPSDSO42	Sales Document Item Data (Rhodia)	2LIS_11_VAITM	Sales Document Item Data	Global Sales
DPSDSO71	Deliveries (Rhodia)	2LIS_12_VCITM	Delivery Item Data	Global Sales
DPSDSO47	Billing Document Item Data (Rhodia)	2LIS_13_VDITM	Billing Document Item Data	Global Sales
DP_PUSL1	PO: Schedule line (Rhodia)	2LIS_02_SCL	Purchasing data (schedule line level)	SPRINT
DP_PUHD1	PO : Historical Data (Rhodia)	DTS_BW_EKBE	PO Historical Data	SPRINT

Business layer

List of infoproviders used by the PO's transfers order book:

DSO tech. name	DSO description	source DSO tech. name	source DSO description
DBSDSO25	PO : Transfers Historical Data (Solvay)	DP_PUHD2	PO : Historical Data (Solvay)
DBSDSO26	PO: Transfers orders sched. line (Solvay)	DP_PUSL2	PO: Schedule line (Solvay)
DBSDSO28	PO: OPEN Transfers orders (Solvay)	DBSDSO26	PO: Transfers orders sched. line (Solvay)
DBSDSO27	PO: Transfers orders Invoices (Solvay)	DPSDSO07	Billing Document Item Data (Solvay)
DBSDSO29	PO Global: Transfers orders delivery (Solvay)	DPSD001	Deliveries (Solvay)
DBSDSO65	PO : Transfers Historical Data (Rhodia)	DP_PUHD1	PO : Historical Data (Rhodia)
DBSDSO66	PO: Transfers orders sched. line (Rhodia)	DP_PUSL1	PO: Schedule line (Rhodia)
DBSDSO68	PO: OPEN Transfers orders (Rhodia)	DBSDSO66	PO: Transfers orders sched. line (Rhodia)
DBSDSO67	PO: Transfers orders Invoices (Rhodia)	DPSDSO47	Billing Document Item Data (Rhodia)
DBSDSO69	PO Global: Transfers orders delivery (Rhodia)	DPSDSO71	Deliveries (Rhodia)

Reporting layer

List of infoproviders used by the PO's transfers order book:

CUBE tech. name	CUBE description	source CUBE tech. name	source CUBE description
CRSDSO12	PO Order Book: OPEN ORDER (Solvay)	DBSDSO28	PO: OPEN Transfers orders (Solvay)
CRSDSO11	PO Order Book: Current month Invoices (Solvay)	DBSDSO27	PO: Transfers orders Invoices (Solvay)
CRSDSO04	PO Global: Deliveries aggregated (Solvay)	DBSDSO29	PO Global: Transfers orders delivery (Solvay)
CRSDSO52	PO Order Book: OPEN ORDER (Rhodia)	DBSDSO68	PO: OPEN Transfers orders (Rhodia)
CRSDSO51	PO Order Book: Current month Invoices (Rhodia)	DBSDSO67	PO: Transfers orders Invoices (Rhodia)
CRSDSO44	PO Global: Deliveries aggregated (Rhodia)	DBSDSO69	PO Global: Transfers orders delivery (Rhodia)

Virtual layer

List of infoproviders used by the PO's transfers order book:

CUBE tech. name	CUBE description	source CUBE tech. name	source CUBE description
MVSDSO47	MP: Transfers order book	CRSDSO04	PO Global: Deliveries aggregated (Solvay)
		CRSDSO11	PO Order Book: Current month Invoices (Solvay)
		CRSDSO12	PO Order Book: OPEN ORDER (Solvay)
		CRSDSO44	PO Global: Deliveries aggregated (Rhodia)
		CRSDSO51	PO Order Book: Current month Invoices (Rhodia)
		CRSDSO52	PO Order Book: OPEN ORDER (Rhodia)

Master data

Just the master data of C_PO_ITM is used. Please refer to SPRINT documentation for more information.

Order Book (PO+SO)

The order book (PO+SO) contains data from sales order (SO) and data from transfers order (PO). It is the combination of the order book to be issued (SO) and the order book to be issued (PO).

The view To be issued is the only one which exists for the order book (PO+SO).

The reports (snapshot and detail) are based on the Multi Provider MVSDSO49.

The data flow is based on the LSA method. Please see here generated from Doc Performer.

Reporting layer

List of InfoProviders used by the order book (PO+SO):

DSO tech. name	DSO description	source DSO tech. name	source DSO description
DBSDSO9H	SO+PO: Current month Invoices (Rhodia)	DBSDSO67	PO: Transfers orders Invoices (Rhodia)
		DBSDSO46	SO Global: Invoices (Rhodia)
DBSDSO9G	SO+PO: Current month Invoices (Solvay)	DBSDSO06	SO Global: Invoices (Solvay)
		DBSDSO27	PO: Transfers orders Invoices (Solvay)
DBSDSO9D	SO+PO: ORDER BOOK -OPEN ORDER (Rhodia)	DBSDSO56	SO: SHIPPED NOT INVOICED (Rhodia)
		DBSDSO57	SO: OPEN ORDER WITH DLV DOC (Rhodia)
		DBSDSO58	SO: OPEN ORDER W/O DLV DOC (Rhodia)
		DBSDSO68	PO: OPEN Transfers orders (Rhodia)
		DBSDSO97	SO: OPEN ORDER NOT SCHEDULED (Rhodia)
DBSDSO9C	SO+PO: ORDER BOOK -OPEN ORDER (Solvay)	DBSDSO68	PO: OPEN Transfers orders (Rhodia)
		DBSDSO16	SO: SHIPPED NOT INVOICED (Solvay)

		DBSDSO17	SO: OPEN ORDER WITH DLV DOC (Solvay)
		DBSDSO18	SO: OPEN ORDER W/O DLV DOC (Solvay)
		DBSDSO28	PO: OPEN Transfers orders (Solvay)
		DBSDSO96	SO: OPEN ORDER NOT SCHEDULED (Solvay)

Core rules

Sales Order Book

All rules used in Global Sales were determined by SAP experts.

IMPORTANT:

- *The sales order book excludes the order line which has a rejection code.*
- *The sales order book is defined at the most detailed level (the schedule line).*

- *Order line classification: An order line can be in one of the three class:*

1. *If the country of legal company is diference than the country of plant.*
2. *If the transportation mode is "SEA" (Export).*
3. *The others cases*

Order line status

- The status of the order line (from SAP) is not used in Global Sales.

It's because in PF1, an order line is with the status "C" (completed). When the deliveries regarding the total confirmed quantity of the order line is planned or issued .

To be invoiced date

The to be invoiced date is used to know when an order line will be billed. This concept is used in the order book for the Open order and the Shipped but not billed part.

Important: the to be invoiced date can be calculated only if the type of sales order will generate a delivery document. That means the credit/debit memo are not included in the Open order and the shipped but not billed part. The returns are not considered in the Open order and shipped but not billed part.

The *to be invoiced date* is calculated by use the more updated document in the document flow.

- More updated document:

1. The shipment document.
2. The delivery document.
3. The sales order document at the schedule line level.

C_ITM_SD.C_RULES(DBSDSO11 -> C_ITM_SD(PF1);DBSDSO51 -> C_ITM_SD(WP1))

C_RULES	PF1	WP1
1	IF C_PODFLAG =" AND Entity Zone <> Plant Zone AND TRMODE in ('SEA', 'AIR') AND C_INCOTRM NOT IN('EXW','FCA','COL','FAS','FOB','CPU')	IF C_PODFLAG !="
2	IF CPFCTR1_2 = 'SP' OR OTHER CASES OF RULE 1, 3	
3	IF C_PODFLAG !="	IF C_PODFLAG =" AND TRMODE IN ('AIR', 'SEA') AND C_INCOTRM IN ('CIF','CFR')
4		IF C_PODFLAG =" AND TRMODE NOT IN ('AIR', 'SEA')

5		IF(C_INCOTRM IN ('CIP','CPI','FAS','DAT','PPA','PPD') AND TRMODE IN ('AIR','SEA')) IF C_PODFLAG ='' AND TRMODE IN ('AIR', 'SEA') AND C_INCOTRM NOT IN ('CIF','CFR')
6		IF C_PODFLAG ='' AND TRMODE IN ('AIR', 'SEA') AND C_SHIPCD2 IN ('AC','AF','AI') AND Entity Zone <> Plant Zone

TO-BE-INVOICED

Flow	PF1	WP1
Shipped Not Invoiced • DBSDSO41 -> DBSDSO56 (WP1) • DBSDSO01 -> DBSDSO16 (PF1)	IF C_RULES = 1 AND C_SAL_ORG IN ('3384','4290') C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') IF C_RULES = 2 C_TBIDATE = DTCOMPLACT(IF<>'00000000') C_TBIDATE = DTCOMPL_PL (IF<>'00000000') C_TBIDATE = ACT_GI_DTE (IF<>'00000000') IF C_RULES = 3 C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') C_TBIDATE = ACT_GI_DTE (IF<>'00000000')	IF C_RULES = 1 C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') IF C_RULES = 2,3 C_TBIDATE = DTSHP_BACT(IF<>'00000000') C_TBIDATE = DTSHP_B_PL (IF<>'00000000') IF C_RULES = 4,5 C_TBIDATE = DTCOMPLACT (IF<>'00000000') C_TBIDATE = DTCOMPL_PL (IF<>'00000000') IF C_RULES = 6 C_TBIDATE = DTSHP_EACT - 6 (IF<>'00000000') C_TBIDATE = DTSHP_E_PL - 6 (IF<>'00000000') First the actual date, if not exists, then planned date

Open Order With Dlv Doc • DBSDSO41 -> DBSDSO57 (WP1) • DBSDSO01 -> DBSDSO17 (PF1)	IF C_RULES = 1 AND C_SAL_ORG IN ('3384','4290') C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') IF C_RULES = 2 C_TBIDATE = DTCOMPLACT(IF<>'00000000') C_TBIDATE = DTCOMPL_PL (IF<>'00000000') C_TBIDATE = PLD_GI_DTE (IF<>'00000000') IF C_RULES = 3 C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') C_TBIDATE = PLD_GI_DTE + K_ENDCOMP (IF<>'00000000')	IF C_RULES = 1 C_TBIDATE = DTSHP_EACT(IF<>'00000000') C_TBIDATE = DTSHP_E_PL (IF<>'00000000') C_TBIDATE = REQ_DATE IF C_RULES = 2 C_TBIDATE = DTSHP_BACT(IF<>'00000000') C_TBIDATE = DTSHP_B_PL (IF<>'00000000') C_TBIDATE = GI_DATE (IF<>'00000000') C_TBIDATE = PLD_GI_DATE IF C_RULES = 4,5 C_TBIDATE = DTCOMPLACT (IF<>'00000000') C_TBIDATE = DTCOMPL_PL (IF<>'00000000') C_TBIDATE = GI_DATE (IF<>'00000000') C_TBIDATE = PLD_GI_DATE IF C_RULES = 3 C_TBIDATE = DTSHP_BACT(IF<>'00000000') C_TBIDATE = DTSHP_B_PL (IF<>'00000000') C_TBIDATE = GI_DATE + **TOLERANCE** (IF<>'00000000') C_TBIDATE = PLD_GI_DATE + **TOLERANCE** IF C_RULES = 6 C_TBIDATE = DTSHP_EACT - 6 (IF<>'00000000') C_TBIDATE = DTSHP_E_PL - 6 (IF<>'00000000') C_TBIDATE = REQ_DATE - 6

Open Order W/O Dlv Doc • DBSDSO41 -> DBSDSO58 (WP1) • DBSDSO01 -> DBSDSO18 (PF1)	IF C_RULES = 1,3 C_TBIDATE = C_LSTATP IF C_RULES = 2 C_TBIDATE = GI_DATE IF CPFCTR1_2 ='SD' C_TBIDATE = GI_DATE	IF C_RULES = 1 C_TBIDATE = C_LSTATP(IF<>'00000000') IF C_RULES = 2,4,5 C_TBIDATE = GI_DATE IF C_RULES = 3 C_TBIDATE = GI_DATE + **TOLERANCE** IF C_RULES = 6 C_TBIDATE = C_LSTATP - 6 (IF<>'00000000')

TOLERANCE BY GBU

- **PIPIN**
  - TOLERANCE = 4 IF PLANT IN ('7822','8055')
  - TOLERANCE = 10 IF PLANT IN ('7544','7852')
  - TOLERANCE = 3 IF PLANT IN ('7673')
  - TOLERANCE = 2 IF PLANT IN ('7603')

- **PMEPL**
  - TOLERANCE =7 IF PLANT COUNTRY ='BR'
  - TOLERANCE =7 IF PLANT COUNTRY !='BR' AND PLANT IN ('7822')
  - TOLERANCE =4 IF PLANT COUNTRY !='BR' AND PLANT IN ('0228')
  - ELSE TOLERANCE = 3
- **PA**
  - TOLERANCE =14 IF C_SHIPCD2 IN ('AA','AB','AC','AD','AE','AF','BQ','BP','8','10','0') AND Plant Zone = 'NA'
  - TOLERANCE =10 IF C_SHIPCD2 IN ('AA','AB','AC','AD','AE','AF','BQ','BP','8','10','0') AND Plant Zone != 'NA'
  - TOLERANCE =7 IF C_SHIPCD2 IN ('40','AG','AH','AI','AZ','BA')
- **SI**
  - TOLERANCE = 7
- **RERES**
  - TOLERANCE = 9 IF C_SHIPCD2 IN ('AA','AB','AC','AD','BQ','BP','8','10','0')
  - TOLERANCE = 5 IF C_SHIPCD2 IN ('AE','AF')
  - TOLERANCE = 3 IF C_SHIPCD2 IN ('AH','AI')
- **CS**
  - TOLERANCE = 11 IF Company Zone = 'NA'
  - TOLERANCE = 7 IF Company Zone != 'NA'
- **TS**
  - TOLERANCE = 7 IF Plant Zone = 'NA'
  - TOLERANCE = 5 IF Plant Zone = 'EU'
  - TOLERANCE = 2 IF Plant Zone = 'AP'
  - TOLERANCE = 3 IF Plant Zone = 'LA'
- **CH**
  - TOLERANCE = 0 IF TRMODE = 'AIR'
  - TOLERANCE = 13 IF TRMODE != 'AIR' AND C_SHIPCD2 IN ('AA','AB','AC')
  - TOLERANCE = 7 IF TRMODE != 'AIR' AND C_SHIPCD2 IN ('AD','AE','AF')
- **OTHER GBU**
  - TOLERANCE = 0 IF Company Country = 'BR'
  - TOLERANCE = 4 IF Company Country != 'BR'

Regarding the order line classification, the to be invoiced is calculated following the rules below:

PF1 rules(exists in the field routine of DBSDSO11 -> C_ITM_SD and the end routines of DBSDSO01 DBSDSO16, 17, 18):

- If the order line classification is "1" (the country plant is difference than the ship-to country):

1. If a shipment document exist. **To be invoiced date = shipment end date (planned or actual)**
2. If a delivery document exist with an actual GI date, but no shipment document. **To be invoiced date = the actual GI date + transit time.**
3. If a delivery document exist without an actual GI date, but no shipment document. **To be invoiced date = the planned GI date + transit time.**
4. If the delivery document not exist. **To be invoiced date = the scheduled GI date of the order line (at the schedule line level) + transit time.**

- If the order line classification is "2" (the transportation mode = "SEA" (Export)):

1. If a shipment document exist. **To be invoiced date = shipment start date (planned or actual)**
2. If a delivery document exist with an actual GI date, but no shipment document. **To be invoiced date = the actual GI date.**
3. If a delivery document exist without an actual GI date, but no shipment document. **To be invoiced date = the planned GI date.**
4. If the delivery document not exist. **To be invoiced date = the scheduled GI date of the order line (at the schedule line level).**

- If the order line classification is "3" (the others cases):

1. If a shipment document exist. **To be invoiced date = shipment completion date (planned or actual)**
2. If a delivery document exist with an actual GI date, but no shipment document. **To be invoiced date = the actual GI date.**
3. If a delivery document exist without an actual GI date, but no shipment document. **To be invoiced date = the planned GI date.**
4. If the delivery document not exist. **To be invoiced date = the scheduled GI date of the order line (at the schedule line level).**

WARNING: A shipment document can be created without the shipment dates. If this case appears, the shipment document will be ignored in the determination of the to invoiced date.

PF1+WP1 rules:

To be issued date

The to be issued date is used to know when an order line will be billed. This concept is used in the order book to be issued for the Open order and the Shipped but not billed part.

Important: like the to be invoiced date, the to be issued date can be calculated only if the type of sales ordert will generate a delivery document. That means the credit/debit memo are not included in the Open order and the shipped but not billed part. The returns are not considered in the Open order and shipped but not billed part.

The *to be issued date* is calculated by use the more update document in the document flow.

- More updated document:

1. The delivery document if the quantity is issued.
2. The shipment document.
3. The delivery document if the quantity is not issued.
4. The sales order document at the schedule line level.

To calculate the to be issued date we use the rules with the hierarchy below:

1. If a delivery document exist with an actual GI date. **to be issued date = the actual GI date.**
2. If a shipment document exist, and the delivery is not issued. **to be issued date = shipment completion date (planned or actual).**
3. If a delivery document exist without an actual GI date. **to be issued date = the planned GI date.**
4. If the delivery document not exist. **to be issued date = the scheduled GI date of the order line (at the schedule line level).**

WARNING: A shipment document can be created without the shipment dates. If this case appears, the shipment document will be ignored in the determination of the to issued date.

The rest to be delivered

The rest to be delivered is the quantity which need to be delivered to the customer to complete the requested quantity. The rest to be delivered is defined at the schedule line level. It is used in the Open order part, to determine the to be invoiced/issued quantities and the values. The calculation is done following the rules below:

- If the confirmed quantity = 0.
  - The rest to be delivered = the schedule line quantity - (the issued quantity + delivery tolerance)
- If the confirmed quantity <> 0.
  - The rest to be delivered = the schedule line confirmed quantity - (the issued quantity + delivery tolerance)

IMPORTANT: If the rest to be delivered is negatif, the quantity: rest to be delivered is forced to 0.

Not invoiced

Definitions

The notion of Not Invoiced (or not billed) is very important to generate the order book. That will define the sales documents lines which are Open or Shipped not billed.

To know if a document line is invoiced or not (billed or not billed) 2 checks are done:

- The first check is done regarding a delivery line. If a billing document exist with reference the delivery line. The corresponding delivery line is billed (invoiced).
- The second check is done regarding the sales document line. If a billing document exist with reference, the sales order line. The corresponding order line is billed (invoiced).

IMPORTANT: An order line can be partially billed.

Open order

Definitions

If a rest to be delivered exist for an order line. The order line is open.

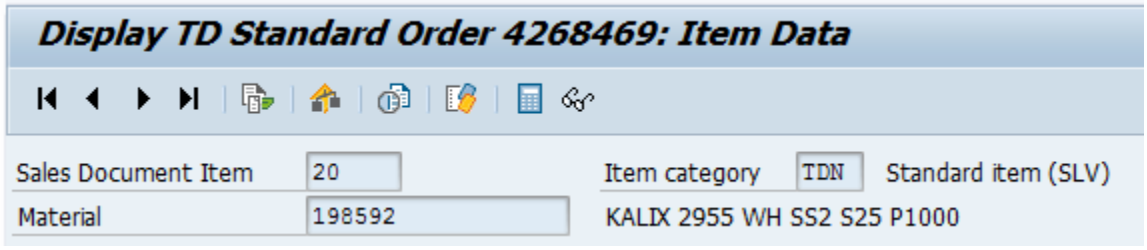
Two cases:

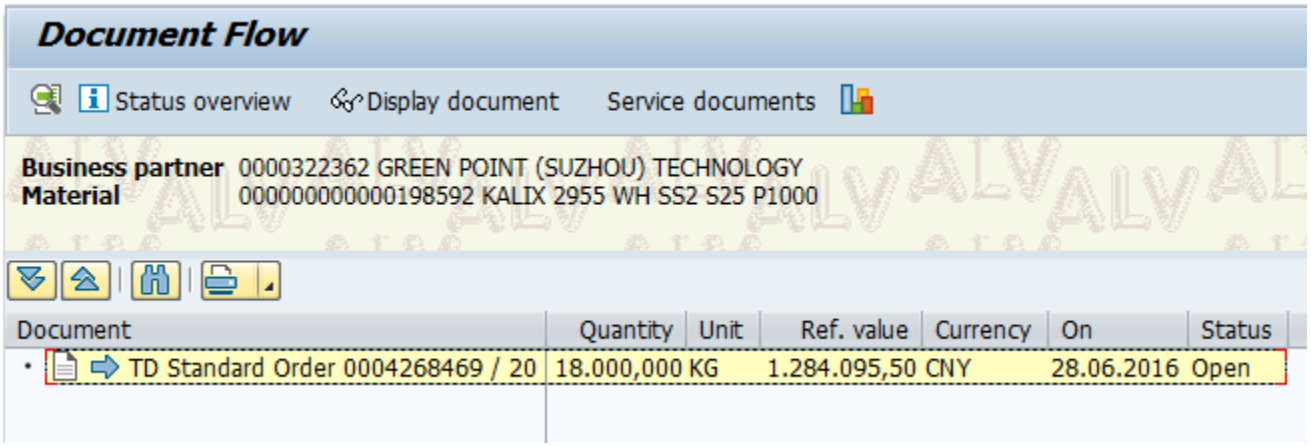
- The order line is open and no delivery is planned.
- The order line is open and a delivery is planned.

Open order without planned delivery

This case appear when an order line was created, but no delivery is yet planned.

Example:



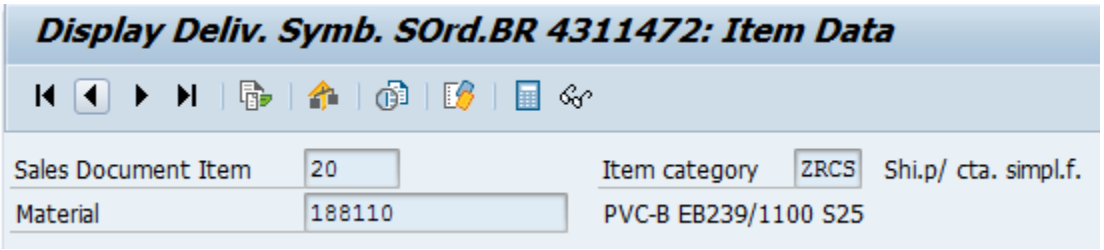


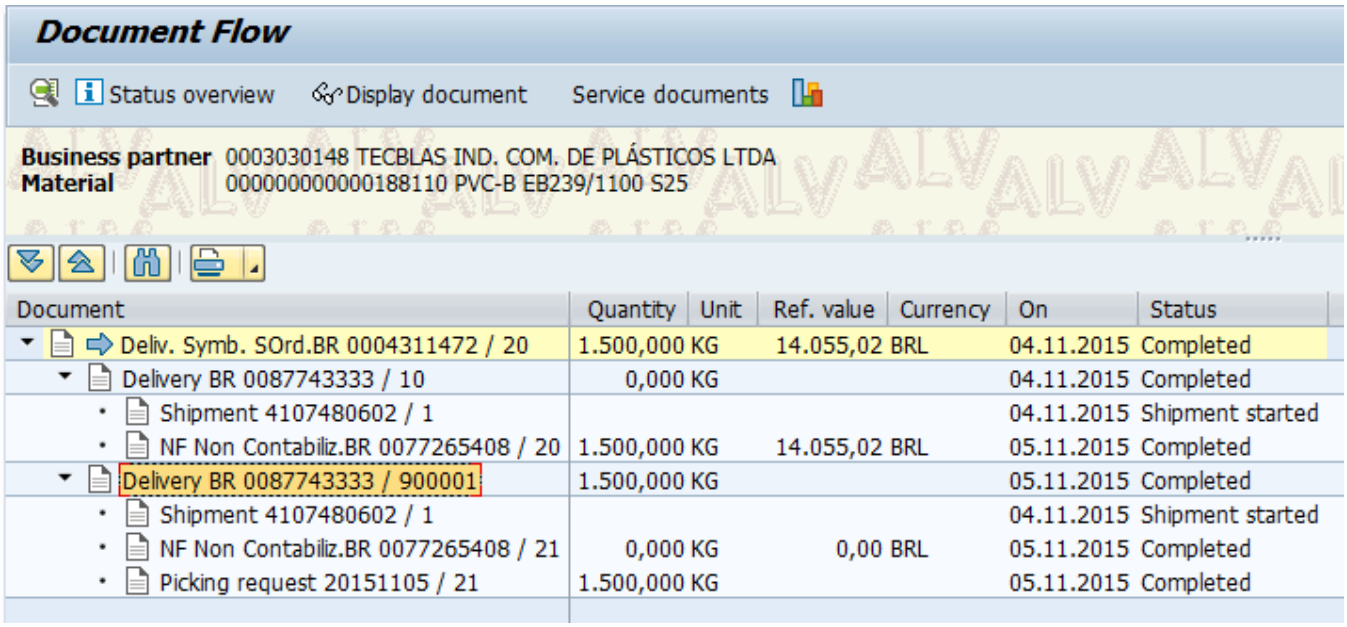
The order line 4268469/20 has no delivery created. This order line is at the beginning of the sales process.

Open order with planned delivery

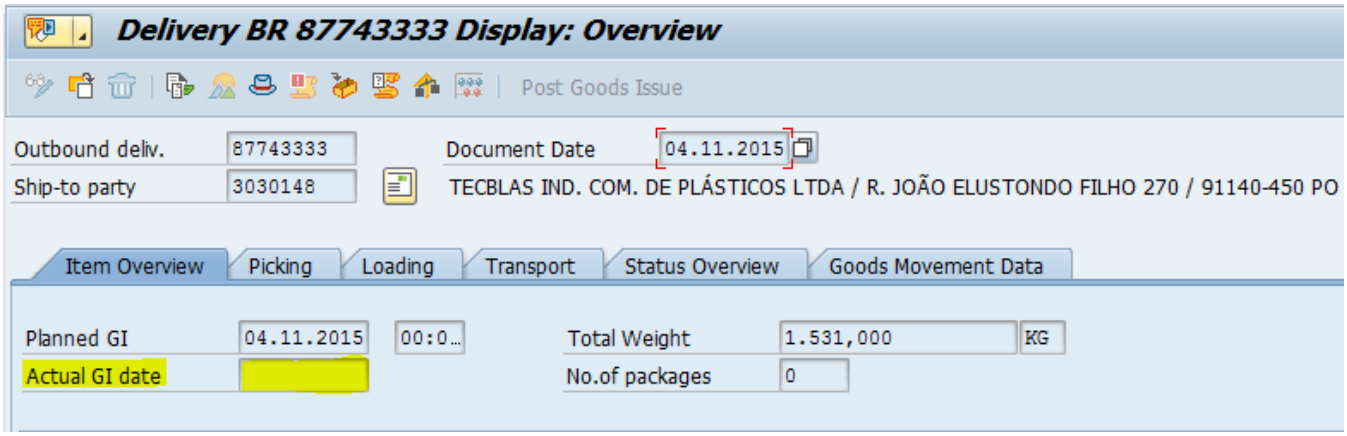
This case appear when an order line was created, and delivery is planned.

Example:





The order line 4311472/20 has the delivery lines 87743333/10 and 87743333/900001 created.



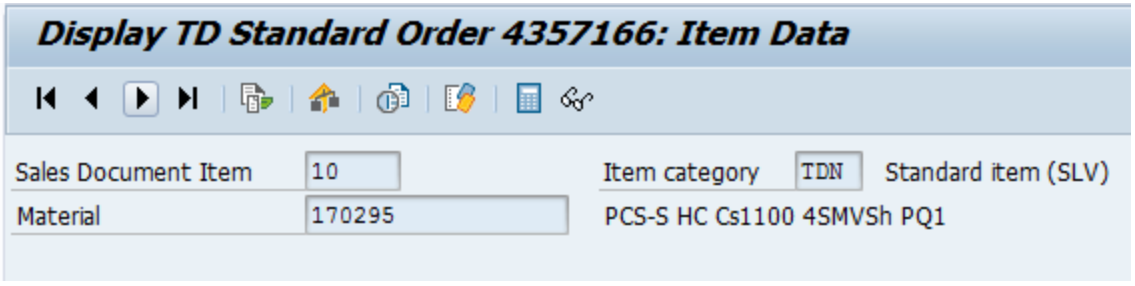
The delivery is planned but the material is not yet issued. The order line 4311472/20 is open.

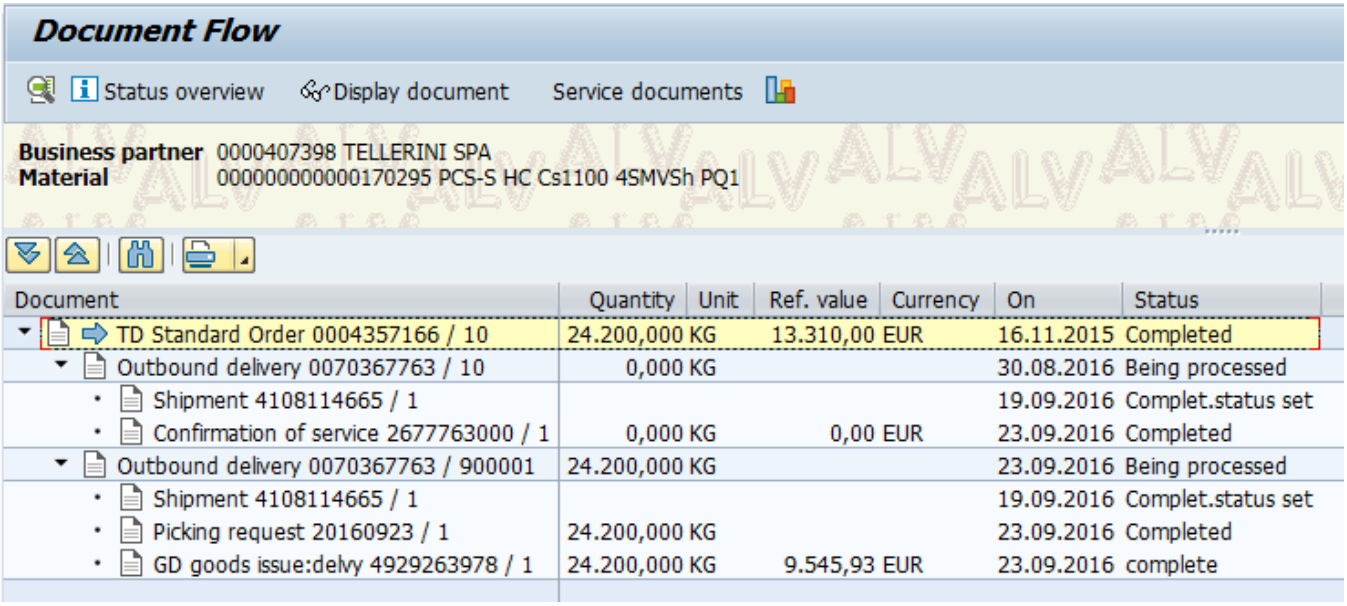
Shipped but not billed

Definition

Order line which has a delivery line with an issued quantity but the issued quantity is not yet billed.

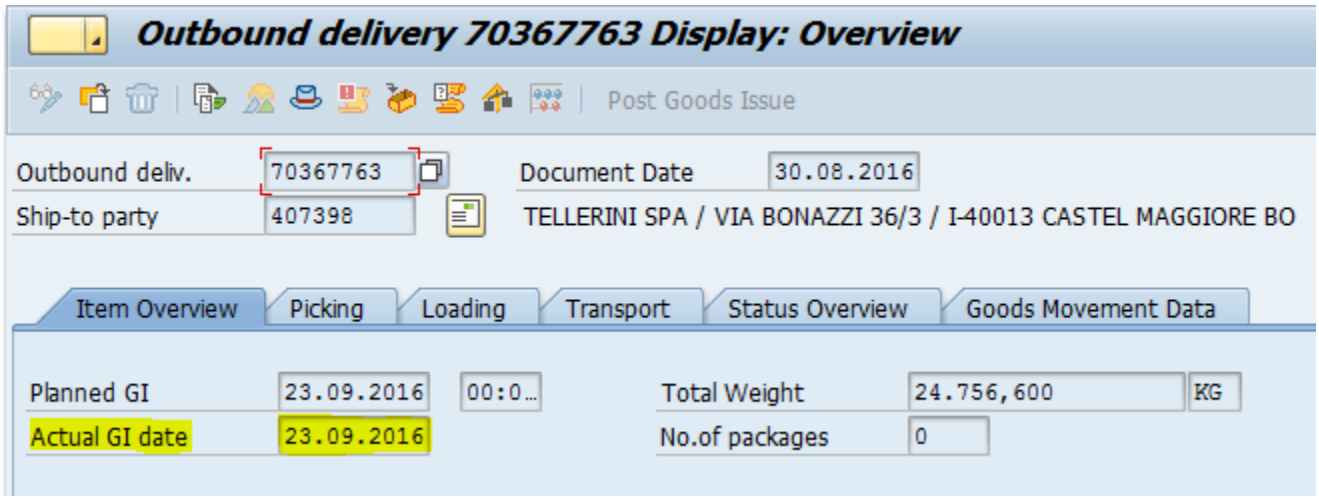
Example:





Document	Quantity	Unit	Ref. value	Currency	On	Status
TD Standard Order 0004357166 / 10	24.200,000	KG	13.310,00	EUR	16.11.2015	Completed
Outbound delivery 0070367763 / 10	0,000	KG			30.08.2016	Being processed
Shipment 4108114665 / 1					19.09.2016	Complet.status set
Confirmation of service 2677763000 / 1	0,000	KG	0,00	EUR	23.09.2016	Completed
Outbound delivery 0070367763 / 900001	24.200,000	KG			23.09.2016	Being processed
Shipment 4108114665 / 1					19.09.2016	Complet.status set
Picking request 20160923 / 1	24.200,000	KG			23.09.2016	Completed
GD goods issue:delvy 4929263978 / 1	24.200,000	KG	9.545,93	EUR	23.09.2016	complete

The order line 4357166/10 has the deliveries lines 70367763/10 and 70367763/900001 created.



The material was issued, no billing exist for the delivery. The order line 4357166/10 is shipped not billed.

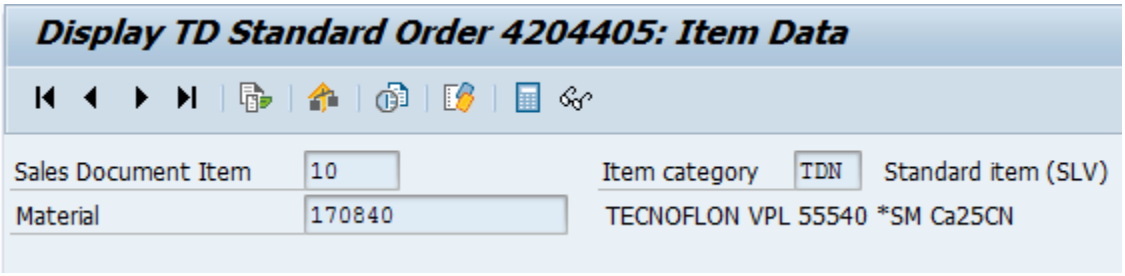
Billed

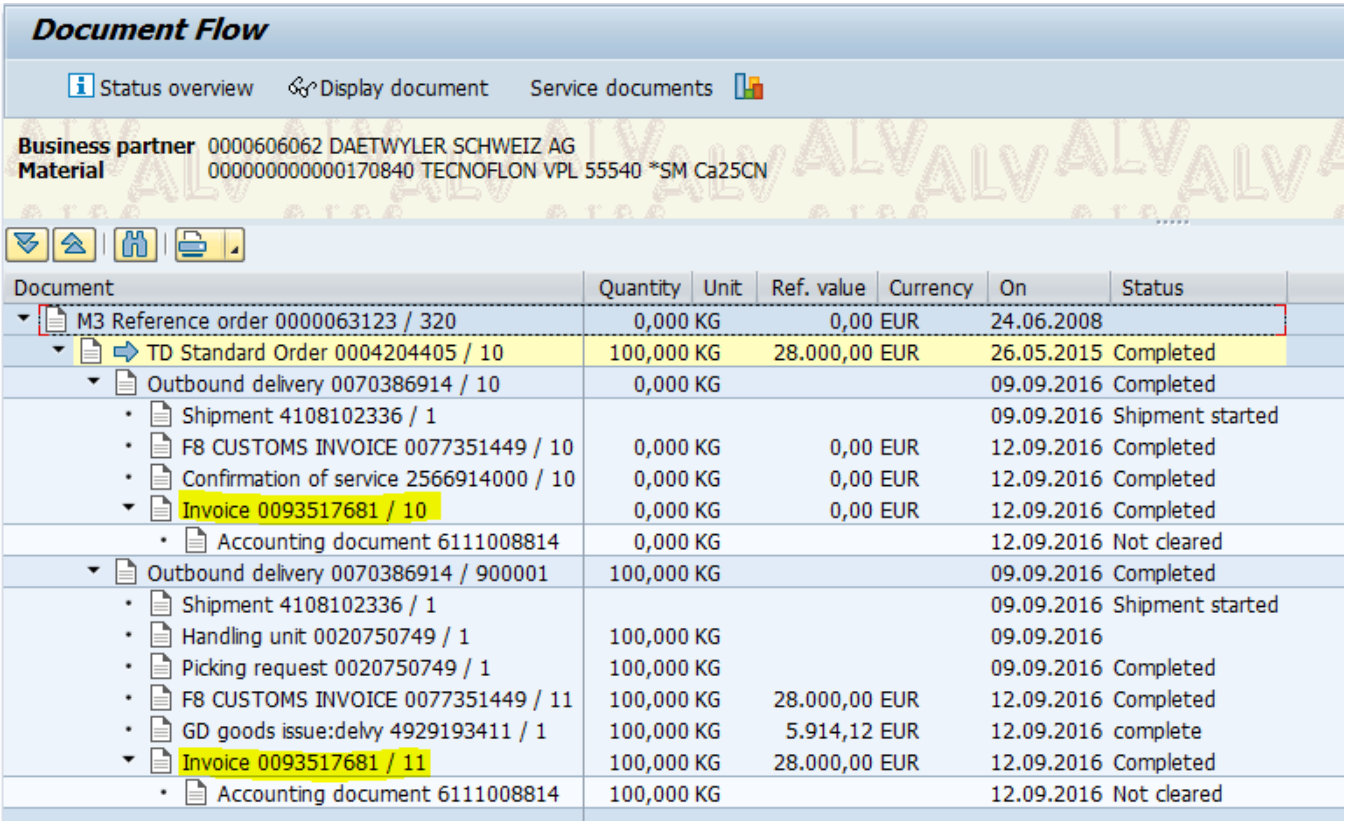
Definition

An order line is billed, when a billing line is created with reference document:

- the order line
- the order line's delivery

Example:





Document	Quantity	Unit	Ref. value	Currency	On	Status
M3 Reference order 0000063123 / 320	0,000	KG	0,00	EUR	24.06.2008	
TD Standard Order 0004204405 / 10	100,000	KG	28.000,00	EUR	26.05.2015	Completed
Outbound delivery 0070386914 / 10	0,000	KG			09.09.2016	Completed
Shipment 4108102336 / 1					09.09.2016	Shipment started
F8 CUSTOMS INVOICE 0077351449 / 10	0,000	KG	0,00	EUR	12.09.2016	Completed
Confirmation of service 2566914000 / 10	0,000	KG	0,00	EUR	12.09.2016	Completed
Invoice 0093517681 / 10	0,000	KG	0,00	EUR	12.09.2016	Completed
Accounting document 6111008814	0,000	KG			12.09.2016	Not cleared
Outbound delivery 0070386914 / 900001	100,000	KG			09.09.2016	Completed
Shipment 4108102336 / 1					09.09.2016	Shipment started
Handling unit 0020750749 / 1	100,000	KG			09.09.2016	
Picking request 0020750749 / 1	100,000	KG			09.09.2016	Completed
F8 CUSTOMS INVOICE 0077351449 / 11	100,000	KG	28.000,00	EUR	12.09.2016	Completed
GD goods issue:delvy 4929193411 / 1	100,000	KG	5.914,12	EUR	12.09.2016	complete
Invoice 0093517681 / 11	100,000	KG	28.000,00	EUR	12.09.2016	Completed
Accounting document 6111008814	100,000	KG			12.09.2016	Not cleared

The order line 4204405/10 has a billing document created in reference of the delivery line. The order line is billed.

Not Scheduled

The not scheduled part exists when a quantity is not yet scheduled in the ERP. For this part, it's not possible to determine a to invoiced date or a to be issue date.

Order book with estimated contribution:

Link documentation

Master data

List of mater data:

Technical name	Description
C_ITM_SD	Sales order item
C_ROUTE	Route
C_TRMODE	Transportation mode
C_SHIPCD2	Shipment condition

IMPORTANT: The object C_ITM_SD AND C_ITM_GS are critical due to it uses to generate the order book.

C_ITM_SD__C_MANPLNT was designed at the time of Global Sales project back in 2018 at the request of Special Chem GBU (project sponsor). It is based on the batch assigned in the delivery of the order line, or if not available from the order line Shipping Plant:

Production/Manufacturing plant issued from the batch description (MSC3N / tab "Classification") :
- WP1 data = corresponding to the line "Manufacturing Plant"
- PF1 data = corresponding to the line "Industrial Origin" (even if manufacturing plant is existing, it's well the industrial origin taken as production plant.

In SAP, the batch number is :
- in the Order Line : tab "Sales A" of the order line for SO / tab "Material data" of the order line for PO
- in the delivery line

In the BW query we get the information Manufacturing Plant (ou Production Plant):
1. batch in the delivery
2. if more than one batch, we take the last one (the last in the document flow)
3. if no batch in the delivery, we take it in the order

4. if no batch in the order, by default we put the shipping plant

Global Sales - Data Dictionary

Purchase order (Transfers) order book

Core rules

All the rules used in Global Sales were determined by SAP experts.

IMPORTANT:

Solvay(DP_PUSL2 -> DBSDSO26):

- *The purchase order (Transfers) order book take in consideration just the PO's types UB and NB, the vendor must be flagged as intra-group. Exception is done for purchase organization. The exception is done with the technical object C_POSD.*
- *The purchase order (Transfers) order book is defined at the purchase order line.*

Rhodia(DP_PUSL1 -> DBSDSO66):

- *The purchase order (Transfers) order book take in consideration just the PO's types UB and NB, the purchase organization 3200 is used for the type UB. The purchase organization 3001 to 3008, 3200 and 3400 are used for the type NB.*
- *The purchase order (Transfers) order book is defined at the purchase order line.*

To be invoiced date

The to be invoiced date is calculated following the rules below (WP1 and PF1):

- If there is GR (good receipt) date, **the to be invoiced date = the last GR date.**
- If there is not yet a GR (Goods Receipt), **the to be invoiced date = the scheduled delivery date of the last schedule line.**

The rest to be delivered for PO's transfers

The rest to be delivered is the quantity which need to be delivered to the customer to complete the requested quantity. The rest to be delivered is defined at the purchase order line level. It is used in the Open order part, to determine the to be invoiced quantities and the values. The calculation is done following the rules below:

- If the confirmed quantity = 0.
    - The rest to be delivered = PO's line quantity - the goods receipt quantity
- If the confirmed quantity <> 0.
    - The rest to be delivered = the PO's line confirmed quantity - the goods receipt quantity

IMPORTANT: If the rest to be delivered is negative, the quantity: rest to be delivered is forced to 0.

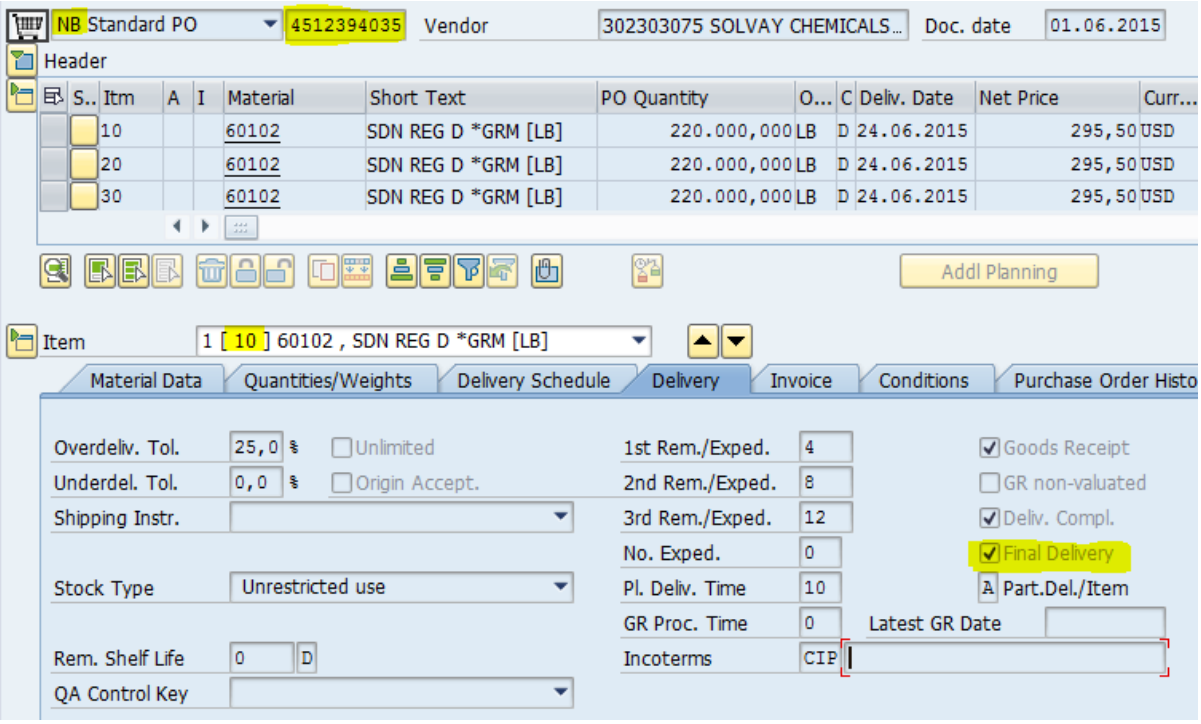
Open order

Definitions

A PO transfers order is open if:

- the indicator Final delivery is empty (for NB document).
- the quantity of the PO line is issued (for UB document).

Example:



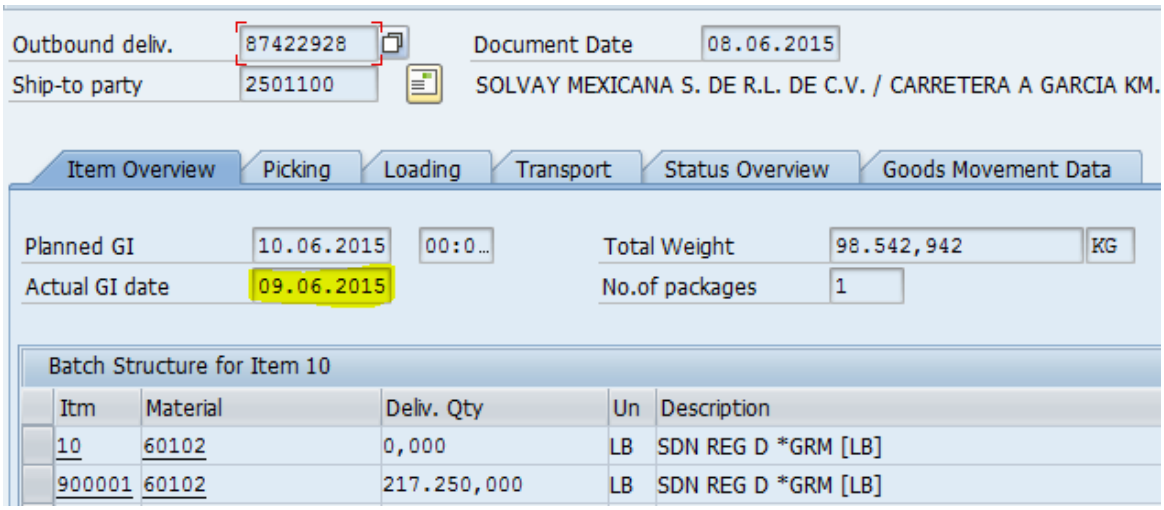
The PO's line 4512394035/10 is closed because the indicator Final Delivery is flagged.

Delivered quantity

Definition

Is the quantity issued (the delivery line has an actual GI date).

Example:



The delivery line 87422928/10 which contain the batch 900001 is issued. The quantity was delivered.

Billed

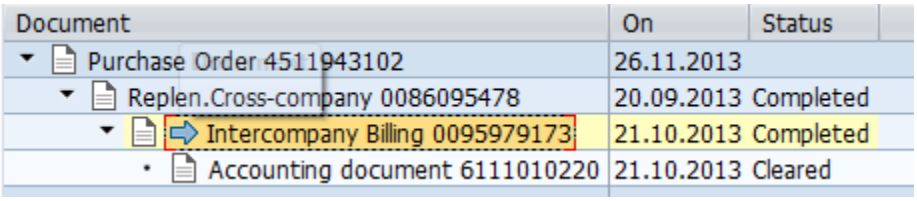
Definition

A PO transfers order line is billed, when a billing line is created with reference document:

- the PO transfers order
- the PO transfers order's delivery

IMPORTANT: On the transfers process, just purchase documents type NB will generate billing documents.

Example:



The PO 4511943102 has a billing document created in reference of the delivery document 86095478. The PO's transfers is billed.

Reporting

The reporting is based on Core workbooks based on Core queries.

The core workbooks give an aggregated view (SNAPSHOT), to have information on the documents detail jumps are done.

IMPORTANTE: The core queries are not published on the role menu. Only the workbooks are published on the role menu, folder Order Book.

Data selection

Data selections are done at the query level:

- On the sales documents type
- On the billing document type
- On the consolidated method
- On the sales unit

Sales order book

Workbook		Query	
Order Book: To be Invoiced	BW_WBK_MVSDSO41_SD011	BW - Order Book: To be Invoiced Full (Core query)	BW_QRY_MVSDSO41_SD011
Order Book: To be Invoiced (Open Order)	BW_WBK_MVSDSO41_SD006	BW - Order Book: Open Order (Core)	BW_QRY_MVSDSO41_SD006
Order Book: To be Invoiced (Shipped not Billed)	BW_WBK_MVSDSO41_SD007	BW - Order Book: Shipped not billed (Core)	BW_QRY_MVSDSO41_SD007
Order Book: To be Issued	BW_WBK_MVSDSO41_SD012	BW - Order Book: To be Issued Full (Core)	BW_QRY_MVSDSO41_SD012
Order Book: To be Issued (Open Order)	BW_WBK_MVSDSO41_SD001	BW - Order Book: Open Order To be Issued (Core)	BW_QRY_MVSDSO41_SD001
Order Book: To be Issued (Shipped not Billed)	BW_WBK_MVSDSO41_SD002	BW - Order Book: Shipped not Billed To be Issued (Core)	BW_QRY_MVSDSO41_SD002
Order Book: To be Invoiced (Snapshot)	BW_WBK_MVSDSO41_SD004	BW - Order Book: Snapshots To be Invoiced (Core)	BW_QRY_MVSDSO41_SD004
Order Book: To be Invoiced+Contribution (Snapshot)	BW_WBK_MVSDSO41_SD014	BW - Order Book: Snapshots To be Invoiced + contrib (Core)	BW_QRY_MVSDSO41_SD014
Order Book: To be Issued (Snapshot)	BW_WBK_MVSDSO41_SD003	BW - Order Book: Snapshots To be Issued (Core)	BW_QRY_MVSDSO41_SD003

Purchase order (Transfers) order book

Workbook		Query	
Order Book (PO): To be Issued (Snapshot)	BW_WBK_MVSDSO47_001	SD Order book PO - Snapshot (To be invoiced) (core)	BW_QRY_MVSDSO47_001
Order Book: PO - To be Issued (Open Order)	BW_WBK_MVSDSO47_002	SD Order book PO - OPEN ORDER Details(To be invoiced) (core)	BW_QRY_MVSDSO47_002
Order Book: PO - Invoiced (Current Month)	BW_WBK_MVSDSO47_003	SD Order book PO - INVOICED M Details(To be invoiced) (core)	BW_QRY_MVSDSO47_003

Order Book (PO+SO)

Workbook		Query	
Order Book (SO+PO): To be Issued (Snapshot)	BW_WBK_MVSDSO49_0001	Order Book SO+PO Snapshots To be Issued (Core)	BW_QRY_MVSDSO49_0001
Order Book (SO+PO): Invoiced	BW_WBK_MVSDSO49_0004	Order Book SO+PO INVOICED CURRENT MONTH (Core)	BW_QRY_MVSDSO49_0004
Order Book (SO+PO): To be Issued (Open Order)	BW_WBK_MVSDSO49_0002	Order Book SO+PO OPEN ORDER To be Issued (Core)	BW_QRY_MVSDSO49_0002
Order Book (SO+PO): To be Issued (Shipped not Billed)	BW_WBK_MVSDSO49_0003	Order Book SO+PO SHIPPED NOT BILLED To be Issued (Core)	BW_QRY_MVSDSO49_0003

Data Loading

Main Process Chain	Final Info Provider	Frequency	Start Time	Duration
PC_GLOBAL_SALES_MAIN	CRSDSO41, 42...	Daily	~1:30am CET	~3.5h
PC_SD_MAIN	CRSDSO01, 02...	Daily	~2:00am CET	~1h
PC_GL_SALES_MAIN_PO	CRSDSO51, 52...	Daily	~6:00am CET	~1h
PC_OBAS_TRANSFERS_MAIN	CRSDSO11, 12...	Daily	~6:00am CET	~0.5h

IMPORTANT: *The sales order book is generated every day from scratch. No historic is done for the sales order book.*

Data Quality Controls

Data comes from SAP system. To compare data between BW and sources systems, check propagation layers.

Operational Documentation

Procedures

<Describe the recurring procedures needed to operate the application (eg. start/pause/terminate/restart the app processes, data preparation, data ingestion, ETL, data visualization, data export, other manual activities)>

Scheduling

<Describe the scheduling in place for the application (eg. existing jobs, trigger time/event based, dependencies)>

Monitoring

<Describe the monitoring checks to confirm the application is performing well (eg. check the overall status, check performance metrics like runtime /data volume/memory/disk/CPU, maintain and react to alerts/notifications)>

Error Handling

<Describe how to handle errors (eg. error codes, description and respective resolution, alert users)>

Known Bugs

<List the existing bugs, its criticality, workarounds and resolution plan.>

Roadmap

<List past & future evolutions for the application (including links to MED/FSD/TSD)>