



HORIZONT

XINFO – Description of all Components

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This presentation gives a comprehensive overview of XINFO's components.

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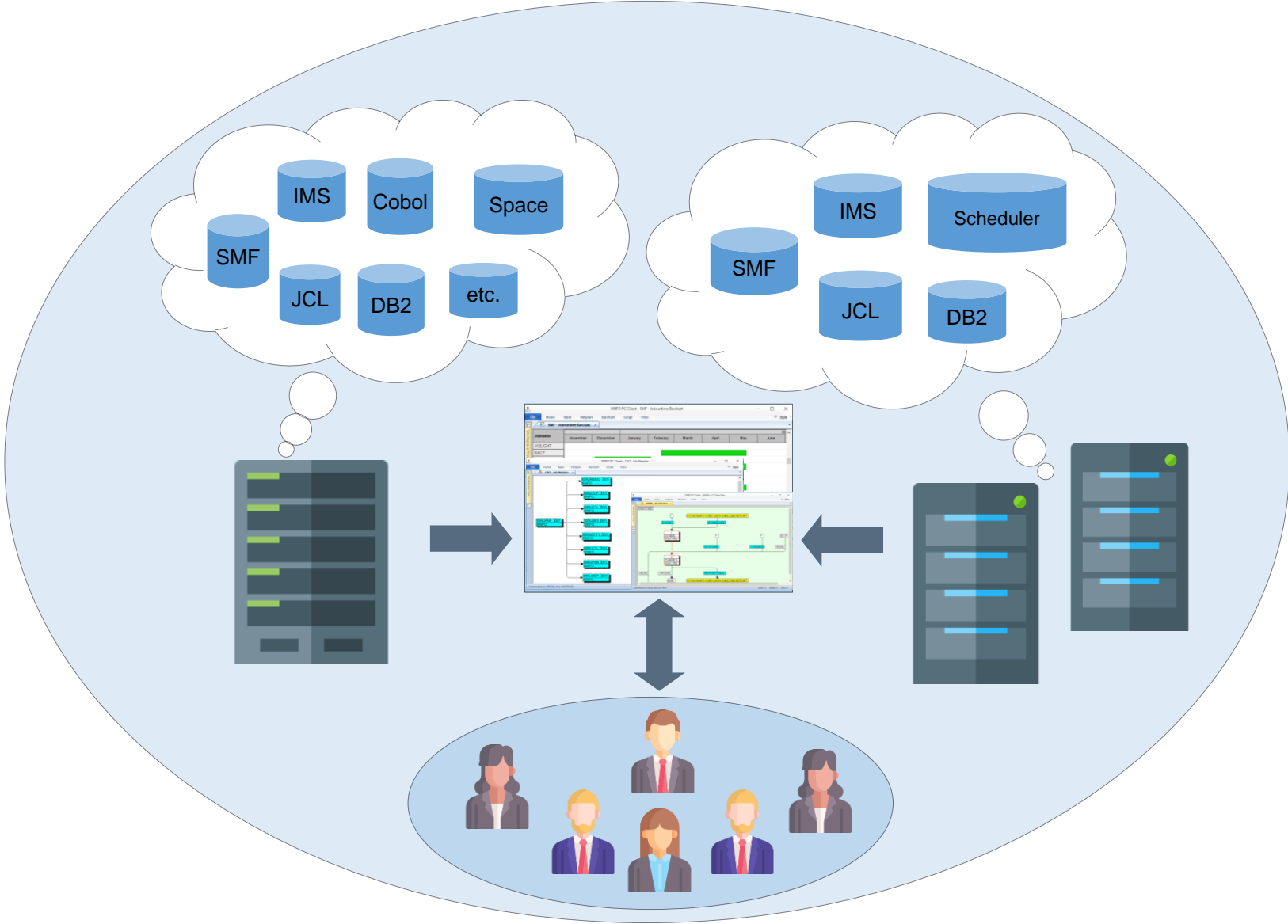
Server

Dialogs

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Server



Server - Overview

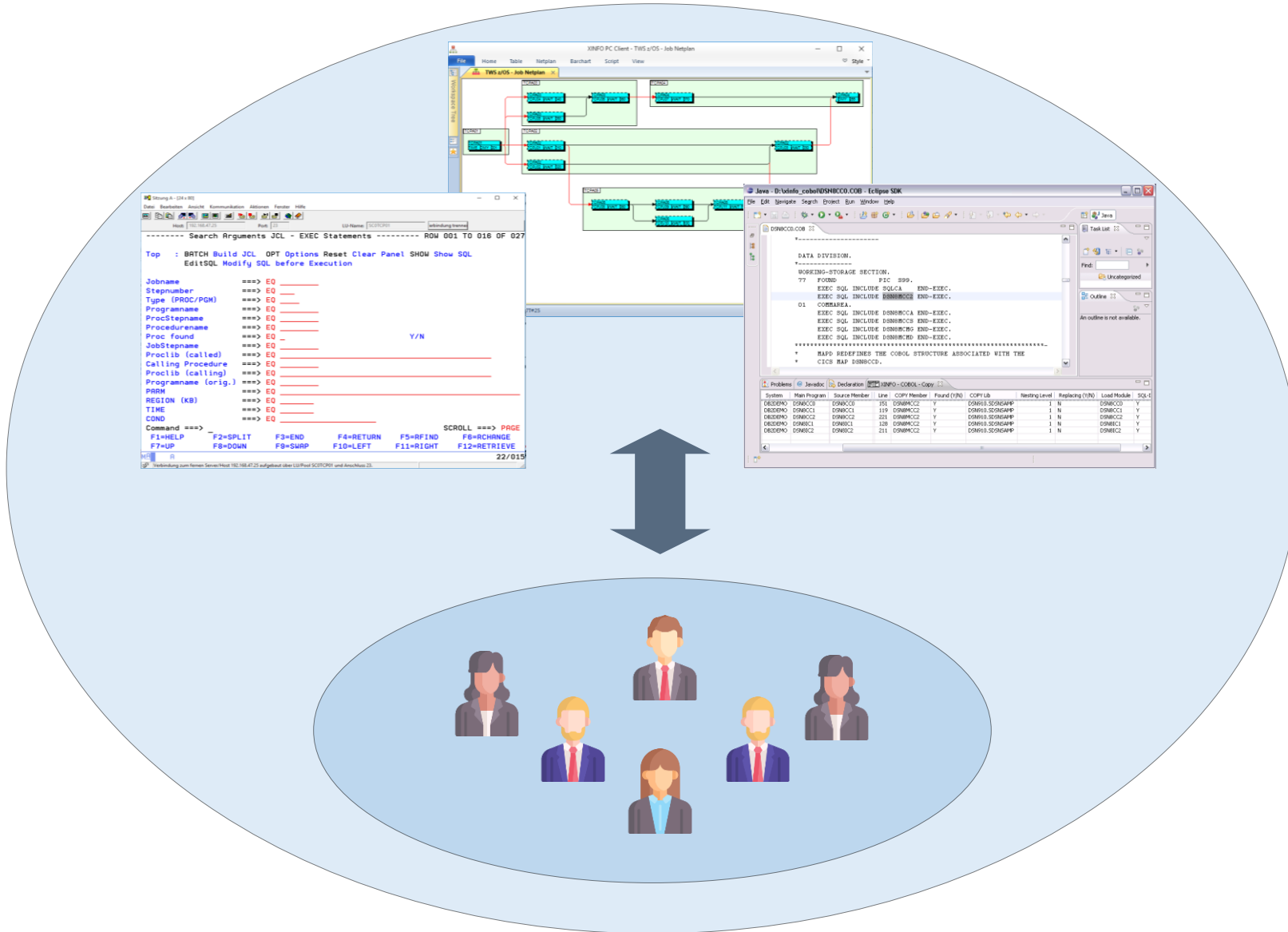
XINFO has two different server types – one for z/OS (DB2), the other for distributed systems (Oracle, MS-SQL, PostgreSQL). Most customer's decision is based only on commercial arguments. However, there are significant functional differences between XINFO z/OS and the distributed versions.

	z/OS	Distributed
OS for XINFO Server	z/OS	Windows
RDBMS	DB2	ORACLE (any OS), MS-SQL (Windows) or PostgreSQL (Windows)
Supported dialogs	ISPF, Windows PC-Client	Windows PC-Client
Multi Client Support	Yes (incl. RACF Exit)	-
Table- and Display Manager	Yes (ISPF Program)	-
IT Charts	Yes (with PC-Client)	-

Which Server? Some arguments

- XINFO z/OS
 - Our users want ISPF dialog
 - We need to load data from multiple systems into one XINFO
 - We need to integrate our own data into XINFO
 - We want to adapt the default displays to our needs
 - We want to use IT charts
 - We have (administrative) problems with the installation and maintenance of software on distributed systems
 - We use mainly z/OS scanners
- XINFO “decentralized”
 - We have no z/OS or want to abolish it
 - We must save z/OS CPU costs at any price
 - Our users do not have valid TSO User IDs
 - I want a complete XINFO on my laptop (consultant solution)
 - We use mainly XINFO distributed scanners

Dialogs



Dialogs Overview

Often users preferences are the only decision-making criterion, although there are significant differences between the several dialog types.

	ISPF	PC Client
OS	z/OS	Windows or Linux with Wine
Search criteria	Selection panels and free SQL	Selection panels and free SQL
Batch	Result as list	Lists or HTML incl. graphs
Special functions	IWSz Gendays, File and JCL Browse, Sort, Group etc.	File and JCL Browse, Sort, Group, etc.
Line commands	Internal (data) and external (any TSO command)	Internal (data) and external (any Windows program)
Charts	-	Net and barcharts

Which Dialogs? – Some arguments

- ISPF

- Our users can or want to work only with ISPF
- We want to integrate your own TSO Utilities into the dialog
- We want to create lists in batch mode without a “PC report generator”
- We have (administrative) issues with the installation and maintenance of software on Windows systems

- PC-Client

- Our users don't want or cannot use ISPF programs
- We want to have charts like netplans and barcharts
- We want to generate complex HTML documents
- Our users do not have valid TSO userids (technical TSO user is required)

How to use XINFO Dialog?

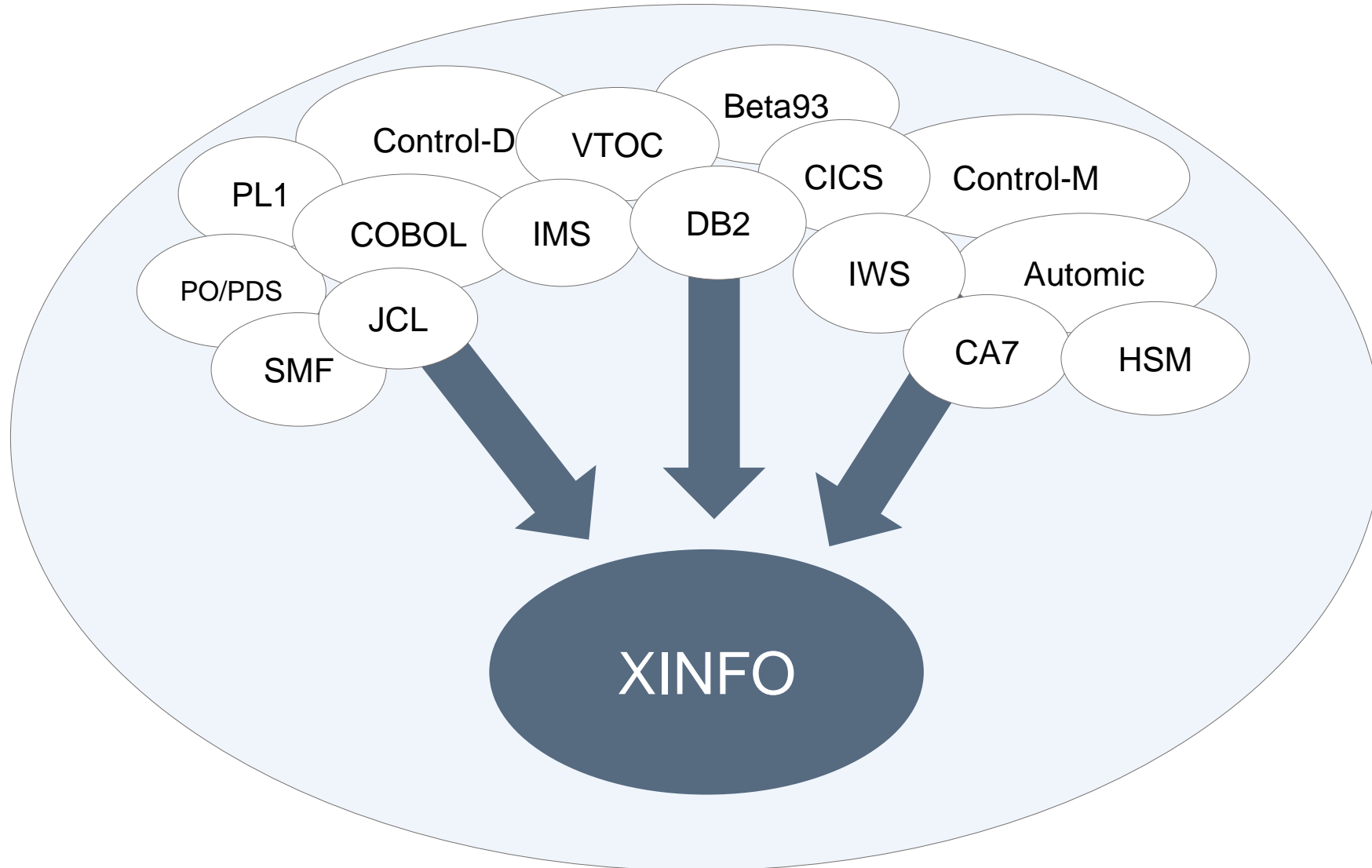
ISPF Dialog – Basics

(via link to HORIZONT homepage)

Windows PC Client – Basics

(via link to HORIZONT homepage)

Scanners



Scanner overview

Scheduler Scanner

Sourcecode Scanner

z/OS Scanner

The choice of scanners essentially determines the value of XINFO. The scanners can be grouped as follows:

- [Scheduler Scanners](#) under z/OS and DS (Distributed Systems)
- [Source code Scanners](#), mainly z/OS
- [z/OS Scanners](#) like JCL, SMF, CICS etc...

Scheduler Scanners

The image displays two overlapping windows from the XINFO PC Client. The top window, titled "XINFO PC Client", features a menu bar with "File", "Home", "Table", "Netplan", "Barchart", "Chart", "Script", and "View". Below the menu is a toolbar with icons for Logon, Logoff, SQL, Connect, Options, Help, About, Home, and Note. A "Workspace Tree" on the left lists various components, with "Scheduler" selected. The bottom window, titled "XINFO PC Client - TWS z/OS - Job Netplan", shows a detailed network diagram. The diagram consists of numerous blue rectangular nodes connected by black lines, with several vertical red lines acting as dividers. The nodes are arranged in a hierarchical structure, with some nodes having multiple children. The status bar at the bottom of the second window indicates "Connected as: P392F, file: XX40T#25" and "Lines: 2705 Nodes: 1777 Links: 2580".

Scheduler Scanners - Examples

The scheduler scanners typically analyze the definition database of the respective scheduler, and eventually plan data (daily schedule) and history (job start times and duration). Some typical queries:

- Definition: Which jobs run on CPU “XYZ*”?
- Definition: Which jobs have the run cycle “DAILY”?
- Definition: I need a graph (netplan) with certain jobs
- Plan: Which jobs are scheduled to run today?
- History: Which jobs of owner “ABC” were executed last week, when and how did they run?

Scheduler Scanner - Functions

In addition to basic data, XINFO scanners offer advanced features, far more than the standard scheduler dialog:

- The PC Client displays complex job streams in a easy-to-read graphic, e.g. netplans. Special features like CA7, Control-M smart tables, Automic (UC4) plan hierarchy, IWSz EQQADD are interpreted and resolved.
- Forecast: An administrator creates a batch forecast for a specific day, the user can integrate this information in his queries – Which jobs are planned to be executed?
- Multiple schedulers: Normally the scheduler's dialogs work against one scheduler subsystem. XINFO's multi client support allows to load data from multiple scheduling subsystems into a single XINFO system.

Scheduler Scanner - Overview

This chart shows the main data sources and functions of the scanners:

	OS	Defintion	Plan	History	Graphics	Other
A-Auto	z/OS	Yes	-	-	Jobnet	-
CA7	z/OS	Yes	-	-	Various Jobnets	-
CA-Scheduler	z/OS	Yes	-	-	Job and Forecastnet	-
Control-M	z/OS, DS	Yes	-	Yes	Job and Tablenet, Barchart	Forecast
Streamworks	DS	Yes	-	Yes	Jobnet	-
IWS z/OS	z/OS	Yes	CP, LTP	Yes	Jobnet, Barchart	Gendays
IWS distributed	Win	Yes		Yes	Jobnet	
Automic (UC4)	DS	Yes	Yes (Activities)	Yes	Job and Plannet, Barchart	Forecast
Zeke	z/OS	Yes	Yes	-	Jobnet (def and plan)	-

Source code Scanner

The screenshot shows the XINFO PC Client interface. The main window, titled "XINFO PC Client - PL/I - General Information", displays a table of program components. The table has the following columns: MainPgm, Main-Lib, ProcName, Upd:User, Upd:Date, Upd:T, Load-Mod, System, EXEC-DB2, Dyn-SQL, EXEC-CICS, EXEC-DLI, CALL, Fetch, Incl, Call, Proc, FileU, FileD, and DI. The row for DSN8BP3 is highlighted, and a context menu is open over it, showing options like "Browse", "Programs", "PL/I", and "SMF". The "Programs" option is expanded to show "Callers of MainPgm", "Calls", "DB2 Accesses", "File Accesses", "Load Modules", and "Modules/Csects".

MainPgm	Main-Lib	ProcName	Upd:User	Upd:Date	Upd:T	Load-Mod	System	EXEC-DB2	Dyn-SQL	EXEC-CICS	EXEC-DLI	CALL	Fetch	Incl	Call	Proc	FileU	FileD	DI
DSNTEP2	DSNB10.SDSNSAMP	DSNTEP2				DSNTEP2	PROJ1	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y
DSNTEP4	DSNB10.SDSNSAMP	DSNTEP4				DSNTEP4	PROJ1	Y	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y
DSN8BP3	DSNB10.SDSNSAMP	DSN8BP3				DSN8BP3	PROJ1	Y	N	N	N	Y	N	Y	N	Y	Y	Y	Y
DSN8CP0		DSN8CP0				DSN8CP0	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP1	CA7	DSN8CP1				DSN8CP1	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP2	CICS	DSN8CP2				DSN8CP2	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP3	DB2	DSN8CP3				DSN8CP3	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP6	GRAPH	DSN8CP6				DSN8CP6	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP7	IMS	DSN8CP7				DSN8CP7	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	N	N	Y
DSN8CP8	JCL	DSN8CP8				DSN8CP8	PROJ1	Y	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y
DSN8EPU		DSN8EPU				DSN8EPU	PROJ1	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y
DSN8EP1		DSN8EP1				DSN8EP1	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	Y	Y	Y
DSN8EP2		DSN8EP2				DSN8EP2	PROJ1	N	N	N	N	Y	N	N	N	Y	N	N	N
DSN8IP0		DSN8IP0				DSN8IP0	PROJ1	Y	N	N	N	Y	N	Y	N	Y	N	N	Y
DSN8IP1		DSN8IP1				DSN8IP1	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	N	N	Y
DSN8IP2		DSN8IP2				DSN8IP2	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	N	N	Y
DSN8IP3	DSNB10.SDSNSAM	DSN8IP3				DSN8IP3	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	Y	Y	Y
DSN8IP6	DSNB10.SDSNSAM	DSN8IP6				DSN8IP6	PROJ1	Y	N	N	N	Y	N	Y	N	Y	N	N	Y
DSN8IP7	DSNB10.SDSNSAM	DSN8IP7				DSN8IP7	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	N	N	Y
DSN8IP8	DSNB10.SDSNSAM	DSN8IP8				DSN8IP8	PROJ1	Y	N	N	N	Y	N	Y	Y	Y	N	N	Y
DSN8MPA	DSNB10.SDSNSAMP	DSN8MPA				DSN8MPA	PROJ1	Y	N	N	N	Y	N	N	N	Y	N	N	Y
DSN8MPD	DSNB10.SDSNSAMP	DSN8MPD				DSN8MPD	PROJ1	Y	N	N	N	Y	N	N	Y	Y	N	N	Y
DSN8MPE	DSNB10.SDSNSAMP	DSN8MPE				DSN8MPE	PROJ1	Y	N	N	N	Y	N	N	N	Y	N	N	Y
DSN8MPF	DSNB10.SDSNSAMP	DSN8MPF				DSN8MPF	PROJ1	Y	N	N	N	Y	N	N	N	Y	N	N	Y

Source code Scanner - Basics

A source code scanner analyzes an arbitrary number of PO libraries:

- Starting from the main program all sub-structures are analyzed, e.g. includes, procedures, external programs. Pre-processor instructions and assignments are dynamically resolved, e.g. program names in variables.
- Database access is analyzed (DB2 EXEC SQL, IMS CBTDLI and PLITDLI).
- A subsequent program analyzes independently of the language, e.g. “COBOL program calls assembler routine”.
- Development stages are resolved correctly.
- All results are based on the main program, regardless whether a call (SQL, CICS), or a declaration (file, variable) is done in the main program itself or in a subroutine to the n-th level.

Source code Scanner - Examples

The following examples show that the information provided by the source code scanners is not only relevant to programmers:

- Which programs call a particular subroutine?
- Which programs write to a particular DB2 table?
- Which programs use CICS, DLI / IMS or dynamic SQL?
- Which programs use certain files? (In conjunction with the JCL scanner)
- Which programs call subroutines that have been created with an old compiler version? (In conjunction with the load module scanner)
- How many lines of code must be taken into account for a certain project?

Source code Scanner - Languages

XINFO has scanners for following programming languages:

- z/OS
 - Assembler
 - C
 - Cobol
 - Easytrieve
 - PL/I
 - Natural

Load Module Scanner

In addition to the source code scanners XINFO has a load module scanner, which analyzes the executable programs.

Some examples:

- When was the program linked?
- Which compiler version was used?
- Which modules are unusually large?
- Which modules were linked to the main program?
- Which programs have APF authorization?

XINFO has many scanners for z/OS data:

- [JCL](#) Jobs, PROCs and SYSIN
- [DB2](#) DB2 system catalog
- [CICS](#) CSD file
- [IMS](#) PSB and DBD
- [SMF](#) SMF job/step runtimes, file usage, CICS transactions
- [SPACE](#) VTOC, VSAM, SMS, HSM, RMM or CA1, CA-Disk
- [PO](#) PO member statistics and contents
- [Output](#) Beta93, CA Deliver or Control-D

z/OS Scanner Overview

JCL Scanner

DB2 Scanner

CICS Scanner

IMS Scanner

SMF Scanner

Space Scanner

PO Scanner

Output Scanner

JCL Scanner

The screenshot displays the XINFO PC Client interface. The main window shows a table of JCL EXEC Statements with columns: JobStep, Proclib (called), CallingP, PLg, Prg-Orig, and PARM. A context menu is open over the 'JCL' entry in the Workspace Tree, listing various JCL-related options such as 'Control-M Variables', 'COMMAND Statements', 'CONCURRENT Statements', 'DD Statements', 'EXEC Stmt via PGM', 'EXPORTed JCL Symbols', 'GJOB Statements', 'HFS (PATH)', 'IF Statements', 'Job Statements', 'JCLLIB-Statements', 'JES Statements', 'JOBGROUP Statements', 'JOBSET Statements', 'Library Keys', 'OPC Variables', 'OUTPUT Statements', 'Procedure Calls', 'SCHEDULE Statements', 'SET JCL Variables', 'SUBSYS', 'SYSIN Content of the Job', and 'SYSOUT+OUTPUT'.

JobStep	Proclib (called)	CallingP	PLg	Prg-Orig	PARM
<all>	<all>	<all>	<all>	<all>	<all>
STEP1				IEFBR14	
STEP1				IEFBR14	
STEP1				IEFBR15	
STEP1				IEFBR14	
STEP1				IEFBR14	
STEP0001				IEBGENER	
A7141TJP	BRIAN.REXX.PROJECT				
A7141TJP	BRIAN.REXX.PROJECT				
IDCAMS				IEBR14	'MARGINS(1 72)'
ATOSUB13				GJTRABTR	'ADD(JOB(B00HGFP,L=001))'
STEP01				RCTEST	'C08 '
STEP01				IEFBR14	
STEP01				IEFBR14	
ROTIWAIT				ROTIWAIT	'/6000'
STEP01				IEFBR14	
STEP01				RCTEST	'C16 '
STEP01				IEFBR14	
STEP01				IEFBR14	
ROTIWAIT				ROTIWAIT	'/6000'
ROTIWAIT				ROTIWAIT	'/600000'
ROTIWAIT				ROTIWAIT	'/1200000'
ROTIWAIT				ROTIWAIT	'/1800000'
ROTIWAIT				ROTIWAIT	'/5400000'
ROTIWAIT				ROTIWAIT	'/1200000'

JCL Scanner - Basics

The most important z/OS scanner is the JCL scanner. It analyzes any number of libraries containing JCL, PROCs, and data cards (SYSIN):

- Based on the jobs, all “sub-structures” are analyzed, e.g. includes procedures, SYSIN.
- Standard and scheduler variables are resolved.
- SYSIN (instream and files) of standard utilities are interpreted, e.g. IDCAMS, DB2 utilities.
- Typical controller programs as well as customized programs are recognized and resolved, e.g. IKJEFT01, RUN Program DB2, IMD region controller DFSRRC00, Natural and Earl.
- All (!) JCL parameters are analyzed and can be queried

JCL Scanner - Examples

Some examples – beyond usual standard queries:

- The JCL scanner analyzes DB start / stop commands and determines the affected tables. This allows you to find out which jobs are stopping or starting a certain DB2 table.
- Together with the IMS scanner, the JCL scanner analyzes which job uses which PSBs and which IMS databases are accessed through this PSB. This allows you to find out which jobs are using a certain IMS database.
- Together with the DB2 scanner, the JCL scanner analyzes which job uses which plan, DB2 utilities, tables and tablespaces. This allows you to find out which job uses a certain DB2 table.
- The JCL scanner can optionally handle any DD statements like SYSIN DD, means the content of the file is analyzed. This allows you to search for special commands, e.g. FTP.

DB2 Scanner

The screenshot displays two windows from the XINFO PC Client. The top window, titled 'XINFO PC Client', shows a 'Workspace Tree' on the left with a list of system catalogs (e.g., Cat: SYSPACKLIST, Cat: SYSPACKDEP). The bottom window, titled 'XINFO PC Client - DB2 - View/Table', shows a table with columns: Subs, VCreator, View-Name, TCreator, and Table-Name. A context menu is open over the table, listing categories like 'Cat: SYSCOLUMNS' and 'Jobname/Table-Name'. The status bar at the bottom indicates 'Connected as: P392F, file: XX40T#25' and 'Lines: 311'.

Subs	VCreator	View-Name	TCreator	Table-Name
<all>	<all>	<all>	<all>	<all>
DBBG	XINFO36	XXRVIUH	XINFO36	XXRTIND
DBBG	XINFO36	XXRVIWH	XINFO36	XXRTIND
DBBG	XINFO36	XXRVMSD	XINFO36	XXRTMSP
DBBG	XINFO36	XXRVMSQ	XINFO36	XXRTMSP
DBBG	XINFO36	XXRVMSX	XINFO36	XXRTMSP
DBBG	XINFO36	XXRVMSX	XINFO36	XXRTMSM
DBBG	XINFO36	XXRVPLQ	XINFO36	XXRTPL2
DBBG	XINFO36			XXRTPL6
DBBG	XINFO36			XXRTSMD
DBBG	XINFO36	X		XXRTSMF
DBBG	XINFO36	X		XXRTSMP
DBBG	XINFO36	X		XXRTSMF
DBBG	XINFO36	X		XXRTTWD
DBBG	XINFO36	X		XXRTTW2
DBBG	XINFO36	X		XXRTTW2
DBBG	XINFO36	X		XXRTTW2
DBBG	XINFO36	X		XXRTTW2
DBBG	XINFO36	X		XXRTTWS
DBBG	XINFO36	X		XXRTTWS
DBBG	XINFO36	XXRVTW4	XINFO36	XXRTTW1
DBBG	XINFO36	XXRVTW5	XINFO36	XXRTTW1
DBBG	XINFO36	XXRVTW6	XINFO36	XXRTTW1
DBBG	XINFO36	XXRVTW7	XINFO36	XXRTTWD
DBBG	XINFO36	XXRVTW8	XINFO36	XXRTTWD
DBBG	XINFO36	XXRVTW9	XINFO36	XXRTTWD
DBBG	XINFO36	XXRVI11	XINFO36	XXRTI11

DB2 Scanner - Overview

The DB2 scanner creates an extract of DB2's system catalog, and it analyzed the relationship between tables/views, jobs and program.

- The extract allows you to load the extracts of any number of DB2 subsystems into one XINFO and to query that data.
- A further advantage of the extract is that the DB2 subsystems are not blocked in case of complex queries.
- The table-job-program analysis allows you to find out which DB2 tables are accessed by which jobs. See [JCL Scanner](#) for further details.

CICS Scanner

The screenshot displays the XINFO PC Client interface. The main window, titled 'XINFO PC Client - CICS - Program Info', shows a table of CICS programs. A context menu is open over the second row of the table, listing options such as 'CICS Information', 'Transaction Info/Group', and 'Transaction Info/List'. The 'CICS' option is currently selected.

CICS	LIST	GROUP	Program	Description	Language	New	Res	Usage	LPA	Status	EDF	DataL	Key	Concurrenc	Dyn	Rm
TS53	<all>	DFH\$ACCT	ACCT00		COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$ACCT	ACCT01		COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$ACCT	ACCT02		COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$ACCT	ACCT03	GE SAMPLE CLIENT	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$ACCT	ACCT04	GE SAMPLE EXIT	COBOL	NO	NO	NORMAL	NO	ENABLED	NO	ANY	CICS	QUASIRENT	NO	
TS53	<all>	DFH\$ACCT	ACCT05	GE SAMPLE INPUT ROUTINE	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	CICS	QUASIRENT	NO	
TS53	<all>	DFH\$BABR	DFH0CBA0	BTS BRIDGE SAMPLE INPUT ROUTINE	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	CICS	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT1	DISABLE TRANSACTIONS COORDINATOR	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT2	INQUIRE RETAINED LOCKS COORDINATOR	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT3	FORCE RETAINED LOCKS COORDINATOR	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT4	DISABLE TRANSACTIONS PROGRAM	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT5	INQUIRE RETAINED LOCKS PROGRAM	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT6	FORCE INDOUBT UOWS PROGRAM	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT7	RETRY BACKOUT FAILURES PROGRAM	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BAT	DFH0BAT8	FORCIBLY RELEASE LOCKS PROGRAM	COBOL	NO	NO	NORMAL	NO	ENABLED	YES	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BMSP	DFH\$PPKO		PLI	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BMSP	DFH\$PPLA		PLI	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BMSP	DFH0CPKO		COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BMSP	DFH0CPLA		COBOL	NO	NO	NORMAL	NO	ENABLED	YES	BELOW	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BR	DFH0CBRC	BRIDGE DPL SAMPLE CLIENT	COBOL	NO	NO	NORMAL	NO	ENABLED	NO	ANY	USER	QUASIRENT	NO	
TS53	<all>	DFH\$BR	DFH0CBRE	BRIDGE SAMPLE EXIT	COBOL	NO	NO	NORMAL	NO	ENABLED	NO	ANY	CICS	QUASIRENT	NO	
TS53	<all>	DFH\$BR	DFH0CBRE	BRIDGE FORMATTER	COBOL	NO	NO	NORMAL	NO	ENABLED	NO	ANY	CICS	QUASIRENT	NO	

CICS Scanner - Overview

The scanner analyzes the CICS CSD files (CICS system definition).

Some query examples:

- Which programs belong to which transactions?
- Which programs run in a “remote CICS”?
- Which programs use key=CICS?
- Which data sets are used in which transactions?
- Which queues are used?
- Which DB2 subsystems are used?
- Which DB2 plans used?
- Which TCP/IP services use which ports?

IMS Scanner

The screenshot displays the XINFO PC Client interface. The main window, titled 'XINFO PC Client - IMS - Job/DBD', shows a table of job entries. The table has columns for Jobname, SNr, Typ, Program, PSB, DC, SubS, DBD, Proc, GSAM, JCL-Lib, and Member. The first row is selected, showing Jobname 'IMS12M11', SNr '1', Typ 'JFP', Program 'DBFSAMA3', PSB 'DBFSAMP3', DC 'IVP1', SubS 'DBFSAMD1', Proc 'R', GSAM 'N', JCL-Lib 'IMS1210.JOBS', and Member 'IMSMMSG'. A context menu is open over the 'IMS' folder in the workspace tree, with 'Programname/PSB' selected.

Workspace Tree:

- Scheduler
- JCL
- DB2
- CICS
- IMS
 - Job/DBD
 - Job/Programname/PSB
 - PSB/DBD
 - PSB/Transaction
- DBD
- SMF
- Space
- PO
- Output
- Programs
- Source
- Distributed
- XINFO
- IT-Charts

Table Data:

Jobname	SNr	Typ	Program	PSB	DC	SubS	DBD	Proc	GSAM	JCL-Lib	Member
IMS12M11	1	JFP	DBFSAMA3	DBFSAMP3	IVP1	DBFSAMD1	R	N	IMS1210.JOBS	IMSMMSG	
IMS12M		Browse	SAMA3	DBFSAMP3	IVP1	DBFSAMD2	R	N	IMS1210.JOBS	IMSMMSG	
IMS12M			SAMA3	DBFSAMP3	IVP1	DBFSAMD3	A	N	IMS1210.JOBS	IMSMMSG	
IMS12M		Assembler	SAMA3	DBFSAMP3	IVP1	DBFSAMD4	A	N	IMS1210.JOBS	IMSMMSG	
IMS12M		Automic	VA4	DFSIVP4	IVP1	IVPDB3	A	N	IMS1210.JOBS	IMSMMSG	
IMS12M		Bagjas	VA5	DFSIVP5	IVP1	IVPDB4	R	N	IMS1210.JOBS	IMSMMSG	
IMS12F		BETA93	VA4	DFSIVP4	IVP1	IVPDB3	A	N	IMS1210.JOBS	IMS12F11	
IMS12F			VA5	DFSIVP5	IVP1	IVPDB4	R	N	IMS1210.JOBS	IMS12F12	
IMS12F		C	SAMA3	DBFSAMP3	IVP1	DBFSAMD1	R	N	IMS1210.JOBS	IMS12F13	
IMS12F		Control-D	SAMA3	DBFSAMP3	IVP1	DBFSAMD2	R	N	IMS1210.JOBS	IMS12F13	
IMS12F		Control-M	SAMA3	DBFSAMP3	IVP1	DBFSAMD3	A	N	IMS1210.JOBS	IMS12F13	
IMS12F		CA Deliver	SAMA3	DBFSAMP3	IVP1	DBFSAMD4	A	N	IMS1210.JOBS	IMS12F13	
IMS12M		CA7	RRC00	N0001000	IVP1				IMS1210.JOBS	IMS12M11	

IMS Scanner - Overview

The scanner analyzes the IMS PSB and DBD binary objects and determines, together with the JCL scanner, relations between jobs, programs, PSBs and DBDs.

- The DBD analysis was extended with XINFO 3.4. It provides query capabilities across all DBD attributes such as access type (HDAM, HIDAM) segments, fields etc.
- It determines the transaction/PSB/program relation. This allows you to query which database is accessed in which jobs.
- With the Proc options you can also identify the type of access.

SMF Scanner

XINFO PC Client - SMF - Step Information

Jobname	SNr	Owner	Program	RetCode	Start-Time	Durat.	Dif.SU	Stepname	End-Time	CPU-T.	EXCP	Jesname	Syst	Submit Time
DCPJ131	1	TWEC	ROTIWAIT		2016-11-01-18:00:00.630000	360	0	ROTIWAIT	2016-11-01-18:06:00.760000	0	14	JOB62732	SOW1	20
DCPJ131	1	TWEC	ROTIWAIT		2016-11-01-10:00:01.520000	360	1	ROTIWAIT	2016-11-01-10:06:01.730000	0	14	JOB44243	SOW1	20
DCPJ131	1	TWEC	ROTIWAIT		2016-11-01-08:00:00.340000	360	0	ROTIWAIT	2016-11-01-08:06:00.710000	0	14	JOB40366	SOW1	20
DCPJ131	1	TWEC	ROTIWAIT		2016-10-31-18:00:01.170000	420	1	ROTIWAIT	2016-10-31-18:07:01.290000	0	14	JOB97213	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-03-18:06:00.910000	360	0	ROTIWAIT	2016-11-03-18:12:01.110000	0	14	JOB63817	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-03-10:06:01.310000	360	0	ROTIWAIT	2016-11-03-10:12:01.450000	0	14	JOB50098	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-03-08:06:08.200000	360	0	ROTIWAIT	2016-11-03-08:12:08.350000	0	14	JOB49459	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-02-18:06:01.880000	361	0	ROTIWAIT	2016-11-02-18:12:02.430000	0	14	JOB21590	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-02-10:06:00.970000	360	0	ROTIWAIT	2016-11-02-10:12:01.100000	0	14	JOB04216	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-02-08:06:02.000000	360	0	ROTIWAIT	2016-11-02-08:12:02.140000	0	14	JOB00638	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-01-18:06:01.920000	360	0	ROTIWAIT	2016-11-01-18:12:02.050000	0	14	JOB63069	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-01-10:06:02.350000	360	0	ROTIWAIT	2016-11-01-10:12:02.560000	0	14	JOB44531	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-11-01-08:06:00.860000	360	0	ROTIWAIT	2016-11-01-08:12:00.990000	0	14	JOB40381	SOW1	20
DCPJ132	1	TWEC	ROTIWAIT		2016-10-31-18:07:01.430000	360	0	ROTIWAIT	2016-10-31-18:13:01.600000	0	14	JOB97714	SOW1	20
DISPLOG	3	UC4	UC4END		2016-11-03-05:30:58.840000	0	0	EC4V9	2016-11-03-05:30:58.900000	0	22	JOB39321	SOW1	20
DISPLOG	2	UC4	IKJEFT1B		2016-11-03-05:30:58.540000	0	0	DB9G	2016-11-03-05:30:58.840000	0	223	JOB39321	SOW1	20
DISPLOG	1	UC4	UC4START		2016-11-03-05:30:58.480000	0	0	SC4V9	2016-11-03-05:30:58.530000	0	10	JOB39321	SOW1	20
DISPLOG	3	UC4	UC4END		2016-11-03-05:29:45.450000	0	1	EC4V9	2016-11-03-05:29:45.520000	0	22	JOB39309	SOW1	20
DISPLOG	2	UC4	IKJEFT1B		2016-11-03-05:29:45.080000	0	0	DB9G	2016-11-03-05:29:45.440000	0	222	JOB39309	SOW1	20
DISPLOG	1	UC4	UC4START		2016-11-03-05:29:44.980000	0	0	SC4V9	2016-11-03-05:29:45.060000	0	10	JOB39309	SOW1	20
DISPLOG	3	UC4	UC4END		2016-11-02-05:31:45.060000	0	1	EC4V9	2016-11-02-05:31:45.130000	0	22	JOB95882	SOW1	20
DISPLOG	2	UC4	IKJEFT1B		2016-11-02-05:31:44.620000	0	0	DB9G	2016-11-02-05:31:45.060000	0	229	JOB95882	SOW1	20
DISPLOG	1	UC4	UC4START		2016-11-02-05:31:44.550000	0	0	SC4V9	2016-11-02-05:31:44.610000	0	10	JOB95882	SOW1	20
DISPLOG	3	UC4	UC4END		2016-11-02-05:30:15.710000	0	2	EC4V9	2016-11-02-05:30:15.810000	0	22	JOB95799	SOW1	20

Connected as: P392e, file: XX40T#14

Lines: 5000

SMF Scanner - Overview

The scanner analyzes SMF Dump Data Sets and creates detailed historical data program and job runs, file access, and CICS transaction.

- Exact start and end times, since XINFO 3.5 in hundredths of seconds. Delivers all important data as CPU usage, EXCP, IO. The information is available on both step and job level.
- Since XINFO 3.4, CICS transaction and data are available – with 60 values, another 270 (!) values can be added by the admin.
- Optional incremental update.
- Graphical representation of selected job run times in bar charts.
- The SMF data are a perfect data base for optimization of any kind, e.g. a daily top 10 list of programs with the highest CPU usage.

Space Scanner

The screenshot displays the XINFO PC Client interface. The main window, titled "XINFO PC Client - Space - Dataset Info", shows a table of dataset information. A context menu is open over the first row, with "Space" selected, which has further opened a sub-menu where "SMS Data Class" is highlighted.

Datasetname	GDGGen	DSO	RECF	XT	VOLSER	BLKSZ	LRECL	Alloc	Used	Second	Unusable	CR-Date	EXPDT	Last-Used	Limit	Scr	Empty
P390K.XINFO.V4R0.DATA.XXRTSTA.PRODJCL		PS	FB	1	FSWD00	27863	149	553	553	5534	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTJES		PS	FB	1	FSWD00	27939	201	55	55	55336	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTJCL		PS	FB	1	FSWD00	27985	193	55	0	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTJBS.VBTZJCL		PS	FB	1	FSWD00	27729	351	55	55	55336	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTBFR.VBTZJCL		PS	FB	1	FSWD00	27440	686	55	0	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTIFS.VBTZJCL		PS	FB	1	FSWD00	27940	220	55	55	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTXEXE.VBTZJCL		PS	FB	1	FSWD00	27968	152	55	0	27668	0	29.01.2017		29.01.2017			
P390Q.XINFO.V4R0.INST.GENPARM		PS	FB	1	FSWD00	27974	142	55	0	27668	0	29.01.2017		29.01.2017			
P390Q.XINFO.V4R0.SAMPLIB		PS	FB	1	FSWD00	27920	80	5534	5534	2767	0	26.01.2017		26.01.2017			
P390Q.XINFO.V4R0.DEFCMD		PS	FB	4	FSWD00	27998	80	6087	830	553	0	26.01.2017		26.01.2017			
P390Q.XINFO.V4R0.TABLES		PS	FB	1	FSWD00	27920	80	111	55	55	0	26.01.2017		26.01.2017			
P390K.XINFO.V4R0.DATA.XXRTCMD.PRODJCL		PS	FB	1	FSWD00	27904	128	55	0	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTXEXE.VBTZJCL		PS	FB	1	FSWD00	27810	206	1383	1383	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTSET		PS	FB	1	FSWD00	27824	296	55	0	55336	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.DB2USQL		PS	FB	1	FSWD00	27962	82	55	0	55336	0	29.01.2017		29.01.2017			
P390D.XINFO.PARM		PS	FB	1	FSWD01	27920	80	111	111	498	0	08.11.2016		08.11.2016			
P390K.XINFO.V4R0.DATA.XXRTXEXE.VBTZJCL		PS	FB	1	FSWD01	27840	240	55	0	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.INST.GENPARM		PS	FB	3	FSWD01	27873	489	55	55	55336	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.DATA.XXRTBFR.VBTZJCL		PS	FB	1	FSWD01	27920	80	11012	11012	2767	0	16.01.2017		16.01.2017			
P390K.XINFO.V4R0.DATA.XXRTIFS.VBTZJCL		PS	FB	1	FSWD01	27795	255	55	0	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.SAMPLIB		PS	FB	1	FSWD01	27939	201	55	55	27668	0	29.01.2017		29.01.2017			
P390K.XINFO.V4R0.PANFEL.S.D		PS	FB	5	FSWD01	27920	80	1162	1162	166	0	16.01.2017		16.01.2017			

Space Scanner - Overview

The scanner analyzes space, SMS, VTOC, the data storage manager (HSM or CA-DISK) and the tape management system (RMM or CA1).

- VTOC: Physical file size or allocated and actually used disk space, STORCLAS, MGMTCLAS etc.
- Volumes: Allocated and actually used disk space, last backup etc.
- VSAM: Records, CA und CI splits etc.
- HSM (CA-Disk): Backup, Migrate etc.
- SMS: MGMTCLAS, STORCLAS, and DATACLAS
- RMM (CA1): Volume serial number, creation and expiration dates etc.

PO Scanner

XINFO PC Client - PO - Member Content

Member	LineNo	Line	DSN
ADYSET00	1	* IBM SUPPLIED DAE (DUMP ANALYSIS & ELIMINATION) 00050000	SYS1.PARMLIB
ADYSET00	2	* START PARAMETERS. 00100000	SYS1.PARMLIB
ADYSET00	3	* 00150000	SYS1.PARMLIB
ADYSET00	4	* THIS IS EXECUTED AUTOMATICALLY DURING SYSTEM INITIALIZATION 00200000	SYS1.PARMLIB
ADYSET00	5	* BY A COMMAND IN IEACMD00. IF THESE ARE NOT THE DESIRED 00250000	SYS1.PARMLIB
ADYSET00	6	* INITIAL DAE VALUES, THIS MEMBER SHOULD BE CHANGED. IF 00300000	SYS1.PARMLIB
ADYSET00	7	* DAE IS NOT DESIRED, ENTER SET DAE=01 WHICH STOPS DAE. 00350000	SYS1.PARMLIB
ADYSET00	8	* 00400000	SYS1.PARMLIB
ADYSET00	9	DAE=START.RECORDS(400), 00450000	SYS1.PARMLIB
ADYSET00	10	DAE=STOP,UPDATE,NOTIFY(3,30)), 00500000	SYS1.PARMLIB
ADYSET00	11	* 00550000	SYS1.PARMLIB
ADYSET00	12	* 00600000	SYS1.PARMLIB
ADYSET00	13	* ALSO BEEN PROVIDED IN MEMBER ADYSET01 00650000	SYS1.PARMLIB
ADYSET00	14	* WHICH CAN BE INVOKED BY: 00700000	SYS1.PARMLIB
ADYSET00	15	* SET DAE=01 00750000	SYS1.PARMLIB
ADYSET00	16	* IBM SUPPLIED DAE (DUMP ANALYSIS & ELIMINATION) 00050000	SYS1.PARMLIB
ADYSET01	2	* STOP PARAMETER. 00100000	SYS1.PARMLIB
ADYSET01	3	* 00150000	SYS1.PARMLIB
ADYSET01	4	* THIS MAY BE INVOKED BY ENTERING THE OPERATOR COMMAND: 00200000	SYS1.PARMLIB
ADYSET01	5	* SET DAE=01 00250000	SYS1.PARMLIB
ADYSET01	6	* 00300000	SYS1.PARMLIB
ADYSET01	7	* DAE=STOP 00350000	SYS1.PARMLIB
ADYSET01	8	* 00400000	SYS1.PARMLIB
ADYSET01	9	* DAE START PARAMETERS HAVE ALSO BEEN PROVIDED IN MEMBER ADYSET02 00450000	SYS1.PARMLIB
ADYSET01	10	* WHICH CAN BE INVOKED BY: 00500000	SYS1.PARMLIB

Connected as: P392e, file: XX40T#25

Lines: 5000

PO Scanner

LineNo	Line	
000001	* IBM SUPPLIED DAE (DUMP ANALYSIS & ELIMINATION)	00050000
000002	* START PARAMETERS.	00100000
000003	*	00150000
000004	* THIS IS EXECUTED AUTOMATICALLY DURING SYSTEM INITIALIZATION	00200000
000005	* BY A COMMAND IN IEACMD00. IF THESE ARE NOT THE DESIRED	00250000
000006	* INITIAL DAE VALUES, THIS MEMBER SHOULD BE CHANGED. IF	00300000
000007	* DAE IS NOT DESIRED, ENTER SET DAE=01 WHICH STOPS DAE.	00350000
000008	*	00400000
000009	DAE=START,RECORDS(400),	00450000
000010	SVCDUMP(MATCH,SUPPRESSALL,UPDATE,NOTIFY(3,30)),	00500000
000011	SYSDUMP(MATCH,UPDATE)	00550000
000012	*	00600000
000013	* A DAE STOP PARAMETER HAS ALSO BEEN PROVIDED IN MEMBER ADYSET01	00650000
000014	* WHICH CAN BE INVOKED BY:	00700000
000015	* SET DAE=01	00750000

Search for Search << >>

OK Copy Print... Save As...

PO Scanner - Overview

The scanner analyzes any number PO libraries (determined by the administrator). In addition to the PO member statistics, the content of the members is stored in the database. It offers:

- Convenient full-text search with any kind of search operators and wildcards
- Very fast
- Access rights to the members are not mandatory (but a security check is optional, if required)
- The user doesn't need to know where he should search - the administrator has done that already in advance
- Helps in most cases where XINFO has no special scanners, for example REXX, SAS, or other "exotic" programming languages

Output Scanner

The screenshot displays the XINFO PC Client interface. On the left, a 'Workspace Tree' shows a hierarchy of folders including Space, PO, Output, BETA93, and CA Deliver. The 'BETA93' folder is expanded, showing sub-items like Lists, Recipient, Receiver, etc. The main window, titled 'XINFO PC Client - BETA93 - Lists', shows a table of data. A context menu is open over the row with 'Form' 1400 and 'Title' TEST-REPORT, offering options like 'OUTPUT Statements' and 'SYSOUT+OUTPUT'.

Fom	Extension	SubS	Title	A	Print character.	Distr. character	Barcode	Report	Post proc. note	StartPIC	End PIC	A	A.RP	N	-Med.	ORP	CIT	Owner	Upd:User
STD		B93A	BITTE NICHT LOESCHEN	N								Y	30	N			2 DAY		
AH06		B93A	***GENERATED BY IZ00057N***	N	STD	STD						Y	30	N	TAPE		2 DAY		BUTLT
AH06	DRU00001	B93A	***GENERATED BY BAFS252***	N	STD	STD						Y	30	N	TAPE		2 DAY		BUTLT
1400		B93A	TEST-REPORT	N	STD	STD		BZT708				Y	30	N	TAPE		7 DAY		IZ00057

Output Scanner - Overview

The scanner analyzes the output management system's own database, either BETA93, CA-Deliver or Control-D. Typical queries are:

- Which jobs create lists?
- The lists are created for which users?
- In which jobs a particular list is created?
- Where a which (special) functions used?

Thanks for your attention! Do you have any questions?

The logo for 'HORIZONT' features the word in a bold, sans-serif font. The letter 'O' is highlighted in red, while the other letters are in dark grey. The background is light grey with a large red curved shape on the left and several faint, semi-transparent geometric shapes (squares and circles) scattered around.

HORIZONT

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