iSecurity FileScope

User Guide
Version 18.14

www.razlee.com

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About this Manual

This user guide is intended for system administrators and security administrators responsible for the implementation and management of security on IBM i systems. However, any user with basic knowledge of IBM i operations will be able to make full use of this product after reading this book.

Raz-Lee takes customer satisfaction seriously. Our products are designed for ease of use by personnel at all skill levels, especially those with minimal IBM i experience. The documentation package includes a variety of materials to get you familiar with this software quickly and effectively.

This user guide, together with the iSecurity Installation Guide, is the only printed documentation necessary for understanding this product. It is available in HTML form as well as in user-friendly PDF format, which may be displayed or printed using Adobe Acrobat Reader version 6.0 or higher. If you do not have Acrobat Reader, you can download it from the Adobe website: http://www.adobe.com/. You can also read and print pages from the manual using any modern web browser.

This manual contains concise explanations of the various product features as well as step-by-step instructions for using and configuring the product.

Raz-Lee's iSecurity is an integrated, state-of-the-art security solution for all System i servers, providing cutting-edge tools for managing all aspects of network access, data, and audit security. Its individual components work together transparently, providing comprehensive "out-of-the- box" security. To learn more about the iSecurity Suite, visit our website at http://www.razlee.com/.

Intended Audience

The FileScope User Guide document was developed for users, system administrators and security administrators responsible for the implementation and management of security on IBM® AS/400 systems. However, any user with a basic knowledge of System i operations is able to make full use of this document following study of this User Guide.

NOTE: Deviations from IBM® standards are employed in certain circumstances in order to enhance clarity or when standard IBM® terminology conflicts with generally accepted industry conventions.

This document may also serve for new versions' upgrade approval by management.

Native IBM i (OS/400) User Interface

FileScope is designed to be a user-friendly product for auditors, managers, security personnel and system administrators. The user interface follows standard IBM i CUA conventions. All product features are available via the menus, so you are never required to memorize arcane commands.

Many features are also accessible via the command line, for the convenience of experienced users.

Conventions Used in the Document

Menu options, field names, and function key names are written in **Courier New Bold**.

Links (internal or external) are emphasized with underline and blue color as follows: "About this Manual" on the previous page.

Commands and system messages of IBM i® (OS/400®), are written in ***Bold Italic***.

Key combinations are in Bold and separated by a dash, for example: **Enter**, **Shift-Tab**.

Emphasis is written in **Bold.**

A sequence of operations entered via the keyboard is marked as

STRMFA **> 81 > 32**

meaning: Syslog definitions activated by typing ***STRMFA***and selecting option: **81** then option: **32**.

Menus

Product menus allow easy access to all features with a minimum of keystrokes. Menu option numbering and terminology is consistent throughout this product and with other Raz-Lee products. *To* select a menu option, simply type the option number and press **Enter**. The command line is

available from nearly all product menus. If the command line does not appear (and your user profile allows use of the command line), press **F10** to display it.

Data Entry Screens

Data entry screens include many convenient features such as:

- Pop-up selection windows
- Convenient option prompts
- Easy-to-read descriptions and explanatory text for all parameters and options
- Search and filtering with generic text support

The following describes the different data entry screens.

- To enter data in a field, type the desired text and then press Enter or Field Exit
- To move from one field to another without changing the contents press Tab
- To view options for a data field together with an explanation, press F4
- To accept the data displayed on the screen and continue, press Enter

The following function keys may appear on data entry screens.

- **F1**: **Help** Display context-sensitive help
- **F3**: **Exit** End the current task and return to the screen or menu from which the task was initiated
- **F4**: **Prompt** Display a list of valid options for the current field or command. For certain data items, a pop-up selection window appears
- **F6**: **Add New** Create a new record or data item
- **F8**: **Print** Print the current report or data item
- **F9**: **Retrieve** Retrieve the previously-entered command
- **F12**: **Cancel** Return to the previous screen or menu without updating

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Chapter 1: Introducing FileScope

What is FileScope?

FileScope is a productivity tool that:

- Provides programmers and System i users with a quick, efficient method for viewing, scanning, printing and changing contents of records or sets of records within files.
- Provides the ability to create test files by selecting and copying parts of existing files.
- Eases conversion of internally described files to DDS.
- Allows files to be examined, changed or printed without a programmer first having to define and compile an application (as in standard methods such as DFU, and Query)
- Reduces time and effort needed to view, change or print the contents of files.
- Supports virtually all file types – physical, logical, joined, source, keyed or un-keyed as well as single or multi-record format.
- Requires no computer knowledge or technical skills.
- Has a powerful ad-hoc inquiry and report generator functions that can be used with little or no training.
- Can be used as a tailored option in a user menu, so that parts of a specified file can easily be viewed or printed.
- Is SAA-CUA compliant.
- Increases your comfort by selecting most of the features using a window like interface
- Provides a Windows-like Drop-down Menu for selecting most of the operations.
- Enables you to work on up to 16 sessions simultaneously from the same job.
- Allows the processing of Global Changes and prints to be in batch.
- Joins up to 9 files to display the file data. This is transparent to the user while operating. The impact on performance is minimal due to the fact that there are no delays as no OPNQRYF command is used.
- Can update records on a multi record screen.
- Allows calculated fields to be defined and used throughout the product.
- Includes a full report generator (no compilation required).
- Converts files including date format and Euro conversions.

- Calls specific user written functions.
- Prevents and follows up the unattended use of FileScope.

FileScope Gold/Platinum

FileScope Platinum provides System i users with an unparalleled array of new tools, while significantly enhancing some of the functionality of the legacy version, called FileScope Gold.

FileScope Platinum provides expanded functionality in a host of site-critical areas such as:

- Security and SOX Compliance
- Full Screen Update
- Field Calculations
- Externally Defined Functions
- Report Generator
- Multiple Management
- This manual reviews all the full options as they are available in the Platinum version of FileScope.

Please view the following table of comparison of the two versions:

Title	Subject	Gold	Platinum
Security			
	Restriction for use of file	Yes	Yes
	Undo	Yes	Yes
	Audit	Yes	Yes
Update			
	Single record update	Yes	Yes
	Global update	Yes	Yes
	Update to field value in global change	Yes	Yes
	Full screen update	No	Yes
Internal fields			
	Defined over position in the record	Yes	Yes
	Calculated by formula	No	Yes
	Calling an external function	No	Yes
External function library			
	Available with product	No	Yes
	Enabling user written functions	No	Yes
Scan			
	Subset (see dedicated paragraph)	Yes	Yes
	By comparison of field to value	Yes	Yes
	Pattern scan	Yes	Yes
	Fwd/Bwd or collect	Yes	Yes
Subset			
	By comparing to values	Yes	Yes
	By comparing between fields	Yes	Yes
	Free format	No	Yes
Sort			
	Several fields, Ascending or descending each	Yes	Yes
	Sort of value by Right to Left	Yes	Yes
Export			
	Save the internal OPNQRYF SELECT		
	() to a CL program	Yes	Yes
Global Update			
	Update to values	Yes	Yes
	Update to Field values	Yes	Yes
	Fix decimal errors (automatically)	Yes	Yes
	Move results to PC folder	Yes	Yes

Title	Subject	Gold	Platinum
	Run in batch	Yes	Yes
	Run as non-interactive session	Yes	Yes
Undo			
	Undo an update	Yes	Yes
Print			
	Print record	Yes	Yes
	Print hex	Yes	Yes
Print record structure			
	Print by definitions	Yes	Yes
S/36 file support			
	Accept I definitions from RPG programs.	Yes	Yes
	Create DDS	Yes	Yes
	Copy data	Yes	Yes
File information			
	External information about the file	Yes	Yes
Multi sessions manager			
	Up to 16 files simultaneously	Yes	Yes
Multi file manager (join)			
	Join up to 9 files on the fly (no previous sort)	No	Yes
Report generator			
	Join files	No	Yes
	Subset data	No	Yes
	Sort	No	Yes
	Range of keys	No	Yes
	Scan vales	No	Yes
	Page layout	No	Yes
	Break level functions (sum, count, average, minimum, maximum)	No	Yes
	break level variable text & new a page	No	Yes
	*OUTFILE file support	No	Yes
	Move results to PC folder	No	Yes
Date and file conversion			
	Subset data	No	Yes
	Create new DDS, new key	No	Yes
	Copy converted data	No	Yes

Title	Subject	Gold	Platinum
	Move results to PC folder	No	Yes
Batch			
	Submit from FileScope session	Yes	Yes
	Submit to run in a specific time	Yes	Yes
	Run as non-interactive command	Yes	Yes
Viewpoint			
	Save modified structure of display /		
	Print / update.	Yes	Yes
Select file			
	By generic name	Yes	Yes
	By related files	Yes	Yes
132x27 display support			
	Enabled	Yes	Yes
Field Types (Supported both on Input and Output)			
	All date / time field types		
	Hexadecimal fields	Yes	Yes
	Numeric B, S, P	Yes	Yes
	Character A	Yes	Yes
	DBCS O, J, E (Japanese/Chinese)	Yes	Yes
	Release 12		
Define/Run Commands	Define PC format	No	Yes
	Run PC format	No	Yes
	Define Report	No	Yes
	Define Global Change	Yes	Yes
	Run Global Change	Yes	Yes
	Define New File	No	Yes
	Run New File	No	Yes
Pre-Run Definitions	Specify Subset	No	Yes
	Specify Sort	No	Yes
	Specify Scan	No	Yes
	More and more....	No	Yes
Convert to Streamfile	Convert entire file to ASCII delimited	No	Yes
	File for viewing on your PC	No	Yes
Syslog and SNMP	Sends security-related events from various IBM i facilities to a remote	No	Yes

Title	Subject	Gold	Platinum
	Syslog and SNMP server		

FileScope Highlights

With FileScope it is possible to:

- Display multiple or single records per screen
- Define a “working set” using OPNQRYF
- Update, Add, Copy or Delete a record or a set of records online or by submitting them to batch.
- Produce a formatted audit trail report, listing all record changes
- UNDO an update, even after several days have passed
- Create new files
- Print records with full control over field layout
- Print selective data online or by submitting to batch
- Print record structure
- Edit fields according to their characteristics
- Add hexadecimal representation to the display
- Reorder fields
- Define internal fields
- Store modifications for later use
- Create customized views of file information
- Scroll across the display to view other fields
- Retrieve records by KEY, RRN or move forward or backwards in the file from the currently displayed records
- Scan, using comprehensive and flexible methods
- Highlight and allow optional corrections of decimal errors
- Support internally described files
- Convert such files to DDS
- Scan backwards and forwards for matching records or collect a full screen of matching records
- Use Drop-down Menu windows
- Select working MODE (ADD/UPDATE/DELETE)
- Define and display a joined record set of data (up to 9 files)
- Update records on a multi-record screen
- Define and use calculated fields throughout the product

- Enlarge numeric fields, add new fields and remove fields
- Change the field order and modify the attributes
- Call external functions (supplied with the product or written by the user)

How FileScope Can Help You

FileScope users report an increase of up to 25% in programmers' productivity due to the following points:

- Easier detection and correction of errors
- Quick validation of program output
- Test data can be created in minutes
- Reduction of backlog of ad hoc reports
- S/36 files can be described with DDS-like fields
- A customized arrangement of the data can be saved as a Viewpoint and re-used in the future
- The unique search capabilities allow fast location of critical information
- The UNDO operation can restore changed files to their previous state

Chapter 2: Getting Started

Installation/Upgrade

This section describes how to install/upgrade FileScope.

Preparation

You must ensure that you schedule sufficient time to perform the installation/ upgrade. While the process is running, FileScope is unavailable. A first time installation will take up to 15 minutes and an upgrade installation will take up to 60 minutes.

1. If you are a new user, you will need to create a new user at http://www.razlee.com/downloads/create_new_user.php
2. Select to download FileScope from the **Product Download Request** page http://www.razlee.com/downloads/product_download_request.php.

Your request to download products must be approved by your distributor or by Raz-Lee. Upon approval, you will receive an email with a link to a download page (valid for 7 days) that contains the software, appropriate documentation and installation instructions.

3. If this is a first time installation, do the following to verify that it is a first time installation:
    - Enter the command ***wrklib smz1***.

      If the library exists, you will be performing an upgrade.
4. Before you continue with the process, verify the link you received from Raz-Lee.
5. Change the names of the CHGFC and SHWFC commands in QGPL to ensure that nobody works with FileScope during the upgrade.
6. If you are upgrading FileScope, you should backup the FileScope libraries SMZ1 and SMZ1DTA before starting the upgrade process.

Installation/Upgrade Process

1. Create a temporary directory on your local computer.
2. Click the link in the email you received from Raz-Lee. The **Products Download** page appears. Do not close it until you have finished the process.
3. Click on the **FileScope** setup link. The **File Download** dialog box appears.
4. Save the zip file to the directory you created in step *Create a temporary directory on your local computer.* and extract it.
5. Open the extracted directory and run **SETUP**. The **Raz-Lee Installation** dialog box appears.
6. Enter either the host system name or an IP address, a user name with Security Officer (*SECOFR) authority, a password for this user, and press **Enter**. The installation process runs.
7. Upon completion of the installation routine, close the **Raz-Lee Installation** dialog box.
8. When the install/upgrade has finished, continue with *Entering the Product Authorization Code* on page *30*.

Entering the Product Authorization Code

The Authorization Code is a character string that releases FileScope for operation on your System i. There are two types of authorization codes: a demonstration code for a predetermined evaluation period, or a permanent code for normal use. During the product evaluation period, FileScope can be installed on multiple machines by using the demonstration code.

To enter the Authorization Code:

1. In the command line, enter the command ***STRFS***. The **FileScope** menu appears.
2. Select **81. System Configuration**. The **Define FileScope defaults** menu appears.
3. Press **F22**, and then enter the **Authorization Code**.
4. Press **F3** to return to the **FileScope** menu.

Obtaining the CPU Serial Number

To obtain a permanent Authorization Code, you must determine the computer serial and model number. To do this, enter the following commands:

- *DSPSYSVAL SYSVAL(QSRLNBR)*
- *DSPSYSVAL SYSVAL(QMODEL)*

The Machine type model, System serial number and the product release are entered on the License Agreements when ordering your product.

Backups

It is important to always make sure that you have up to date backups.

Product Library

As soon as the permanent Authorization Code has been entered, and at regular intervals, it is highly recommended that you create a fresh backup of the FileScope library: SMZ1.

Journals Library

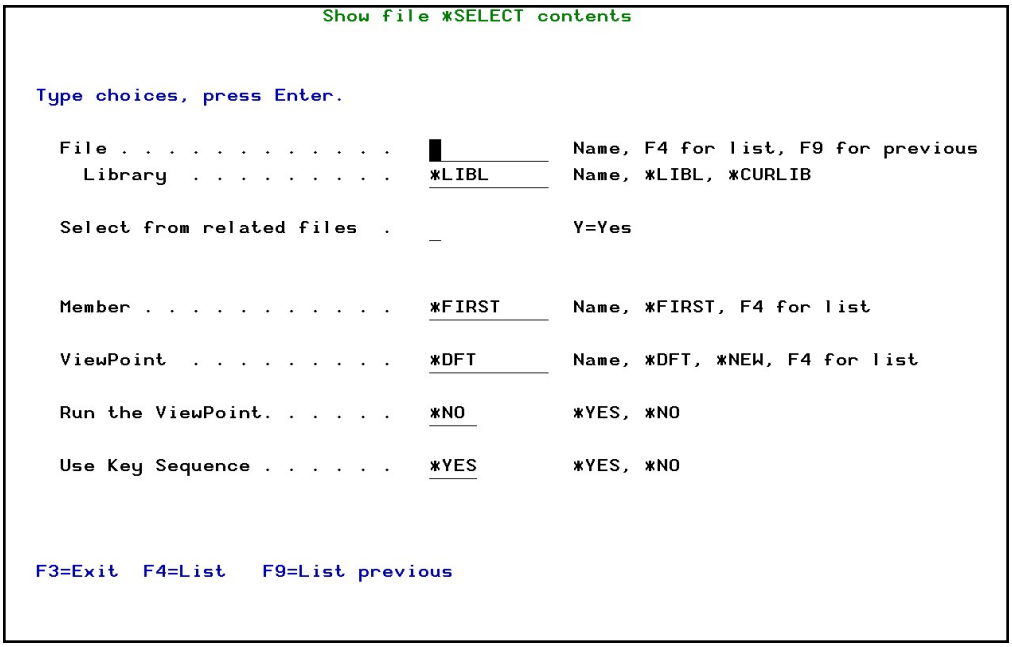
The UNDO option creates and maintains objects in the SMZ1DTA library that were created during the installation. It also creates journal receivers that are automatically maintained. It is highly recommended that the SMZ1DTA library is included in the daily backup.

Chapter 3: Working with Files

Show Files

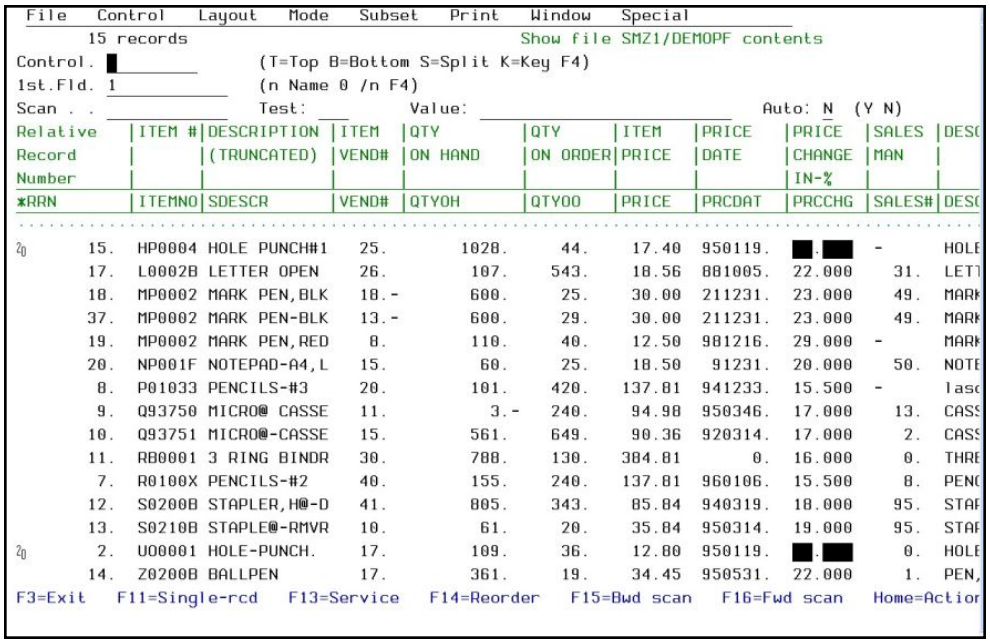
Entering the command ***SHWFC*** (Show File Contents) or selecting the option **1. Show File** from the main menu allows the user to view or print the edited file contents. The **Show File *SELECT contents** screen appears.

NOTE: You can type ***SHWFC*** or ***CHGFC*** directly on the command line to display or change a file at any time without loading FileScope.



Show File *SELECT contents

File	**Name** =The name of a file **F4** = Prompt File/Member/Viewpoint list **F9** for previous = Retrieve a list of previous file names
Library	**Name** = Library where the file is located ***LIBL** = Search the library list to locate the file (default) ***CURLIB** = Current library
Member	**Name** = Name of the file member ***FIRST** = The first member in the file (default) **F4** = Prompt File/Member/Viewpoint selection screen
ViewPoint	**Name** = The name of the Viewpoint to be used ***DFT** = If a Viewpoint with an identical name to the current file name exists it is used, otherwise the DDS of the file is used (default). ***NEW** = The DDS of the file is used **F4** = Prompt File/Member/Viewpoint selection screen
Run the ViewPoint	***YES** = Run the selected Viewpoint ***NO** = Do not run the selected Viewpoint (default)
Use Key Sequence	***YES** = Keyed files are accessed in their key sequence (default) ***NO** = File is accessed in its physical sequence


File Control Layout Mode Subset Print Window Special
15 records
Show file SMZ1/DEMOPF contents
Control.
(T=Top B=Bottom S=Split K=Key F4)
1st.Fld. 1
(n Name 0 /n F4)
Scan . .
Test:
Value:
Auto: N (Y N)
Relative Record Number
ITEM #
DESCRIPTION (TRUNCATED)
ITEM VEND#
QTY ON HAND
QTY ON ORDER
ITEM PRICE
PRICE DATE
PRICE CHANGE IN-%
SALES MAN
*RRN
ITEMNO
SDESCR
VEND#
QTYOH
QTYOO
PRICE
PRCDAT
PRCCHG
SALES#
15. HP0004 HOLE PUNCH#1 25. 1028. 44. 17.40 950119.
17. L0002B LETTER OPEN 26. 107. 543. 18.56 881005. 22.000 31.
18. MP0002 MARK PEN,BLK 18.- 600. 25. 30.00 211231. 23.000 49.
37. MP0002 MARK PEN-BLK 13.- 600. 29. 30.00 211231. 23.000 49.
19. MP0002 MARK PEN,RED 8. 110. 40. 12.50 981216. 29.000 -
20. NP001F NOTEPAD-A4,L 15. 60. 25. 18.50 91231. 20.000 50.
8. P01033 PENCILS-#3 20. 101. 420. 137.81 941233. 15.500 -
9. Q93750 MICRO@ CASSE 11. 3.- 240. 94.98 950346. 17.000 13.
10. Q93751 MICRO@-CASSE 15. 561. 649. 90.36 920314. 17.000 2.
11. RB0001 3 RING BINDR 30. 788. 130. 384.81 0. 16.000 0.
7. R0100X PENCILS-#2 40. 155. 240. 137.81 960106. 15.500 8.
12. S0200B STAPLER,H@-D 41. 805. 343. 85.84 940319. 18.000 95.
13. S0210B STAPLE@-RMVR 10. 61. 20. 35.84 950314. 19.000 95.
2. U00001 HOLE-PUNCH. 17. 109. 36. 12.80 950119.
14. Z0200B BALLPEN 17. 361. 19. 34.45 950531. 22.000 1.
F3=Exit F11=Single-rcd F13=Service F14=Reorder F15=Bwd scan F16=Fwd scan Home=Actior

Navigating through the display screen

Control	T = Displays the first record of the file B = Displays the last record of the file S = Splits the screen into two parts, allowing the user to work with two different files at the same time. K=Key F4 = Prompt list of key fields
1st.Fld.	Select the first field to appear at the file.
Scan	Enter a field name to perform a search for, or press F4 to prompt a list of fields.
Test	Enter the operator that you wish the scan to perform. Press F4 to prompt a list of fields.
Value	Enter a value to scan in the file.
Auto	Y = Automatically apply the field scan for all processed records, works on a specific data in field. N = Apply the field scan for all processed records only if scan is requested

Top Line

Drop-down Menu, see *Chapter 7: Drop-down Menu* on page *125* for more details.

Second Line

This line shows the number of records, the file name, library, and member name.

Control

The control field is used to move directly to a new position in the file by: key, relative record number within a file relative to the current position or to the beginning/end of the file.

Titles

The field column heading is displayed along with the field name. Several dummy fields have been added automatically to provide more data on the displayed records.

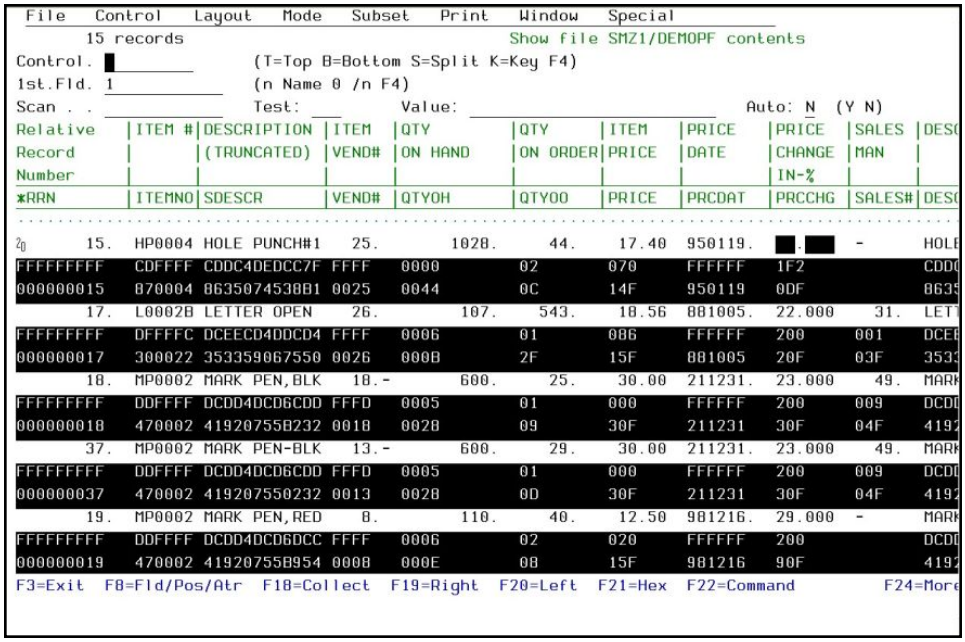
- *RRN (Relative record number) – The physical position of the record in the file.
- *RCD (Record string) – The entire record is one character string.
- *FMT (Format name) – The name that the record format that the record belongs to. This field is added only if the file contains more than one record format.

Data

The data obtained from the first 12 records. The data has been edited according to the file specifications. Each numeric field contains a decimal point.
Decimal errors or non-displayed characters appear as --.--.

Hexadecimal Representationau

To display data together with its hexadecimal values, press **F21**. To restore the original display, press **F21** again.



Hexadecimal representation

Hexadecimal representation can be used in both multi-record mode and single-record mode. Hexadecimal representation remains in effect for all subsequent screen displays and for the **PRINT** option until toggled off.

Scan

Perform an advanced search in the file according to Field Value Scan, Decimal-Error Scan, and Invalid Date Scan parameters. The first entry is the field name. The value *RCD can be used to represent the record string.

- **Control –** The control field is used to move directly to a new position in the file by: key, relative record number within a file relative to the current position or to the beginning/end of the file.
- **Test –** Enter the operator that you wish the scan to perform:
  EQ = Equal
  NE = Not Equal
  GT = Greater than
  GE = Greater than or Equal to
  LT = Less than
  LE = Less than or Equal to

The following values are valid for character fields only:
ST = Starts with a string
CT = Contains a string
Combining both *RCD and CT searches the entire record string for the specified value.

- **Value –** This field contains the value that the field is compared to or these special values *DE (or *DECIMAL-ERROR) or *ID (or *INVALID-DATE)
  - *DE (Decimal error) – The field is checked to see if it contains a decimal error. The only possible tests can be EQ and NE, if the combination of *RCD *EQ *DE has been entered. All numeric fields can be checked accordingly.
  - *ID (Invalid Date) – Scan for invalid dates in regular (Packed, Signed, Alpha) fields.

- **Auto –** With auto you can stop the scan after a specific amount of records you want.

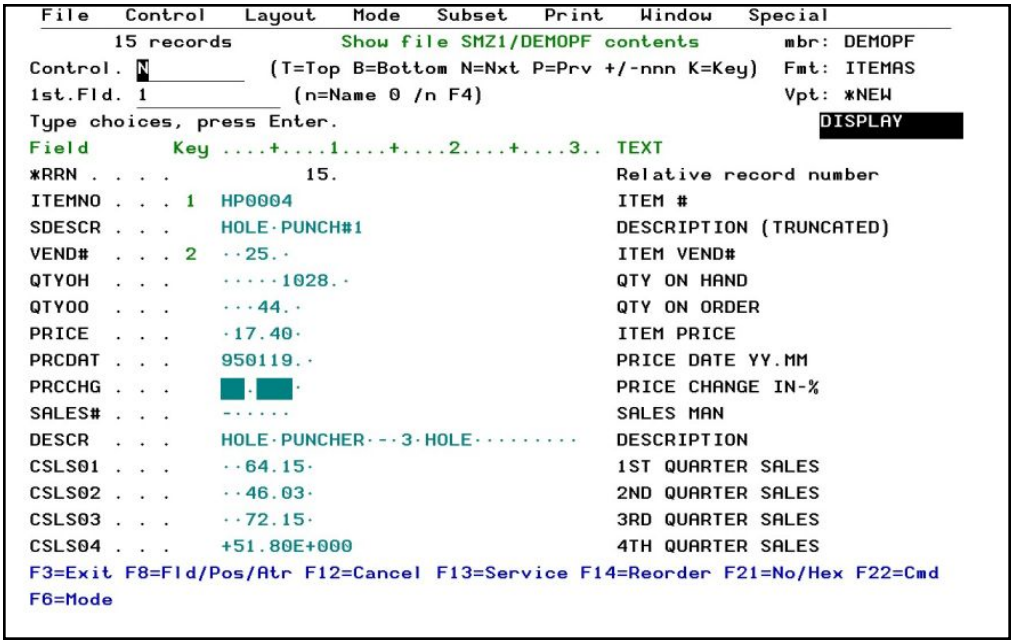
Specify Scan
If using *RCD, *EQ, and *ID to scan, you are requested to specify which fields are date fields, and what structure they are stored in.

Quick Pattern Scan

Use the empty line between the data and the field names to perform a quick scan of specific criteria, and press F16 to apply. The results show at the first data-line.
This scans for values that are entered in the reserved line above the edited data. Enter each character of the pattern directly above the character against the one to be compared in the scanned records. The pattern can include “wildcards”. Use the “~” for a blank and a “¬” for “not a blank”. These replacement characters are the default and can be changed; see *Appendix C. Product Defaults* for more details. While the scan is being carried out, a scan status window appears showing the number of records scanned. To terminate the scan press the ATTN key (Esc).
To activate a scan use the following keys:
F15 = Scan Backward
F16 = Scan Forward
F18 = Collect records that match the scan criteria

Display Single Record

To display a single record, press **F11** in the **Show file** screen to view a single record at a time.



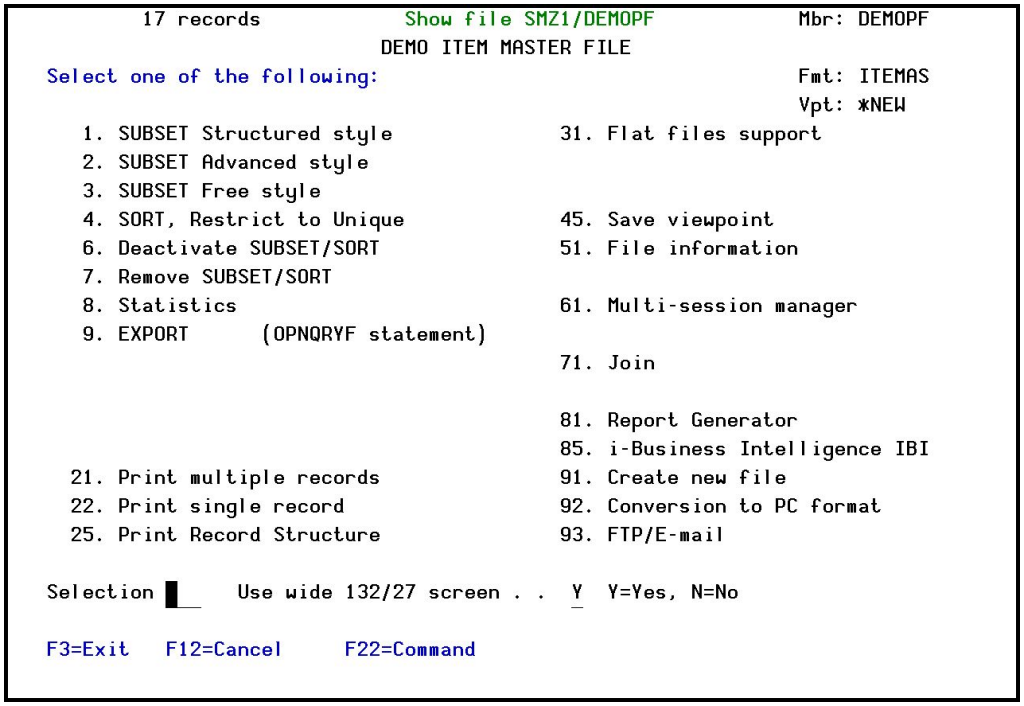
Single Record Display

Type **N** in the **Control** field to view the next record, or **P** to view the previous one.

NOTE: Single record mode is Display only

Services

To use the various services available, press **F13** in the **Show file** screen. The **Services** menu appears.

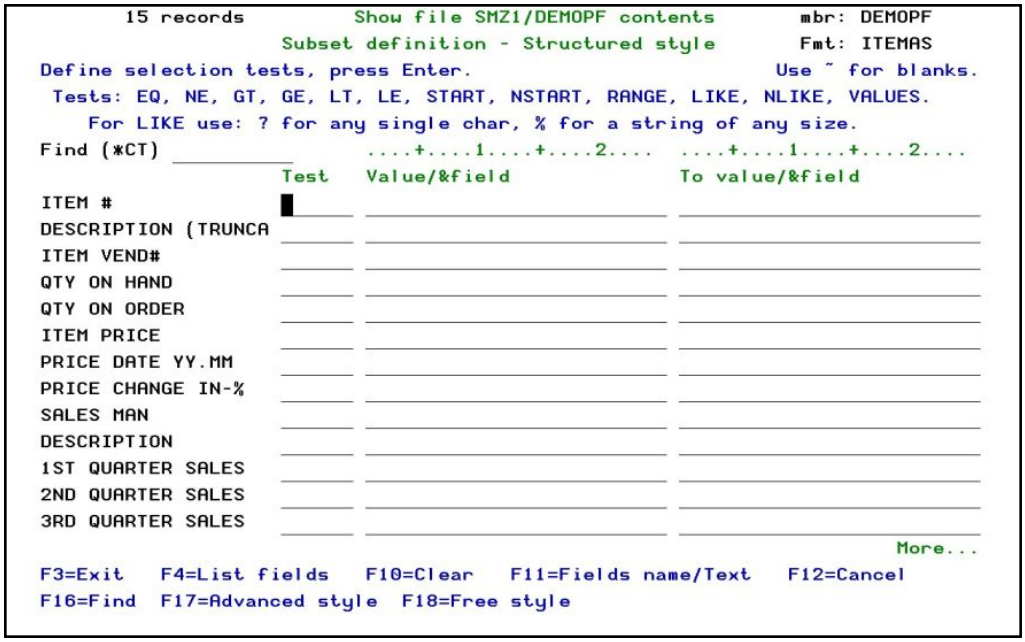


Work with Subsets

You can set up filters to work with a subset of the file. There are three options of defining the filters:

- Select **1. SUBSET Structured style** in the services menu. Use it like an SQL filter.

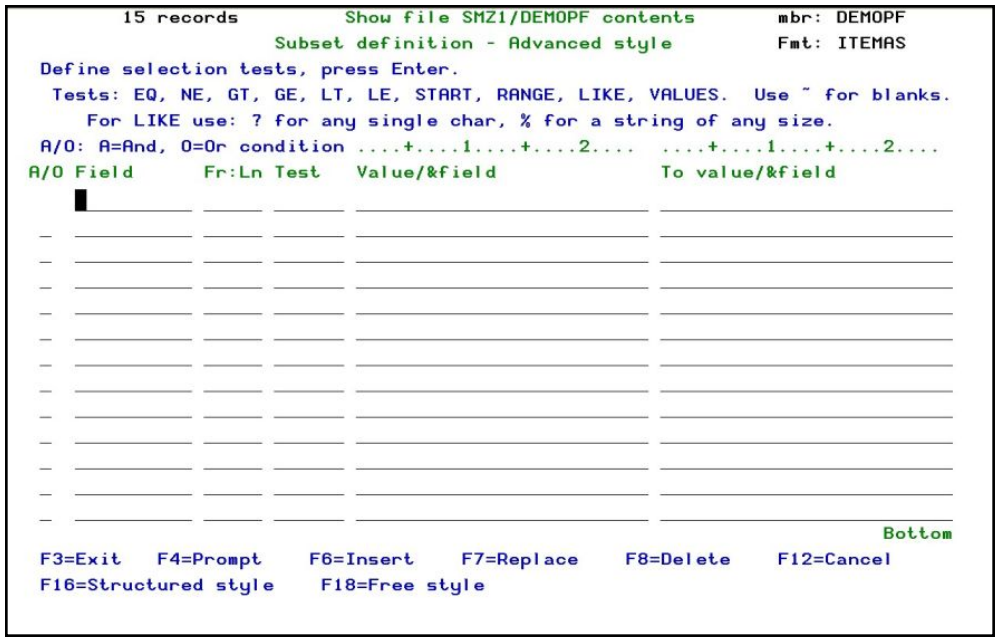
NOTE: When using the **Start/NStart** verbs, there is no need to use the IBM * sign.



Subset definition

You can use **F17** and **F18** to toggle between structured filtering and advanced filtering or freestyle filtering.

- Select **2. SUBSET Advanced style** in the services menu.



Subset definition – Advanced style

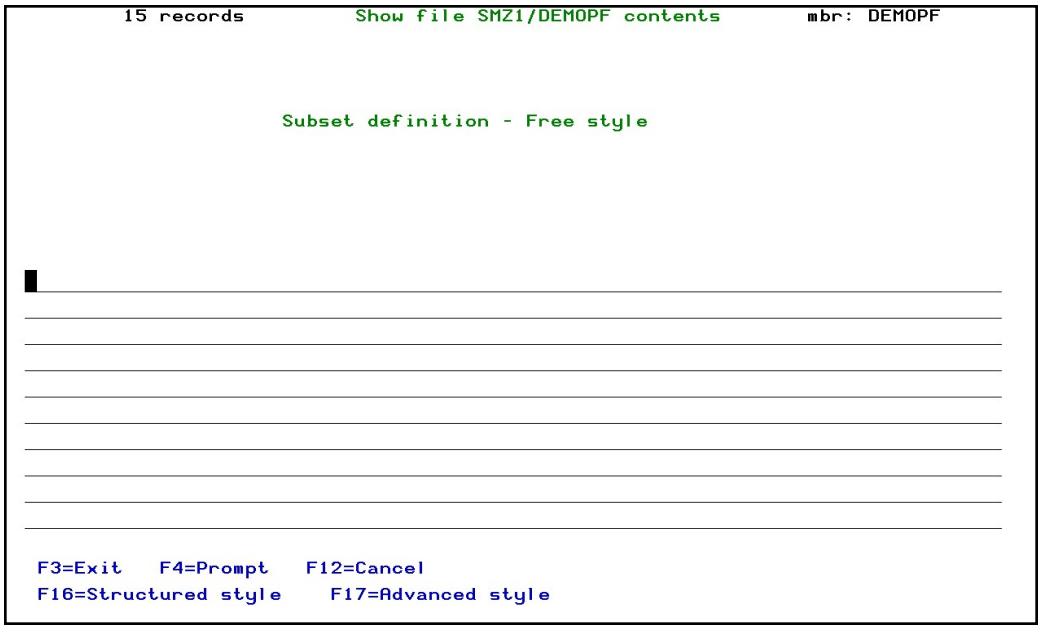
You can use F16 and F18 to toggle between advance filtering and structured filtering or freestyle filtering.

In the advanced style you can use the "or" condition and not only "and", duplicate some of the fields instead of just using the existing fields and use a condition to look for specific string from position X in the length of Y (Fr:Ln = X:Y).

NOTE: you can move from regular subset to advanced subset, but when moving from advanced subset to regular you could lose some of the information.

- Select 3. SUBSET Free style in the services menu.

Available in FileScope Platinum only

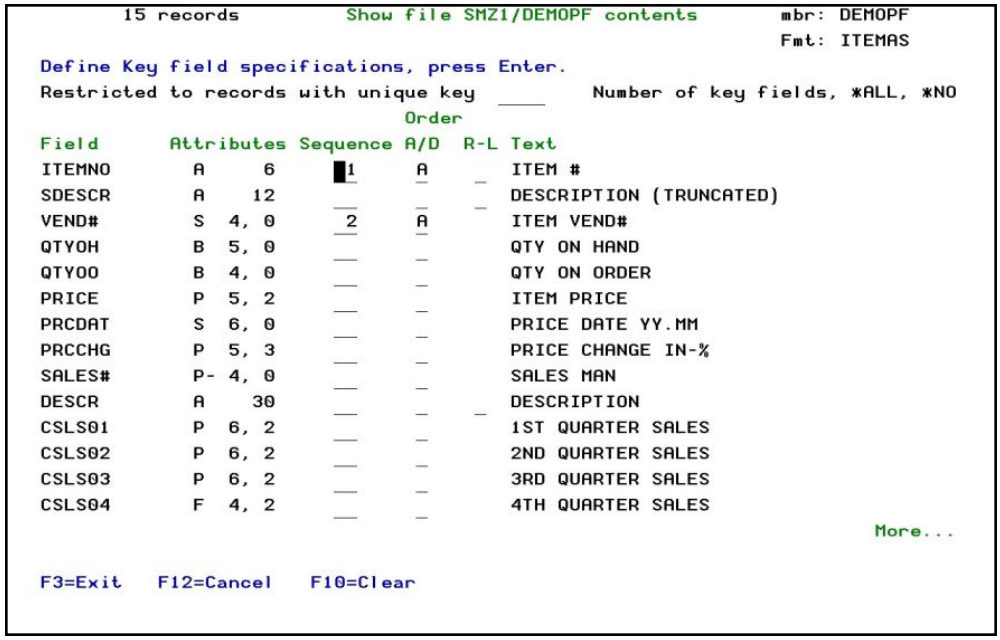


Subset definition - Free style

You can use **F17** and **F18** to toggle between freestyle filtering and structured filtering or advanced filtering.

Sorting the file

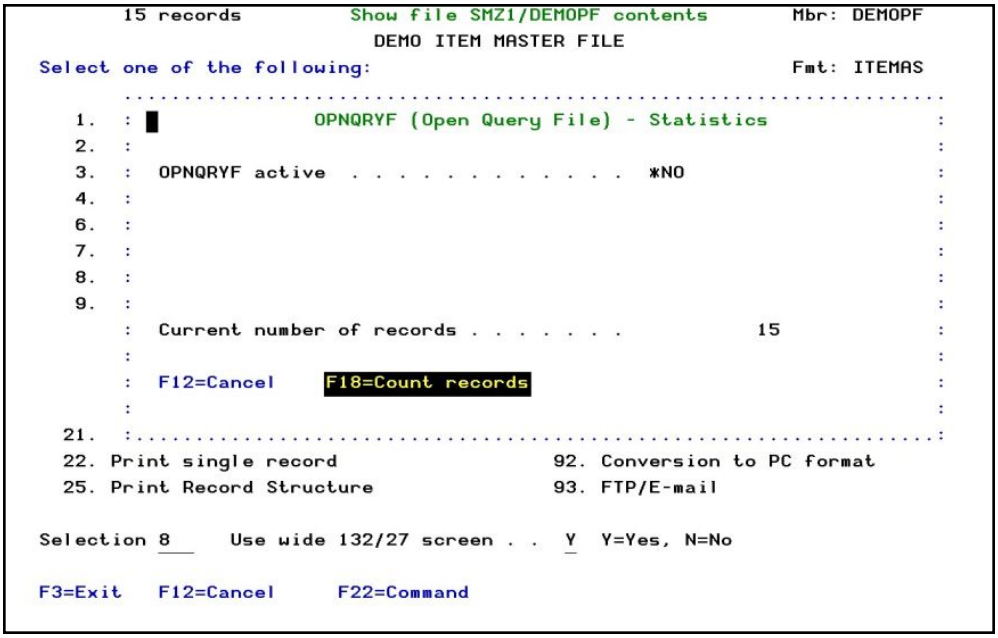
You can select **4. SORT, Restrict to Unique** in the services menu, to sort the data. Press **F10** to clear any previous sorting definitions, select a new sort sequence and order A/D (ascending descending).



To deactivate the subset or sort definitions, select **6. Deactivate SUBSET/SORT** in the services menu. Select **7. Remove SUBSET/SORT** to remove the definitions completely.

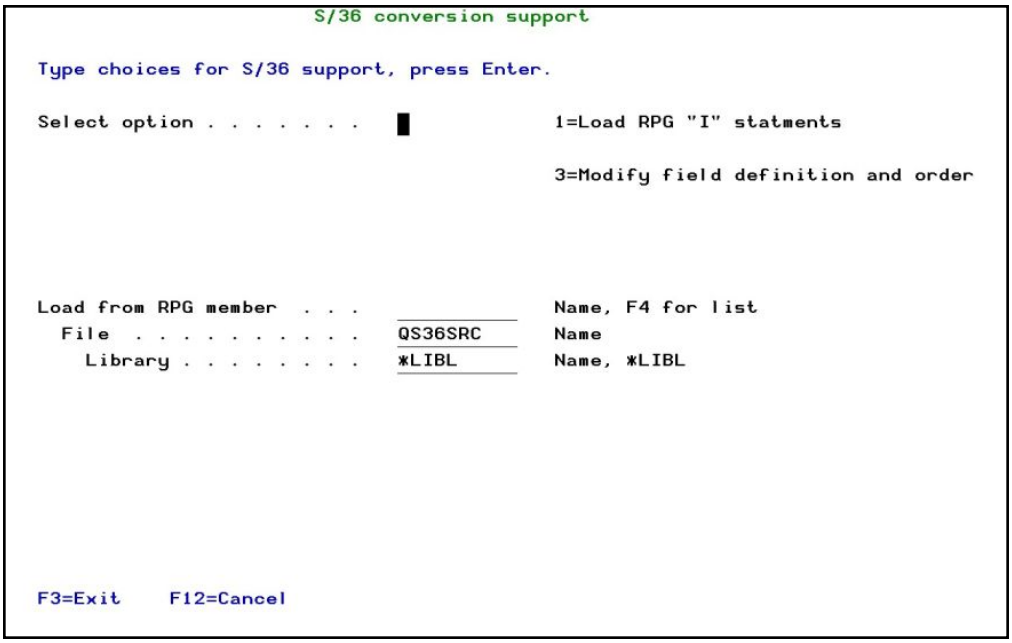
Additional Services

- To run statistics such as a record count, select **8. Statistics** in the services menu



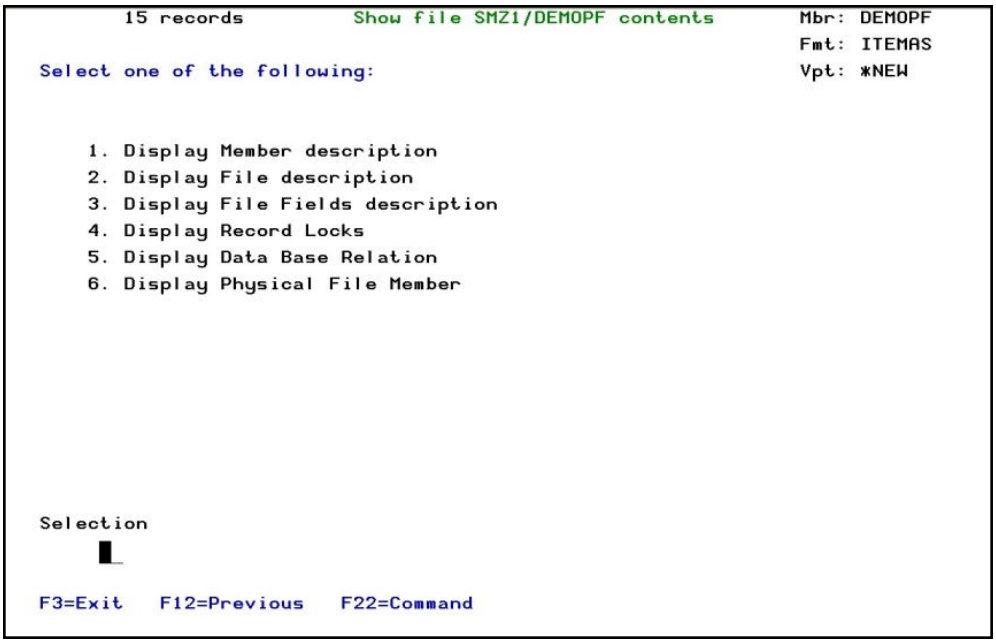
File Statistics

- Select **31. Flat file support** for customers who have files from System/36. They can load fields from an RPG program and convert the entire file to a DDS file.



Flat file support

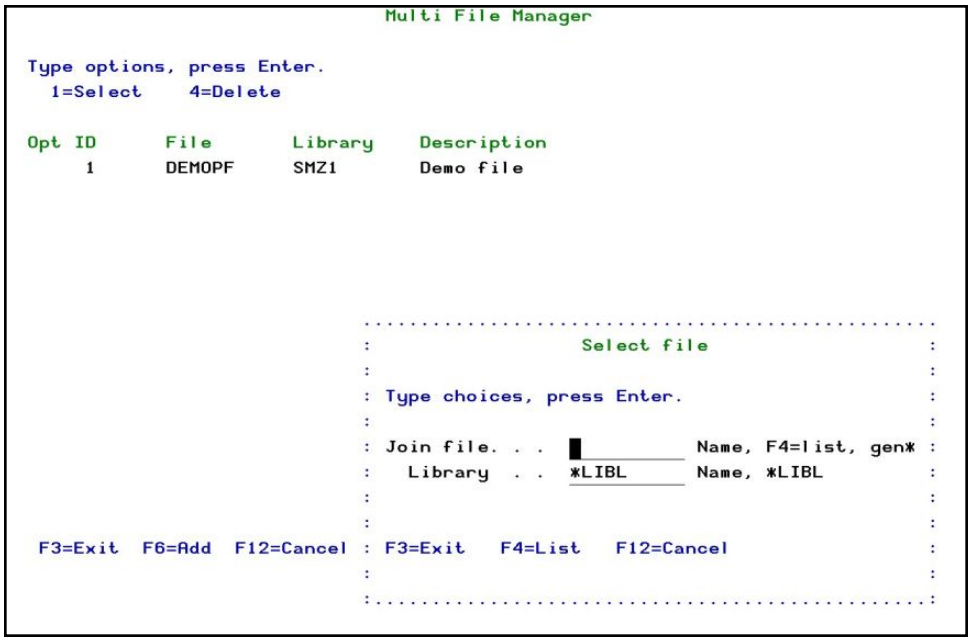
- Select 51. File information from the services menu to get more information about the file, such as records lock, database relation, physical file members, and so on.



File information

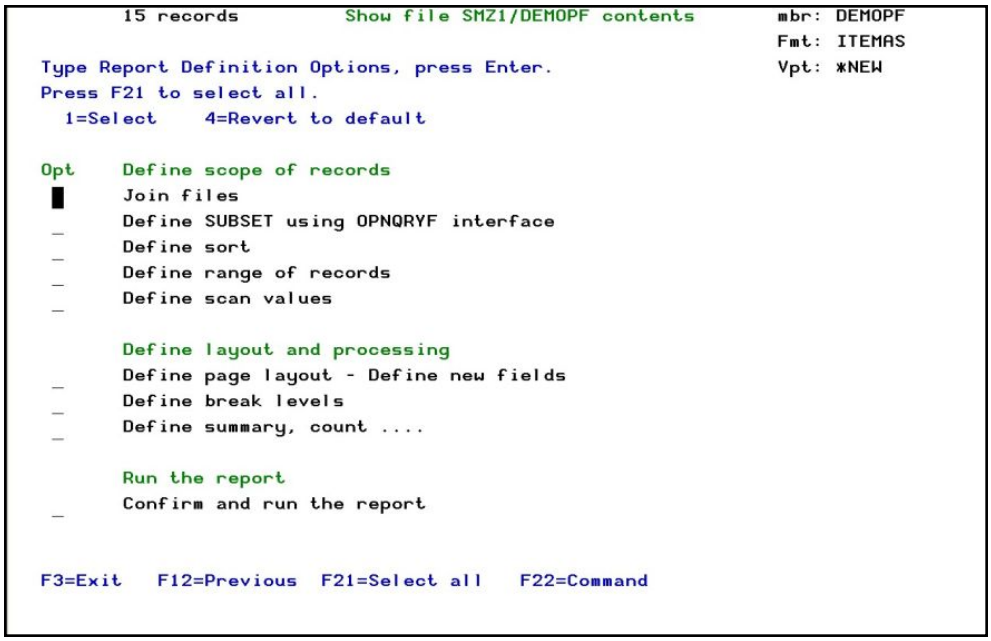
- Select 61. Multi-session manager to work with additional sessions (just like clicking on File at the commands line at the top of the file screen). Press the Attention key to return to the previous session. The multi-Session manager can open up to 16 different sessions.
- Option 71. Join, can join up to 9 files without using the same fields' types and show the results immediately. Press F6 to add a file to join, press F4 to prompt your files list, select the fields that appear on both files.

Available in FileScope Platinum only



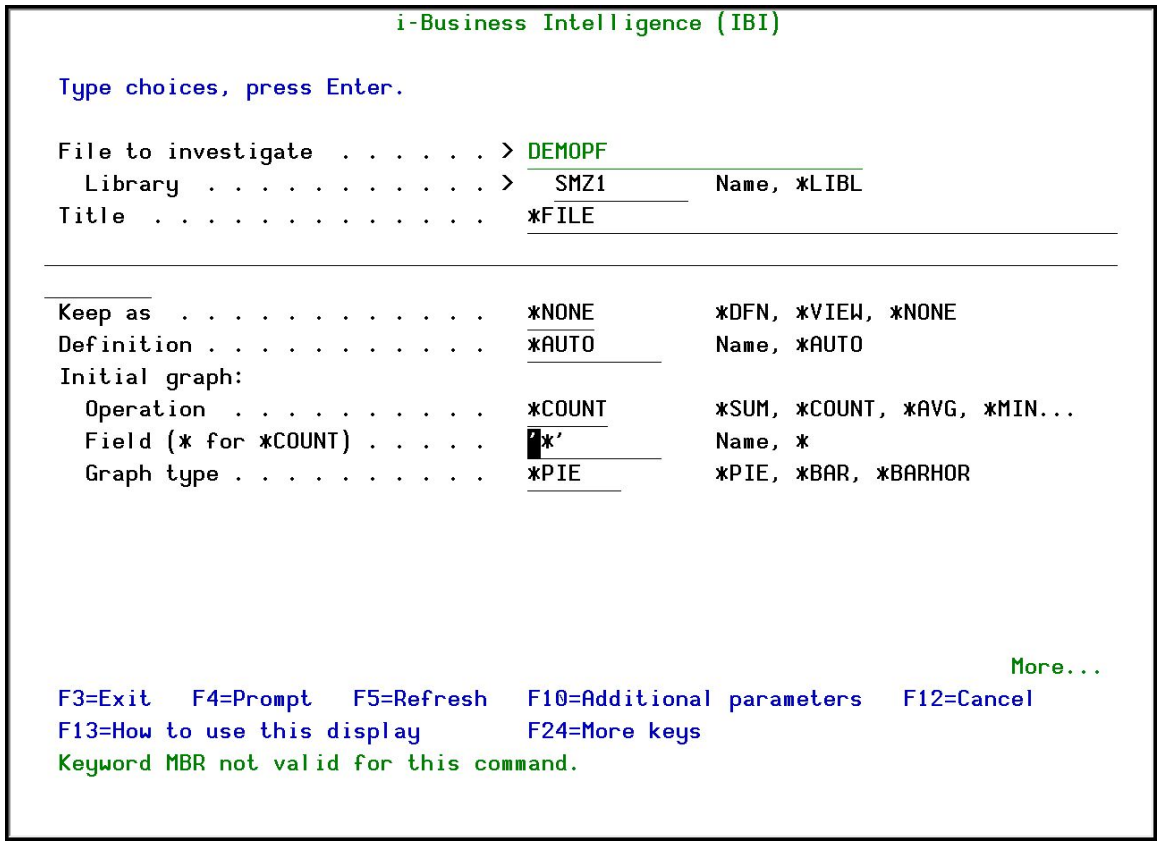
Join Files

- Select **81. Report generator** to choose a list of actions to define the report appearance. Select **Define break levels** to break every time a specific field is changed and add an action for these breaks, like fields sum, define **summary** to the report and automatically count the amount of records in each group.



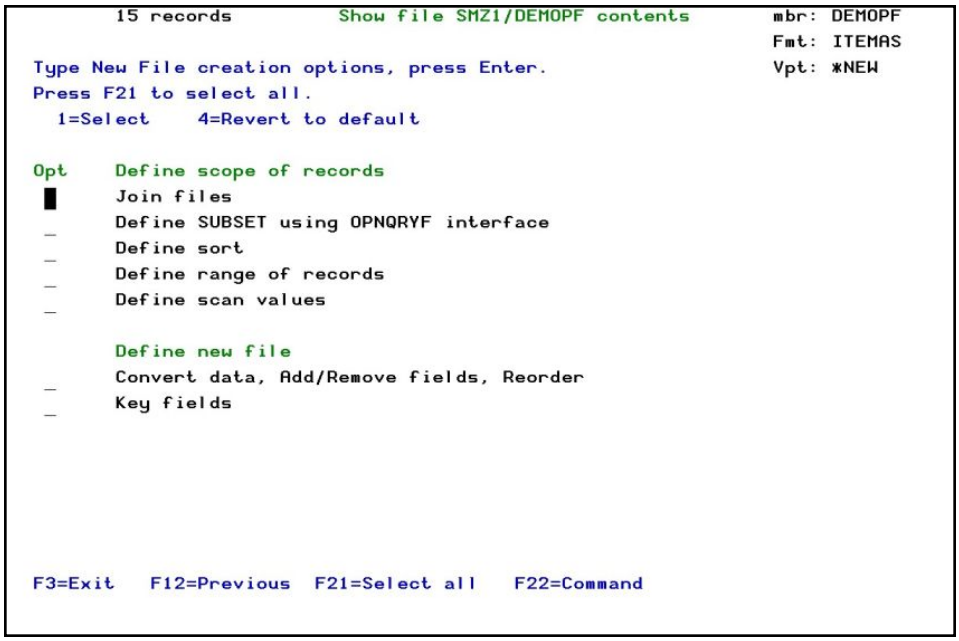
Report generator

- Select 85. i-Business Intelligence IBI; to open a Visualizer session for the file on your PC. Enter the parameters to define the Visualizer session



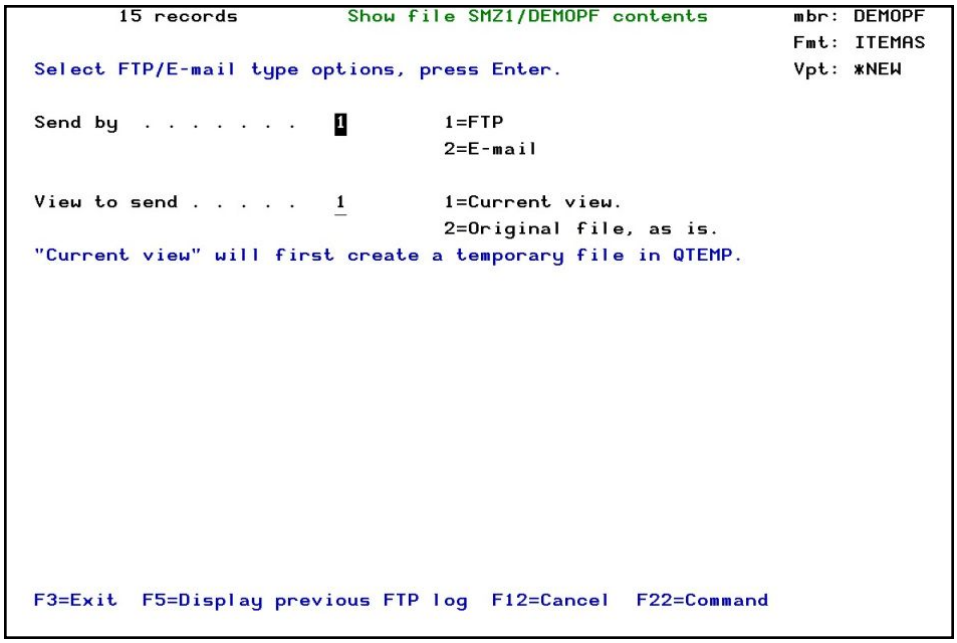
i-Business Intelligence (IBI)

- Select **91. Create a new file**; to create the definitions for a new file. The definitions are those you have already used, except for the **Key fields** option (new order of fields), which allows you to define the keys for the new file.



Create a new file

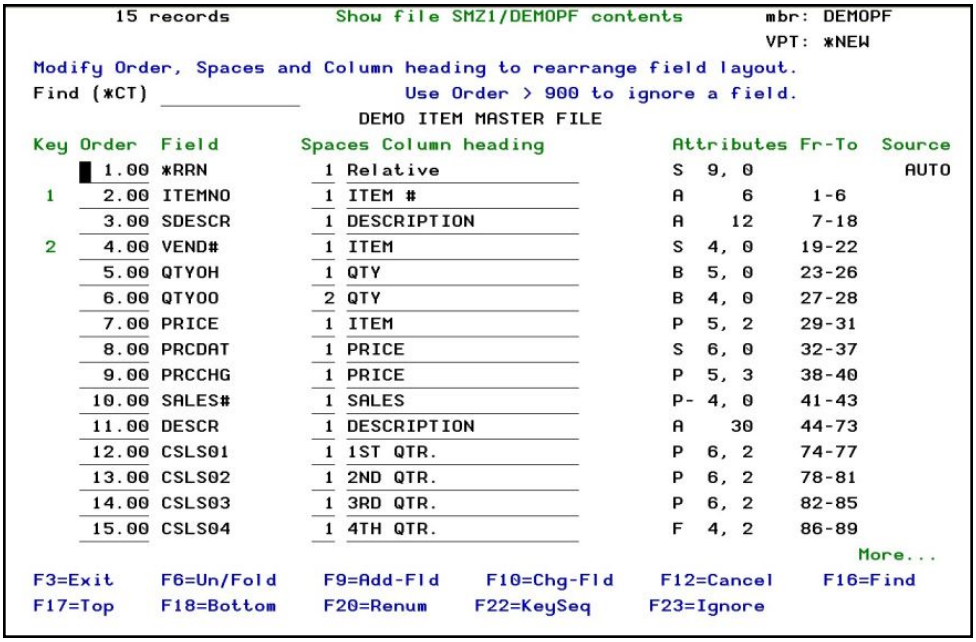
- Select 92. Conversion to PC format to convert the file to a PC format such as a text file (.txt) or a Comma Separated Values file (.csv).
- Select 93. FTP/E-mail to send the file via FTP or email.



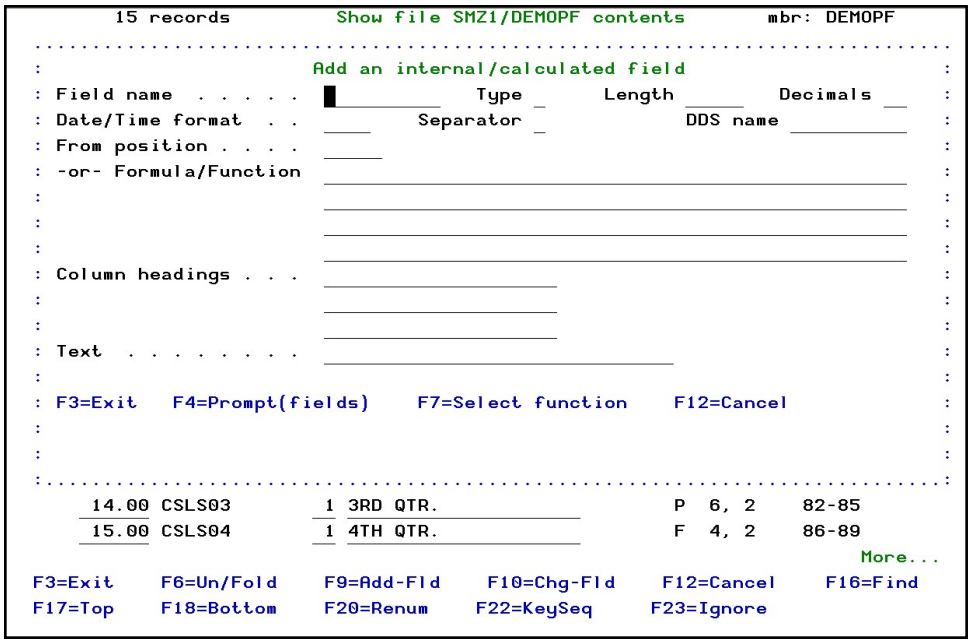
Send file via FTP or Email

Reorder Fields

1. Press F14=Reorder in the Show file screen to change the order of appearance of the fields.



2. Press F23=Ignore and select sequence for the fields you want to view.
3. Press F20 to renumber the order of fields to the original order.
4. Press F22 to reorder the key sequence first. Modify the field's name from this screen.
5. Press F9 to add a new field of any type and any length in a specific position in the record, it shows part of the existing field data in a new field. This option also allows you to add internal fields based on functions; give a new field name, select the character type and length, press F7 to select functions or to create a new one and type it at the formula line. Find the fields names by pressing F4.



Add a new field

Note: If single record mode has not been previously selected, the default mode is obtained from the system configuration parameter "mode of single record" in ***CHGFC***. Select **81. System Configuration** from the **FileScope** main menu and press **F10** to display this parameter. If single record mode has already been selected using **F6** or the mode menu (**F11**) the previously selected mode is used.

Change and Update Files

The *CHGFC* command provides users with the options of adding, updating and deleting records or record sets. In addition the *CHGFC* command can create files and write data into them.

To modify a file select **2. Change File** in the main menu, or type *CHGFC* at the command line. The **Change file *SELECT contents** screen appears.

```
                    Change file *SELECT contents

Type choices, press Enter.

  File . . . . . . . . . . . .   █          Name, F4 for list, F9 for previous
    Library  . . . . . . . . .   *LIBL      Name, *LIBL, *CURLIB

  Select from related files  .   _          Y=Yes

  Member . . . . . . . . . . .   *FIRST     Name, *FIRST, F4 for list

  ViewPoint  . . . . . . . . .   *DFT       Name, *DFT, *NEW, F4 for list

  Run the ViewPoint. . . . . .   *NO        *YES, *NO

  Use Key Sequence . . . . . .   *YES       *YES, *NO


F3=Exit  F4=List   F9=List previous
```

Change file *SELECT contents

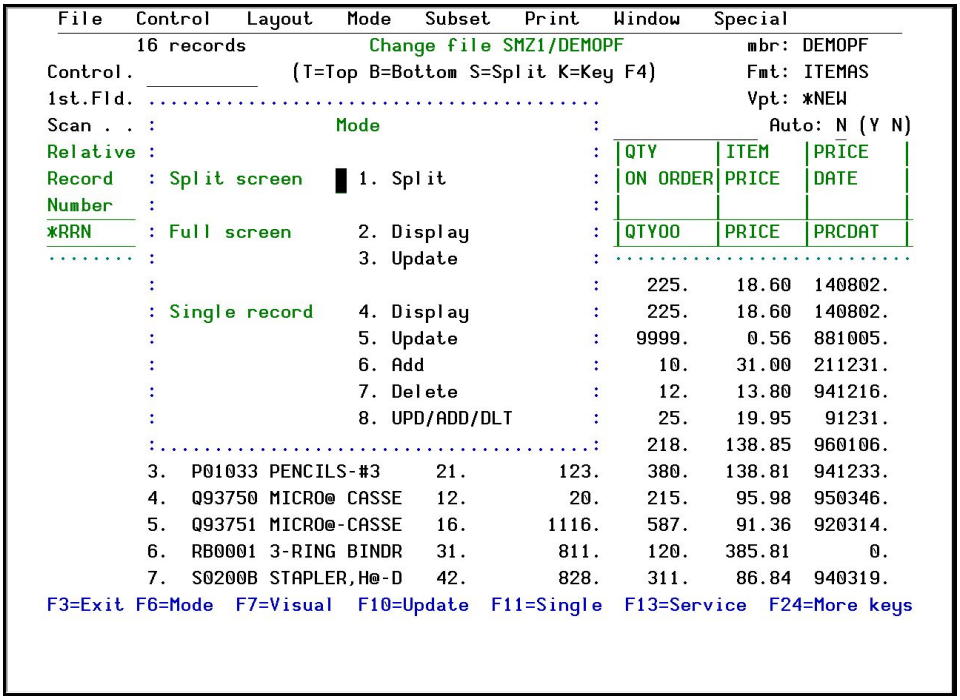
```
 File   Control   Layout   Mode   Subset   Print   Window   Special
       15 records                          Change file SMZ1/DEMOPF contents
Control. █          (T=Top B=Bottom S=Split K=Key F4)
1st.Fld. 1          (n Name 0 /n F4)
Scan . .            Test:  ___      Value:                          Auto: N  (Y N)
Relative   |ITEM #|DESCRIPTION |ITEM  |QTY       |QTY     |ITEM   |PRICE   |PRICE  |SALES |DES
Record     |      |(TRUNCATED) |VEND# |ON HAND   |ON ORDER|PRICE  |DATE    |CHANGE |MAN   |
Number     |      |            |      |          |        |       |        |IN-%   |      |
*RRN       |ITEMNO|SDESCR      |VEND# |QTYOH     |QTYOO   |PRICE  |PRCDAT  |PRCCHG |SALES#|DES
.......................................................................................................
20      15.  HP0004 HOLE PUNCH#1   25.      1028.     44.    17.40  950119.  █.█   -      HOL
        17.  L0002B LETTER OPEN    26.       107.    543.    18.56  881005.  22.000   31.  LET
        18.  MP0002 MARK PEN,BLK   18.-      600.     25.    30.00  211231.  23.000   49.  MAR
        37.  MP0002 MARK PEN-BLK   13.-      600.     29.    30.00  211231.  23.000   49.  MAR
        19.  MP0002 MARK PEN,RED    8.       110.     40.    12.50  981216.  29.000  -      MAR
        20.  NP001F NOTEPAD-A4,L   15.        60.     25.    18.50   91231.  20.000   50.  NOT
         8.  P01033 PENCILS-#3     20.       101.    420.   137.81  941233.  15.500  -      las
         9.  Q93750 MICRO@ CASSE   11.         3.-   240.    94.98  950346.  17.000   13.  CAS
        10.  Q93751 MICRO@-CASSE   15.       561.    649.    90.36  920314.  17.000    2.  CAS
        11.  RB0001 3 RING BINDR   30.       788.    130.   384.81       0.  16.000    0.  THR
         7.  R0100X PENCILS-#2     40.       155.    240.   137.81  960106.  15.500    8.  PEN
        12.  S0200B STAPLER,H@-D   41.       805.    343.    85.84  940319.  18.000   95.  STA
        13.  S0210B STAPLE@-RMVR   10.        61.     20.    35.84  950314.  19.000   95.  STA
20       2.  UO0001 HOLE-PUNCH.    17.       109.     36.    12.80  950119.  █.█      0.  HOL
        14.  Z0200B BALLPEN        17.       361.     19.    34.45  950531.  22.000    1.  PEN
F3=Exit  F5=Refresh  F6=Mode  F10=Update  F11=Single-rcd  F13=Service  F14=Reorder  F15=Bwd sca
```

Display full change screen

Navigating through the display screen

Display mode

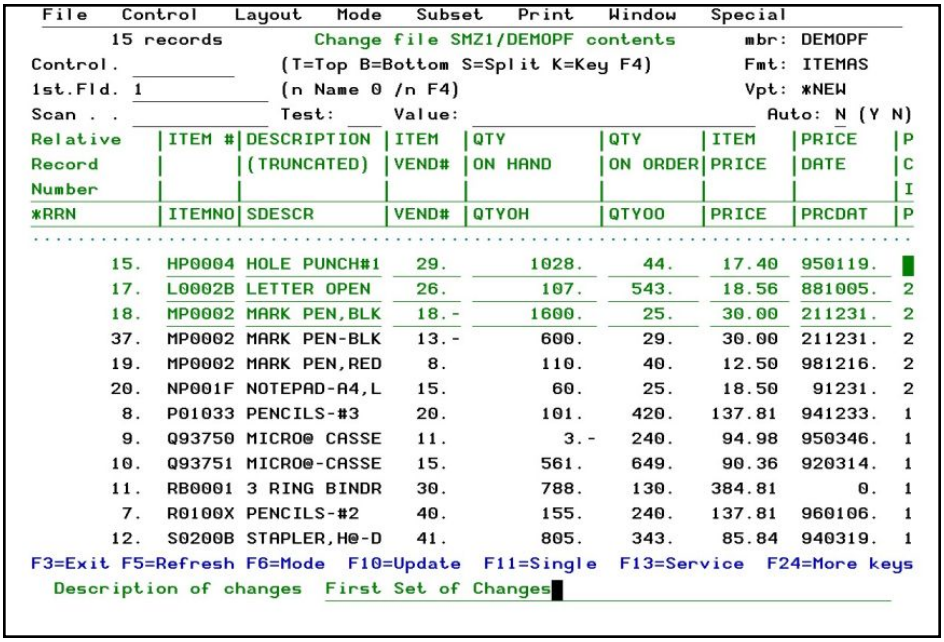
Press **F6** to change the display file mode



Mode

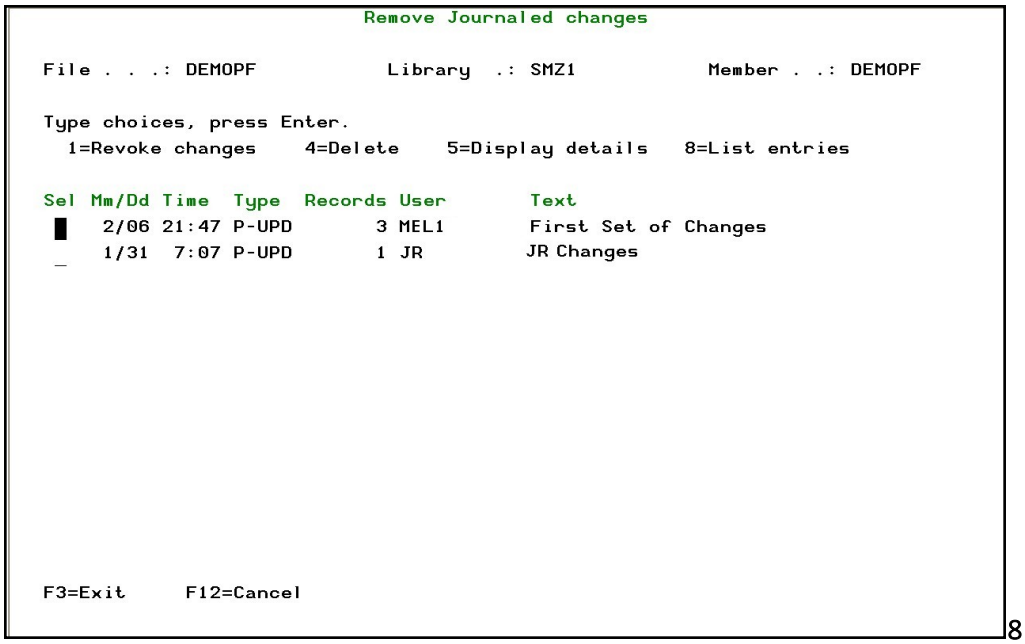
Update

1. Press **F10** to update the record's data (press **Enter** to move to the next record). When you have finished updating data, press **F10** again. A **Description of changes** line appears, allowing you to add a descriptive text for the update action.



Change File

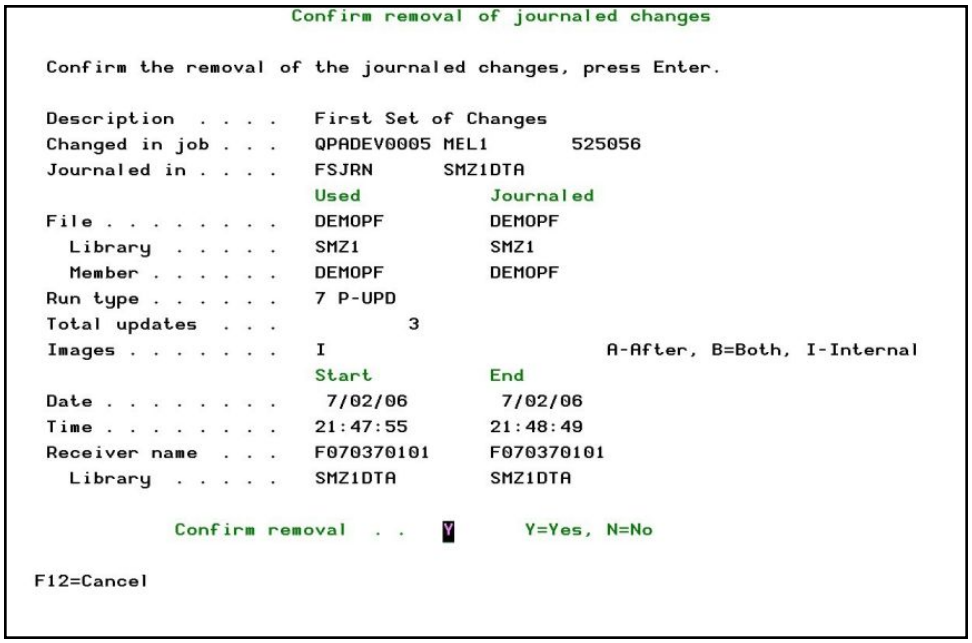
2. This action can be revoked even after several days. Press **F13** for Services in the **Change File** display and select **12.Undo Changes**. A list of the latest changes appears with the changed date, time and the descriptive text. Every changes page is a set of changes and appears separately.



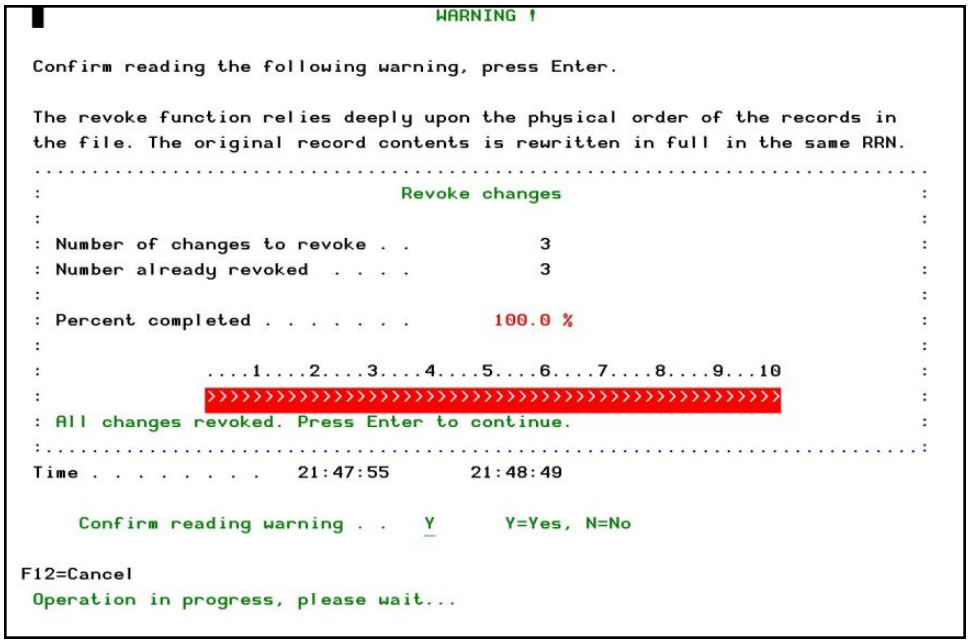
8

Undo Changes

3. Type **8** to view the system's journal of changes. You can also see the user and the session in which the changes were performed.
4. Type **1** to select the set to revoke and press **Enter**. The **Confirm Removal of Journaled Changes** screen appears, type **Y** to confirm and press Enter.



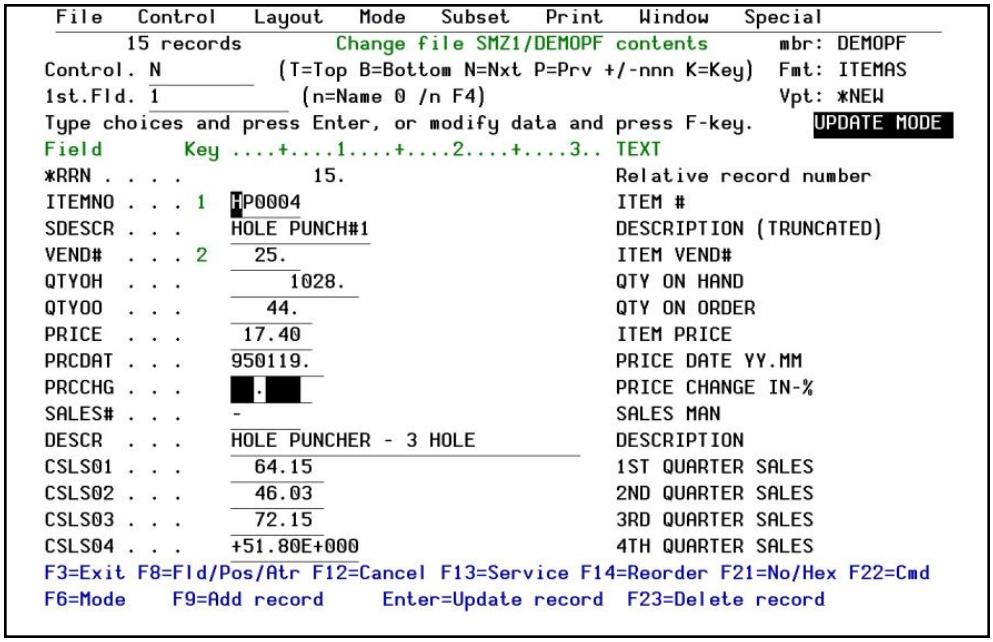
Confirm removal of journaled changes



Operation in Progress

Update Single Record

1. Press F11 in the Change file screen to update one record at a time

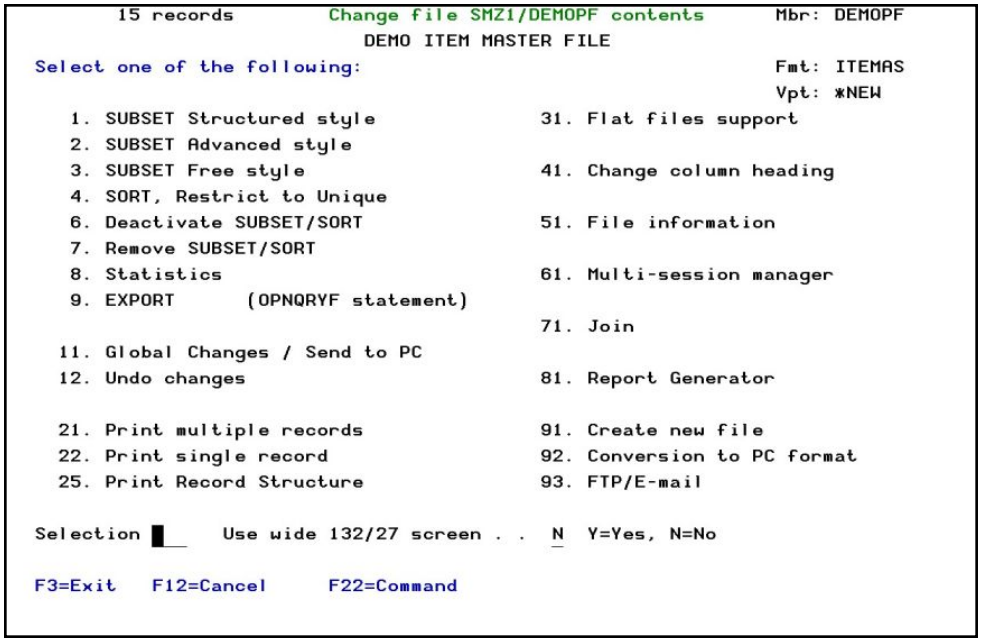


Update Single record

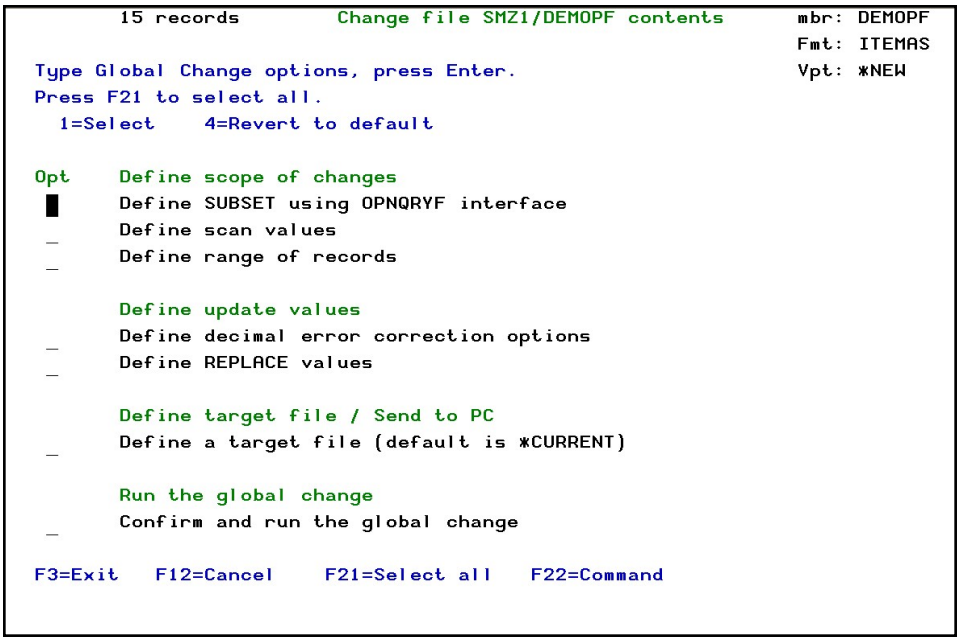
2. Type N at the Control line to update the next record, or P to update the previous one. Press Enter to confirm the changes.

Services

1. Press F13=Service in the Change file screen. The Services menu appears.



2. Select 11. Global changes / Send to PC. The global changes menu appears.



Global changes

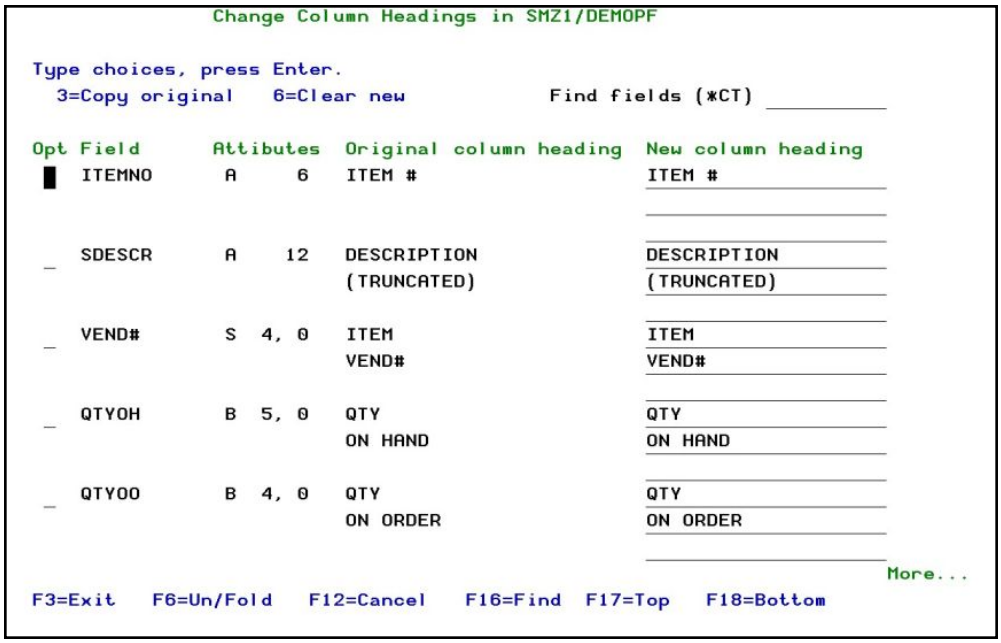
- Defining global **subset** for the file.
- Global **scan** filter values.
- Define **range of records** to start and end from which Key. Press **F4** to choose from a list of the files' keys.
- Define global updates like correcting **decimal errors** or replacing the fields with zero character.
- Define **replace value**, add a permanent number to the end of specific fields, subtract 15% off a value or change the description of the fields to be another field's data.
- **Confirm** the global definitions and types a description of the changes for future option of undo.

3. Select **12. Undo Changes**, type **1** to select the Set of changes to revoke.
4. Select **41. Change column heading** to change the column headings of the physical file. This is a unique feature of **FileScope**.

Note:

You can only perform this operation when you have sole access to the file. When the operation starts, the file receives an *EXCL lock until you release it. This may prevent other others from performing their tasks.

The operation cannot be performed on a file which is not either a physical file, or an SQL table, or an SQL view.



Change Column Headings

Chapter 4: Common Functions

Selecting a File

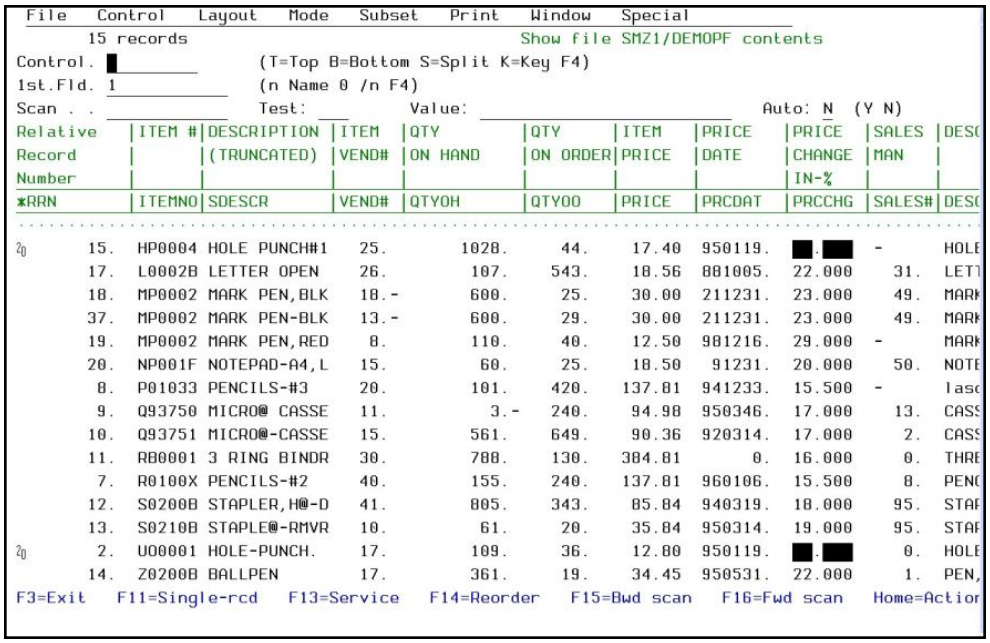
Select **1. Show File** or **2. Change File** in the main menu, or type ***SHWFC*** or ***CHGFC*** at the command line.

File	**Name** = The name of the file **F4** = Lists all data files in specified library (if library is set to *LIBL the list is displayed from the first user library in the library list. **F9** = Lists the last 11 files accessed
Library	**Name** = The name of the library ***LIBL** = The library list used for locating a file. ***CURLIB** = The current library is used to locate the file
Select from related files	**Y** = Displays the files related to the one entered. Whenever this option is selected, it displays a selection list containing files related to the entered file name. If the file is a physical file, then all logical files built over it are included. If the file is logical, then all physical files, which are built over this file, are displayed.
Member	**F4** = Lists the members in the file ***FIRST** = The first member is selected
Viewpoint	**F4** = Lists the Viewpoints defined for this file ***DFT** = Viewpoint with the same name as the file is used. Otherwise, the DDS of the file is used ***NEW** = The DDS of the file is used
Run the Viewpoint	***YES** = Run the selected Viewpoint ***NO** = Do not run the selected Viewpoint
Use Key Sequence	***YES** = The selected file is accessed in Keyed Sequence ***NO** = The selected file is accessed in physical sequence

Full Screen Display

NOTE: The examples in this and the chapters that follow use the demonstration file DEMOPF in library SMZ1.

From the command line type: ***SHWFC SMZ1/DEMOPF*** or select **1. Show File** from the main menu, type ***DEMOPF*** in the **File** field and ***SMZ1*** in the **Library** field. The **Show file** screen appears.



After either entering the command or selecting option **1** from the **Main Menu**, the multi record screen is displayed.

FMT = **This is the name of the record format for the file. If the file is a multi-record format and a logical file, this field becomes input capable and can contain the following values.**

*ANY = **Each record type of the file is displayed and edited properly according to its definition. The titles are set based on the first displayed record.**

1st Fld. – Displays **the records in order of the first field displayed:**

- **Field-name** = The records are shifted so that they start with the entered field name
- **Number** = The records start with entered field number
- **Blank/Zero** = The records are shifted one full screen to the right
- **/n** = Converts the display to the record string starting from position ***n*** in the record.

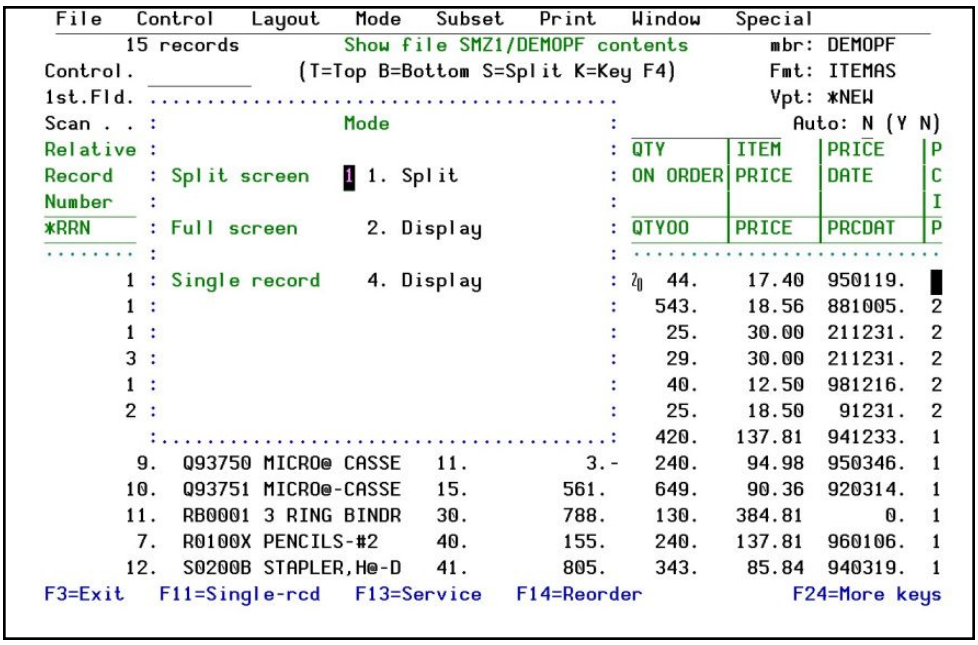
- **F4** = Lists alphabetically sorted field names from which a selection can be made.

Split Screen Display

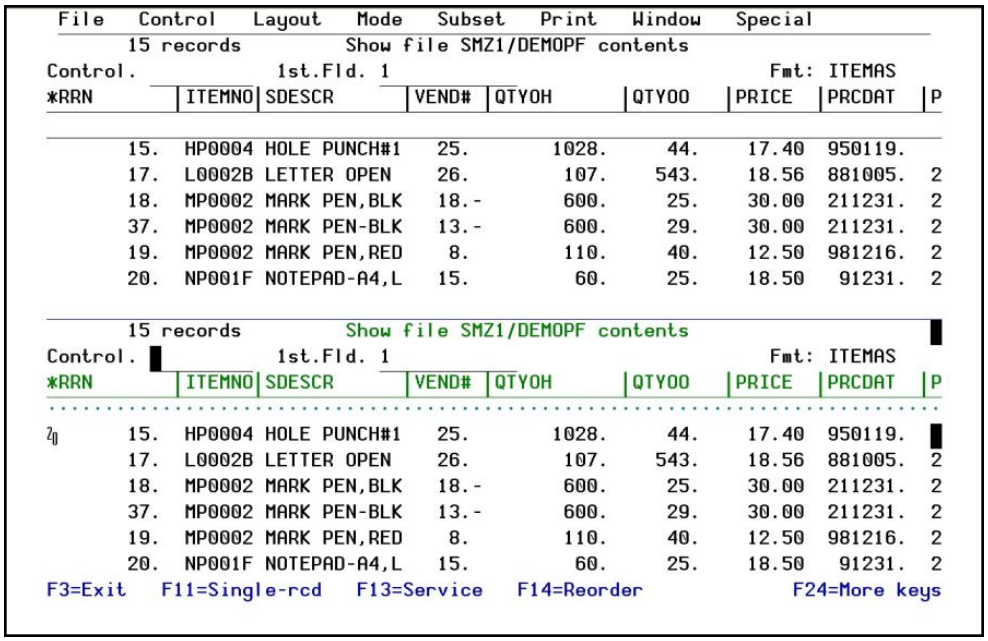
With FileScope the user can view and work with two files at the same time.

From the Main menu select either option 1. Show File or 2. Change File to bring the file selection criteria screen (see the section entitled Show File or Change File for information on selecting your criteria). Press Enter to view or change the first file.

Press F6 to bring up the Mode selection window.



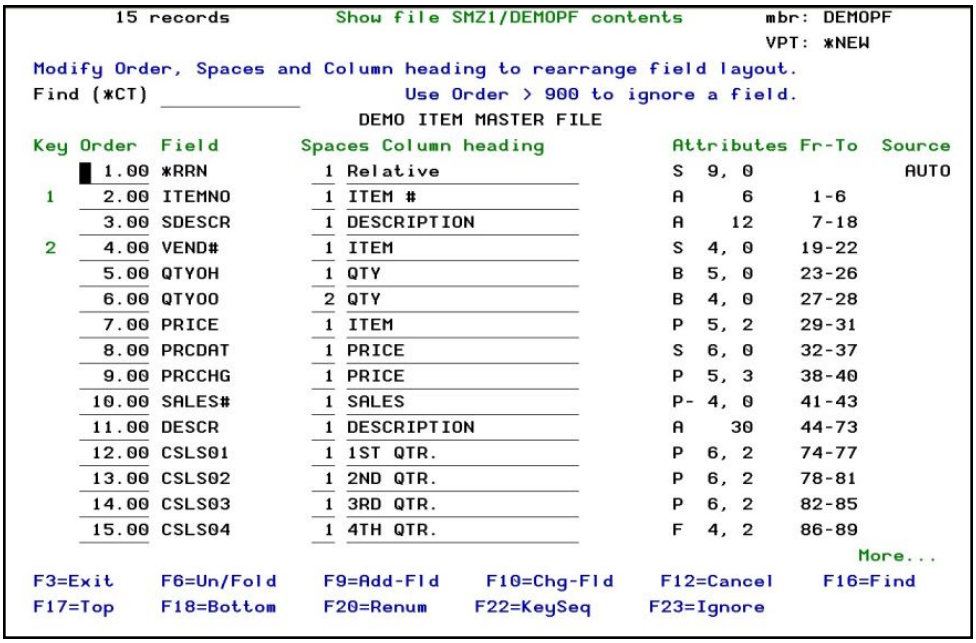
Select Split screen, fill out the file information and press Enter. You now have both files on your screen, each showing 6 records. Depending on which option you have chosen either Show File or Change File, you can perform all functions of either option on both files at the same time.


File Control Layout Mode Subset Print Window Special
15 records Show file SMZ1/DEMOPF contents
Control. 1st.Fld. 1 Fmt: ITEMAS
*RRN ITEMNO SDESCR VEND# QTYOH QTYOO PRICE PRCDAT P
15. HP0004 HOLE PUNCH#1 25. 1028. 44. 17.40 950119.
17. L0002B LETTER OPEN 26. 107. 543. 18.56 881005. 2
18. MP0002 MARK PEN,BLK 18.- 600. 25. 30.00 211231. 2
37. MP0002 MARK PEN-BLK 13.- 600. 29. 30.00 211231. 2
19. MP0002 MARK PEN,RED 8. 110. 40. 12.50 981216. 2
20. NP001F NOTEPAD-A4,L 15. 60. 25. 18.50 91231. 2
15 records Show file SMZ1/DEMOPF contents
Control. 1st.Fld. 1 Fmt: ITEMAS
*RRN ITEMNO SDESCR VEND# QTYOH QTYOO PRICE PRCDAT P
15. HP0004 HOLE PUNCH#1 25. 1028. 44. 17.40 950119.
17. L0002B LETTER OPEN 26. 107. 543. 18.56 881005. 2
18. MP0002 MARK PEN,BLK 18.- 600. 25. 30.00 211231. 2
37. MP0002 MARK PEN-BLK 13.- 600. 29. 30.00 211231. 2
19. MP0002 MARK PEN,RED 8. 110. 40. 12.50 981216. 2
20. NP001F NOTEPAD-A4,L 15. 60. 25. 18.50 91231. 2
F3=Exit F11=Single-rcd F13=Service F14=Reorder F24=More keys

Reorder Fields

To display the re-order screen press F14. The reorder option enables you to customize the screen display and re report shape. This includes:

- Choosing which fields are displayed and the order in which they are displayed
- Changing the number of spaces between fields
- Modifying titles and column headings
- Adding new fields



When re-ordering fields the file definition is not changed, yet all subsequent displays and listings appear in the new order. The changes made here, including the addition of internal fields (see *Internal and Calculated fields*), can be used later to define new files and can also be saved as a ViewPoint.

Find

Enter a NUMBER, CHARACTER, or FIELD NAME and press **Enter**. The cursor is placed next to the first field that is found. Pressing **F16** finds the next field.

Key

Display the records in key order sequence. For descending order use ‘D’.

Order

The numerical value determining the order in which the fields are displayed. If ORDER is equal or greater than 900.00 the field is not displayed. The special field *RCD which represents the record string defaults to an ORDER value of 999.99

Spaces

The number of spaces left between the end of this field and the beginning of the next field. Initially, this value is set so that COLUMN-HEADING can appear in full. Decreasing this value (zero is also a valid entry) allows more fields to be shown on one screen.

Column heading

This represents the three lines containing the field. They are used in the multi-record format displays and in printouts. You can adjust the SPACES value according to the length of the new column heading. You only see the first of the three lines. To see the other two lines, press F6=Un/Fold.

Field-Text

The text used to describe the field in single record display format. To view the text you need to select the field list view. Pressing F6=Un/Fold brings the user to this screen.

Field-Source

This output field describes the origin of the fields

AUTO = the product adds fields automatically. The following fields can be added:

- *RRN (Relative Record Number) = The physical position of the record in the file
- *RCD (Record String) = The entire record as one character string
- *FMT (Format Name) = The name of the record format which this record belongs to. This field is added only if the file contains more than one record format.
- RPG = Fields retrieved from “I” statements of RPG programs. See S/46 conversion for more information
- INT = Internal field added by the user
- CLC = Calculated field added by the user

Internal and Calculated fields

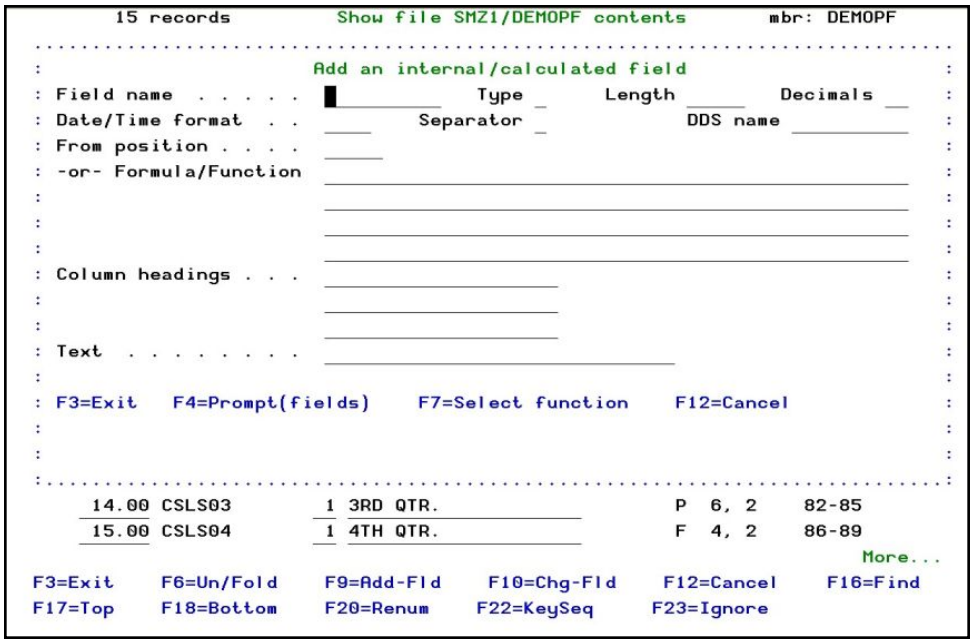
FileScope allows the user to define additional fields that can then be used with the Show, Change and Print functions. This can also help you query and maintain files that do not have external definitions. Internal fields can be defined for files that do not have external definitions (DDS), as well as for files with external definitions. For files that contain large fields, you can break the fields into smaller ones. The modified layout can then be kept for future use when exiting FileScope.

Internal fields are defined using the "From position" parameter.

Internal fields which do not cross field boundaries (for example, start and finish within one external field) can be used in selection tests for a SUSBSET.

Calculated Fields are defined using either formulas or functions.

Press F9 from the Reorder screen to define a new internal or calculated field:



FileScope opens a window at the top of the screen that allows the user to define a new field. Press F4 to prompt for Field name, Type, Length, Decimal position or Function formula, Column headings and a descriptive text.

The ORDER number for each new field added is set at 1.00 and all other ORDER numbers are incremented accordingly.

The new field can be used with the *CHGFC* command to update a file. It can also be used like any other field for scanning (See Scan).

Internal field definitions can be saved together with an associated Viewpoint (see Viewpoints). To remove an internal field definition from a Viewpoint, change the *ORDER* number to a value greater than 900.00.

Changing Field Definitions

To change the definition of a field, place the cursor at the required field and press F10 from the Reorder screen. FileScope prompts the display of the current definition, allowing for a change.

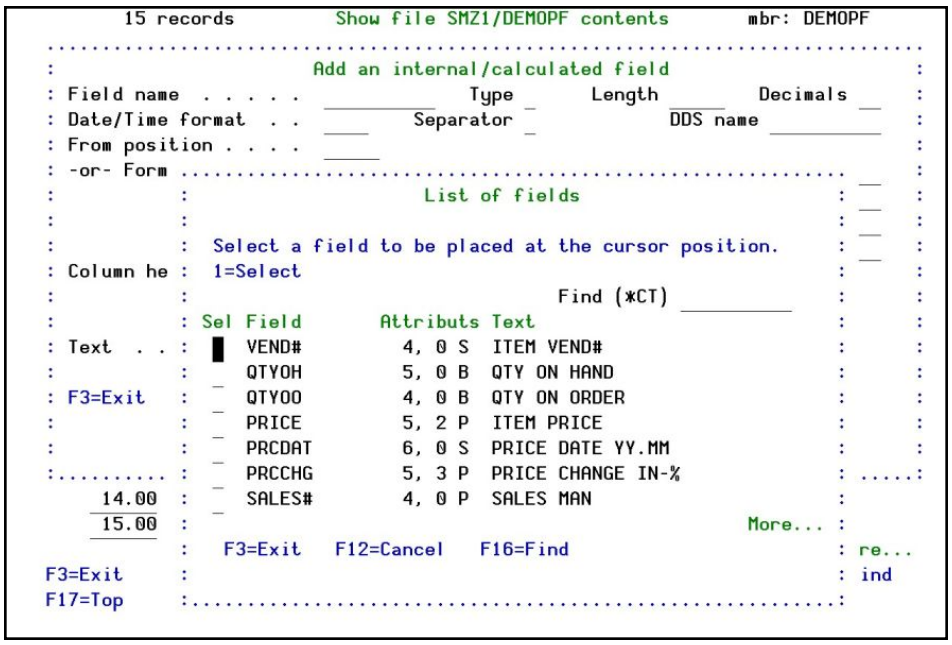
RPG Input Specification Fields

Fields defined as RPG input specifications or as data structure can be imported automatically by using the **S/36 Files Support** (option **31** in the **Service menu**).

Formulas and Functions

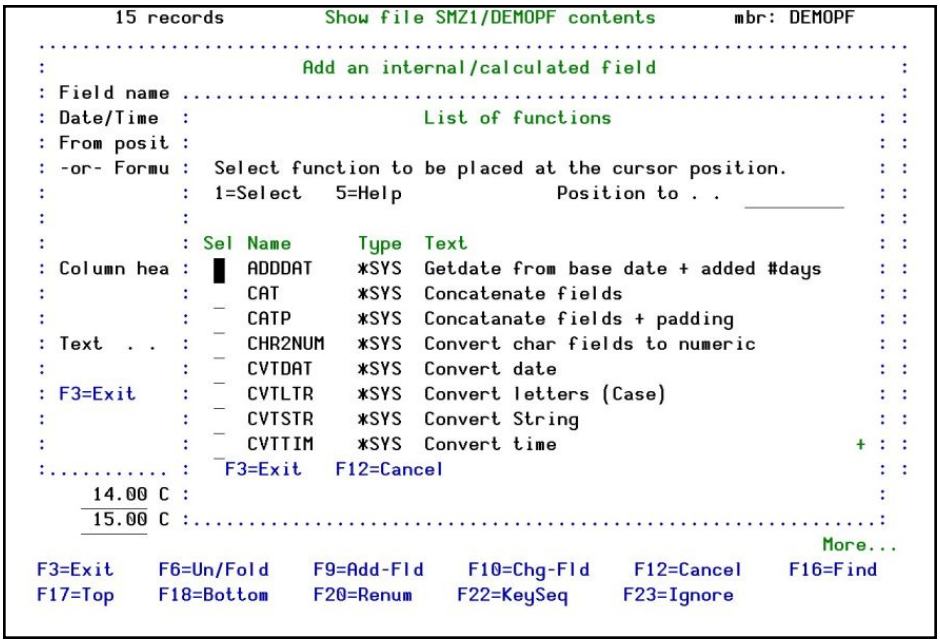
Either a formula or function in combination with fields and constants can be used to define calculated fields.

Fields in the record can be selected from a list by pressing **F4**when the cursor is in the Formula/Function field.



List of Fields

The functions supported by FileScope include data/time conversion, field concatenation, character and string conversion and IF logic functions. Functions are selected by pressing **F7**.



List of Functions

Pressing Option **5** next to a function provides help on how to use the function.

The available functions are:

ADDDAT	Get date from base date+ added #days
CAT	Concatenate fields
CATP	Concatenate fields and pad
CHR2NUM	Convert Character to Numeric
CVTDAT	Convert Date
CVTLTR	Convert Letter (Case)
CVTSTR	Convert String
CVTTIM	Convert Time
DAYWEEK	Find the weekday out of the date
DBC#G2A	Convert a DBC “G” type field to alphanumeric
DIFDAT	Calculate the number of days between two dates
EDIT	Edit a numeric field (remove leading blanks)
EDITL	Edit a numeric field (left justified)
EURO	Convert EURO
EURO#RE	Convert EURO err
FLIP	Reverse field data
GRAPH	Show value as bar graph
HEX2CHR	Convert Hexadecimal to Character
IF	%IF – Function Code
IFAND	%IFAND – Function Code
IFOR	%IFOR – Function Code
MAP	Copy 7 and map field to new attributes
NUM2CHR	Convert numeric to character
RANDOM	Fill file randomly
WEEK	Get the week/year for a date

IF, IFAND and IFOR Functions

The *IF, IFAND* and *IFOR* functions can be used to return a value for a calculated field based on tests between one or two sets of values. The test operator(s) can be EQ, NE, GT, GE, LT or LE. There is a full explanation of the usage of these functions in the FileScope online help but a brief description and example is provided here.

The *IF* function allows a test to be made between two values. Each value can be either a constant or a field. The result of the test (true or false) determines which of another two values (fields or constants) are returned by the calculation.

Format: %IF (&value1 &test &value2&true&false)
Example: %IF (&PRICE GE 200 1 0)

The *IFOR* function returns a value based on the result of an OR relationship between two tests.

Format: %IFOR(&value1 &test1 &value2 &value3 &test2 &value4 7true &false)
Example: %IFOR(&VEND EQ 50 &VENDCLASS EQ T 'YES' 'NO')

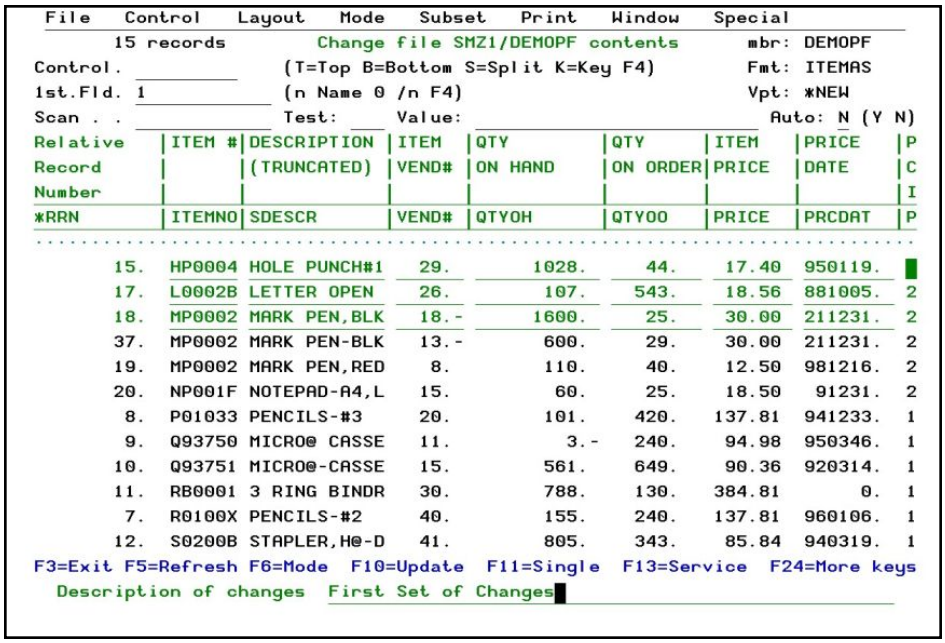
Chapter 5: The Change File Command

Multi-record File Maintenance

Full Screen Update

Available in FileScope Platinum only

1. Change an input field or fields by typing over the displayed data. Press ENTER to open a window on the next row. The cursor can also be moved up or down.



This is done so that the user is free to choose the next record on the screen to be changed. ENTER opens the window on the chosen record.

F5 = Refresh the window

F10 = Updates the changed records.

If the internal journaling system is active, you should enter text describing the planned group of updates so you can identify the changes if they need to be revoked. If the internal journaling system is not active, a warning message is displayed. Pressing ENTER completes the update of the records and leaves the update mode.

2. After modifying the last displayed record, the process is completed exactly like F10. F12 = Returns the user to the update mode without updating the records and a warning appears. Press F12 again to exit without updating. To return to update mode press ENTER.
3. By pressing the F6 key and selecting the SPLIT SCREEN mode you can edit records from two files simultaneously.

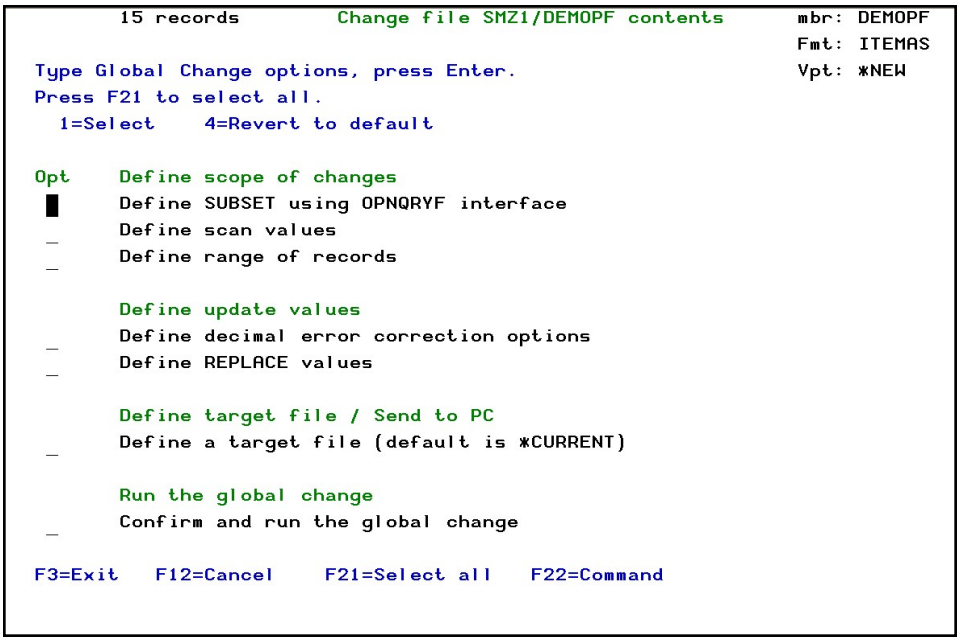
Global Changes

Through global changes, it is possible to perform the following operations on a set of records:

- Update / Add / Copy / Delete
- Correct numeric errors (decimal errors) automatically
- Create partial files (“OUTFILE” Concept)
- Copy selected data to other files
- Many requests no longer need to be programmed they can be automatically processed very quickly. Just specify your requirements and FileScope does the rest.
- It is now possible to do the following:
    - Define a set of records, which contain a given text
    - Update Changes in the PRICE field by a given percentage
    - Update the original record

More complicated requests can be processed just as easily, for example:

- Define a SUBSET – locally manufactured items containing a given text, with a price less than a given amount
- In Key Range – Characterizing items manufactured locally
- Select – Only those items which have ‘4’ as third digit.
- Correct Decimal Errors – If any
- Modify Values add 10% to “PRICE”, set “PRICE CHANGE DATE” to first of the month
- Update the file by adding records to a newly created file
- The ‘Global Change’ is an option selected from the SERVICE MENU.


15 records
Change file SMZ1/DEMOPF contents
mbr: DEMOPF
Fmt: ITEMAS
Vpt: *NEW
Type Global Change options, press Enter.
Press F21 to select all.
1=Select
4=Revert to default
Opt
Define scope of changes
Define SUBSET using OPNQRYF interface
Define scan values
Define range of records
Define update values
Define decimal error correction options
Define REPLACE values
Define target file / Send to PC
Define a target file (default is *CURRENT)
Run the global change
Confirm and run the global change
F3=Exit
F12=Cancel
F21=Select all
F22=Command

Defining the records to be changed

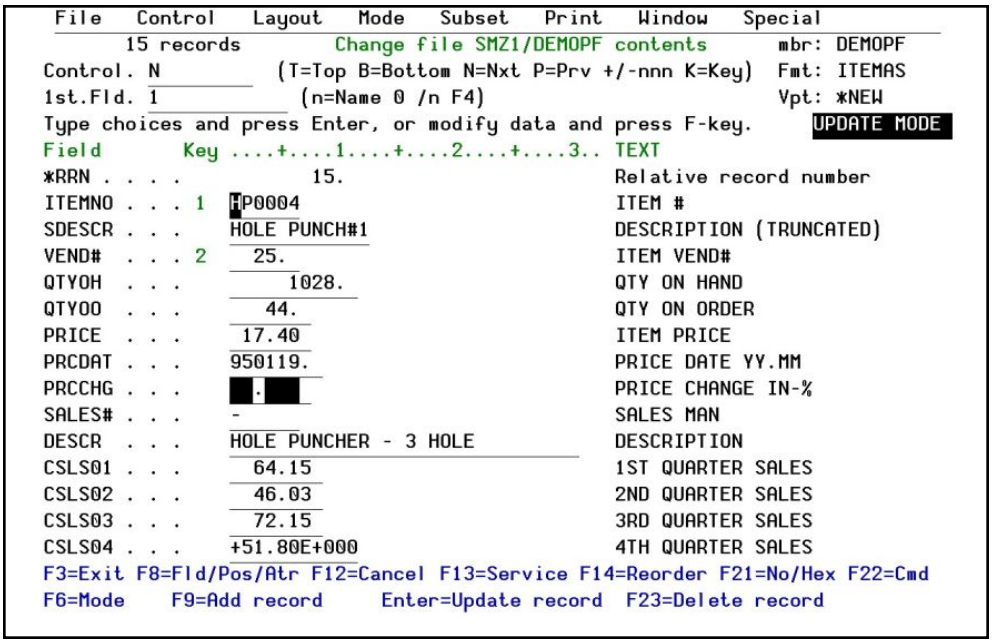
The records to be updated are defined as a range within a defined subset, selecting only the records that comply with the scan criteria. The default range is all the records in the file.

SUBSET definition

For a description of the SUBSET function, see *Work with Subsets* on page *50*.

Single Record File Maintenance

To alter a record, locate and display it on a Single Record Screen. Place the curser on it and press F11.



The single record screen is now in the UPDATE MODE. You can ADD, CHANGE, and DELETE records while in the User Choice mode by pressing the appropriate command key. Alternatively, you can select a single record mode of ADD, CHANGE, or DELETE and change the file by pressing ENTER. The other available modes are SINGLE RECORD DISPLAY, MULTI-RECORD DISPLAY, and MULTI-RECORD UPDATE.

The first change made to the file (ADD, CHANGE, or DELETE) while using the single record screen either gives a warning that the file is not being journaled, or requests descriptive text about the changes.

Single Record Update

User Choice Mode

To update a record, type over the displayed data of that record and press F10. The fields are displayed and entered in the actual size.

After pressing F10, if the internal journaling system is active, you should enter text describing the planned group of updates so that you can identify the changes more easily, in case they need to be revoked. If the internal journaling system is not active, a warning message is displayed. Pressing ENTER completes the update of the records and leaves the update mode. F12 returns the user to update mode without saving. This window is then displayed just one time for each group of changes.

A confirmation request appears before each update operation.

Update Mode

Change to Update Mode using the F6 key. Using either the single record screen or the multi-record screen, select 4 and press ENTER.

The steps are the same as for the User Choice Update, except that ENTER should be pressed to update a record instead of F10.

Update in Hexadecimal

Data can also be altered through hexadecimal representation. Press F21 to add hexadecimal representation.

Logical Files with Select/Omit Consideration

Updating/Adding records in a logical file with Select/Omit criteria may cause the records to be removed from the currently used file due to selected criteria.

Audit Trail Report

All changes made to a file are automatically logged to an audit report. The “before” and “after” image of each record is listed, along with field titles and formatted fields. The report highlights changes by printing an asterisk next to the fields in which the value has changed. If a field contains unprintable characters, the hexadecimal representation of that is printed

Single Record - Add

To write a new record, replace the contents of the displayed record and press F9. To add an empty record, move to the end of the file (*EOF is displayed instead of data) and press F9.

For the first record in a set of updates, the journal window appears, informing you whether the internal journaling system is active. If it is active, you are requested to enter text describing the planned group of updates that can help you to identify this in case it should be revoked.

Adding an Empty Record

If you add a record while End-of-File is being displayed, an empty record is added to the file.

Add Mode

Change to ***Add Mode*** using F6 from either the single record screen or the multi-record screen. Select 6 and press ENTER.

The steps are the same as “USER CHOICE ADD”. Except that

ENTER should be pressed to add a record instead of F9.

Single Record – Delete

User Choice Mode

Press F23=Delete record, to delete the record that is displayed. The journal window appears, informing you whether the internal journaling system is active. If it is active, you are requested to enter text describing the planned group of updates so that you can identify them in case it should be revoked. This window is displayed just once for each group of changes.

Delete Mode

Change to Delete Mode using F6 from either the single record screen or the multi-record screen. Select 7 and press ENTER.

Chapter 6: Undo Changes

FileScope includes an UNDO system that enables revoking file changes even after several days. The changes are identified by the descriptive text entered by the user, together with details of the job and the time the changes were performed.

The UNDO works for both physical and logical files (multi-record format logical files are not supported through the UNDO system). UNDO utilizes the operation system JOURNAL FUNCTION for the duration of the updating of the file. If the file has already been journaled, the existing journal is used. If not, a temporary internal journal is created and used.

Enabling UNDO

The parameter, JRN(*YES) in the *CHGFC* command ensures that the journal function is active. It checks the status of the journal and starts it if needed. If the file is already being journaled, FileScope uses the existing journal. In the latter situation the journal should be defined with IMAGES(*BOTH).

If the journal was not activated on entry to the *CHGFC*, it can be started from the Service menu using option 14-Start Journal File.

NOTE: It is impossible to start journaling a file to the internal journal while the file is being used elsewhere.

NOTE: If a file has more than 10 members then the parameter JRN defaults to *NO even if *YES has been specified. This is because of the performance implications of starting to journal a file with many members. A warning is displayed before any updates, and journaling can still be started from option 14 on the Service menu.

Naming a Set of Updates

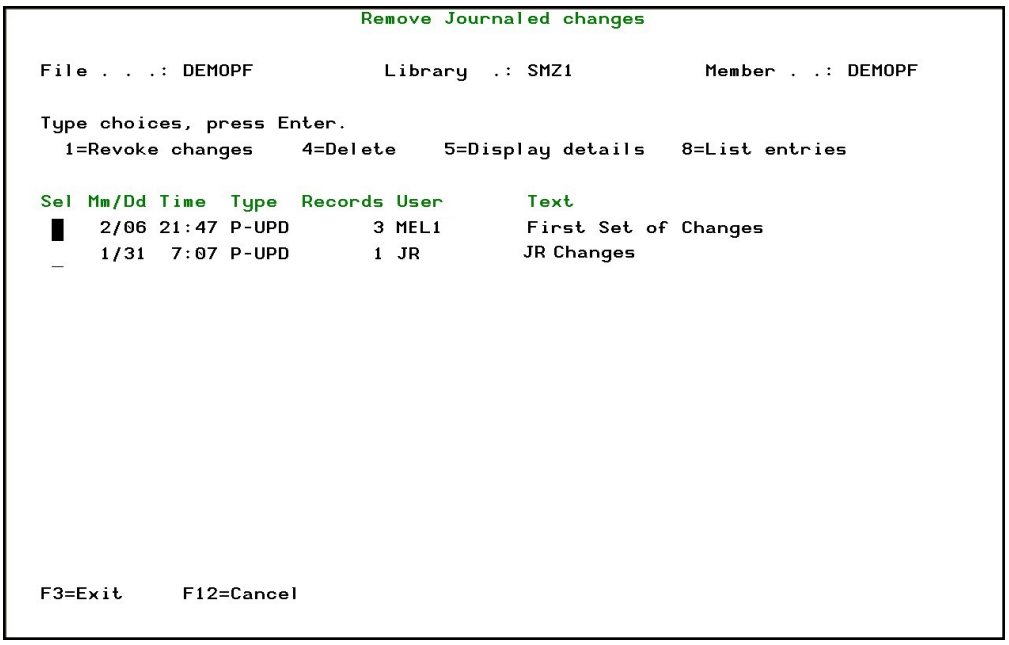
Whenever a set of updates is performed, the user is prompted to enter a descriptive text for the changes providing the file is being journaled by FileScope. Processing continues normally.

If the internal journaling system is not active a warning message is displayed. Pressing enter completes the update of the records and leaves the update mode. F12 returns the user to the update mode.

Using UNDO

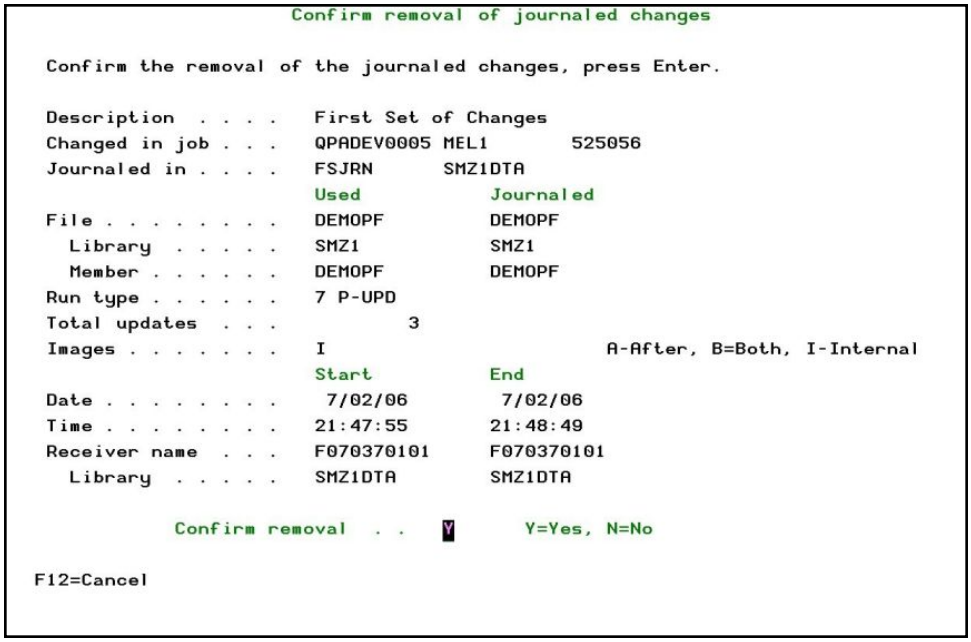
Changes that have been journaled may be viewed and removed by selecting option **12. Undo Changes** from the Service menu.

The Remove Journaled Changes Screen is shown below



Removing the Changes

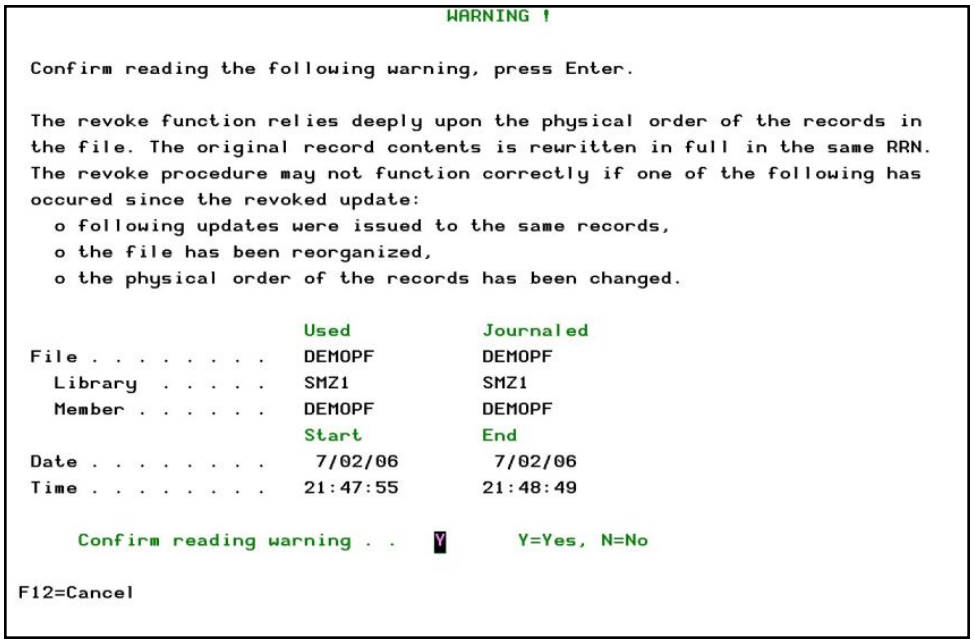
Select 1 to display the confirmation screen.



Type '**Y**' and press ENTER to confirm removal of changes.

(Typing '**N**' and pressing ENTER is the same as F12 = Cancel).

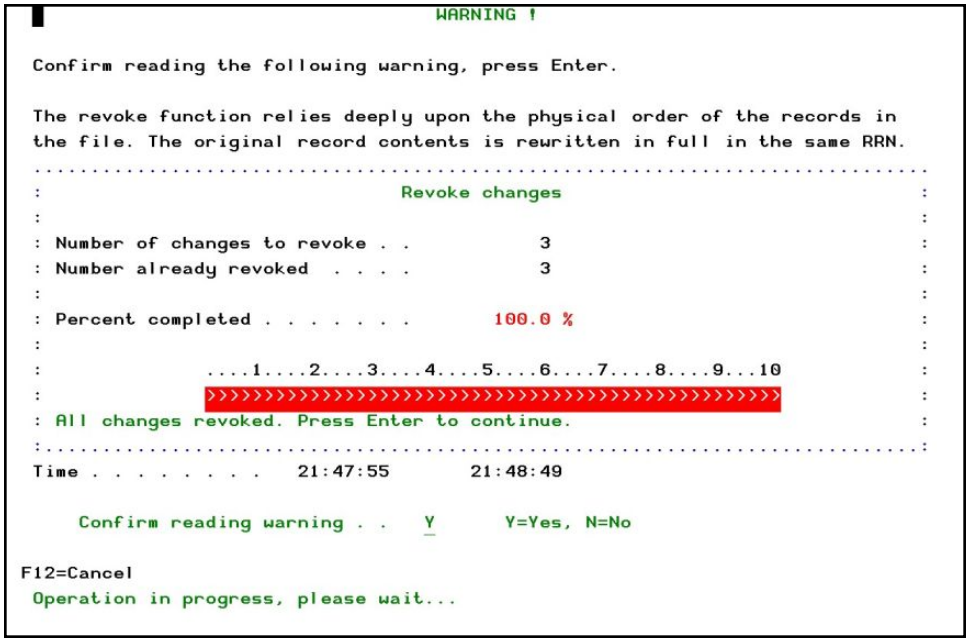
The warning screen is displayed.



Type 'Y' again to confirm and press ENTER to remove the changes.

(Typing 'N' and pressing ENTER is the same as F12 = Cancel).

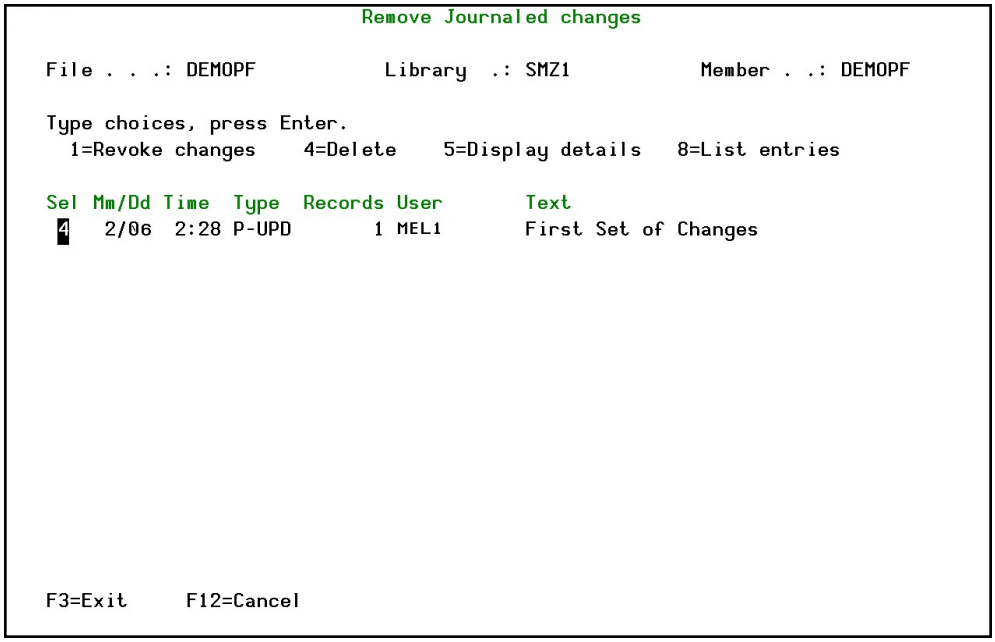
The Revoke Changes screen is displayed.



The changes are removed. Press ENTER to continue.

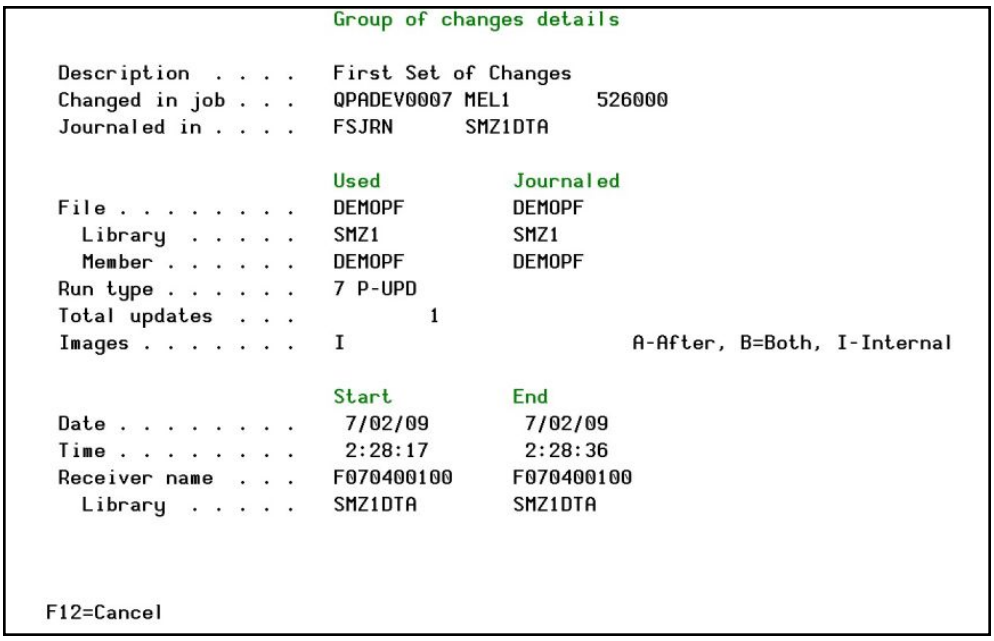
Removing Internal Journal Entries

Select 4 to remove the FileScope internal journal entry from the list displayed on the Remove Journal Changes screen.



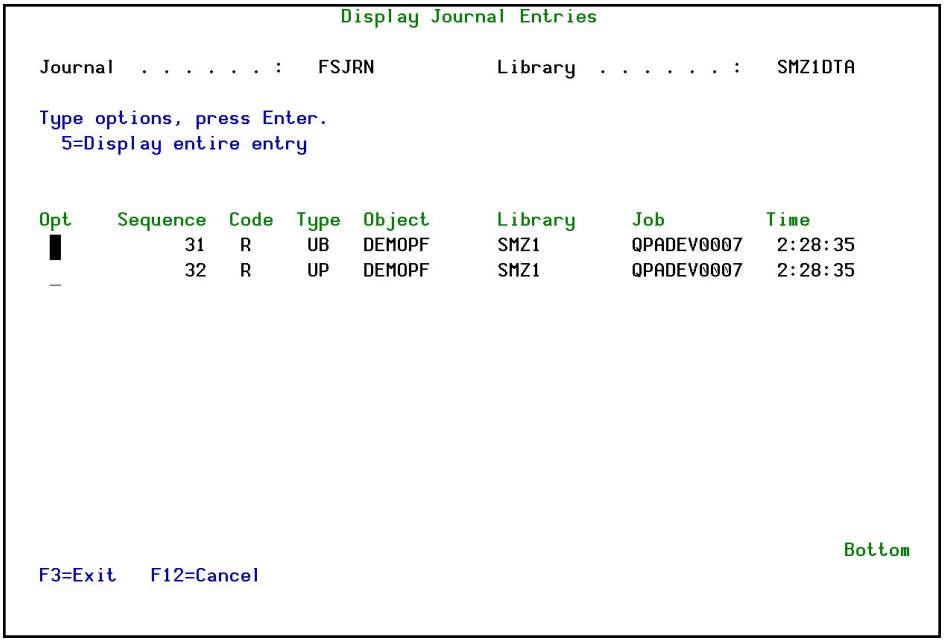
Displaying Changes Details

Select 5 to display the details about a group of changes.



Displaying a List of Changes

Select 8 to display a list of changes (journal entries) within a group.



Individual journal entries can be displayed from this screen.

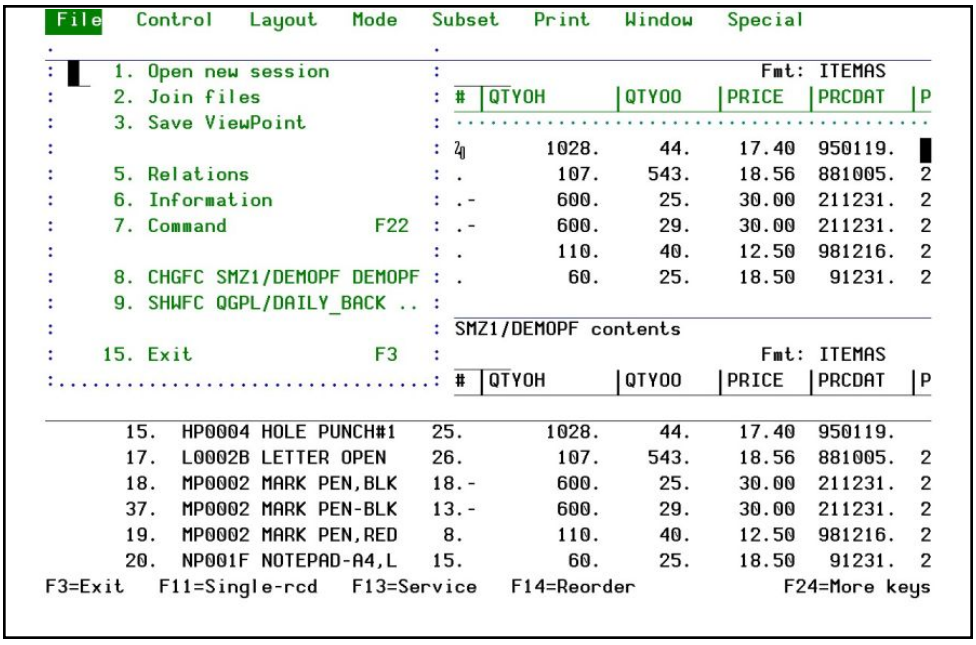
Chapter 7: Drop-down Menu

The Mouse or Cursor keys can perform most FileScope operations. This applies to dumb terminals as well, and is implemented by a Windows like Drop-down Menu system.

Enabling up to 16 sessions to work simultaneously also shows similarity to Windows, while keeping trace of the latest files used.

To activate the menu, press the [HOME] key or press [ENTER] while the cursor is on the first line in the screen. In most emulation software, use the mouse, point at the menu item, and double click.

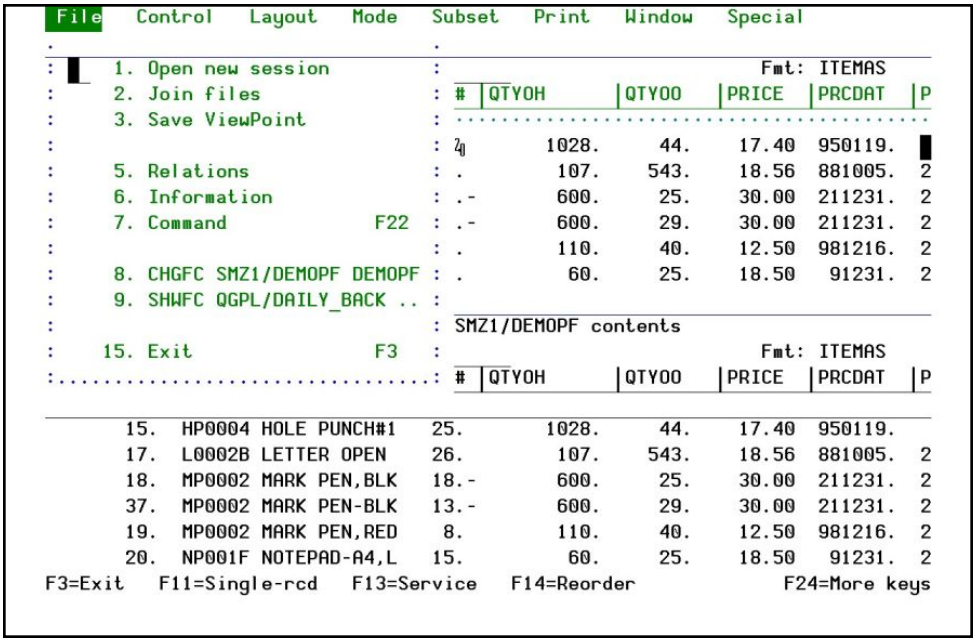
When the Drop-down Menu is active, a panel similar to the following one is displayed.



Use the [TAB] or cursor keys to skip to the selected item and press [ENTER]. Point and double click to select an item, using a mouse.

NOTE: The Drop-down Menu can look different depending on the System i terminal or emulation being used. The content of the Drop-down Menus can vary, depending on the FileScope features you are using - SHOW FILE or CHANGE FILE - and the version of FileScope you are working with – Platinum or Gold.

File Menu



Open new session

This is the equivalent of the multi-session option. Selecting this option brings up another window menu from which you can choose the type of session you want to open: SHWFC, CHGFC, STRPDM, CALL QCMD or CALL.

Join Files

This is the equivalent of the Multi-File Manager (JOIN).

Save Viewpoint

When you select this option, another window is displayed from which you can change the Viewpoint name and save the Viewpoint.

Relations

Displays database relations for the file.

Information

This is the equivalent of the File Information option.

Command

Displays a window from which you can enter System i system commands.

Activate from History

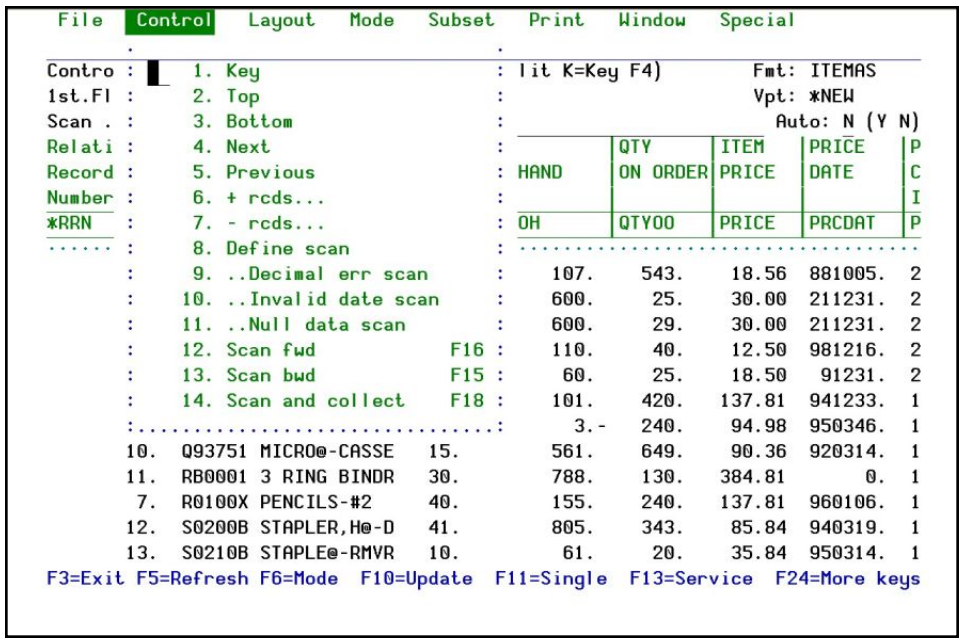
Selects a session to open based on a previous session. The last seven sessions are displayed for selection.

Revert to 1 Session

Close all sessions except the first. If there is only one session Exit is displayed instead of Revert.

Control Menu

The Control Menu provides the record positioning and scanning features that are available on the multi and single record screens.

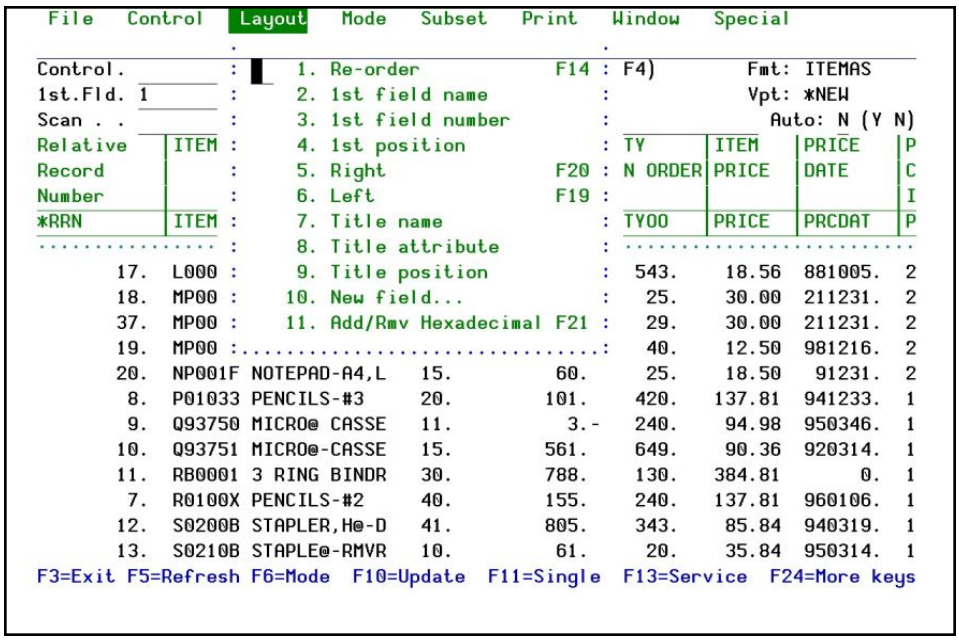


These features are explained earlier in this manual. When selecting the Control Drop-down Menu, a panel similar to the one above is displayed.

Layout Menu

The Layout Menu is used to change the display layout attributes for the field positioning, order, and information. New fields may be added and the data may be viewed in character or hexadecimal format.

These features were explained earlier in this manual. When selecting the Layout Drop-down Menu, a panel similar to the following one is displayed.

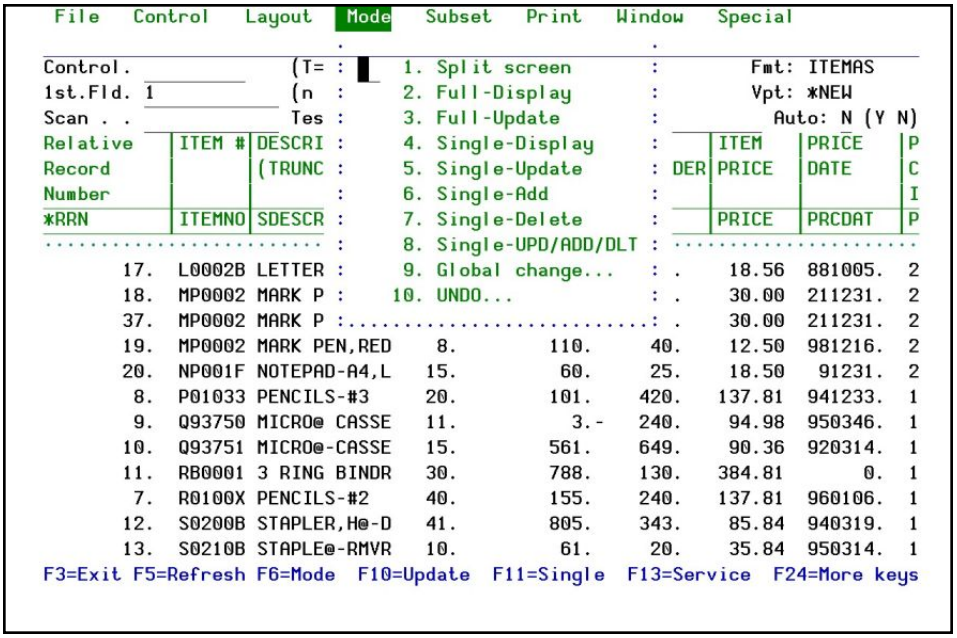


Mode Menu

The Mode Menu is used to select a new mode of operation, do global changes or use the UNDO feature.

These features are explained earlier in this manual.

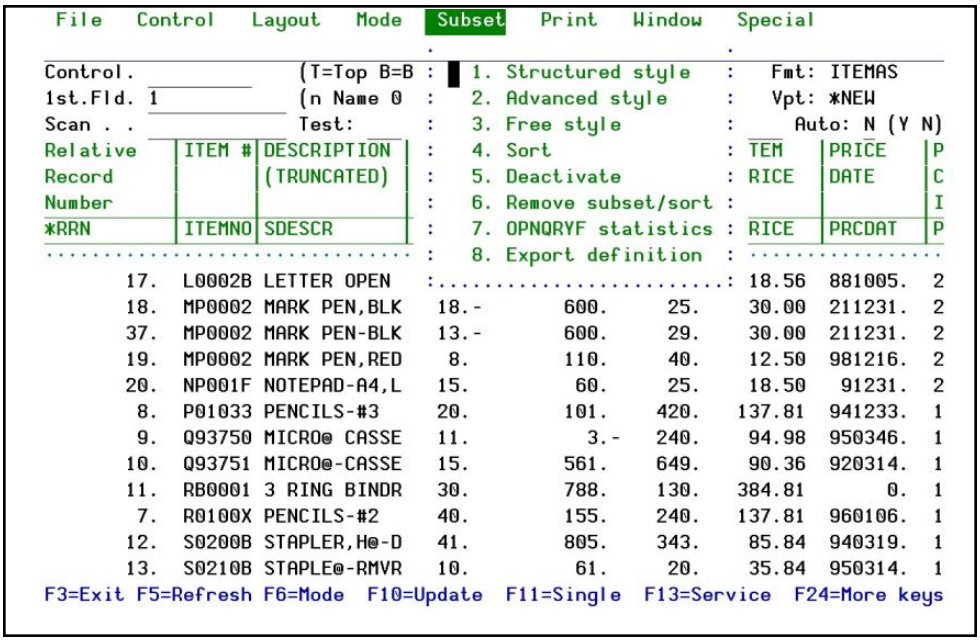
When selecting the Mode Drop-down Menu, a panel similar to the following one is displayed.



Subset Menu

The Subset Menu provides access to the various sort and subset features that are provided by options on the Service menu.

Option 3. Free style is available in FileScope Platinum only

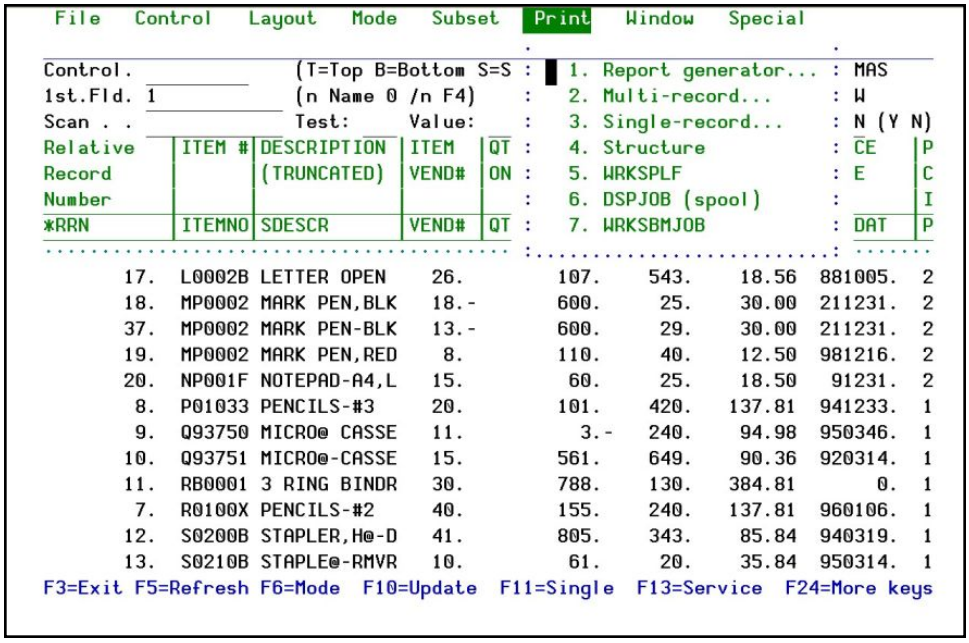


These features are explained earlier in this manual.

Print Menu

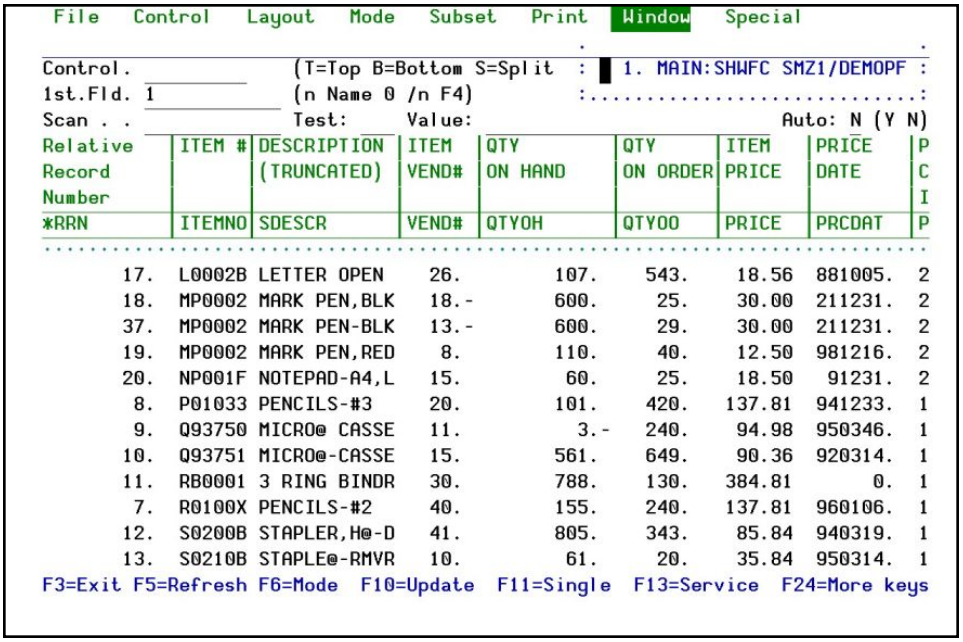
The Print Menu provides access to the various options on the Service menu. It is also possible to look at job information and spool files from this menu

These features have been explained earlier in this manual. When selecting the Print Drop-down Menu, a panel similar to the following one is displayed.



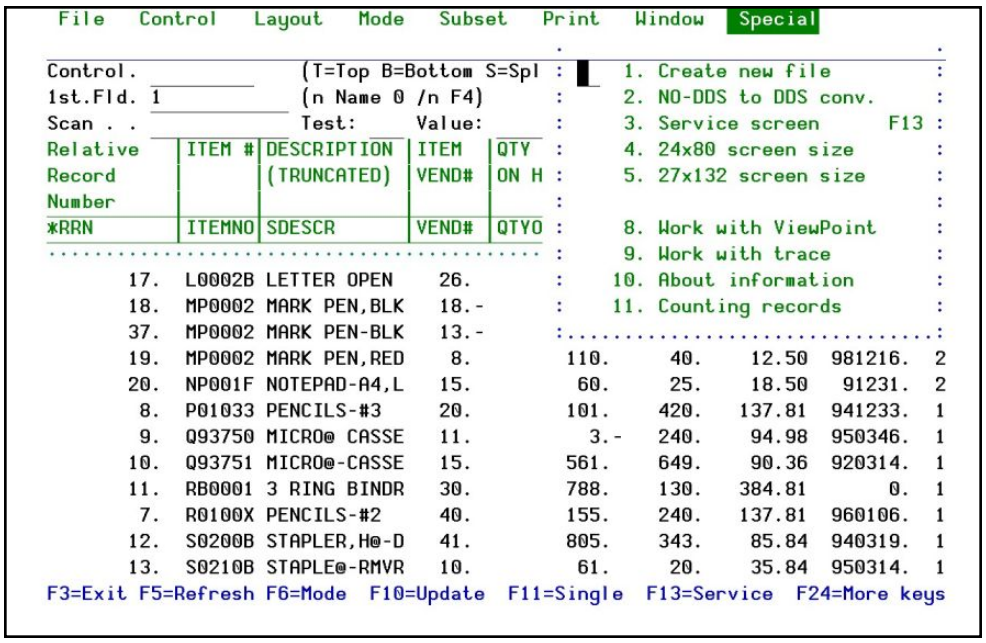
Window Menu

The Window Menu lists all open sessions. One of the other sessions may be selected as the current session.



Special Menu

The special menu provides access to the Service menu and some of its options. It can change the screen size setting and some of its options from the FileScope menu.

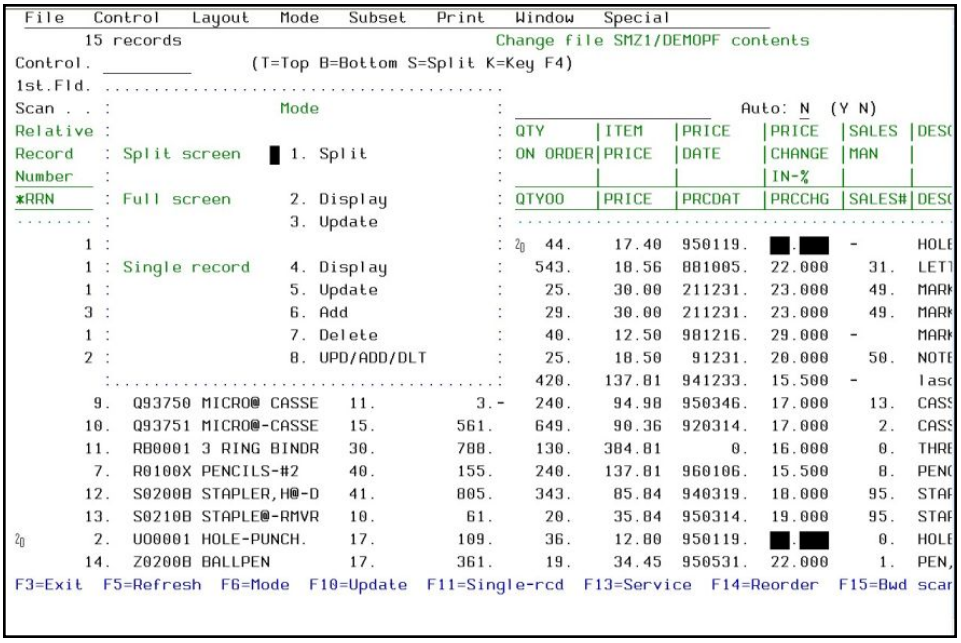


Chapter 8: FileScope Display Modes

Selecting a display mode can be made via a function key F6 or a Drop-down Menu for the following:

- Multi record mode = display, update
- Single record modes = display, update, add, delete, user choice

The mode of work appears highlighted on the upper right side of the screen. For example, in single record add mode, each Enter causes an addition of a record, unless any control function has been requested.



NOTE: The **MODE** Drop-down Menu can look different according to the System i emulation you are working with.

The content of the MODE Drop-down Menus can be different depending on the **FileScope** features you are using - SHOW FILE or CHANGE FILE - and the version of **FileScope** you are working with – Platinum or Gold.

The MODE Drop-down options are not detailed in this chapter. Refer to the corresponding part of this manual that gives details on each option.

Chapter 9: Journal Contents

Available in FileScope Platinum only

This option allows working with converted journal entries, contained in one or more receivers, into a form suitable for external representation. If the database file exits, records may either be replaced or added to the current data in the indicated file member. The system creates the specified database file member if they do not exist. Database files created by the system have a standard format. A WARNING message is sent and the records are truncated if any of the entries are longer than the specified maximum record length of the output files.

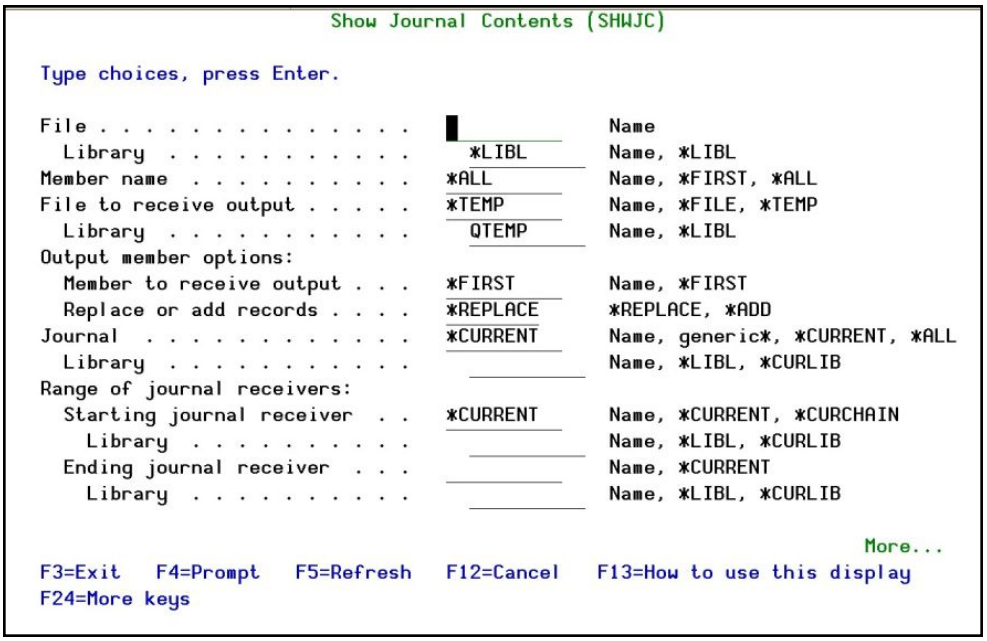
The contents of selected entries in the journal receivers may be converted for output. It is also possible to selectively limit the entries that are displayed. If no journal entries satisfy the selection or limitation criteria, an escape message is sent indicating that fact.

Gaps may exist in the sequence numbers of the converted entries. These occur because some of the journal entries represent internal system information. These entries are not converted.

Restrictions – The file specified for the database output file must not be journeyed to the same journal.

NOTE: Do not precede an entry with an asterisk unless the entry is a 'special value' that is shown (on the display or in the help information) with an asterisk.

To show a Journal, select **3. Show Journal** from the **Main menu**. The **Show Journal Contents** screen appears.


Show Journal Contents (SHWJC)
Type choices, press Enter.
File . . . . . Name
Library . . . . . *LIBL Name, *LIBL
Member name . . . . . *ALL Name, *FIRST, *ALL
File to receive output . . . . . *TEMP Name, *FILE, *TEMP
Library . . . . . QTEMP Name, *LIBL
Output member options:
Member to receive output . . . *FIRST Name, *FIRST
Replace or add records . . . . *REPLACE *REPLACE, *ADD
Journal . . . . . *CURRENT Name, generic*, *CURRENT, *ALL
Library . . . . . Name, *LIBL, *CURLIB
Range of journal receivers:
Starting journal receiver . . *CURRENT Name, *CURRENT, *CURCHAIN
Library . . . . . Name, *LIBL, *CURLIB
Ending journal receiver . . . Name, *CURRENT
Library . . . . . Name, *LIBL, *CURLIB
More...
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys

Show Journal Contents

File	Specify the name of the physical journaled filed whose journal entries are being converted.
Library	Specify the library name where the file is located ***LIBL** = All libraries in the job's library list are searched until the first match is found.
Member Name	Specify the name of the file member whose entry is being converted for output. ***FIRST** = Journal entries in the first member in the file are converted for output.
Journal	Specifies the journal from which the journal entries are retrieved for conversion and output. This is a required parameter. ***CURRENT** = Use current journal log
Library	Enter the library where the journal is located ***LIBL** = All libraries in the job list are searched until the first match is found ***CURLIB** = The current library for the job is used to locate the journal. If no library is specified as the current library for the job, QGPL is used.
Range of Journal Receivers	Specify a range of journals to start and end the output. Starting Journal Receiver - Specify the name of the starting journal ***CURRENT** – The current receiver that is currently attached when starting to convert journal entries is used. ***CURCHAIN** = The journal receiver chain that includes the journal receiver that is currently attached when starting to convert journal entries is used. This receiver chain does not cross a break in the chain. If there is a break in the chain the receiver range is from the most recent break in the chain through the receiver that is attached when starting to convert the journal entries.
Library	The name where the journal receiver is located ***LIBL** = All libraries in the job's library list are searched until the first match is found. ***CURLIB** = The current library for the job is used to locate the journal receiver. If no library is specified as the current library for the job, QGPL is used.
Ending Journal Receiver	Specify the name of the last journal receiver whose entries are to be converted for output. ***CURRENT** = The journal receiver that is currently attached when starting to convert journal entries is used.
Library	The name where the journal receiver is located ***LIBL** = All libraries in the job's library list are searched until the first match is found. ***CURLIB** = The current library for the job is used to locate the journal

	receiver. If no library is specified as the current library for the job, QGPL is used.
Starting Date and Time	Specifies the date and time of the first journal entry being converted for external representation. **Starting Date (MM/DD/YYYY)** = Specify the starting date of the first journal entry occurring at or after the specified starting date. This becomes the starting point for the range of entries to be converted for external representation. **Starting Time** = Specify the starting time of the first journal entry occurring at or after the specified time of the first journal entry on or at that time. This becomes the starting point for the range of entries to be converted for external representation. The time can be specified with or without a time separator. Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh=hours mm=minutes and ss =seconds With a time separator, specify a string of f or 8 digits where the time separator specified for your job is used to separate the hours, minutes and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If time separator other than the separator specified for your job is used, this command fails.
Ending Date and Time	Specifies the creation date and time of the last journal entry being converted for external representation. **Ending-date (MM/DD/YYYY)** = The ending date of the first journal entry occurring at or before the specified ending on the ending date. This becomes the ending point for the range of entries to be converted for external representation. **Ending Time** = The ending time of the first journal entry. This time becomes the ending point for the range of entries to be converted for external representation.
Number of Journal Entries	Enter the total number of journal entries that are being converted for output. ***ALL** = All journal entries that meet the selection criteria values and that are in the specified journal receiver range are converted. **Number** = Enter the maximum number of journal entries to be converted.
Display data	***PROMPT**, ***YES** or ***NO**

Delete the journal on FileScope

Use a user with enough storage and run:

*CHGFC file JRN(*YES)*

The journal is now created properly (with the proper user profile)

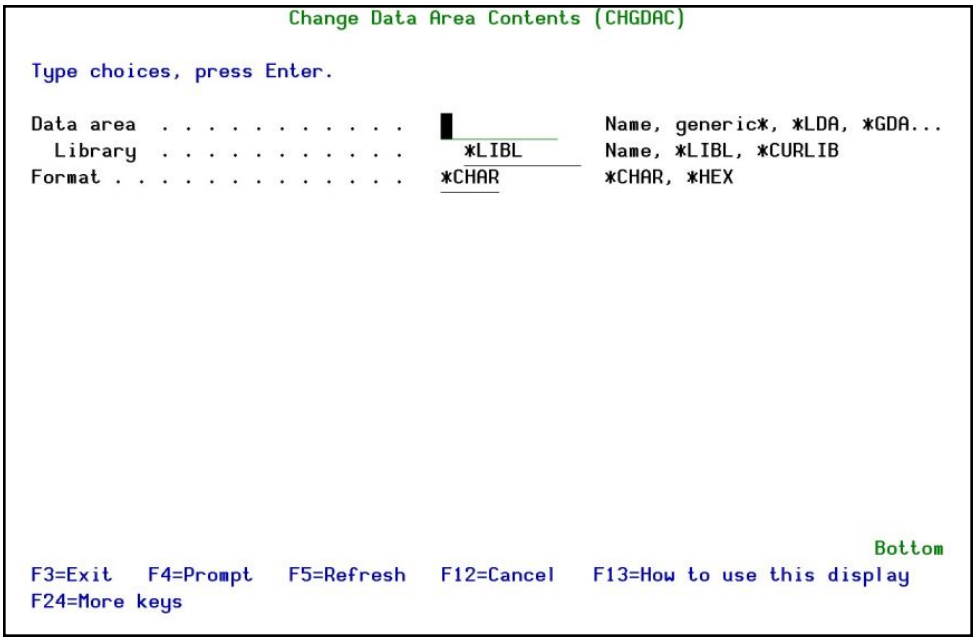
To change the default of FileScope to be JRN(*NO) and open it only when needed:

STRFS, 81, Journal = No

Chapter 10: Data Area

A Data area is a small file of one record that has a specific way of being manipulated. Change the data area starting position and length and select a new value.

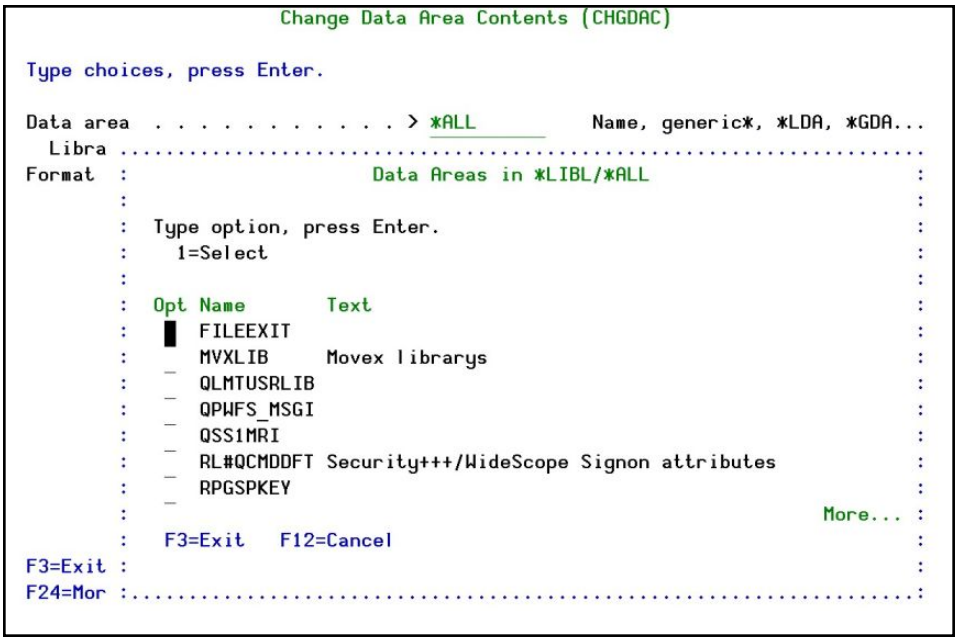
Display or show the changes – select 4 in the Main menu.



Change Data Area Contents

Data area	Specify the name and library of the data area whose value you wish to edit: *ALL = Edit the entire data area generic* = Data that starts with the first letter specified. *LDA = Local Data Area that is associated with your job can be edited. The length of this data area is 1024 bytes. *GDA = Group data area associated with your job can be edited. The length of this data area is 412 bytes.
Library	The library where the data area you wish to work with is located: *LIBL = All libraries in the job's library list are searched until the first match is found. *CURLIB = The current library for the job is used to locate the data area. Name = Specify the name of the library where the data area is located.
Format	Specify the format of the area to edit: *CHAR = Character *HEX = Hexadecimal

- Change according to contents: select *all in the name field, a prompt window appears showing the Data Areas in the library, select by typing 1 and change the content.

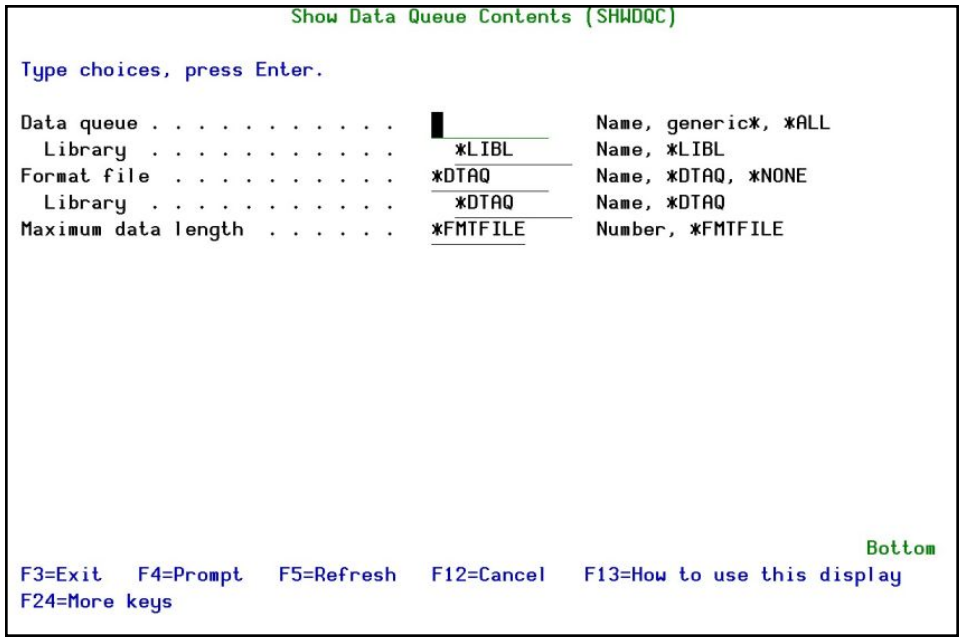

Change Data Area Contents (CHGDAC)
Type choices, press Enter.
Data area . . . . . > *ALL Name, generic*, *LDA, *GDA...
Libra
Format
Data Areas in *LIBL/*ALL
Type option, press Enter.
1=Select
Opt Name Text
FILEEXIT
MVXLIB Movex librarys
QLMTUSRLIB
QPWFS_MSGI
QSS1MRI
RL#QCMDDFT Security+++/WideScope Signon attributes
RPGSPKEY
More...
F3=Exit F12=Cancel
F3=Exit
F24=Mor

Chapter 11: Data Queue

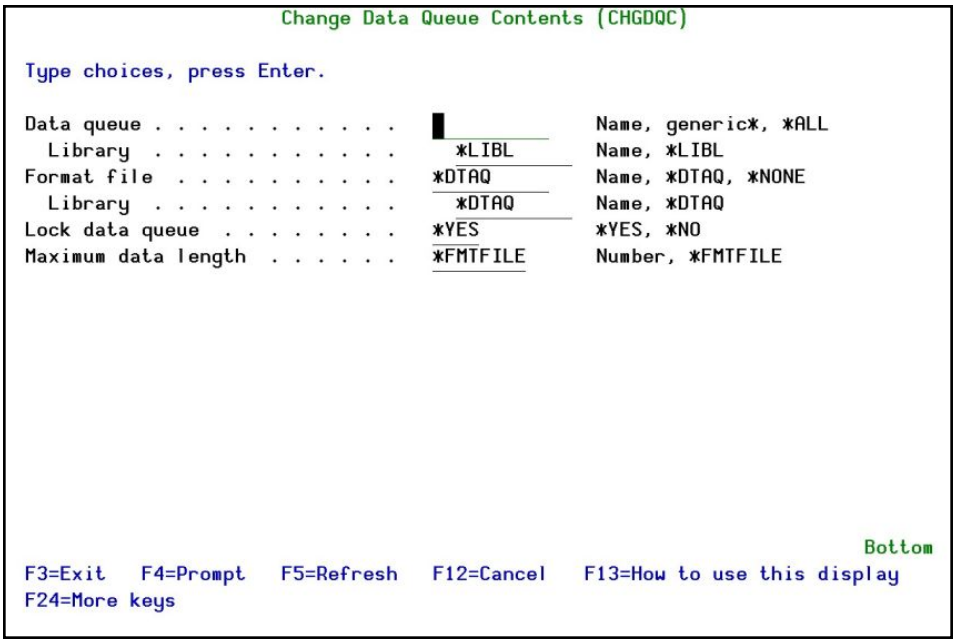
A Data Queue is a type of object which is used to communicate between several programs. Whenever you read a record from it, this record is automatically deleted. This way you can be sure that the same record is never be accessed twice.

Display and edit Data Queues in either standard data queue format or where data is divided into fields based on a template file. It allows the user to use their current file editor to display or edit the data in the data queues.

Option 5 in the Main menu enables you to display the Data Queue and option 6 enables you to change the Data Queue. The Data Queue usually appears as a string of meaningless characters. FileScope builds a new physical file that contains the same fields as the Data Queue and places the correct information there.



Show Data Queue Contents



Chapter 12: Creating a New File

FileScope allows you to create an entirely new file based on one or more existing files. This powerful tool also supports date and Euro conversions for existing database files. This conversion can apply to standard date fields (type L), standard numeric fields (type S), or character fields (type A).

It is possible to use this process to enlarge numeric fields, add new fields, change attributes such as titles, and so on. Furthermore the process can be used to create new files, the information of which can be a combination of fields from several joined files. Other fields can be the result of calling a user external program (functions).

The converted file can include just part of the existing records.

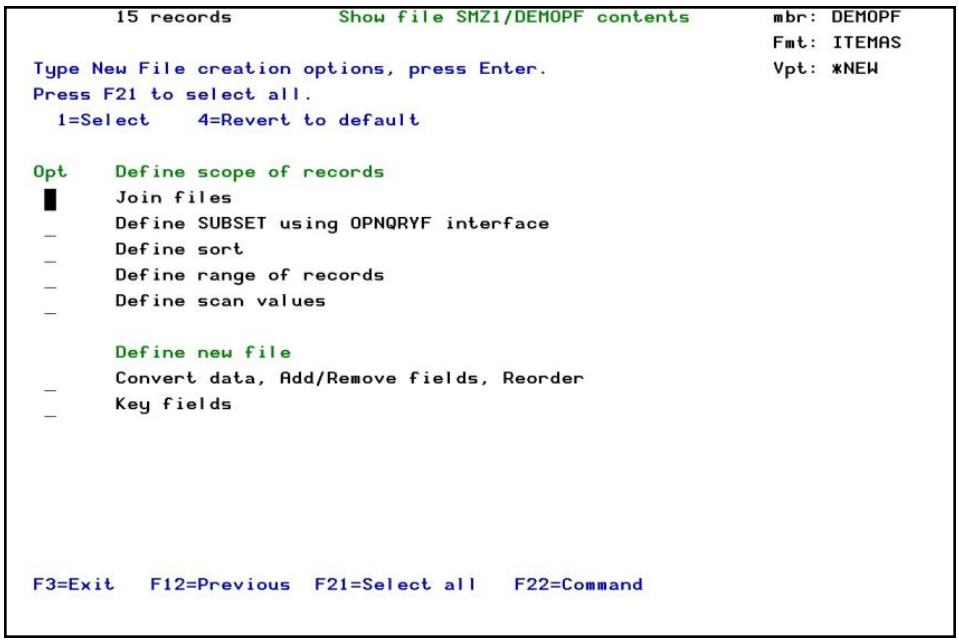
These abilities enable, for example, the easy removal of unnecessary historical records from the files. It is also possible to redefine key fields.

File Creation Feature Highlights

- Conversion of data and time structures to type: L, T, Z or regular numeric date
- Addition of new fields (Calculated, result of external function)
- Change of key structure, key order and file classification
- Determination of record scope to pass to the converted file
- Changing the column headings of the field names in DDS
- Determine the number of records to copy to build test files
- Save the new file definition in a Viewpoint, in order for the data to be converted or copied at any required time either interactively or in batch mode

Create New File

1. From the FileScope Main menu, use option 2. Change file to select a file.
2. In the Change File screen, press F13 for the Service Menu, and select 91. Create New File. The menu below presents a variety of options:



Define scope of records

Use the Define scope of records command to select the records to be converted and then copied to the new file.

NOTE: The newly converted file may contain fields from joined files as well.

Define New File

Use the Define New File to specify data conversion requirements, to reorder fields, to add or remove fields and to define key fields before you create the newly converted file.

Before creating the newly converted file you can:

- Convert date and time structures,
- Reorder fields
- Ignore fields
- Resize fields
- Add new fields (calculated, formulas, external functions),
- Integrate data from joined files

Run the Conversion

The file conversion requires a specific confirmation of run choices.

Explanation of Function Keys:

F3 = Exit

Press **F3** to exit the menu and to return to FileScope

F12 = Cancel

Press **F12** to exit the menu and return to the multi-record display.

F21 = Select all

Press F21 to select all options in one time.

F22 = Command

Press **F22** to prompt the OS command line.

Define Scope of Records

Use the Define Scope of Records to select the records to be copied to the new file.

NOTE: The new file may contain fields from joined files.

Join Files

This option allows the user to join up to 9 files to one flat record and to select fields to be used into the new converted file from more than one file.

Define SUBSET using Interface

Specify the selection criteria in the OPNQRYF interface. All further activities are on the imaginary file that is built from just these records.

Define Sort

Determine the order of records in your newly converted file. The records are sorted according to the key specifications.

Define Range of Records

Define the range of records to be selected from the file. The range is defined by the relative record numbers of the first and last records in the range or by the keys of the first and last record in the range.

Define Scan Values

Using the internal scan capabilities of the product can filter the record in the scan criteria.

Define New File

Use the Define New File to specify data conversion requirements, to reorder fields, to add or remove fields, to define key fields before you create the new, converted file.

Before creating the new, converted file you can:

- Convert date and time structures
- Reorder fields
- Ignore fields
- Resize fields
- Add new fields (calculated, formulas, external functions)
- Integrate data from joined files

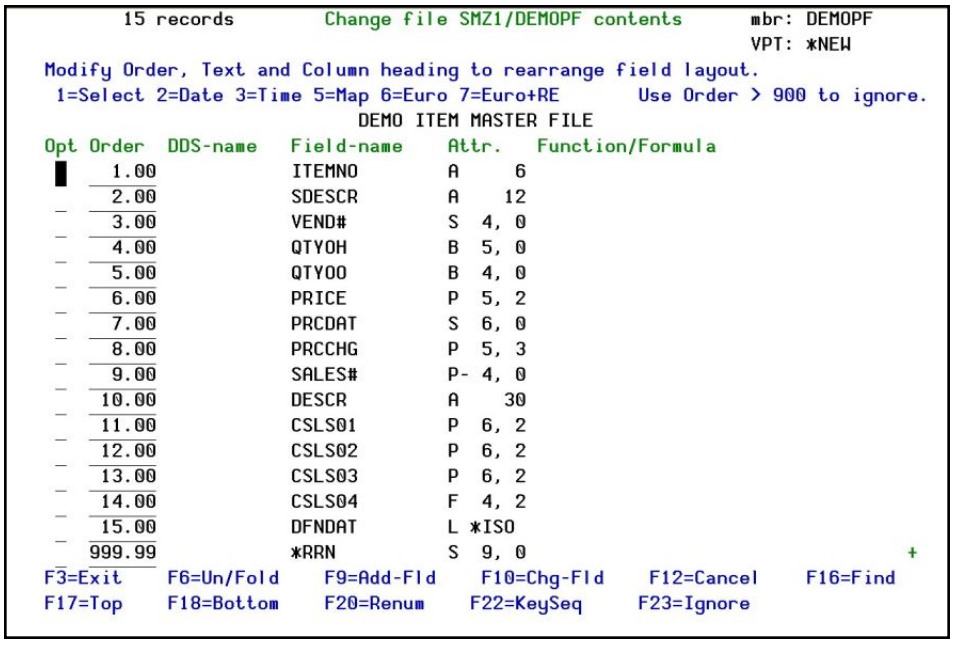
Convert Data, Add/Remove Fields, Reorder

This screen displays the field names, attributes, titles, and so on, which have been taken from the file(s) definition.

You can convert the data of date and time fields, change the length of the fields, the order of the fields, the column heading and the text fields. You can also add new field definitions in which the data can be the result of calculation, formulas and calls to external functions.

These modifications apply to the screen and ONLY affect the way in which data has been displayed. This should be taken in account only after executing the Confirm and Running Conversion option.

The special fields *RRN and *RCD are automatically added to the record fields to contain the relative record number and the unedited record string respectively.



1=Select	Use to make modifications on this field such as: Column Heading and Text.
2 = Date	To convert any input date format to any output year format.
3 = Time	To convert any input time format to any output time format.
5 = Map	Used for re-sizing any input field in DDS.
6=Euro	
7=Euro+RE	
Order	The numerical value entered here determines the order in which the fields should be displayed and copied into the new converted file. If ORDER is equal to or greater than 900.00, the field is not displayed and, therefore does not exist in the output converted file.
DDS-name	If this is blank the Field Name is taken as the DDS name.
Field-name	The DDS name of the current files.
Attr	Attributes of the field. For example, data type, length and number of decimal places.
Function/Formula	Origin of the field (blank – externally defined field) AUTO = Imaginary field added automatically by the product INT = Internally Calculated Field CLC = Calculated Field specified by a formula and include brackets.

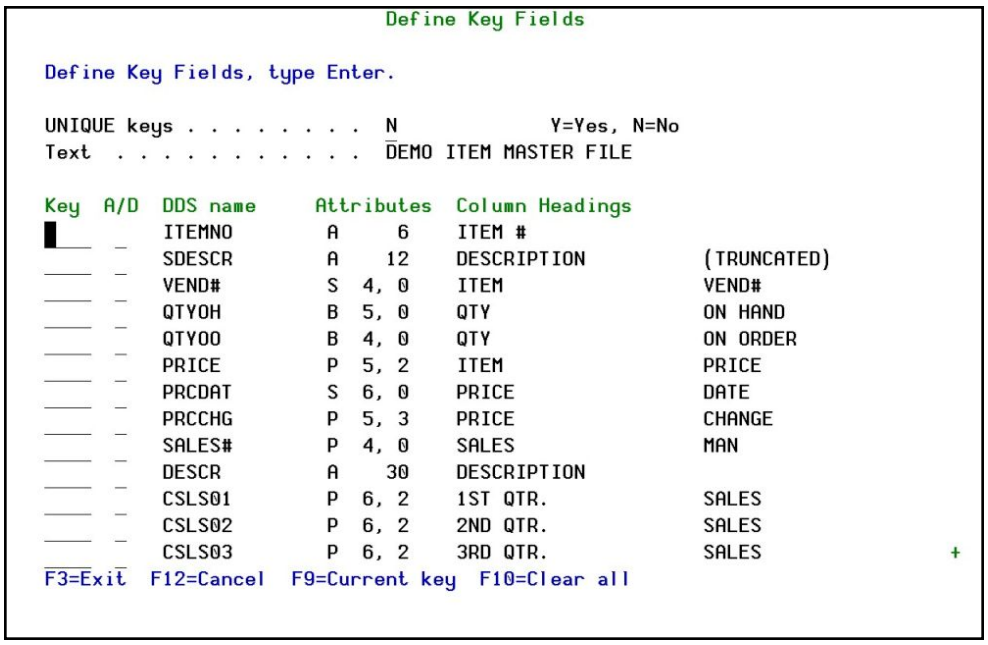
Explanation of Function Keys

F3	Exit
F6	Unfold = Display more information
F9	Add Fold = Add internal Fields
F10	Chg-Fld = Change Internal Fields
F12	Cancel = Return to the date and file conversion menu
F20	Renumber by location
F23	Ignore = Omit selected fields or include unselected fields

Key Fields

This screen displays the fields that are currently defined as Sort fields.

You can then select the fields you want to see as field keys in your new file.

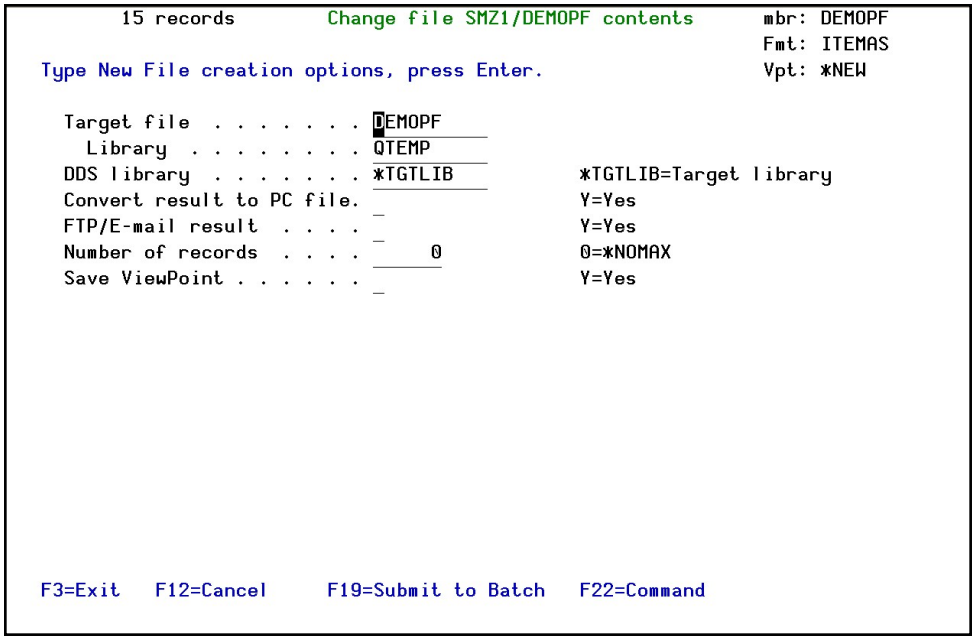


Key	Displays the current key order, which is initially the key order of the input file. Type here the new order for sorting your output file.
A/D	To sort the field in ascending or descending order
DDS Name	The output file DDS field name
Attributes	The field attributes
Column Headings	The field column heading

Running the Conversion

The date format file conversion requires a specific confirmation of run choices.

Confirm and run the conversion



Target File	Name of the file where the Conversion results have to be directed.
Library	Enter the name of the library (where the file is created)
DDS Library	Enter the name where the DDS of the file is created. (*TGTLIB = same as the File Library)
At end, send to PC file	The name of the file to which the conversion results are directed.
Folder	Folder to contain the PC file
Number of records	Number of records to be reported into the converted file (0 = the entire file)
Save Viewpoint	The modified layout can be saved as a Viewpoint
F19	Submit to batch – When pressing this key, a screen is displayed for you to specify the date and the time the job should be run
F22	Command = The OS command line

Chapter 13: Report Generator

Available in FileScope Platinum only

FileScope includes a full feature **Report Generator** (no compilation required) as follows:

- Join files
- Sort data
- Select records
- Set field layouts
- Calculated fields
- Break levels

Subtotal includes: sum, count, average, minimum, and maximum. These run interactively, in batch, or can be submitted to batch from within the interactive definition, while saving the Report definitions in **Viewpoint** for printing at any required time.

The FileScope Report Generator permits quick data analysis. Multiple files can be logically joined, records can be sorted and reordered and temporary fields can be added and calculated, all without compiling temporary programs. The user can initiate ad hoc report requests immediately and at any time.

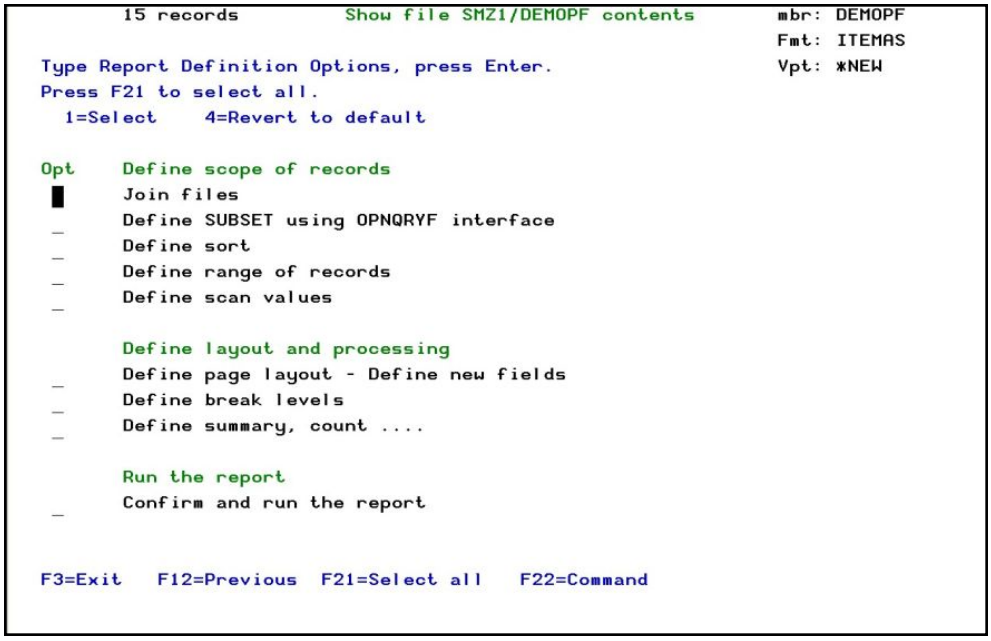
Reports may be interactive or batch, or even built interactively and submitted to batch.

The Report Generator can also create an output file along with, or instead of, creating a report. The created file is in DDS format and includes fields from all files, which were joined for this report. The created file may include the detailed lines, the summary lines or both.

The Report Generator can save the report definitions in **Viewpoint**, enabling the report to be printed at any required time either interactively or batch.

Report Generator Menu

From the FileScope Main Menu (*STRFS*), select a file (option 1 or 2 – Show or Change file), press F13 for the Service Menu, then Select 81. Report Generator.



NOTE: The printed report may contain fields from joined files as well.

F3	Exit
F12	Return to the FileScope program
F21	Select All = Selects all the Report Generator options
F22	Command = The OS command line

Define Scope of Records

Use the Define scope of records options to select the records to be printed on your Report Generator.

NOTE: The printed report can contain fields from joined files as well.

Join Files

This option allows the user to join up to 9 files to one flat record and to select and print fields to be used for the Report Generator from more than one file.

Define SUBSET using OPNQRYF interface

This option specifies the selection criteria in the OPNQRYF interface. All further activities are on the imaginary file that is built from just these records.

Define Sort

This option determines the printing order for your report. The records can be sorted according to the key specifications and each key defined here can be used as break level in your reports.

Define range of records

Define the range of records to be selected from the file. The range is defined by the relative record numbers of the first and last records in the range or by the keys of the first and last record in the range.

Define scan values

Defining scan criteria using the product internal scan capabilities can filter the records. Scan is available as field test, pattern test or both together.

A special option of the field test is provided for decimal error detection.

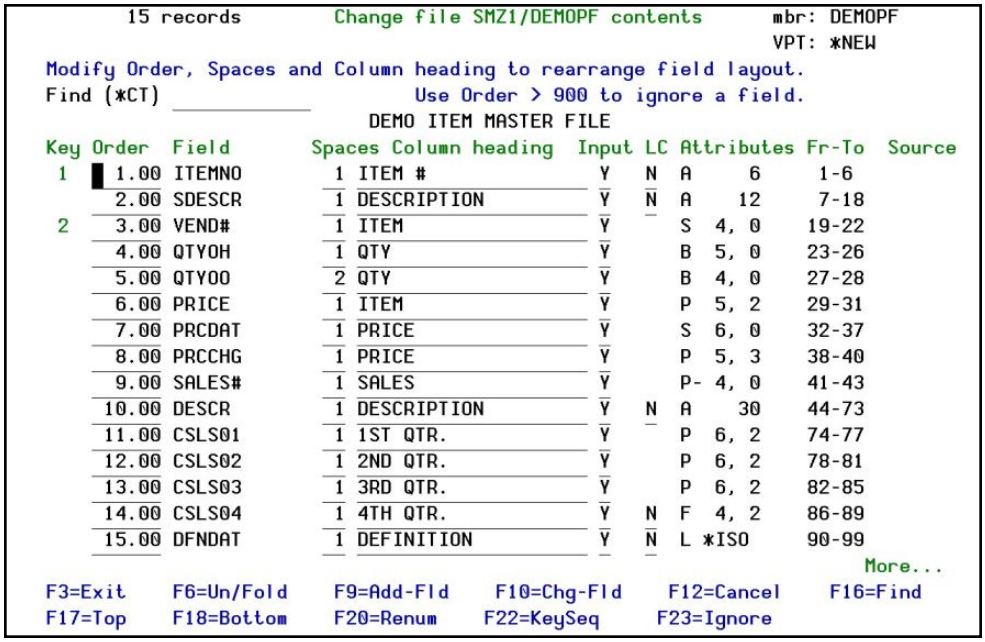
Define Layout and processing

Use the 'Define Layout and Processing' options to design the report you want to print. Before printing your report, you can:

- Re-order fields
- Ignore fields
- Add new fields (Calculated, Formulas, External Functions)
- Define break levels
- Define the operations to be taken at break level (Sum, Count, Average, Minimum, Maximum)
- Define spacing between fields
- Alter field titles and spacing (Note: No alteration is made to the file. The modifications are for the printed report only).

Define page layout - Define new fields

This screen displays the field names, attributes, titles, and so on, which are taken from the file (s) definition. You can alter the sequence of the fields, their titles, the spacing between them. The new field definitions can also be added or changed to existing ones.



The modifications apply both to the screen and to print layouts and ONLY affect the way in which data is displayed.

The special fields *RRN and *RCD are automatically added to the record fields to contain the relative record number and the unedited record string respectively.

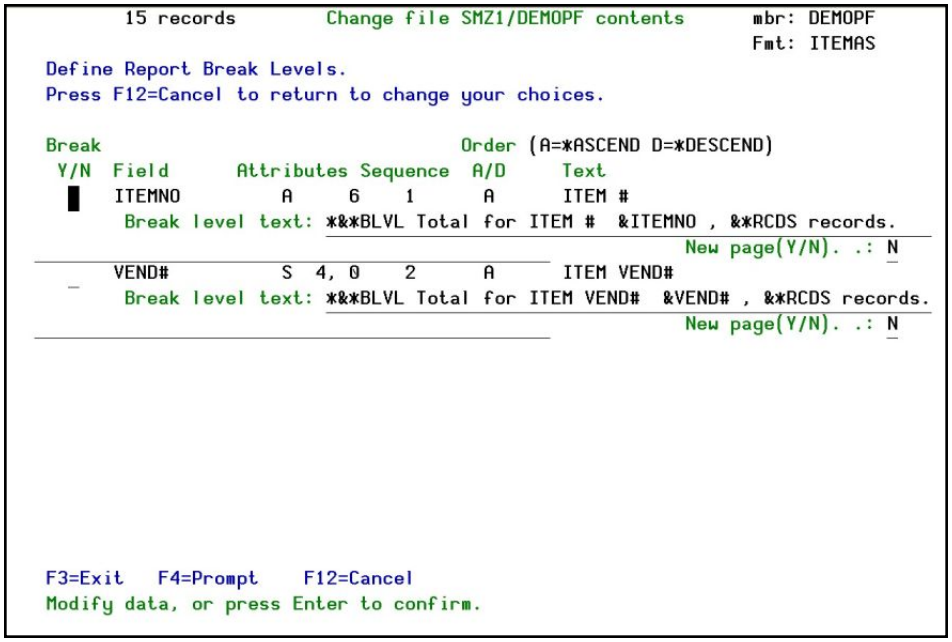
NOTE: No alterations are made to the file; the modifications are in the printed report only.

Key	The order in which the keys are defined.
Order	The numerical value entered here determines the order in which the field is displayed. If ORDER is equal to or greater than 900.00, the field is not displayed.
Spaces	The number of spaces between this field and the next. Initially this value is set so that COLUMN-HEADING can appear in full.
Column Heading	Three lines which contain the title of the field. They are used in multi-record format and for printouts. Use F6 to see the three lines in full.
Attributes	The field attributes.
From - To	Start and end positions of the field in the record.
Source	Origin of the field. **Blank** = externally defined field. **AUTO** = imaginary field added automatically by the product. **INT** = Internally defined field. **CLC** = Calculated field specified by a formula and include brackets.

Page D/U	Roll Fields
F3	**Exit** = Exit Report Generator
F6	**Unfold** = Display more information
F9	**Add-Fld** =Add internal field
F10	Change internal field
F12	**Cancel** = Leave the Define Layout
F16	Find next record
F17	Top of file
F19	Bottom of file
F20	**Renum** = Renumber by location
F22	**KeySeq** = Bring the key fields to the beginning of the field list
F23	**Ignore** = Omit selected fields or include unselected fields

Define Break Levels

This screen displays the fields that are defined as Sort fields. You must select the fields you require to see as break levels in your report. For each one, enter break level text (that includes fixed break levels and variable data) and decide if you require a new page for each break level.

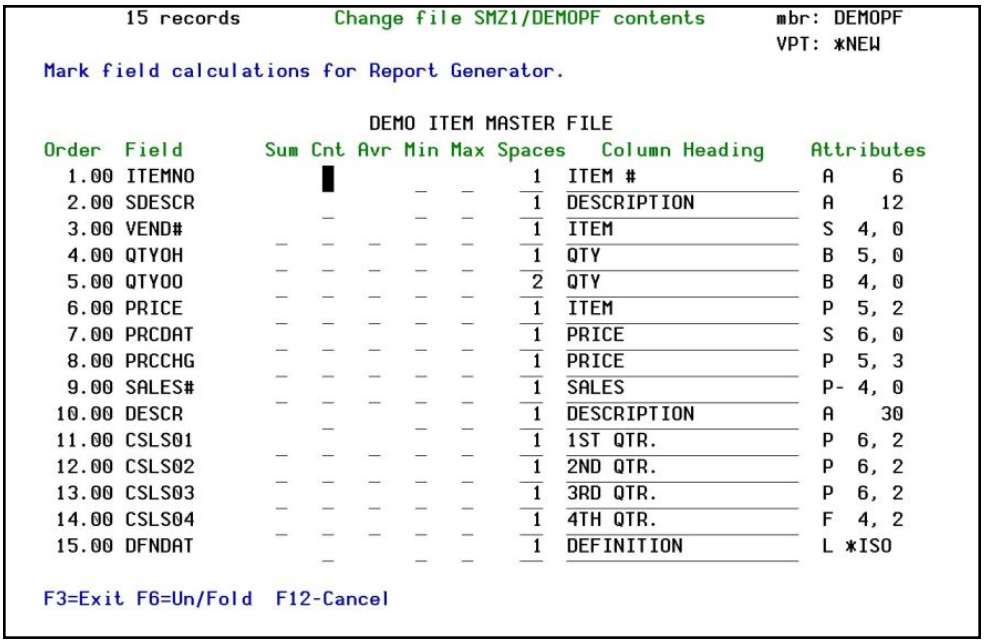


Break	**Y** = The field is selected as break level **N** = or blank: the field is not selected as break level
Break Level Text	The break level text can contain: • Fixed text like “Total for” • Variable data like “&ITEMNO”. You have to precede the DDS field name by &. Use F4 to retrieve the file fields and to select one. The contents of the field are retrieved and printed on the report. • Internal fields: &*BLVL: retrieve the break level number &*RCDS: retrieve the number of records
New Page (Y/N)	**Y** = A new page is started for this break level **N** = or blank: A new page is not started for this break level

Define Summary, Count, and so on

This screen displays the fields that appear in your report. For each one, you can request arithmetic subtotals to be printed (by entering Y under the field) on your report.

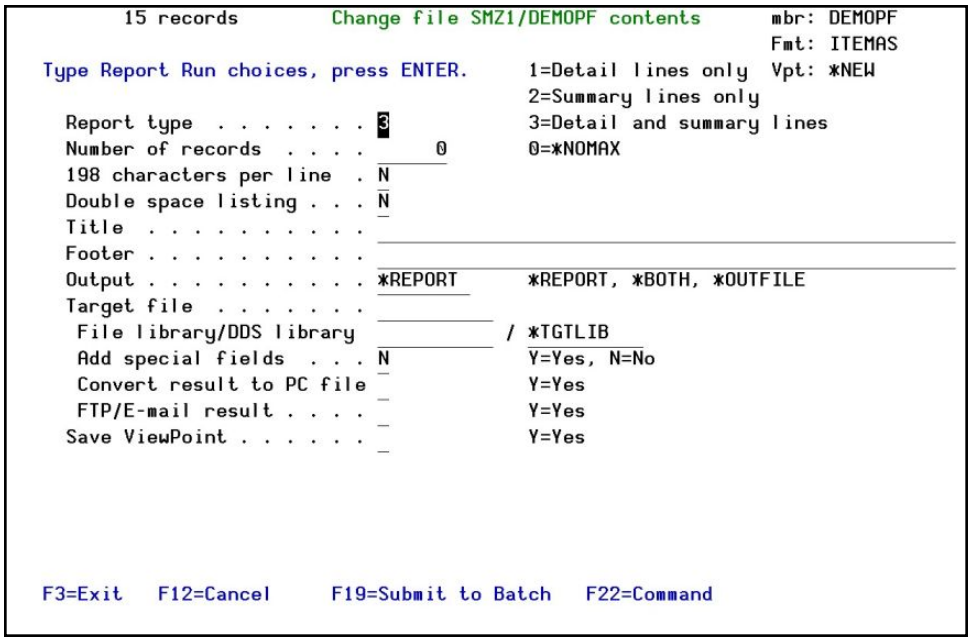
For example: Summary of the value of selected fields, average of the fields. In addition, you can alter the title of the fields and the spacing between them.



Sum	Totaling the value of this field
Count	Count how many fields have non-zero/non-blank values. For Null capable fields, it counts how many records do not have nulls
Average	Calculate the average of the field values
Minimum	Extract the maximum value of the field
Spaces	The number of spaces between this field and the next
Column Heading	Three lines containing the title of the field. Use F6 to see and modify the three lines before printing the report

Run the Report

The Report Generator required a specific confirmation of run choices. Use the “Run the Report” option to confirm the Report Run choices and run the Report (On-line or Batch).


15 records
Change file SMZ1/DEMOPF contents
mbr: DEMOPF
Fmt: ITEMAS
Type Report Run choices, press ENTER.
1=Detail lines only
Vpt: *NEW
2=Summary lines only
Report type 3
3=Detail and summary lines
Number of records 0
0=*NOMAX
198 characters per line . N
Double space listing . . . N
Title . . . . . .
Footer . . . . . .
Output . . . . . *REPORT
*REPORT, *BOTH, *OUTFILE
Target file . . . . . .
File library/DDS library / *TGTLIB
Add special fields . . . N
Y=Yes, N=No
Convert result to PC file
Y=Yes
FTP/E-mail result . . . .
Y=Yes
Save ViewPoint . . . . . .
Y=Yes
F3=Exit
F12=Cancel
F19=Submit to Batch
F22=Command

Report Type	1 = Details lines only 2 = Summary of lines only 3 = Detail and Summary lines
Number of Records	The number of records to print (0 - *NOMAX for printing all records)
198 Records per line	Specifies whether to print in condensed character set to include more data on a line (N=132 characters per line, Y=198 characters per line)
Double space listing	Y = Insert a blank line after each printed line N = Do not insert a blank line after each printed line
Title	The text to appear at the top of each printed page
Footer	The text to appear at the bottom of each printed page
Output	*REPORT = Print the report *OUTFILE = Direct the report to a target file *BOTH = Report and file
Target File	The name of the file to where the report is directed
File library/DDS library	The name of the library where the file is created The name of the library where the DDS of the file is created
*TGTLIB	Same as the File Library The DDS is placed in the file FSDDSSRC
Add Special Fields = Special fields are added to the output file: Break Number, Break Type, Court of Records, and so on	Y = Break level summary information is included in the output file N = Break level summary information is not included in the output file
Convert result to PC file	*NONE = The output file is not sent to a PC file NAME = Name of the file to where the report is directed
FTP/E-mail result	Y = Send the output file by email as defined in the Filescope configuration definitions N or blank = Do not send the output file
Save Viewpoint – The modified layout can be saved as a Viewpoint	Y = Save the Viewpoint N or blank = Do not save the Viewpoint
F19	Submit to batch or even schedule it for off-hour operations. A screen is displayed for you to specify the date and the time the job should be run. The default is now (Date = *CURRENT and Time = *CURRENT)

Chapter 14: Printing Data

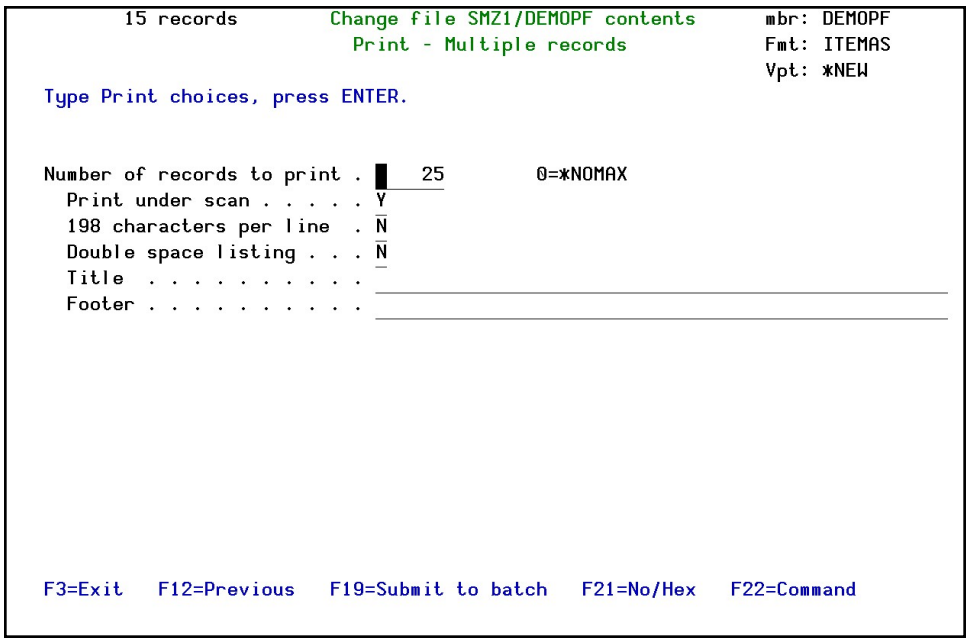
Reports generated via FileScope are useful for ad hoc end-user reporting needs. They are also helpful as a debugging aid for examining file-related program results.

FileScope enables you to print multiple records, single records and record structures. These services are options from the Service Menu.

Print Multiple Records

The print multiple records layout is similar to the Multi-Record Screen and begins at the current position in the file. The generated output can include up to 198 characters per line.

Select 21 from the Service Menu



If Subset is active, only records which are included in the Subset are printed. You can limit the report to select records by using the PRINT-UNDER-SCAN parameter. You must first enter the scan pattern via the Multi-Record Screen - see Scan.

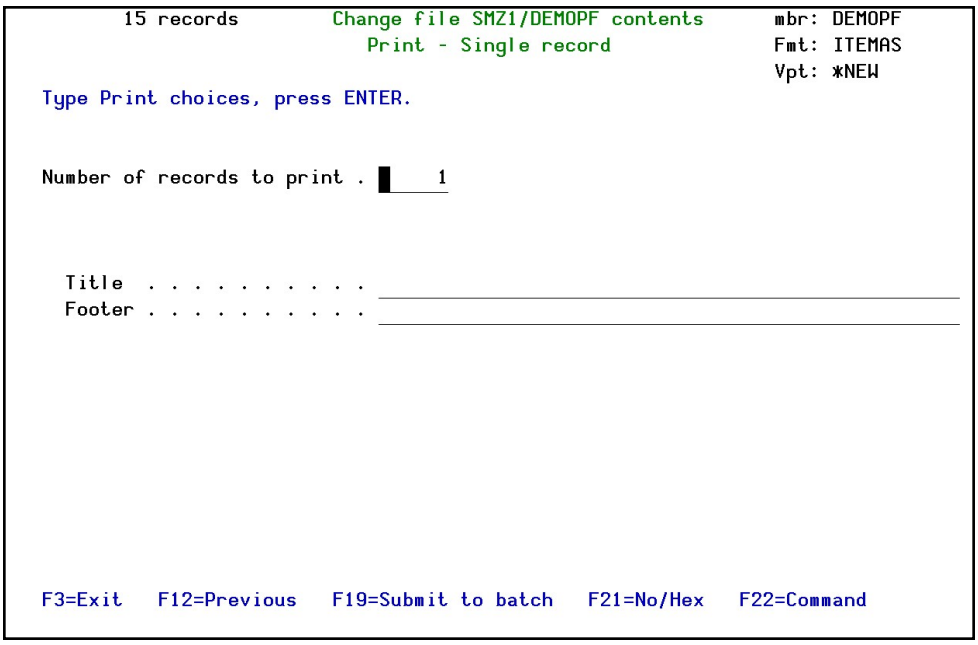
The report can be submitted to batch with command F19.

Number of Records to print	Allows you to define the maximum number of record for FileScope to read to fulfill a scan or print request
Print Under Scan	Specifies whether to print only those records that fulfill the scan conditions specified in the Multi-Record Screen
198 Chars/Line	Specifies whether to print using the condensed character set to include more data on a line
Double Space	Specifies whether to insert a blank line after each printed line
Title	The text that appears at the top of each printed page
Footer	The text that appears at the bottom of each printed page
"Including Hex"	This message appears on the screen if the hexadecimal representation option is in effect. Use F21 to toggle this option on/off

Print Single Record

The print single record layout is similar to the Single Record Screen and begins at the current position in the file.

Select 22 from the Service Menu



Number of Records to print	Allows you to define the maximum number of record for FileScope to read to fulfill a scan or print request
Title	The text that appears at the top of each printed page
Footer	The text that appears at the bottom of each printed page

Pressing F19 submits the print job to batch.

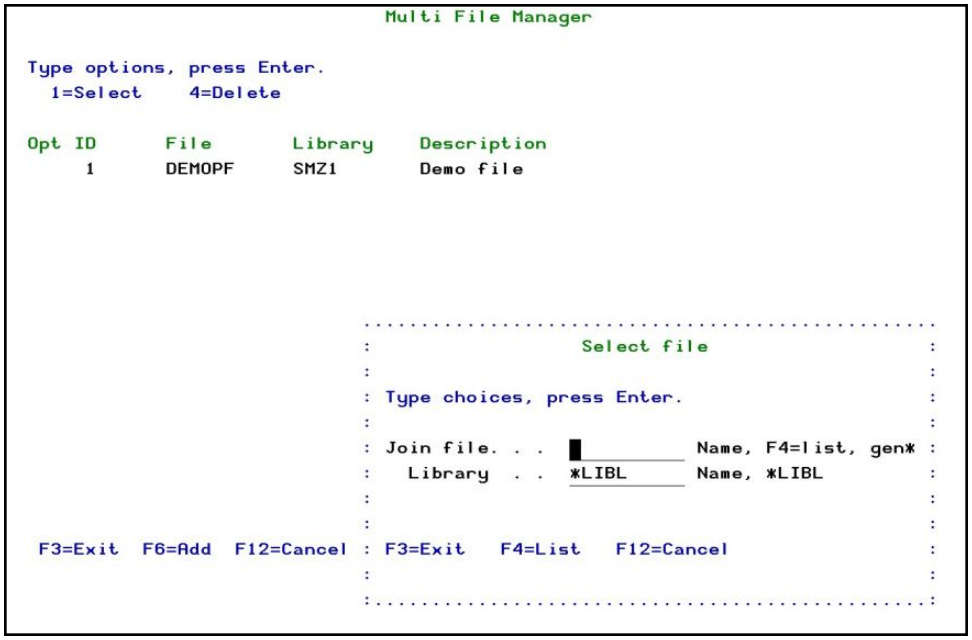
Print Record Structure

The print single record layout is similar to the Single-Record Screen and begins at the current position in the file. Select 25 from the Service Menu

Chapter 15: Working with Multiple Files

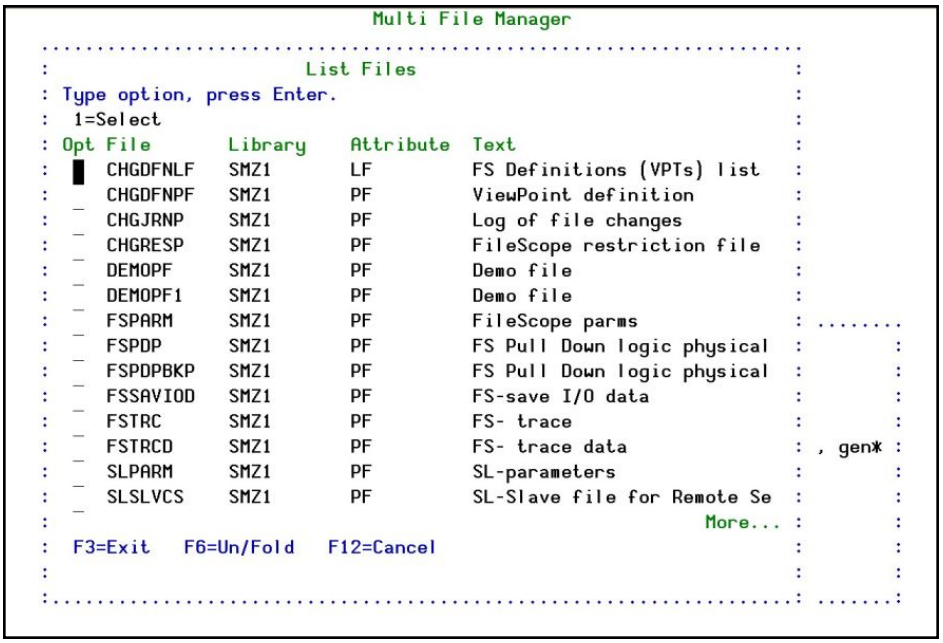
FileScope allows you to join up to 9 files and to display the file data on the multi and single record screens.

Select 71 from the Service menu.

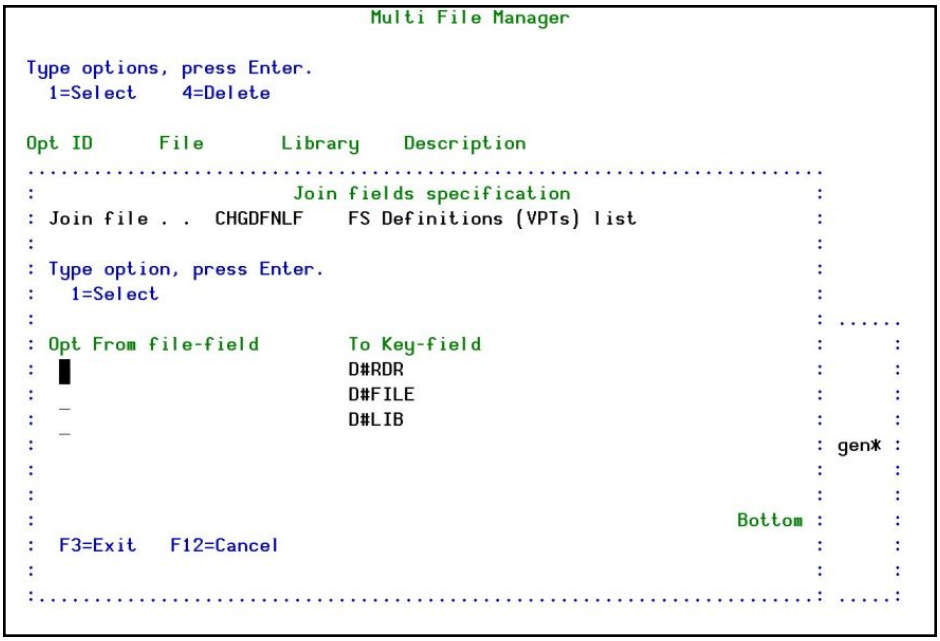


A file can be CHANGED, DELETED, or ADDED from this screen.

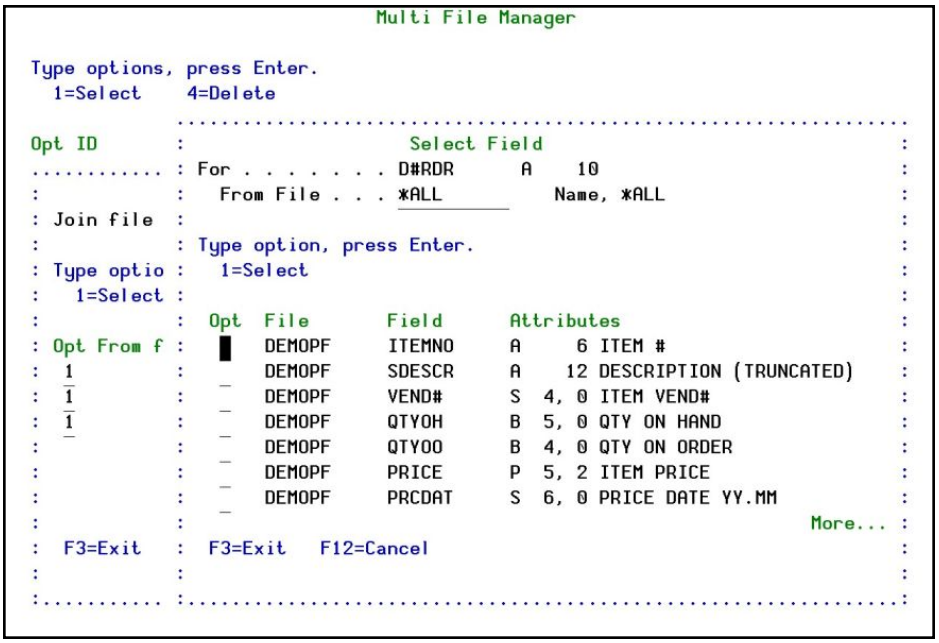
Press F6 to add a file, the 'Select File' window appears. Enter the file name or press F4 to prompt a list all files in a library:



Once a file has been defined the 'Join Fields' screen appears with list fields for this file.



At least one of the fields must be selected. A window appears with a list of suitable fields.

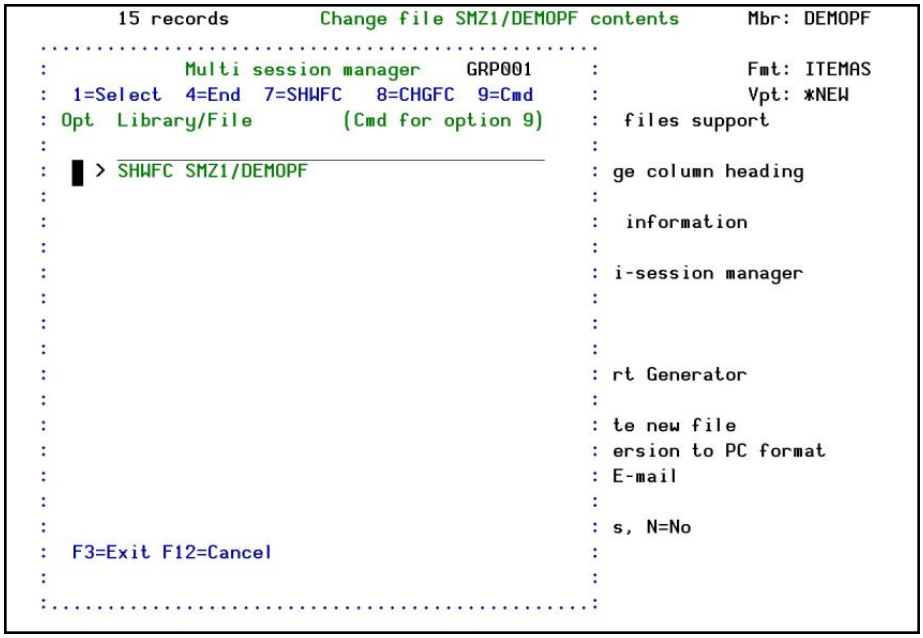


Press Enter to return to the list of files. F3 completes the process of the addition. Select either "yes" or "no" to accept the file selection. On returning, the multi records screen shows all the fields from all the defined files.

NOTE: Field names, except for the first file, start with the number of the file to which the fields belong. NULL SUPPORT is on the primary file only and not available in the Multi File Manager (Joined File).

Chapter 16: Multi-Session Manager

Option 61 from the Service menu enables up to 16 parallel uses of ***SHWFC, CHGFC*** or any other System i command. In this way, for example, it is possible to update 16 files at the same time. The screen is self-explanatory and SAA compliant. It is possible to activate the multi-session manager from any other screen through the ATTENTION key (Esc). The attention key program must be setup to activate program SMZ1/CHGGRP. The multi-session manager screen is displayed below.



Chapter 17: Using the OPNQRYF Interface

Subset

The subset option is selected via the Service menu, which is displayed when F13 is pressed, or via pressing F6 on the sort key confirmation screen.

Through the SUBSET feature of FileScope, a working set of records can be defined, eliminating those records that physically exist but are not necessary for the subsequent operations. SUBSET is implemented through a high level interface to the *OPNQRYF* (Open Query File) command.

Records are dynamically selected based upon the specified tests. Only externally defined fields or internal fields (defined using the Fr: Ln operation) which do not cross the field boundaries (for example, start and finish within one external field) can be used in selection tests for a SUBSET.

Internal fields which do not cross the field boundaries (for example, start and finish within one external field) can be used in selection tests for a SUBSET.

No significant delay is encountered, unless the specified selection defines a small number of records in a large file.

The SUBSET selection criteria are preserved for further SUBSET definitions unless Remove SUBSET/SORT is selected from the service menu.

During the time the SUBSET is active, the number of records on the top line of the Multi record and single record screen is replaced by the value "SUBSET".

All product options are available and work with the subset, including position by key, searches of all types, file updates, and more.

Subset Statistics

FileScope provides full information about the way that the *OPNQRYF* worked and the number of records in the subset. See File Information – *OPNQRYF* Statistics.

Note that this information screen also allows you to count the number of records by request in cases where updates to the same file are being performed at the same time as your activity.

Types of SUBSET There are 3 types of SUBSET interface available in FileScope.

Structured Style

Structured Style provides a list of field names or descriptions in the user interface along with selection tests. When multiple selection tests are used the relationship between them is an AND relationship. It is only possible to use each field for one test.

Advanced Style

Advanced Style provides additional selection tests such as and/or comparisons and comparisons based on a substring of characters from a field. The field name may be keyed or selected from a list. A field may be referenced in multiple selection tests.

Free Style

Available in FileScope Platinum only

Free Style enables the entry of the query selection string to be used for the ***OPNQRYF***. This is very useful for more complex selection criteria. The selection criteria can be created initially in Structured or Advanced Style to obtain the correct syntax and then enhanced in free style.

Changing Style

It is possible to switch between styles while a SUBSET is being defined. This may result in the loss of some selection criteria when moving to a style (such as Structured Style) which does not support all features, which have been used. For example, “And” has been used in Advanced Style but is not supported in Structured Style.

Test Types

LIKE	The field contains starts or ends with a character or a string of characters. Wild cards are supported for single character and string of any length. A detailed explanation follows
START	Field starts with characters
RANGE	Limit from... - to...
EQ	Equal to...
NE	Not equal to
GT	Greater than
GE	Greater than or equal to
LE	Less than
VALUES	Field equals one of the values supplied (only one value is required)
A	And relationship between selections tests (Advanced Style Only)
O	Or relationship between selection tests (Advanced Style Only)
From Position	Length
Fr:Ln From Position	Length is used to restrict the selection test to the specified positions in the field

LIKE Test

The LIKE test is similar to the one used in IBM QUERY. This test helps find strings in the character files. The "%" sign replaces a string of characters, of any length. The sign "_" replaces any single character. The special signs used can be changed - see Product Defaults.

For example, to search for the text "DAVID" anywhere in a field, use the find option as follows: NAME LIKE %DAVID%

The result is a subset contains all records that contain "DAVID", regardless of where this appears in the field.

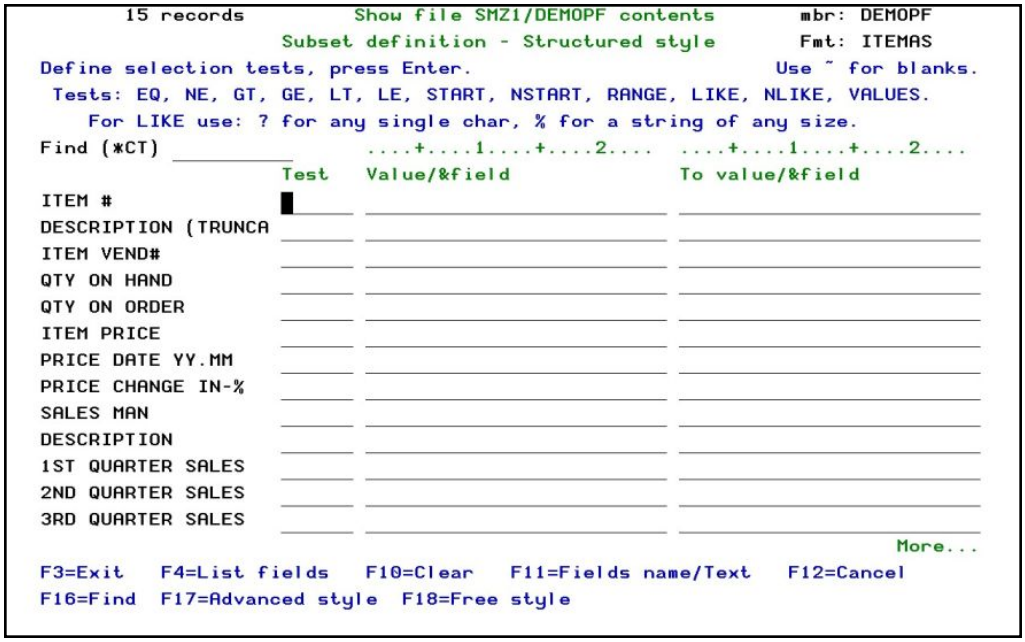
Upper and Lower Case Differences

Upper and lower case differences are ignored (default).

SUBSET Styles

SUBSET Structured Style

Access the SUBSET Structured Style screen by selecting option 1 from the Service menu or by using function keys from other SUBSET definition screens.

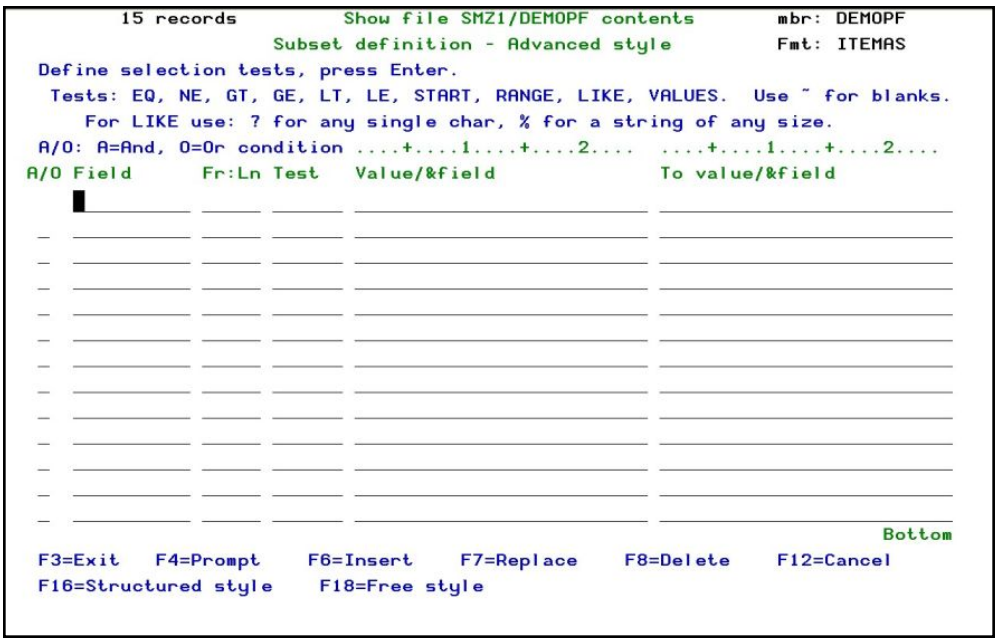


F3	Displays the EXIT Screen
F4	Displays a list of fields for selection
F11	Toggles a display between field descriptions and field names and attributes
F12	Displays previous screen
F17	Displays SUBSET Advanced Screen
F18	Displays SUBSET Free Style *Available in FileScope Platinum only*

SUBSET Advanced Style

SUBSET Advanced Style includes the ability to use AND / OR logic between the selections and allows the selection test to be applied to a substring of the field by using 'Fr: Ln' (From Position: and Length).

Access the SUBSET Advanced Style screen by selecting option 2 from the Service menu or by using function keys from other SUBSET definition screens.

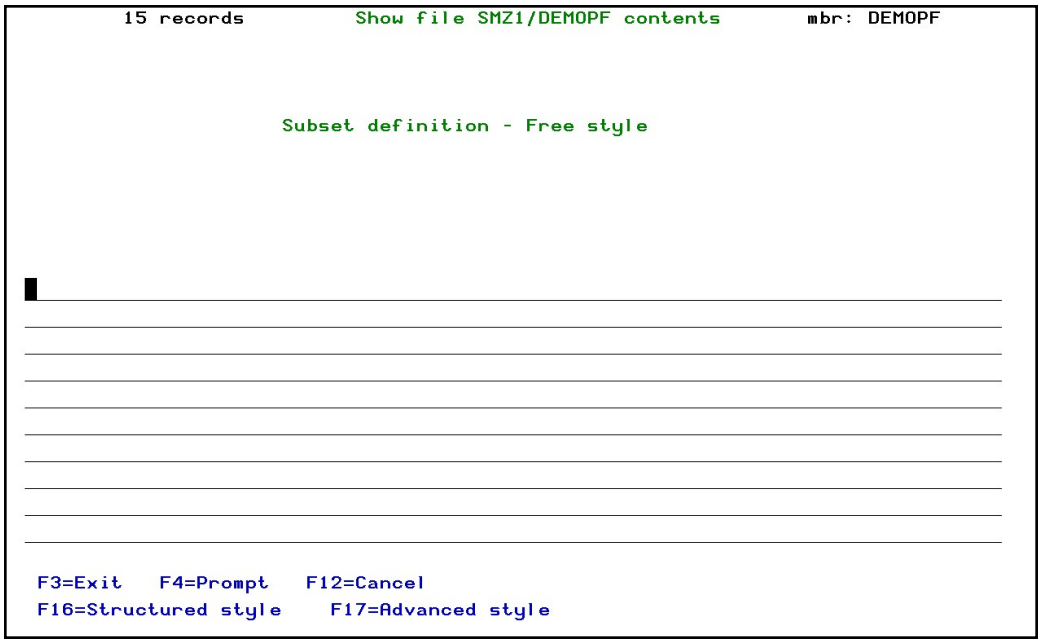


F3	Displays the EXIT Screen
F4	Displays a list of fields for selection
F6	Inserts a new line starting with the selected field
F7	Replaces the first field on a line with another selected field
F8	Deletes the line
F12	Cancel and displays previous screen
F16	Displays SUBSET Structured Style
F18	Displays SUBSET Free Style

SUBSET Free Style

Available in FileScope Platinum only

Access SUBSET Free Style screen by selecting option 3 from the Service menu or by using function keys from other SUBSET definition screens.



F3	Displays the EXIT Screen
F4	Displays a list of fields for selection
F6	Inserts a new line starting with the selected field
F7	Replaces the first field on a line with another selected field
F8	Deletes the line
F12	Cancel and displays previous screen
F16	Displays SUBSET Structured Style
F18	Displays SUBSET Free Style

Changing Subset Styles

When switching between SUBSET styles a warning screen may be displayed.

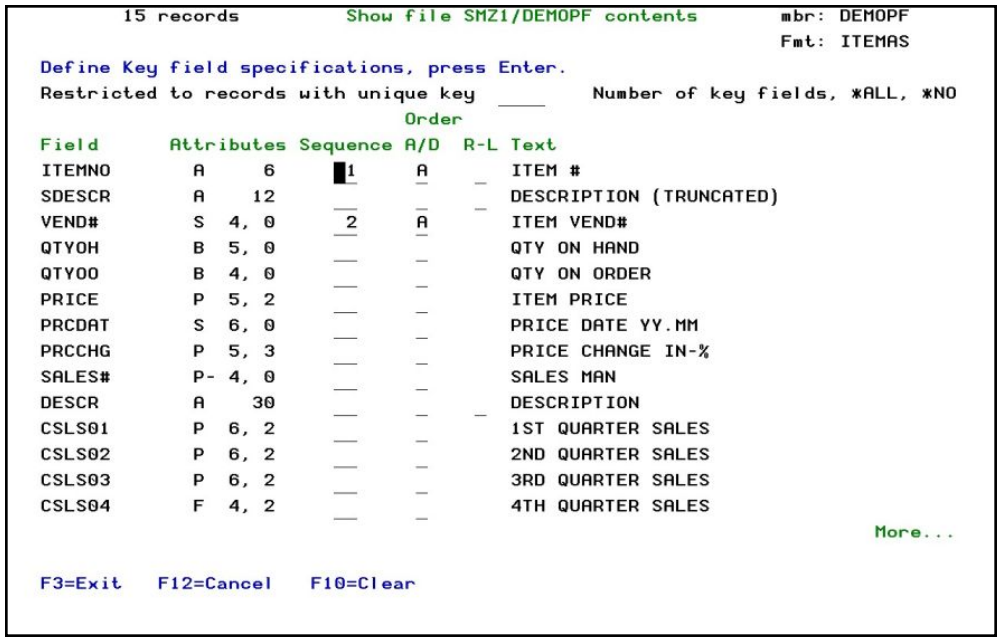
Confirmation Screen

When changing SUBSET style or after pressing enter, a confirmation screen showing the choices for SUBSET is displayed.

Sort

The Sort Key option is selected from the Service menu or via the subset confirmation screen using the F6 option.

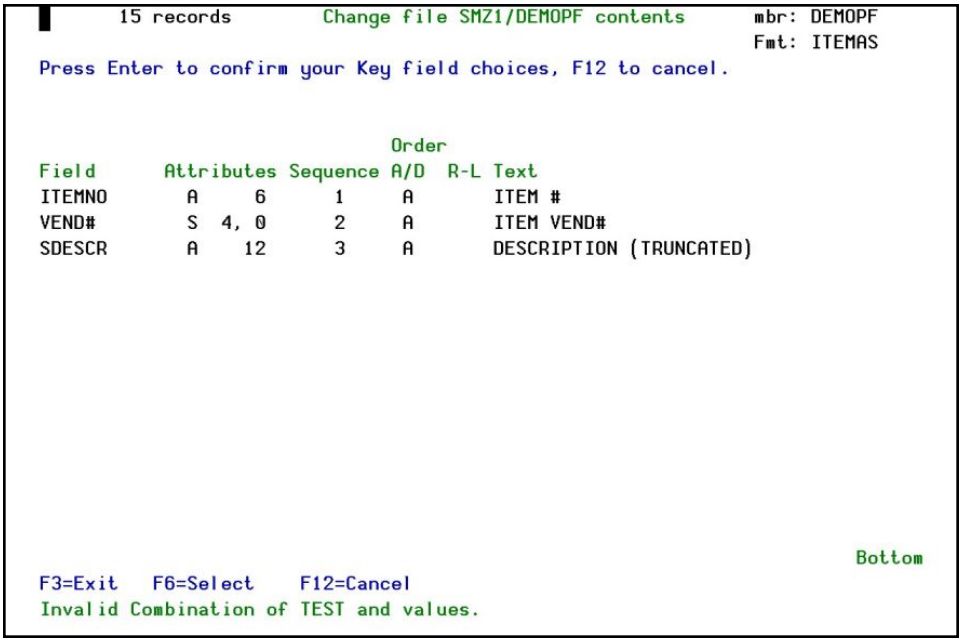
Only externally-defined fields can be used to define the SORT KEY. While the SORT KEY is active, the number of records on the top line of the multi-record and single record screen is replaced by the value "SORT".



Sequence	Defines the sequence of the fields that are to be sorted
Order	A = Ascending (the default) D = Descending
Right to Left Sort	R-L = Sort Character fields Right to Left N or blank = The field is not sorted Y = The field is inverted before being used for sort. Only last 8 positions are used.

Confirmation Screen

After pressing enter on the sort screen, the confirmation screen displays the choices for key fields and the order to be sorted.



Sort - Restrict to Unique Key

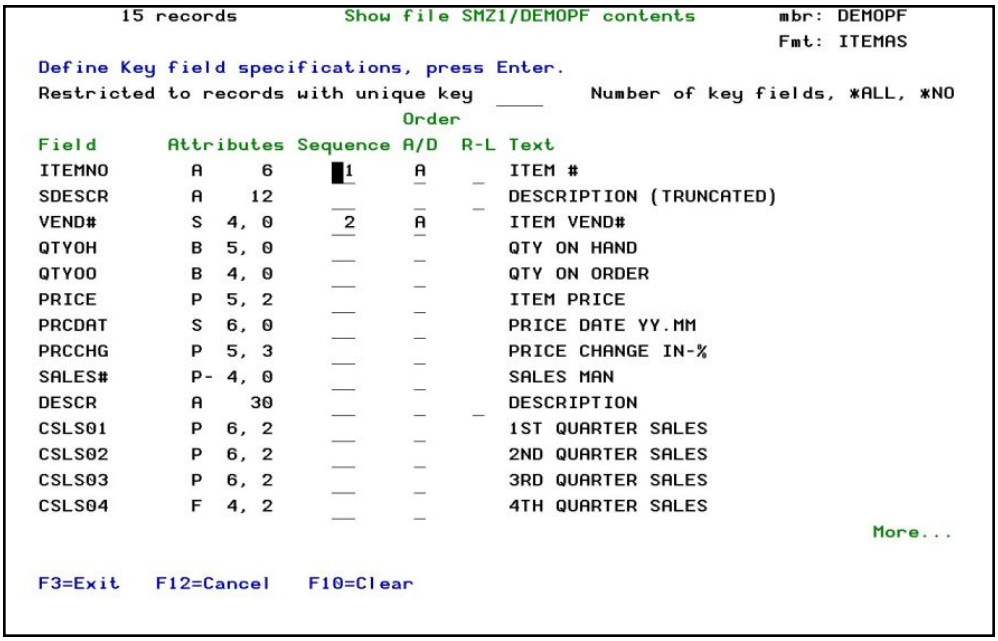
Selecting one record per key

On *SHWFC* only, in the sort option, it is possible to limit the inclusion of records to just one record per key.

Type the Show File command in FileScope to view the file.

Press F13 in the file contents screen to open the Services menu

Select 4. SORT, Restrict to Unique. The sort screen appears.



The Unique key fields specify whether the query is restricted to records with unique key values, and specifies how many of the key fields must be unique. If *ALL or number-of-key-fields is specified on this parameter, null values are considered equal.

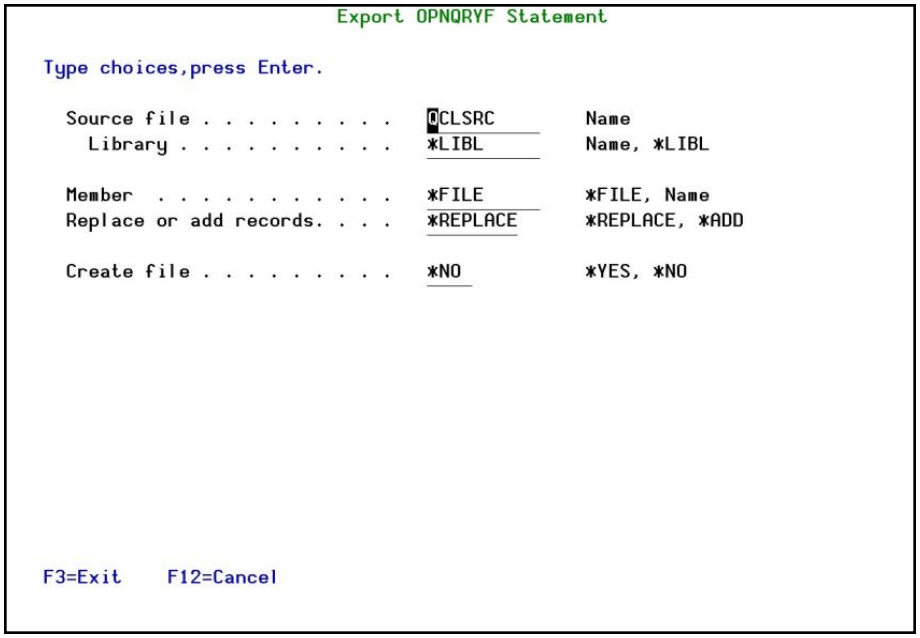
The possible values are:

*ALL – All key fields specified on the Key field specifications prompt (KEYFLD) parameter must be unique. If there are multiple query records with the same values for all of the key fields, only the first such record is available through the open query file.

Number-of-key-fields – Specify the number of unique key fields ranging from 1 through 120. This value must be no larger than the number of key fields determined by the Key field specifications prompt (KEYFLD) parameter. If there are multiple query records with the same value for the specified number of consecutive key fields, only the first such record is available through the open query file.

Export OPNQRYF Statement

1. Select 9. EXPORT in the Service menu and is available only if SUBSET or SORT exists.



2. Through this option the ***OPNQQRYF*** command source is written to a source member to be used for other programming requirements.

Source File	Name of file to be updated or created
Library	Library where source file is found or to be created
Create Source File	Y = Yes, Source file does not exist and must be created N = No, Source file exists
Member	Name of member to receive the export
Option	Blank = If a new member has to be created *Add = Adds export to a member *Replace = Clears member and replace with export statement. After confirmation, the statement is in the member and can be edited.

Chapter 18: Viewpoints

A Viewpoint is a FileScope session preserved under a given name. The environment is saved, including all changes you make in field ordering, column headings and internal fields. The Viewpoint session can be retrieved and modified at any time. Retrieving a file via a Viewpoint is quicker than a normal FileScope file access.

Viewpoints are especially useful for setting individual customized sessions for non-technical users. The end-user can simply select a menu option that contains a *SHWFC* or *CHGFC* command with the appropriate pre-defined parameters including the Viewpoint. In this way, the user works only with the fields in which he is interested. Simple end-user reporting needs can also be handled using Viewpoints.

Viewpoints are also helpful for technical personnel who need to do repetitive complex scans, create and print test files, and so on and do not want to go through the trouble of re-specifying scan criteria, screen layout and print layout specifications each time.

Create Viewpoints

The *ALWSAV* parameter on the *CHGFC* and *SHWFC* commands determines whether you can create and modify Viewpoints. If you specify a value of *YES then you are prompted with Viewpoint options when you invoke the FileScope exit screen. The available options are:

- Exit without saving
- Exit and update the current Viewpoint
- Exit and create a new Viewpoint
- Return to the FileScope session

The *VPT* Parameter

The *VPT* parameter of the *SHWFC* and *CHGFC* commands allows the user to specify which Viewpoint to use for the FileScope session.

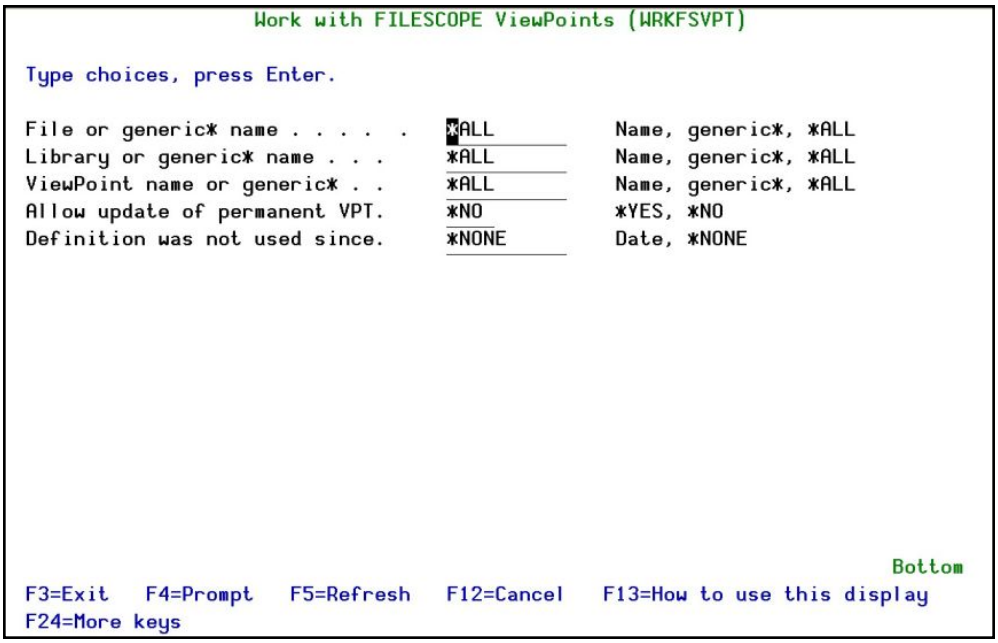
The options are:

- *DFT: if a Viewpoint with the same name currently exists for this file, it is considered to be the default Viewpoint. Otherwise, a new Viewpoint is created (as in *NEW).
- *NEW: a new Viewpoint is used.
- VPT-name: an existing Viewpoint is used.
- *SELECT: displays the file selection screen from which a list of Viewpoints may be displayed. The Viewpoint for the session may be selected from this list.

Work with Viewpoints

FileScope maintains statistical data on each Viewpoint. This information includes: date of creation, date of last update, date of last use, number of uses - month to date, year to date and total.

1. The Viewpoint information can be displayed using the ***WRKFSVPT*** (Maintain Viewpoints) command or by selecting option 25. Work with Viewpoints in the Main menu.

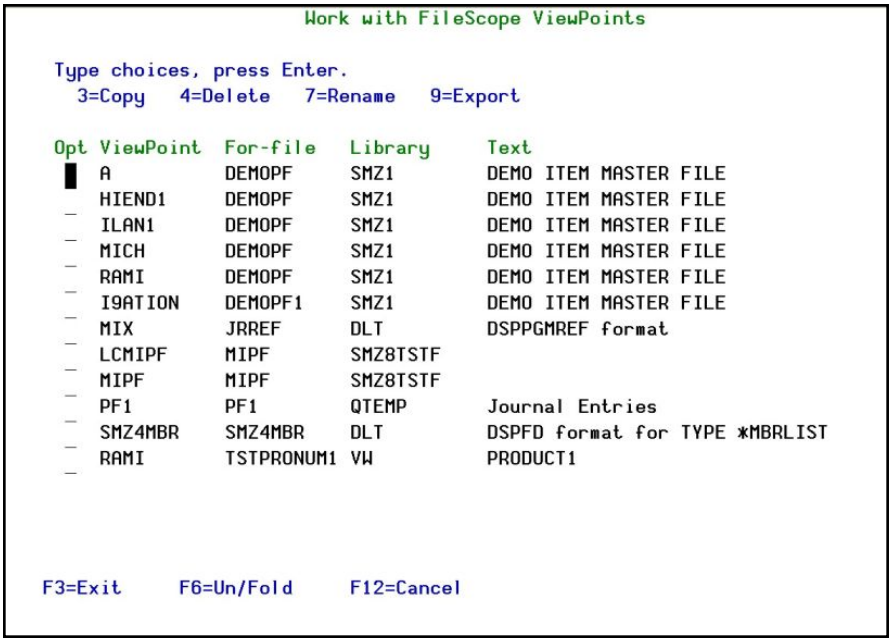


File	Specifies the Viewpoints of files to be included: ***ALL** = All files **Generic*** = Select all files beginning with the specified generic name.
Library	Specifies the Viewpoints of the libraries to be included ***ALL** = All libraries **Generic*** = Select all libraries beginning with the specified generic name.
Viewpoint	Specifies the Viewpoints that should be included ***ALL** = All Viewpoints **Generic*** = Select all Viewpoints beginning with the specified generic name.
Allow update of permanent VPT	Specifies whether permanent Viewpoints can be updated ***NO** = Does not allow the update of a permanent Viewpoint ***YES** = Enables the update of a permanent Viewpoint
Definition was not used since	Specifies only those Viewpoints which have not been used since the specified date that are to be included. ***None** = Select all Viewpoints **DATE** = Select only those Viewpoints which have not been used since the specified date

A Viewpoint can be:

- Deleted by entering a "4" next to it.
- Designated as permanent by entering a "Y" next to the name.
- Renamed by entering a "7" next to it.
- Exported by entering a "9" next to it.

2. Press Enter, the Work with FileScope Viewpoints screen appears



3. Pressing F6 on the Work with FileScope Viewpoints screen shows or hides extra details. When the extra details are shown Viewpoints may be made permanent by typing “Y” in the field next to “Permanent:”
4. Permanent Viewpoints cannot be deleted, unless the parameter ***ALWSAV*** (*ALL) was specified for the ***SHWFC/CHGFC*** commands or the command ***WRKFSVPT*** was entered with the parameter ***ALWPRM***(*YES).

Import/Export Viewpoints

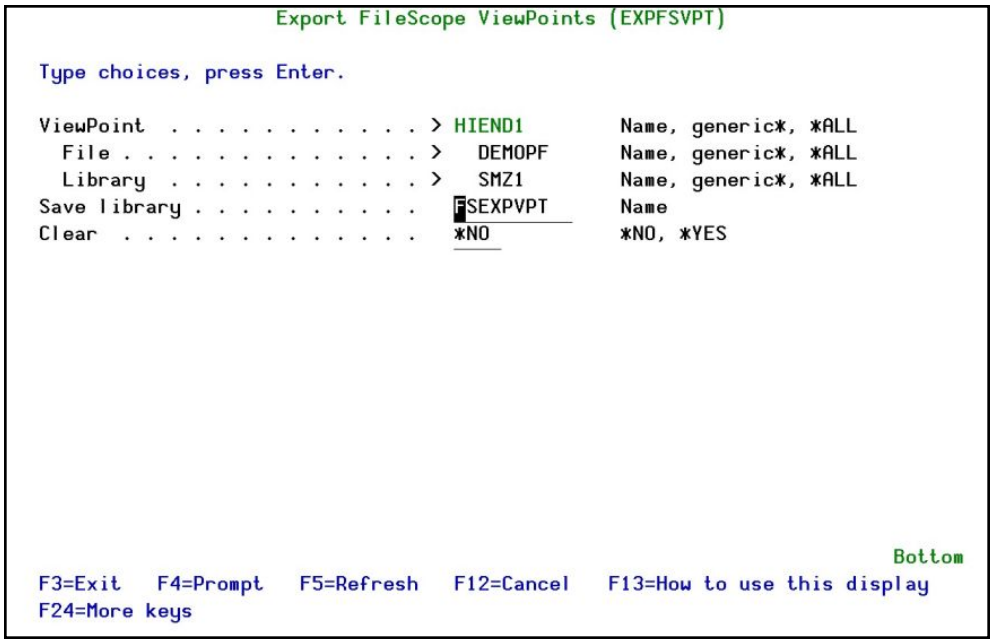
It is now easy to transfer report definitions, file creation definitions or global change definitions, as well as any other definitions saved as a Viewpoint, to other System i computers.

This enables you to create definitions on a central site and send them to all the branches. For example, this provides easy availability for sending a small library to a remote computer which contains all that is needed to run all date format conversions required for files there.

Export of Viewpoints

Export existing Viewpoints in two ways:

1. Select **25. Work with Viewpoints**, in the **Main menu**. Enter the viewpoint parameters export by Viewpoint Name, File Name, and Library Name. You can type generic names for your selection.
2. Type the name of the library where the chosen Viewpoints is stored (the default library is FSEXPVPT).
3. The Clear parameter set to *YES removes all the previous exported definitions before exporting the new current ones.
4. The option **9=Export** enables selecting the Viewpoints to export.

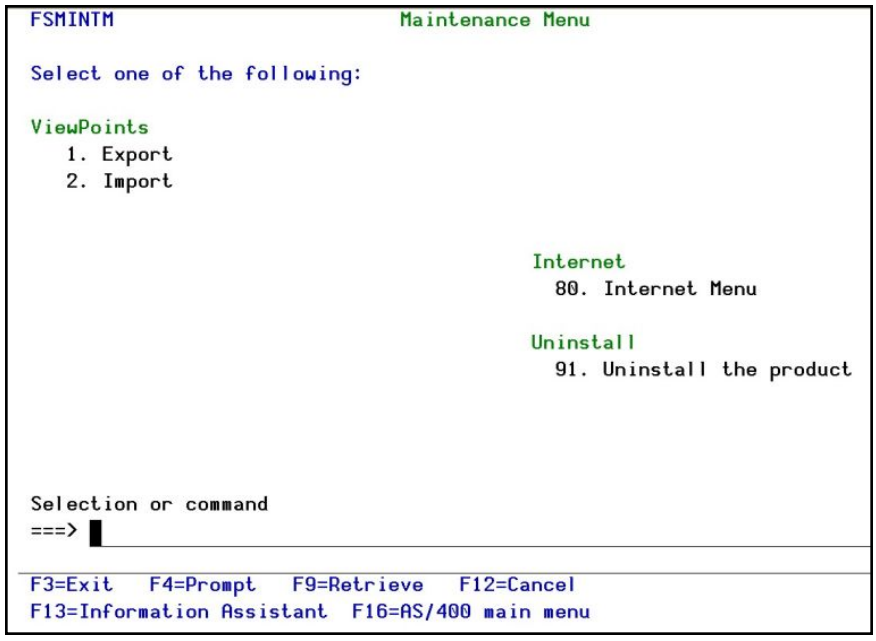


Or:

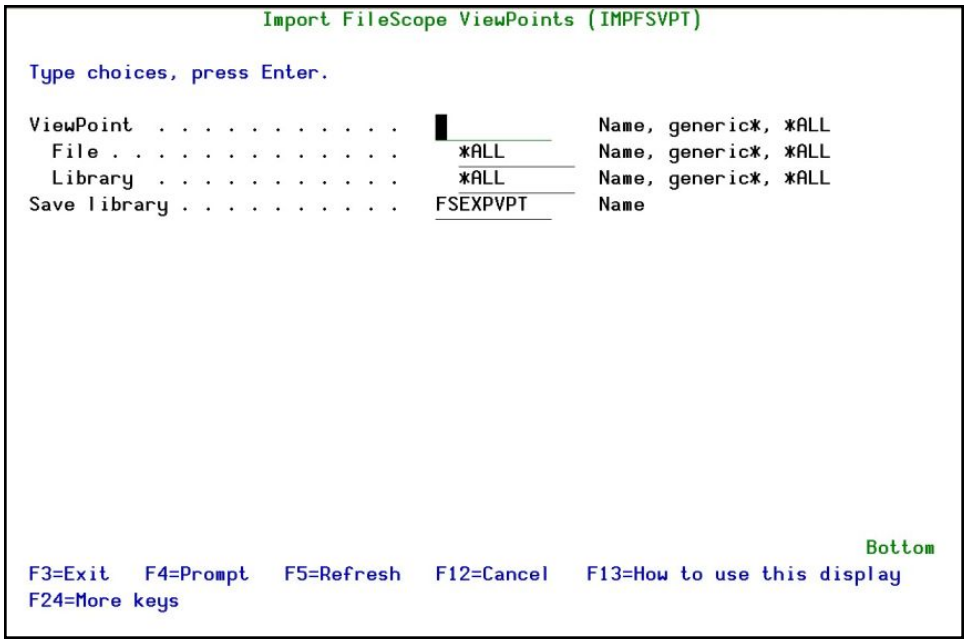
Select **82. Maintenance Menu** in the **FileScope Main menu** and select **2. Import**.

Importing Viewpoints

1. From the **FileScope Main menu** select **82. Maintenance Menu**.
2. Select **2. Import**. Select the definitions you want to import by Viewpoint Name, File Name, and Library Name. You can type generic names for your selection.



3. Type the name of the library where the Viewpoints to import are stored (the stored default library is proposed FSEXPVPT).



Chapter 19: IBI i-Business Intelligence

Available in FileScope Platinum only

Overview

iBi is a comprehensive Business Intelligence tool intended to be integrated into user applications (Green or GUI).

iBi makes investigations a snap by graphically isolating the "needle in the haystack" when investigating possible security breaches, critical system activities or planning your resource allocations, and interfaces to all applications such as ERP, HR, Financial, and so on.

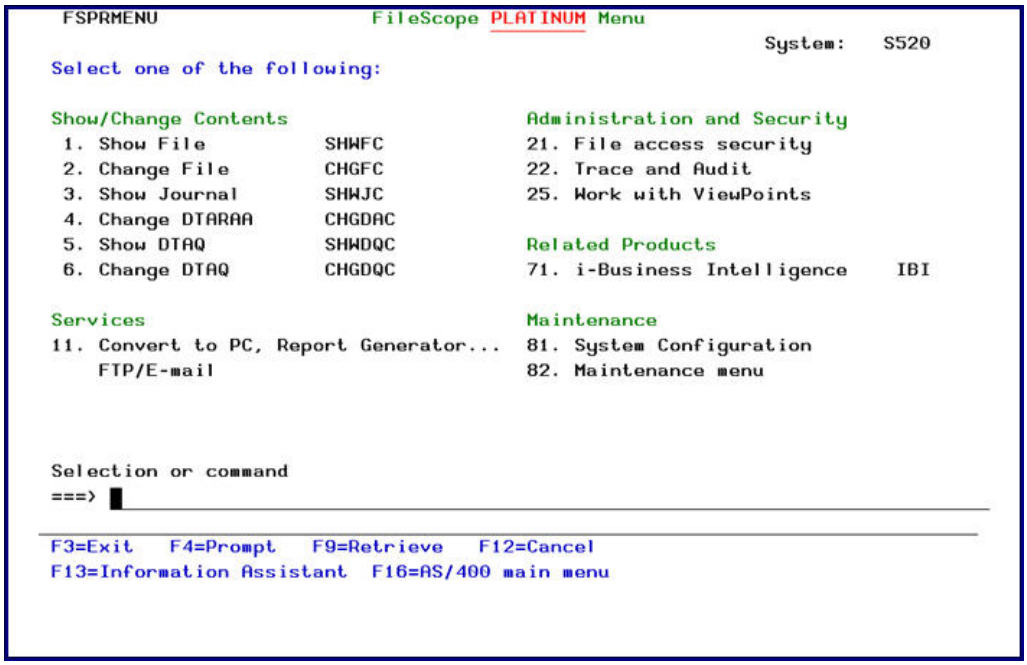
- Requires no special preparation - runs on your current data
- Every field becomes a tab - a "dimension"
- Click any tab to see all the other information summarized according to the values appearing in that tab
- Drilldown is just a tab away
- Select subjects to add to the filter
- Click on another tab to summarize the related information
- Restricts the user to the subject they are currently working on, for example, Order, Customer, Account

iBi and FileScope are a natural fit as FileScope arranges and displays data (tables) in an easy-to-read, easy-to-understand and easy-to-edit format and iBi's GUI displays the data and allows for easy inspection and analysis of the data.

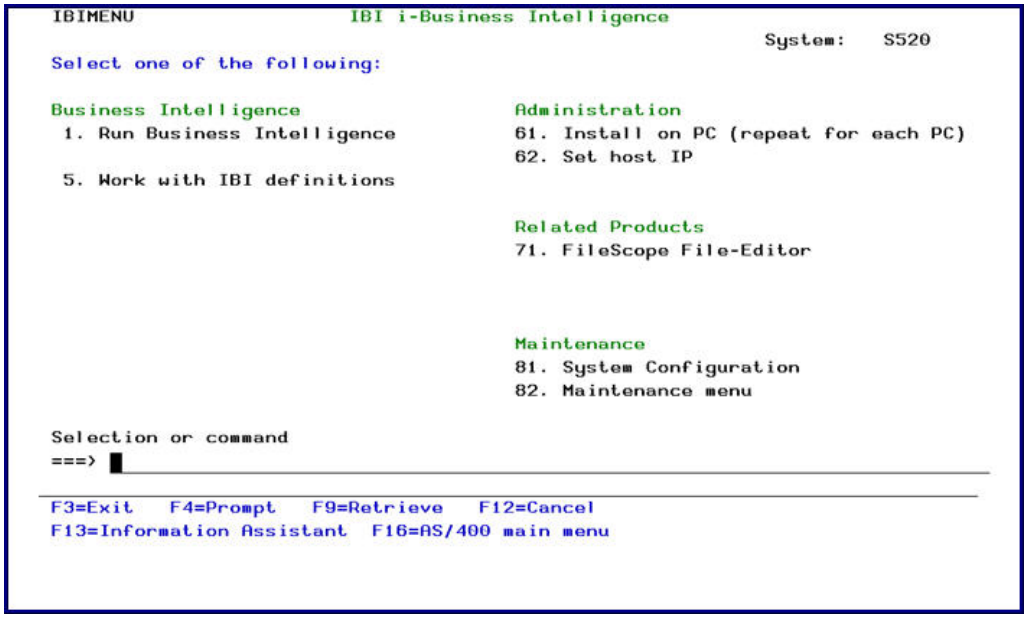
Installation of IBI i-Business Intelligence GUI on PC

The GUI part of the product should be installed on the PC that is running the IBM i emulation.

1. From FileScope main menu, select **71. i-Business Intelligence IBI → 61. Install on PC (repeat for each PC)**

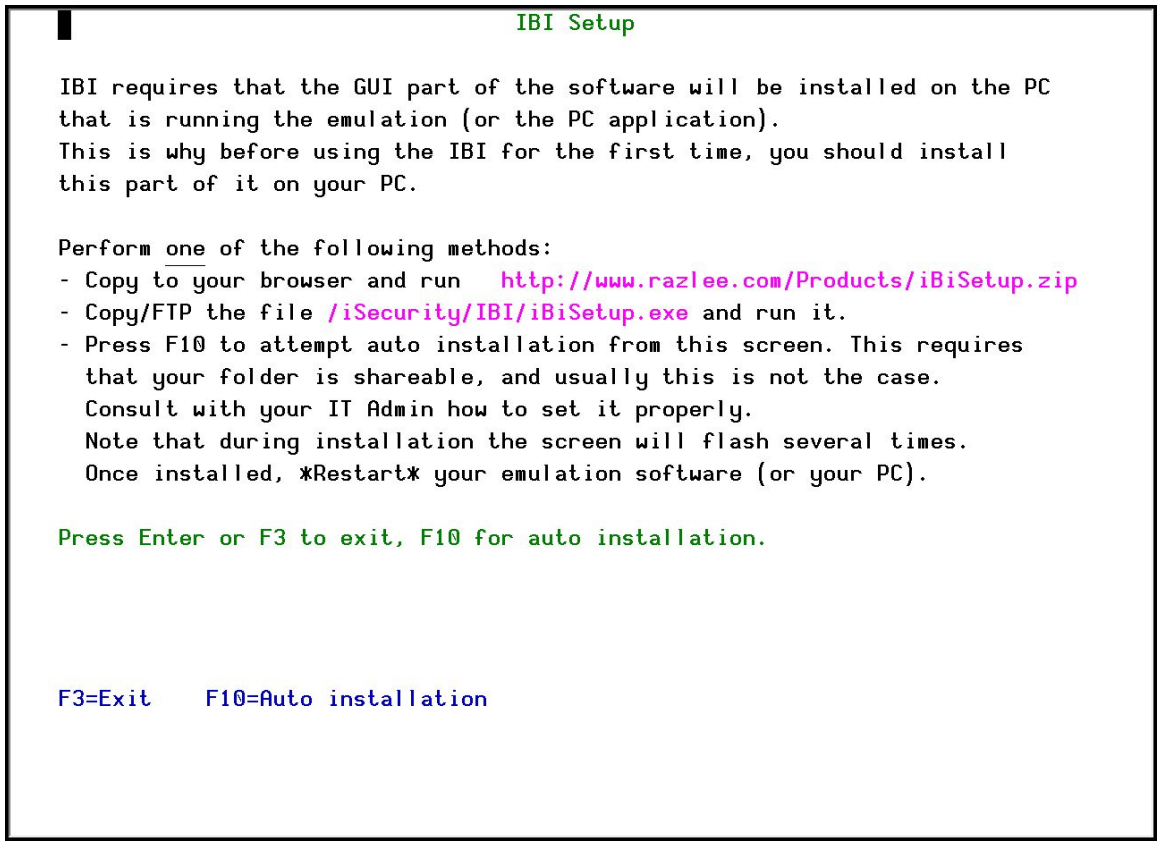


FileScope PLATINUM Main Menu



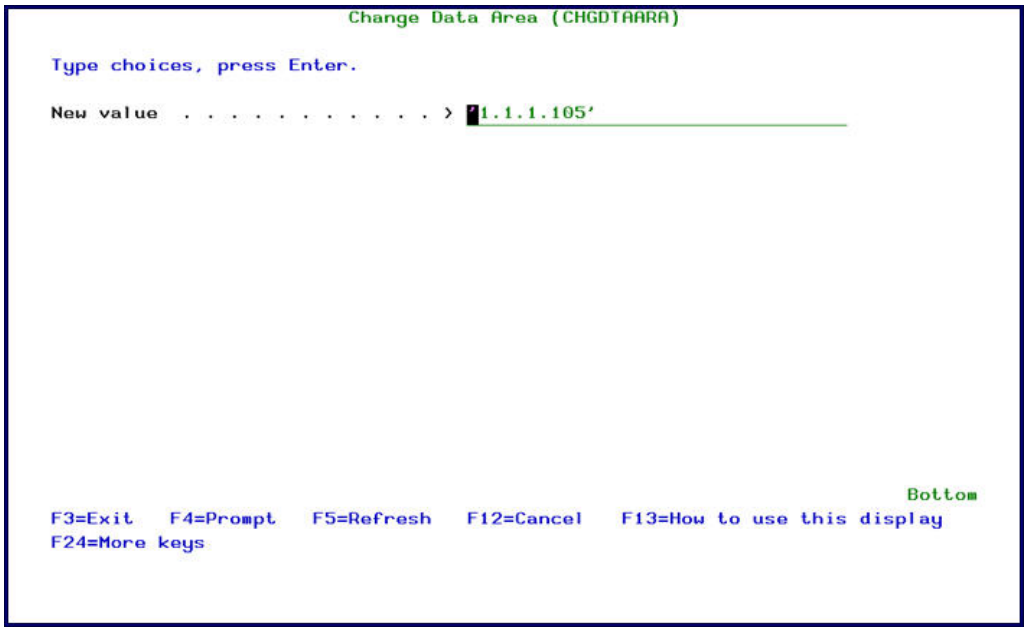
IBI i-Business Intelligence Main Menu

2. Follow the instructions as they appear on the **iBi Setup** screen



iBi Setup

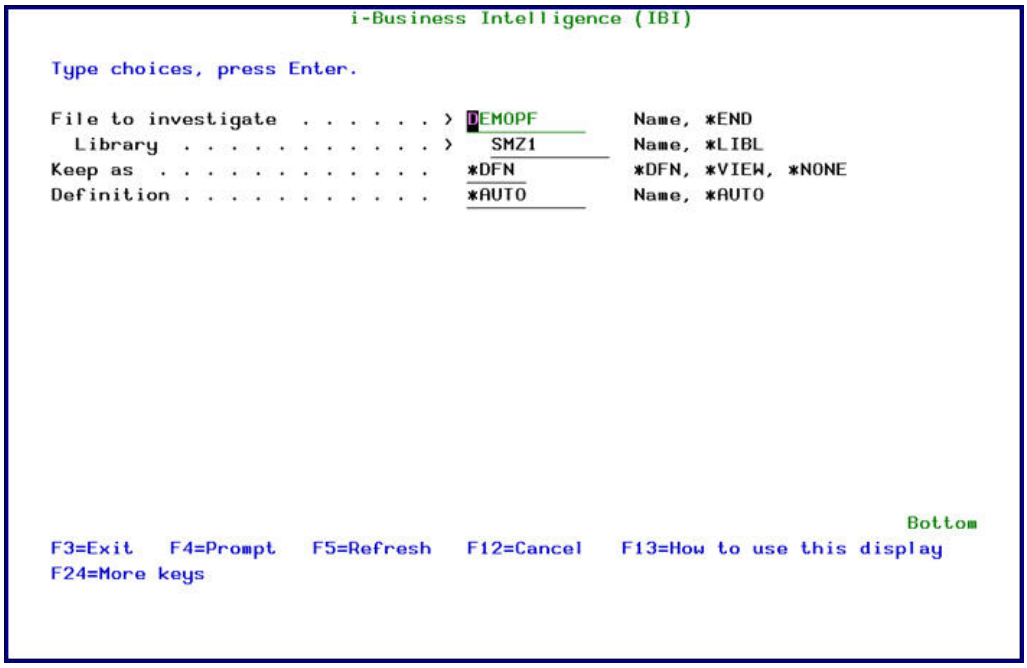
3. One of the parameters IBI i-Business Intelligence requires is the system IP. In rare cases, the IP of the host system (that is, the IBM i on which the product is installed), cannot be found due to incorrect settings. In this case, enter the host IP in the following data area to ensure proper setting of the definitions.
4. Select 62. Set host IP



Change Data Area (CHGDTAARA)

Working with IBI i-Business Intelligence

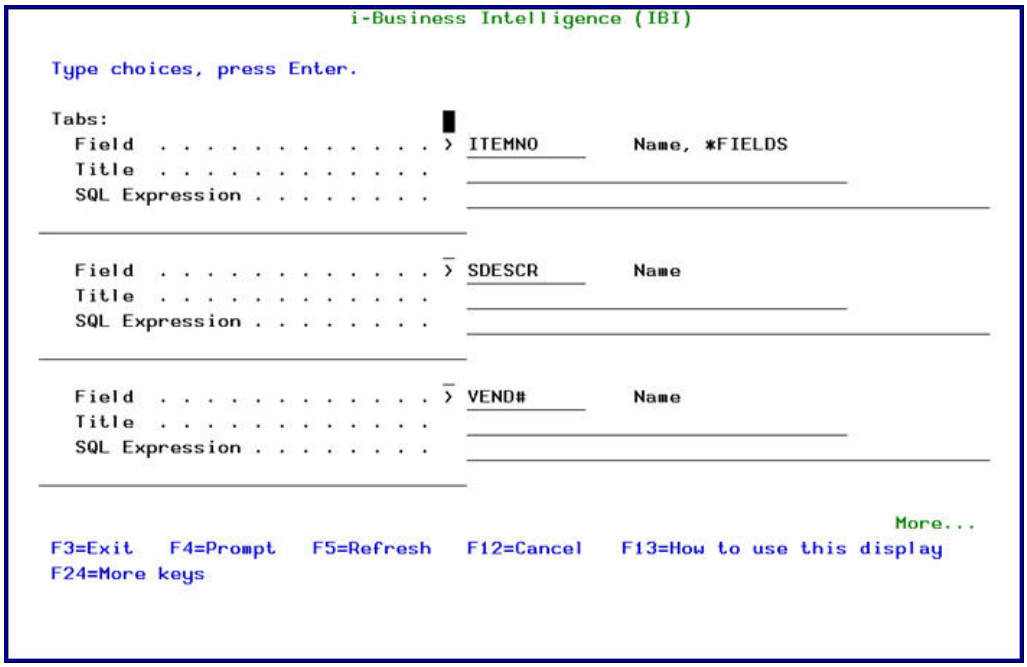
1. When working with any file using FileScope, Press **F7= i-Business Intelligence IBI** or select **F13=Service → 85. i-Business Intelligence IBI**



i-Business Intelligence IBI

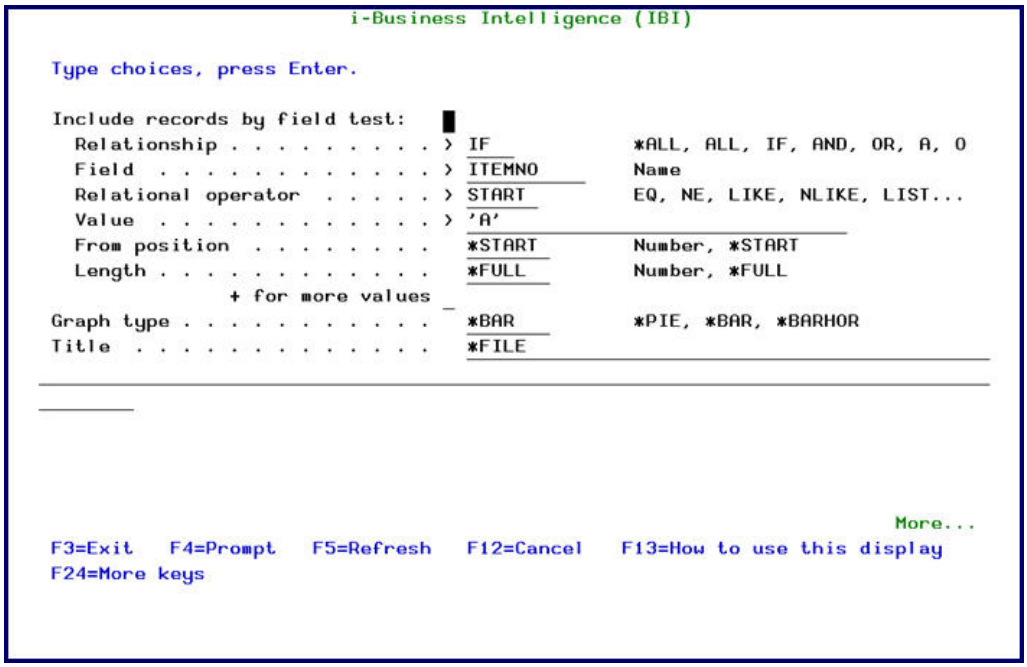
Option	Description
Keep as	***DFN** = Save the definitions in a physical file which can be accessed in the iBi product (**STRIBI → 5. Work with IBI definitions**) ***VIEW** = Create a view and display it with iBi; definitions are not saved. ***NONE** = Display by iBi only, no definitions are saved
Definition	**Name** = Save as "Name" ***AUTO** = Save in automatically defined name

2. Press **Enter** and **PageDown** for more definitions. Define new descriptive titles for fields and SQL Expressions



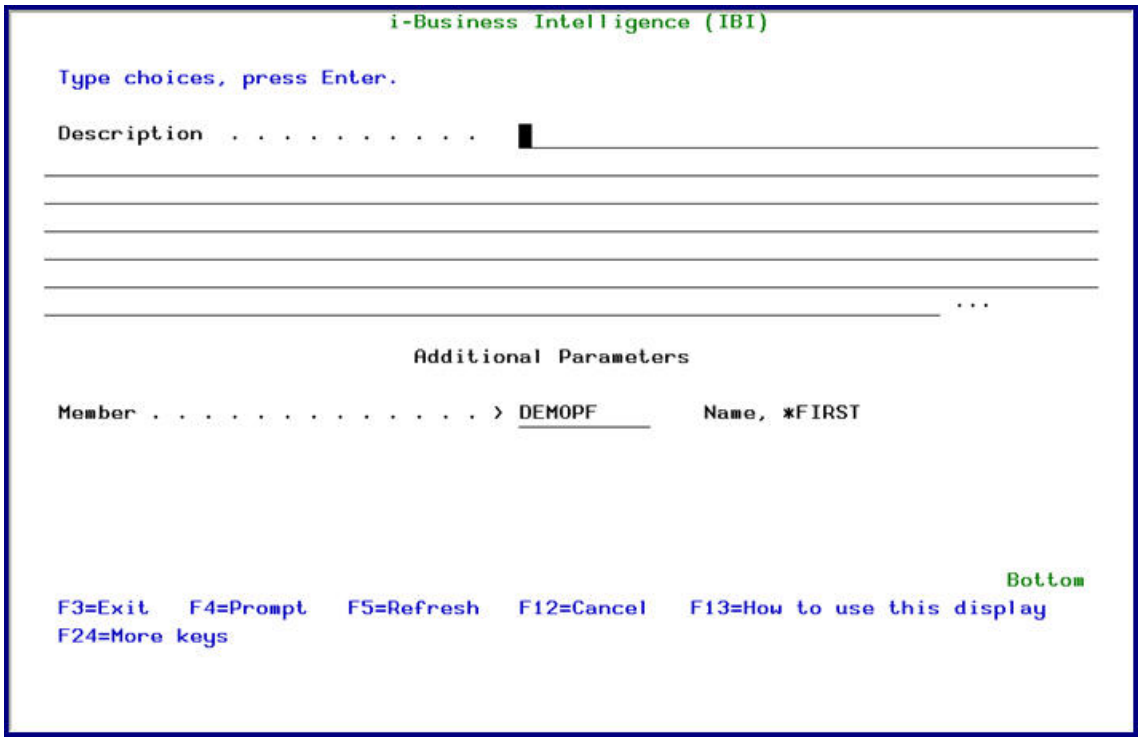
i-Business Intelligence IBI – field definitions

3. Insert filter definitions or edit the filter definitions that were inserted using the FileScope subset structured feature **(F13=Service → 1. SUBSET Structured style)**. Select the type of graph and give a title to the view



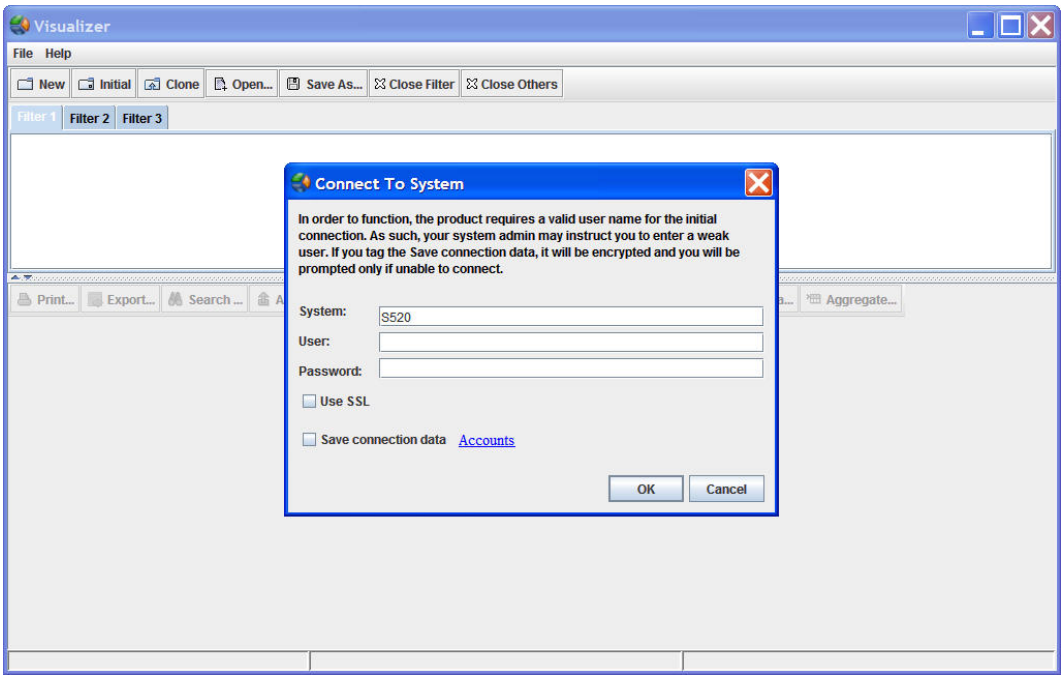
Filter Definitions

4. Insert a description



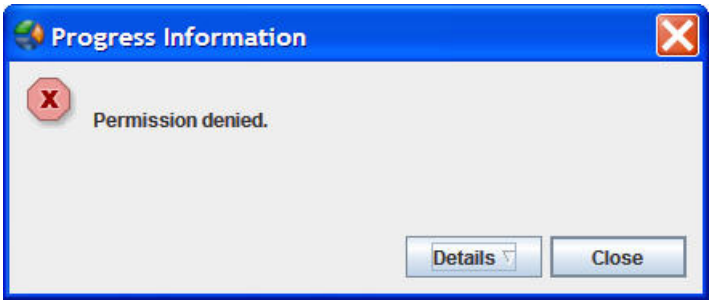
Description

5. Press **Enter**, GUI version of iBi prompted. If this is the first activation of the iBi GUI, a **Connect to System** screen appears



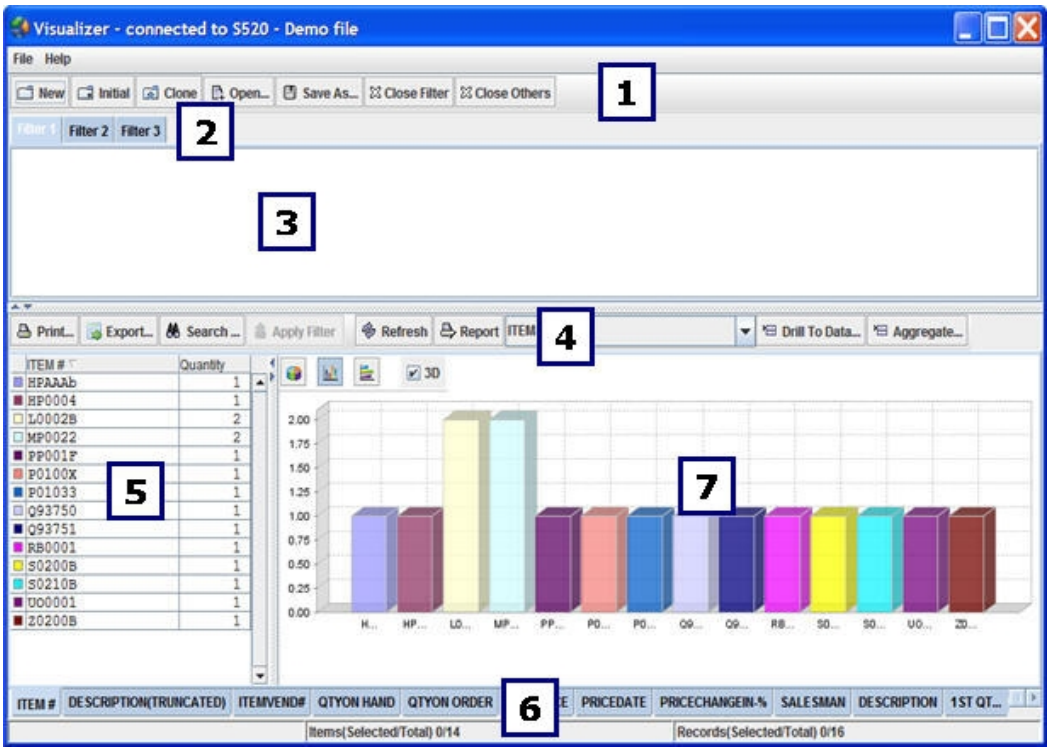
GUI iBi - connect to system screen

NOTE: When connecting to the system, there is a limited time span to insert the User and Password. If this period expires, an error message appears saying "permission denied".



Permission Denied

6. The iBi results appear in a GUI format

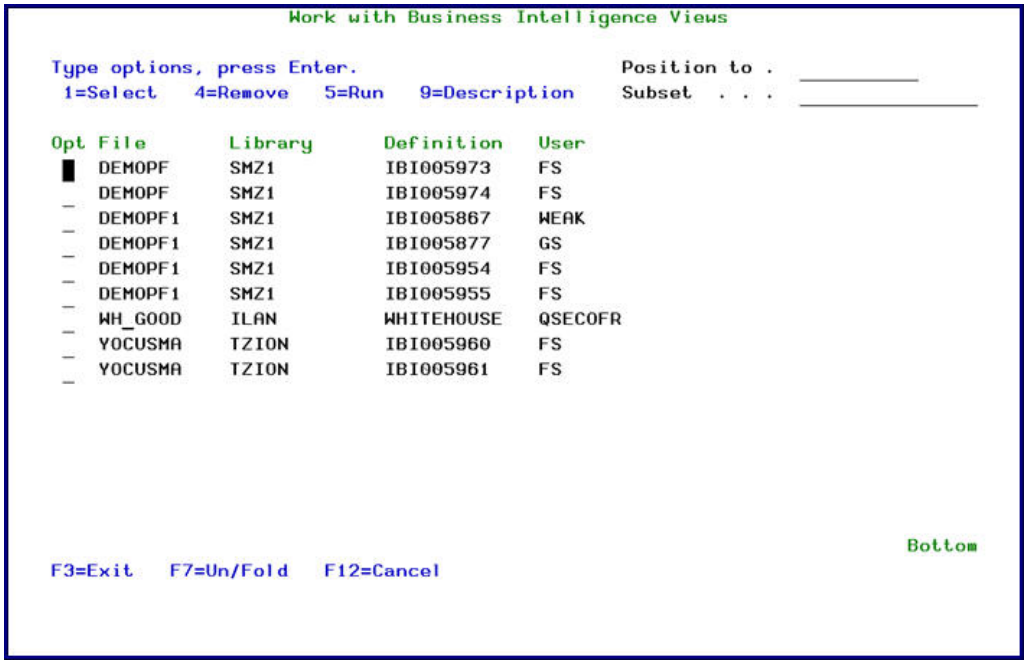

Visualizer - connected to S520 - Demo file
File Help
New
Initial
Clone
Open...
Save As...
Close Filter
Close Others
Filter 1
Filter 2
Filter 3
1
2
3
Print...
Export...
Search ...
Apply Filter
Refresh
Report
ITEM
4
Drill To Data...
Aggregate...
ITEM #
Quantity
HPAAAb 1
HP0004 1
L0002B 2
MP0022 2
PP001F 1
P0100X 1
P01033 1
Q93750 1
Q93751 1
RB0001 1
S0200B 1
S0210B 1
U00001 1
Z0200B 1
5
3D
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
7
ITEM #
DESCRIPTION(TRUNCATED)
ITEMVEND#
QTYON HAND
QTYON ORDER
PRICEDATE
PRICECHANGEIN-%
SALESMAN
DESCRIPTION
1ST QT...
6
Items(Selected/Total) 0/14
Records(Selected/Total) 0/16

GUI Format of iBi

Number	Name	Description
1	Toolbars	The toolbar enables you to perform basic navigation tasks. **New** = Creates and opens a new filter tab (see *Filter Tabs*) **Initial** = Display data according to the initial filter conditions **Clone** = Clone current filter conditions, without saving to disk **Open** = Opens a previously-saved filter **Save as** = Enables you to save filter data **Close** = Close a filter **Close Others** = Close all other filters
2	Filter Tabs	**Enables you to navigate between open filters**
3	Filter Pane	**Area where filters are displayed**
4	Data Pane	Area where Dimension data is displayed. **Print** = Print data **Export** = Export data to spreadsheet **Search** = Search and add/remove to the filter **Apply Filter** = Click to apply selection to the filter. **Refresh** = Click **Refresh** after the fetch size has been modified **Report** = Generates an HTM report **Drill to Data** = Drill to the underlying data giving you a 'raw' view over the data. Aggregate = the default display is “count”. By using “Aggregate” the file numeric fields displays data according to sum, average, min, max
5	Dimensions	**These criteria enable you to choose how to sort and display the data.**
6	Status Bar	**The Status Bar, divided into two parts, displays valuable system information:** **1. Number of members (units of information-each displayed on a different line) selected, out of total members.** **2. Number of entries (entries to the system) selected, out of total number of entries.**
7	Pie Chart	**The colorful, pie-shaped representation of your security and system data.** **Display also in a vertical and horizontal bar chart.**

Work with defined views

To view a list of previously defined views, select **5. Work with IBI definitions** from the IBI i-Business Intelligence main menu.



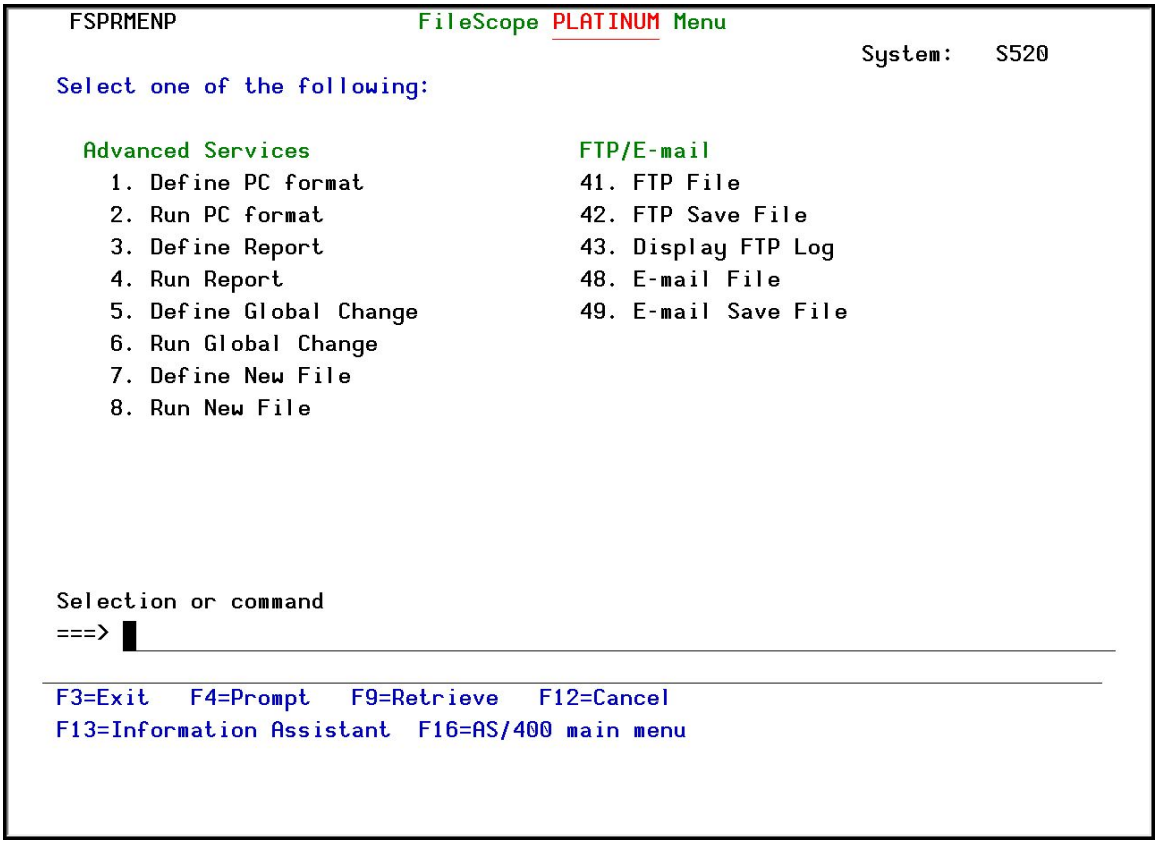
Work with Business Intelligence Views

Type 1 to select a view to edit or type 5 to run.

Chapter 20: Advanced Services

FileScope contains many powerful tools that allow you to create, manipulate and analyze database files.

Select 11. Convert to PC, Report Generator, FTP/E-mail from the Main menu. The Advanced Services menu appears.



Advanced Services

Define and Run PC Format

Available in FileScope Platinum only

FileScope is capable of creating a stream file. The stream file is built in the most common standard of data moved in field mode, called Comma Separated File (.CSV). The product can also build also Tab separated files or use any other separator of choice.

File Code Character Set ID (CCSID) is converted to allow access from PC and other computers. If Right to Left character fields are included, they may optionally be converted from Visual representation to Logical representation.

All processing is done on the System i only – eliminating the requirement of having a PC or any other computer attached at the time of processing.

The created file can be composed of any set of fields from selected subset of records out of a set of up to 10 joined files. Calculated fields are allowed. You can have the column heading and/or field names added in the first records of the file.

To use the file from a PC or another computer, the regular procedure is: Select, Network Neighborhoods, Select the System i, select the \TMP directory to see the file. Clicking over the file usually activates MS-Excel, which works directly on the file.

To run this option, select 91 from the Service menu (F13) or select 1 from the Advanced Services menu. Full command of what you want your file to consist of is available from the Convert to Stream File Menu. The following options are available when creating your stream file:

- Join Files
- Define Subset using *OPNQRYF* interface
- Define Sort
- Define Range of Records
- Define Scan Values
- Please refer to the corresponding sections in the manual for the using the above options.

Define and Run Report

Available in FileScope Platinum only

Selecting option **3** from the **Advanced Services** menu brings up your file selection criteria. After selecting your file you are asked to select a Viewpoint definition, or to create a new one using **F6**. When this operation has been completed the **Report Generator** is launched.

When selecting option **4** from the **Advanced Services** menu you are requested to fill in the screen parameters to define how the report prints.

Define and Run Global Changes

Selecting option 5 and 6 from the Advanced Services menu brings up the define/run Global Changes screens. Please refer to chapter 5 for further information on defining and running the Global Changes.

Define and Run New File

Available in FileScope Platinum only

Selecting option **7** and **8** from the **Advanced Services** menu brings up the **Define / Run New File (File Conversion)** screens. Define the new file or select an existing File Definition. The new definition is saved as a Viewpoint (see chapter **9**, section for more information).

These options also available directly from the main menu option **11. Convert to PC, Report Generator... FTP/E-mail.**

```
 FSPRMENP                  FileScope PLATINUM Menu
                                                    System:    S520
Select one of the following:

  Advanced Services                 FTP/E-mail
    1. Define PC format              41. FTP File
    2. Run PC format                 42. FTP Save File
    3. Define Report                 43. Display FTP Log
    4. Run Report                    48. E-mail File
    5. Define Global Change          49. E-mail Save File
    6. Run Global Change
    7. Define New File
    8. Run New File




Selection or command
===>
F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
```

Advanced Services

Chapter 21: FTP and E-mail Features

FileScope allows you send files to remote users via FTP or e-mail. You can choose to send the current file view (including subsets, calculated fields, reordered fields, and so on), the original, unmodified file or an OS/400 save file.

The FTP and Email feature is available via the FileScope main menu, the *SHWFC* and *CHGFC* Service menus (F13) and the confirmation screens for several functions, such as Global Change, Report Generator, and so on

This chapter describes these powerful features and presents instructions for their use.

Sending Files via FTP

To send a file via FTP, perform the following procedure. Please note that the data screens and procedures may vary slightly between the various methods of invoking FTP.

1. Invoke the FTP FileScope Transfer File screen using one of the following methods.
   - Select 11 from the FileScope Main menu and option 41 or 42.
   - Select 93 from the Service menu. Type '1' in the Send by field on the data screen that appears.
   - Type '**Y**' in the FTP/E-mail result field on the Change File Contents Confirmation screen that appears when using features such as Global Change or the Report Generator. Type '**1**' in the Send by field on the small selection screen that appears.
   - Type the command ***FSFPTF*** at the command line.
2. Select the FTP FileScope Transfer File screen criteria:

```
                  FTP FileScope Transfer File (FSFTPF)

Type choices, press Enter.

Target system IP address . . . .

User . . . . . .                          Name
Password . . . . . .                      Character value
From file name . . . . . > DEMOPF          Name
  Library  . . . . . >   QTEMP            Name, *LIBL
From member  . . . . . .  *ALL            Name, *ALL
To system type . . . . .  *AS400          *AS400, *PC
To object type . . . . .  *FILE           *FILE, *SAVF, *IMPF
Target (native) library  . . .  *FROMLIB  Name, *FROMLIB
Target directory and file  . . .

Convert to type  . . . . . .  *AUTO        *AUTO, *BIN, *ASCII
Target release . . . . . .  *CURRENT       V3R2M0-V5R5M0, *CURRENT, *PRV

                                                                  More...
F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
F24=More keys
```

Transfer File

The following table describes the parameters on this screen. Please note that some parameters may not appear in all circumstances and others may appear only after pressing the Enter key.

Option	Description
User/Password	User name and password for the file recipient on the target system
File Name/Library	Source file name and library
From Member	Name of member or *ALL
To System Type	Select *POWER i or *PC
Object Type	*FILE = Native OS/400 file *SAVF = OS/400 save file *IMPF = OS/400 import file (V5.1 Only)
Target Library	Destination library or folder on target system
Target Release	OS/400 release on target system *CURRENT = Current version on source system *PRV = Version immediately preceding the current version on the source system
Convert to type	The type of file to be transferred AUTO = Transfer the file in its original format *BIN = Convert the file to Binary *ASCII = Convert the file to ASCII
Run Commands	OS/400 commands to be executed prior to the file transfer.

If option **42** is selected in the **Main menu** to FTP a save file (SAVF), the following additional parameters appear:

Option	Description
Target library for SAVF	Library on the target system to store the save file
Restore SAVF to library	Library on the target system to which the save file is to be restored

View the FTP log file by typing **43** from the **Main menu** command line. This log shows details of all FTP transfers within the context of the current session.

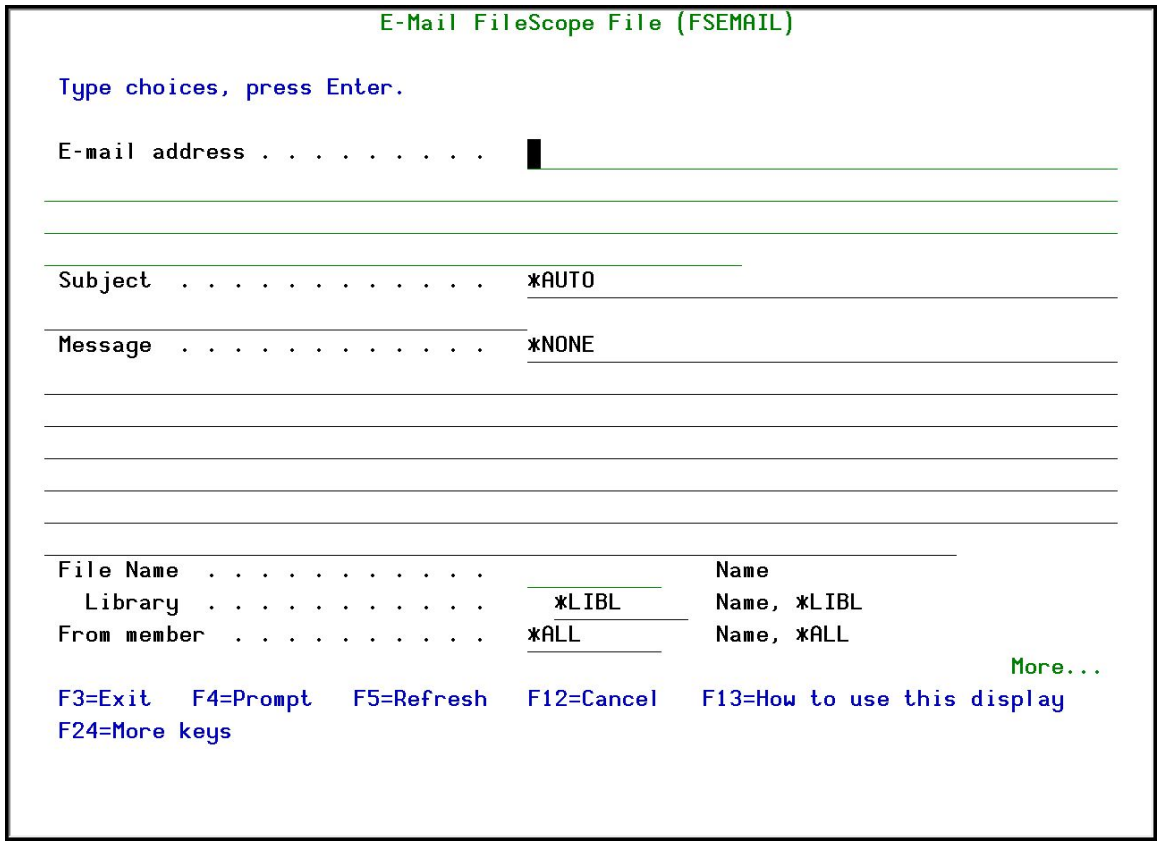
Sending Files via E-mail

FileScope allows you to send to remote users by e-mail. This feature supports OS/400 save files (SAVF) as well as OS/400 import files (IMPF). Native OS/400 files cannot be sent by e-mail. Files are sent as attachments to standard SMTP e-mail messages.

In order for this feature to function, you must have e-mail services properly defined on your System i system.

To send a file via e-mail, perform the following procedure. Please note that the data screens and procedures may vary slightly between the various options.

1. Invoke the FTP FileScope Transfer File screen using one of the following methods.
    - Select 11 from the FileScope Main menu and then option 48 or 49
    - Select 93 from the Service menu. Type **2** in the Send by field on the data screen that appears.
    - Type Y in the FTP/E-mail result field on the Change File Contents Confirmation screen that appears when using features such as Global Change or the Report Generator. Type **2** in the Send by field on the small selection screen that appears.
    - Type ***FSEMAIL*** from the command line



2. Select the E-Mail FileScope File screen criteria:

	Description
E-mail Address	Recipient e-mail address
Subject	Text to appear on e-mail subject line
Message	Text to appear in e-mail message
To System Type	Select *POWER i or *PC
File Name/Library	Source file name and library
From Member	Name of member or *ALL
To File Type	*SAVF = OS/400 save file *IMPF = OS/400 import file (V5.1 Only)
Target Release	OS/400 release on target system *CURRENT = Current version on source system *PRV = Version immediately preceding the current version on the source system
User ID	Sender's System i user profile
User Address	Sender's e-mail address

These options also available directly from the main menu option 11. Convert to PC, Report Generator... FTP/E-mail.

```
 FSPRMENP                  FileScope PLATINUM Menu
                                                    System:    S520
Select one of the following:

  Advanced Services                  FTP/E-mail
    1. Define PC format              41. FTP File
    2. Run PC format                 42. FTP Save File
    3. Define Report                 43. Display FTP Log
    4. Run Report                    48. E-mail File
    5. Define Global Change          49. E-mail Save File
    6. Run Global Change
    7. Define New File
    8. Run New File




Selection or command
===>

F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
```

Chapter 22: Administration

FileScope includes security functions that prevent the unauthorized use of your files and allows you to trace activity performed on your files.

FileScope consists of two main companion commands:

- *SHWFC* (Show File Contents) - to view or print.
- *CHGFC* (Change File Contents) - to change, view or print.

Therefore, using the System i standard authorization system, authorities can be given separately to the change and show functions.

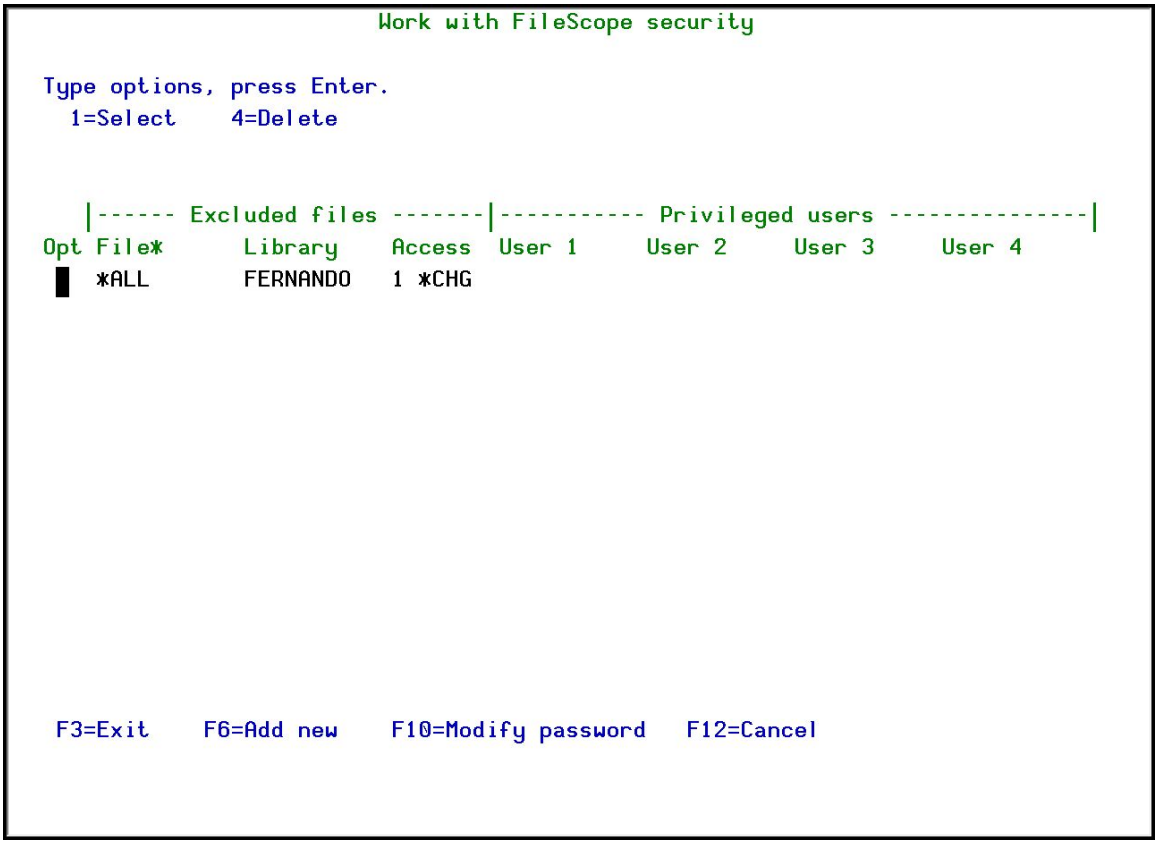
- The *CHGFC* command is completely separate from the *SHWFC* command and can be removed from the system altogether if so desired.

A file security system is included. Sensitive data can be protected from being updated or displayed by unauthorized users.

Sensitive capabilities can be blocked. Command parameters control selection of new files and Viewpoint manipulation. This enables selective implementation of FileScope's abilities through menus.

File Access Security

1. Select **21. File access security** in the main **FileScope** menu, the **Work with FileScope security** screen appears



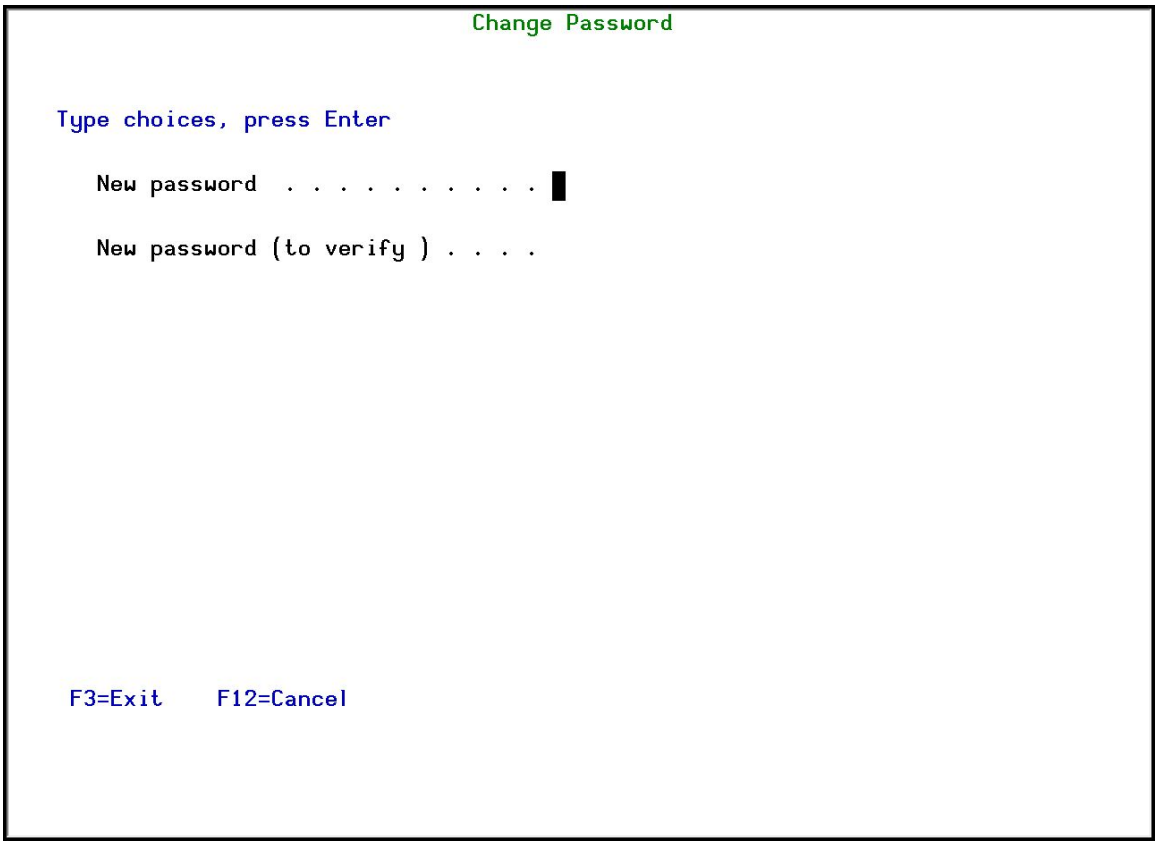
2. The Access Security System prevents the use of the **FileScope** on files or libraries. For example, it can prevent the use of ***CHGFC*** (Change File) or even ***SHWFC*** (Show File); it can prevent the use of all files beginning with XYZ which are located in a specific library or in any library.

In addition, there is a possibility to define a group of privileged users who are not concerned by the pre-defined restrictions!

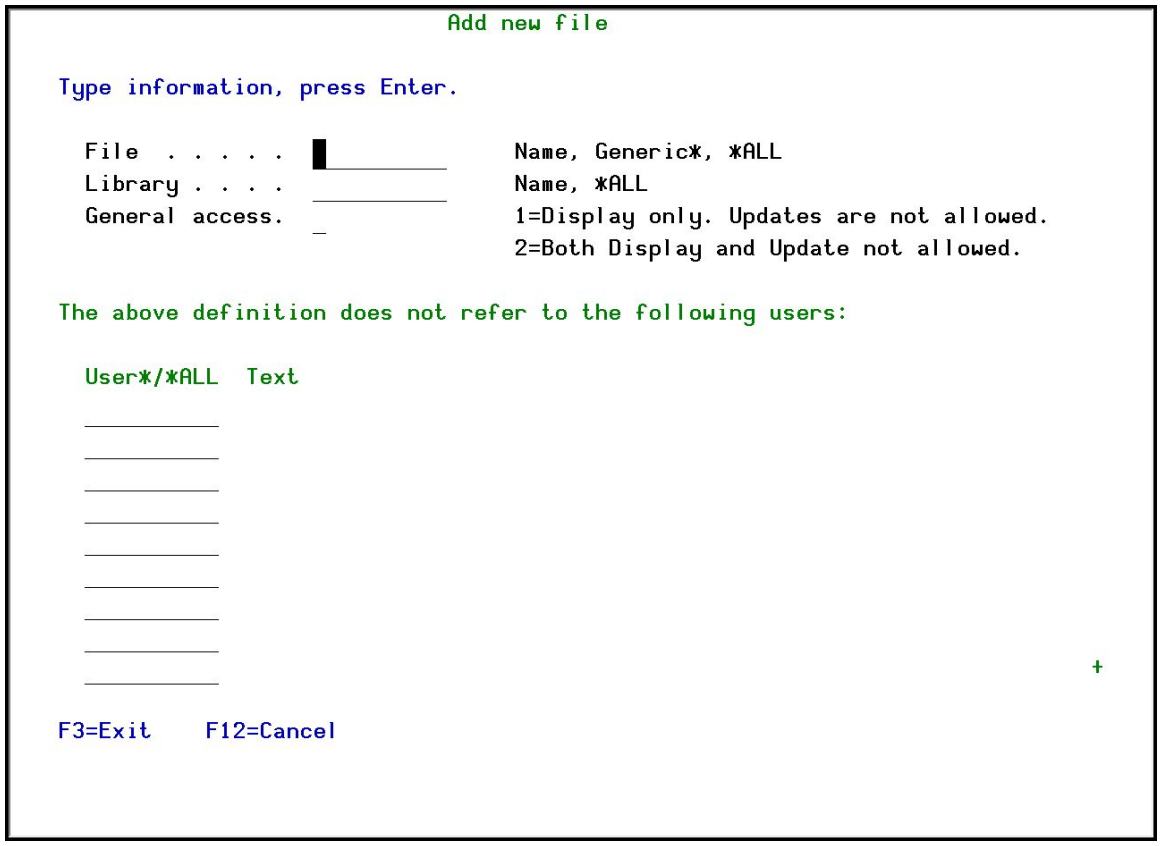
The ***WRKFSSEC*** command provides access to an internal security system enabling definition of files to be protected from access.

A list of privileged users (those who are allowed to use this file) can be defined.

3. The security system is protected by an internal password. The default password is QSECOFR. It is recommended to modify it by using **F10** - modify password.



4. Press **F6** in the **Work with FileScope security** screen to add a new file.


Add new file
Type information, press Enter.
File . . . . .
Library . . . .
General access.
Name, Generic*, *ALL
Name, *ALL
1=Display only. Updates are not allowed.
2=Both Display and Update not allowed.
The above definition does not refer to the following users:
User*/*ALL Text
F3=Exit F12=Cancel

FILE AND LIBRARY

Denied files can be specified as:

- Specific file (full or generic)
- All files in a library
- A file name regardless of which library contains it
- All files in all libraries

DENIED ACCESS TYPE

Two levels of security can be defined as follows:

- prevent use of ***CHGFC*** command (updates)
- prevent use of all FileScope commands

PRIVILEGED USERS

A list of users, excluded from the restriction, can be defined. Generic user names can be authorized.

TECHNICAL ASPECTS

Specific rules (without *ALL) are more important than general rules.

Security exists in the following sequence:

- Specific file name and library name.
- Specific file name in any library.
- Any file in a specific library.
- All files in all libraries.

If the *CHGFC* command is attempted, a check is first done to search for a restriction of *CHGFC* use (level 1) and then for a general restriction.

Command Authorization

FileScope consists of two commands:

- *SHWFC* (Show File Contents) - to view or print.
- *CHGFC* (Change File Contents) - to change, view or print.

Therefore, authorization for command usage can be granted for the change function separately.

The *CHGFC* command is totally separate from the *SHWFC* command and can be removed from the system altogether if so desired.

Logging

All users of the product are logged, along with the user details and the time of use.

Working with Trace

Available in FileScope Platinum only

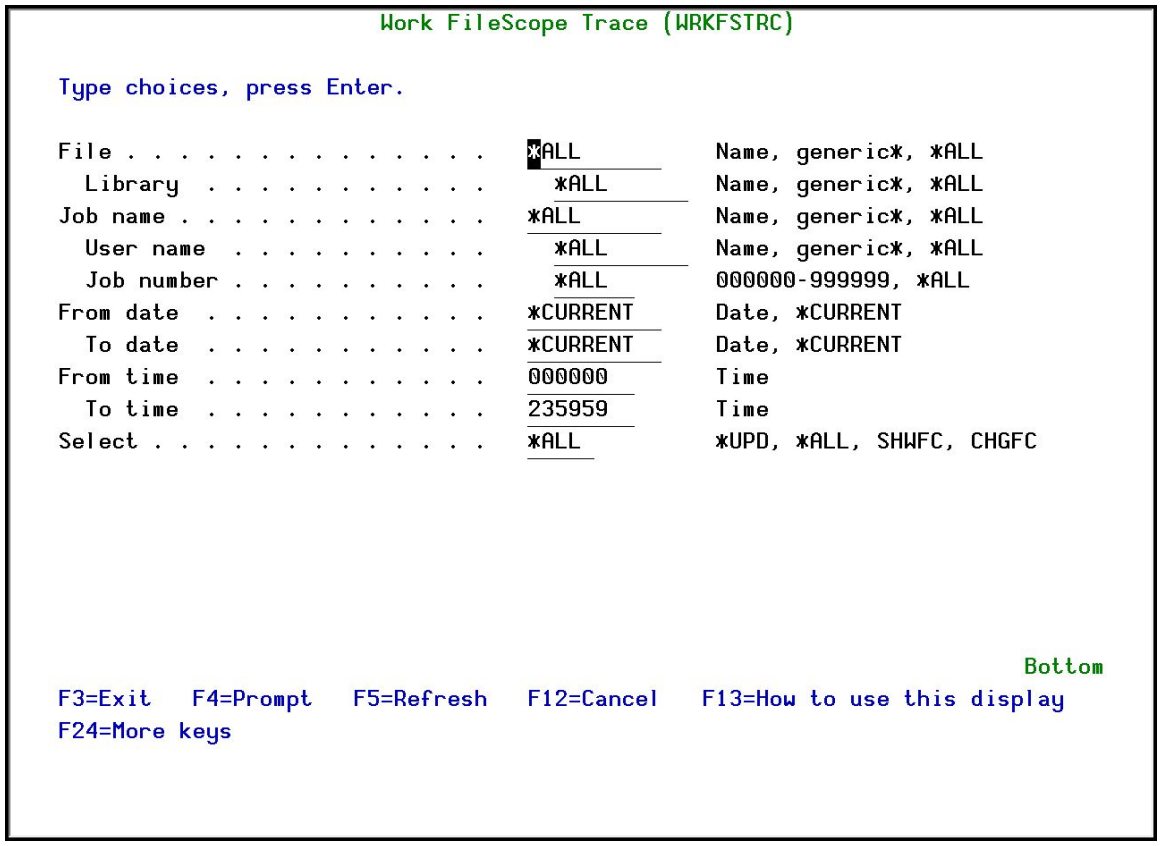
The Trace Security System (*WRKFSTRC* command) follows up on the use of your files. All FileScope operations can be registered on FileScope internal files. This enables you to follow up on each and every user action.

This follow-up system is based on three different levels:

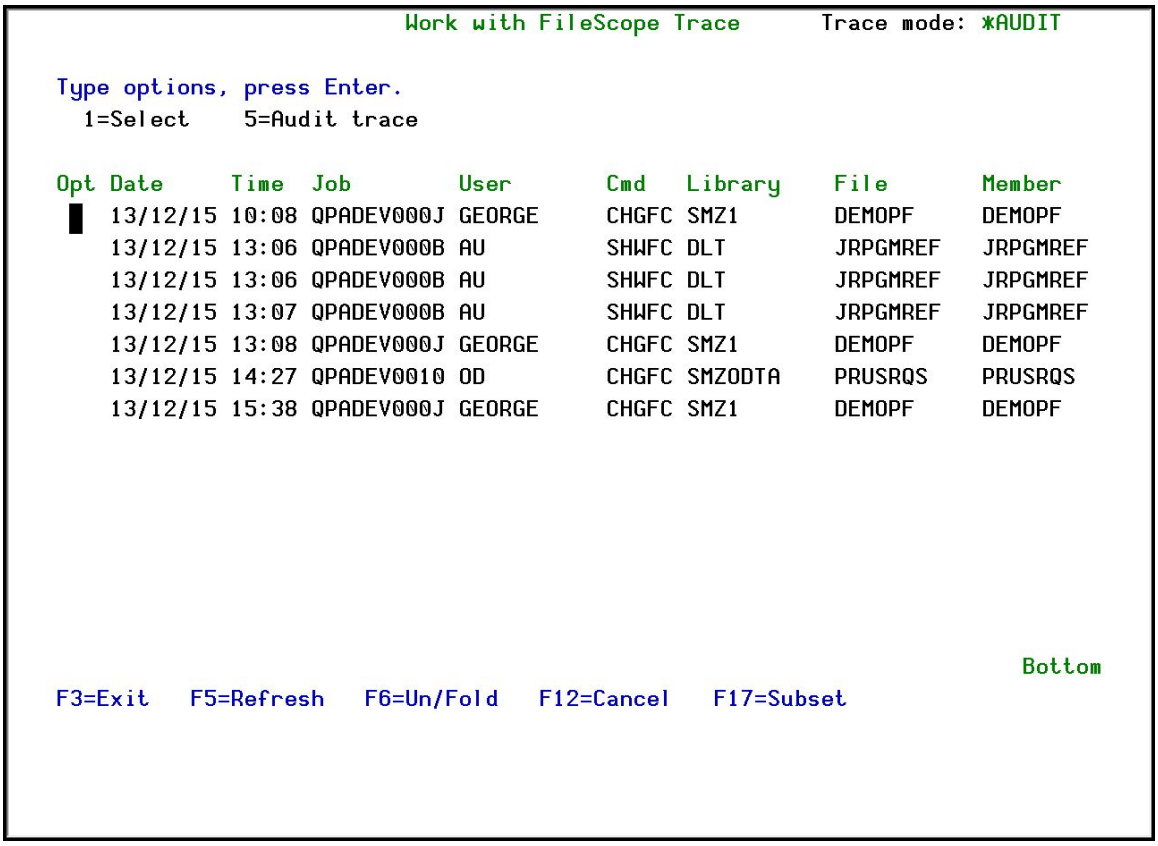
- BASIC: basic information on users and file use
- ADVANCE: add information on the update request definition (increase the price product by 10%)
- AUDIT: all the above information in addition to a separated print list that indicates all field changes on each record

You set the level with the Run trace (*BASIC, *ADVANCE, *AUDIT) parameter. To see details of how to set this parameter, see *Undo and Auditing (SOX)* on page *280*.

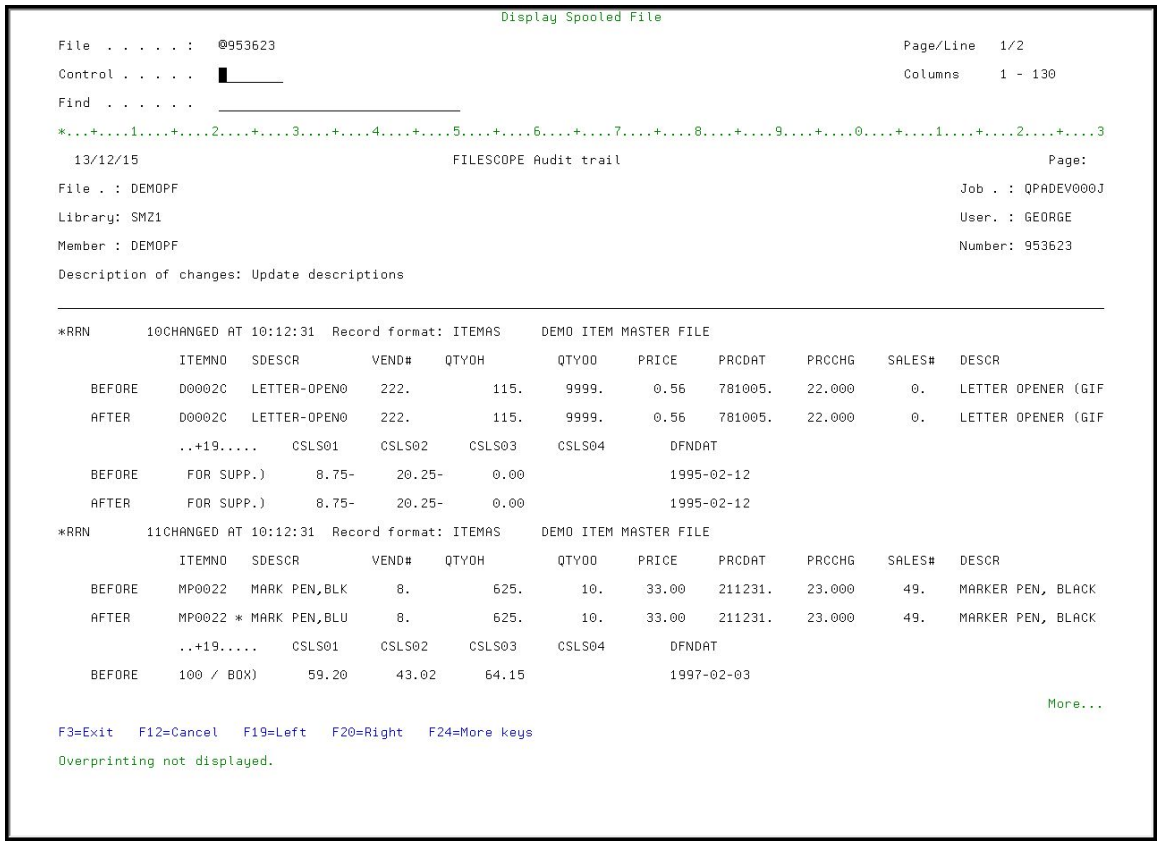
1. Select 22. Trace and Audit from the FileScope Main menu. The Work FileScope Trace screen appears.



2. If the Run Trace parameter was set to *AUDIT, the option 5=Audit trace can be selected in the Opt field.



The following screen is an example of an *AUDIT panel where you can see the updated records before and after the changes, the updated fields (proceeded by a "*"), the description of changes and more.



```
                                                    Display Spooled File
File  . . . . . :   @953623                                                                  Page/Line   1/2
Control . . . . .   █_______                                                                 Columns     1 - 130
Find  . . . . . .   ____________________________
*...+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....0....+....1....+....2....+....3
  13/12/15                                      FILESCOPE Audit trail                                                  Page:
File . : DEMOPF                                                                                          Job . : QPADEV000J
Library: SMZ1                                                                                            User. : GEORGE
Member : DEMOPF                                                                                          Number: 953623
Description of changes: Update descriptions
_____________________________________________________________________________________________________________________________
*RRN       10CHANGED AT 10:12:31  Record format: ITEMAS     DEMO ITEM MASTER FILE
               ITEMNO   SDESCR         VEND#    QTYOH         QTYOO     PRICE     PRCDAT     PRCCHG    SALES#   DESCR
    BEFORE     D0002C   LETTER-OPEN0    222.          115.     9999.      0.56    781005.    22.000       0.    LETTER OPENER (GIF
    AFTER      D0002C   LETTER-OPEN0    222.          115.     9999.      0.56    781005.    22.000       0.    LETTER OPENER (GIF
               ..+19.....    CSLS01     CSLS02     CSLS03     CSLS04        DFNDAT
    BEFORE      FOR SUPP.)      8.75-     20.25-      0.00                  1995-02-12
    AFTER       FOR SUPP.)      8.75-     20.25-      0.00                  1995-02-12
*RRN       11CHANGED AT 10:12:31  Record format: ITEMAS     DEMO ITEM MASTER FILE
               ITEMNO   SDESCR         VEND#    QTYOH         QTYOO     PRICE     PRCDAT     PRCCHG    SALES#   DESCR
    BEFORE     MP0022   MARK PEN,BLK      8.          625.       10.     33.00    211231.    23.000      49.    MARKER PEN, BLACK
    AFTER      MP0022 * MARK PEN,BLU      8.          625.       10.     33.00    211231.    23.000      49.    MARKER PEN, BLACK
               ..+19.....    CSLS01     CSLS02     CSLS03     CSLS04        DFNDAT
    BEFORE     100 / BOX)      59.20      43.02      64.15                  1997-02-03
                                                                                                                    More...
F3=Exit   F12=Cancel   F19=Left   F20=Right   F24=More keys
Overprinting not displayed.
```

Chapter 23: Flat File Support

Flat file support allows you to perform the following tasks:

- Create DDS for S/36 files by using definitions that already exist in RPG programs
- Support creation of DDS from FileScope Viewpoints
- Combine definitions from different sources to create one DDS
- Use internal definitions from RPG programs to display/edit file data in the correct format, without creating an externally defined file.
- Migrating S/36 users can easily convert internally-defined files that are described in RPG programs, to native externally defined files.

Current FileScope users can use the Viewpoints they have already created for their files to create externally defined files.

It is also possible to build new field definitions from within the product as well as modifying imported definitions. Field definitions can be built directly from the screen into the product.

Advantages of FileScope S/36 Conversion

FileScope enables the conversion to be interactive. The user can define the file to be converted from several sources, such as several RPG programs written by different programmers and possibly containing different field names.

The user can see the result of the definition on the spot - by returning to the normal view of the data, this is edited immediately according to the new definition.

The user can add field definitions manually or by source file definitions. There is no necessity to actually convert the file. The current view of the file can be saved using the Viewpoint - a part of FileScope which enables you to save several views of the same file for later use. This gives the user all the benefits of using "externally defined files" in FileScope without actually converting the file.

The conversion process helps the user define files with no errors. Overlapping fields are highlighted, requiring the user to delete them (not supported in externally defined physical files). Gaps between fields are covered by dummy fields. These fields are automatically created. Once created, data can be copied to the newly created file interactively or by a batch process. During the copy of data to the newly created file, decimal errors can be detected and corrected, together with any other changes that may need to be made to the file data.

Decimal error correction

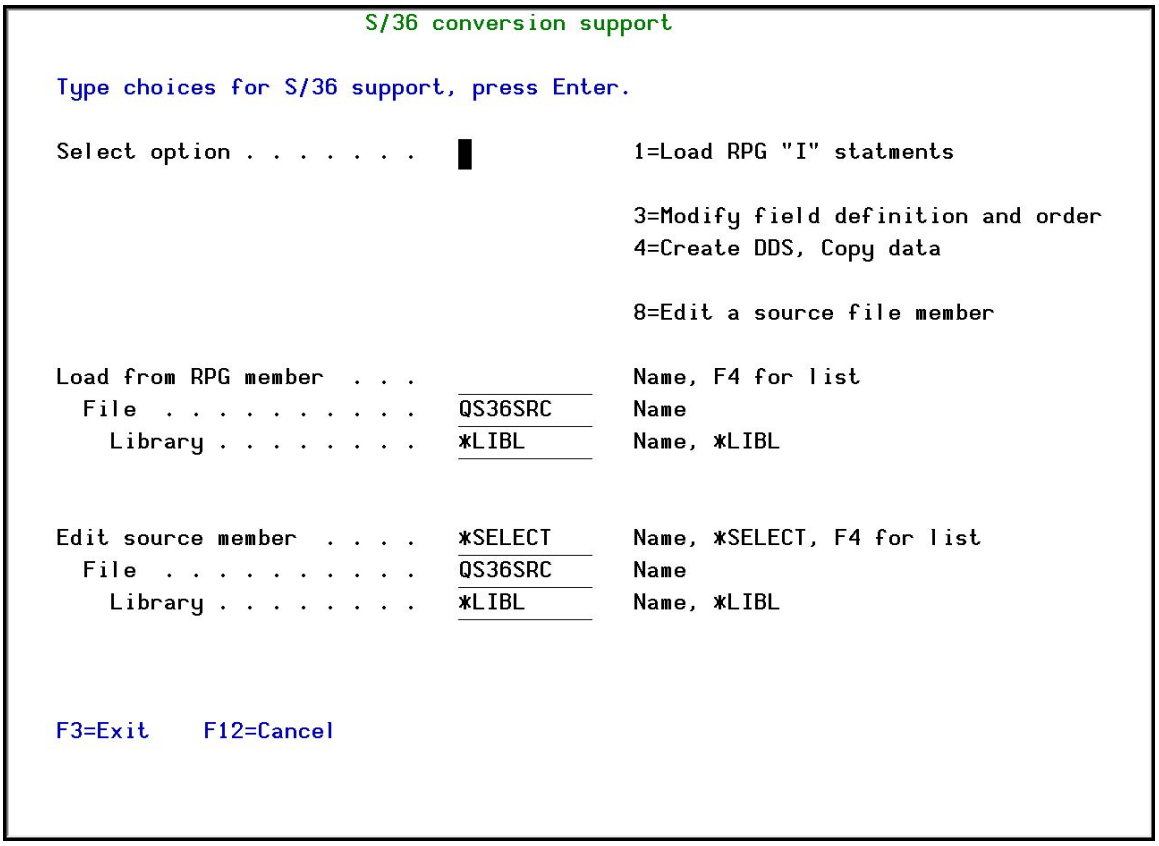
FileScope enables easy detection and correction of decimal errors. Decimal errors are highlighted on screen during data display and are clearly marked on printed reports.

Invalid Dates & Date Conversion

FileScope enables easy detection of invalid dates and conversion of dates to different formats. Refer to the sections on SCAN, and File Conversion in this manual.

Steps to be taken when Converting Files

1. Display the file to be converted using the ***CHGFC*** command
2. Press F13 for **Service menu**
3. Select **31. Flat files support**. The **S/36 conversion support** screen appears.



From this screen you can:

- Load field definitions from RPG programs.
- Modify field definitions externally defined files including:
- Select fields to be used to build the file.
- Specify key field order.
- Create of DDS source statement.
- Create a file from the DDS.
- Copy the data to the newly created file.
- Edit a RPG program

4. Select 1=Load RPG "I" statements

- Enter the name of the RPG program or press F4 to select from a list.
- The program source is subsequently displayed on the screen.
- Specify the range of "I" statements defining the file.
- After confirmation, those definitions are loaded to a temporary area.
- At this stage you can modify the definitions and omit unnecessary fields.
- After a second confirmation, the definitions are loaded as regular fields.

It is possible to load "I" statements several times from the same program or from different programs. Once loaded, the file can be easily displayed and edited according to the loaded definitions, as if it had been externally defined using DDS.

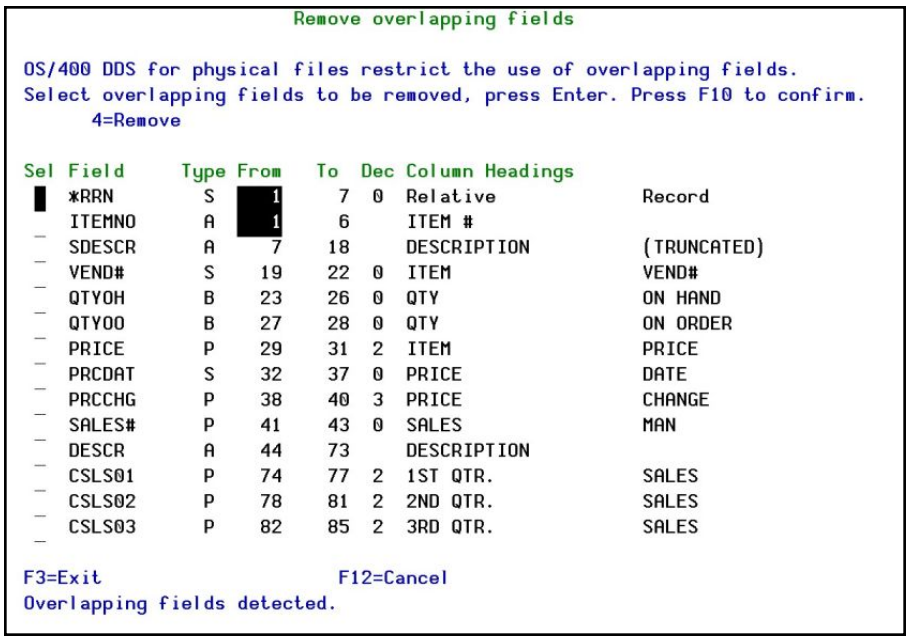
Modify Field Definition and Order

Using this option it is possible to:

- Add new field definitions (F9)
- Modify field definitions (F10)
- Remove unnecessary fields (ORDER > 900)
- It is also possible to reorder the fields manually or to select automatic reorder by position in record (F20).

Create DDS, Copy Data

Once this option has been selected, a list of the active fields is displayed. Overlapping fields are highlighted and dummy fields are automatically *built* to fill in the gaps between fields. At this stage the user is requested to omit overlapping fields. (Defining a physical file using DDS implies a restriction on having overlapping fields).



After confirmation, the fields are displayed again, allowing you to specify the key order. Once specified, the Create DDS screen is displayed.

When using this screen, the user has to specify the name of the member to include the DDS, the name of the file to be created and whether the data from the current file should be copied to the newly created file (can be sent for processing to Batch).

NOTE: Data is coped from the original file, not from the subset used within FileScope.

Edit Program

It is possible to activate the source editor (SEU) from this screen.

Scanning for Errors

Decimal errors and invalid dates can be scanned using the "Field scan" in the Multi record screen.

To search for an invalid date in a specific field, enter the combination:

*field-name EQ *ID.*

A report containing all records with invalid dates in specific fields can be produced by selecting "Print under scan" option in the Print screen and defining the scan condition as described. In this case the invalid date appears as a row of '*'s.

To search for a decimal error in a specific field, enter the combination:

*field-name EQ *DE.*

To check all numeric fields in the record for decimal data errors, enter the combination:

RCD EQ *DE.

A report containing all records with decimal errors in one or more fields can be produced by selecting "Print under scan" option in the Print Screen and defining the scan condition as described. In this case the decimal error appears as *****.

Correcting Decimal Errors

The Global change feature can correct all decimal errors in the specified scope.

If this option is selected, then the fields are corrected by either:

- Replacing the field value with zero.
- Correcting the value according to the remaining legal bits.

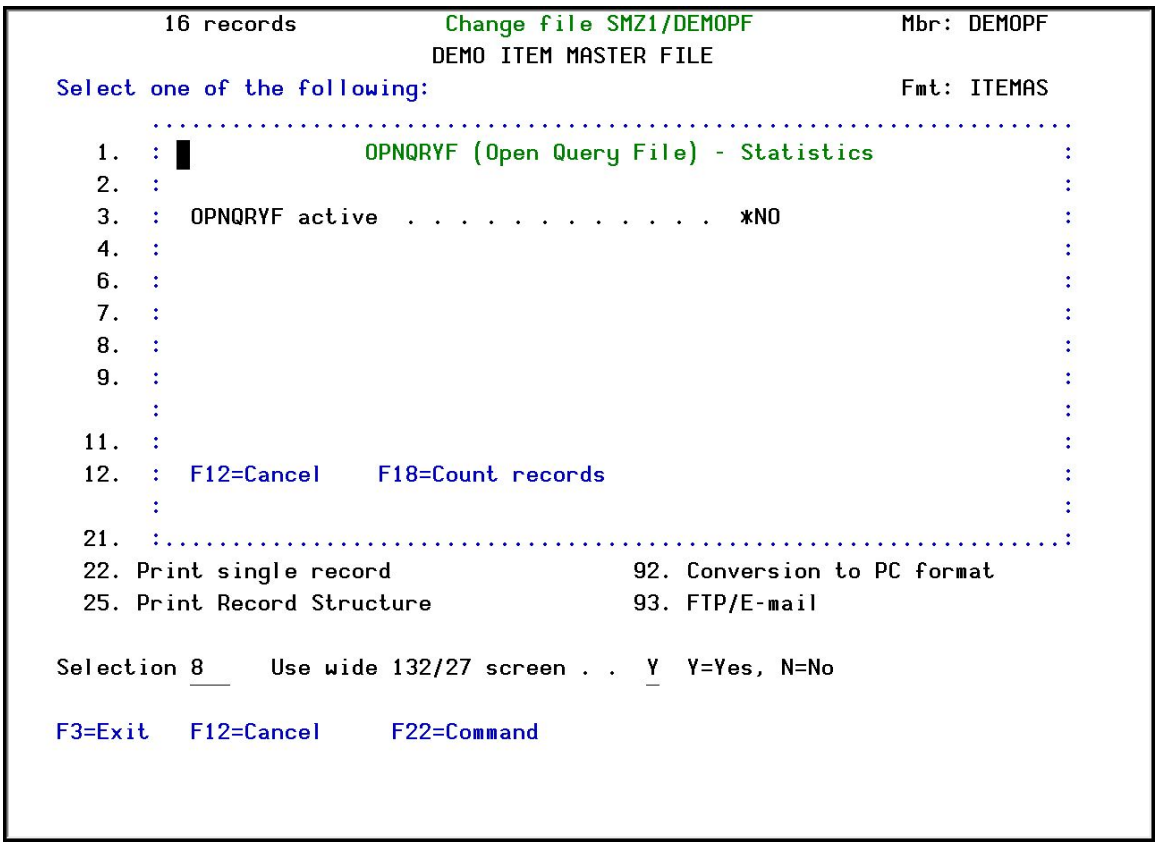
To correct decimal errors manually, use the ***CHGFC*** command single record screen. You might find it helpful to add the hexadecimal representation or even change just the hexadecimal representation.

Chapter 24: File Information

Additional file information can be conveniently viewed from within FileScope by selecting options from the *Service menu*. Enter F13 from either the multi-record single records screens for the *Service menu*.

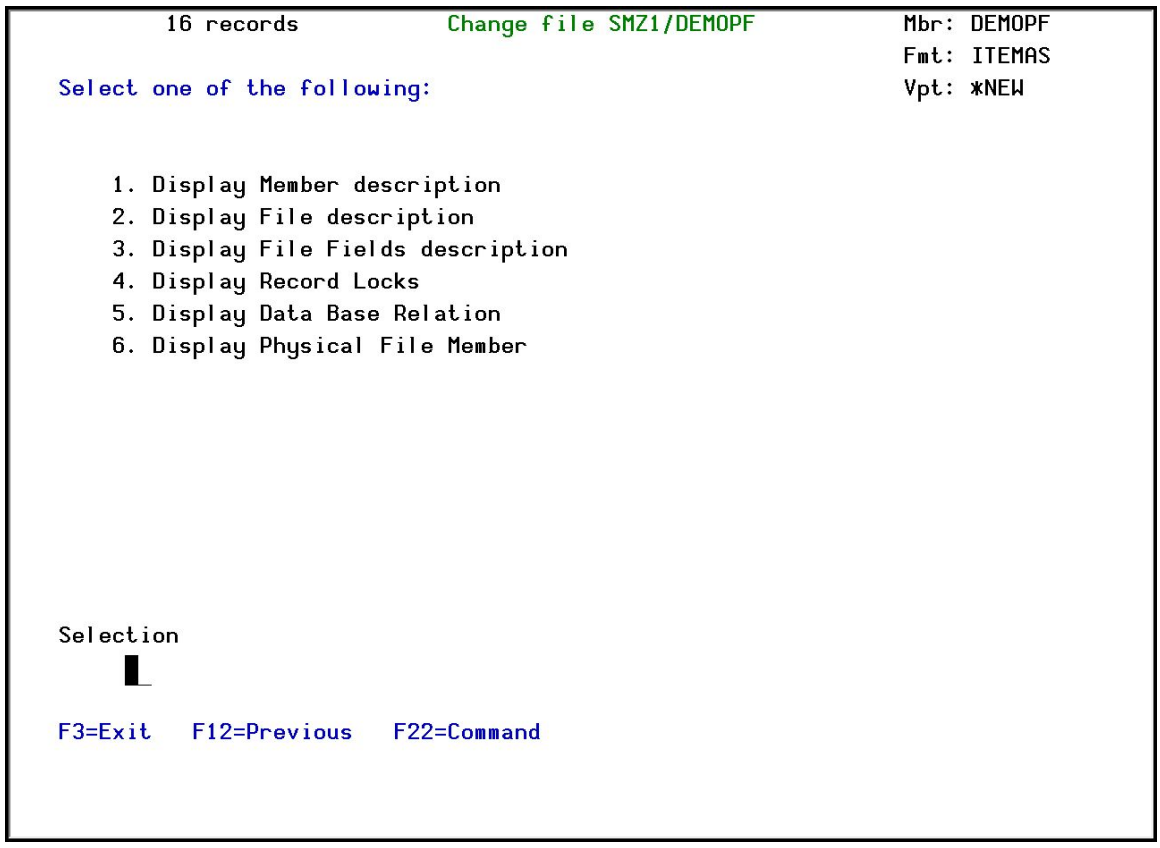
OPNQRYF Statistics

1. Select **8. Statistics** in the **Service** menu to display *OPNQRYF* statistics.



File Information

2. Select **51. File information** off the **Service menu** to display file information.

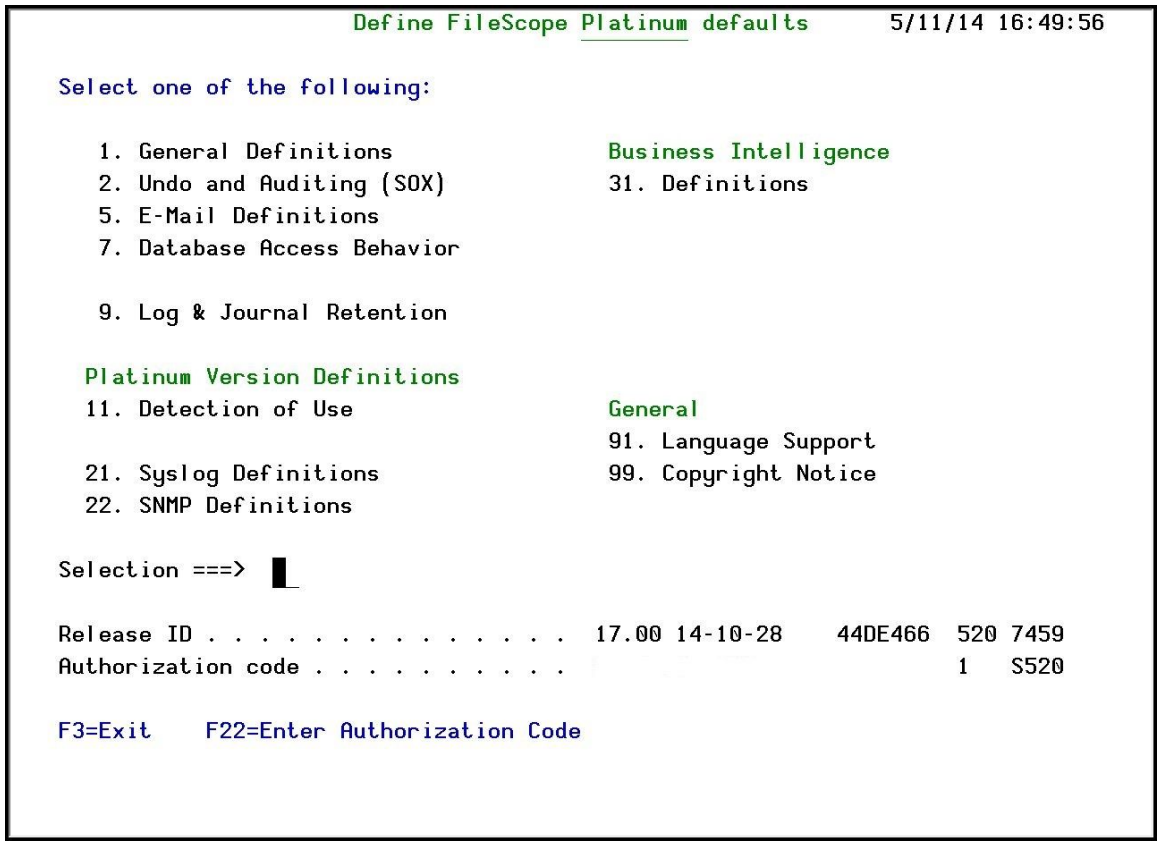


Chapter 25: Configuration and Maintenance

System Configuration

This section reviews the process of setting general configuration for FileScope.

To reach this screen, select **81. System Configuration** from the main menu. The **Define FileScope Platinum defaults** screen appears.

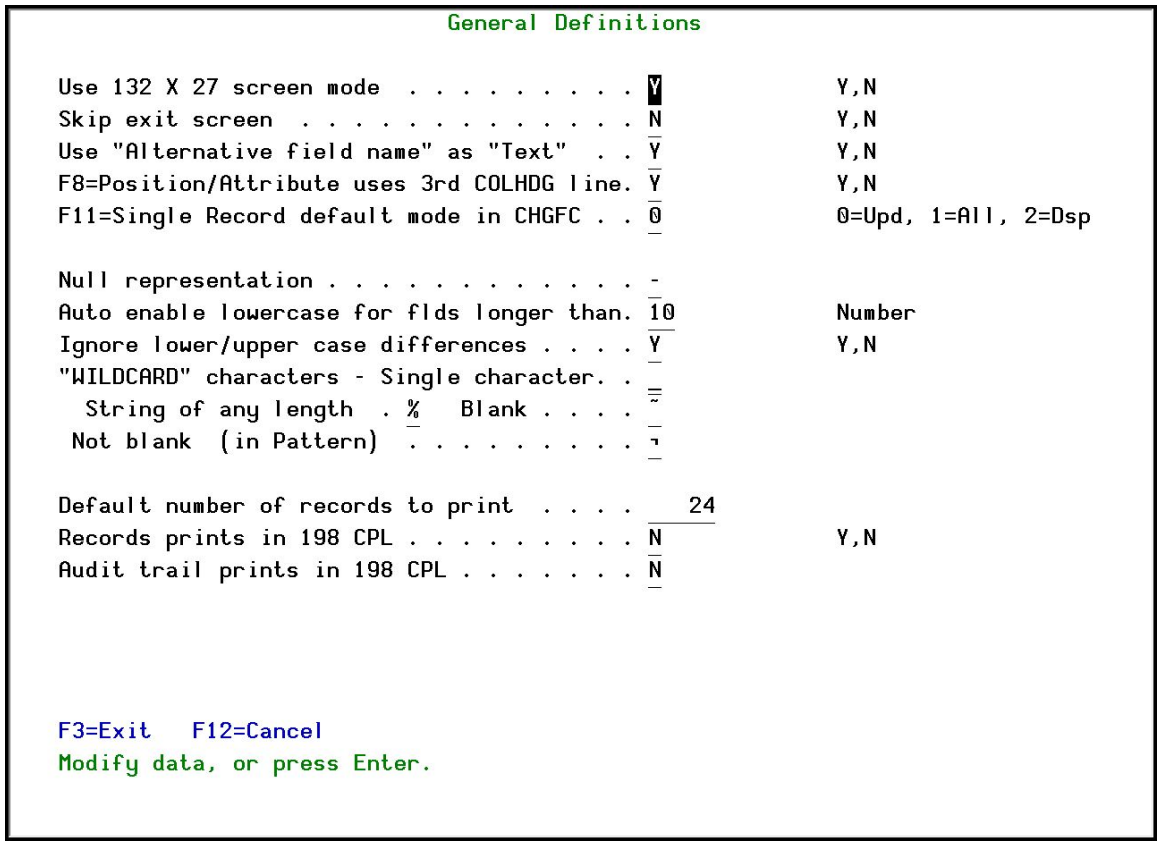


Define FileScope Platinum defaults

General Definitions

This option presents general definitions relating to number of records to print, records display, Single Record and more.

1. Select **1. General Definitions** from the **Define FileScope Platinum defaults** menu. The **General Definitions** screen appears.


General Definitions
Use 132 X 27 screen mode . . . . . Y Y,N
Skip exit screen . . . . . N Y,N
Use "Alternative field name" as "Text" . . Y Y,N
F8=Position/Attribute uses 3rd COLHDG line. Y Y,N
F11=Single Record default mode in CHGFC . . 0 0=Upd, 1=All, 2=Dsp
Null representation . . . . . -
Auto enable lowercase for flds longer than. 10 Number
Ignore lower/upper case differences . . . . Y Y,N
"WILDCARD" characters - Single character. .
String of any length . % Blank . . . .
Not blank (in Pattern) . . . . . ¬
Default number of records to print 24
Records prints in 198 CPL . . . . . N Y,N
Audit trail prints in 198 CPL . . . . . N
F3=Exit F12=Cancel
Modify data, or press Enter.

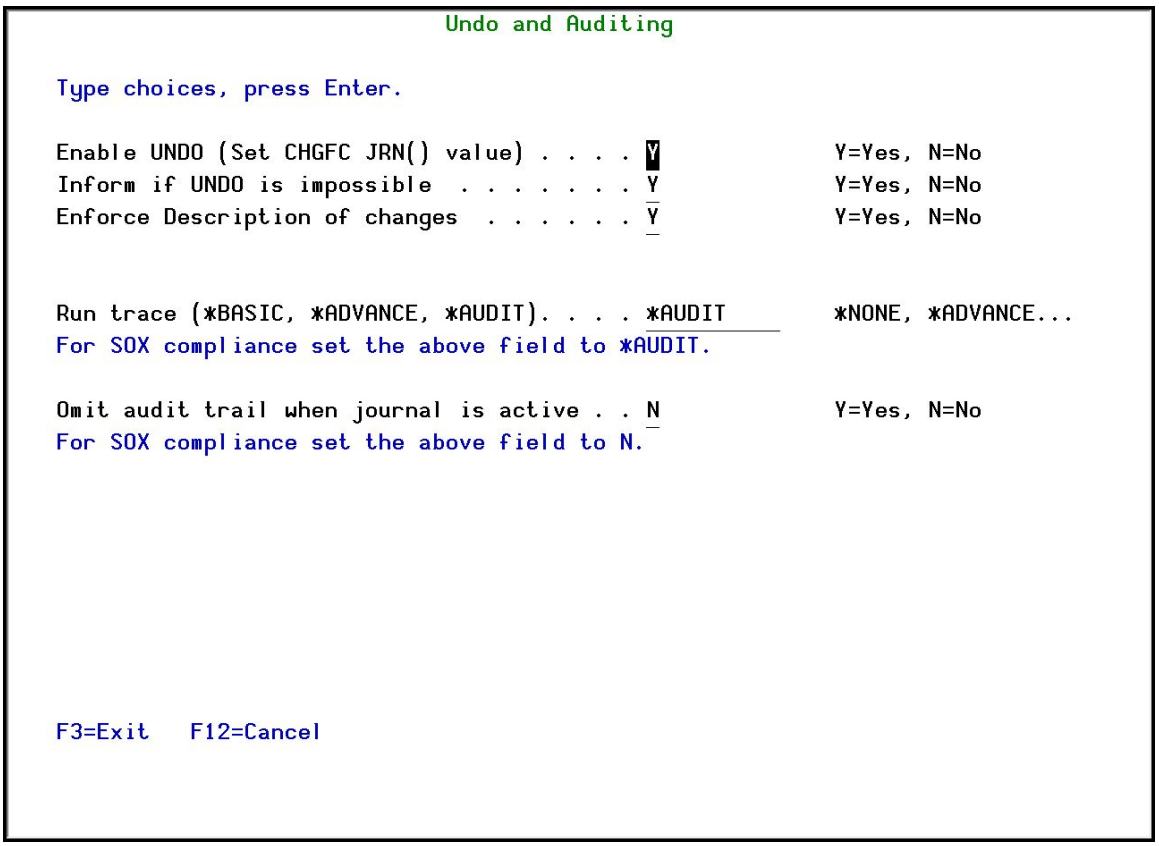
Use 132 x 27 screen mode	Y = Use the wider screen mode N = Use the standard 80 x 24 screen mode
Skip exit screen	Y = Do not show the exit screen when leaving FileScope N = Show the exit screen when leaving FileScope
Use "Alternative field name" as "Text"	Y N
F8=Position/Attribute uses 3rd COLHDG line.	Y = Use the third column heading line for the position/attribute of the field N = Do not use the third column heading line for the position/attribute of the field
F11=Single Record default mode in CHGFC	0 = Update 1 = All 2 = Display
Null representation	The character that is displayed instead of null
Auto enable lowercase for flds longer than.	The length of fields for which lowercase is automatically enabled.
Ignore lower/upper case differences	Y = Use the wider screen mode N = Use the standard 80 x 24 screen mode
"WILDCARD" characters - Single character	The character to represent a single WILDCARD character in a search.
String of any length	The character to represent a string of any length in a search. For example, if your search key is A%R, then both AFTER and
Blank	The character to represent a single blank character in a search.
Not blank (in Pattern)	The character to represent a single non-blank character in a search.
Default number of records to print	The number of records to print when printing the file.
Records prints in 198 CPL	Y = Print the reports using 198 characters per line N = Print the reports using 132 characters per line
Audit trail prints in 198 CPL	Y = Print the audit trails using 198 characters per line N = Print the audit trails using 132 characters per line

2. Set the parameters according to your organization's needs and press **Enter**.

Undo and Auditing (SOX)

This option presents definitions for audit trail and tracing and SOX compliance setup.

1. Select **2. Undo and Auditing (SOX)** from the **Define FileScope Platinum defaults** menu. The **Undo and Auditing** screen appears.



Undo and Auditing Definitions

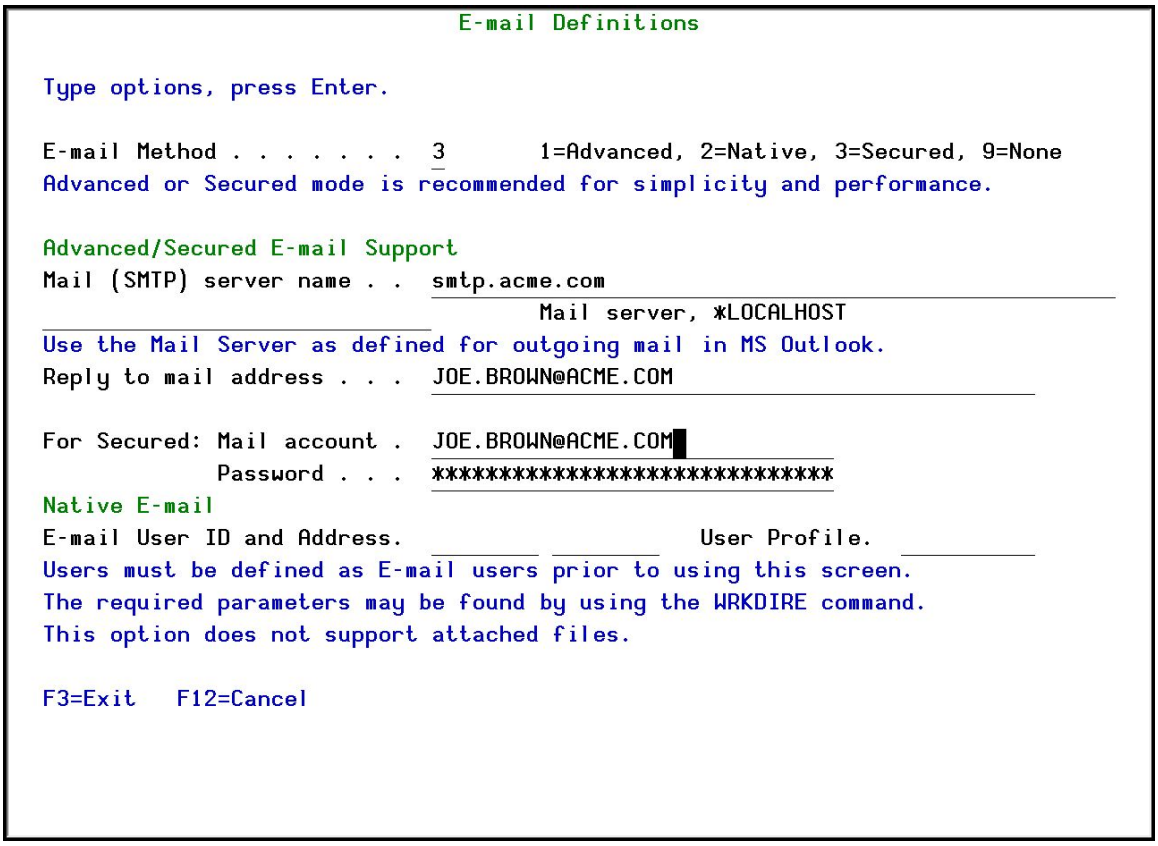
Enable UNDO (Set CHGFC JRN() value)	Y, N Sets the default for the **Journal changes** parameter of the **CHGFC** command.
Inform if UNDO is impossible	Y, N
Enforce Description of changes	Y, N Set to **Y** to ensure that every change is documented with a description.
Run trace (*BASIC, *ADVANCE, *AUDIT)	For SOX compliance, set this field to ***AUDIT**.
Omit audit trail when journal is active	Y, N For SOX compliance, set this field to **N**.

2. Set the parameters according to your organization's needs and press **Enter**.

Email Definitions

Set definitions for sending email notifications.

1. Select **5. E-Mail Definitions** from the **Define FileScope Platinum defaults** menu. The **E-mail Definitions** screen appears.



Email Definitions

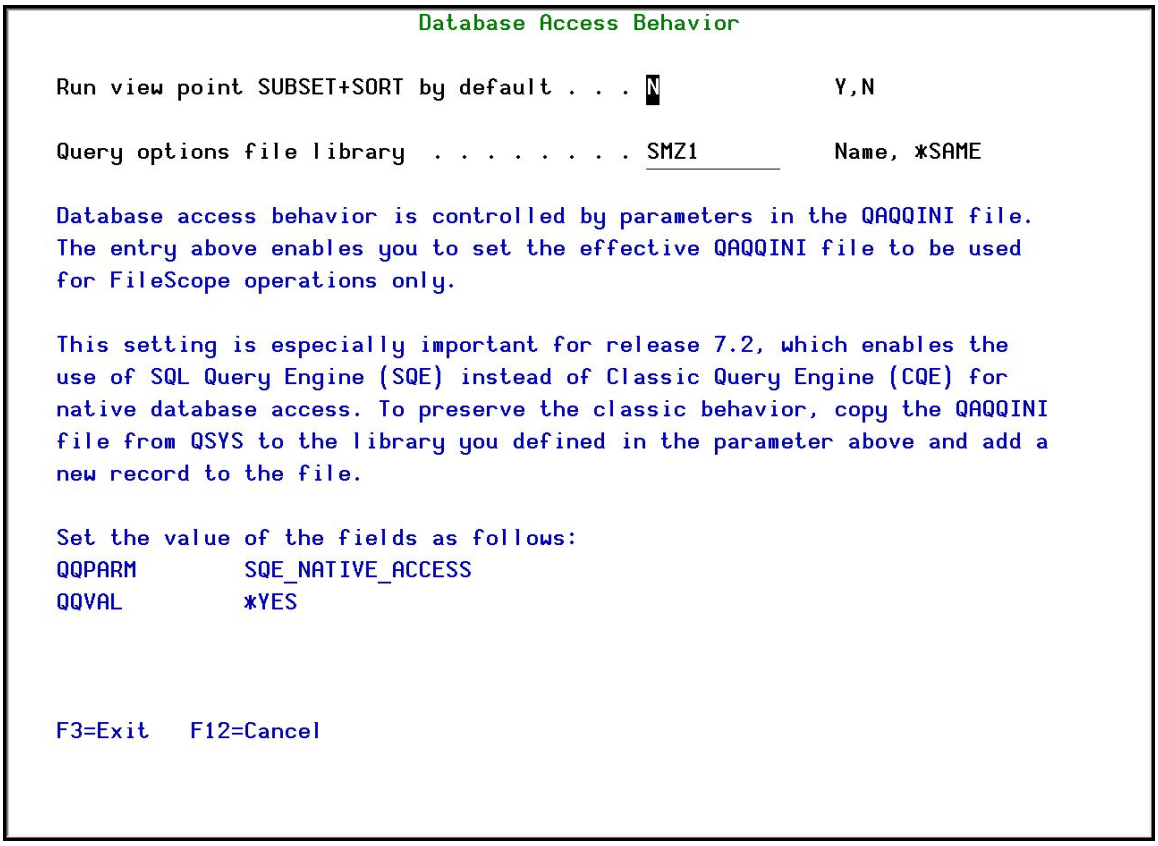
E-mail Method	1 = Advanced 2 = Native 3 = Secured 9 = None Use Advanced or Secured mode for simplicity and performance.
Mail (SMTP) server name	If you enter 3 as the email method, this is the outgoing mail server.
Reply to mail address	If you enter 3 as the email method, this is the reply to email address that is used.
For Secured: Mail account. Password . . .	If you enter 3 as the email method, this is the email address and password that is used.
E-mail User ID and Address.	If you enter 2 as the email method, this is the email address and User ID that are used

2. Set the parameters according to your organization's needs and press **Enter**.

Database Access Behavior

Define the way you access your database.

1. Select **7. Database Access Behavior** from the **Define FileScope Platinum defaults** menu. The **Database Access Behavior** screen appears.



Database Access Behavior

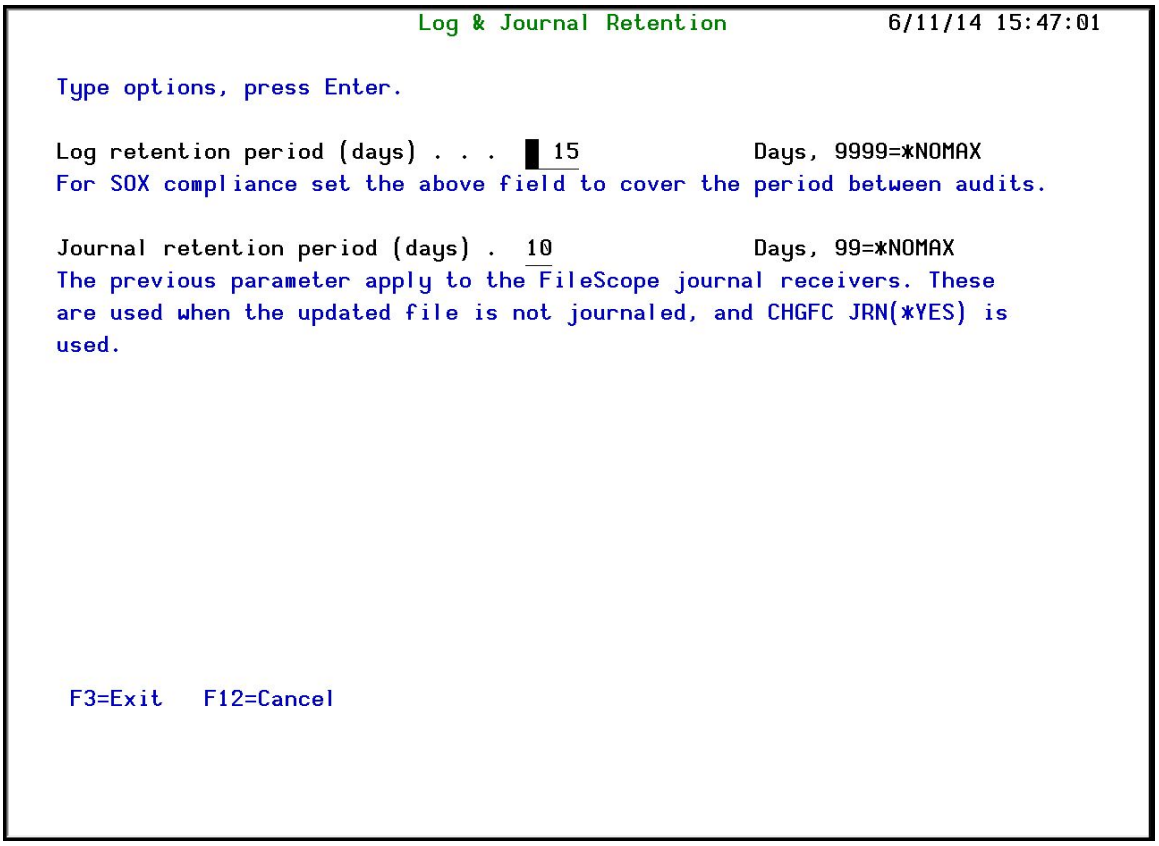
Run view point SUBSET+SORT by default	Y N
Query options file library	Database access behavior is controlled by parameters in the QAQQINI file. This field enables you to set the effective QAQQINI file to be used for FileScope operations only. This setting is especially important for release 7.2 and later of the operating system, which enables the use of SQL Query Engine (SQE) instead of Classic Query Engine (CQE) for native database access. To preserve the classic behavior, copy the QAQQINI file from QSYS to the library you defined in this parameter and add a new record to the file. Set the values of the fields as follows: QQPARM SQE_NATIVE_ACCESS QQVAL *YES

2. Set the parameters according to your organization's needs and press **Enter**.

Log & Journal Retention

Define retention periods for logs and journals. These periods are important for SOX compliance.

1. Select **9. Log & Journal Retention** from the **Define FileScope Platinum defaults** menu. The **Log & Journal Retention** screen appears.



Log and Journal Retention Definitions

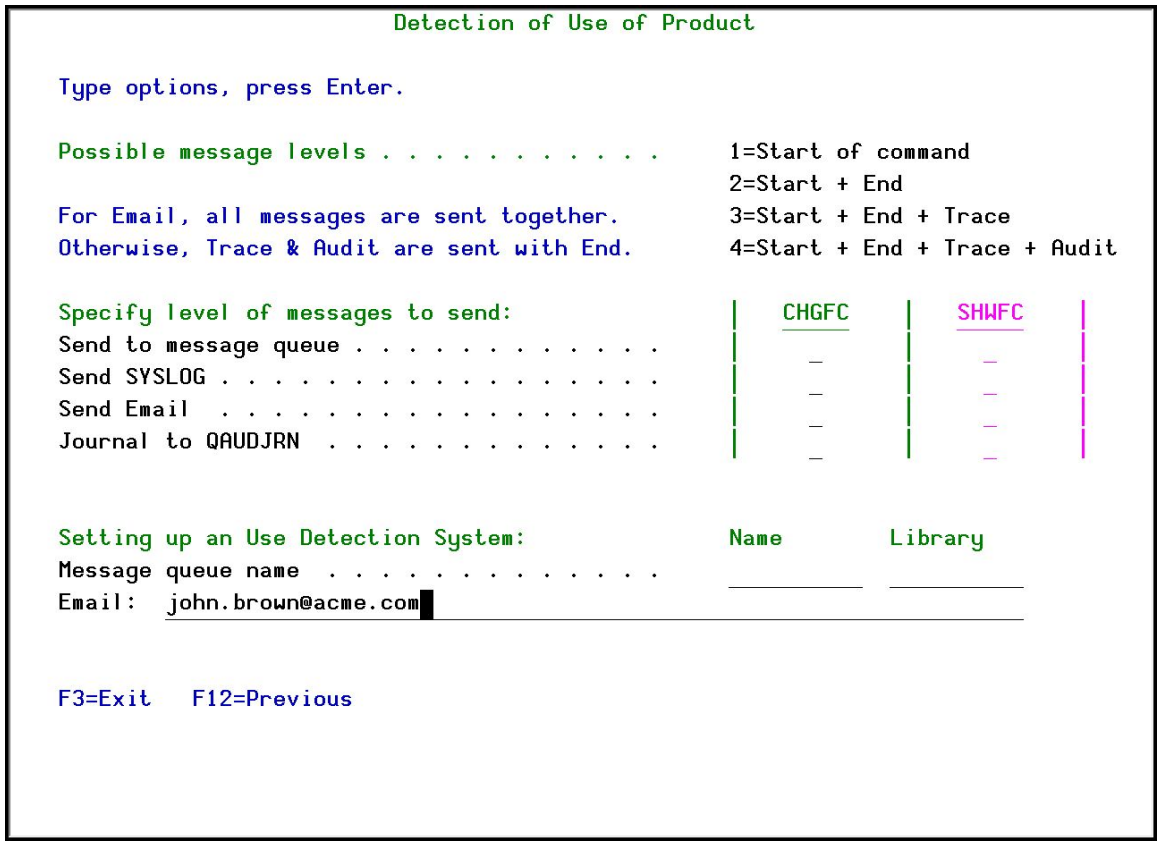
Log retention period (days)	Days, 9999=*NOMAX For SOX compliance, set this field to cover the period between audits.
Journal retention period (days)	Days, 9999=*NOMAX This parameter is used for the FileScope Journal receivers. These receivers are used when the updated file is not journaled and CHGFC JRN(*YES) is specified.

2. Set the parameters according to your organization's needs and press **Enter**.

Detection of Use

You can set up parameters that allow you to be notified whenever FileScope is used to show or change files. You can send the notification at the beginning of the command use, the end of the command use, or you can also add trace and audit messages. You can send to one or more of a message queue, SYSLOG, an email address and a JOURNAL entry in QAUDJRN.

1. Select **11. Detection of Use** from the **Define FileScope Platinum defaults** menu. The **Detection of Use of Product** screen appears.



General Definitions

Level of message to send	Set a level of message for each possible message option for both CHGFC and SHWFC. **1** = Start of the command **2** = Start and End of the command **3** = Start and End and Trace **4** = Start and End and Trace and Audit
Message queue name	The message queue name and library to receive the messages
Email	The email address to receive the messages

2. Set the parameters according to your organization's needs and press **Enter**.

SIEM Support

Numerous iSecurity products integrate with SEM/SIEM systems by sending security alerts instantaneously to these systems; web-based alerts are supported using Twitter www.twitter.com (can transmits up to 1000 lines per second). Message alerts contain detailed event information about application data changes, deletes or reads or objects and files, emergency changes in user authorities, IFS viruses detected, malicious network access to the IBM i, and more.

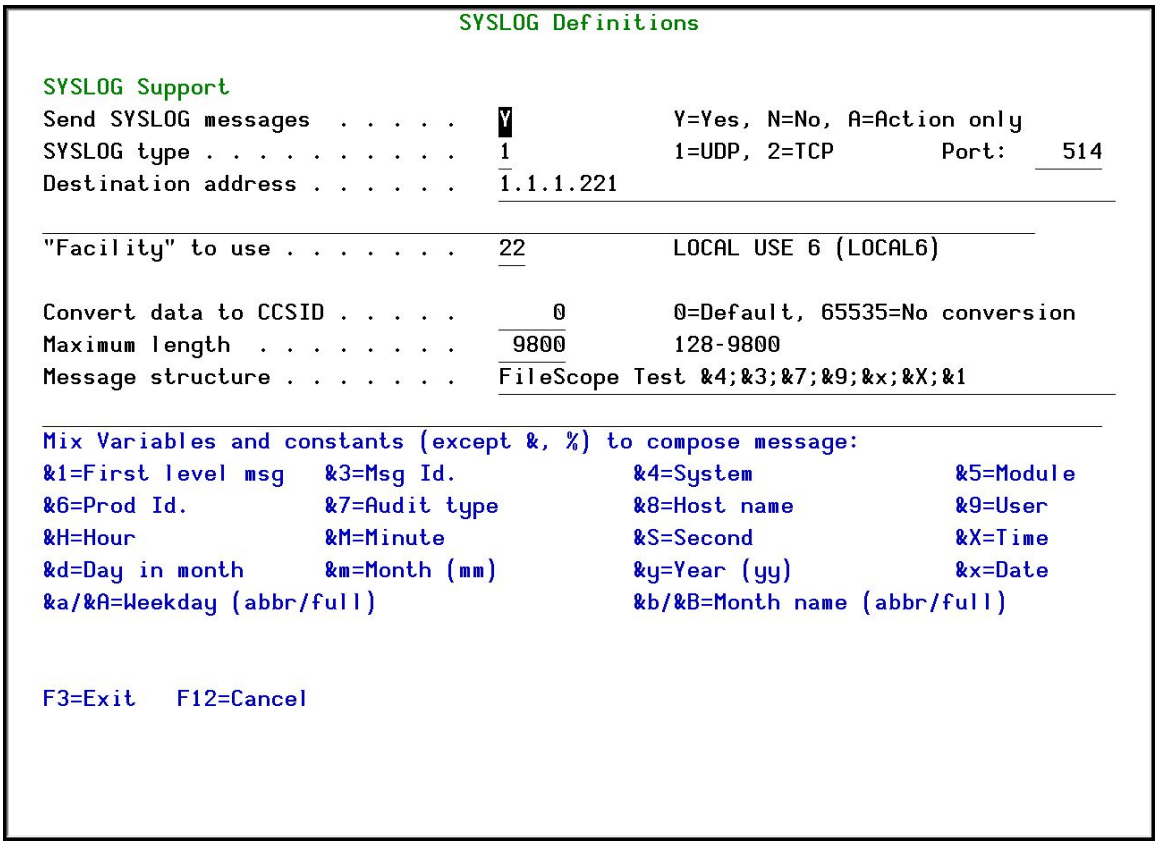
Use FileScope Platinum to set SIEM general alert definitions.

SYSLOG

This feature sends different events from the IBM i different facilities (such as logs and message systems) to a remote SYSLOG server according to a range of severities: emergency, alert, critical, error, warning and so on.

You can define whether to send SYSLOG message, to which IP address, from which facility (list of optional facilities below), and to which message structure

1. Select **21. Syslog Definitions** from the **Define FileScope Platinum defaults** menu. The **Syslog Definitions** screen appears.



SYSLOG definitions

2. Set parameters and definitions according to the organization needs and press **Enter**.

&0 or &2 can now be used as last parameter in SYSLOG format.

&0 = bytes 1-9800 in USRDTA (9800 bytes)

&2 = bytes 1101-9800 in USRDTA (8700 bytes)

Notes:

1. These fields are not converted to ASCII.

2. SYSLOG manager must set maximum message length from default (1024) to expected size (10000).

3. SYSLOG manager must take care of non-printable characters option.

** SYSLFC - SYSLOG FACILITY:

1. USER-LEVEL MESSAGES
2. MAIL SYSTEM
3. SYSTEM DAEMONS
4. SECURITY/AUTHORIZATION MESSAGES
5. SYSLOGD INTERNAL
6. LINE PRINTER SUBSYSTEM
7. NETWORK NEWS SUBSYSTEM
8. UUCP SUBSYSTEM
9. CLOCK DAEMON
10. SECURITY/AUTHORIZATION MESSAGES
11. FTP DAEMON
12. NTP SUBSYSTEM
13. LOG AUDIT
14. LOG ALERT
15. CLOCK DAEMON
16. LOCAL USE 0 (LOCAL0)
17. LOCAL USE 1 (LOCAL1)
18. LOCAL USE 2 (LOCAL2)
19. LOCAL USE 3 (LOCAL3)
20. LOCAL USE 4 (LOCAL4)
21. LOCAL USE 5 (LOCAL5)
22. LOCAL USE 6 (LOCAL6)
23. LOCAL USE 7 (LOCAL7)

**SYSLSV - SYSLOG SEVERITY :

1 = EMERGENCY - ALERT
2 = EMERGENCY - CRITICAL
3 = EMERGENCY - ERROR
4 = EMERGENCY - WARNING
5 = EMERGENCY - NOTICE (SIGNIFICANT)
6 = EMERGENCY - INFORMATIONAL
7 = EMERGENCY - DEBUG

SNMP Definitions

You can define whether to generate SNMP traps

1. Select **22. SNMP Definitions** from the **Define FileScope Platinum defaults** menu. The **SNMP Definitions** screen appears.

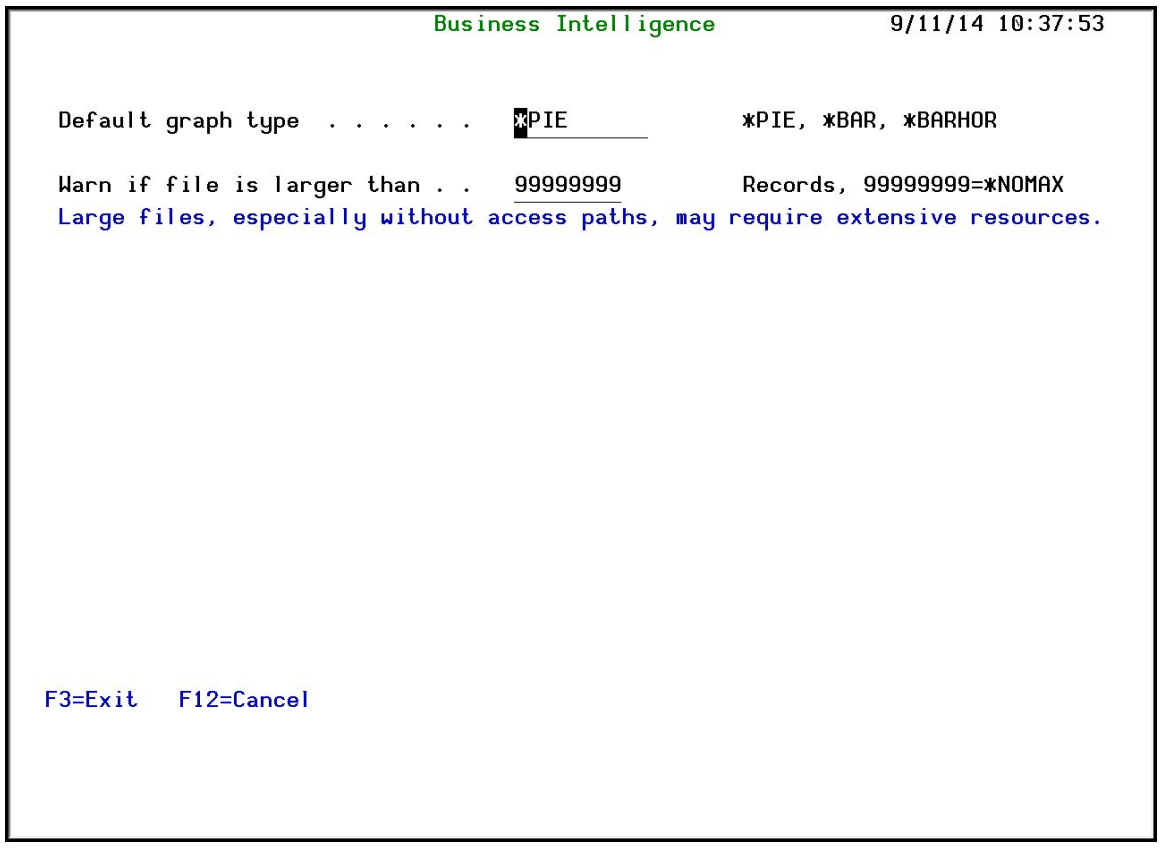
SNMP Definitions

2. Type **Y** to generate SNMP traps to monitor network attached devices for conditions that warrant administrative attention and press **Enter**.

NOTE: The selection which messages to send is taken from the SYSLOG definition screen.

Business Intelligence Definitions

1. Select **31. Definitions** from the **Define FileScope Platinum defaults** menu. The **Business Intelligence** screen appears.



Business Intelligence Definitions

Default graph type	Define the default graph type: ***PIE** = Pie chart ***BAR** = Bar graph ***BARHOR** = Horizontal bar graph
Warn if file is larger than	Working with large files takes up extensive computer resources. Set the file size above which the system displays a size warning. **99999999 = *NOMAX**

2. Set parameters and definitions according to the organization needs and press **Enter**.

Maintenance

From the maintenance menu, you can synchronize the way you work with FileScope on different computers.

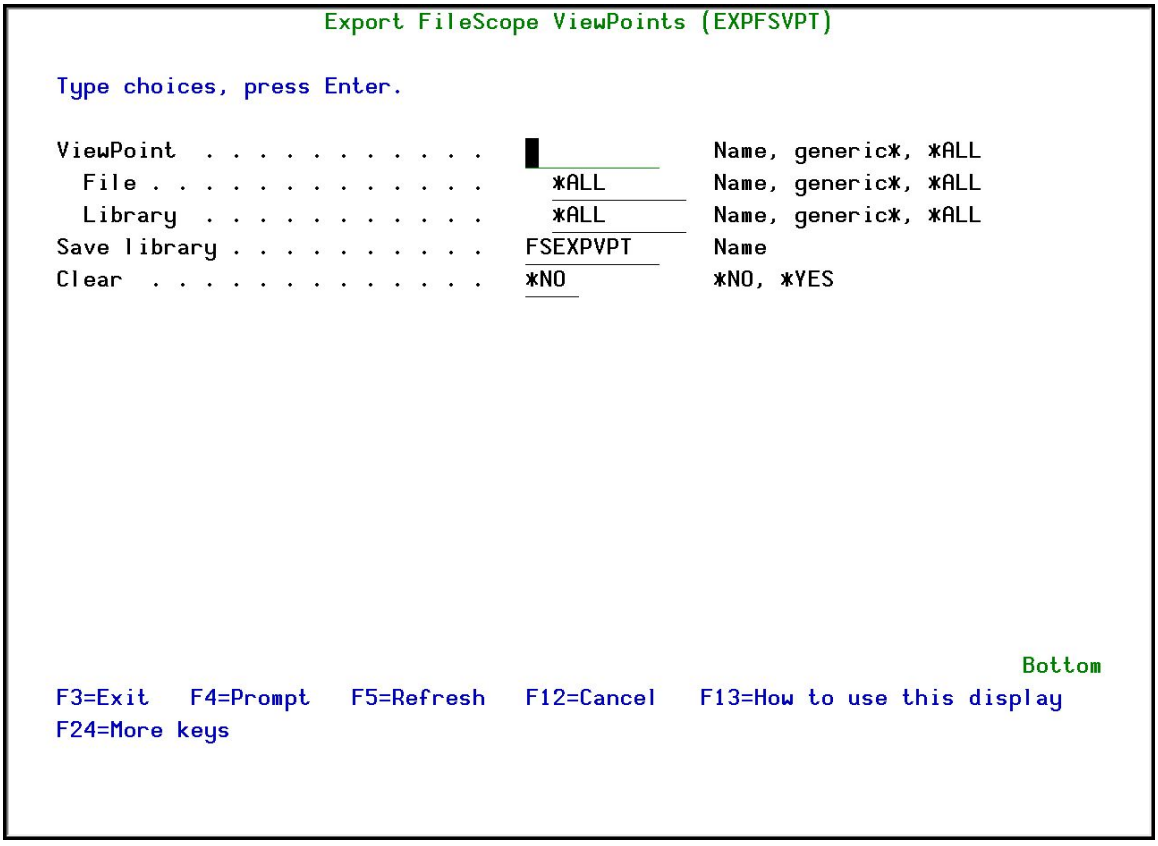
Viewpoints

You can export and import FileScope viewpoints from one computer to another and also between LPARs on the same computer.

Export

To export FileScope viewpoints:

1. Select **1. Export** from the **Maintenance Menu**. The **Export FileScope ViewPoints** screen appears.



Export FileScope ViewPoints

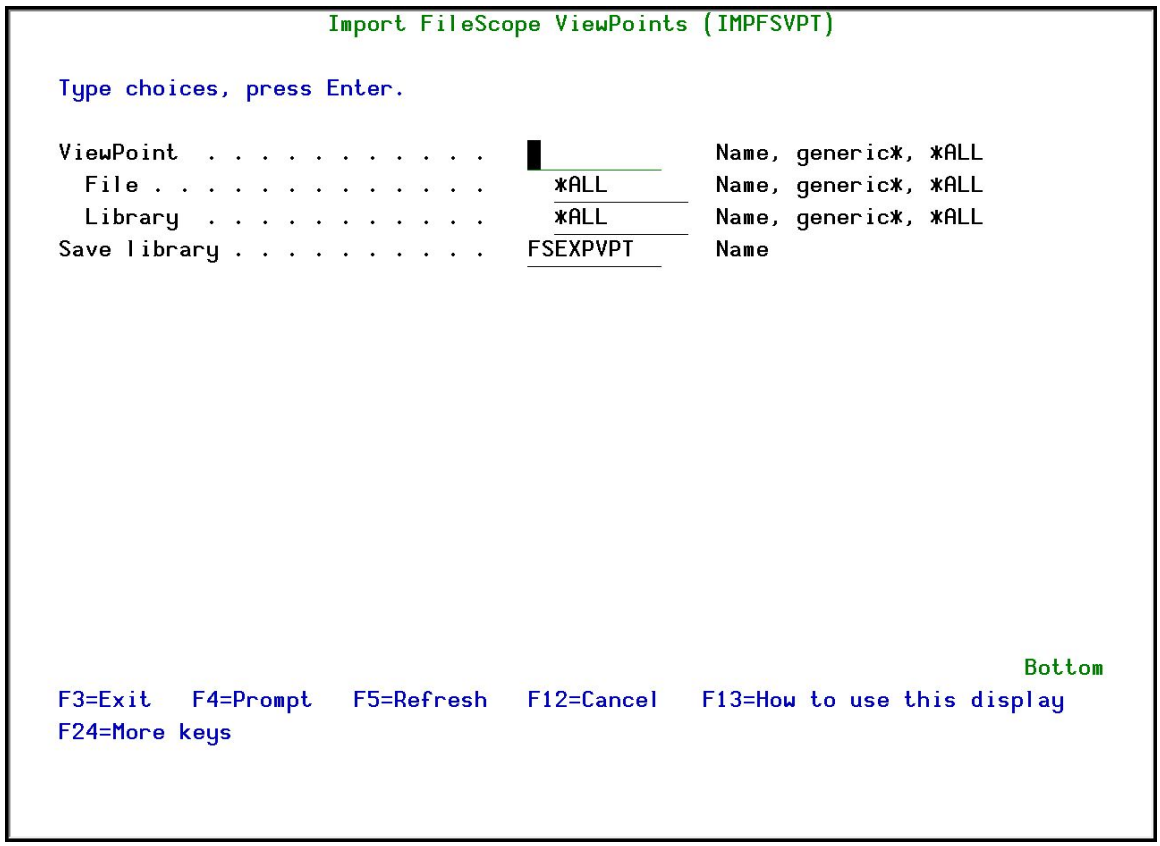
ViewPoint	The name of the ViewPoint being exported.
File	The file for the ViewPoint
Library	The library for the ViewPoint
Save library	The name of the save library where you are saving the ViewPoint
Clear	***YES/*NO** Define if previous exported definitions should be cleared before exporting the new current ones.

2. Set parameters and definitions according to the organization needs and press **Enter**. The ViewPoint is exported.

Import

To import FileScope viewpoints:

1. Select **2. Import** from the **Maintenance Menu**. The **Import FileScope ViewPoints** screen appears.



Import FileScope ViewPoints

ViewPoint	The name of the ViewPoint being imported
File	The file for the ViewPoint
Library	The library for the ViewPoint
Save library	The name of the save library where the ViewPoint was saved

2. Set parameters and definitions according to the organization needs and press **Enter**. The ViewPoint is exported.

Uninstall

To uninstall FileScope, select **91. Uninstall** from the **Maintenance Menu**, and follow the instructions.

BASE Support

The **BASE Support** menu enables you to work with various settings that are common for all modules of iSecurity. This menu, with all its options, is in all iSecurity major modules. To access the **BASE Support** menu, select **89. BASE Support** from the **FileScope** main menu.

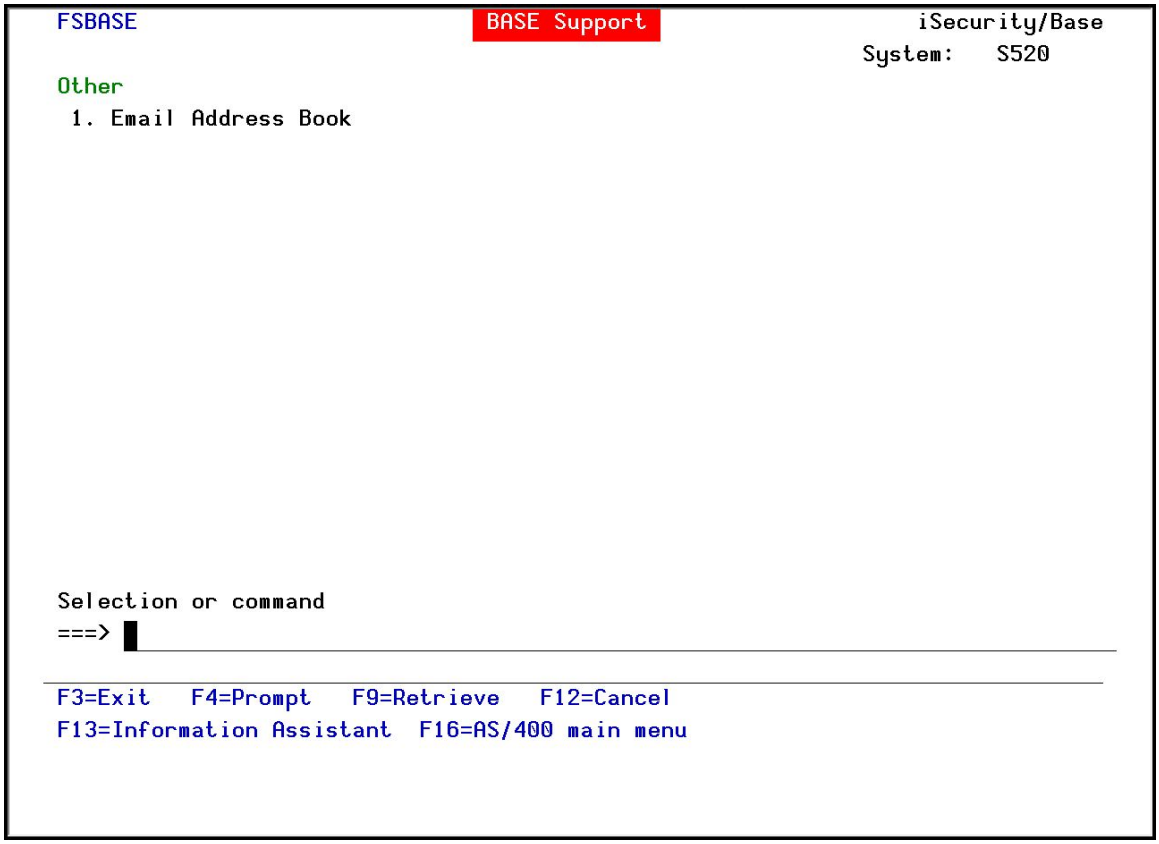


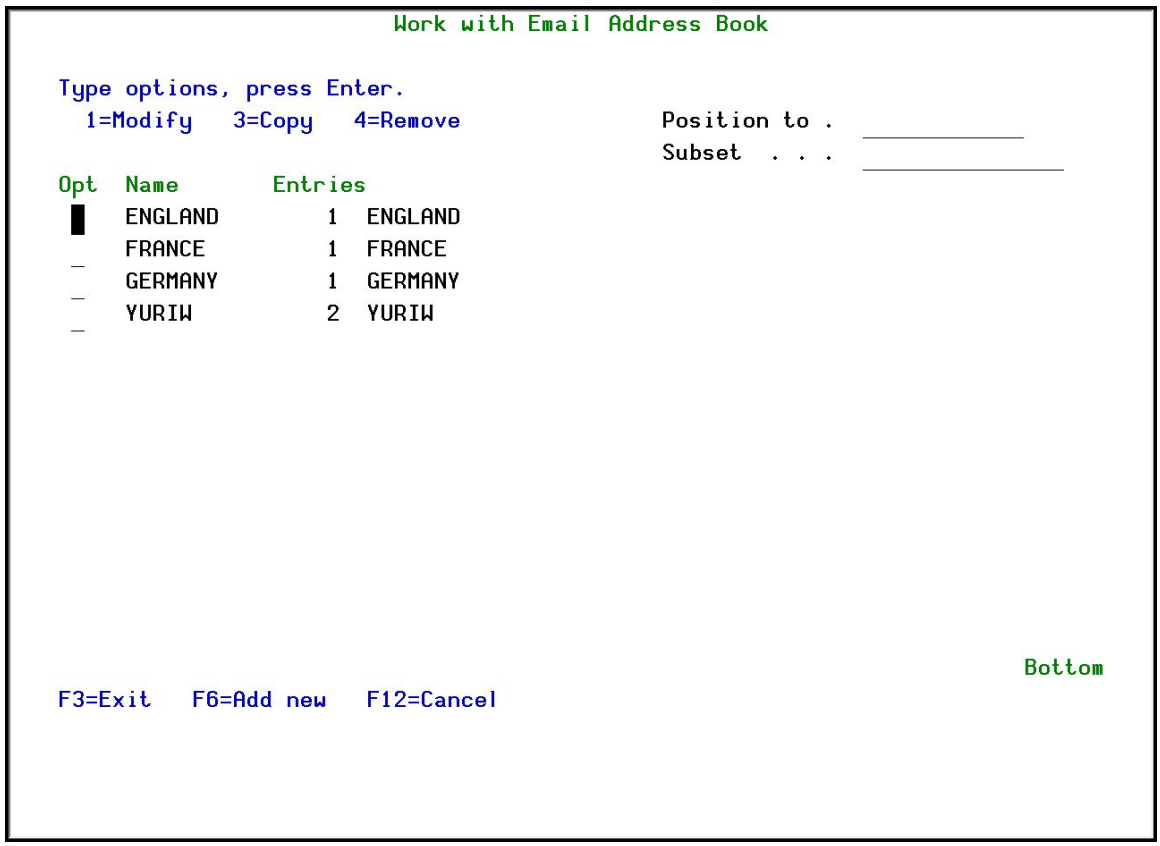
Figure 181: BASE Support

Other

Email Address Book

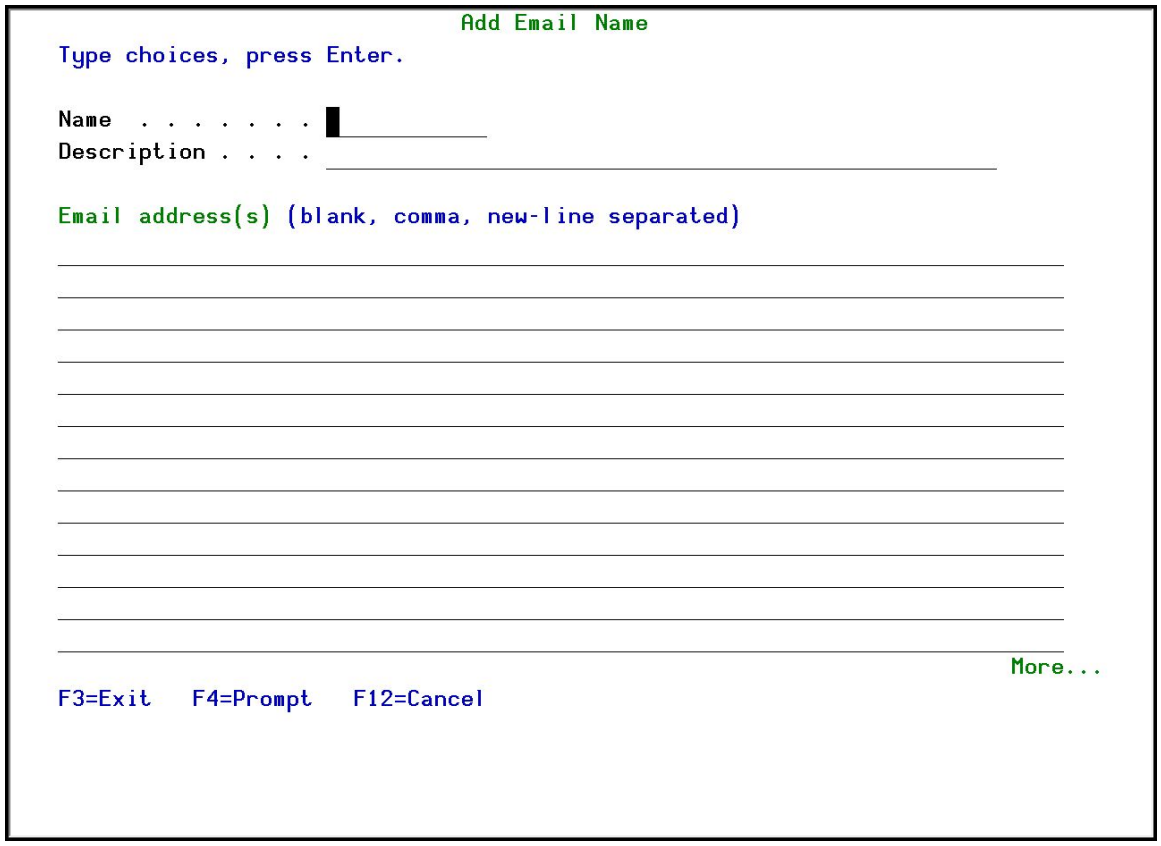
You can define the email address to be used for each user profile. You can also use this option to define an email group, with multiple addresses.

1. Select **1. Email Address Book** from the **BASE Support** menu. The **Work with Email Address Book** screen appears.



Work with Email Address Book

2. Press **F6** to add a new address entry (or type **1** next to a name to modify it). The **Add Email Name** screen appears.



Add Email Name

3. Enter a **Name**, **Description**, and all the associated email addresses and press **Enter**.

Appendix A. Performance Tips

The resources used by FileScope are similar to those used by an ordinary application program. FileScope performs approximately 12 disk I/O operations for each displayed page of records. Some operations are time-consuming, for example:

- Positioning +/- nnn records, where nnn is a large number.
- Scanning for data that is not near the current position in the file.
- SUBSET - this option uses the OPNQRYF command.
- See Data-Base Guide for performance consideration.

Use the field value scan rather than the pattern scan to increase scan speed. When using the pattern scan, try to use a short string and place it as close to the left as possible.

Scan and SUBSET Considerations

Subset is the preferred way to work on selected records. To ensure optimum performance from this function, it is important to select searches with a high hit rate. If only a few records match the scan criteria in a large file, obviously it takes longer for the search to be completed.

Scan is the preferred way to locate the next or previous occurrence of some data relative to the current position in the file. Its performance is best achieved if the approximate position in the file is reached using the Key or RRN beforehand.

Scan scope prevents an erroneous scan from searching the entire file. As the scope for Subset is the entire file, defective Subset definition might result in a considerable pause before the next screen is displayed.

As a general rule, field Value Scan is faster than Pattern Scan. The “Pattern scan” runs faster for short comparison values which are placed as far to the left as possible.

Appendix B. Technical Description

Record length: up to 9900 bytes.

Number of fields: up to 999 fields.

Field types: Alphabetic, Signed Decimal, Packed Decimal, Binary, Hexadecimal, Date, Time, Time Stamp, Floating point, Variable length, Null capable fields

Null Support: YES, (Not in Join Files, primary file only) in all modes.

Numeric fields length: up to 30 digits including 9 decimals.

Libraries: SMZ1, SMZ1DTA.

Objects in QGPL: All commands are copied from the product library to QGPL.

Library list: not changed during or after execution and should include QGPL.

File types: FileScope supports:

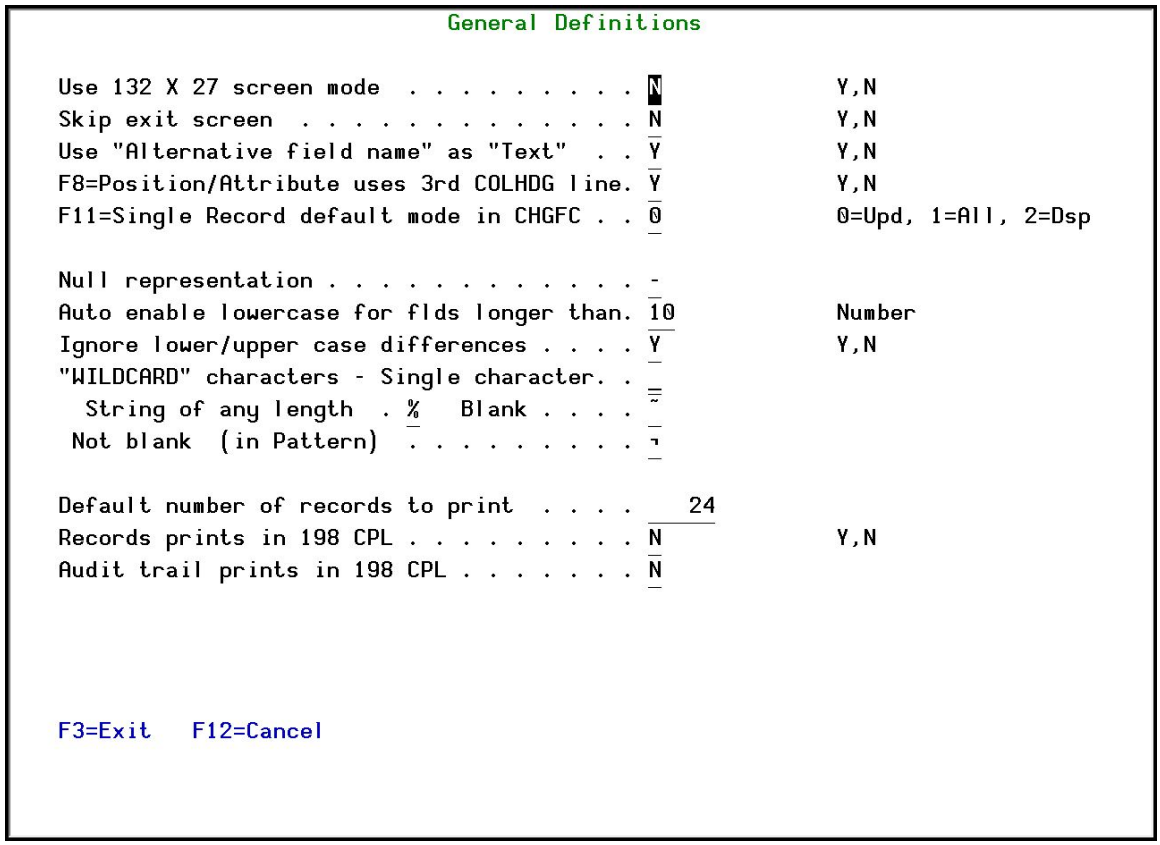
- Non-keyed physical/logical files
- Keyed physical/logical files
- Logical files with select/omit
- Multi-record-format logical files
- Joined files
- Data or Source files
- DDM files

Logical files with a single record format based on multiple Physical file members (with limited support for updates).

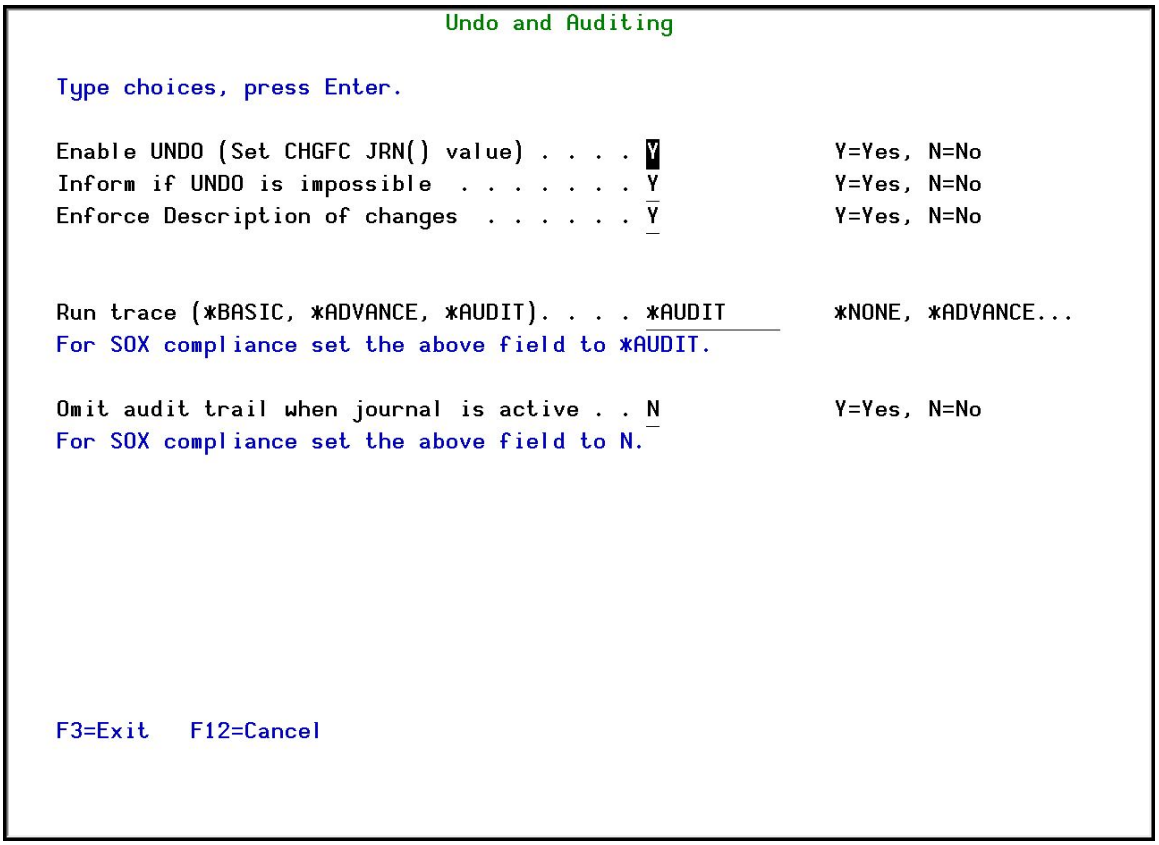
Appendix C. Product Defaults

The FileScope system is controlled by many parameters, all of which can be customized, as described in the *System Configuration* section on page *276*. The figures below show the original system defaults.

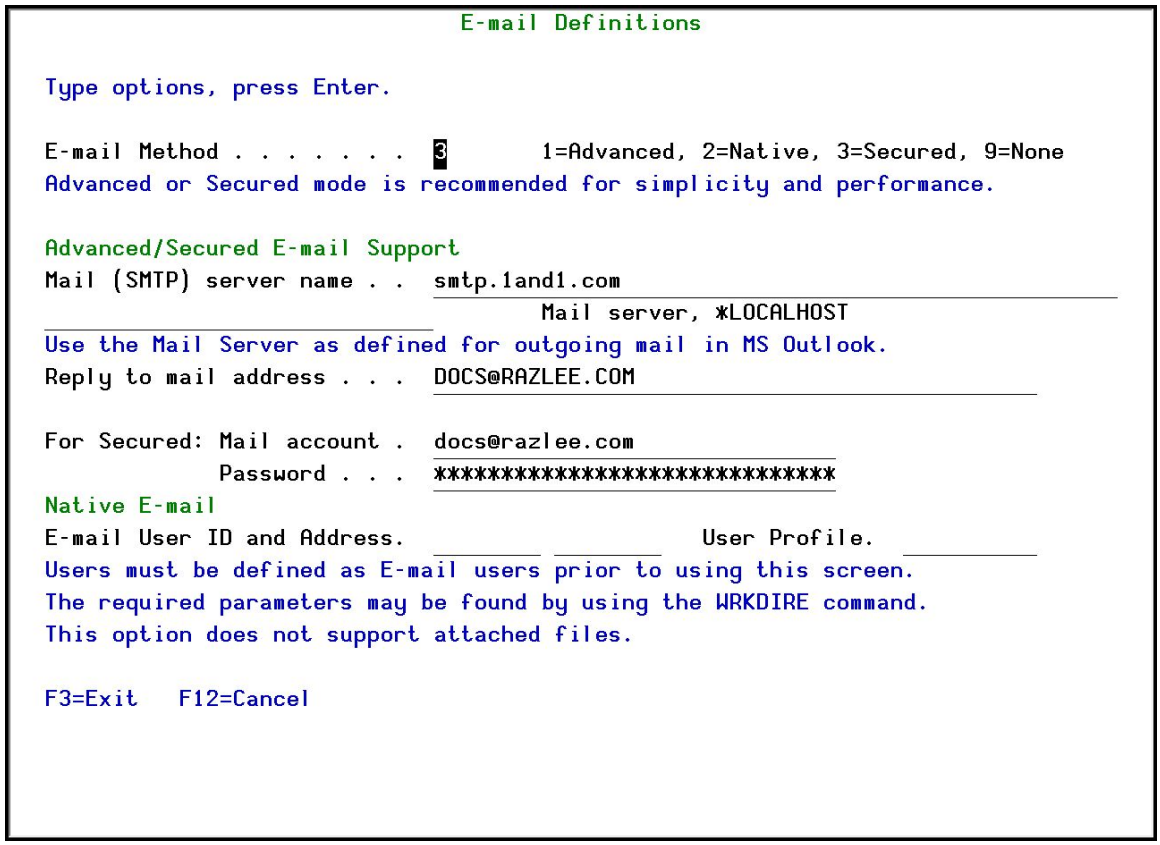
General Definitions



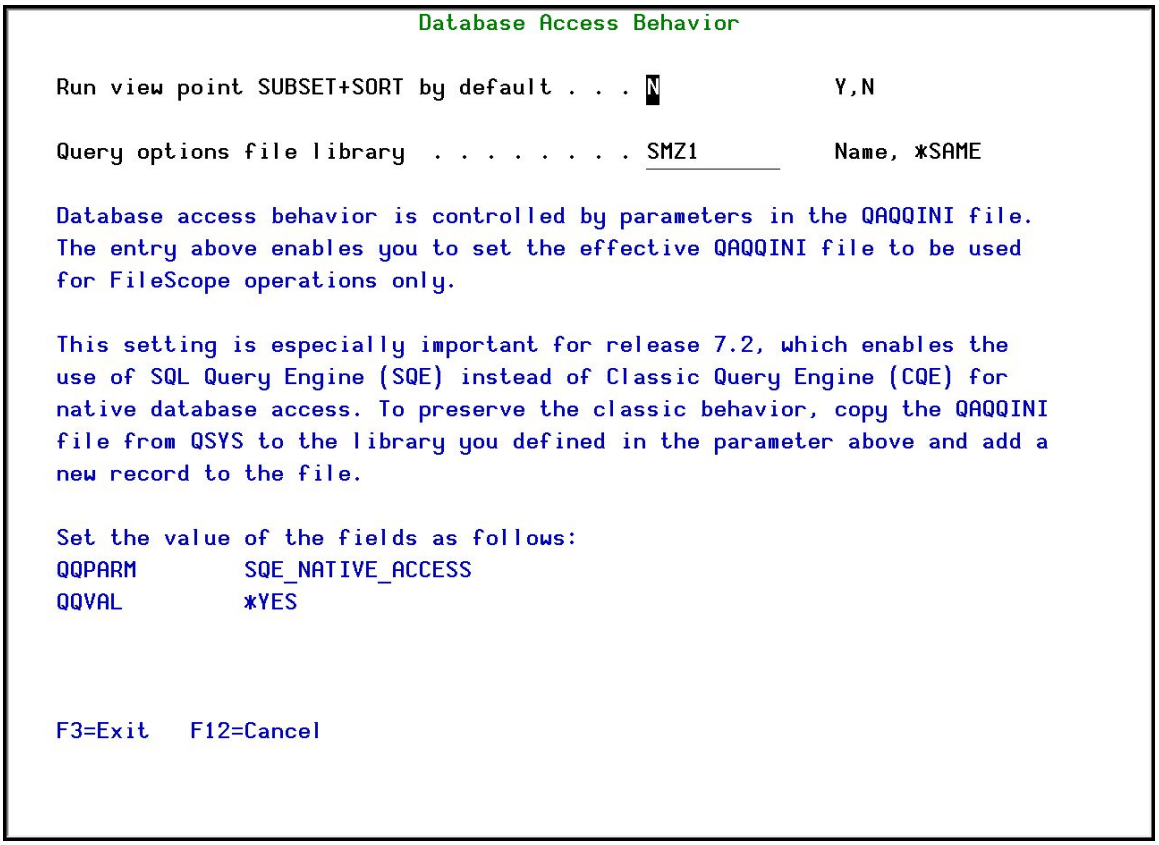
Undo and Auditing (SOX)



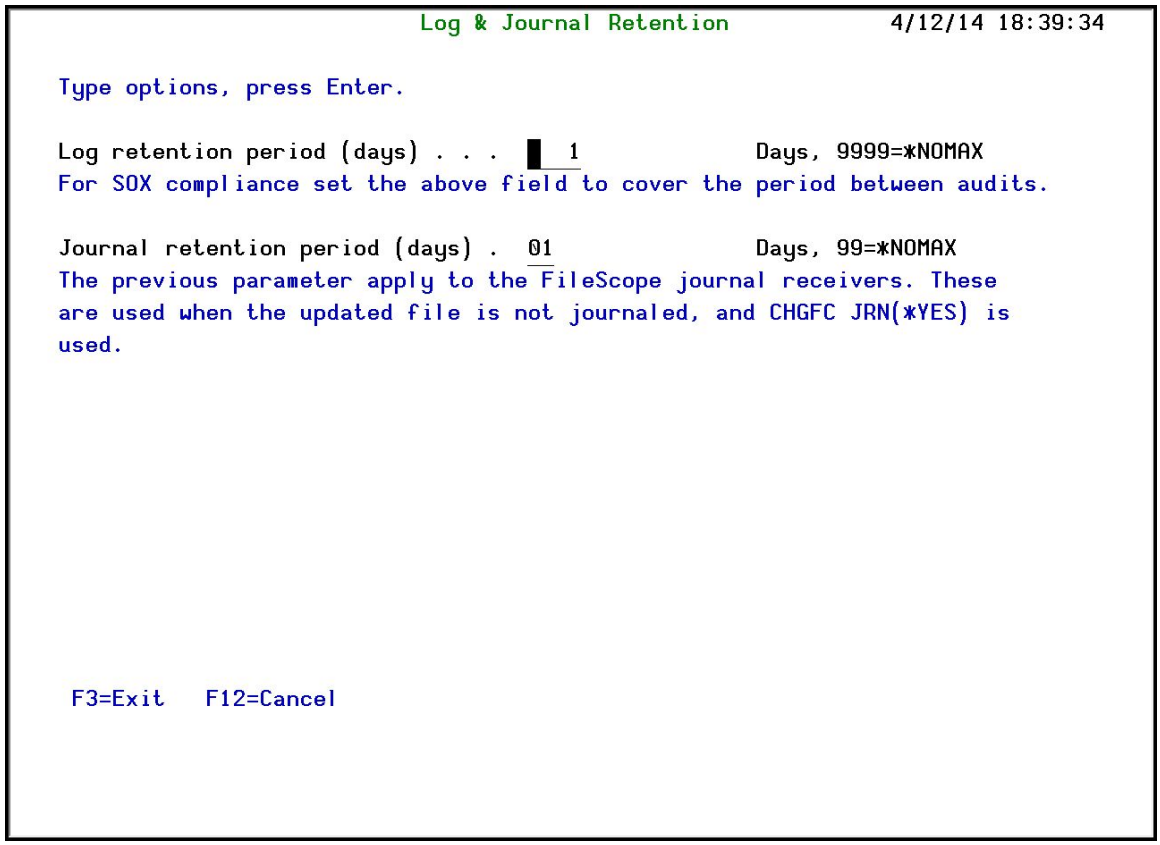
E-mail Definitions



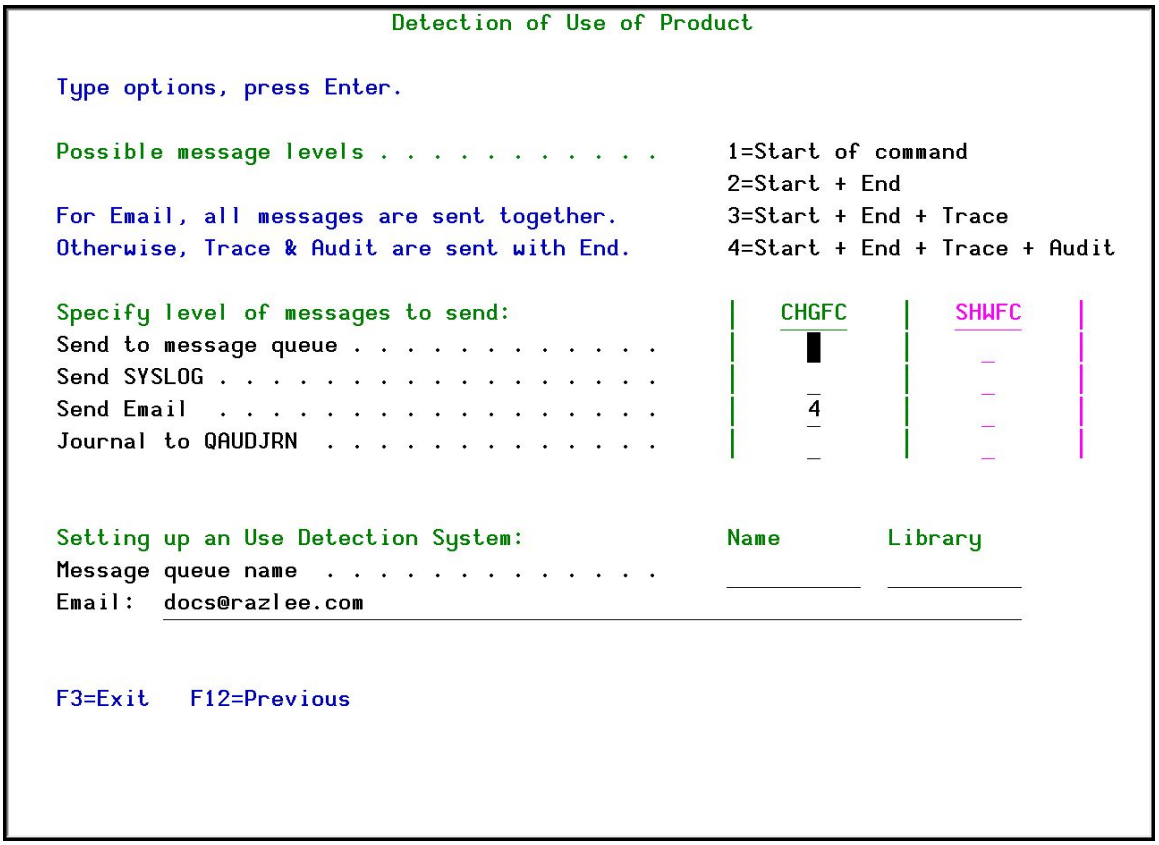
Database Access Behavior



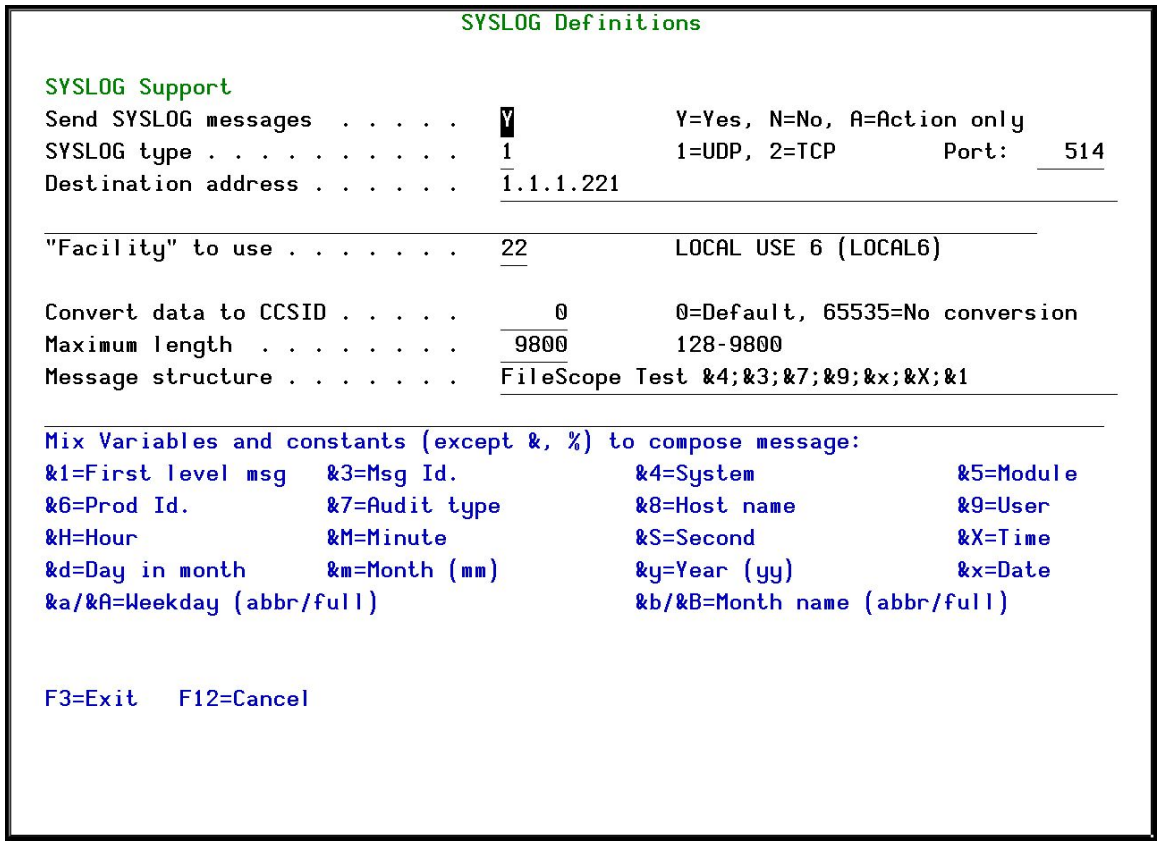
Log & Journal Retention



Detection of Use



Syslog Definitions



SNMP Definitions

Appendix D. Removing Journals

To prevent FileScope Journal capability, do the following:

- End left over journaling of files.

Use this command to remove all FileScope journaled files:

*ENDJRNPF FILE(*ALL) JRN(SMZ1DTA/FSJRN)*

- Remove data that has already been accumulated in the FileScope Journal.

  *CHGJRN JRN(SMZ1DTA/FSJRN) JRNRCV(*GEN)*

  WRKJRNA JRN(SMZ1DTA/FSJRN)

- Press F15 and type 4=Delete to remove the journal entries. (The last entry cannot be removed)

Prevent FileScope from journaling files at all:

- Select 81 (System Configuration) from the FileScope Menu and set the parameter Set CHGFC JRN( ) value to N. This avoids executing these commands when a new version of FileScope is installed.

  *CHGCMDDFT CMD(SMZ1/CHGFC) NEWDFT(JRN(*NO))*

  *CHGCMDDFT CMD(QGPL/CHGFC) NEWDFT(JRN(*NO))*

Appendix E. The FS#MAINT Job

This job takes care of the Journal maintenance of the product itself, such as changes the receiver ... and so on

It also takes care of eventual faults that occurred during the run of the product's commands (for example, if the user runs CHGFC and terminates the job using Sys Rqst 2 – ENDJOB), and clears trace data from the product files according to the "keep trace and undo info" parameter.