Chapter Nineteen

SURPAS WORKBENCH - PART 2

Introduction

This chapter describes additional capabilities and some of the tools available in the SuRPAS Workbench application. This chapter is a continuation of the discussion which began in chapter seven. Additional Workbench tools will be discussed in chapter twenty two.

Objectives

To take advantage of the capabilities of the SuRPAS Workbench application, a developer should be able to:

- Design code that implements and manages MFS error messages
- Understand and use the ERX Maintenance utility
- Design code that implements and manages the file unit

The Workbench Main Menu

The main menu displayed when the Workbench application is entered (by typing WB at the DCL prompt), allows you to enter a three character selection that matches the functions and tools supported. The main menu is displayed below. Notice that the top line, shown in reverse video, displays your active database. The bottom line indicates that pressing the PF2 key ends the Workbench session. The KEA! emulator maps the PF keys to the top keys of the numeric keypad, in this case the forward-slash key.

```
*****  FAL  PROGRAMMERS  WORKBENCH  --  MAIN  MENU          DB  :90

ENTER  SELECTION  :  CMS

   CMS  -  Code  Management  System
   TKN  -  TKN  Definition/Maintenance  Menu
   JOB  -  Job  Definition/Maintenance  Menu
   MFS  -  MFS  Definition/Maintenance  Menu
   PAR  -  PARAMS  Definition/Maintenance  Menu
   ERX  -  SuRPAS  ERRXLATE/Errors  Table
   REP  -  Report  Definition/Maintenance  Menu
   ICS  -  Interface  Definition/Maintenance  Menu
   SCR  -  Screen  Definition/Maintenance  Menu
   FIL  -  FILE  Definition/Maintenance  Menu
   REF  -  Cross  Referencing  Menu

   A2E  -  ASCII  to  EBCDIC  File  Translation
   E2A  -  EBCDIC  to  ASCII  File  Translation
   DBM  -  Database  Management
   EXM  -  Examine  File
   REL  -  Funds  Associates  Release  System
   END  -  End  Session

PF2  -  End  Session
```

Figure 19-1 - Workbench Main Menu

Creating and Managing MFS Error Messages

Overview

MFS errors are Message File System errors defined for data file and data conditions. This section provides an overview of how to create, modify, and view SuRPAS MFS error messages.

This section discusses:

- Adding a new MFS error message
- Modifying an existing MFS error message
- Viewing an existing MFS error message

Creating and Managing MFS Error Messages

MFS error messages are errors defined for data files and data conditions. The errors are stored in :

FAL$STDFIL:FALERRMSG.DAT

This is the error dictionary file and MFS error messages are numbered from -1 through -999. Error messages -1001 through -1999 are reserved for Federated.

MFS errors are used to report errors when we want to HALT processing. The error is usually set by the FALIOS system and reflects I/O status. There are occasions where a programmer may hard code an error code number in argument when they call MFSERR, but this is more the exception rather than the rule. The normal code is: **IF (IOS .NE. 0) CALL MFSERR(IOS).**

Note: Occasionally, a programmer may hard code an error code when calling MFSERR, but this is rare.

Upon choosing the MFS option in Workbench, the user can choose to either add, modify, or display an error message. The main error message screen is shown in Figure 19-2, below.

```
ERROR MESSAGE FILE MAINTENANCE

                          SELECTED SITE: FAL


                          1 ==> ADD A NEW MESSAGE

                          2 ==> MODIFY AN EXISTING MESSAGE

                          3 ==> VIEW AN EXISTING MESSAGE

                          E ==> EXIT









                                 SELECTION: -
```

Figure 19-2 - Main Error Message Menu

Creating an Error Message

If Add is chosen, the system assigns the next negative number available and prompts the user for a mnemonic code (**FAL_<*code*>**), and an error message.

Important: When creating a new MFSERR be sure to used the latest software version to get the next available number, then work your way backward, installing the change in all the software trees up to and including the environment you need.

The screen below is used to create, modify, or view an MFS error message and has been filled in to demonstrate the creation of the fictitious error message #-142.

```
ERROR MESSAGE FILE MAINTENANCE

                            SELECTED SITE: FAL

          MESSAGE # TO ASSIGN:  -142

          MNEMONIC CODE:       FAL_NODEV

          ERROR MESSAGE:
DEVICE DOES NOT EXIST-CHECK SPELLING OR LOGICAL NAME ACCESS









 PF1-Accept;   PF2-Cancel;   PF3-Modify :  -
```

Figure 19-3 - Error Message Creation Screen

Modifying an Error Message

If you Modify or View an error message argument, the system prompts you for the error message number and enters the corresponding mnemonic code and error message description from the FALERRMSG.DAT file. The user can modify the fields desired and then enter key combination PF1 to accept the modifications or the PF2 key to cancel the modification.

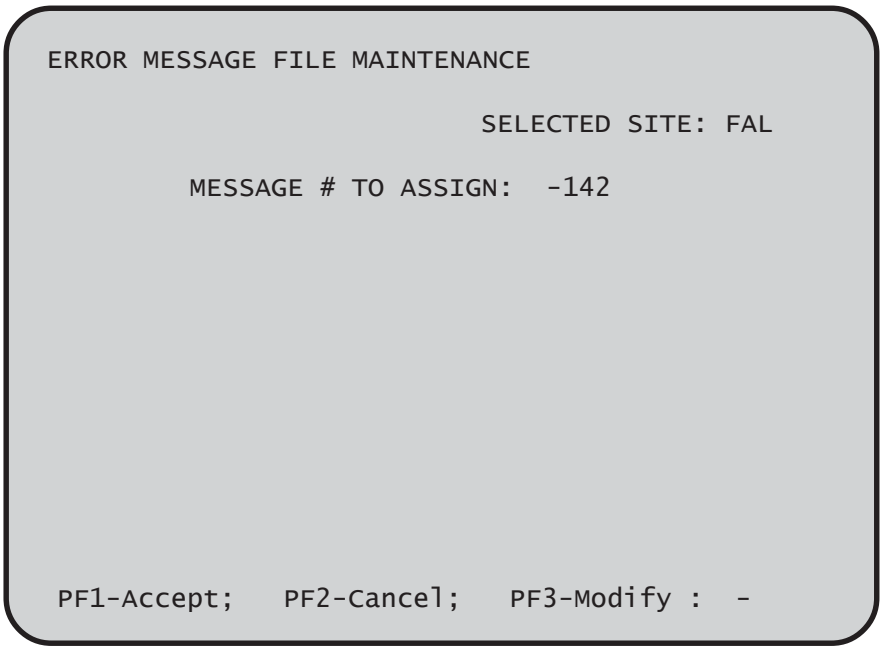

Figure 19-4 - Error Message Modification Screen

When the user exits the MFS error message maintenance screen, a new report of the MFS error codes (FALERRMSG.LIS) is created in the user's directory.

ERX - SuRPAS ERRXLATE Error Maintenance

Overview

The SuRPAS ERRXLATE error translation utility maintains the errors throughout SuRPAS. MFS errors are errors defined for data conditions (FALIOS I/O conditions). This section provides an overview of how to create, modify, and view SuRPAS ERX error messages.

This section discusses:

- Adding a new ERX error code
- Modifying and Viewing an existing ERX error code
- Creating an ERX error code listing

ERX - SuRPAS Error Maintenance

ERX is the SuRPAS ERRXLATE maintenance capability. This option is used to maintain the errors used throughout SuRPAS. **ERX** keeps track of:

- SuRPAS Error Messages
- SuRPAS Error Message ID codes
- Full Descriptions of the Error Messages

When you are checking parrticular error conditions, you can refer to the error codes listed in **ERX.**

Upon choosing the ERX option in Workbench, the user can choose to either add, modify, or view an error message. A user can also create a report listing the existing errors. The main ERX error utility screen is shown in Figure 19-5, below.

```
***** SuRPAS WORKBENCH : MAINTAIN ERRXLATE ERROR CODES

ENTER SELECTION : MNT

  MNT - Add/Change/Delete Error Codes


  RPT - Create Error Code Report


  MEN - Return to Main Menu









PF2 - Return to Main Menu
```

Figure 19-5 - SuRPAS ERRXLATE Utility Main Screen

SuRPAS Error Maintenance

SuRPAS error codes are generated, modified, and displayed from the MNT maintenance selection on the ERX main screen. The screen prompts the user for an error code and responds based on the information input.

The Error Code

The error code required on the maintenance screen is either the word NEW, if you are creating a new error code, or a four character code consisting of a three digit existing error code followed by either an E or F. Remember, all error codes and messages must be checked in using the CMS utility.

```
***** SuRPAS WORKBENCH : MAINTAIN ERRXLATE ERROR CODES

ERROR CODE          : NEW     (NEW to add a new error code)









PF2 - Cancel & Return to Menu
```

Figure 19-6 - Creating an New Error Code

Creating a New Error Code

When the user types NEW as the error code, the ERX system replaces the "NEW" with an error code it thinks is the next error code to be generated (in sequential order). You must press the Enter key to accept this code or enter your own. The new error code must be checked in using CMS.

Entering an Incorrect Error Code

When the error code is entered, it must be in the exact format required. Unlike MFS error codes the hyphen / minus sign is not accepted. The error code must be made up of the three digit number followed by an E or F. The following error messages will be displayed, depending on the manner in which you entered the code:

- `4th position must be - {E or F}`
- `ILLEGAL ERROR CODE - {001-999; NEW}`

If you attempt to modify an existing error code that has not been checked out of CMS prior to attempted modification you will receive the following error:

- `Record not checked out using CMS`

```
***** SuRPAS : WORKBENCH - MAINTAIN SuRPAS ERROR TABLE       ID: WBERRMNT

ERROR CODE        :  300E

SHORT FORM   (20) :

MIDDLE FORM  (42) :

LONG FORM    (75) :




ADDED BY FTK      :  000000     ON :  00/00/00     BY :

CHANGED BY FTK    :  000000     ON :  00/00/00     BY :

REASON ERROR ADDED/CHANGED:


PF1-Return
```

Figure 19-7 - ERX Error Creation Screen

The Error Message

The error message is provided three times in different lengths (as seen above in Figure 19-7). These messages are:

- Short Form (20): The short version of the error message (20 chars. max.)
- Middle Form (42): The medium size error message (42 characters max.)
- Long Form (75): The long version of the error message (75 chars. max.)

Audit Trail Information

The audit trail information on the lower half of the screen (see Figure 19-7 on the previous page) relates to the FTK that requires the new error code or the modification to an existing error code. The three FTK-related fields are:

- **Added By FTK:** The FTK # requesting the error message
- **Changed By FTK:** The FTK# requesting a change to the message
- **Reason Error Added/Changed:** As per the FTK specification

Changing or Viewing An Error Code

The Error Code prompt at the top of the ERX Maintenance screen accepts an existing error code, in addition to the word NEW. In this case, the screen then prompts the user to enter the character C to change or modify an existing error code, or the character V to view information about an existing error code. This prompt is shown below in Figure 19-8.

```
***** SuRPAS WORKBENCH : MAINTAIN ERRXLATE ERROR CODES

ERROR CODE          : 142E    (NEW to add a new error code)

Change or View? :  V









PF2 - Cancel
```

Figure 19-8 - ERX Error Change or View Screen

The screen shown in Figure 19-9 below, shows the information about a specific SuRPAS error code. If View is selected, the screen is exited by pressing the PF1 key. If Change is selected, the PF1 key is pressed to cancel the changes and exit the screen, or the PF2 key is pressed to accept the changes and exit the screen.

```
***** SuRPAS : WORKBENCH - MAINTAIN SuRPAS ERROR TABLE    ID: WBERRMNT

 ERROR CODE         :  037F

 SHORT FORM   (20) :  Acc Period Closed

 MIDDLE FORM  (42) :  Accrual Period Has Already Been Closed

 LONG FORM    (75) :

   Accrual Period Has Already Been Closed



 ADDED BY FTK       :  018630     ON :  02/09/99     BY :  MWV

 CHANGED BY FTK     :             ON :  00/00/00     BY :

 REASON ERROR ADDED/CHANGED:    DIV AUTO


 PF1-Return
```

Figure 19-9 - ERX Error Code View Screen

SuRPAS Error Reporting

Users may require a listing of all error codes. The RPT option on the main ERX menu screen allows the user to create a report that will be placed in the user's default directory. The name of the file will be ERRLIST.RPT. The user will be prompted for the type of report (Middle or Long) with the following prompt:

```
***** SuRPAS WORKBENCH : ERRXLATE ERROR CODES REPORT

Middle (M) or Long (L) :
```

The user will then be returned to the main ERX menu screen and the report is placed in the directory without any screen message or notification.

Middle Report Format

```
**** ERROR LIST  07/28/2002

Err#  Short Description     Middle Description
--  ----------  --------------------
985E  Invalid As-Of Ind.    Invalid As-Of Indicator
986E  Foreign Address       No eCommerce Trading to Foreign Addresses
987E  No Trds for Acct Cls  No eCommerce Trading for Account Class
988E  DIVACTBLD status chk  DIVACTBLD status check error
989E  ROA or Acct needed    Must specify and ROA # or an Account Code
990E  COD Must be B for BA  COD Atr #85 Must be a B for B to A Roll
991E  Invalid Class A Fund  Invalid Class A Fund
992E  NAV for Fund is 0.00  NAV for Fund is 0.00
993E  Contra Code Not Auth  Contra Code Not Authorized For Class A FND
```

Long Report Format

```
***  ERROR  LIST   07/28/2002

Err#   Short  Description       Long  Description
----   ---------------------   ------------------------------------------
001E   Matrix  Conflict  -BRN   Networking  Matrix  Conflict-Account  Branch  Changes
    (FPC=BRN)
001F   1250  Rt  Doesnt  Match   Dividend  History  Sec  1250  Rate  Does  Not  Match  Dividend  Action  Data
002E   Matrix  Conflict  -REP   Networking  Matrix  Conflict-Account  Rep  Changes
    (FPC=REP)
002F   Rec  Dt  Doesnt  Match    Dividend  History  Record  Date  Does  Not  Match  Dividend  Action  Data
003E   Matrix  Conflict  -DCB   Networking  Matrix  Conflict-Cash  to  Broker
    (FPC=DCB)
003F   Inc  Rt  Doesnt  Match    Dividend  History  Income  Rate  Data  Does  Not  Match  Dividend  Action  Data
004E   Matrix  Conflict  -DCC   Networking  Matrix  Conflict-Cash  to  Customer
    (FPC=DCC)
004F   STCG  Rt  Doesnt  Match   Dividend  History  Short  Term  Rate  Does  Not  Match  Dividend  Action  Data
005E   Matrix  Conflict  -DCP   Networking  Matrix  Conflict-Cash  to  Payable
    (FPC=DCP)
```

SuRPAS Error Notes

- SuRPAS Error messages must be checked out using the SuRPAS Code Management System (CMS) prior to being changed, and checked back in to CMS prior to becoming active.

- Once an error message is checked out of CMS it is recognized by the ERX utility and can be modified as needed.

- With API's almost all error messages require a corresponding record in FAL$STDFIL:ERXSRC.DAT.

- Every time an error message is called, the largest field is used.

- Use MFSERRM (not MFSERR) with the details of an abend in order to check an error that occurred.

- When checking IOS, don't use the number of the error, use the name of the error (eg: for$ios_attaccnon).

Creating and Managing Files

Overview

SuRPAS File Logical Unit maintenance is managed by the FIL selection on the Workbench main menu. This section provides an overview of how to create SuRPAS file LUNs.

This section discusses:

- Creating new File logical units (LUNs)

The File Menu

Upon choosing the FIL option in Workbench, the user can add a File logical unit (LUN) to the list of recognized SuRPAS files. The main file screen is shown in Figure 19-10, below.

```
***** FAL PROGRAMMERS WORKBENCH – FILE MENU

ENTER SELECTION : FIL

  FIL - Define a FILE




  MEN - Return to Main Menu









PF2 - Return to Main Menu
```

Figure 19-10 - File Menu

Creating a File Logical Unit (LUN)

SuRPAS system files are defined in FAL$STDFIL:FILSRC.DAT. A SuRPAS system file is identified by a unique, system-defined file identification code (FID). A system file can also have a user-assigned alphanumeric name in addition to the FID. The creation of this definition record in FILSRC.DAT is the last step of creating a SuRPAS system file.

The steps for creating a SuRPAS file are as follows:

1. Determine the file name and location
2. Create a .CFD file
3. Update FILDIC.CFD
   - i. check out FILDIC.CFD, using the SuRPAS Code Management System (CMS)
   - ii. enter the requested information, including, but not limited to:
     - a. LUN - should match the filename and should be meaningful
     - b. Look to the end of list in FILDIC.CFD for next available FID
   - iii. check in FILDIC.CFD, using CMS
4. Create the .FDL file and check it in, using CMS
5. Use Workbench (the FIL selection) to set the file definition in FILSRC.DAT

```
***** SuRPAS : SET FILE DEFINITION IN FILSRC.DAT          ID : JDSETFIL

 FID                      :  255

 FILENAME (incl. location):

 FILE TYPE                :

 FILE SIZE                :      0

 FTK#                     :

 DESCRIPTION              :



 PF1-Accept;    PF2-Cancel;    PF3-Refresh;    PF4-Inquiry
```

Figure 19-11 - File Definition Menu

When defining a file in FILSRC.DAT the following information is required on the File Definition Screen:

- File Identification Number (FID)
- Full Filename (name and location)
- File Type (number between 1 and 9)

TYPE	ORGANIZATION	RMS ACCESS	FORTRAN FORM	RECORD TYPE
1	Indexed	Keyed	Unformatted	Fixed
2	Indexed	Keyed	Formatted	Variable
3	Sequential	Direct	Unformatted	Fixed
4	Sequential	Sequential	Formatted	Variable
5	Sequential	Sequential	Formatted	Fixed
6	Sequential	Append	Unformatted	Fixed
7	Sequential	Sequential	Unformatted	Fixed
8	Relational	Direct	Unformatted	Fixed
9	Sequential	Append	Formatted	Variable

- FTK Number
- FTK Description