XINFO – HTML Docu Generator

Creating documentations in HTML format with XINFO PC Client Batch Interface

AGENDA

XINFO – HTML Docu Generator

What's the HTML Docu Generator?

This "Generator" is an extension of XINFO's Batch Interface (BIF) :

For a better understanding please watch the presentation of BIF before

- New statements like LNCMD, SCAN, IF and GOTO allow to continue to work on previous selections always one after the other in a loop

- The output format is HTML

- Graphics like netplans are included as PNG files with a good quality

- Commands like ARRANGE and SORT allow to modify the layout of the output tables without any need to change the displays in XINFO itself

- This allows you to create complex and complete documentations automatically
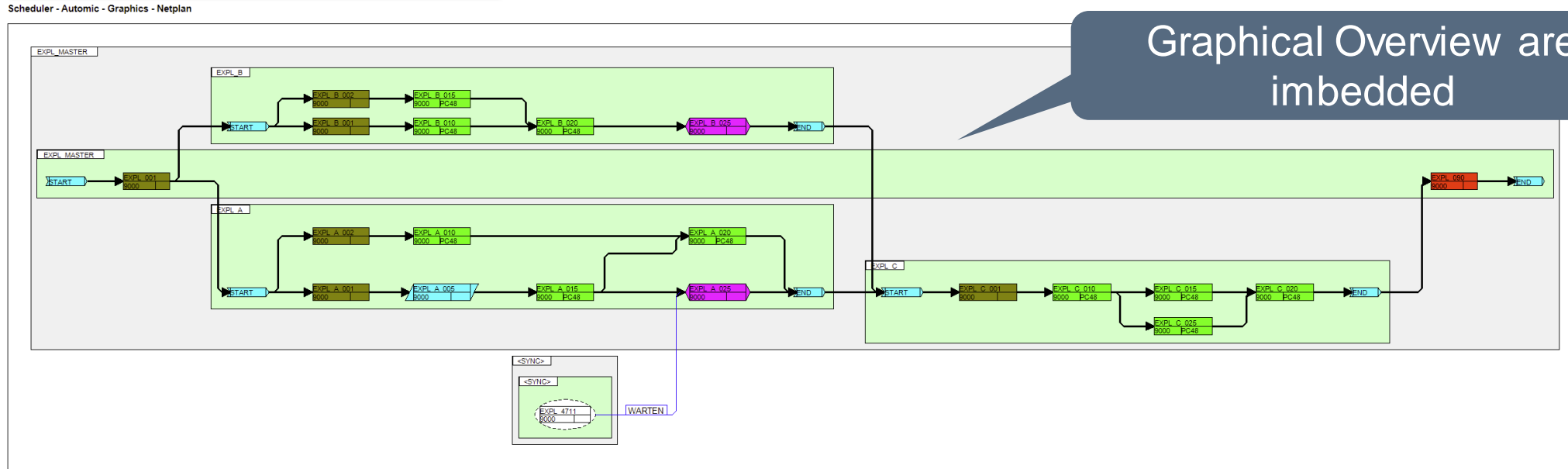
Example of a Result

Output is a HTML file

Entry point is a workflow
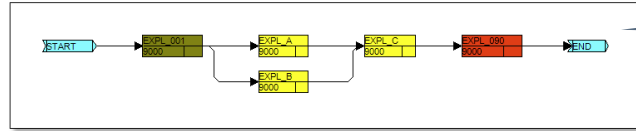
Graphical Overview are imbedded

More Definitions step by step can be listed

Every information is available with LineCommands

Use Cases

This presentation shows three possible scenarios:

- Document batch workflows
- Document programs
- Impact Analysis

If you want to test the examples on your own:

- The sources and results you find in 'XINFO_HTML_Docu_Generator' under 'Presentations, flyers, whitepapers and more' in the download area
- You need XINFO 4.x installation and the corresponding PC Client
- More detailed information about the used BIF function you find in the documentation of the PC Client in the installation directory of the client (xipcc.chm or xipcc.pdf)

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How it Works
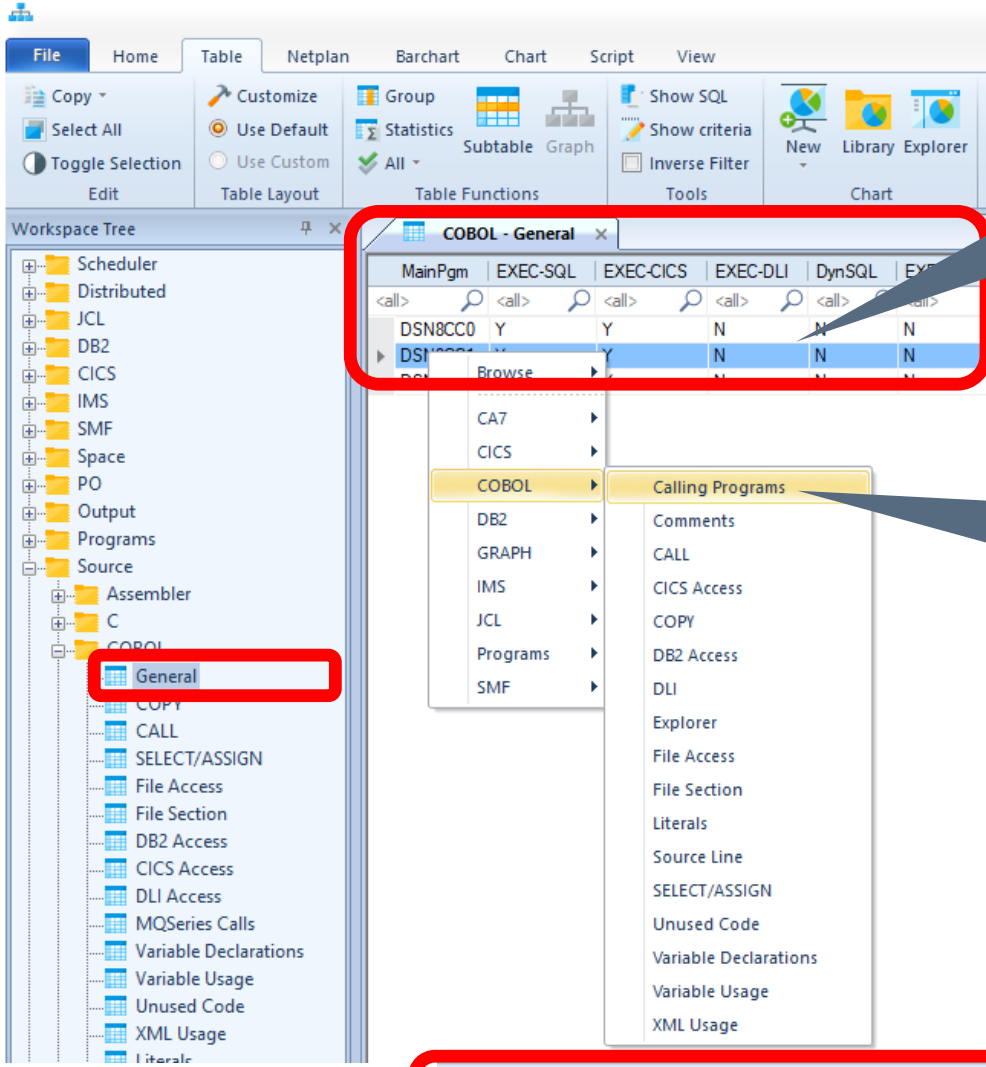
Starting with a main selection and get a result table

Use in the result table a line command

Everything you can do in the PC Client, you can automate within the Batch Interface

.. and get a new result table

How it Works
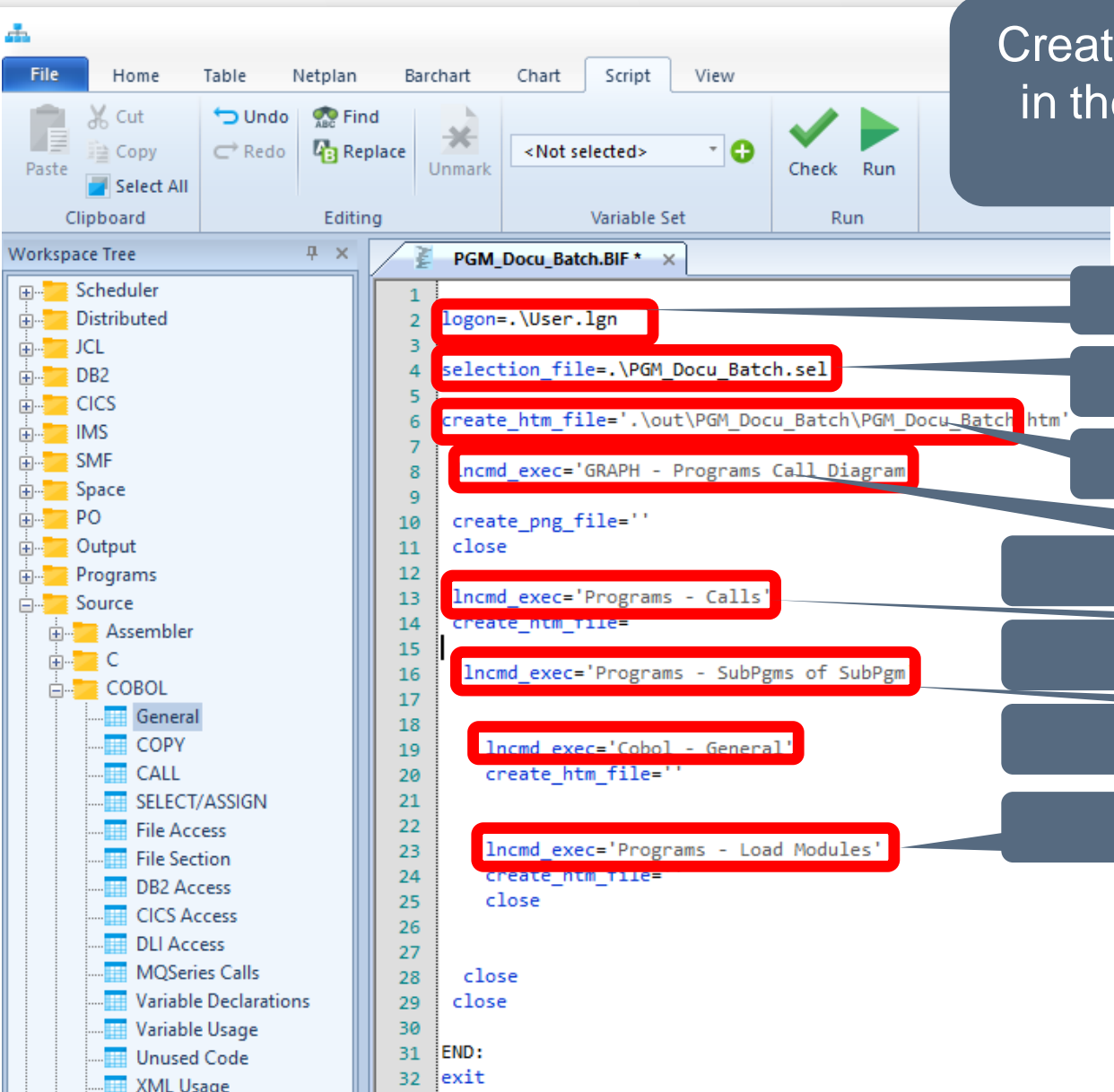

Create the BIF commands in the PC Client and test and run it

Make a logon to XINFO system

Use a selection file

Create a output file

Process 1. Line Command

Process 2. Line Command

Process 3. Line Command

Process 4. Line Command

Close all loops and exit and HTML document is created

```
1
2   logon=.\User.lgn
3
4   selection_file=.\PGM_Docu_Batch.sel
5
6   create_htm_file='.\out\PGM_Docu_Batch\PGM_Docu_Batch.htm'
7
8   lncmd_exec='GRAPH - Programs Call Diagram'
9
10  create_png_file=''
11  close
12
13  lncmd_exec='Programs - Calls'
14  create_htm_file=
15
16  lncmd_exec='Programs - SubPgms of SubPgm'
17
18
19  lncmd_exec='Cobol - General'
20  create_htm_file=''
21
22
23  lncmd_exec='Programs - Load Modules'
24  create_htm_file=
25  close
26
27
28  close
29  close
30
31  END:
32  exit
```

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Batch workflow documentation

This example shows how to document your Batch Workflows automatically.

- Prerequisite are basically XINFO's scheduler scanner. Depending on your needs other scanners may be required, e.g. JCL or SMF

- This example shows a Automic Workflow and all subsequent objects:

  - Dependencies (graphics and tables)

  - All jobs and parameters

  - Scripts and JCL

  - Planning parameters

  - Resources

The same functionality is available for other schedulers, e.g. IWS and Control-M

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Result of ‚Batch-Docu'

Output is a HTML file

Entry point is a Workflow that contains other Workflows

Definitions like Calendar and Task Properties are listed

Result of ‚Batch-Docu'

Scheduler - Automic - Object Definitions - JobPlans

Object Name	Object Title	CInt	Creation Date	Creation User
EXPL_A	This is Example Plan A	9000	28.03.2012 12:33:12	UC/UC

Scheduler - Automic - Graphics - Workflow

Scheduler - Automic - Plans - Calendar

Plan Name	Object Name	Calendar	Keyword

Scheduler - Automic - Plans - Task Properties

Plan Name	Object Name	Line	Erl-D	Erl-T	Erl-TZ
EXPL_MASTER	EXPL_A	3	0	12:00	TZ.CET

Scheduler - Automic - Object Definitions - Processing

Object Name	Obj-Type	Platform	Script Type	Line	Content

Scheduler - Automic - Object Definitions - Jobs

Jobname	Title	Host	Login	ERT	R3 Job Name
EXPL_A_010	Testjob A 010	PC48	LOGIN.UC4	0000.01.00	
EXPL_A_015	Testjob A 015	PC48	LOGIN.UC4	0000.01.00	
EXPL_A_020	Testjob A 020	PC48	LOGIN.UC4	0000.00.18	

Scheduler - Automic - Object Definitions - Processing

Object Name	Platform	Script Type	Line	Content
EXPL_A_002		Script	1	!
EXPL_A_002		Script	2	:wait 11
EXPL_A_002		Script	3	!
EXPL_A_002		Script	4	
EXPL_A_001		Script	1	:SET &STATUS = GET_VAR(XY.STATUS)
EXPL_A_001		Script	2	:IF &STATUS = "Y"

Scheduler - Automic - Object Definitions - JobPlans

Object Name	Object Title	CInt	Creation Date	Creation User
EXPL_B	This is Example Plan B	9000	28.03.2012 12:33:12	UC/UC
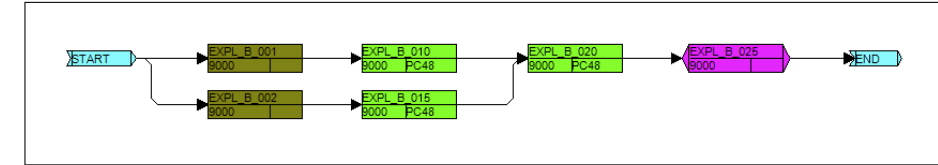
Scheduler - Automic - Graphics - Workflow

Scheduler - Automic - Plans - Calendar

Plan Name	Object Name	Calendar	Keyword

Scheduler - Automic - Plans - Task Properties

Plan Name	Object Name	Line	Erl-D	Erl-T	Erl-TZ
EXPL_MASTER	EXPL_B	4			

Every sub Workflow also documented

Graphical representation

Details like Starttime

Script Contents also from every Job

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Program documentation

Program documentations are needed in many situations, e.g. mergers, migrations, personal changes etc.

- Prerequesite are XINFO Source Code Scanner (COBOL, PL/I etc.)

- The example shows a Cobol-CICS and a Cobol Batch Program including:

  - Called Sub Programs (Graphs and tables)

  - Called Functions

  - Attributes of the load modules

  - Used Copy Books (Includes)

  - DB2 Access

  - File usage (Program and JCL)

  - CICS transactions that are calling other programs

  - All batch jobs that are using the documented programs

  - Scheduling data for these jobs

The same functionality is available for other program languages like PL/I

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Result of ‚PGM_Docu_CICS '

Entry Point is a Cobol CICS program

Source - COBOL - Ge...

MainPgm	EXEC-SQL	EXEC-CICS	EXEC-DLI	DynSQL	EXEC-ADABAS	Upd:User	Upd:Date	Upd:T	Load-Mod	Main-Lib	System
DSN8CC0	Y	Y	N	N	N				DSN8CC0	DSNC10.SDSNSAMP	PROJ1
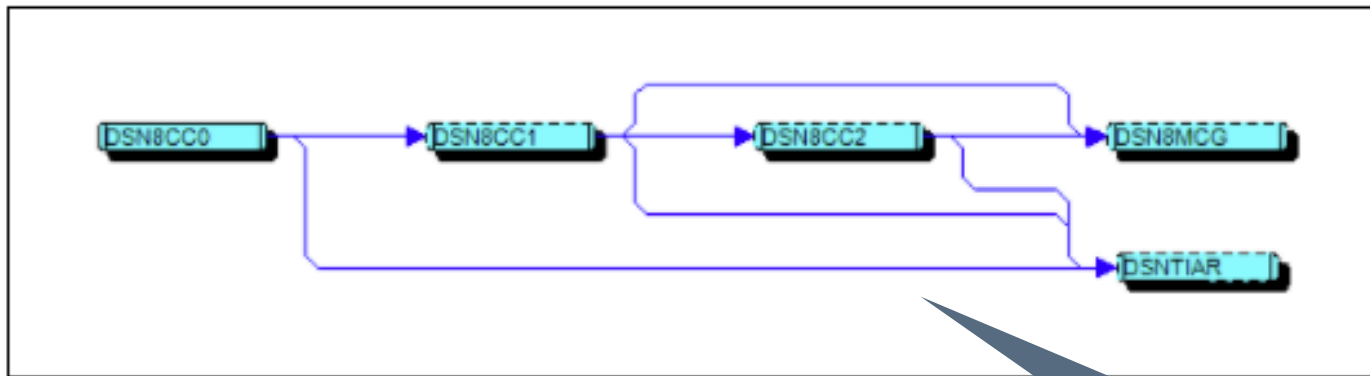
Programs - Source - Call Diagram

Programs - Source - Call

MainMod	MLng	SubPgm	SLng	Level	Method
DSN8CC0	COB	DSN8CC0	COB	0	DUMMY
DSN8CC0	COB	DSN8CC1	COB	1	LINK
DSN8CC0	COB	DSNTIAR		1	CALL
DSN8CC0	COB	DSN8MCG	COB	2	CALL
DSN8CC0	COB	DSN8CC2	COB	2	LINK

Called sub programs

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Result of ‚PGM_Docu_CICS '

Source - COBOL - General

Functions used in all programs

MainPgm	Copy	Call	File	EXEC-SQL	DynSQL	DB2	CICS	EXEC-CICS	IMS	EXEC-DLI	Lines-M.	CommentM	Main-Lib
DSN8CC0	Y	Y	N	Y	N	Y	Y	Y	N	N	606	235	DSNC10.SDSNSAMP
DSN8CC1	Y	Y	N	Y	N	Y	Y	Y	N	N	168	119	DSNC10.SDSNSAMP
DSN8CC2	Y	Y	N	Y	N	Y	Y	Y	N	N	424	261	DSNC10.SDSNSAMP

Programs - Load Modules

Module	Mod-Size	Link-Date	LinkTime	APF	AMODE	RMODE	RENT	REUS	LoadLib

Source - COBOL - COPY

MainPgm	Line	COPY-Mem	COPY-Lib	Nest
DSN8CC0	150	SQLCA		1
DSN8CC0	151	DSN8MCC2	DSNC10.SDSNSAMP	1
DSN8CC0	153	DSN8MCCA	DSNC10.SDSNSAMP	1
DSN8CC0	478	DSN8MCXX	DSNC10.SDSNSAMP	1
DSN8CC0	154	DSN8MCCS		1
DSN8CC0	155	DSN8MCMG		1
DSN8CC0	156	DSN8MCMD		1
DSN8CC1	118	SQLCA		1
DSN8CC1	119	DSN8MCC2	DSNC10.SDSNSAMP	1

Copy books used

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Result of ,PGM_Docu_CICS '

Programs - Source - DB2 Accesses

MainPgm	MTyp	SubPgm	STyp	Level	Object	Object Typ	Action
DSN8CC0	COB	DSN8CC0	COB	0	VCONA	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC1	COB	1	VCONA	TABLE/VIEW	DELETE
DSN8CC0	COB	DSN8CC1	COB	1	VCONA	TABLE/VIEW	INSERT
DSN8CC0	COB	DSN8CC1	COB	1	VCONA	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC1	COB	1	VCONA	TABLE/VIEW	UPDATE
DSN8CC0	COB	DSN8CC1	COB	1	VOPTVAL	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VASTRDE1	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VASTRDE2	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VDEPMG1	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VDEPT	TABLE/VIEW	DELETE
DSN8CC0	COB	DSN8CC2	COB	2	VDEPT	TABLE/VIEW	INSERT
DSN8CC0	COB	DSN8CC2	COB	2	VDEPT	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VDEPT	TABLE/VIEW	UPDATE
DSN8CC0	COB	DSN8CC2	COB	2	VDSPTXT	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VEMP	TABLE/VIEW	DELETE
DSN8CC0	COB	DSN8CC2	COB	2	VEMP	TABLE/VIEW	INSERT
DSN8CC0	COB	DSN8CC2	COB	2	VEMP	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VEMP	TABLE/VIEW	UPDATE
DSN8CC0	COB	DSN8CC2	COB	2	VEMPDPT1	TABLE/VIEW	SELECT
DSN8CC0	COB	DSN8CC2	COB	2	VOPTVAL	TABLE/VIEW	SELECT

DB2 Accesses

Programs - Source - File Accesses

MainPgm	MTyp	SubPgm	STyp	Level	DD-Name	Access	Method

JCL - DSN

Program	Jobname	DD-Name	DSN	Mem/Gen.	DIS	LRECL	BLKSZ	RECF	UNIT	SPACE

CICS - Transaction

Program	CICS	GROUP	Tran	TRANClas	Status	DATAloc	DATAkey	Action
DSN8CC0	TS55	DFH$DB2	D8CS	DFHTCL00	ENABLED	ANY	USER	BACKOUT
DSN8CC0	TS56	DFH$DB2	D8CS	DFHTCL00	ENABLED	ANY	USER	BACKOUT

CICS transactions calling this program

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Result of ‚PGM_Docu_BATCH'

Source - COBOL - General

Entry Point is a Cobol Batch program

MainPgm	EXEC-SQL	EXEC-CICS	EXEC-DLI	DynSQL	EXEC-ADABAS	Upd:User	Upd:Date	Upd:T	Load-Mod	Main-Lib	System
DSN8BC3	Y	N	N	N	N				DSN8BC3	DSNC10.SDSNSAMP	PROJ1

Programs - Source - Call Diagram
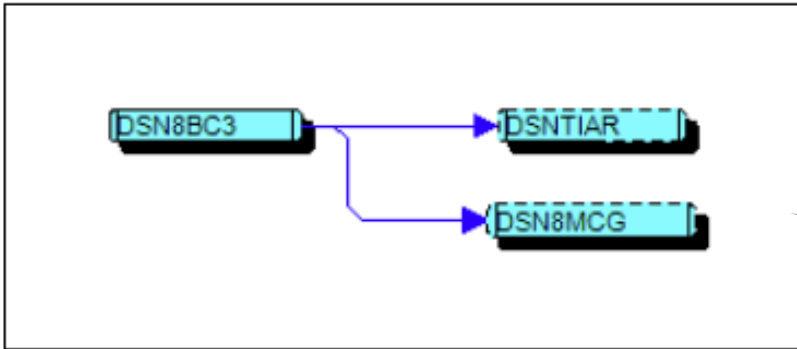
Called sub programs

Programs - Source - Call

MainMod	MLng	SubPgm	SLng	Level	Method
DSN8BC3	COB	DSN8BC3	COB	0	DUMMY
DSN8BC3	COB	DSN8MCG	COB	1	CALL
DSN8BC3	COB	DSNTIAR		1	CALL

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Result of ‚PGM_Docu_BATCH '

Source - COBOL - General

MainPgm	Copy	Call	File	EXEC-SQL	DynSQL	DB2	CICS	EXEC-CICS	IMS	EXEC-DLI	Lines-M.	CommentM	Main-Lib
DSN8BC3	Y	Y	Y	Y	N	Y	N	N	N	N	621	267	DSNC10.SDSNSAMP

Used functions

Programs - Load Modules

Module	Mod-Size	Link-Date	LinkTime	APF	AMODE	RMODE	RENT	REUS	LoadLib
DSN8BC3	26548	02.04.2021	16:24:01	00	31	ANY	N	N	DSNC10.DBCG.RUNLIB.LOAD

Load module attributes

Source - COBOL - COPY

MainPgm	Line	COPY-Mem	COPY-Lib	Nest
DSN8BC3	239	SQLCA		1

Copy Books used

Programs - Source - DB2 Accesses

MainPgm	MTyp	SubPgm	STyp	Level	Object	Object Typ	Action
DSN8BC3	COB	DSN8BC3	COB	0	VEMPLP	TABLE	DECLARE
DSN8BC3	COB	DSN8BC3	COB	0	VEMPLP	TABLE/VIEW	UPDATE
DSN8BC3	COB	DSN8BC3	COB	0	VPHONE	TABLE	DECLARE
DSN8BC3	COB	DSN8BC3	COB	0	VPHONE	TABLE/VIEW	SELECT

DB2 accesses

HORIZONT

Result of ‚PGM_Docu_BATCH '

Programs - Source - File Accesses

MainPgm	MTyp	SubPgm	STyp	Level	DD-Name	Access	Method
DSN8BC3	COB	DSN8BC3	COB	0	CARDIN	CLOSE	
DSN8BC3	COB	DSN8BC3	COB	0	CARDIN	OPEN	INPUT
DSN8BC3	COB	DSN8BC3	COB	0	CARDIN	READ	
DSN8BC3	COB	DSN8BC3	COB	0	REPORT	CLOSE	
DSN8BC3	COB	DSN8BC3	COB	0	REPORT	OPEN	OUTPUT
DSN8BC3	COB	DSN8BC3	COB	0	REPORT	WRITE	

File Accesses

JCL - DSN

Datasets from JCL

Program	Jobname	DD-Name	DSN	Mem/Gen.	DIS	LRECL	BLKSZ	RECF	UNIT	SPACE
DSN8BC3	DB2COB2	REPORT	SYSH.XINFO.V4R0.DATA.DB2COB2.REPORT		NCC		23474	FB		TRK,(10,10),RLSE
DSN8BC3	DB2COB2	SYSTSIN	*							
DSN8BC3	DB2COB2	CARDIN	*							
DSN8BC3	DB2COB2#	REPORT	SYSH.XINFO.V4R0.DATA.DB2COB2.REPORT		NCC		23474	FB		TRK,(10,10),RLSE
DSN8BC3	DB2COB2#	SYSTSIN	*							
DSN8BC3	DB2COB2#	CARDIN	*							
DSN8BC3	DB2COB2T	REPORT	P390K.XINFO.V3R6.DATA.DB2COB2.REPORT.D&OYMD1		NCC		23474	FB		TRK,(10,10),RLSE
DSN8BC3	DB2COB2T	SYSTSIN	*							
DSN8BC3	DB2COB2T	CARDIN	*							
DSN8BC3	HJOB0029	REPORT	SYSH.XINFO.V3R5.DATA.DB2COB2.REPORT		NCC		23474	FB		TRK,(10,10),RLSE
DSN8BC3	HJOB0029	SYSTSIN	*							
DSN8BC3	HJOB0029	CARDIN	*							

Dataset attributes

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Result of ‚PGM_Docu_BATCH '

Batch Jobs using this Program

JCL - EXEC Statements

Program	Jobname	SNr	JobStep	Procedur	ProcStep	Prg-Orig	PARM	REGION	COND	JCL-Lib
DSN8BC3	DB2COB2	2	PH02CS04			IKJEFT01			4,LT	SYSH.IXJC.JOBLIB
DSN8BC3	DB2COB2#	2	PH02CS04			IKJEFT01			4,LT	SYSH.IXJC.JOBLIB
DSN8BC3	DB2COB2T	2	PH02CS04			IKJEFT01			4,LT	SYSH.IXJC.JOBLIB
DSN8BC3	HJOB0029	2	PH02CS04			IKJEFT01			4,LT	SYSH.CTM.V919.JOBLIB

JCL stored in Joblib

Scheduler - IWS z/OS - Run Cycles + Jobs

Jobname	Application ID	Period	Rule Definition	IATim	DD	DTime
DB2COB2	XINFODB2DEMO	DAY		06:00:00	1	06:00:00
DB2COB2T	XINFODB2DEMOT	DAY		06:00:00	1	06:00:00

Scheduling information where Jobs runs

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Impact Analysis

This kind of report is useful before changing a program to determine the amount of work to be done

- In the example the column "DEPTNUMBER" has to be changed. We search for:

  - All programs using a variable " DEPTNUMBER"

  - All programs calling these programs

  - All DB2 tables that have a column "DEPTNUMBER"

  - All programs that are using these tables

  - All CICS transactions and/or batch jobs using these programs

Result of ‚Impact Analysis'

Source - COBOL - Variable Declarations

MainPgm	SrcMemb	Line	Section	Lv	Variable Name	Initial Value	Pictu...		G	J	Redefines	Usage Clause
DSN8BC3	DSN8BC3	267	WORKING	02	DEPTNUMBER							

> Program using the variable

Programs - Source - Call

MainMod	MLng	SubPgm	SLng	Level	Method
DSN8BC3	COB	DSN8BC3	COB	0	DUMMY

> Program that is calling the program

DB2 - Cat: SYSCOLUMNS

Subs	Creator	Table	No	Column	Type	Len	N	D	Sca	Label	Default-Value	Key Seq	PK Col Seq	PK Order	Remarks
DBCG	DSN8120	VPHONE	6	DEPTNUMBER	CHAR	3	N	N	0				0	0	
DBCG	DSN8120	NEWPHONE	6	DEPTNUMBER	CHAR	3	N	N	0				0	0	

> DB2 tables having a column with same name

Programs - Source - DB2 Accesses

MainPgm	MTyp	SubPgm	STyp	Level	Object	Object Typ	Action
DSN8BC3	COB	DSN8BC3	COB	0	VPHONE	TABLE	DECLARE
DSN8BC3	COB	DSN8BC3	COB	0	VPHONE	TABLE/VIEW	SELECT
DSN8BP3	PL1	DSN8BP3	PL1	0	VPHONE	TABLE	DECLARE
DSN8BP3	PL1	DSN8BP3	PL1	0	VPHONE	TABLE/VIEW	SELECT
DSN8CP3	PL1	DSN8CP3	PL1	0	VPHONE	TABLE	DECLARE
DSN8CP3	PL1	DSN8CP3	PL1	0	VPHONE	TABLE/VIEW	SELECT
DSN8IP3	PL1	DSN8IP3	PL1	0	VPHONE	TABLE	DECLARE
DSN8IP3	PL1	DSN8IP3	PL1	0	VPHONE	TABLE/VIEW	SELECT
DSN8SC3	COB	DSN8SC3	COB	0	VPHONE	TABLE	DECLARE
DSN8SC3	COB	DSN8SC3	COB	0	VPHONE	TABLE/VIEW	SELECT
DSN8SP3	PL1	DSN8SP3	PL1	0	VPHONE	TABLE	DECLARE
DSN8SP3	PL1	DSN8SP3	PL1	0	VPHONE	TABLE/VIEW	SELECT

> Programs also using this table

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Creating HTML Docu

If you want to create such a documentation, you need:

1. A Windows '.CMD' or '.BAT' file that starts the process
   (optional, the BIF script can be started from PC Client with "file open")

2. A '.BIF' file with the BIF commands

3. A (encrypted) '.LGN' file with logon parameters (Userid, pwd, XINFO system)

4. A '.SEL' file containing the selection parameters

Name	Änderungsdatum	Typ	Größe
PGM_Docu_Batch.BAT	16.07.2021 10:21	Windows-Batchda...	1 KB
PGM_Docu_Batch.BIF	14.07.2021 11:14	BIF-Datei	2 KB
PGM_Docu_Batch.sel	11.06.2021 09:24	SEL-Datei	1 KB
User.lgn	11.06.2021 08:41	LGN-Datei	1 KB

Use the examples from our download area to understand and start your own solution

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Thanks for your attention! Do you have any questions?

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Please feel free to visit us in Munich or send an email to
info@horizont-it.com