"SD Processing Cycle"

1. Sales Promotions
   - Sales Activity
      - *mailing campaigns*

2. Inquiry

3. VA11
   - Contract

4. VA21
   - Quotation

5. VA31
   - Schedule Agent

6. Order
   - VA01

7. VA41

8. Pre Sales

9. Pick
10. Pack
11. Load
12. GI

13. Delivery
   - VL01N Single, VL01A coil.

14. Transfer Order (TO)
   - Pile L-TO, VL06P

15. Shipment
   - Confirm

16. Goods Issue (GI)

17. Invoice
18. Credit/Debit memo

   - VF01, VF04 sing.
   - VF01, VF04 coll.

20. Billing

21. Accounts Receivable
   - F-28

22. Stock Account

23. Inacing payments CLEAR

24. masur data

25. customer xD01
26. cuoE/maE info → vD51

Note: The diagram illustrates the SD Processing Cycle with various stages and processes involved in sales and billing operations.
Lean Warehouse Management (Enterprise Structure)

Lean Warehouse Management - OK

- WH doc T0 confirmation
- Stock on warehouse level (no bins!!!)

Warehouse Management

- WH doc T0 confirmation
- Stock on bin level

![Diagram]

Flow: LE > Ship > Pick > Lean WM > Define control points.
**Document Types**

<table>
<thead>
<tr>
<th>Sales document type</th>
<th>08</th>
<th>Standard Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD document cat.</td>
<td>1C</td>
<td>Sales document block</td>
</tr>
<tr>
<td>Indicator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Na.range ini. assg.</td>
<td>81</td>
<td>Item no.increment</td>
</tr>
<tr>
<td>Na. range ini. assg.</td>
<td>82</td>
<td>Sub-itm increment</td>
</tr>
</tbody>
</table>

**General control**

| Reference mandatory |    | Material entry type |
| Check division     |    | Item division       |
| Probability        | 100| Read into record    |
| Check credit limit  | 0  | Check purch.order no|
| Credit group        | 01 | Enter PO number     |
| Output application  | 01 | Commitment date     |

**Transaction flow**

<table>
<thead>
<tr>
<th>Screen sequence grp.</th>
<th>AU</th>
<th>Sales Order</th>
<th>Display criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incompleteness</td>
<td>T1</td>
<td>Sales Order</td>
<td>FCode for overw. ac.</td>
</tr>
<tr>
<td>Transaction group</td>
<td>B</td>
<td>Sales order</td>
<td>Quotation messages</td>
</tr>
<tr>
<td>Doc. proc. procedure</td>
<td>A</td>
<td></td>
<td>Outline agent res.</td>
</tr>
<tr>
<td>Status profile</td>
<td></td>
<td></td>
<td>Message: Mast. cont.</td>
</tr>
<tr>
<td>Alt sales doc. type 1</td>
<td></td>
<td></td>
<td>Prod/vat. messages</td>
</tr>
<tr>
<td>Alt sales doc. type 2</td>
<td></td>
<td></td>
<td>Incomplet.messages</td>
</tr>
<tr>
<td>Variant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scheduling agreement**

| Can delivery type |    | Delivery block |
| Use               |    |                |
| MRP for Div/ShipType | |             |

**Shipping**

| Delivery type | LF | Delivery | Immediate delivery |
| Block         |    |          |                   |
| Conditions    |    |          |                   |
| ShipControlProfile | ST | Standard freight information |

**Billing**

| Div-billing type | F2 | Invoice |
| Code-vat type    | F2 |         |
| Intercomp bill type | T1 | Intercompany billing |
| Billing block    |    |         |

**Requested delivery date/pricing date/purchase order date**

| Lead time in days | 7  | Propose deliv.date |
| Date type         |    | Propose PO date    |
| Prop.1 pricing date |   |                    |
| Prop.1 valid from date | |          |

**Contract**

| Proc/proc.Cond/Isact |    | Contract data allowed |
| Proc/proc.Condition  |    | Full/Act Type         |
| Contract profile     |    | Sales order type      |
| Billing request      | L2 | Check partner auth.   |
| Ref.procure          |    | Update low.lev.cont.  |

**Availability check**

| Business transaction |    |                      |
|                     |    |                      |
Doc Type + Item Cat Group (material) + Usage indicator (ABAP) + High level I.Cat = Item Cat

### Business data

<table>
<thead>
<tr>
<th>Item type</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion rule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special stock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relev. for billing</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Billing plan type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billing block</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pricing</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Statistical value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue recognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delimit. start date</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Bus. data item
- Sched. line allowed
- Item relev. for qty
- Returns
- Wht/vol. relevant
- Credit active
- Determine cost

### General control

- Autom. batch detem.
- Rounding permitted
- Order qty = 1

### Transaction flow

<table>
<thead>
<tr>
<th>Incomplete proc.</th>
<th>N</th>
<th>Standard Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>PartnerDetPROCED</td>
<td>N</td>
<td>Standard Item</td>
</tr>
<tr>
<td>TextDetPROCEDURE</td>
<td>B</td>
<td>Sales item</td>
</tr>
<tr>
<td>Item cat stats group</td>
<td>1</td>
<td>Order, debit memo</td>
</tr>
</tbody>
</table>

### Bill of material/configuration

<table>
<thead>
<tr>
<th>Config. strategy</th>
<th></th>
<th>Variant matching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mat. variant action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATP material variant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure scope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Create delivery group
- Manual alternative
- Param. efficencies

### Value contract

<table>
<thead>
<tr>
<th>Value contract mail</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract release ctrl</td>
<td></td>
</tr>
</tbody>
</table>

### Service management

<table>
<thead>
<tr>
<th>Repair proced.</th>
<th></th>
</tr>
</thead>
</table>

### Control of resource-related billing and creation of quotations

<table>
<thead>
<tr>
<th>Billing form</th>
<th>DIP profil</th>
</tr>
</thead>
</table>
Schedule Line Category (tecode vov6)

Item category + MRP Type = Schedule Line Category

<table>
<thead>
<tr>
<th>Schedule cat.</th>
<th>CU</th>
<th>Consumption MRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery block</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movement type</td>
<td>601</td>
<td>GD goods issue:deluy</td>
</tr>
<tr>
<td>Movement type 1-step</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acct. assig. cat.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction flow</td>
<td>30</td>
<td>Deliv–Rel.Sched.Line</td>
</tr>
</tbody>
</table>

- Req./Assembly
- Availability
- Prod. allocation
### Billing Doc Types
(tcode vofa)

#### General Control
- **SD document category**: Invoice
- **Posting block**: Yes
- **Statistics**: Yes
- **Billing documents**: Yes
- **No negative posting**: Yes
- **Customer-Payer/Branch**: Yes
- **Invoice list type**: Invoice list
- **Rebate settlement**: Yes
- **Ref. for rebate**: Yes

#### Cancellation
- **Cancel billing type**: Invoice Cancellation
- **Copying requirements**: Yes
- **Reference number**: Yes
- **Allocation number**: Yes

#### Account Assignment/Pricing
- **Account determination**: KOF100
- **Doc. prc. procedure**: Account Determination
- **Acc. det. rec. acc.**: Yes
- **Acc. det. cash set.**: Yes
- **Acc. det. pay. cards**: Standard

#### Output/Partners/Texts
- **Output determination**: V10000 Billing Output
- **Application**: V3
- **Item output proc.**: Yes
- **Output type**: Invoice
- **Header partners**: FK Billing Document
- **Item partners**: FP Billing Item
- **Text determination**: E3 Billing header
- **Text determination proc. item**: E3 Billing item

#### Number Systems
- **No. range int. assign.**: 19
- **Item no. increment**: 10
### Copy Control (tcode vtf1)

#### Header

<table>
<thead>
<tr>
<th>Target billing type</th>
<th>From delivery type</th>
</tr>
</thead>
<tbody>
<tr>
<td>FZ Invoice</td>
<td>LF Delivery</td>
</tr>
</tbody>
</table>

- Copying requirements: header/Dlv-related
- Data VBRK/VBRF: invo. split (sample)

#### Item

- Billing quantity: [ ]
- Pos./neg. quantity: [ ]
- Pricing type: [ ]
- PricingSchedule type: [ ]
- Cumulate cost: [ ]
- Price source: [ ]
<table>
<thead>
<tr>
<th>Rn</th>
<th>NRP</th>
<th>OLI</th>
<th>BIC</th>
<th>Stat.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unreasonable request</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cust. to receive replacement</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rejected due to credit check</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Backlog to competitor</td>
</tr>
<tr>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cancellation up to resampling</td>
</tr>
<tr>
<td>42</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Customer usage date postponed</td>
</tr>
</tbody>
</table>

NRP: Not Relevant for Printing  
OLI: Cost line item open again (to be billed later)  
BIC: Not relevant for Billing  
Stat.: Statistical values
Customers Master (tcode ovto)

IMG: Log – Gen > Business Partners > Customers > Define Account Groups

These fields can also be set per transaction (tcode ob20)

What takes preference if a field is set per “Account Group” and “Transaction”?

Highest: Suppress / Hide
Display
Required

Lowest: Optional
Sales Order

Delivery Plant
Shipping Point

CUSTOMER (ship to)

Shipping

Del Plant: 1000
Ship. Condition (ship point): 51
Transport Zone (where to): D...6000

MATERIAL

S老龄 Plant

Transport Group: 0001
Loading Group: 0003

PLANT

H (1) Customer Info Rec
(2) Customer (ship to)
(3) Material

L Customer (sold to)

Shipment Condition
also in doc type (3)

Material Loading Group

Notes

1. IMG: LE ➔ shipping ➔ Basic...
2. Shipp. Point: SAP Enterprise ➔ LE (OVXE)
3. Doc type take perf.
Item cat in Sales Docs

- Material master
  - S.org 2
    - Item cat group
      - Norm

- Item cat
  - Usage (ABAP)

- High level 1. cat
  - (in Sales order)
    - Example to include "free goods"

- Order type
  - Order: Quick, "third party"
  - etc...
Storage Location for Shipping Point

Sales Doc
- Ship. Point
- Plant

Material
- Plant Storage 1
  - Storage Condition

Retail Plants

Assign Picking Location → SLOC

Delivery Type
- Rule for Determining Picking SLOC
  - MALA
  - RETA (SAP Retail IS)
    - MARE
      - check MALA, then RETA
  - Y/P - user exit

config: LE → Shipping → Picking.
  → Determine Picking Location
Can so doc type be used with a Sales Area?

S.Org \rightarrow \text{Ref. S.Org.} \Rightarrow \text{Sales Order doc type (blank is any order)}

S.Org / D.Ch \rightarrow \text{Ref D. Channel}

S.Org / DIV \rightarrow \text{Ref DIV}

Img: Sales \rightarrow Sales doc \rightarrow Header \rightarrow Assign Sales Area 2 doc type

- DIV of material \ vs. \ DIV of doc

- Config of order type \rightarrow \text{Check DIV}
- W/E \ (variable message V1 370)
- Item division \checkmark \text{From material}
  \Box \text{From header}

Example:
- OR/1000, 12.00 \checkmark
- OR/1000, 16.00 \times
Output Control (using condition technique)

1. Document Type
   - OR
   - Partner Types & mediums

2. Output Type
   - eg. BAPO
   - Create Sales Order

3. Processing (get data)
   - Form (script)

4. Further data
   - when:
     1. Job
     2. Job time
     3. Code
     4. Now.

5. RS NAST

6. Communication method (settings of medium)
   - Email
   - FAX
   - Print Spool

7. Condition Records
   - Code VV12
   - Condition

8. Output determination Procedure
   - V10000

9. Access Sequence
   - Assign
   - Accesses (tables/fields)
   - If priority can set per shipping point or other

10. Partner function
    - Medium
    - When
    - Language (override one in cust. menu)

11. Used in process
Output determination

Example

Order - header

- Device
- When (spool)

Create doc

"Further data"

When (dispatch time)

1 - Job
2 - Job + time
3 - TX
4 - When save

"Communication"

Output determination

Output type

Print forms

Output type

Link to a

Access key

BA

Table 6
5. Org, Ddh, Div, Cnt

Table 1
5. Org, Cnt

Table 7
Order type

"Maintain data via code VV12"
- Partner function
- When (dispatch time)
Auto Pricing in Sales Order

Create Sales Order.

S. Org → 1000
D. Channel → 12
DIV → 00
Sales Doc Type → A
(OR)
customer price, proc 4

Procedure (RUAA φ1)

consist of condition types

Access Seg (pricing tables)

PR φ1

→ condition

R1 φ1

→ material

→ materiel

Reg 55 (if pricing in item cat = B)

master data

- maintain conditions (V K12 )

- material master (material price)
Condition Technique in Pricing

Sequential list of conditions:

- Pricing Procedure (RVAAΦ1)
- Proposal c.type (PRΦΦ)

Search strategy to find cond. record:

Key fields in condition records:

Order Type or Document Pricing Procedure

Seq.

S. Org.

Price Procedure determination

D. Channel

Div

Customer master

Calculation or formula

Conditions (master data)

Access seq.

Tables
Conditions in Config (Material Determination)

Procedure AΦΦ01

n → condition Type AΦΦ1

use 1 → Access sequence AΦΦ1 & validity period

n → Accesses (table)

n → Fields

Select

material determination

vb11

n → select

sales doc
e.g. VAΦ1

select

Subst. Reason

Notes:
- Config: SD → Basic func → mat. Dot →
- Conditions for Listing/Exclusion works the same
FI postings

SO → GI

Billing

AR "Clear"

Stock 1000

Costs of goods sold 1000

Customer 2200

Sales Revenue (800002) 2000

Tax 200

Billing 2200

AR 2200

Bank (100009)

AR 2200
Partner Functions

*Procedure Assignment*
- **Customer Account Group**
- **doc type**
- **doc item**
- **etc.

**Partner Procedure**
- consists of
  - **Partner functions**
    - type (cust, vendor, user, plant, ...)
    - Unique part.m.f.

For documents:
- another part
  - function
  - OR
  - object
- **source of Partner function**

**Config:**
- SD → Basic functions → Partner Det →
  Define Partner functions

**Partner function** → **Procedure**

**Goto:** Procedure Assignment
Text config (VOTX)

Text Objects
- Customer
- Info Rec
- Pric. Card.
- Sales doc
- Delivery
- Billing
- Contacts
- Shipment
- Financial doc
- Legal control
- Agency business
- Trading contract

Text Procedure

Procedure Usage/Assignment

Text in procedure

Access Key

Object

Field to copy

also in doc type config & item config
Listing / Exclusion

A \( \text{A} \# 1 \)
CAN ONLY BUY

B \( \text{B} \# 1 \)
MAY NOT BUY THIS

Material Determination / Selection

Sales Doc
eg. VA\( \text{VA} \# 1 \)

Material Entered \( \rightarrow \) substitution

Default reasons

1-3 auto, replace
4 auto, sub-items
5 selection, replace
6 auto, on create only
7 selection - no ATP, replace

Note:

- Item cat Usage = P-SHP for reason 4 (sub-items)
- Item ... sales A
Delivery Type & Item Categories

Sales Order (OK)
- TAN

Delivery (LF)
- Tan

Set in order type or
Same as in Sales Order

Item Cat determination
- Div. type
- Item Cat group
- Usage Ind.
- Hi level Item cat

Delivery (LO)
- DLTX

User select

(1) In config OVCI can only add what was created in VOU7
In completion Log

Warning / Error if field is not populated.

Example

doc type → procedure

(50) → (11)

constitute of fields → PO number → warn.

Img: SD → Basic functions → Log of Incomplete Items.
Copy control - config

Notes:
1. Option to "update doc flow" available where target doc is delivery or sales doc.
2. Ref status (eg. "fully referred") for sales doc's set in item cat config (VUV 7).
3. For sales doc, the default item cat determined can be set in copy control.
Completion Rule & Copy Control

A
- Complete after first ref

B
- Complete when full
- Complete ref.

Copy Key
- 0/1: Li 74 or same
- 3/1: Do not copy completed
- 5/1: Copy open qty

Config: SD \rightarrow Sales \rightarrow Copy Control
(t-code: VDFM, maintain key & formulas)

Config
- Header: - Copy item number
- Complete ref. (message if change Qty)

Item:
- Item schedule lines
- Update doc. flow
- Carry new pricing

Demo
- IN \rightarrow QT, try again
- Ref \rightarrow JR, improve lead
- VA01, ZA01 \rightarrow REX
- IN \rightarrow OR \checkmark OR \rightarrow INV
- FI (invoice) \rightarrow GL (credit memo)
Bill of materials

Sales docs

Bike 1x

Frame 1x
Wheel 2x

Bill of material (CS02)

Item cat group (material master)
influence

Item out of TOP
Item must have "structure scope"

A Single level
B Multi level

Sales Order

Bike 1
Frame 1
Wheel 2

Pricing
**Reference vs Proposed Item**

Sales doc → Create with Reference

Edit → Propose Item

---

**Example**

**Document Flow**

Doc A
- Inquiry
- Quotation

Doc B
- Inquiry
- Quotation

---

Inquiry

Create with Reference

Create Quotation

Inquiry → Propose

Create Quotation

*Can not see Quotation in Inquiry doc flow!"*
Backorder Processing

Process manual

store: V_RA
store: CO06

Reschedule (auto)

V-V2 → reschedule

V.15 (SD → Sales → Info → Order)

IF
- confirm date > reg. date
- not fully confirm

OK

Sales Order

Schedule lines

Fix date & qty

Will not be changed by "Backorder Processing"

SAP menu: SD → Sales → Backorders.
Picking using Lean WM

SO ➞ Delivery

create group (picklist) VLQP6P

Create TO by wave pick LT42 ➞ Confirmation of TO LT 25N

Img: LE ➞ Ship ➞ Pick ➞ Lean WM
Inbound Deliveries

1. Purchase Order
   ME 01N
   Inbound Delivery
   VL31N

2. TO LT0F
   Confirm TO
   LT12

3. Warehouse
   Plant: 10xx
   SLOC: 1xx
   Wh: 1xx

4. Goods Issue
   Customer

Note
(1) Tcode ME21N
   Vendor T-KL2A xx
   Range 10xx, P group 2xx
   Material T-AU3 xx
   Price 10, Qty = 100
   Plant 10xx, SLOC 1xx

(2) Warehouse 1xx

(3) Most inbound one only
   PO → GR
   (no conf control key)
**Route Schedule**

Based on:
- Ship point
- Ship 2-party
- To Group (not)
- Ship. Cond (cust)
- 62 day

unique

**Route Schedule**

Route
- Day of week
- Ship to parties

VL52

create picking docs

based on

"Route schedule"

VL35

**Sales Order**

**Delivery**

master data: LE \(\rightarrow\) Master data \(\rightarrow\) Transportation \(\rightarrow\) Routes \(\rightarrow\) Route Schedule (VL52)

1st step: LE \(\rightarrow\) Shipping \(\rightarrow\) Basic Ship \(\rightarrow\) Route \(\rightarrow\) Route Schedule \(\rightarrow\) Deliv. Type

from SAP 4.5
Shipping - partial deliveries

Set in customer master OR customer-material info record

Partial del. per item:

☐ Partial allowed - specify max. deliveries

☐ Ship once & complete
  Keep open if qty = 0
  (at any date)

☐ Ship all or complete?
  (create only 1 delivery)

☐ Wait till ALL is available
  (only complete allowed)

☐ Keep on sending 'till rejected
Transportation

- Sales Order → Delivery
- Sales Order → Delivery

Shipment

- VT01N
- OPTIONAL
- VL01

Billing Doc

- VF01

Why Transportation:
- Track deliveries
- Add cost to invoice
- Route planning
- Manage returns process

Shipment cost could be included in billing.

Planning Point: 1000
- Customer: 2300
- Agent: 1058

Cost calculation:
Proc = ZDF COP

Shipment completion
Additional Notes on Slide on Page 18-15

Data Determination in Access – Price Book
Result of one condition type – is condition record for next calculation

The new access type field in the **field level of the access sequence** configures these functionalities.

- Blank  Field in fixed key part
- A      Field in free key part
- B      Key field to be determined in access
- C      Data field from condition table
Processing type in access

Definition

The processing type determines how the corresponding field is used for the access. The field can be marked as belonging to the fixed/free key part or else as not relevant for the access.

Fields that are defined as data fields for the definition of condition tables are automatically marked with an access type.

All these techniques are used in the following example – Price Book – that was deduced from projects of the re-industry.

Pricing procedure RVAA02 contains the described logic:

Only explain the interaction of the different condition types.

PBU Price Book determination
(most important detail: → Cond. Class “H” - Determining sales deal)

With PBU you can find a sales deal of type PRBU (Pricing Book).

The sales deal number is a field in the fixed key-part for the subsequent condition type PBUD.

PBUD Price Book Basis
(most important detail: → Cond. Table 144)

The fields condition pricing date, price list type and scale base value are determined.

PBBS Base Price
(most important details: → access sequence PR01, requirement 202 in pricing procedure RVAA02, cond.type PBBS)

The base price is to be determined using the pricing date (KODATU) and the price list type (PLTYP_D in structure KOMPAZD) found by PBUD.

PBUP Price Book Gross Price
(most important detail: → alternative formula for condition base value 202)

The gross price is to be determined with the sale base value (KSTAFU) found by PBUD and a percentage given from PBUP on the base value found by PBBS.
Long text

Symptom
This note contains answers to frequently asked questions regarding topic delivery split for the creation of outbound deliveries with reference to sales orders:

Question catalog

1. Which header fields lead to a delivery split?
2. What is meant by delivery split according to warehouse number?
3. Why does a split occur due to deviating partners?
4. Which fields lead to the split for internal settlement?
5. Why do different transportation groups lead to the delivery split?
6. How can the split be affected via the copy control?
7. How can a delivery split per schedule line be explained for scheduling agreements?
8. Which options are there to find out the reason for a split?

1. Question: Which fields lead to a delivery split?

Answer:

Basically, all fields which are copied to the header of the delivery (table LIKP) via the routines of the copy control lead to a delivery split. Furthermore, some fields are copied to the header by all means and are relevant for the split there.

Split fields that cannot be changed are:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSTEL</td>
<td>Shipping point</td>
</tr>
<tr>
<td>KUNNR</td>
<td>Goods recipient</td>
</tr>
<tr>
<td>ROUTE</td>
<td>Route</td>
</tr>
</tbody>
</table>
All partners which stand in the partner schema of the delivery and that are copied from the preceding document or that are determined from the customer master record of the goods recipient are a splitting criterion. The only mandatory partner of the outbound delivery is the goods recipient. If, for example, no statistical data is affected, you can delete the sold-to party from the partner schema for deliveries with order reference and it is then no splitting criterion anymore. The following may lead to a split in the delivery:

- Different partner numbers for the same partner function.
- Deviating addresses of the partners even if the partner number is the same. Here, only the address number is crucial for the split; the address list parts are not checked.
- The forwarding agent as an additional partner in one of the sales orders involved. In contrast, additional partners with other roles do not lead to the split in the standard. For this, you can find more information in SAP Note 448919.

4. Question: Which fields lead to the split with internal settlement?

**Answer:**

An outbound delivery is relevant for internal settlement under the following conditions:

- If the company code of the sales organization of the delivery deviates from the company code of the delivering plants of the delivery items and
- If in addition the billing type for internal settlement has been entered at the order type which is the basis of the delivery.

In this case, the organizational data determined from the plant master is copied for internal settlement to the header of the delivery and is then split-relevant:

- **FKAI**V: Billing type for internal settlement
- **VKO**IV: Sales organization for internal settlement
- **VTW**IV: Distribution channel for internal settlement
- **SPA**IV: Division for internal settlement
- **KUN**IV: Customer for internal settlement
- **PIO**IV: Invoice date internal settlement (calendar identification)

A delivery split occurs if different organizational data has been assigned to the supplying plants relevant for the internal settlement or if the sales orders to be delivered have different billing types for the internal settlement. For this, you must refer to note 324976.

5. Question: Why do different transportation groups lead to the delivery split?

**Answer:**
deviating from each other and therefore indicates to a certain extent which data could have led to a split.

Another option (as of Release 4.6) is the activation of the split analysis according to note 399912. This split analysis is written in the log of collective processing.

Other terms

Reason and Prerequisites

Solution

<table>
<thead>
<tr>
<th>Valid releases</th>
<th>Software Component</th>
<th>Release from</th>
<th>to</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP_APPL</td>
<td>SAP Application</td>
<td>470</td>
<td>- 470</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46C</td>
<td>- 46C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46B</td>
<td>- 46B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45B</td>
<td>- 45B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40B</td>
<td>- 40B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31I</td>
<td>- 31I</td>
</tr>
</tbody>
</table>

Further components

LE-SHP-DL-LA
Inbound Delivery

Reference to related Notes

<table>
<thead>
<tr>
<th>Number</th>
<th>Short text</th>
</tr>
</thead>
<tbody>
<tr>
<td>105003</td>
<td>Several deliveries for rush order</td>
</tr>
<tr>
<td>399912</td>
<td>Split analysis activation during delivery creation</td>
</tr>
<tr>
<td>355404</td>
<td>Why was there a delivery split during creation?</td>
</tr>
<tr>
<td>651271</td>
<td>Undesired delivery split when creating via BAPI</td>
</tr>
</tbody>
</table>
Billing Doc

Delivery/Order related
set in Doc Type (U0V8)

Delivery

Sales Doc

TAN

OR

LF

TAN

Delivery

F2

TAN

Billing Doc

Default Billing type set in config of Sales doc (U0V8).

Can be changed at time of billing if allowed by copy control.

Icom Cat = default to source Qty/Price settings in copy control;

Rtfl Delivery doc to Billing doc (adj).
Rtfa Sales doc to Billing doc.
Rtff Billing doc to Billing doc.
Billing - Copy Control (Exercise)

Sales Doc

ZA...x

Delivery

LF

Billing

ZFxx

Config copy control (code VTFL)

Pricing Type

F1

C - Change

F2

G - Unchanged

ZFxx

LF

H - Redetermine Freight.

C - type KF00

C - category F (Freight)
Account Determination Procedure

Assign GL accounts

Billing doc
- type
- assign
- example F2
- Access Doc
  - Procedure
  - c.type
  - KOI

Access Doc
- c.type
- KOI

Customer
- S.org
- C.code

Billing doc
- m.master

Assign GL accounts

Fields in Table

<table>
<thead>
<tr>
<th>Table</th>
<th>Chart of Account</th>
<th>Sales Org</th>
<th>AA G cust</th>
<th>AA G mat</th>
<th>Act Key</th>
<th>GL accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

"main"
"backup"

Billing
- Link to
  - C.code
  - COA 1000

Example 1000

Customer master
- Billing
  - (± cust. a. group)
  - (± material types)

Customer master
- COA 1000
- INT

Pricing Procedure +
- Condition type
  - Example RUA001

KO07 → ERS → Sales rep.
KO61 → ERF → Freight
PR00 → ERL → Revenue
BO01 → ERB → Deposit
MVST → MWS → Sales Tax

Act Key
**Invoice Split**

- **Deliveries**
- **Sales Orders**
- **Billing Docs**

**Question**
When is billing items combined & when is it split?

**Answer**
Split if Billing header info is different + what is set up in copy control. Item level data VBRK/VBRP (see team vtFL)

Examples of VBRK/VBRP:
1. D-channel / Div
2. D-channel / Div, Ref doc

Use "split analysis" to see reason for split
Installments:

Payment Line R001

Config: FI ⇒ AR & AP ⇒ Bus. Trx ⇒
Order inv/credit memo ⇒
Terms of Payment

☑️ Installment Payment

Sales Order

Delivery

Billing

Accounting doc (separate line item)
(for installment)
Invoice List

Group Billing docs together in an Invoice List.

1. Cust 1320
   - Partner L
   - PY 1050

2. Cust 1321
   - Partner L
   - PY 1050

3. Cust 1050
   - Billing L
   - Invoice List data

4. Sales order
   - # 6487

5. Billing doc
   - PY 1050

6. Sales order
   - # 6488

7. Billing doc
   - PY 1050

8. Lay er 1050

9. Invoic e List
   - Worklist
   - VF24
   - Worklist #
   - Acc. doc
   - For factor's discount.

Optional
**Down Payment**

- **SD Sales Order** with downpayment
  - VA01
  - VF01 or VF04, type FAZ
  - SD Billing doc Partial/Final invoice
    - VF01 orVF04

- **Bill doc**

- **Down payment**

- **Stat. entry with condition AZWR**

- **Down payment request**

- **Line items code FBL5N (noted claims)**

- **Receive money**
  - F-29
  - Incoming payment
  - F-28

- **FI**
Downpayment - SD/FI

Order

VA FI

Down payment is required

VF FI (limit date)

Invoice

VF D1

Item Bill Man
Bill type FA2

FI

Special Acc. doc

Noted item (statistical)

Incoming part

Customer B/A

(1) FBL 5N to get open items
Installment Plan

Order → use PMT exam → example R001

Billing

Accounting

.config

FF → AR → BusTrx → Outg. Inv/cred → Pmt exams

☑ installment Pmt.

(s'plit customer parting in 3)
Invoice Lists

Customer 1320
- Payee 1050

Customer 1321
- Payee 1050

Customer 1050
- Inv. List Date Am

Sales order → Delivery → Invoice A.

Sales order → Delivery → Invoice B.

Work List for Invoice List (VF24)

Worklist
- Invoice A
- Invoice B

It add condition types to doc
- MW 15
- RL 00
- Factory drawing
- Type LRS
Invoices on specific days

Customer master (Sales Area)

Billing

Invoicing dates

Invoicing List Date

(used if customer is payer in worklist)

Sales Order

Item Billing

Billing date

Factory calendar

1mg of general maintain calendar

Eg AM = monthly

(tcode SCAL)
Billing Plan (Periodic/Milestone)

Contract (VA41)
- Type SC
- Cust.: 1171
- Mat.: repair-service
- Item Cat.: WVN

Sales Doc. (VA41)
- PS
  - Type OR
  - Cust.: 1280
  - (1000/10/00)
  - Mat.: E-1002
  - Item Cat.: TA0

Billing

Billing Due (VFØ4)
### Negative Posting

**Diagram:**
- **Billing** to **Cancel**
  - F2
  - S1

**Display customer balance:** (FD10N)

*not allowed*

<table>
<thead>
<tr>
<th>Action</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Bill</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After Bill</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>After cancel</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Exchange Rate Sample

Exchange rate: 1 USD = 1.5 EUR

10 USD
10 USD

10 USD
10 USD

1.5 EUR
1.5 EUR

1.5 EUR
1.5 EUR

100 EUR
100 EUR

100 EUR
100 EUR

Foreign currency
Income Price Vat

Only posting if exchange rate is fixed
Diff between fixed rate
### Common Master Data

<table>
<thead>
<tr>
<th>If</th>
<th>Then Use</th>
<th>D. Ch. for Conditions</th>
<th>D. Ch. for Cust./Mat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000, 10</td>
<td>10 (\rightarrow) 12 ((3))</td>
<td>10 (\rightarrow) 12 ((3))</td>
<td>12</td>
</tr>
<tr>
<td>1000, 12</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

#### Example
- Cust. 702 \((\text{new})\) \(\rightarrow\) 1000, 12, \(\emptyset\) \(\emptyset\)
- Mat. 1400-100 \(\rightarrow\) 100, 12
  \(\text{DIV = } 2\)
  \(\text{change to } \emptyset \emptyset\) for demo

### Demo
1. Create S.O. cust. 702 \((1000, 12, 00)\)
2. Create SO: cust. 702 \((1000, 10, 00)\)
3. Define common distr. channel so that
   - if 10, then use 12

config: SD \(\rightarrow\) Master data \(\rightarrow\) Define con..
Complaint Processing

Credit memo req.
(G2)
VA01

Returns
(RE)

Billing
F01

Sale doc (option)

Deliver
VL01 N

Billing
F01

Invoice correct req.

Billing
F01

Some config:

Order type:
- del. related billing
- order related billing
- billing block
- reference mandatory

Item req:
- Del/order related billing
- returns item Φ
Consignment (outbound)

Fill up at customer

- consignment fill up order (CF)
  - Delivery LF
  - TO
  - GI
  - VAØ1

Customer use

- consignment issue (CI)
  - Delivery LF
  - GI
  - F2
  - Billing VFØ1

Get back from customer

- consignment pick up (CP)
  - Delivery LR
  - GI
  - VAØ1

Doc type CF
- no billing type
Nom cat KBN
- not relevant for billing
Sched Line cat: EØ -> mtype 631

Doc type CI
- del related billing (A)
Nom cat KEN
- del related billing (F2)
Sched. Line cat: CØ -> mtype 633

Doc type CP
- no billing type
Item cat KAN
- not relevant for billing
Sched. Line cat: F1 -> mtype 632
Sales to Employees (cash sales)

- One time cust.
- Order related

Sales Order

- Auto Del
- No picking

Billing

Material Determination

Order

- Material Determination
- Conditions

Service Order

- Do work
- Update order
- Release

Sales Order

- Incomplete output (email)

- Del
- No pick

- Block

Bill

- Device: Access seq.
- Set up master data.

- Config: doc type, item cat.
- Config output.
Rebates

VB01

Rebate Agreement (type 00402)

Conditions

BOP2

Settlement Run

Credit memo req

Release block

Credit memo

Pre req.

Customer

Sales Area

Billing

☑ Rebate

Sales Doc

Billing doc

Post Accrual

(1) Display Rebate Agree. ➔ conditions

Payment Rebate pay ➔ Drilldown

Bill type

F2

☑ OVB0

Sales Org.

1000

☑ OVB1
Product Hierarchy

main

<table>
<thead>
<tr>
<th>φφ125 (H/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φφ100 (PC)</td>
</tr>
</tbody>
</table>

Prod. hierarchy of material DPC1004

condition type

K148

Product Hierarchy

access set

PHH1

fields

Product H.

fields

- maintain K148 (discount) for φφ125-φφ100 10%
- create Sales Order for DPC1004
Promotion & Sales Deals

VB31

Promotion

VB21

Sales deal

Condition Type

KO07 - Customer

Sales Order

Delivery Pick & I

Invoice

Goto Additional Data from condition record

Item Item details

Sales deal 211
Free goods

VBN1

Inclusive

Exclusive

(for every 100, 5 will be free)

(for every 100, get another 5 free)

Master condition type NAφφ

Sales Order VΛφ1

Item cost usage (for free item) = FREE

LO → SD → master data → Conditions → Free Goods.
Group conditions, exclusion groups & condition update.

For my procedure, exclusive - use Z1xx else Z2xx.

Note:
- Condition update in c.type = ability to limit # of orders in condition records.
Special Condition Types

- **Sales Order**
  - HM00: Change Total
  - PN00: Change on item level

Customer Hierarchy

Condition records

- PMIN
- PR02
- HI02

Min Price
- Interval price (scale type "D")
  \( (\times) + (\cdot) \)

Hierarchy Discount

Sales Order

- VDH1N
- 7-L67Axx
- 6222

VK11
Area menu & Pricing Report

- Area menu
  - Reports
  - R-ports

- VK31
  - Display
  - Mass change
  - Copy

- Pricing Report
  - (V_NLD)

- Net Price list
  - (V_NL)

- Standard Area menu: COND_AV
  - maintain via SE43
Serial numbers

Material

Sales Gen Plant data

Serial profile 0001

Config: SD > Basic functions > Serial (OIS2)

Set optional/mandatory per activity

e.g. GR/GI/Sales Order, ...

Demo using:

- material R-1002
- Plant 1200
- Vendor 2004
make to order (demo)

Assemble to order (exercise 25)

Sales Order

Delivery

Production

mrp

Scheduled orders

m881

Stock

mm/pp

Sales order

auto

Delivery

Pack

TO

GI

mr83

Pack material

50 items

m83

Strategy grp 82

Demo with T - FS 1.23 (not true MTO) (no strategy grp)

material

Sales02

Item Cat. grp 0001 (MTO)

5.0 Item cat TAK
Material Master Field Selection

For every selection group:

<table>
<thead>
<tr>
<th>Field Ref.</th>
<th>Hide</th>
<th>Display</th>
<th>Req</th>
<th>Opt</th>
</tr>
</thead>
<tbody>
<tr>
<td>material Type</td>
<td>ROH</td>
<td>HAWA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant</td>
<td>1100</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction code</td>
<td>mmμφ1</td>
<td>mmμφ2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proc. Ind.</td>
<td>1+1/2+1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP del.</td>
<td>SAP1</td>
<td>SAP2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>nominal</td>
<td>retail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KB</td>
<td>A1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
- 110 Industry
- 111-120 Customers can use
- 151-210 Retail
- 211-240 Reserved for customers