



Product Suite New Features

Release 3.00

IBM Mainframe z/OS, VSE & VM/CMS Systems

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Contents

SELCOPY Product Suite 3.00 New Features.....	1
Documentation Notes.....	1
SELCOPY Product Suite Components.....	2
SELCOPY 3.00.....	3
New Facilities & Product Fixes.....	3
Improved Performance on z/OS Sequential Output.....	3
Large Blocksize Interface (LBI).....	3
I/O Buffers >16MB Line.....	3
VSAM Record Level Sharing (RLS).....	3
VSE CA-EPIC Encrypted Tapes.....	3
CBLVCAT 3.00.....	4
New Facilities & Product Fixes.....	4
TUNE SMS Extended VSAM Enhancements.....	4
LISTVTOC TYPE=U - Uncataloged Data Sets.....	4
LISTVTOC FREE and FREETAB Extents.....	4
SELCOPY/i 3.00.....	5
SELCOPY/i Base.....	5
SELCOPY/i Main Window Menu.....	5
SELCOPY/i Ending Prompts.....	5
Message Identification Prefixes.....	5
SELCOPY Command.....	5
Local Time Adjustment.....	6
Panel Windows.....	6
SDEAMAIN Batch.....	6
SELCOPY/i DB2 Facilities.....	7
SELCOPY/i DB2 Panels.....	7
DB2 Audit Logs.....	8
DB2 Edit & Browse.....	9
DB2 Objects.....	11
DB2 Command Execution.....	12
SELCOPY/i File Copy Utility - FCOPY.....	13
SELCOPY/i File Search, Update & Copy Utility - FSU.....	16
SELCOPY/i Favourites Panel - FAV.....	18
SELCOPY/i Find Library Members Utility - LLX.....	19
SELCOPY/i Compare File Utility - COMPFILE.....	20
SELCOPY/i Compare Library Utility - COMPLIB.....	22
SELCOPY/i Text Editor - CBLe.....	23
SELCOPY/i Structured Data Editor - SDE.....	24
SELCOPY/i Lists.....	26
SELCOPY/i 1.80 Zaps applied.....	27

SELCOPY Product Suite 3.00 New Features

Documentation Notes

Information in this New Feature List details changes introduced to CBL software since the last generally available releases of SELCOPY, SELCOPY/i and CBLVCAT.

The **SELCOPY Product Suite** for z/OS, z/VM (CMS) and z/VSE operating systems, which includes SELCOPY, SELCOPY/i and CBLVCAT, is available for download and install from <http://www.cbl.com/selcdl.html>.

The following publications for SELCOPY Product Suite and its component products are available in Adobe Acrobat PDF format at CBL web page <http://www.cbl.com/selcdoc.html>:

- SELCOPY Product Suite Customisation Guide
- SELCOPY User Manual
- CBLVCAT User Manual
- SELCOPY/i Reference and User Guide
- SELCOPY/i Text Editor (CBL*e*) Manual
- SELCOPY/i Structured Data Editor Manual

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The following generic terms are used throughout this document to indicate all available versions and releases of IBM mainframe operating systems:

- MVS** - z/OS, OS/390, MVS/ESA, MVS/XA, MVS/SP, OS.
VSE - z/VSE, VSE/ESA, VSE/SP, DOS.
CMS - z/VM, VM/ESA, VM/XA, VM/SP.
All - All MVS, VSE and CMS operating systems.

SELCOPY Product Suite Components

Since the introduction in 2004 of the SELCOPY interactive interface, CBLi (later rebranded SELCOPY/i), the set of programs supplied as part of the SELCOPY licence has expanded to more than just the single executable, SELCOPY.

In order to reflect this growing number of programs and to avoid confusion amongst end users, the CBL software offering to licensees of SELCOPY and/or CBLVCAT has been combined into a single installable bundle entitled the SELCOPY Product Suite. Note that an appropriate, valid SELCOPY and/or CBLVCAT licence key is required to execute related components of the SELCOPY Product Suite.

The release number of all SELCOPY Product Suite components has been unified at **release 3.00**.

The SELCOPY Product Suite comprises the following software components:

SELCOPY

A universal batch information retrieval utility language for multiple sequential data set, VSAM, PDS/PDSE member, VSE LIBR member and DB2/IMS/ADABAS database input/output. Features include conditional syntax; test data generation; report generation; data manipulation, matching, merging, conversion, arithmetic and update.

CBLVCAT

Batch utility for VSAM cluster tuning, re-organisation and IDCAMS DEFINE job generation; standard and customised ICF/VSAM cataloged data set reporting and VTOC contents display.

SELCOPY/i

An interactive windowed environment operating within a 3270 terminal under ISPF, TSO, CMS or as a VTAM application. The SELCOPY/i environment includes a compendium of tools and facilities some of which are listed below:

- ◊ Function rich text editor with both ISPF Edit and XEDIT compatibility.
- ◊ Structured data editor supporting COBOL and PL1 Copybooks.
- ◊ DB2 table editor. (*)
- ◊ DB2 SQL execution.
- ◊ List facility includes DB2 objects, Datasets, DASD Volumes, VTOC files/extents, HFS files and ENQs.
- ◊ File Search and Update including support for copybook map.
- ◊ File Copy supporting mixed data set organisations and copybook remap. (*)
- ◊ File and PDS/PDSE library Compare. (*)
- ◊ SELCOPY interactive development environment and debugger.
- ◊ CBLVCAT interactive reports and VSAM data set tuning.

Items marked (*) are new in this release.

SDEAMAIN

A SELCOPY/i program to execute a selection of Structured Data Edit (SDE) commands in a batch environment. SDEAMAIN requires allocation of SDEIN and SDEPRINT to specify input commands source and list output respectively. SDE commands that may be executed by SDEAMAIN are:

- ◊ FSU - File Search and Update.
- ◊ FCOPY - File Copy.
- ◊ CREATE STRUCTURE - Create a SELCOPY/i internal structure (SDO) from a COBOL or PL1 Copybook.

SLC

The SELCOPY batch utility developed in C++ for UNIX and PC platforms and now compiled for zVM CMS and z/OS systems. Although it is not yet a replacement for SELCOPY, SLC supports additional SELCOPY syntax and features that warrant its inclusion in this release of SELCOPY Product Suite.

In particular, the READ LIST facility may be used to generate and optionally process contents of SELCOPY/i list windows (e.g. dataset, VTOC lists) in a batch environment.

READ LIST and other features specific to SLC are not yet documented in full, however, a synopsis may be obtained from the CBL FTP site at:

<ftp://ftp.cbl.com/All/SNF300c.txt>

SELCOPY 3.00

New Facilities & Product Fixes

Support for following has been included in SELCOPY release 3.00:

Improved Performance on z/OS Sequential Output

SELCOPY uses system supplied routines to perform device independent I/O.

In previous releases, output data blocking to non-VSAM datasets was allowed to default to that performed automatically by the queued sequential access method (QSAM). In SELCOPY release 3.00, the default is to use basic sequential access method (BSAM) on output to non-VSAM datasets whereby blocking is performed by SELCOPY.

The net result is reduced CPU usage on output to non-VSAM data sets.

Large Blocksize Interface (LBI)

Allocation of data sets on specific devices (TAPE and DUMMY) supports specification of BLKSIZE>32K. This feature was introduced by IBM with support for the Large Blocksize Interface (LBI) in versions of z/OS 1.8 and later, and on previous versions with IBM tolerance APAR OA09869 applied. For tape devices, the blocksize value is recorded in tape HDR2 labels.

For data sets on tape devices where BLKSIZE>32K is specified, SELCOPY uses LBI to successfully read or write data records.

I/O Buffers >16MB Line

For SMS managed, extended format data sets with ACCBIAS=SYSTEM or RMODE=BUFF, I/O buffers are obtained from above the 16MB line.

Although an AMODE=24 program, SELCOPY now supports above the line I/O buffers where WORKLEN is also specified.

VSAM Record Level Sharing (RLS)

SELCOPY performs successful I/O on VSAM data sets that employ a level of record-level sharing (RLS). See "z/OS DFSMS Using Data Sets" and "z/OS DFSMSdfp Storage Administration" for information on VSAM RLS access.

VSE CA-EPIC Encrypted Tapes

OEM product CA-EPIC on VSE systems supports encryption of data written to tape files.

By default, SELCOPY opens VSE tape input data sets as RECFM=U in order to verify specification of a suitable BLKSIZE. In order to successfully read CA-EPIC encrypted tape files, so that data is automatically decrypted on input, the CBLNAME option STapeInpLIOCS=YES has been introduced to force SELCOPY to use standard LIOCS for tape.

Note that DEV=TAPE must be specified on the tape input READ statement if *fname* (TLBL/CA-EPIC DDNAME) is not of the format TAPEnn.

New Facilities & Product Fixes

Support for following has been included in CBLVCAT release 3.00:

TUNE SMS Extended VSAM Enhancements

CBLVCAT tuning recommendations for VSAM SMS extended data sets have been enhanced to correctly identify the current and optimum physical record size and so report the most efficient values for data and index CISIZE, and other IDCAMS attributes.

CBLVCAT VSAM SMS extended data set tuning recommendations are also accurate for VSAM data sets defined with COMPACTION and/or EXTENDED ADDRESSABILITY Data Class attributes.

LISTVTOC TYPE=U - Uncataloged Data Sets

The LISTVTOC TYPE=U subset parameter has been introduced to filter a VTOC report to display only uncataloged data sets.

LISTVTOC FREE and FREETAB Extents

LISTVTOC FREE and FREETAB options display extents of free space on a DASD volume. CBLVCAT has been updated to successfully report free space extents that exist on relative volume cylinder number > 9999.

SELCOPY/i 3.00

SELCOPY/i Base

The following changes have been implemented in the SELCOPY/i release 3.00 base environment:

SELCOPY/i Main Window Menu

Since support was introduced in SELCOPY/i 1.30 for non-edit child window views in the CBL Text Editor, the course of SELCOPY/i product development has increasingly relied upon the user working solely within the text edit or SELCOPY debug applications.

Because of this, the text edit application is always started by default when the user invokes SELCOPY/i and the user's HOME command centre file displayed in an edit window view. This provides the user with the suitable platform for starting any of the available SELCOPY/i features.

Since executing menu options from outside of a text editor environment was no longer desirable, in SELCOPY/i 1.60, all main window menu items were duplicated in the SELCOPY/i text editor parent window and the main window items obscured by the maximised text editor. This meant that the main window menu items were no longer selectable unless the user exited or reduced the size of the text editor parent window.

To prevent the user from selecting menu items from outside a text edit environment, the SELCOPY/i menu items have now been removed and replaced with a single item "Home" which starts the text editor (if not already started) and once again displays the user's HOME command centre.

SELCOPY/i Ending Prompts

Due to customer requests, the warning pop-up message windows that prompt the user to continue with an END operation has been disabled for the following:

- Closing the "Home" command centre edit view.
- Ending the SELCOPY/i environment.

Note that ISPF style AUTOSAVE command exist for both text edit and SDE edit window views to determine the action of an END command (assigned by default to <PF3>) when unsaved alterations to the data exist. ISPF style CANCEL command is also supported.

Message Identification Prefixes

In order that message identification numbers are unique and do not conflict with message numbers assigned to non-CBL products, all SELCOPY/i message ID prefixes have been modified to adopt the registered three character SMP/E SELCOPY/i product component ID (ZZS) as follows:

SELCOPY/i 1.80	SELCOPY/i 3.00
EDTxxxx	ZZSExxxx
IOSxxxx	ZZSIxxxx
SDExxxx	ZZSDxxxx
VCIxxxx	ZZS0xxxx
VTMxxxx	ZZSVxxxx
WINxxxx	ZZSWxxxx

SELCOPY Command

The minimum abbreviation of the line command, SELCOPY, which invokes the SELCOPY Interactive Development (Debug) application has been changed from "S" to "SELC". This prevents confusion with the List window prefix command "S" which selects the default action for a list entry.

Command SELCOPY (or any of its valid abbreviated forms) may be entered in the prefix area of a file list to invoke the SELCOPY Debug application using the selected entry as SYSIN input.

Local Time Adjustment

Whenever current data and time is required, SELCOPY/i performs a store clock function to obtain the CPU clock and converts this to the required date format.

SELCOPY/i 3.00 applies the system's customised time zone adjustment to obtain and report local, instead of UTC, current date and time values.

Panel Windows

SELCOPY/i 3.00 introduces a new, more advanced mechanism for the display of dialog windows (panels). In addition to the new DB2 panel windows, many existing dialog windows (e.g. File Copy, File Search & Update) have been converted to use this new panel mechanism.

All panel windows share the following features which distinguish them as being superior to dialog windows used in previous releases of SELCOPY/i:

- Resizing of the panel display window using standard SELCOPY/i window resizing techniques. The line numbers on display and the total number of lines in the panel window is displayed beneath the "Scroll>" field.
- Up/Down scrollable display of the panel content as required for panel resizing and for 3270 terminals with a low number of displayed rows. This allows the content of the panel to extend beyond the depth of the panel window. Use the "Scroll>" input field to control scrolling type as described in SDE editor help for UP and DOWN command.

Scroll up and down using <PF7> and <PF8> respectively.

- The last customised position and size of a panel window is stored and used the next time the panel is opened. This applies across consecutive SELCOPY/i sessions.
- Panel windows are non-modal so focus can be placed on other display windows without first having to close the panel window. This also means that a dialog panel window may persist beyond the end of the execution of the panel functions. e.g. Favourites (FAV) window, used as a method for fast data set edit and command execution, no longer closes following the selection of an item.
- Scrollable and expandable input fields which allow input of more text than can be displayed in the field area. These type of input fields are suffixed with a plus and/or minus sign which also provides an indication as to whether the current displayed data is at the start ("+") or end ("-") of the field, or somewhere in between ("-/+").

The entire contents of the field may be expanded into a text edit view and so edited using full text editor functionality, before being placed back in the input field when the text edit view is closed.

With the cursor positioned within the scrollable field, scroll left and right using <PF10> and <PF11> respectively, and expand the field using <PF2>.

- The last entry in a panel input field before it is closed is stored and may be recalled at any time by the user to populate the same input field of the panel on subsequent invocations.

With the cursor positioned within the input field, recall the last entry for that field using <PF4>.

SDEAMAIN Batch

The program, SDEAMAIN, is included to enable batch execution of select SDE commands; FSU, FCOPY, CREATE STRUCTURE and QUERY. SDEAMAIN requires allocation of SDEIN and SDEPRINT to specify input commands source and list output respectively.

SDEIN input must exist between columns 1-72. Syntax of a command wraps at column 72 to column 1 of the next SDEIN record and ends at the first unquoted occurrence of a semi-colon (";") or at end of SDEIN. Multiple SDE commands may be specified in a single execution of SDEAMAIN.

SDEPRINT output is RECFM=FBA/VBA, LRECL=133.

```

.....1.....2.....3.....4.....5.....6.....7.....8
//STEP01 EXEC PGM=SDEAMAIN,REGION=0M
//SDEPRINT DD SYSOUT=*
//SDEIN DD *
FCOPY CBL.DIST.SMPE.ZZS.SAM1 (ZZSDB2B) NBJ.ZZSDB2B.PDS REPL
ACE;

FCOPY CBL.DIST.SMPE.ZZS.SAM1 (ZZSDB2B) NBJ.ZZSDB2B
/*

```


SELCOPY/i DB2 Facilities

Introduction of support for DB2 data base facilities is the most significant addition to SELCOPY/i in release 3.00. SELCOPY/i DB2 facilities are incorporated within the base product and do not require any additional licensing over and above the SELCOPY product key.

SELCOPY/i users may connect to any local or remote DB2 subsystem for which the SELCOPY/i DB2 plan has been bound and the user granted EXECUTE authority. For successful operation, users must also be granted SELECT access to the subsystem's DB2 catalog tables and, if configured, READ access to the SELCOPYI.DB2 SAF resource. See the "[SELCOPY Product Suite Customisation Guide](#)" for details on enabling SELCOPY/i DB2.

SELCOPY/i DB2 Panels

All DB2 related features may be accessed via the suite of SELCOPY/i DB2 panels started by selecting the "DB2" drop-down menu item of the "File" main menu, or by executing the DB2 CLI command. Note that SELCOPY/i panels are window objects within SELCOPY/i and should not be confused with ISPF panels.

DB2 Primary Option Menu

The DB2 Primary Option Menu panel is the entry point to all SELCOPY/i DB2 panels which provide all available DB2 functionality available in SELCOPY/i.

On selecting an item from this menu panel, or if a PFKey/<Enter> is hit, then an attempt is made to connect to the DB2 subsystem specified in the SSN field. If the SSN field is subsequently changed, the connection is dropped and a connection to the new DB2 subsystem is attempted. If the user wants to work with multiple DB2 subsystems concurrently, then a DB2 primary option menu panel must be opened to perform a connection to each subsystem.

If Create Audit File is selected, an audit log file will be allocated immediately before attempting to connect to the DB2 subsystem and closed when the connection is dropped. Separate connections and audit files are maintained for each results table edit in order to isolate table updates.

Panels supported in SELCOPY/i DB2 3.00 are:

- ◊ Execute DB2 Commands.
- ◊ Execute DB2 SQL Statements.
- ◊ Edit DB2 results table.
- ◊ Browse DB2 results table.
- ◊ Create DB2 Objects.
(Storage group, Work File Database, User Database, View, Alias, Synonym, Type, Trigger, Sequence, Role.)
- ◊ Drop DB2 Objects.
(Storage group, Database, Table space, Table, View, Alias, Index, Synonym, Type, Function, Stored procedure, Trigger, Global temporary table, Sequence, Role, Trusted context.)
- ◊ List DB2 Objects.
(Storage groups, Databases, Table spaces, Tables, Views, Aliases, Indexes, Synonyms, Types, Triggers, Global temporary tables, Sequences, Roles, Trusted contexts, Columns, Volumes.)
- ◊ Audit Log Functions.
 1. Audit Log Dataset Options.
 2. Print Audit Report.
 3. List Audit Datasets.

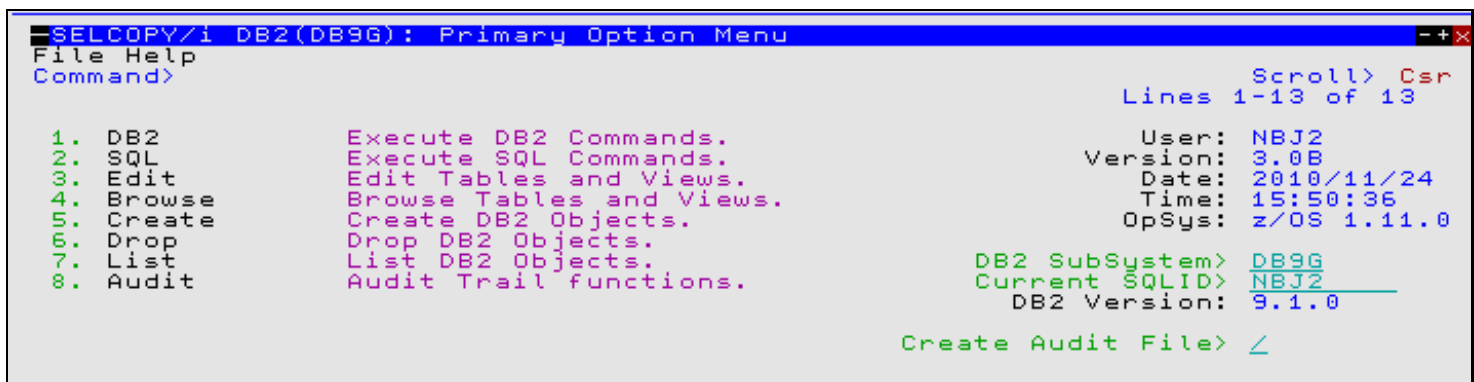


Figure 1. DB2 Primary Option Menu Panel.

The Audit Functions panel provides facilities for listing and printing Audit data sets. Printing an audit first processes the formatted records of the audit log file to generate a printable report. This may be executed in the foreground to display the report in a text edit window view or a batch job may be generated.

An alternative to using the Print Audit Report panel, the report may be generated in the foreground by entering AUDPRINT in the prefix area against an entry of the audit dataset list.

DB2 Edit & Browse

SELCOPY/i DB2 in-storage edit and browse of DB2 results tables uses the already available SDE structured data editor.

The SDE editor already supports display of formatted data using copybooks and internally defined structures, and so has now been modified to internally generate a structure (SDO) using the DB2 SQLDA chain for the results table columns. All existing features of the SDE editor including FIND, CHANGE, WHERE and LOCATE are automatically available for DB2 table edit/browse.

Changes to the SDE edit and browse window views for DB2 tables are:

1. Abbreviated forms of the standard DB2 datatypes are displayed in the field type header line instead of the SDE field datatype, position and length. Display of this header line is controlled using SET TYPE ON/OFF.
2. The addition of an SQLCode record information field for DB2 which may be displayed and hidden using SET RECINFO SQLCODE/NOSQLCODE or selecting option 2 in the DB2 Browse/Edit Utilities manu (<PF4>).

In addition to applying column select, row sort and filter options (SELECT, WHERE and ORDER BY clauses) to the DB2 table (or view), the user may specify concurrency (isolation level) and table locking options as well as options to skip display of rows that have already been locked and when COMMIT should be executed for changed data.

DB2 Edit & Browse Object Panels

The DB2 Edit Object and Browse Object Panels are displayed on selecting the "Edit" and "Browse" options of the DB2 Primary option menu panel respectively.

```

SELCOPY/i DB2(DB9G): Edit Object
File Run Command Help
Command>
ZZSX007I Connected to DB2 v9.1.0 subsys DB9G plan CBLPLAN1 2010/11/30 11:32:17

DB2 Object:
  Location>
  Owner> CBL
  Name> EMP

Row/Column Selection Options:
  From> 1
  For> 100
  Select>
  Where>
  Order By>

COMMIT Options:
  / Commit on SAVE with no errors
  - Commit on SAVE
  - Commit on exit from edit session

Load Options:
  / Skip locked rows
  Z Execute Commit following load

Concurrency (Isolation) Options:
  / Use DB2 Default Isolation level
  - Uncommitted Read (least restrictive)
  - Cursor Stability
  - Read Stability
  - Repeatable Read (most restrictive)

Initial Display Format:
  / Table
  - Single

Profile Macro:
  / Use Default.
  - Use Specified Macro.
  - Do not use a Profile Macro.

Explicit Table Lock:
  / None
  - Share mode
  - Exclusive mode

Use/Keep Locks:
  / None
  - Share
  - Update
  - Exclusive

Miscellaneous Options:
  / Create Audit File
  - Do not protect Prime Key

Macro Name> SDEPROF
  
```

Figure 2. DB2 Edit Object Panel.

Input fields in each of the DB2 Edit and Browse panels reflect the DB2 input parameters supported by their equivalent SDE line commands, EDIT and BROWSE. With the exception of COMMIT, table locking, skipping locked rows and concurrency options, which are applicable to edit only, Edit and Browse Object panels support the same input fields. See

"DB2 options for SDE EDIT and BROWSE CLI Commands"

Having configured the input fields, select "Run" from the menu bar or hit <Enter> to execute the edit/browse. For edit only, a new connection is made to the DB2 subsystem specified on the DB2 Primary option menu panel and, optionally, a new audit log data set is allocated. This isolates actions specific to that DB2 object edit from all other DB2 actions and object editing.

The "Command" menu bar item will display in a text edit view the SDE EDIT or BROWSE commands generated for the selected input field values.

DB2 options for SDE EDIT and BROWSE CLI Commands

Syntax:

```
>>- EDIT  +-+ file-name -----+>
          |
          +-+ DB2 +-+ table-name -----+
          |      |      |      |      |
          +-+ (ssn) +-+ view-name +-+ | DB2 Options | +-+
```

DB2 Options:

[illegible]

Notes:

(1) Applicable to EDIT command only.

Description:

Open an SDE window view to edit or browse row data of a DB2 results table. A DB2 connection is made and, optionally, a new audit log allocated for each new SDE EDIT command executed on a DB2 table or view.

Note that, in release 3.00, only in-storage edit/browse is supported. Therefore, if a results table is too large to be loaded into available storage a storage error occurs. The user must then restrict the number of rows to be loaded using further row selection criteria (i.e. FROM, FOR, SELECT, WHERE parameters).

Parameters:

FROM ROW n

Equivalent to FROM RECORD *n*, this defines the number of the row returned from the generated SQL select statement to be displayed first in the browse/edit window. All previous rows are skipped.
Default is row 1.

```
FOR n_rows ROWS
```

Equivalent to FOR *n_recs* RECORDS, this defines the maximum number of rows eligible to be displayed in the browse/edit window following execution of the generated SQL select statement with any WHERE clause applied. All selected rows that fall outside this scope are skipped. Default is to display all selected rows.

- SELECT** (*select-clause*)
Specifies a DB2 SQL SELECT clause to be include in the generated SQL select statement. See "*DB2 SQL Reference*" for details on the select-clause.
- WHERE** (*where-clause*)
Specifies a DB2 SQL WHERE clause to be include in the generated SQL select statement. See "*DB2 SQL Reference*" for details on the where-clause.
- SORT|ORDER BY** (*order-by-clause*)
Specifies a DB2 SQL ORDER BY clause to be include in the generated SQL select statement. See "*DB2 SQL Reference*" for details on the order-by-clause.
- WITH CS|UR|RR|RS < KEEP EXCLUSIVE|UPDATE|SHR >**
Specifies a DB2 SQL isolation-clause to be included in the generated SQL select statement. See "*DB2 SQL Reference*" for details on the effects of isolation level on the generated select statement.
- The KEEP sub-parameter options are applicable to isolation levels RR (Repeatable Read) and RS (Read Stability) only.
Default isolation level (as set by the SELCOPY/i DB2 package and plan BIND) is CS.
- SKIPLOCKED**
Specifies that any selected rows that are already locked by another process should not be included in the edit display.
Default is to allow display of locked records whenever possible.
- EDITPRIMEKEY**
Allows update of data belonging to any column that constitutes the table's prime key.
Default is that prime key columns are read only.
- COMMITONCLEANSAVE | COMMITONSAVE | COMMITONEXIT**
Specifies when a COMMIT should be executed for changed data.
- COMMITONCLEANSAVE - COMMIT only if SAVE is executed without errors.
 - COMMITONSAVE - COMMIT on SAVE regardless of errors.
 - COMMITONEXIT - COMMIT only on exit of the edit session.
- Default is COMMITONCLEANSAVE.
- LOCKTABLE EXCLUSIVE|SHR**
For DB2 tables (not views) only, executes a DB2 SQL command LOCK TABLE before loading data from the table. Use this option with **caution** as other users and applications may be prevented from accessing the table. See "*DB2 SQL Reference*" for details on the effects of LOCK TABLE options.
Default is not to perform any explicit table locking prior to load. (Recommended)
- COMMITONLOAD**
Perform a COMMIT following the initial load of rows to be edited, thus releasing all DB2 table locks performed during load of the data. This includes any explicit table locks applied via the LOCKTABLE parameter.
Default is not to perform a COMMIT following load of the table rows.

DB2 Objects

SELCOPY/i 3.00 includes support for panels that provide users with an interface to generate and execute SQL CREATE, DROP and LIST commands for selected DB2 objects.

DB2 Create and Drop object panels include the following menu items:

Run	Immediately executes the generated SQL command.
Command	Display the generated SQL command in a text edit view in a format suitable for execution using CMDTEXT. (i.e. place the cursor on the first line of the command and hit <PF4>)
JCL	Create sample JCL that will run DSNTIAD for the generated SQL command and display it in a text edit view. The job may be customised then submitted to batch using the SUBMIT line command.

DB2 List object panel input fields support standard DB2 wild cards to apply a filter before the rows are fetched. The list panel also includes the same features as supported for standard file list windows:

- Line commands (e.g. SELECT, WHERE and SORT) for column selection, sort and filter of current list data.
- Prefix commands with default action. Enter "/" against a list entry (or hit <PF4>) to display a table of supported prefix commands and their descriptions.
- Point-and-shoot on a list column header to sort list entries ascending/decending on that column.
- Display the contents of a single list row entry vertically in a separate window. (Hit <PF2>)

- Menu bar items:

View	Open a drop-down menu of all previous (SELECT, WHERE, SORT) views of the listed data for selection by the user.
Refresh	Refresh the current display of listed data.
Back	Return to the previous (SELECT, WHERE, SORT) view of the listed data in the chain.
Forward	Proceed to the next (SELECT, WHERE, SORT) views of the listed data in the chain.
FDB	Display information (e.g. offset, length, data type) about each column in the list.
Text	Display the column headers and contents of the current list in a text edit view.

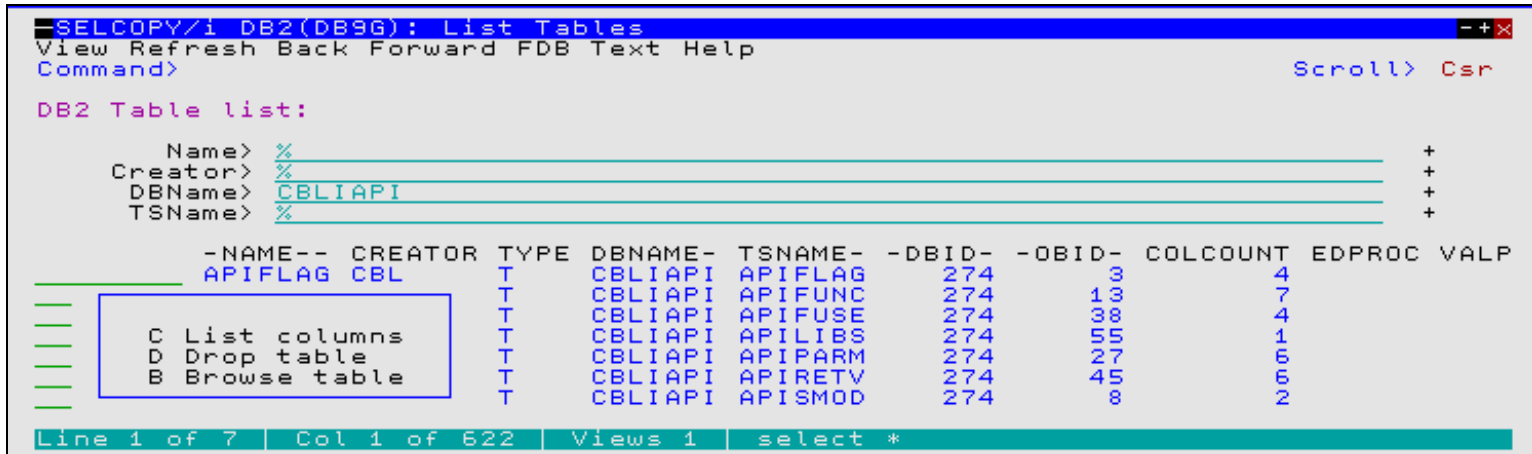


Figure 3. DB2 List Tables Panel.

DB2 Command Execution

DB2 commands may be executed from the Execute DB2 Commands panel accessible via the "DB2" item of the DB2 Primary option menu panel.

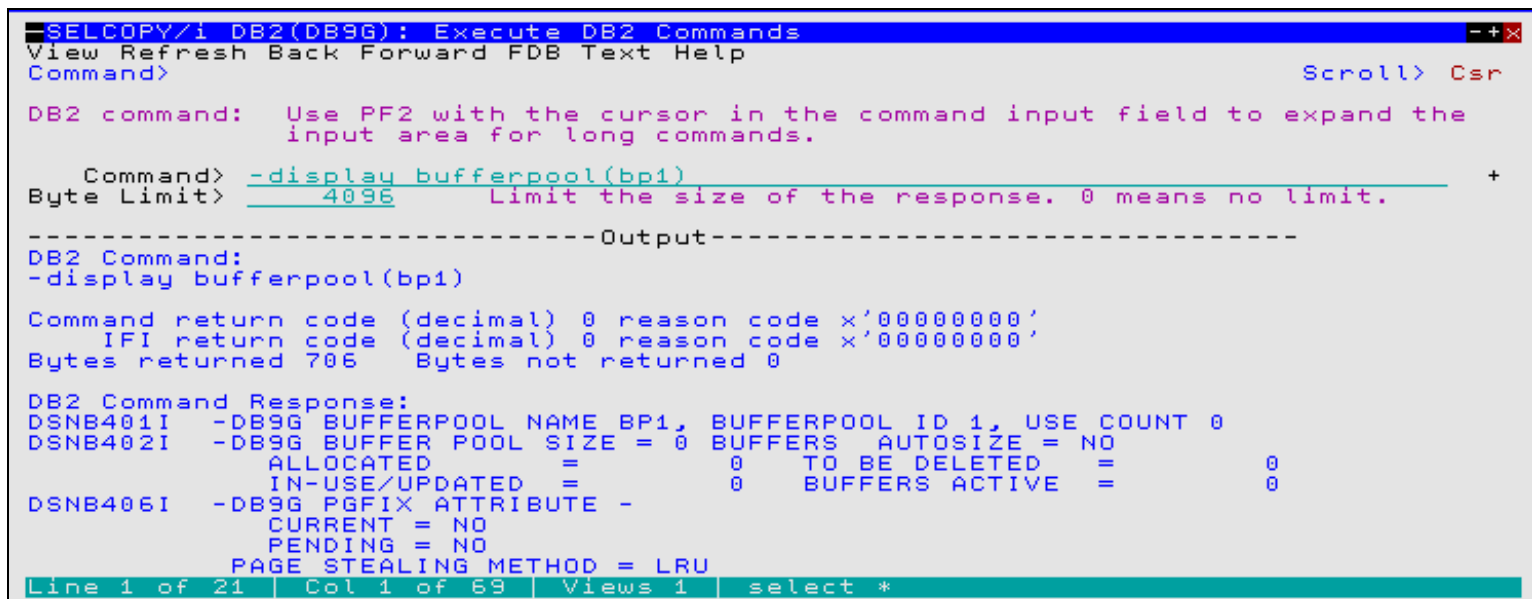


Figure 4. Execute DB2 Commands Panel.

The "Byte Limit" input field defines the DB2 command's output data buffer size limit. If set to 0 (zero), then there is no limit to the output buffer size. The output from the DB2 command is displayed in the panel's scrollable output display area.

The output report contains the DB2 command executed; the return and reason code received on execution of the DB2 command; the instrumentation facility interface (IFI) return and reason code; and the number of bytes returned/not returned. If number of bytes **not** returned is greater than zero, then this value indicates the amount of additional buffer space required to display the complete output from the command.

SELCOPY/i File Copy Utility - FCOPY

The File Copy utility is an advanced data set copy tool that supports:

- Direct copy between data sets of different data set organisations and record formats. (PDS/PDSE member(s), Sequential, KSDS, ESDS and RRDS.)
- Copying a subset of records starting at a specified record, identified by a record number, KSDS key or ESDS RBA, for a fixed number of records.
- **New in release 3.00**, the File Copy dialog window is now a panel window. (See "[Panel Windows](#)").
- **New in release 3.00**, specification of a pad character used to pad a short record that is copied to a longer fixed format record. (e.g. ESDS to RECFM=F; RECFM=V to RRDS; RECFM=F LRECL=80 to RECFM=F LRECL=100).
- **New in release 3.00**, use of "From" and "To" structures to map fields in records of the "From" and "To" data sets. These structures may be a mix of SDE structures, COBOL Copybook or ADATA files or PL/1 Copybook or ADATA files.

Structures define the names of one or more record mappings (SDE record types) where each record type typically contains multiple field names.

Where a record in the "From" data set is mapped by a record type defined in the "From" structure, then data within that record will be copied to a record in the "To" data set that will be mapped using a record type of the same name existing in the "To" structure. If this record type does not exist in the "To" structure, then the "From" record will be copied unchanged.

Only data mapped to fields with a field name that exists in both the "From" and "To" record types will be copied. All other data fields in the "From" data set will be ignored. Unreferenced fields in the "To" record type will be initialised to their default value. i.e. blanks for character fields and 0 (zero) for numeric fields.

The location of a named data field within the "To" record type does **not** have to match that of the equivalent field name in the "From" record. Similarly, so long as conversion between data types can occur without error, the data type, length, precision and scale of the "To" field does **not** have to match that the "From" field. Therefore, the record may be easily restructured so that fields are output in a different order and can also be of a different data type.

- **New in release 3.00**, the "Job" menu bar item generates JCL that executes program SDEAMAIN (see "[SDEAMAIN Batch](#)") with an FCOPY line command passed via SDEIN. This allows support for the copybook features already mentioned. In previous releases, a JCL deck was generated that executed program SELCOPY.

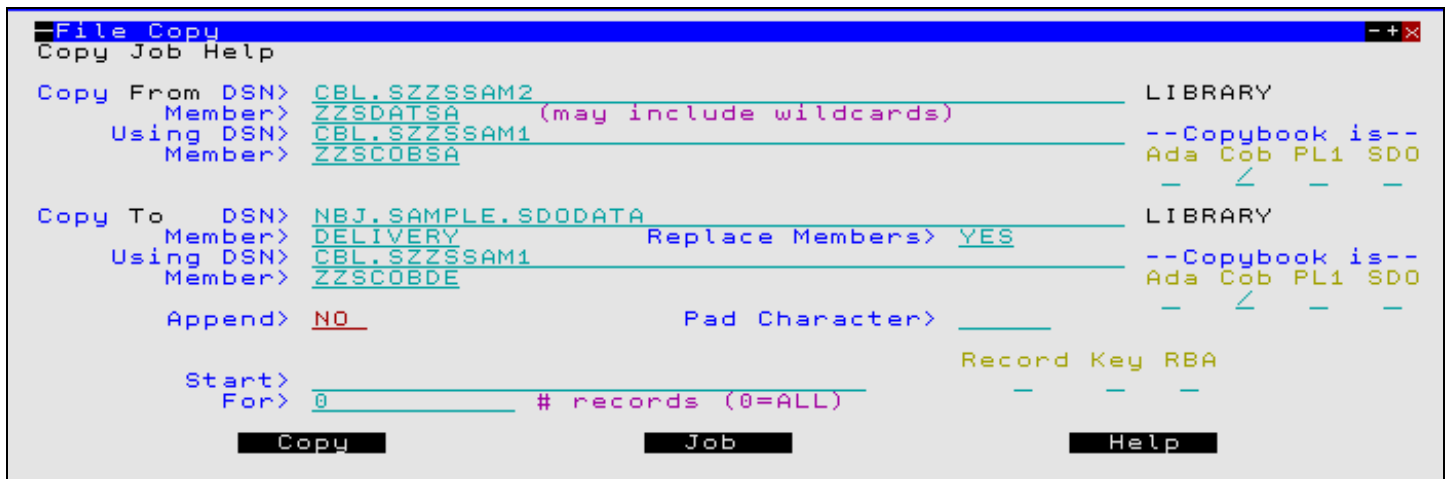


Figure 6. File Copy Dialog.

FCOPY CLI Command Changes

Syntax:

```
>>-- FCopy -----+-----+----->>
                  |         |
                  +- CLI Options -+-
```


Default is blank (X'40').

APPEND

Valid only if *to_dataset* is not a library member, copied records will be appended to any records that may already exist in *to_dataset*.

Default is to replace any existing records.

JCL|BATCH

Do not execute the copy immediately but instead generate JCL that executes program SDEAMAIN to run the FCOPY command in batch. The job deck is displayed in a text edit view.

REPLACE

If *to_dataset* references a PDS/PDSE library or library member that already exists, then allow the copy to continue and overwrite existing member data.

Default is to return an error if *to_dataset* is a PDS/PDSE library or library member that already exists.

QUIET

On successful completion of a copy of one or more library members, suppress display the IEBCOPY execution report or the FCOPY PDS Copy Statistics list window. Only the FCOPY message containing the statistics summary is displayed.

Default is to display any IEBCOPY report or FCOPY statistics.

NEW

If *from_dataset* is a PDS/PDSE library and *to_dataset* does not already exist, then NEW will allocate *to_dataset* as a new PDS/PDSE library modelled on *from_dataset*. In all other cases, NEW is ignored.

Default is to return an error if *to_dataset* is a PDS/PDSE library that does not already exist.

Examples:

FCOPY *NBJ.JCL(ZZS* ZZI*)* *NBJ.COPY.JCL* *NEW*

Create a copy of a JCL library containing only members with names starting "ZZS" or "ZZI".

FCOPY *NBJ.JCL(ZZS* ZZI*)* *NBJ.COPY.JCL* *REPLACE*

Following execution of the previous example, take up-to-date copies and add any additional members with names starting "ZZS" or "ZZI".

SELCOPY/i File Search, Update & Copy Utility - FSU

Release 3.00 includes the following additional functionality in the File Search & Update facility (FSU).

- The FSU - File Search/Update/Copy dialog window is now a panel window. (See "[Panel Windows](#)").
- Specification of an OUTPUT DSN. For both find and change operations, specification of an output DSN will perform a COPY of all records, with any changes applied, to the output data set. For this reason, this facility is now referred to as File Search, Update & Copy.

Where an SDE structure, COBOL Copybook or ADATA file or PL/1 Copybook or ADATA file is applied to the input data set records to find and/or change data at the field level (structured search), then a structure may also be applied to the output data set so reformatting the output records. See "[SELCOPY/i File Copy Utility - FCOPY](#)" for information on use of input and output structures.

Use of FSU copy is functionally equivalent to FCOPY with the obvious exception that data may be changed before it is copied.

- The "JCL" menu bar item generates JCL that executes program SDEAMAIN (see "[SDEAMAIN Batch](#)") with an FSU line command passed via SDEIN.

The generated JCL contains additional DD statements for new, cataloged datasets allocated to FSURPT and FSUSDO. These data sets will contain the FSU output report data and FSU report structure respectively, where the FSUSDO DSN must be the FSURPT DSN suffixed with ".SDO". To view the generated report, start SELCOPY/i and execute FSUOUT using the FSURPT data set name as parameter input. Alternatively, execute prefix command "FO" against the FSURPT DSN in a dataset list window.

- Specification of a REPORT DSN. The report DSN identifies an existing data set that will be used as output for the FSU execution report. This is an alternative to the report being generated in storage which may fail if not enough storage is available.

The report data set requires an accompanying report structure data set (SDO) which must have DSN the same as the report DSN but with the suffix ".SDO". If this SDO does not already exist, then the user will be prompted to allocate it. Use of a report output data set and accompanying SDO is mandatory for batch execution.

- SDE FIND and CHANGE commands now support ISPF edit style picture strings which may also be used in FSU FIND and CHANGE.

```

FSU - File Search/Update/Copy
File Run Command JCL Help
Command>

INPUT Fileid Mask: %SitePfx%.MBRLIST.KSDS
or Fileid format={volser;}dataset.name{(member)} inc wildcards.
Volume Mask:
DSN Mask:
Member Mask: HFS Recfm: V-Fmt/EOL: Lrecl:
Recurse SubDirs: Ignore Case:

Options Enter "/" to activate each of the options below. Word Prefix Suffix
/ FIND: C'USING' + / - -
/ in Start Col: SRCREC + End Col: +
and/or
/ CHANGE: All: / First: Last: + / - -
/ from: C'RF' +
/ to: C'R15' + Immediate UPDATE
/ in Start Col: SRCREC + End Col: +
Specify optional start/end records ... Record Key RBA
/ START: 'CNV' + - / -
/ FOR: 200 # records

Specify optional SQL-style SELECT/WHERE ...
/ Column SELECT: SRCREC, SRCSTMT, SRCMBR +
/ Filter WHERE: +

Specify optional structure (CopyBook) overlay ...
/ USING COBOL Copybook: NBJ.COPYBOOK.COBOL(ASMADATA) +
VIEW (RTD) Record-type: SOURCE-DATA +

Report to the screen (default), or directly to dataset ...
/ REPORT Fileid: NBJ.FSU.REPORT.FIND.MBRLIST

Specify optional output, to make a copy of a file or library ...
/ OUTPUT Fileid: NBJ.%SitePfx%.MBRLIST.KSDS +
/ USING Copybook:
- Create Output Lib - Append - Replace Members
  
```

Figure 7. FSU - File Search/Update/Copy Dialog.

FSU CLI Command Changes

Syntax:

```
>>-- FSU -----+-----+-----+-----+-----><
      |           |           |           |           |
      +- | Existing CLI Options | --+ +- | New CLI Options | --+
```

New CLI Options:

```
>>--+-----+-----+-----+-----+-----+-----+-----><
      |           |           |           |           |           |
      + OUTput fileid -+-----+-----+-----+-----+-----+
      |               |           |           |           |           |
      |               +- SDO ---+           |           |           |
      |               |           |           |           |           |
      + USING -+-----+-----+ struct_name -+ + NOREPort -----+
      |               +- COBOL -+           |           |           |
      |               +- PL1 ---+           |           |           |
      |               +- ADATa -+           |           |           |
```

Description:

Open the "FSU - File Search/Update/Copy Dialog" panel window or invoke the FSU facility directly.

New Parameters:

OUTPUT *fileid*
Specifies the full DSN of an existing output data set. For both find and change operations, all records from the input fileid mask will be copied to this data set. For change operations, no UPDATE is performed so input records are unchanged.

USING SDO|COBOL|PL1|ADATA *struct_name*
The DSN and format of a structure (SDE structure; COBOL Copybook or ADATA file; PL/1 Copybook or ADATA file) to be used to map output record data. Use of an output structure is invalid if no structure has been specified for the input fileid mask.
If USING is specified, then SDO is default.

REPORT|RPT *fileid*
Specifies the full DSN of an existing data set used to contain the FSU report data.
If run in the foreground, the user will be prompted to allocate the accompanying FSU report structure (SDO) data set. If run in batch, REPORT *fileid* is mandatory.
Default is to generate a report in storage.

NOREPORT|NORPT
Suppress generation of an output report.

SELCOPY/i Favourites Panel - FAV

The "FAV - Favourite Datasets/Commands" dialog window is now a panel window. (See "[Panel Windows](#)"). In addition to the standard panel features, the dialog has the following additional enhancements:

- The dialog remains open after the selected item has been executed and so may be passed focus via <PF9>, the window list or simply selecting it using the cursor (or mouse).
- The number of columns of commands to be displayed may be customised using the "Columns" input field. The width of the column field will adjust accordingly to fit the current width of the panel window.
- The number of column entries in the list may be customised using the "Max Entries" input field. (Maximum is 999.)
- Each entry may be expanded using <PF2> to display the entire contents of the field. Alternatively, the entry fields may be scrolled left and right using either <PF10> and <PF11> or by specifying the start position of the columns in the "Scroll-H" field. The value in this field changes as the column entries are scrolled.

```

FAV - Favourite Datasets/Commands
File Help
Command>

Command/Func : 
DSN/Variable #: 29
Member Name  : 
Max Entries  : 99      Scroll-H: 1      Columns: 2
Project: CBL
Group  : JCL
Type   : 

1: CBL.SDE.COPYBOOK.COBOL(NEXT01)  2: CBL.CBLI.BA.COPYBOOK.PL1(KSCONT)
3: CBL.SDE.COPYBOOK.COBOL(NEXT02)  4: CBL.CBLI.BA.COPYBOOK.PL1(VICIFD)
5: CBL.CBLI.MBRLIST                6: CBL.SDE.COPYBOOK.PL1(ALLTYPES)
7: lp /mnt/l08/c                  8: 
9: lac.cbledit(panel)             10: 
11:                               12: 
13: cbl.cmx                       14: SELCOPY
15: CBL.EXEC(SITEST)              16: cbl.icl
17: iqe2.selcopui                 18: 
  
```

Figure 8. FAV - Favourite Datasets/Commands Dialog.

SELCOPY/i Find Library Members Utility - LLX

The LLX utility is a REXX edit macro that exists to scan multiple libraries and report on members that match the specified member masks.

The panel "Search for Library Members" has been introduced in release 3.00 as a dialog interface to the LLX utility.

LLX and the panel interface support multiple library mask and member mask specifications containing wildcards as follow:

- * A single asterisk represents an entire library DSN qualifier/member name or zero or more characters within a library DSN qualifier/member name mask.
- ** A double asterisk represents zero or more library DSN qualifiers and must be preceded or followed by either a dot or a blank.
- % A single percent sign represents exactly one character within a library DSN qualifier/member name mask. Up to 8 percent signs can be specified in each DSN qualifier or member name mask.

A library search chain may also be one of the following:

- A ddname allocated to a single library or a concatenation of libraries.
- The current SELCOPY/i edit macro path.
- The active Link List
- The list of APF authorised libraries.

The dialog panel supports a QUIET option that suppresses prompts to continue processing that occur after every 10 libraries processed before the first hit. It also supports a WHERE clause to exclude members that do not match the filter criteria. The WHERE clause can include only column names supported by the Library list window as follow:

- For non-load libraries:
MEMBER, ALIAS, VV, MM, CREATED, LASTMOD, CURSIZE, INISIZE, MODS and USER
- For load libraries:
ALIAS, ALIASOF, AAMODE, AC, AMODE, AOEP, BIG, EXEC, EPA, FLVL, LNK, LOAD, LFMT, LMAEP, LMEP, LMSIZE, MEMBER, NREP, NRDL, OVLY, PAGE, REFR, RENT, REUS, RMODE, SCAT, SIZEHEX, SSIFLG, SSILVL, SSISER, TEST, TSTC, TTR and 1BLK.

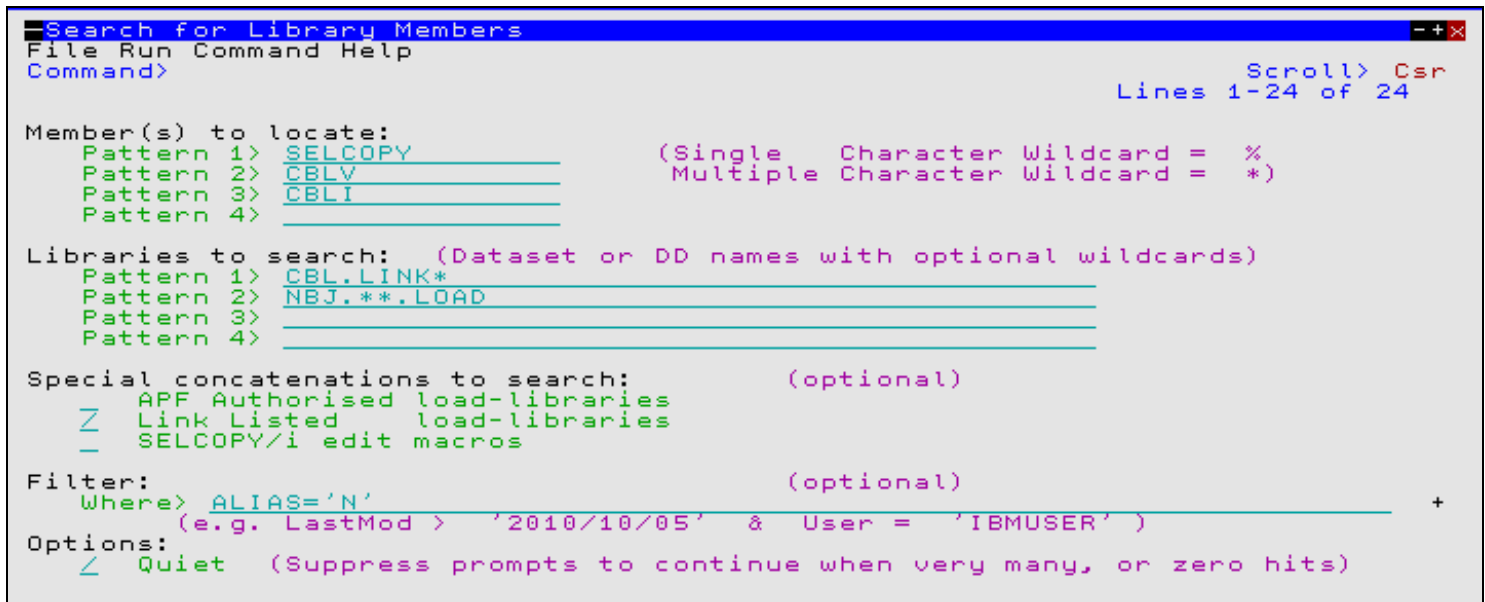


Figure 9. Search for Library Members Dialog.

For a description of the LLX REXX macro, execute "EM LLX" to view the macro source which contains a description of the syntax and parameters and also includes examples of use.

Execute LLX with no parameters to open the dialog panel window. Select the "Command" menu item from the panel to generate the equivalent LLX syntax for options and input fields entered in the panel.

SELCOPY/i Compare File Utility - COMPFIL

SELCOPY/i Release 3.00 introduces support for a new Compare Files (COMPFIL) utility.

The Compare File utility is a REXX edit macro, accompanying SELCOPY control statement file and panel dialog window. The utility invokes the SELCOPY program, either interactively or via batch execution, to compare a subset or all data, in two data sets.

The resultant report is written to SYSPRINT, which, if executed interactively, will be displayed in a text edit view. The output report displays the first 100 bytes of text belonging to each mismatching record from both files. The records are printed in combined character and hex format with each byte difference flagged with a hash sign ("#"). If the first difference is beyond the first 100 bytes of the record, then the position of the first difference is reported.

Features of the COMPFIL utility are:

- Data sets chosen for compare may be of different data set organisations (e.g. PDS/PDSE member, VSAM or SEQ.)
- Select the start position and length of data to be compared within the records of both files.
- Select the record in both files at which the compare will start. This is achieved using a start record number, start key (for KSDS) or start RBA (for ESDS).
- Select the maximum number of record pairs to be compared.
- Select the maximum number of record compare mismatches that can occur before execution is interrupted.
- Generate batch JCL that executes program SELCOPY.

```

Compare Files
File Run Command JCL Help
Command>

Files:
New DSN > JGE3.ZZSX.DB9G.D2010325.T1346543.AUD Member>
Old DSN > JGE.TEST.AUD Member>

Options:
Limit > 3 # records (Stop comparison after n records different)

Record Pos/Len:
Position> 5 (Start comparison at this position within the record)
Length > 20 (Number of bytes to compare)

Record Selection:
Start > + / Record _ Key _ RBA
For > # records
  
```

Figure 10. Compare Files Dialog.

COMPFIL REXX Macro

Syntax:

```

>>-- COMPFile -----><
          +- |CLI Options| --+
  
```

CLI Options:

```

>>-- fileid_1 -- fileid_2 ----->
          +- STARTCOL coln +- +- COMPARELEN n_bytes +-
>+-----+-----+-----+-----+-----+-----+><
| +- STARTKEY start_key +- + FOR n_recs +- +- LIMIT n_hits +- +- BATCH +- |
| +- STARTRBA start_rba +- |
| +- STARTREC start_rec +- |
  
```

Description:

Open the Compare Files panel window, create a SELCOPY batch job deck or invoke SELCOPY directly to execute the compare utility.

Parameters:

- fileid_1*
The full DSN of the first data set or library member to be compared.
- fileid_2*
The full DSN of the second data set or library member to be compared.
- STARTCOL *coln*
The column number within the records of both files marking the start of data field to be compared.
Default is column 1.
- COMPARELEN *n_bytes*
The number of bytes within the records of both files, defining the length of the data field to be compared.
Default is the full lengths of the records, adjusted for any STARTCOL column.
- STARTKEY *start_key*
If both files are KSDS data sets, specifies the key (or partial key) of the first records to be compared.
- STARTRBA *start_rba*
If both files are ESDS data sets, specifies the RBA (relative byte address) of the first records to be compared.
- STARTREC *start_rec*
Specifies the record number of the first records to be compared.
STARTREC 1 is the default.
- FOR *n_recs*
Specifies the number of records to be compared, starting at the first record and progressing sequentially.
Default is to compare all records.
- LIMIT *n_hits*
Specifies the number of compare record mismatches that may occur before execution is terminated.
Default is no limit on the number of mismatches.
- BATCH
Generate batch JCL that will perform a compare using the specified parameters. The JCL deck will be displayed in a text edit view and may be executed using SUBMIT.

SELCOPY/i Compare Library Utility - COMPLIB

SELCOPY/i Release 3.00 introduces support for the Compare Libraries (COMPLIB) utility.

Like the Compare File utility, the Compare Library utility comprises a REXX edit macro, accompanying SELCOPY control statement file and panel dialog window which invokes the SELCOPY program, either interactively or via batch execution. All records in members of the first library whose member names match the specified member mask are compared with records from the corresponding member in the second library.

SYSPRINT output from COMPLIB is a list of COMPFILE commands, one for each selected member name, which, if COMPLIB is executed interactively, will be displayed in a text edit view in a format suitable for execution using CMDTEXT. (i.e. position the cursor and hit <PF4>)

Comment data displayed following each of the COMPFILE commands, indicate whether the member records compared were equal or not, or whether the corresponding member name was missing from either library.

Features of the COMPLIB utility are:

- Select multiple member patterns optionally using wild cards "*" (asterisk) and/or "%" (percent). See "[SELCOPY/i Find Library Members Utility - LLX](#)" for description of wild cards.
- Generate batch JCL that executes program SELCOPY.

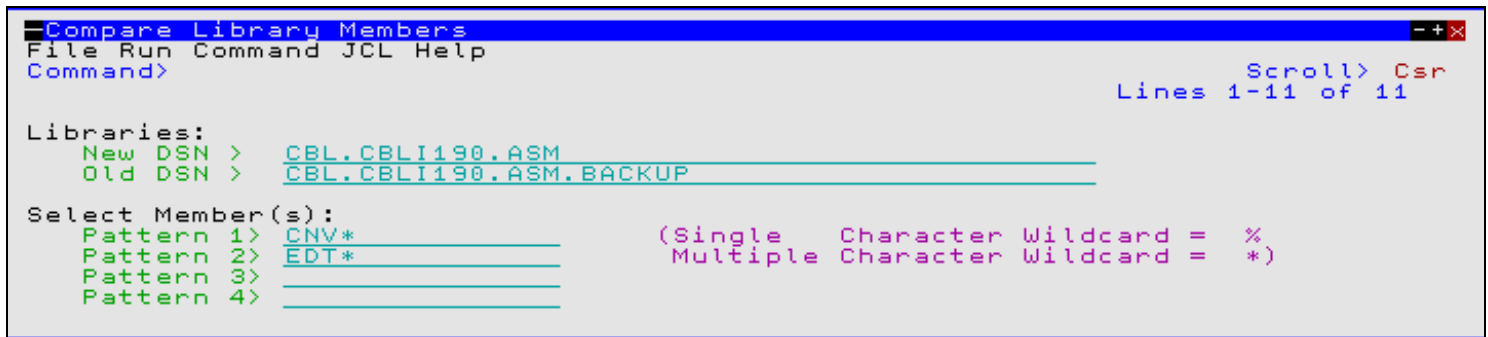


Figure 11. Compare Library Members Dialog.

COMPLIB REXX Macro

Syntax:

```
>>-- COMPLIB -----+-----+-----><
                    +- | CLI Options | -+
                    |
```

CLI Options:

```
>>-- library_1 --+-----+----- library_2 --+-----+-----><
                |                               |
                | +-----+ |                   | +- BATCH -+
                | |         | |                   |
                | +- ( --- mbrmask -+- ) -+
                |
```

Description:

Open the Compare Libraries panel window, create a SELCOPY batch job deck or invoke SELCOPY to execute the library compare directly.

Parameters:

library_1
The full DSN of the first library DSN to be compared.

mbrmask
A member name mask which may optionally contain wild cards "*" (asterisk) and/or "%" (percent). Default is (*) - all member names.

library_2
The full DSN of the second library DSN to be compared.

BATCH
Generate batch JCL that will perform a compare for the specified libraries. The JCL deck will be displayed in a text edit view and may be executed using SUBMIT.

SELCOPY/i Text Editor - CBLLe

The following enhancements to the CBLLe text editor have been introduced in SELCOPY/i release 3.00:

Text Edit Views of non-Displayable Data

The display of records containing non-displayable (non-character) data has been changed so that character data that may exist within the record that is displayable, is still enterable.

In previous releases, a record containing **any** non-displayable characters would render the entire record un-enterable, although the user could set HEX ON and update the hexadecimal data to perform changes.

In release 3.00, if any non-displayable characters exist, the displayable character data is underlined and the positions within the record of the non-displayable characters become fixed. As in previous releases, the non-displayable characters may be changed by setting HEX ON and updating the hex display.

Edit/View of HFS Files

By default, the new parameter EOL=STD will be used on the EDIT or VIEW command for an HFS file. With EOL=STD, SELCOPY/i will attempt to recognise the end-of-line character(s) used in the file by identifying the first occurrence of one of the following standard EOL combinations: CR, LF, NL, CRNL, CRLF or LFCR.

This EOL string will then be used to set EOLIN and delimit all records in the file. If no valid EOL character is found, then EOL is set as per previous releases whereby the default EOL string is set by EOLIN which would have been determined by the file's directory entry or set as NL.

SIZEWARNING Threshold Prompt

When attempting to EDIT or VIEW a file, a pop-up window is opened if the size of the file is greater than the edit size warning threshold. In previous releases, this window simply prompted the user to confirm whether the edit was to continue.

Release 3.00 adds the option to perform an SDE EDIT or BROWSE of the file instead. SDE edit/browse has better data management in that, if a file cannot be loaded into storage, then alternate forms of edit/browse may be invoked. Alternate edit forms include loading a small subset of the records or creating an auxiliary data set for full edit capabilities.

CBLLe Text Editor Line Commands

The following line commands have been introduced or updated in SELCOPY/i 3.00:

◊ Browse

The BROWSE command now implies SDE BROWSE which will load only a subset of records required for the current display. Previously BROWSE was equivalent to EDIT READONLY. (See command VIEW below.)

◊ List

The LIST command now supports parameters SYSLL, SYSAPF and SQL to create list edit views or Rexx variables on entries in the Link List, APF Authorised libraries list and output from a DB2 SQL SELECT command. By default, LIST will also append wild cards to file list fileids as documented for the individual List commands.

◊ View

The VIEW command is equivalent to EDIT READONLY.

◊ RUNSELCopy

Having no parameters, the new command RUNSELCOPY allocates the contents of the focus edit view to SYSIN, loads the SELCOPY program and executes it. SYSPRINT output is captured and displayed in a new edit view.

ISPF Interface FIND, EXCLUDE and CHANGE Line Commands

The CBLLe text editor supports ISPF style primary commands including FIND, EXCLUDE and CHANGE.

Release 3.00 completes its support of these commands by including support for ISPF picture strings (P'x'). Details of use of picture strings may be found in IBM publication "*ISPF Edit and Edit Macros*" but is summarised here.

String	Description
P'='	Any character.
P'~'	Any non-blank character.
P'.'	Any non-displayable character.
P'#'	Any numeric character, 0-9.
P'.'	Any non-numeric character.
P'@'	Any uppercase or lowercase alpha character.
P'<'	Any lowercase alpha character.
P'>'	Any uppercase alpha character.
P'\$'	Any non-alphanumeric special character.

Where a picture string is used as the substitution string of a CHANGE command, then it must be the same length as the search string and may only contain the following:

String	Description
P'='	Same as the corresponding character in the search string.
P'<'	Change the corresponding character in the search string to lowercase.
P'>'	Change the corresponding character in the search string to uppercase.

SELCOPY/i Structured Data Editor - SDE

The following enhancements to the SDE structured data editor have been introduced in SELCOPY/i release 3.00:

DB2 table Edit and Browse

The SDE editor, EDIT/BROWSE commands, Record Information (RECINFO) and Data Type header display have been updated to reflect display of DB2 table data. See "DB2 Edit & Browse" for details on changes to SDE edit for DB2.

SDE Edit Panel

The SDE edit dialog is now a panel window. (See "Panel Windows").

Other changes to the SDE Edit panel includes introduction of the REPLACE menu item which opens an edit view for library member '%User%.CBLI.SDE.REPLACE(COBOL)'. Note that if this data set does not already exist, the user will be prompted to allocate it.

This library member is used for edit with a COBOL copybook where a COBOL REPLACE statement is expected to substitute strings (e.g. field names) referenced in the copybook. The REPLACE member will form part of the copy book concatenation used by SELCOPY/i CREATE STRUCTURE to generate the SDE structure (SDO) required to edit/browse the expanded data.

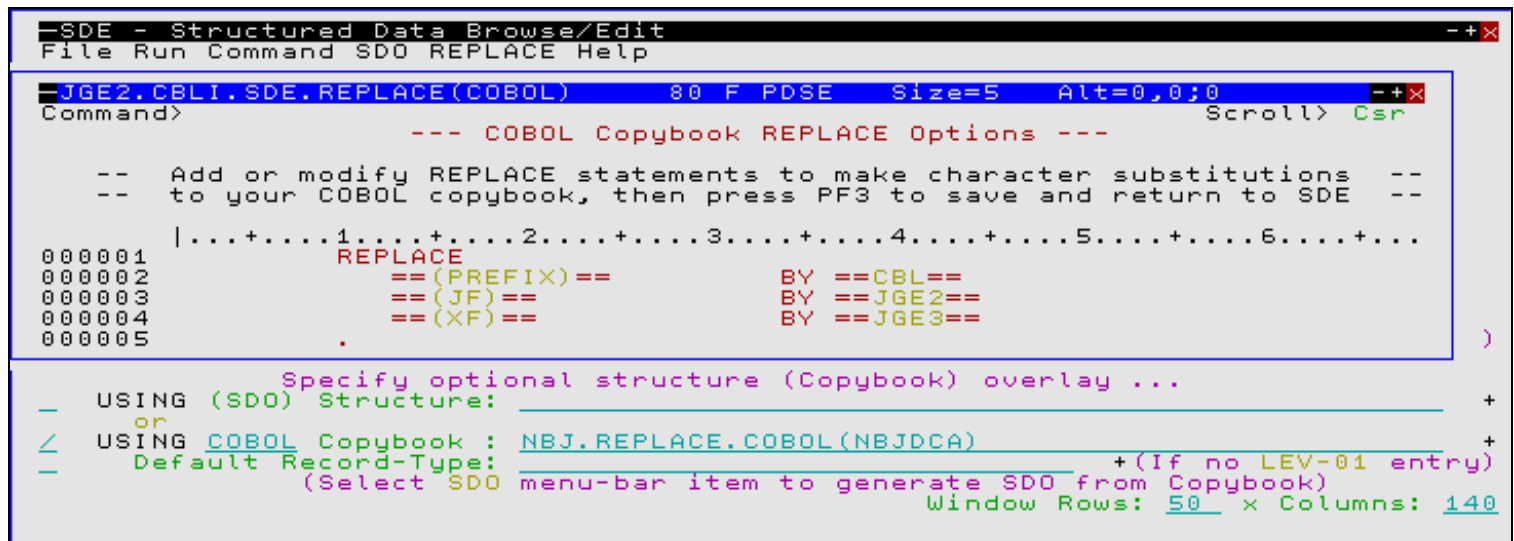


Figure 12. SDE - Structure Data Browse/Edit Dialog.

SDE Edit/Browse Record Type Assignment

Record Types (RTOs) within the generated structure (SDO) are assigned to individual records in the data set to map data fields within the record. Conditions that determines whether a particular record type is selected for a record is as follows:

1. USE WHEN criteria have been assigned to a record type which are matched by the record data.
2. The unexpanded record length falls within the potential length of data mapped by the record type.

In previous releases, if neither of these conditions were met, then a record would be assigned the default Record type "Record" which consists of a single field of maximum length equal to the LRECL value and data type CHAR (for fixed length records) or VARCHAR (for variable length records.) In release 3.00, so long as it contains no variable length fields, then the first record type in the structure will be used to map the record.

This allows formatted data at the start of a record to be mapped whilst, for example, constructing a new copy book or structure. Unmapped data at the end of the record is not displayed but is preserved if changes are made to the mapped data. The unmapped data may be displayed and changed at any time using a different display format. e.g. FORMAT CHAR or FORMAT HEX.

Where unmapped data exists in a record, the flag "=LGTH>" is displayed in the prefix area.

SDE Edit Records with Trailing Blanks

Using SDE without a structure or copybook in order to edit a data set containing variable length records, will preserve trailing blanks on updated records. In previous releases, trailing blanks would be stripped from a record if that record was updated. This had the potential of corrupting the record's structure so that it could no longer correctly be mapped by its previously assigned record type.

Consequences of this change are that, without use of a copy book:

1. SDE edit will not allow changes to the length of a variable length record.
2. The user is now prompted to supply the length of an inserted variable length record (otherwise an unchangeable record length of 1 would be inserted.)

SDE Edit of non-Displayable Data in Character Fields

Like CBL text edit, non-displayable (non-character) data in character (AN) fields are protected and non-enterable.

See "[SELCOPY/i Text Editor - CBL](#)" for information on the display of character fields that contain non-displayable data.

SDE Editor Line Commands

The following SDE line commands have been introduced or updated in SELCOPY/i 3.00:

◇ **AUTOSAVE**

As for the ISPF interface of the CBL text editor, AUTOSAVE specifies the action to be taken when the END command is issued to close the edit view and unsaved alterations to the data exist.

Default is AUTOSAVE OFF PROMPT.

◇ **CANCEL**

As for the ISPF interface of the CBL text editor, CANCEL will close the SDE edit view regardless of whether unsaved changes to the data exist.

SDE Editor SET/QUERY/EXTRACT options

The following options have been introduced or updated in SELCOPY/i 3.00:

◇ **SET/QUERY COLWidth** *fieldname*

Set or query the width of the named column field in the default record type. QUERY returns the column name, its current column width followed by its maximum column width.

◇ **SET/QUERY/EXTRACT COLAttributes**

For DB2 table edit only, set, query or extract the setting for COLATTRIBUTES (ON or OFF).

If set ON, DB2 column attributes are displayed when a row is presented in single view. (FORMAT SINGLE or ZOOM).

◇ **EXTRACT FVALUE** <fieldname>

Extract FVALUE now supports specification of a specific field name <fieldname> within the default record type, for field data to be extracted from the focus record.

◇ **EXTRACT FIELD**

Extract FIELD now includes the column's current display width (COLWIDTH) as the last token of the field information.

SDE FIND, EXCLUDE and CHANGE Line Commands

Like the CBL text editor, commands FIND, EXCLUDE and CHANGE now support ISPF style picture strings (P'x').

See "[SELCOPY/i Text Editor - CBL](#)" for information on picture strings.

INTEGER and FIXED Data Types

Release 3.00 includes support for long INTEGER and FIXED data types defined in a 64-bit field.

COLCOPY & COLPASTE SDE Edit Macros

These macros provided a method of copying all data from the focus field and pasting it into another field.

Enter "EM COLCOPY" to display commands that assign <PF5> and <PF6> to COLCOPY and COLPASTE respectively for all SDE edit views. Having executed these, hit <PF5> to copy the contents of the focus field, reposition the cursor to the field to be updated and hit <PF6> to paste the data.

Where applicable, the necessary conversion between the source and destination field data types will be automatic.

SELCOPY/i Lists

The following changes to List windows have been introduced in SELCOPY/i release 3.00:

List HFS Path

Syntax change on the LPATH line command so that parameter -S is now used to recursively list the contents of all sub-directories found within the HFS path specification. Previously, this parameter was -R.

List Allocated Datasets

Support for wildcards "*" (asterisk) and "%" (percent) introduced for entry in the DDName field of the list window and the LISTALLOC line command.

List Dataset and List Catalog

Catalog data set names that are aliases of the specified DSN mask high level qualifier are no longer displayed in the list of data set entries.

List Window Prefix Commands

The following prefix commands have been introduced or updated in SELCOPY/i 3.00:

◇ AP

For file lists only, invokes the DB2 Audit log data set print panel for the list entry.

◇ C

Invokes the FCOPY dialog panel for the list entry. This command previously opened the IEBCOPY dialog window for Library lists or library DSN entries and was invalid for all other entries in file lists.

◇ CF

Invokes the COMPFIL dialog panel inserting the list entry in the first fileid field.

◇ CL

Invokes the COMPLIB dialog panel inserting the list entry in the first library field.

◇ IC

Invokes the IEBCOPY dialog window for library or library member entries only.

◇ =

For the particular list entry, repeats the last prefix command executed on any entry in the list.

◇ //x //

"//" defines the start and end of a group of list entries for which the prefix command "x" will be executed. (e.g. "//d" on the first file entry, "/" on any subsequent (or previous) file entry defines the start and end of a group of file list entries that will be deleted.)

List Window Line Commands and Menu Options

The following line commands and menu options have been introduced or updated in SELCOPY/i 3.00:

◇ REFRESH

Refresh the list to obtain an up-to-date view of the entries and their associated information.

◇ TEXT

Opens a text edit view of the current data displayed in the list window.

This was previously the action of the list window command, EDIT, which has now been removed to allow execution of the text edit command, EDIT, from a list window.

SELCOPY/i 1.80 Zaps applied

Zap ID	Op. Sys.	Query Ref.	Description
I180z13	MVS	(IQ02340 - 2010/11/01)	<p>SDE Edit/Browse with copybook/structure overlay attempts to assign a record-type to each record viewed based on explicit USE WHEN criteria, if supplied by the user, or by matching the record length. Previously if none of the available types matched the record length then the record was assigned the basic unformatted record-type 'Record'.</p> <p>With I180z13 applied, if the first record-type in the structure contains no variable length fields then that record-type is applied instead of type 'Record' and the prefix area is flagged with the "=LGTH>" eyecatcher.</p> <p>I180z13 also allows the user to supply explicit "USE WHEN" criteria (via option 6 of the PF4 drop-down menu) in order to force assignment of a particular record type e.g. USE WHEN #2 >= x'00'.</p>
I180z12	MVS	(IQ02399 - 2010/11/01)	<p>Use of 64-bit integer variables in a COBOL copybook causes CREATE STRUCTURE to fail with error SDE022E.</p> <p>This zap converts integer values of length > 4 bytes to type HEXADECEIMAL as a short term solution. Next release will properly interpret long integer values.</p>
I180z11	MVS	(IQ02154 - 2010/08/12)	With zap I190z09 applied SELCOPY/i users under VTAM are unable to logon.
I180z10	MVS	(IQ02297 - 2010/05/10)	SDE: Data entered into a VARCHAR field in hex mode causes data corruption.
I180z09	All	(IQ02154 - 2010/05/10)	<p>Prior to I180z09, both the SELCOPY/i Text-Editor and Structured-Editor (SDE) protected input on the whole of any character based field/record that contained one or more bytes of non-display data. i.e. Updates to the data could be made only by switching HEX ON and entering the necessary hex values.</p> <p>With I180z09 applied, only the individual non-display bytes are protected. This is in-keeping with the standard ISPF text-editor.</p> <p>Zap I180z09 redefines the colour for fields containing non-display data as TURQUOISE USCORE.</p> <p>Zap I180z09 also includes a crucial update to the CBL3270 member of the supplied panel library hlq.ISPPLIB.</p>
I180z08	MVS	(IQ02285 - 2010/05/10)	<p>SDE Edit on an unstructured record should not strip trailing blanks . This zap prevents any LRECL changes to existing records, and causes the user to be prompted for the LRECL of any newly inserted records.</p> <p>This zap does not affect the SELCOPY/i Text-Editor which continues to strip trailing blanks from all file records written.</p>
I180z07	MVS	(IQ02274 - 2010/04/01)	Loop occurs following the WIN012W warning dialog for a catalog list (LC/LD) that will list all catalogs e.g. "LC *.*"
I180z06	All	(IQ02265 - 2010/04/01)	Loop occurs when a pending prefix command pair has been excluded.
I180z05	MVS	(IQ02195 - 2010/01/13)	FSU parse error when FIND/CHANGE parameter in the form C'xxxx' (to indicate case-sensitivity is required) is immediately followed by a closing bracket e.g. "sd fsu find ((word C'JOB') or (word C'EXEC')) ..."
I180z04	MVS	(IQ02162 - 2010/01/13)	BROWSE of load library members fails.
I180z03	MVS	(IQ02161 - 2010/01/13)	BROWSE (or SDE EDIT) of a HSM migrated library (no member name specified) does not offer to recall the dataset.
I180z02	MVS	(IQ02183 - 2010/01/13)	"CREATE STRUCTURE sdoname FROM COBOL ..." can fail if a site default SIZE parameter has been set for the COBOL compiler that is too low to handle other required options such as ADATA.
I180z01	All	(IQ02095 - 2010/01/13)	Edit command "REPLACE member_name" results in SPFEDIT enqueue left on for originally edited member.