

SAP CRM-BW Adapter an Overview



Applies to:

SAP CRM / SAP BW (3.5 / 7.0). For more information, visit the [Customer Relationship Management homepage](#).

Summary

This article gives an overview about the BW Adapter that is used in the BI-CRM extraction and transaction codes related to it

Author: Suganya Damodharan

Company: Accenture Services Pvt Ltd

Created on: 3 August 2010

Author Bio

Suganya is a SAP BI Consultant currently working with Accenture Services Ltd. She has got good experience in BI and ABAP.

Table of Contents

Introduction	3
BDoc (Business Documents).....	3
BDoc Monitoring in SAP CRM	4
Step 1:	4
Step 2:	5
Step 3:	7
Step 4:	7
Step 5:	8
Step 6:	8
Step 7:	9
Step 8:	9
BW Adapter.....	10
BW Adapter in SAP CRM.....	10
Metadata Tab.....	11
Extract Structure Tab	12
Selection Conditions Tab	13
Mapping Tab.....	14
Useful Transaction Codes	14
Related Content.....	15
Disclaimer and Liability Notice.....	16

Introduction

SAP CRM uses BW Adapter to extract data from SAP CRM and send it to SAP Business Information Warehouse and SAP NetWeaver Business Intelligence. The below figure will explain how the data is transferred to BI/BW system from CRM system.

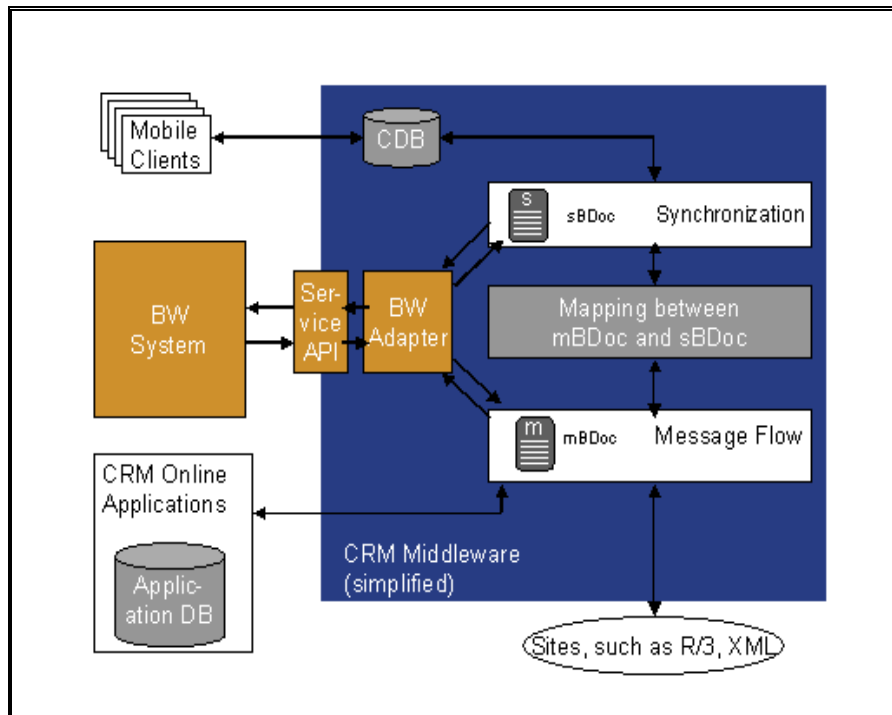


Fig 1: CRM-BW extraction architecture

BDoc (Business Documents)

A Business Document (BDoc) can be defined as a set of transaction statements, which represent a logical object. It is an envelop of all business data that is necessary to run a business process. A BDoc contains different sets of data partitioned in terms of segment. Segments are mapped to a table where the mapping defines the relation between abstraction and physical database.

BDoc Types Consists of 2 Parts

1) Classical Part

- Hierarchical Segment Structure
- Modeled with the BDoc Modeler SBDM
- Part is Mandatory
- Contains data relevant to receiver determination
- Consists of a BDoc header and segments which may be arranged in hierarchical fashion it is not mapped to database tables thus needs to be filled in completely at runtime

2) Extension Part

- Complex Data type
- Modeled with DDIC SE11
- Contains the actual data: Master and Transaction
- This Part is Optional
- Extension only exists for Messaging BDocs
- Can not be used for receiver determination

BDoc Monitoring in SAP CRM

When ever a transaction is created in CRM a BDoc will be generated based on the BDoc type. Generated BDoc can be monitored using the transaction code **SMW01 - Display BDoc Messages** and **SMW02 - Display BDoc Message Summary**. We can use them to do the following jobs like analyze the status of BDoc processing, Display the BDoc related information and Corrective actions (reprocess or delete failed BDocs)

Step 1:

Enter T-Code SMW01 a screen will be displayed as shown in the below screen shot

Display BDoc Messages

The screenshot shows the SAP SMW01 'Display BDoc Messages' screen. It is organized into several sections:

- BDoc Message Instance:** Contains three input fields: 'BDoc Type (Generation Name)', 'BDoc Message ID', and 'User (Creator)', each with a yellow arrow icon to its right.
- BDoc State:** Contains five checkboxes: 'Errors', 'Rejected', 'Non Final', 'Processed' (which is highlighted with a dashed border), and 'Intermediate State'. Below these is a 'BDoc State' field with a dropdown arrow icon.
- Send Date and Time:** Features radio buttons for 'No Limitation' (selected), 'Yesterday', 'Today', '1 Hour', and '5 Minutes'. Below are 'Date (From)', 'Date (To)', 'Time (From)', and 'Time (To)' fields.
- Update Date and Time:** Features the same radio button options as the 'Send Date and Time' section.
- Flow Context:** Contains two checkboxes: 'Inbound' and 'Outbound'.

Step 2:

Click on Execute button, all the BDoc Types in Different States will be displayed. We can do a selection on BDocs based on the BDoc State, Type, Date and Time, Flow Context (Inbound or Outbound).

BDoc Message Edit Goto System Help

Selection Result: 19 records found.

Refresh

State	BDoc State Description	BDoc Type	Flow Context Description	Send date	Send time	Sender Site Name	Queue name
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	16:20:11		CSA_ORDER_0000066646
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	11:52:39		CSA_ORDER_0000024011
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	11:47:16		CSA_ORDER_0000024011
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_0000066655
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_0000024014
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:18		CSA_ORDER_0000021653
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_0000001075
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_0000021683
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:16		CSA_ORDER_0000040496
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:15		CSA_ORDER_0000021684
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_0000023858
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_0000010297
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:13		CSA_ORDER_0000040494
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:12		CSA_ORDER_0000021142
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:11		CSA_ORDER_0000002814
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_0000034089
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_0000024015
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:09		CSA_ORDER_0000010296
	Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:36:49		CSA_ORDER_0000010298

BDoc State



- A **green light** indicates that the BDoc is fully processed



- A **yellow light** indicates that processing of BDoc has not completed yet or was completed with a warning



- A **red light** indicates that the BDoc processing is ended with errors.

BDoc Messages and classification of BDoc States

Erroneous BDoc Messages

BDoc State	Meaning
E01	Technical error (incomplete)
E02	Partially send, receivers have errors
E03	BDoc cannot be read from database
E04	BDoc validation error
E05	Inbound processing failed
E06	Outbound processing failed
E07	Conversion error

Intermediate BDoc Messages

BDoc State	Meaning
I01	Received (intermediate state)
I02	Written to queued Remote Function Call (qRFC) queue (intermediate state)
I03	After qRFC step (intermediate state)
I04	BDoc stored before update task (intermediate state)

Final BDoc Messages

BDoc State	Meaning
F01	Rejected (fully processed)
F02	Confirmed (fully processed)
F03	Set to processed (fully processed)
F04	Confirmed (fully processed by all receivers)
F05	Information (no processing)

Non-Final BDoc Messages

BDoc State	Meaning
T01	Temporary lack of resources in application layer
R01	Retry after temporary error
O01	Send to receivers (not all have confirmed)
D01	To be processed (debug)

For more details related to BDoc Error messages refer [BestPractice-BDoc-Analysis-V2.pdf](#) mentioned in the related content

Step 3:

In order to view the Classic Part of the BDoc, Click on Icon Show BDoc Message Classic Data as shown below

BDoc Message Edit Goto System Help

Selection Result: 19 records found.

Refresh

State	BDoc State Description	BDoc Type	Send date	Send time	Snd. Site	Queue name
Confirmed (fully processed)	BUS_TRANS	Show BDoc Message Classic Data	03.08.2010	16:20:11		CSA_ORDER_0000066646
Confirmed (fully processed)	BUS_TRANS		03.08.2010	11:52:39		CSA_ORDER_0000024011
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	11:47:16		CSA_ORDER_0000024011
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_0000066655
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_0000024014
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:18		CSA_ORDER_0000021653
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_0000001075
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_0000021683
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:16		CSA_ORDER_0000040496
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:15		CSA_ORDER_0000021684
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_0000023858
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_0000010297
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:13		CSA_ORDER_0000040494
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:12		CSA_ORDER_0000021142
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:11		CSA_ORDER_0000002814
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_0000034089
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_0000024015
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:40:09		CSA_ORDER_0000010296
Confirmed (fully processed)	BUS_TRANS_MSG	mBDoc Notification	03.08.2010	08:36:49		CSA_ORDER_0000010298

Step 4:

BDoc Message Body (Classic Part) Structures will be displayed as below

Object Edit Goto Utilities Settings System Help

Structure Editor: Display BDoc Message Body (Classic part) from Entry

Column Metadata

BUS_TRANS_MSG_HEADER	BUS_TRANS_MSG_ACTIVITY	BUS_TRANS_MSG_ORGMAN	BUS_TRANS_MSG_STATUS	BUS_TRANS_MSG_PARTNER
1 Entry	1 Entry	1 Entry	4 Entries	4 Entries

Step 5:

Double Click on any structure you can get the list of fields in the structure

Structure Editor: Display BUS_TRANS_MSG_HEADER from Entry 1

TR_S	BEF	TAS	...	HANDLE
0	1			AC13A310

Structure Editor: Display BUS_TRANS_MSG_HEADER Entry 1 From 1

- TR_STATUS: 0
- BEF_IMG: 1
- TASK: FF
- SENDBITS: F91B454CB150E24FE1000000AC13A310
- GUID: 0000000000
- HANDLE: ZAPP
- PROCESS_TYPE: 0000066646
- OBJECT_ID: SR4CLNT100
- PREDECESSOR_PROCESS: EN
- PREDECESSOR_OBJECT_TYPE: Meeting to discuss Contract
- PREDECESSOR_LOG_SYSTEM: 26.07.2010
- BIN_RELATION_TYPE: 0000134510
- LOGICAL_SYSTEM: X
- DESCR_LANGUAGE: SR4CLNT100
- LANGU_ISO: EN
- DESCRIPTION: Meeting to discuss Contract
- POSTING_DATE: 26.07.2010
- QUEUE_NAME: 0000134510
- IS_ACTIVITYCRM: X
- IS_OPPORTUNITY:
- IS_SALESTRANSACT:
- IS_SERVICEPROC:
- IS_SRVORDERCONF:
- HAS_BUSPROCITEM:

Step 6:

Inorder to view the Extension Part of the BDoc, Click on Icon Show BDoc Message Ext Data as shown below

BDoc Message Edit Goto System Help

Selection Result: 19 records found.

Refresh

State	BDoc State	Description	BDoc Type	Flow Context Description	Send date	Send time	Sender Site Name	Queue name
Confirmed (fully processed)	BUS_TRANS_MSG			Show BDoc Message Ext. Data	03.08.2010	16:20:11		CSA_ORDER_000006664
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	11:52:39		CSA_ORDER_000002401
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	11:47:16		CSA_ORDER_000002401
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_00000666E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:19		CSA_ORDER_000002401
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:18		CSA_ORDER_00000216E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_00000107
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:17		CSA_ORDER_00000216E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:16		CSA_ORDER_00000404E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:15		CSA_ORDER_00000216E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_00000238E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:14		CSA_ORDER_00000102E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:13		CSA_ORDER_00000404E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:12		CSA_ORDER_000002114
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:11		CSA_ORDER_000002081
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_00000340E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:10		CSA_ORDER_000002401
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:40:09		CSA_ORDER_00000102E
Confirmed (fully processed)	BUS_TRANS_MSG			mBDoc Notification	03.08.2010	08:36:49		CSA_ORDER_00000102E

Step 7:

BDoc Message Body (Extended Part) will be displayed with the Segment Entries

Structure Editor: Display BDoc Message Body (Extended part) from Entry

The screenshot shows the SAP Structure Editor interface. The main window displays a list of segments for the BDoc Message Body (Extended part). A callout box labeled "Segment Names" points to the list. The segments and their entry counts are as follows:

Segment Name	Entry Count
MESSAGE_TYPE	0 Entries
SEGMENTS_SENT	1 Entry
ORDERADM_H	1 Entry
ACTIVITY_H	1 Entry
OPPORT_H	0 Entries
LAWREF_H	0 Entries
FUND_H	0 Entries
CLA_H	0 Entries
LEAD_H	0 Entries
SALES	0 Entries
ORDERADM_I	0 Entries
PARTNER	4 Entries
ADDRESS	1 Entry
APPOINTMENT	4 Entries
BATCH	0 Entries
BILLING	0 Entries
BILLPLAN	0 Entries
BILLPLAN_D	0 Entries
FIMAPAYMENTS	0 Entries
CANCEL	0 Entries
CANCEL_IR	0 Entries
CUCFG	0 Entries
CUBIN	0 Entries
CUCHARTXT	0 Entries
CUINS	0 Entries
CUMULAT_H	0 Entries

Step 8:

Double Click on any the Segment in order to get the Segment field list

Structure Editor: Display PARTNER from Entry 1

The screenshot shows the SAP Structure Editor interface with the PARTNER segment selected. A callout box labeled "Segment Fields" points to the list of fields. The fields and their values are as follows:

Field Name	Value
TR_STATUS	
BEF_IMG	0
TASK	1
SENBITS	FF
CLIENT	100
PARTNER_GUID	3A1C454CB150E24FE1000000AC13A310
ORDERADM_H_GUID	F91B454CB150E24FE1000000AC13A310
REF_GUID	F91B454CB150E24FE1000000AC13A310
REF_HANDLE	0000000000
REF_KIND	A
REF_PART_HANDLE	0000
REF_PARTNER_FCT	00000009
REF_PARTNER_NO	134510
REF_NO_TYPE	BP
REF_DISPLAY_TYPE	BP
KIND_OF_ENTRY	
PARTNER_FCT	00000009
PARTNER_NO	134510
DISPLAY_TYPE	BP
NO_TYPE	BP
MAINPARTNER	X
RELATION_PARTNER	00000000000000000000000000000000
ADDR_NR	526200
ADDR_NP	
ADDR_TYPE	1

BW Adapter

BW adapter is used to extract data from the SAP CRM system and send it to SAP BW system. BW adapter translates the BDoc data into a structure compatible with SAP BW that is into an extract structure of a DataSource.

There are 2 types of BW adapters

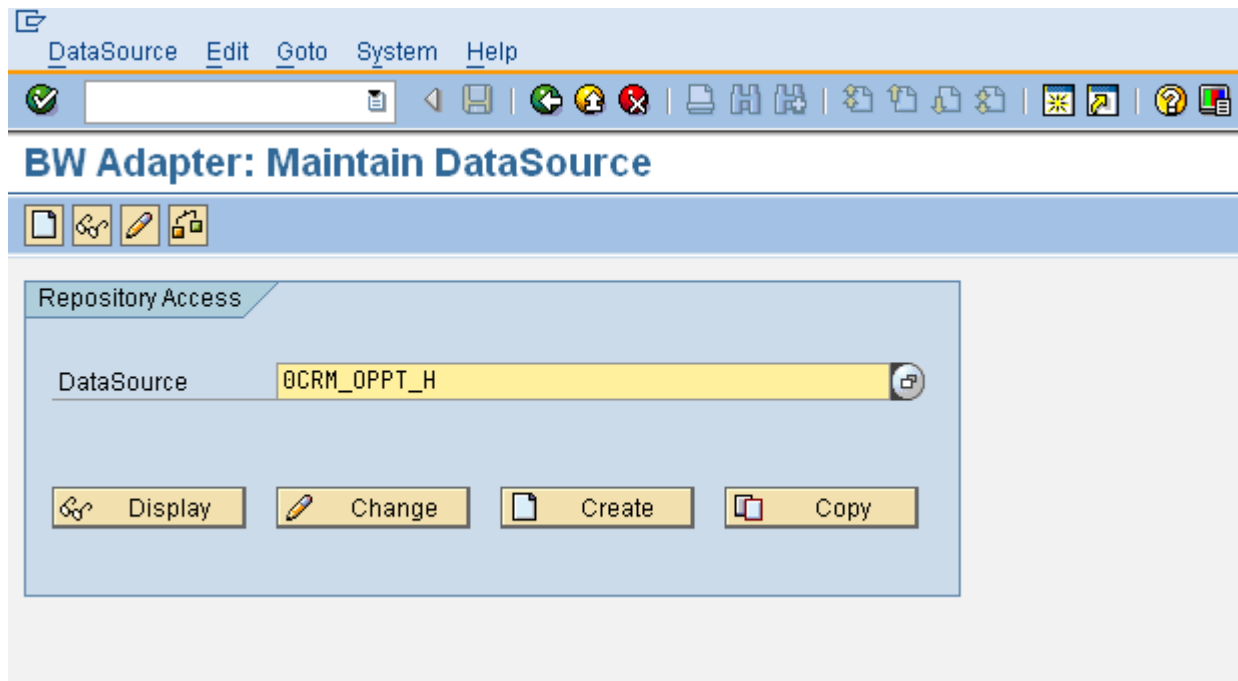
- 1) Synchronization Business Documents (sBDocs)
- 2) Messaging Business Documents (mBDocs)

With the appropriate BDoc type, the BW adapter extracts the following objects into the SAP BW system

- CRM Business transactions (mBDoc)
- Documents for CRM Billing (mBDoc)
- Other objects that are only relevant for mobile clients, such as Chemical Market Potentials (sBDoc)

BW Adapter in SAP CRM

Transaction Code BWA1 – BW Adapter and Enter the DataSource name 0CRM_OPPT_H and click on display



Metadata Tab

BW Adapter: Maintain DataSource

DataSource	0CRM_OPPT_H
Long description	CRM Opportunites: Header
Medium description	Opportunites: Header
Short description	Opportunites: Header

Metadata	Extract Structure	Selection Conditions	Mapping
----------	-------------------	----------------------	---------

BDoc	BUS_TRANSACTION_MESSAGE
Extract Struct.	CRMT_BW_OPPT_H
Type of DataSource	TRAN
Appl. Component	0CRM_SALES
Delta Procedure	AIMD
Delete Fld:Name	RECORDMODE
SelectionModule	CRM_BWA_INIT_BUS_TRANS
Mapping Module	CRM_BW_OPPT_H_MAP

Metadata contains the details about the DataSource like BDoc type, Extract Structure name and the type of DataSource, Application Component, Delta Procedure, Selection Module and Mapping Module

BDoc Type: BUS_TRANSACTION_MESSAGE is the BDoc type for datasource 0CRM_OPPT_H. It differs based on the DataSource. Below listed database tables gives you the information about the BDoc types.

1. SMW3FDCUST - Customer-Specific Flow
2. SMW3FDBDOC - BDoc Type Specific Flow

Extract Structure: The extract structure contains the amount of fields that are offered by an extractor in the source system for the data loading process.

Delta Procedure: CRM Standard DataSources Support AIMD (After-Images with Deletion Indicator) delta procedure

Selection Module: The Selection Module is used to fetch data from the BDoc based on the selection conditions entered in the Selection Conditions Tab

Mapping Module: The selected BDoc data is converted into the extract structure from a mapping module that is entered in the BW Adapter metadata

Extract Structure Tab

BW Adapter: Maintain DataSource

DataSource 0CRM_OPPT_H

Long description	CRM Opportunites: Header
Medium description	Opportunites: Header
Short description	Opportunites: Header

Metadata
Extract Structure
Selection Conditions
Mapping

Fld Name	Inverse Fld For Deletion	Selection	Key Attribute	Refer. Field
ACTIVITY_PARTNER	<input type="checkbox"/>			
ACT_CATEGORY	<input type="checkbox"/>			
ACT_DIRECTION	<input type="checkbox"/>			
ACT_REASON_CAT	<input type="checkbox"/>			
ACT_REASON_CODE	<input type="checkbox"/>			
ACT_REASON_GROUP	<input type="checkbox"/>			
BUDGET_BP	<input type="checkbox"/>			CURRENCY
BWSTLOCSYS0	<input type="checkbox"/>	A		
BWSTLOCSYS1	<input type="checkbox"/>	A		
BWSTLOCSYS2	<input type="checkbox"/>	A		
BWSTONEOPPT	<input type="checkbox"/>			
BWSTONESYS0	<input type="checkbox"/>			
BWSTONESYS1	<input type="checkbox"/>	A		

Extract structure contains the amount of fields that are offered by an extractor in the source system for the data loading process.

Mapping Tab

BW Adapter: Maintain DataSource

DataSource: 0CRM_OPPT_H

Long description: CRM Opportunites: Header

Medium description: Opportunites: Header

Short description: Opportunites: Header

Metadata | Extract Structure | Selection Conditions | **Mapping**

Extract.StructureFld	SegmentName	Segment Fld	BW Selection
ACTIVITY_PARTNER	PARTNER	PARTNER_NO	<input type="checkbox"/>
ACT_CATEGORY	ORDERADM_H	PROCESS_TYPE	<input type="checkbox"/>
ACT_DIRECTION	ACTIVITY_H	DIRECTION	<input type="checkbox"/>
ACT_REASON_CAT	SRV_SUBJECT	KATALOGART	<input type="checkbox"/>
ACT_REASON_CODE	SRV_OSSET	GUID	<input type="checkbox"/>
ACT_REASON_CODE	SRV_SUBJECT	CODE	<input type="checkbox"/>
ACT_REASON_GROUP	SRV_SUBJECT	CODEGRUPPE	<input type="checkbox"/>
BUDGET_BP	OPPORT_H	BUDGET_BP	<input type="checkbox"/>
BWSTONESYS0	STATUS	STATUS	<input type="checkbox"/>
BWSTONESYS4	STATUS	STATUS	<input type="checkbox"/>
BWSTTECSYS2	STATUS	STATUS	<input type="checkbox"/>
CALDAY	ORDERADM_H	CREATED_AT	<input type="checkbox"/>

Load from Database

Extract.StructureFld: It Lists Fields offered by the DataSource

SegmentName: BDoc Segment Name (Mapping of BDoc Segment to the Extract Structure Field)

SegmentFld: BDoc Segment Field. (Mapping of BDoc Segment Field to the Extract Structure Field). Source CRM Table fields can be easily identified from Segment fields

BW Selection: Selection fields used in BW transaction RSA3. Limitation when selecting data in the OLTP

Useful Transaction Codes

T-Code	Description
SPRO	Configuration Related Settings
SMOECAC	Administration console – CRM Middleware
SBDM	BDoc Modeler
SMW01	Transaction for Monitoring BDocs
SMW02	Display BDoc Message Summary
SMQ1	Queue RFC Monitor for Outbound queue
SMQ2	Queue RFC Monitor for Inbound queue
BWA1	BW Adapter
BWA5	BW Adapter DataSources
ST22	Short Dump Analysis

Note: I would be soon uploading another document related to CRM Datasource enhancements.

Related Content

www.sdn.sap.com

help.sap.com

www.sapww.com/wp-content/uploads/.../BestPractice-BDoc-Analysis-V2.pdf

For more information, visit the [Customer Relationship Management homepage](#).

Disclaimer and Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade. SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.