SAP BW

Lesson 05: Data Acquisition Part 3

Capgemini

Extractors – LO Extraction

Purpose

➢This course demonstrates the various data extraction methods.

➢Extraction Methods covered

- Business Content Extraction from SAP R/3

- LO Cockpit Extraction

- Generic Extractors

➢DataSource Enhancement

Delta Queue Maintenance

➢1.Transaction RSA7 in source system.

➢2.After successful initialisation (data load status green), you can see that the delta queue has been successfully generated (green)for that data source in RSA7.

➢3.Contains Delta records to be transferred in next delta run of the info package as well as the records that were transferred in the previous delta run.

Delta Queue

To check the delta records that will be transferred in next delta run of the info package.

3 records will be transferred in BI in next delta run of info package

Delta Queue

Display data entries

Selection

Package		to
Data Record (in Data Packet)		to

Extraction Parameters

Data Pack. Size (in records)   13850
Maximum number of records   1,000

Update mode
- ○ Delta Update
- ◉ Delta Repetition

⊕   🔍 Check   💾   ✂

Update mode   Delta Repetition
Data Packet   1
Data records   4
displayed   4

> Delta records loaded in last delta run (1) + new delta records created (3)

Cancellat.	Doc. Date	Type	Cat	CoCd	Purch.Doc.	PGr	POrg	LCurr	VP Start	VPer.End	Vendor	Inv. Pty
⊡	21.03.2011	ECPO	F	1000	3100087762	P04	1000	GBP			119320	
	22.03.2011	ECPO	F	1000	3100087763	P04	1000	GBP			119320	
	22.03.2011	ECPO	F	1000	3100087763	P04	1000	GBP			119320	
	22.03.2011	ECPO	F	1000	3100087763	P04	1000	GBP			119320	

Selective Initialisation

Source System	BI	
	Delta 2: Sales area: North + south	4.
	Initialization 2: Sales area: North	3.
North	**Delta 1:** Sales area: South	2.
South	**Initialization 1:** Sales area: South	1.
Source table(s)		
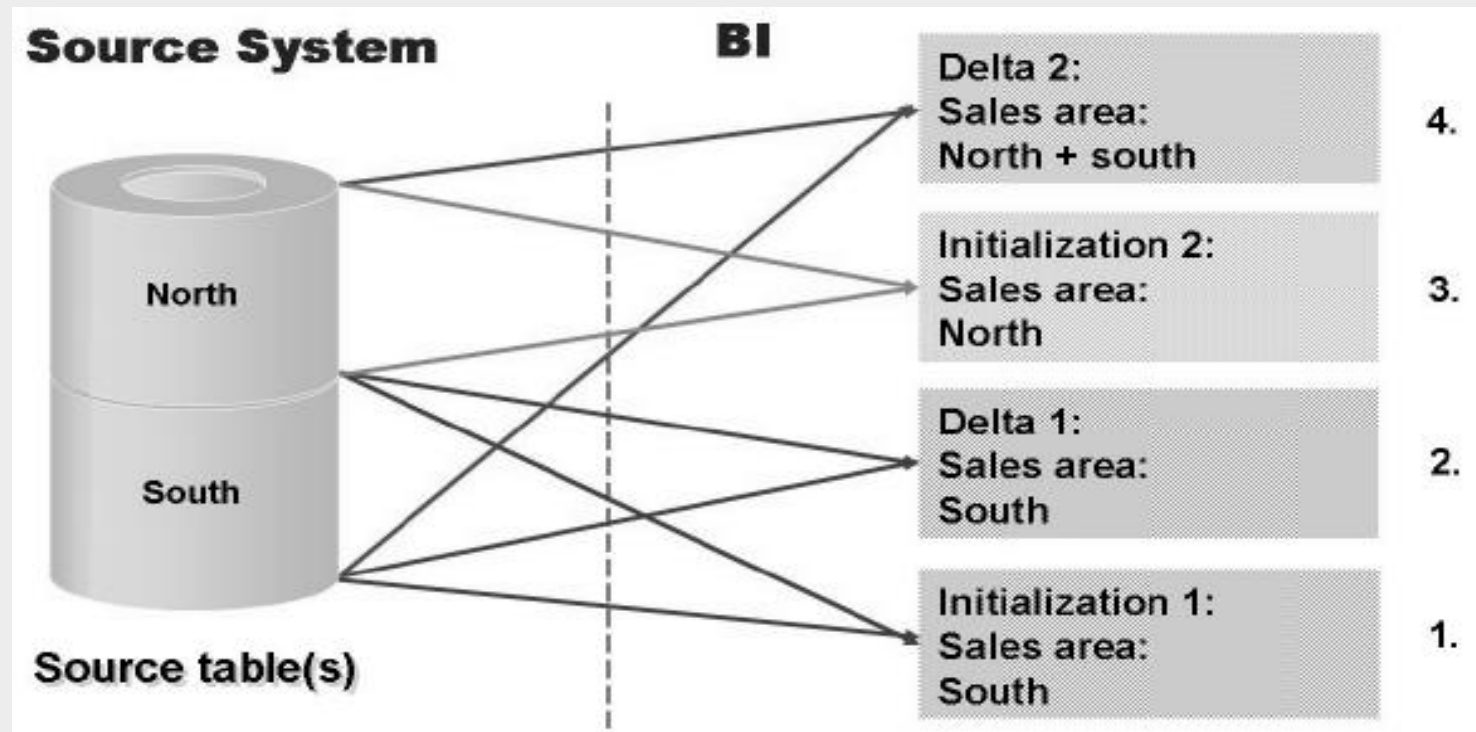
Selective Initialisation
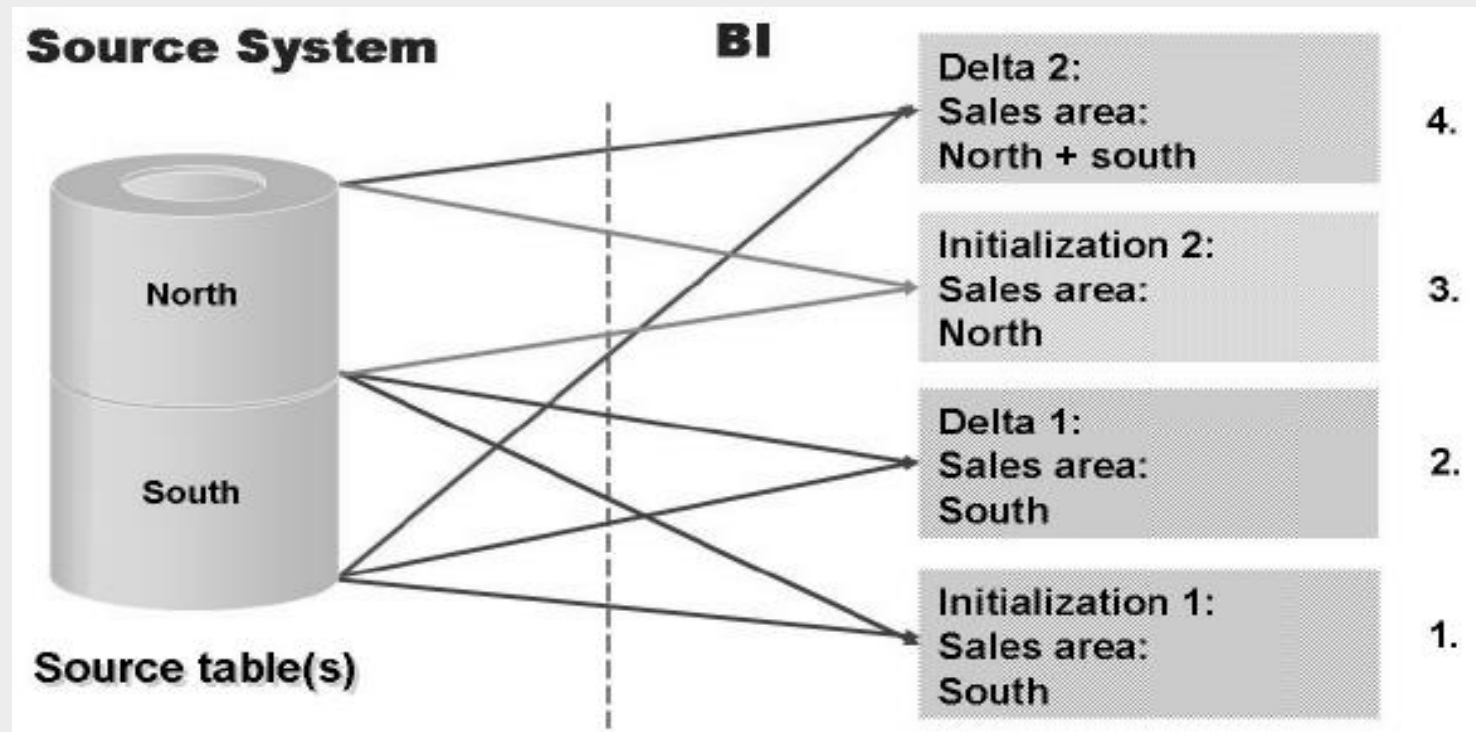
Selective Initialisation

Info package

Delta Update -Selections(Scheduler)

Go to info package → Option 'Scheduler'
→Initializations options for source system

Types of Extractors
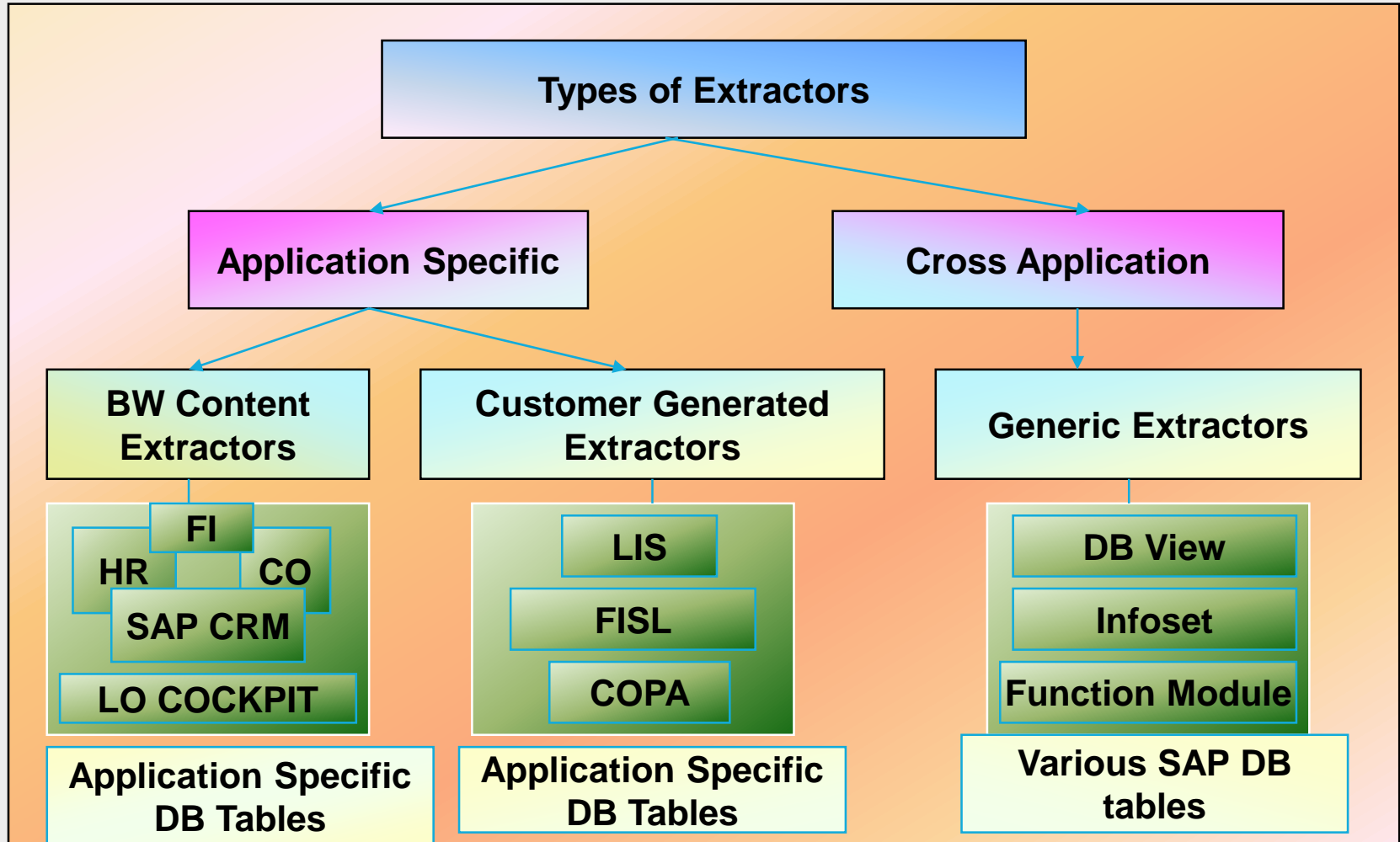
LO Data Extraction : Overview

Types of Extractors

Application Specific

Cross Application

BW Content Extractors

Customer Generated Extractors

Generic Extractors

FI

HR   CO

SAP CRM

LO COCKPIT

LIS

FISL

COPA

DB View

Infoset

Function Module

Application Specific DB Tables

Application Specific DB Tables
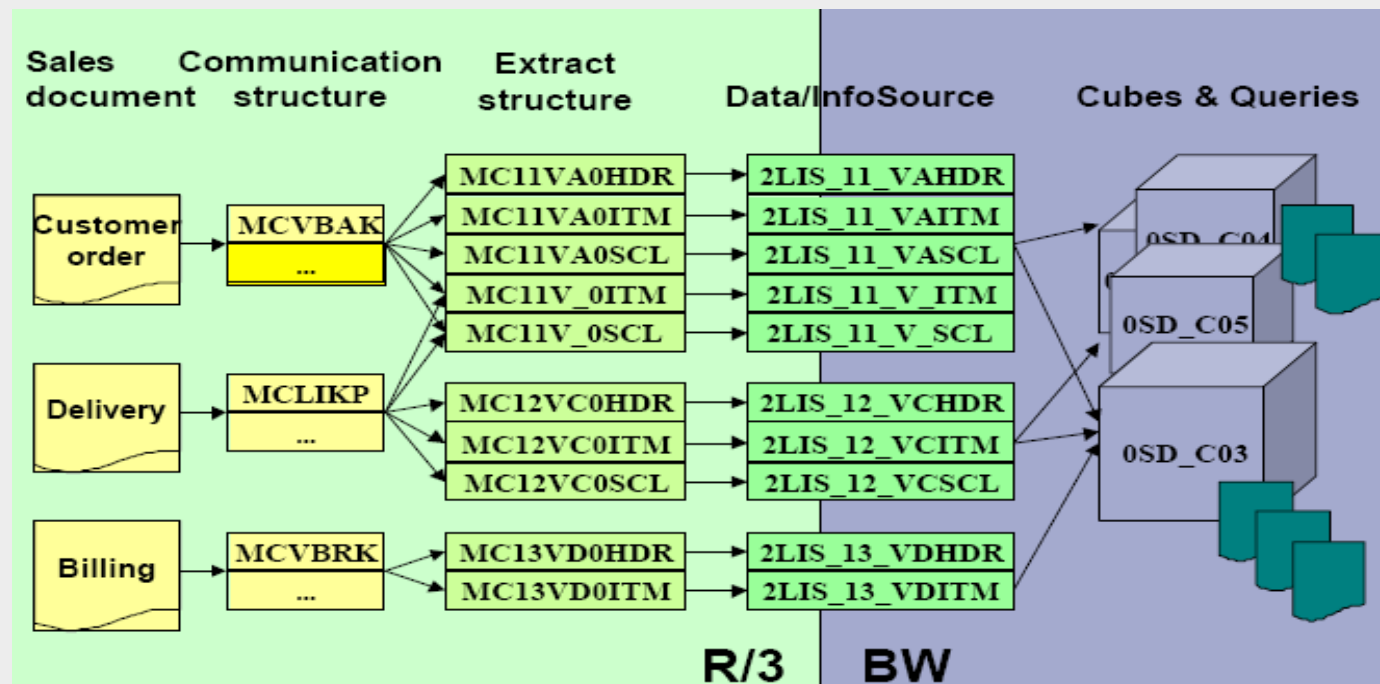
Various SAP DB tables
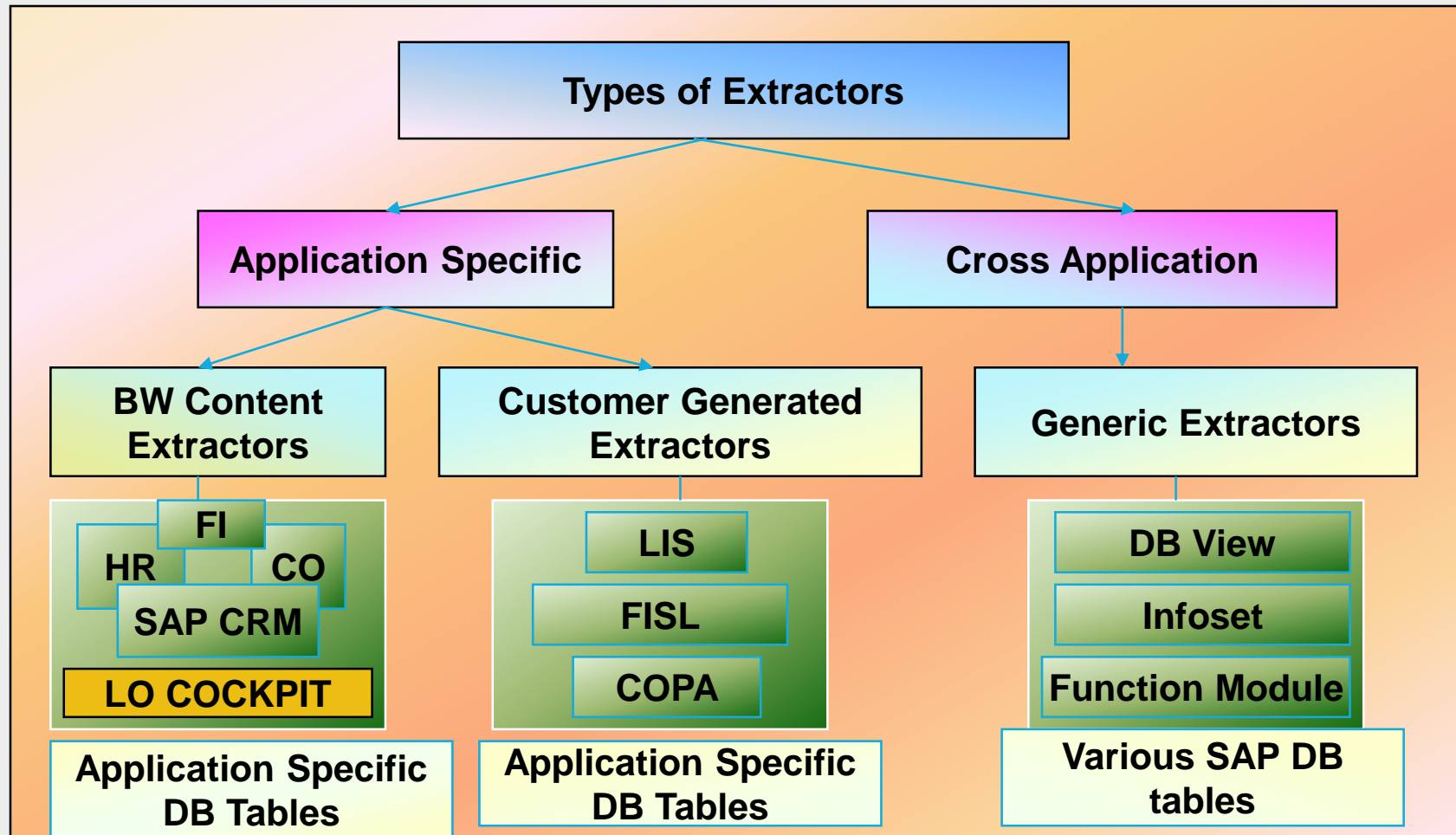
LO Cockpit

- **Push Type Extractors**

➢Logistics Customizing Cockpit provides a simplified way to extract logistics data and transfer it to SAP Business Information Warehouse.

LO Data Extraction : Data Flow

➢As shown in the figure the document data for various applications like Customer order, delivery and billing is first transferred to various Communication Structures.

➢These communication structures are used to form various extract structures in R/3 which consist of various DataSources like 2LIS_11_VAHDR, 2LIS_11_VAITM etc.

➢These DataSources then can be replicated to BW.

➢Then by creating transformation and defining the transformation the data is loaded into various data targets like InfoCube and ODS, thus available for reporting.

Delete set up tables (LBWG)
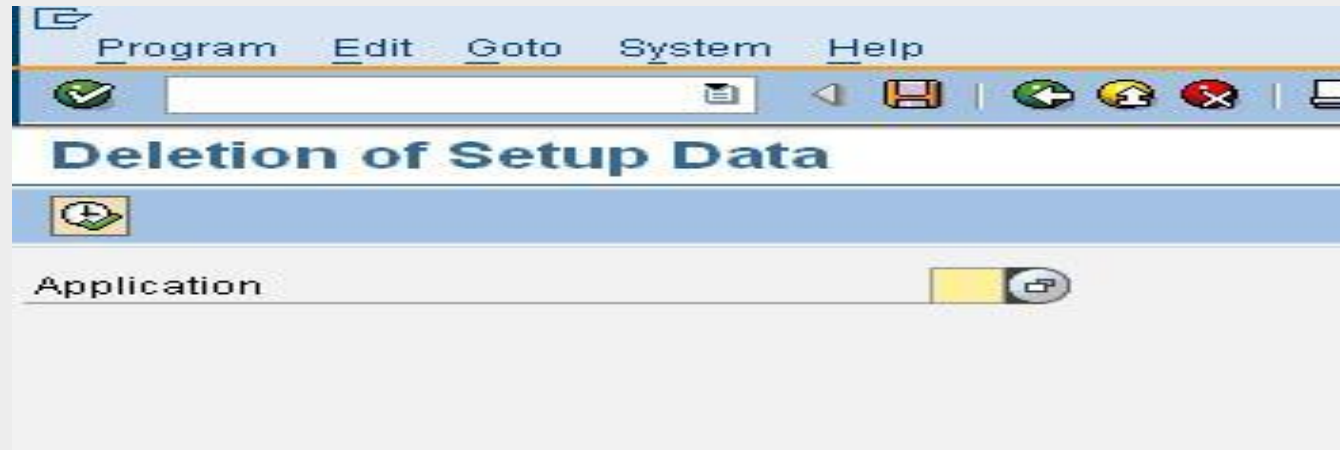
In transaction LBWG enter the application number for which you want to delete the set up tables.

For e.g. For 2LIS_11_VAITM enter the number 11 and execute.

Delete set up tables before filling to avoid any duplicate entries, which can cause incosistency in data in BI.

Initialization/Simulation (OLI*BW) or from SBIW

V1 Update (Synchronous)

➢It's a time-critical update used for updating the actual transaction tables.

➢If you create/change a purchase order (me21n/me22n), when you press 'SAVE' and see a success message (PO.... changed..), the update to underlying tables EKKO/EKPO has happened (before you saw the message). This update was executed in the V1 work process.
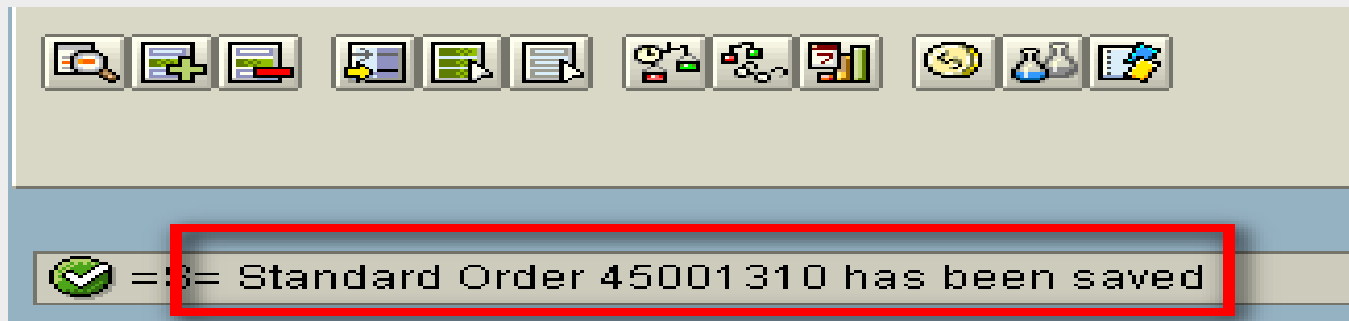
V2 Update (Asynchronous)

➢It's a non-time-critical update used for updating statistics tables related to the transaction tables.

➢For instance, after a Sales order entry transaction is completed, the corresponding sales order tables would be updated in V1 mode, and the corresponding statistics tables would be updated in V2 mode.

Update Modes in LO Cockpit

➢There are four Update Modes in LO Extraction

- Direct Delta

- Queued Delta

- Un-serialized V3 Update

Update Modes in LO Cockpit

Tcode : LBWE

LO Data Extraction: Customizing Cockpit

| Source data	Structure	DataSource	Update	Update Mode
▽ 🔧 Logistics applications				
▽ 🔧 02 : Purchasing			Job Control	✏️ Queued Delta
▽ 📦 Extract structures				
▷ ⬤⬤🟩 MC02M_0ACC: Extraction Purchasing (Account)	✏️ Mainte...	✏️ 2LIS_02_ACC	✏️ Active	
▷ ⬤⬤🟩 MC02M_0CGR: Produced Activity: Delivery of Confirma	✏️ Mainte...	✏️ 2LIS_02_CGR	✏️ Active	
▷ ⬤⬤🟩 M ☑ Select Update Mode ⊠	Mainte...	✏️ 2LIS_02_HDR	✏️ Active	
▷ ⬤⬤🟩 M	Mainte...	✏️ 2LIS_02_ITM	✏️ Active	
▷ ⬤⬤🟩 M	Mainte...	✏️ 2LIS_02_SCL	✏️ Active	
▷ ⬤⬤🟩 M ○ Direct Delta	Mainte...	✏️ 2LIS_02_SCN	✏️ Active	
▷ ⬤⬤🟩 M ◉ Queued Delta	Mainte...	✏️ 2LIS_02_SGR	✏️ Active	
▷ 🔧 03 : Inventor ○ Unserialized V3 Update			Job Control	✏️ Unserialized V3 ...
▷ 🔧 04 : Shop Fl			Job Control	✏️ Queued Delta
▷ 🔧 05 : Quality			Job Control	✏️ Queued Delta
▷ 🔧 06 : Invoice ✔️ ✖️			Job Control	✏️ Direct Delta
▷ 🔧 08 : Shipment			Job Control	✏️ Queued Delta

Direct Delta
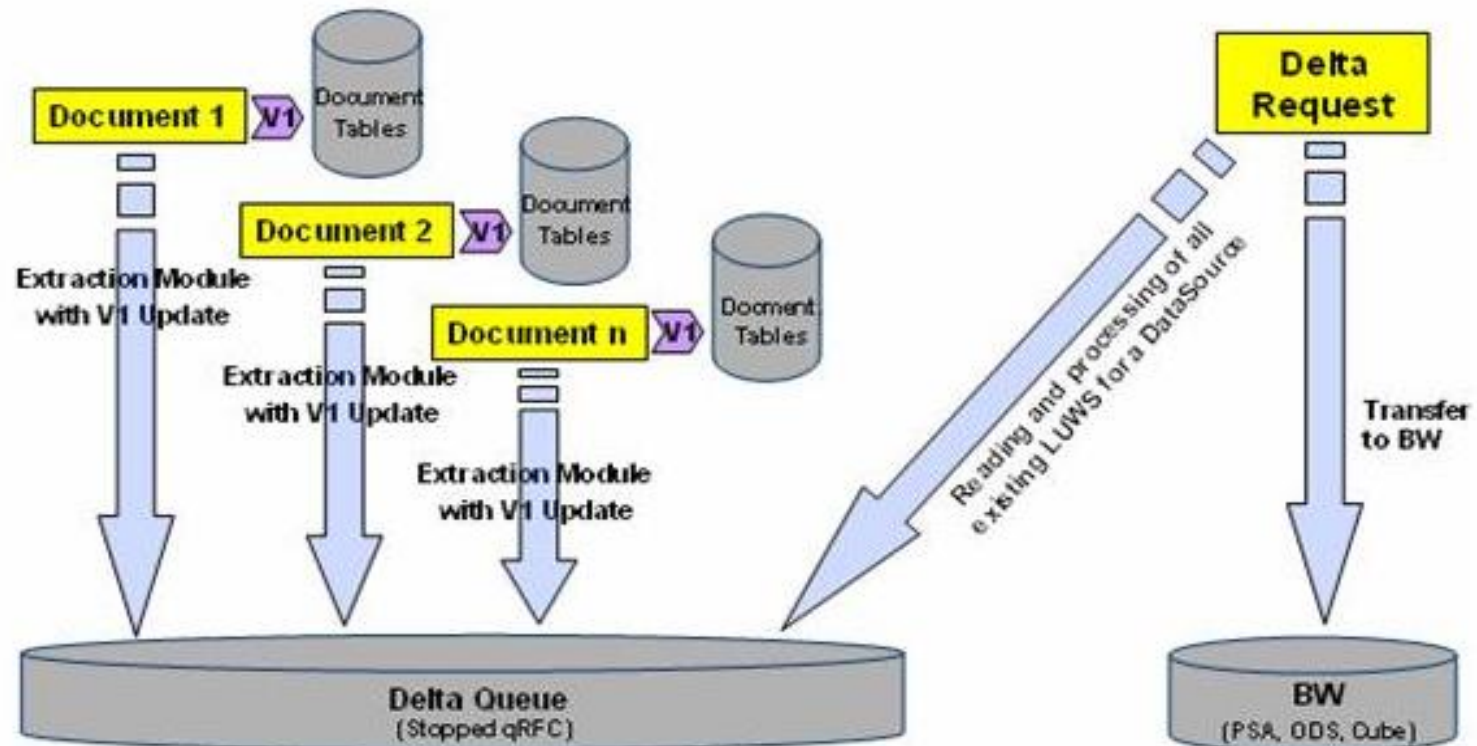
Fig.3: Direct Delta update mechanism

Direct Delta

BW Delta Queue Maintenance

Count has been increased.

Sta	DataSource	BW System	Total
○○○●	2LIS_02_SCL	ZLS_BWDE5	17
○○○●	2LIS_08TRTK	ZLS_BWDE5	
○○○●	2LIS_11_VAITM	ZLS_BWDE5	2
○○○●	2LIS_08TREKZ	ZLS_BWDE5	1

Monitor for qRFC

DataSource   2LIS_11_VAITM
Target system   ZLS_BWDE5
Update mode   Delta
Data Packet   1
Data records   1   displayed

Cancellat.	Document	Rj	It	Rej.status	Item	Itm	IB
	45001310	A		A	1	C	C

Direct Delta

➢Extraction data is transferred directly to the BW delta queues with each document posting (V1 update).

➢Sequence of the transfer of document agrees with the chronological order of data creation

➢Each document posting with delta extraction leads to exactly one LUW in the respective BW delta queues

➢Independent of V2 update result
- No need to schedule a job at periodic intervals to update delta queue

➢Recommended for customers with low number of postings

➢No documents can be posted during set up table filling and delta initialisation

- BW Delta queue is read when a delta load is executed from BW.

Queued Delta
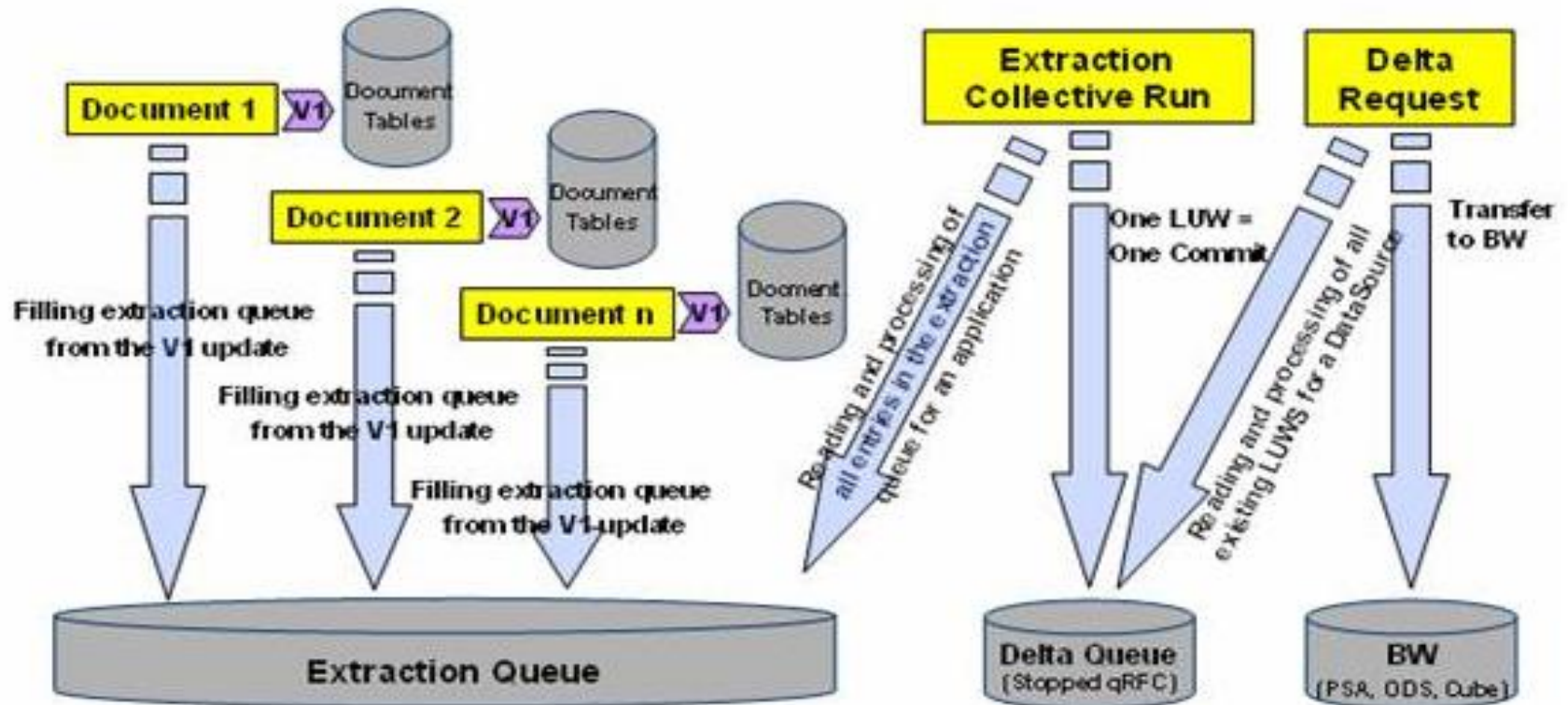
Fig.4: Queued Delta update mechanism

Queued Delta

Queued Delta (LBWQ)

Queued Delta

➤Extraction queue is updated in a V1 update

➤Collective run as usual for transferring data into the BW delta queue

➤Serialization ensured

➤Recommended for customers with a high occurrence of documents

➤Document postings can be started as soon as setup tables are filled.(No down time during delta init completion)

➤BW Delta queue is read when a delta load is executed.

Un-Serialized V3 Update

R3 system

V3 Update Module

SM 13

V3 Periodic Collective Run

BW System

Update Tables

Application specific customer exits

V1

Transaction tables

RSA7

BW Delta queue

Delta Load

Staging Engine
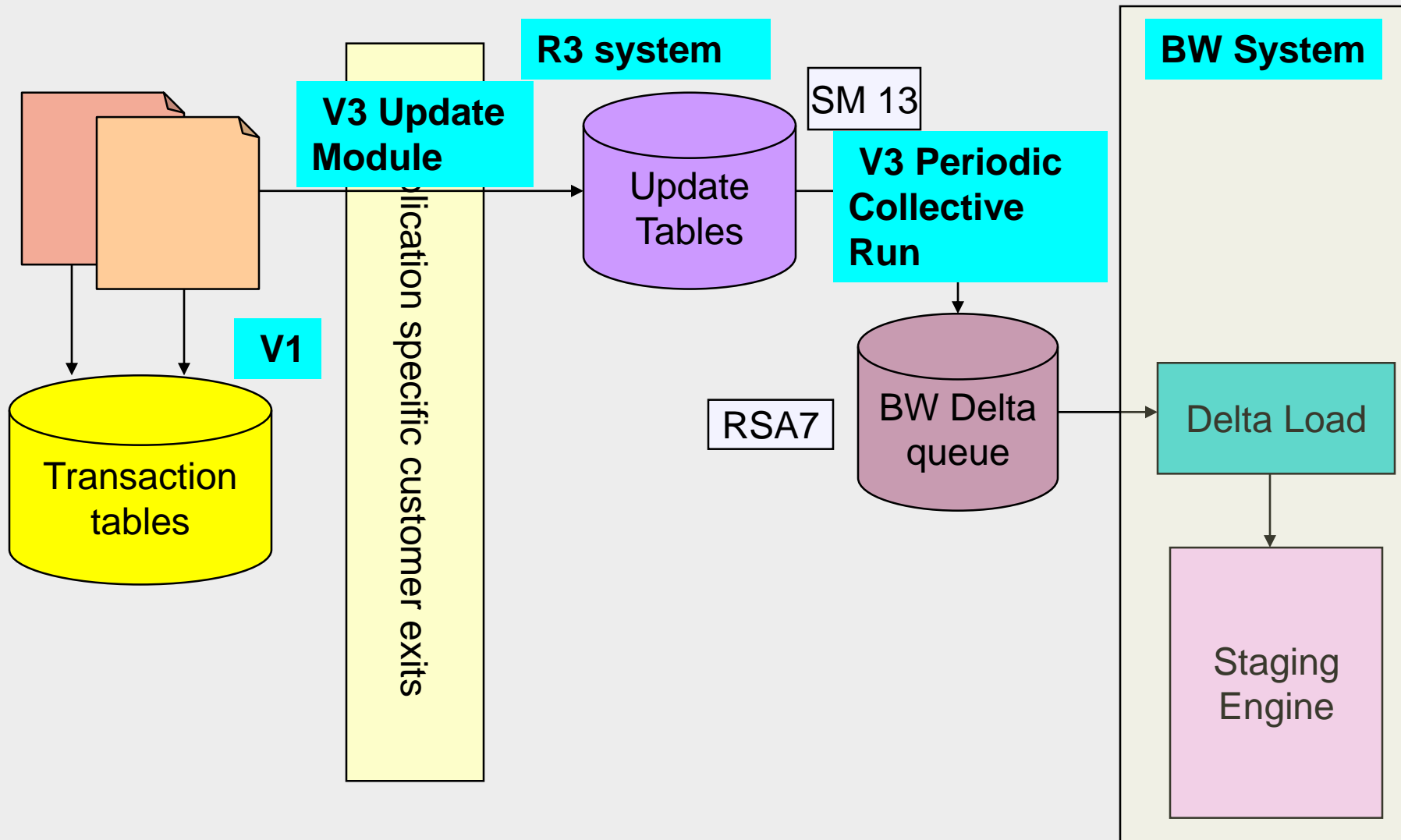
Un-Serialized V3 Update
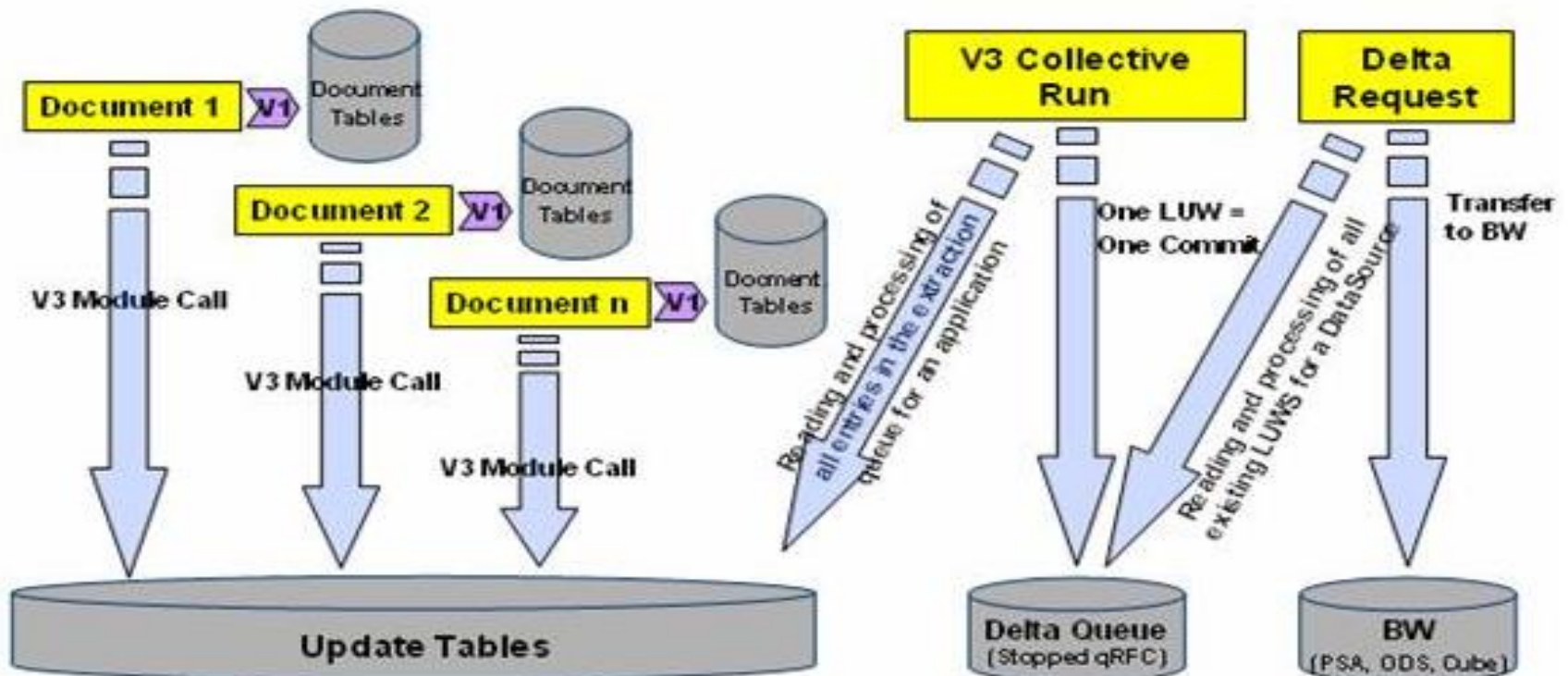
Fig.5: (Unserialized) V3 Delta update mechanism

Un-Serialized V3 Update

➢Extraction data for written as before into the update tables with a V3 update module

➢V3 Periodic collective run transfers the data to BW Delta queue

➢The method "Unserialized V3 Update" does not ensure serialization of the document data. Update to the DataStore objects is not recommended if serialization is desired

➢Extraction dependent on V2 update.

➢Delta queue is read when a delta load is executed from SAP BW.

Update Queue (SM13)

Update Queue (SM13)

V3 Collective Run- Settings

Set up V3 update
Set the start time and
print parameters.
Schedule batch jobs

V3 Collective Run Settings

In Start Date Select immediate scheduling

Give the print parameters

Schedule the job and check the job overview in SM37

Step 6 : Fill set up table

Some Useful sites

- www.sdn.sap.com

- www.help.sap.com

- www.service.sap.com