Unicenter® CA-FAQS® Automated Systems Operation for VSE

User Guide

5.0

Second Edition

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Chapter 1: Introduction

This chapter provides an overview of Unicenter® CA-FAQS Automated Systems Operation for VSE (hereafter called Unicenter CA-FAQS ASO).

Unicenter CA-FAQS ASO is the automated systems operations product for VSE. It enables you to automate your system in many ways. You can:

- Manage messages automatically
- Create your own commands
- Automatically reply to selected console messages
- Increase system throughput

This chapter introduces the features of Unicenter CA-FAQS ASO and explains how you can benefit from automated systems operations.

Features

Unicenter CA-FAQS ASO features bring together the following to give you the power of automated systems operations:

- REXX language, compiler, and editor
- GSFAQS
- Unicenter CA-FAQS Production Control System for VSE (hereafter called Unicenter CA-FAQS PCS)
- Menus and data panels

What's Possible with Unicenter CA-FAQS ASO?

With Unicenter CA-FAQS ASO, you can:

- Automate console messages
- Create operator commands
- Modify system commands
- Create REXX IMODs (Intelligent Modules) to control your system
- Create REXX IMODs and REXX EXECs to communicate between VSE and VM
- Create Console Summary reports at EOJ or archive to the SYSOUT PDS
- Post-global events for Unicenter CA-FAQS PCS or Unicenter CA-FAQS ASO

- Spool POWER members to CICS Print Report (CPR)
- Verify product levels and product maintenance levels installed by MSHP
- Use Unicenter Automation Point to monitor your mainframe and initiate maintenance calls depending on mainframe conditions

REXX Overview

A powerful feature of Unicenter CA-FAQS ASO is the REXX system. The REXX system is the CA-implementation of the REXX language. The REXX system includes the language, an editor, and a compiler and multiple runtime environments.

REXX is an extensive but simple structured language you can use to program your own commands and responses to system messages. By providing REXX for VSE, CA brings VSE closer to the SAA model.

REXX User Guide

For more information about the use of REXX in Unicenter CA-FAQS ASO, see the *CA-GSS for VSE REXX User Guide*.

REXX Compiler

The REXX editor is online and incorporates the compiler. When you save your file with the FILE command, it is automatically compiled and errors are displayed for your correction. This cuts down on testing time for REXX.

The compiler produces IMODs (Intelligent Modules) that may be executed via batch, SMSG trigger, console messages, AR (Attention Routine) commands, and Unicenter CA-FAQS ASO online commands.

Implementing REXX as a compiler rather than an interpreter makes Unicenter CA-FAQS ASO IMODs fast and efficient.

Unicenter CA-FAQS ASO and GEM

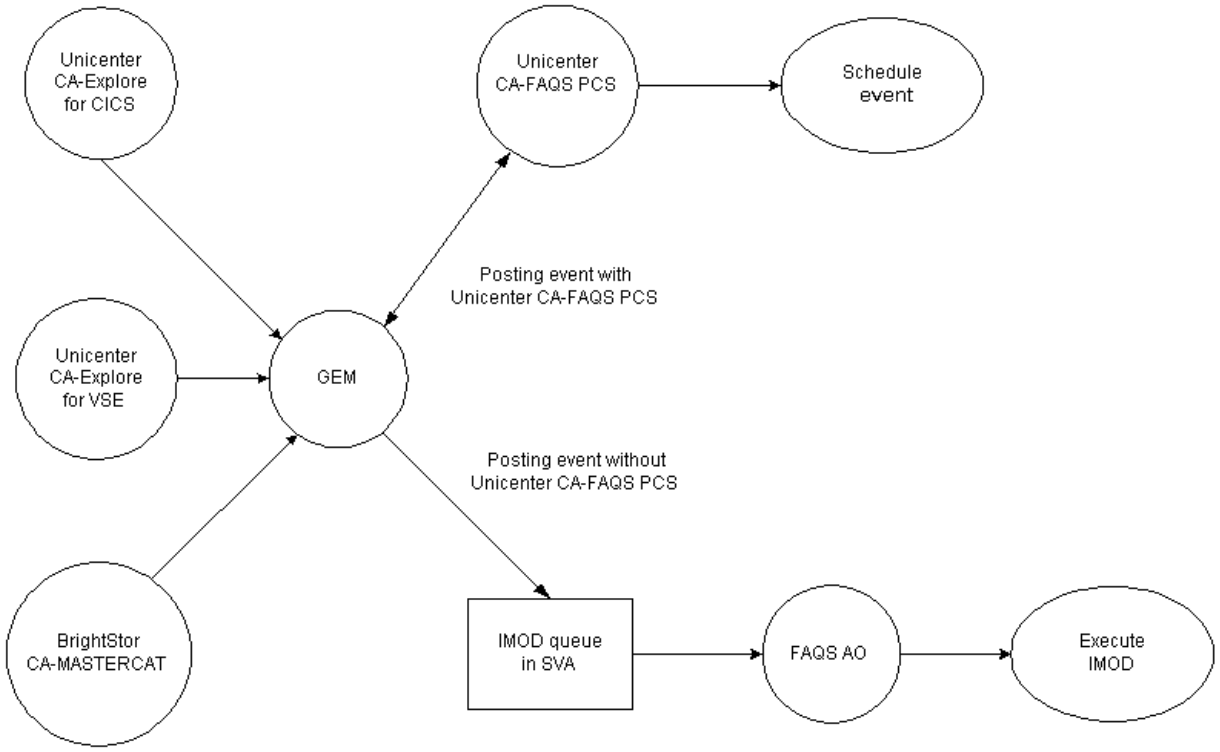
You can define events with Unicenter CA-FAQS PCS or with Unicenter CA-FAQS ASO.

GEM (the Global Event Manager) receives all event posting commands. Events are posted (registered) either by the event actually occurring or by another CA-product saying the event occurred.

If Unicenter CA-FAQS PCS is not enabled, you can run IMODs but no other events can occur.

Flow of Events

The following graphic depicts a flow of events being posted. For more information, see the chapter, Defining Message Management.



GSFAQS

The GSFAQS phase is used to initialize, modify, and terminate:

- Console spooling
- SYSOUT
- Message automation
- AR and SMSG hooks

With Unicenter CA-FAQS ASO, you can define files that are executed by GSFAQS. GSFAQS then reads these files to initialize Unicenter CA-FAQS ASO. At installation, a startup file, FAQSASO, is defined. Initially, this file can be used to get Unicenter CA-FAQS ASO up and running. Once you have Unicenter CA-FAQS ASO up and running, you can create your own files containing the following information:

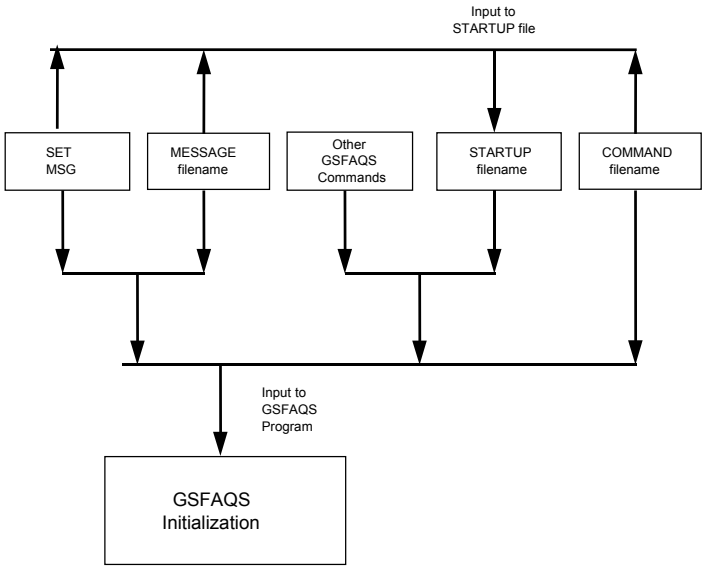
- Startup configuration
- Message management functions
- User defined commands

For more information about GSFAQS, see the following chapters:

- Defining Message Management
- Using GSFAQSHC
- GSFAQS Command Summary

GSFAQS Setup Using Unicenter CA-FAQS ASO

The following graphic shows how Unicenter CA-FAQS ASO files are used to set up GSFAQS:



Unicenter CA-FAQS ASO Overview

This section describes the major features and components of Unicenter CA-FAQS ASO.

GSFAQS Console Spooling Facility

Unicenter CA-FAQS ASO offers VSE users many console enhancements over the basic console support available with the VSE supervisor. The GSFAQS Console Spooling facility provides the following:

- Automated system console support, including
- Full message management
- AR (Attention Routine) command support
- CMS user message routing
- EOJ console reporting (much more detailed than LISTLOG), which can be directed to SYSLST and/or to the SYS$ARC archive file
- Hardcopy file printing and backup

Enhanced System Console Support

The GSFAQS Console Spooling facility enhances the basic VSE console support by supporting:

- Message highlighting
- Message masking
- Message reply
- Message retention
- Message routing
- Message suppression
- Message unhold

Selected messages or partitions can be routed to individual Unicenter CA-FAQS ASO online transactions using similar console selection criteria.

Message Highlighting

Message highlighting causes any messages that match a designated message type or partition to be highlighted on the VSE system console for easy viewing. All JOB statements, EOJ statements, cancel messages, or any other type of exceptional console activity can be highlighted on the system console.

Message Masking

Message masking can be invaluable to security. With message masking, portions of a message can be permanently masked when sensitive data appears on the console and hardcopy file.

Message Reply

Message reply issues replies, AR commands, or POWER commands from GSFAQS based on specified selection criteria. Message reply allows better throughput on production and test systems by replying to a job as soon as a reply is needed. The job no longer waits for an operator to reply manually.

Message Retention

Message retention causes console messages that match a specified message ID, jobname, phase name, time range, or partition ID to be held on the current console display until deleted by the operator. This is desirable for retaining critical messages that would normally be lost during console update.

Message Routing

Message routing allows specified messages to be routed to a CMS user using VM MSGNOH support, MSG support, SMSG support, or RSCS. Through this feature, specific CMS users can be notified when critical conditions occur.

Message Suppression

Message suppression allows the user to specify any message or class of console activity to be suppressed from the current console display. You can prevent unnecessary or nuisance messages from cluttering the current console. These messages are printed on the hardcopy file.

Message Unhold

Message unhold enables you to unhold messages from the current console display--that is, to let these messages scroll off the console as it is updated. In this way, the console is kept from being burdened with less critical partitions or messages.

EOJ Console Summary Report

The EOJ console reporting includes an EOJ Console Summary report. The report is similar to LISTLOG but with several advantages. All console activity is timestamped for a chronological history of console reads and writes. AR (Attention Routine) messages that occur during the execution of a job are also included in the EOJ Console Summary report along with the normal partition console activity if AR logging is specified at console spooling initialization time.

The Console Spooling facility of GSFAQS is more flexible than LISTLOG, because it allows the user to select when the report should be printed. At console spooling initialization, you specify which partitions are eligible for console spooling and under what conditions the report is printed. A partition can be defined so that the Console Spooling report is printed for all jobs executed in the partition regardless of job completion status. Likewise, you can specify that the report be printed only if the job terminates abnormally (ABEND ONLY logging). The OPTION LOG feature causes the Console Spooling report to be printed whenever an // OPTION LOG statement is specified in the job stream or if the job terminates abnormally. This provides the ability to control console spooling with a standard VSE JCL statement.

For a sample EOJ Console Summary Report, see the section, EOJ Console Summary Report. In addition to the EOJ Console Summary report, GSFAQS produces the following reports:

- Job Statistics by Step Report
- Phase Load List Summary Report
- Library Search Sequence Report
- The Close Statistic Report for BrightStor CA-HYPER BUF VSAM Buffer Optimizer for VSE (hereafter called BrightStor CA-HYPER BUF), if installed.

Activating EOJ Console Reporting

EOJ reporting can be activated by including a SET STEPS= statement in the JCL for GSFAQS. Specify YES to activate EOJ reporting with the default of 8 steps or specify 1-999 steps to be monitored. Each step requires about 60 bytes per partition in 31-bit system getvis. Specify SET STEPS=NO or do not include a SET STEPS statement if GSFAQS is not to support EOJ reporting. The SET STEPS= value can also be set in the STARTUP file using the FAQS Startup Definition panels described in Chapter 2. For more information about GSFAQS, see the Appendix "GSFAQS Command Summary"

GSFTL support for EOJ reporting is still supported for compatibility, but this is limited to 8 steps and storage is taken from 24-bit system getvis. For more information, see the Chapter Fast Transient Loader.

Job Statistics by Step Report

The Job Statistics by Step report displays job accounting information about each step executed in the job. The information includes the name of each phase executed in the job, step duration, cumulative CPU seconds, and SIO information for each step. This report also displays critical GETVIS information such as the amount of GETVIS used by each step, the total amount of GETVIS remaining, and the maximum contiguous block of unused GETVIS available at end of step.

The Job Statistics by Step report is generated if GSFAQS is executed with the SET STEPS= statement to specify the number of steps to report or if EOJ reporting is supported by GSFTL. See the previous description under Activating EOJ Console Reporting. If the table fills up, it will wrap and the earliest entries will be overlayed. The ASO S command reports on how often buffer wrapping occurred.

Phase Load List Summary Report

The Phase Load List Summary report lists the name of each phase, the time the phase was loaded, and the library it was fetched from. Not only does this eliminate questions about from which library a phase was loaded, but it can also serve as a tuning tool by identifying the number of library directories searched before finding each phase.

GSFAQS also interfaces with AllFusion CA-FLEE, the library maintenance package, to provide a maintenance summary for each phase. This maintenance information includes the number of times the phase has been cataloged, the last maintenance type, and the date and time the maintenance occurred. If the execution timestamp feature is enabled for the phase, it displays the number of times the phase has been executed and the date and time of the last execution.

The Phase Load List Summary report is printed if GSFAQS support for EOJ reporting is enabled and SET FBUF= is specified. If SET FBUF=YES is specified, a default buffer of 512 bytes is allocated for each partition. Otherwise, specify 1K-999K to be allocated for each partition. This storage is allocated in 31-bit system getvis. Each 1K of storage is enough room for information on about 28 phases. If the table fills up, it will wrap and the earliest entries will be overlayed. The ASO S command reports on how often buffer wrapping occurred. Omitting SET FBUF= or specifying SET FBUF=NO suppresses this report. For more details on GSFAQS, see Appendix A.

If GSFTL is used to support EOJ reporting, the FBUF=n parameter on the RDL=CREATE statement is used to specify the number of buffers. For more details on GSFTL, see Chapter 5.

Library Search Sequence Report

The Library Search Sequence Report lists the library and sublibrary names in the temporary and permanent core image library search chain as the names exist at end of job. To find the number of library directories that were actually searched before each phase was found, match the library name to the directory search chain. This report is only printed when the Phase Load List Summary report is generated.

BrightStor CA-HYPER BUF Close Statistic Report

The BrightStor CA-HYPER BUF Close Statistic Report lists statistical information at end of job time about VSAM files opened during a job's duration. It also lists GETVIS information about VSAM files. This report is only printed when BrightStor CA-HYPER BUF is active.

The following is a sample of the Console Spooling Report:

```
11/28/2005 UNICENTER CA-FAQS ASO CONSOLE SUMMARY REPORT r5.0-SP02 z/VSE CPUID=FF0145AA70600000 DEV12345
PAGE  1
     * ------------------------------ JOB STATISTICS BY STEP ------------------------------ *
                              -------------24-BIT GETVIS---------- -------------GETVIS ANY-------------
PHASE   DURATION  CPU SECS. SIO COUNT STEP RC  GETVIS   USED  UNUSED   MAX BLK  GETVIS  USED    UNUSED  MAX
IESICTL  00.00.00 000.05      155     0000     8192K     20K   8172K   8164K    10240K   84K    10156K  101
IDCAMS   00.00.00 000.07      545     0000    10208K    128K  10080K  10068K    12256K  200K    12056K  120
IDCAMS   00.00.00 000.07      545     0000    10208K    128K  10080K  10068K    12256K  200K    12056K  120
DFHCCUTL 00.00.00 000.05      172     0000     9940K    152K   9788K   9760K    11988K  224K    11764K  117
DFHDFOU  00.00.00 000.05      148     0000     8192K     84K  8108K    8096K    10240K  148K    10092K  100
DFHDFOU  00.00.00 000.05      148     0000     8192K     84K  8108K    8096K    10240K  148K    10092K  100
IDCAMS   00.00.00 000.07      868     0000    10208K    188K  10020K   9996K    12256K  276K    11980K  119
DFHCSDUP 00.04.15 044.18    66557     0004     9640K    172K   9468K   9420K    11688K  244K    11444K  113

          * --------------------------FLEE/VSE PHASE LOAD LIST REPORT-------------------------- *
FETCH  PHASE              TIMES ...LAST MAINTENANCE.... TIMES ...LAST EXECUTION......PHASE DESCRIPTION...
TIME    NAME     LIBRARY  NAME   CATAL TYP DAY   DATE     TIME    EXEC DAY   DATE     TIME

 *TABLE WRAPPED - ENTRIES LOST
 08.22.37 IDCCDDL  IJSYSR2 SYSLIB               05-09-08 12:16:37
 08.22.38 IDCDL01  IJSYSR2 SYSLIB
 08.22.38 IDCTP06  IJSYSR2 SYSLIB
 08.22.38 IDCTSTP6 IJSYSR2 SYSLIB
 08.22.38 IDCTSDL0 IJSYSR2 SYSLIB
 08.22.38 IDCTSUV0 IJSYSR2 SYSLIB
 08.22.38 IDCCDDE  IJSYSR2 SYSLIB               05-09-08 12:16:37
 08.22.38 IDCDE01  IJSYSR2 SYSLIB               05-09-08 12:16:40
 08.22.38 IDCEX03  IJSYSR2 SYSLIB
*08.22.40 IESTRFUT IJSYSR2 SYSLIB
*08.22.51 IDCAMS   IJSYSR2 SYSLIB               05-09-08 12:16:44
 08.22.51 IDCSA04  IJSYSR2 SYSLIB
 08.22.51 IDCEX02  IJSYSR2 SYSLIB
 08.22.51 IDCTP04  IJSYSR2 SYSLIB
 08.22.51 IDCIO02  IJSYSR2 SYSLIB
 08.22.51 IDCDI01  IJSYSR2 SYSLIB
 08.22.51 IDCTP05  IJSYSR2 SYSLIB
 08.22.51 IDCTSEX0 IJSYSR2 SYSLIB
 08.22.51 IDCTSTP0 IJSYSR2 SYSLIB
 08.22.51 IDCSA05  IJSYSR2 SYSLIB
 08.22.51 IDCRI01  IJSYSR2 SYSLIB               05-09-08 12:16:41
 08.22.51 IDCRILT  IJSYSR2 SYSLIB               05-09-08 12:16:41
 08.22.51 IDCRIKT  IJSYSR2 SYSLIB
 08.22.51 IDCDI02  IJSYSR2 SYSLIB
 08.22.51 IDCTSRI0 IJSYSR2 SYSLIB
 08.22.51 IDCCDRP  IJSYSR2 SYSLIB               05-09-08 12:16:38
 08.22.51 IDCRP01  IJSYSR2 SYSLIB
 08.22.52 IDCTSUV0 IJSYSR2 SYSLIB
11/28/2005 UNICENTER CA-FAQS ASO CONSOLE SUMMARY REPORT r5.0-SP02 z/VSE CPUID=FF0145AA70600000 DEV12345
PAGE 2

CORE-IMAGE LIBRARY LIBDEF SEARCH SEQUENCE
TEMP -  PRD2.SCEEBASE  PRD1.BASE
PERM -  INSTLIB.TEST   INSTLIB.GSS50    DEVLIB.FAQS51    DEVLIB.FAQS50     CAI6.GSS50        CAI6.FAQS50
        CAI2.CA90S14   CAI2.DYNAM70     CAI2.SCHDRV73    CAI2.FLEE40       PRD1.BASE         IJSYSR2.SYSLIB



               * ------------------------------ CONSOLE SUMMARY REPORT ------------------------------ *
 08:22:38 BG 0000 // JOB VSAMINIT  - INITIALIZE AND LOAD VSAM FILES ESA 2.7               11/28/2005
 08:22:38         DATE 11/28/2005, CLOCK 08/22/38                                        11/28/2005
 08:22:38 BG 0000 TSS7000I SMIJO20 Last-Used 28 Nov 05 08:22 System=VSEA Facility=BATCH   11/28/2005
 08:22:38 BG 0000 TSS7001I Count=27544 Mode=Warn Locktime=None Name=JOHN SMITH            11/28/2005
 08.27.12 BG 0000 EOJ VSAMINIT     MAX.RETURN CODE=0004
 08.27.12         DATE 11/28/2005,CLOCK 08/27/12,DURATION  00/04/33
```

Where EOJ Reports Are Produced

EOJ reports are appended to a job's normal printer output. The reports are produced at the following two places:

- Printed on SYSLST to your list queue or printer following a job's normal printer output
- Written to the PDS file named SYS$ARC

Use the Unicenter CA-FAQS ASO GSFAQS Startup Definitions online panel in conjunction with the STARTUP command to specify where you want the reports produced. For more information, see the chapter "Defining Message Management."

Console Spooling Control

Console spooling can be temporarily turned off or on for the duration of any job with two JCL commands. The OPTION CQON|CQOFF commands temporarily enable or disable the printing of the EOJ Console Summary report. // OPTION CQON causes the EOJ Console Summary report to be printed at EOJ time. // OPTION CQOFF will suppress the Console Summary report. These two commands are read by job control and processed by the GSFAQS $JOBCTLG phase. When CQON or CQOFF is specified on an OPTION statement, it must be the only parameter on the statement. Specify other OPTION parameters on a separate JCL statement.

OPTION CQON and CQOFF override the previous console spooling status of the partition for the duration of the associated job. The prior status automatically resets at end of job (/&).

Hardcopy File

GSFAQS uses the standard IJSYSCN hardcopy file for console spooling. The GSFAQSHC utility is a batch program that will print the IJSYSCN hardcopy file and back it up to a cumulative backup file for future analysis. The main advantages of the GSFAQSHC utility over the VSE PRINTLOG utility are as follows:

GSFAQSHC can create a backup of all console activity for console backup and problem determination. The utility can also merge the DASD HCF to an existing cumulative backup file to provide a database of console activity.

It is possible to print the HCF disk and backup files in any one of several different fashions. This includes printing the entire contents of the file or selectively printing the file by jobname, partition ID, time period, or by user specified scan arguments, which can be generic. GSFAQSHC also supports a PRINT NEW function, similar to PRINTLOG, which prints just the console records that have been added to the file since the last time it was printed.

It provides a cross reference report to aid in the location of messages or job starts, job ends, job duration, and abnormal terminations.

You can use the FAQSUTIL utility to merge GSFAQSHC hardcopy backup files into a single output file for printing. FAQSUTIL MERGE determines whether the input backup files are from tape or disk, and merges them accordingly.

GSFAQS Console Spooling Advantages

For VSE users, the Console Spooling facility of GSFAQS offers the following advantages over LISTLOG:

- At end of job time, console messages are automatically available, allowing quick analysis of any JCL errors or console messages and replies. Since each message is timestamped, an audit trail for each job is available to provide the exact time that each event occurred.
- At end of job time, job statistics are displayed for each step executed in the job. This includes the name of each phase executed, the duration of each step, the number of SIOs and CPU seconds used by each step, and critical GETVIS information for each step.
- At end of job time, all phases loaded by the job and the library each phase was loaded from are displayed. If you also have AllFusion CA-FLEE, the FLEE timestamp and phase description information is displayed for each phase loaded. The library search chain as it existed at end of job time is displayed.
- At end of job time, VSAM file statistics from BrightStor CA-HYPER BUF and GETVIS information are displayed. Information can include, for example, when a file was deleted, inserted, updated, or retrieved.
- The Console Spooling facility can be tailored in several different ways offering much more flexibility in defining when the report should be printed.
- The GSFAQSHC utility enables you to archive all console activity to a cumulative backup file. It also provides a way to selectively retrieve past console information, using various search arguments and parameters.

Chapter 2: Initialization and Configuration

This chapter introduces the AO menus and covers the functionality available from the Unicenter CA-FAQS ASO Initialization and Configuration Menu. The AO console command is detailed in Appendix C.

Menu

This section describes the menu system and how to use it. To access the Unicenter CA-FAQS ASO Main Menu, you can

- Enter **AO** from the Unicenter CA-FAQS ASO command line
- Enter **MENU** and select the AO option

An example of the Unicenter CA-FAQS ASO Main Menu follows.

```
 FAOMENU0.3 ** Unicenter CA-FAQS ASO Online 5.0-0203**      ID=DEZZSYS3.ZZZ
===>


                        *** Unicenter CA-FAQS ASO -- Main Menu ***
     I     Initialization and Configuration

     R     REXX      - REXX IMOD member/directory Maintenance
     D     LOCK      - Online Lock file display
     S     SYSOUT    - Sysout member/directory Maintenance
     L     GSFAQSHC  - Online Job Generation for Hardcopy File Maintenance


                           GSS Utilities
     V     MSHP      - Online MSHP History Display
     U     GSPDSU    - Online Job Generation for Partitioned Data Sets
     A     PDS       - Display Partitioned Data Set Statistics



 PF01=Help PF03=Return PF12=Exit
```

Using the Unicenter CA-FAQS ASO Main Menu

To select a menu option, do one of the following:

- Place the cursor on the selection you want and press ENTER.
- Type the option letter on the command line and press ENTER.

The following list describes the PF keys that are available for your use on the Unicenter CA-FAQS ASO Main Menu.

PF1

Displays help for the Unicenter CA-FAQS ASO Main Menu

PF3

Returns you to DCM Main Menu

PF12

Returns you to console display

Using a File Directory List

The first panels that you access from the Unicenter CA-FAQS ASO Main Menu are called *file directory lists*. The file directory lists display all of the members defined for the particular Unicenter CA-FAQS ASO feature you selected. A file directory list contains all the command, console PF-key, or message files that you have created to be used on the system console.

An following is an example of a file directory list for command files:

```
 FAOMENUC.C   ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEV12345.ABC
===>
** Unicenter CA-FAQS ASO -- Console Command File Directory List **  Key ==> *  <==

   COMMAND FILE    RECORDS   UPDATE TIMESTAMP      LOAD TIMESTAMP
 _ DEVTST2              20   06/23/02 15.42.43     07/10/01 00.46.30
 _ DEVTSYS3             55   05/26/02 13.05.47     07/03/01 09.28.33
 _ FAQSASO              52   10/18/02 14.50.04     05/30/01 10.18.43
 _ TECHESA3             10   10/20/02 10.34.59     03/10/02 08.31.57
 _ TEST                  1   06/29/01 06.23.25     06/29/01 06.23.29
 _


X=Edit L=Delete R=Rename C=Copy A=Add
PF1=Help PF3=Return PF4=Refresh PF5=Add PF6=Current def
```


Use a file directory list to list all the members defined for a particular feature.

Use the Key ==> field to select which members are displayed. Once members are displayed, use the input (_) field to designate that you want to edit, delete, rename, or copy a member.

The remaining chapters of this manual explain in detail how to use the individual file directory lists that are part of the AO features of Unicenter CA-FAQS ASO.

Using the Command Line

All panels in Unicenter CA-FAQS ASO contain a command line. The command line is the first line on a panel after the panel header and starts with the command prompt (=>).

To use the command line, place your cursor after the command prompt, type a command, and press ENTER.

Using Online Help

Unicenter CA-FAQS ASO has an extensive online help facility. For most Unicenter CA-FAQS ASO panels, you can access both general and field-specific help.

General and Field-Specific

To obtain general help for a panel, place the cursor after the command prompt (==>) and press PF1 (Help). To obtain help for a specific panel field, place the cursor on the field and press PF1 (Help).

Nested Help

Some Unicenter CA-FAQS ASO help panels enable you to "nest down" to more detailed levels of help. Help panels with this nesting capability show *PF1=Field Level Help* in the PF-key area. To access nested help, place the cursor on the highlighted field you want more information about and press PF1.

Cursor Control

There are two types of cursor control in Unicenter CA-FAQS ASO help. One type works hand-in-hand with nested help; you move the cursor to the highlighted field of your choice and press PF1. The other type enables you to change your view of the current help panel. If you move the cursor to a highlighted field and press ENTER, that field's line becomes the current line, at the top of the display. On some help panels, this cursor control function is tied to a highlighted arrow (>) to the right of the line or lines that can be made current.

Command-Line Control

From the command line of some Unicenter CA-FAQS ASO help panels, you can do searches by line number (with the format *:xxx*, where *xxx* is the line being searched for) or by text string (with the format */text*). Both types of searches place the found line or text at the top of the help display.

Initialization and Configuration Menu

From the Unicenter CA-FAQS ASO Main Menu, you can access the Initialization and Configuration Menu to do the following:

- Define GSFAQS startup
- Configure message action files
- Configure console command files
- Initialize REXX IMODs
- Define events
- Define Unicenter CA-FAQS ASO Online commands
- Initialize the CICS Auto Print facility
- Define Unicenter Automation Point conditions

The following sample illustrates the Initialization and Configuration Menu:

```
FAOMENUI.* ** Unicenter CA-FAQS ASO Online 5.0-0203**      ID=DEV12345.ABC
===>

                  ** Unicenter CA-FAQS ASO -- Initialization and Configuration

     G     GSFAQS Startup Definitions
     P           Console PFKEY Definitions
     M           Message Definitions
     C           Command Definitions

     R     REXX Imod Initialization and Tailoring
     E     Event Definitions
     O     FAQS Online Command Definition and Maintenance
     A     CICS Auto Print Initialization
     B     Automation Point Definition and Maintenance

 PF01=Help PF03=Return PF12=Exit
```

GSFAQS Startup Initialization

This section describes GSFAQS Startup Initialization.

What Is Unicenter CA-FAQS ASO Startup?

The Unicenter CA-FAQS ASO Startup Definition panels enable you to initialize selected components of GSFAQS and to update Unicenter CA-FAQS ASO.

Unicenter CA-FAQS ASO Definition and Unicenter CA-FAQS ASO

You can define Unicenter CA-FAQS ASO parameters by using:

- Unicenter CA-FAQS ASO commands (entered by a GSFAQS jobstream or on the system console)
- Unicenter CA-FAQS ASO STARTUP command
- Unicenter CA-FAQS ASO panels

The fields on the Unicenter CA-FAQS ASO panels correspond to GSFAQS commands.

Displaying GSFAQS Startup Files

With Unicenter CA-FAQS ASO, you can define how to initialize GSFAQS. In GSFAQS, use the GSFAQS STARTUP command to include a startup file created by Unicenter CA-FAQS ASO.

Accessing the GSFAQS Startup Definition Panels

To access the GSFAQS Startup Definition panels, select the Initialization and Configuration option on the Unicenter CA-FAQS ASO Main Menu. From the Initialization and Configuration Menu, select the GSFAQS Startup Definitions option.

GSFAQS Startup File Directory List

The GSFAQS Startup File Directory List is the first panel displayed when you select the GSFAQS Startup Definitions Option on the Unicenter CA-FAQS ASO Initialization and Configuration Menu.

The following is an example of the GSFAQS Startup File Directory List:

```
FAOMENUG.G ** Unicenter CA-FAQS ASO Online 5.0-0203**      ID=DEV12345.ABC
===>
** Unicenter CA-FAQS ASO -- GSFAQS Startup File Directory List **   Key ==> * <==

   STARTUP FILE    RECORDS   UPDATE TIMESTAMP      LOAD TIMESTAMP
 _ DEVTST2              14   11/08/02 13.22.27     07/10/02 00.46.29
 _ DEVTSYS3             19   05/08/02 12.40.03     07/03/02 09.28.33
 _ ESA3TECH             16   06/24/02 07.14.19     06/25/02 00.03.22
 _ FAQSASO              14   02/28/02 13.19.40     05/30/02 10.18.45

   X=Edit L=Delete R=Rename C=Copy

  PF1=Help PF3=Return PF4=Refresh PF5=Add
```

The following list describes the types of information on the GSFAQS Startup File Directory List:

Key ==> <==

Criteria to display members. * alone displays all members. * as a wildcard replaces one or more characters in a member name. ? as a wildcard replaces one character.

_ (input)

Input field for valid commands:

X -- Edit

L -- Delete

R -- Rename

C -- Copy

STARTUP FILE

Filenames of defined startup files.

Modifying GSFAQS Startup Definitions

To edit a GSFAQS Startup Definition, type X in the input field of the file you want to edit, or place your cursor next to the file and press ENTER. A complete GSFAQS startup panel is displayed.

Deleting GSFAQS Startup Files

To delete a startup file, type L in the input field of the file you want to delete and press ENTER. The startup file is deleted and is displayed on the panel as deleted. Press PF4 to refresh the panel and remove the entry.

Renaming GSFAQS Startup Files

To rename a startup file, type R in the input field of the file you want to rename. The cursor tabs past the current file name. Type in the new file name and press ENTER. The startup file is renamed and the new name is displayed on the panel.

Copying GSFAQS Startup Files

Use the Copy command to copy a startup file that is similar or identical to an existing file. You can copy the existing startup file, make the necessary changes to the new file, and save it.

To copy a startup file, type C in the input field of the file you want to copy. The cursor tabs past the current file name. Type in the new file name and press ENTER. A message indicates the startup file was copied to the new name. Press PF4 to refresh the panel and edit the new file.

Adding GSFAQS Startup Files

To add a new file, press the Add PF key, or type A in the input field of any file and press ENTER. A blank GSFAQS Startup Definition panel is displayed. Fill in the fields of the GSFAQS Startup Definition panel. Include the name of the startup file you want to create in the FILE ==> field. Press PF5 (Update). The startup file you specified is created.

GSFAQS Startup Definition Panel (1)

The GSFAQS Startup Definition panel is displayed after you select the name of the GSFAQS member from the GSFAQS Startup File Directory List. The panel contains fields that you use to set up the GSFAQS start parameters.

The following is an example of the first panel of fields available for defining GSFAQS members:

```
 FAOMENUG.3 ** Unicenter CA-FAQS ASO Online 5.0-0203**      ID=DEV12345.ABC
===>
** Unicenter CA-FAQS ASO-Online GSFAQS Startup Definition ** FILE ==> FAQSASO <==
Enable AR Hook              ( X )      Auto pause on abend       ( _ )
Enable SMSG Hook            ( X )
Allow SMSG OP commands      ( X )
Enable Console Management   ( X )
Automation buffers (0-999)  (   9 )
                              Edit  Dir
Pfkey file   ==>  <===  ( _ )( _ )
Message file ==> FAQSASO  <===  ( _ )( _ )
Command file ==> FAQSASO  <===  ( _ )( _ )

Eoj Console Summary BG F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB  AR
                     X  X  X  X  X  X  X  X  X  X  X   X
                     C D E G H I J K L M N O P Q R S T U V W X Y Z
                     X X X X X X X X X X X X X X X X X X X X X X
            Place  (X)  all jobs  (L) option log  (A) for abend jobs
Sysout Archival     BG F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB  AR

                     C D E G H I J K L M N O P Q R S T U V W X Y Z

            Place  (X)  all jobs  (L) option log  (A) for abend jobs
  PF1=Field Help PF3=Return PF5=Update PF8=Forward
```

Input Field Values - Panel (1)

For all fields except EOJ Console Summary, you must enter either **X** or a blank. An X activates the command represented; a blank field deactivates the command represented. The values used for the EOJ Console Summary input fields are listed and described as follows.

FILE ==> <==

Displays the startup member that matches the filename between the arrows.

Enable AR Hook

Initializes the Unicenter CA-FAQS ASO Attention Routine exit. The AR exit:

- Enables you to run REXX IMODs from the console
- Provides line-end character support
- Enables you to define shorthand commands

Enable SMSG Hook

Initializes the Unicenter CA-FAQS ASO SMSG hook. The SMSG hook intercepts SMSGs to a VSE machine in order to execute a REXX IMOD.

Allow SMSG OP commands

Allows CMS users to execute AR commands and replies via SMSG. The SMSG hook must be enabled for this field to be meaningful.

Enable Console Management

Initializes the Unicenter CA-FAQS ASO console management feature (CLOG). The CLOG facility provides enhanced system console support, including:

- Message reply.
- Online and CMS user message routing.
- Message highlighting.
- Message retention.
- Message unhold.
- Message suppression.
- Console messages triggered by REXX IMODs.
- EOJ console reporting. The Unicenter CA-FAQS ASO EOJ console report is much more detailed than LISTLOG.
- Sysout archival.

Automation buffers (0-999)

This field allows you to specify 0-999 automation buffers. These buffers are allocated from PFIXed system GETVIS and are 4K in length. A buffer is divided into 256-byte segments and is shared by ASO for automation when a page fault is not acceptable. The default is 2. Functions that use these buffers are:

- Message actions that do a reply, execute a command, or run a REXX IMOD
- ASO REPLY
- SMSG support to run an IMOD
- Operator command
- GMF requests

The following messages may occur if this table fills up:

- GAO302E
- GAO309E
- GAO341

Auto pause on abend

Initializes automatic job pause for jobs that abend.

Pfkey file

The Pfkey file has no function on VSE/ESA 2.1 and higher.

Message file

Initializes the specified Unicenter CA-FAQS ASO message file that contains message-management definitions. The Edit and Dir fields allow you to edit a specific action file or view an Action File Directory List. Enter X in either field.

Command file

Initializes the specified Unicenter CA-FAQS ASO command file that contains user-defined commands or redefined system commands. The Edit and Dir fields allow you to edit a specific command file or view a Command File Directory List. Enter X in either field.

EOJ Console Summary

Defines partitions under which conditions are eligible for the Console Summary report printed after each job. AR indicates the attention routine. Enter:

A to select jobs that abend in the partition

L for jobs with // OPTION LOG specified in the partition

X for all jobs

Sysout Archival

Defines partitions under which conditions are eligible for Sysout Archival. AR indicates the attention routine. Enter:

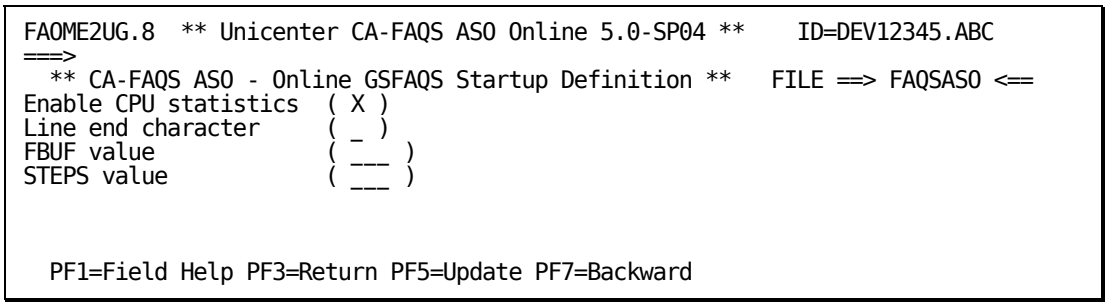
A to select jobs that abend in the partition

L for jobs with // OPTION LOG specified in the partition

X for all jobs

GSFAQS Startup Definition Panel (2)

The following is an example of the second panel of fields available for defining GSFAQS members:



```
FAOME2UG.8  ** Unicenter CA-FAQS ASO Online 5.0-SP04 **    ID=DEV12345.ABC
===>
  ** CA-FAQS ASO - Online GSFAQS Startup Definition **   FILE ==> FAQSASO <==
Enable CPU statistics  ( X )
Line end character     ( _ )
FBUF value             ( ___ )
STEPS value            ( ___ )


  PF1=Field Help PF3=Return PF5=Update PF7=Backward
```

Input Field Values - Panel (2)

For all fields, you must enter either X or a blank. An X activates the command represented; a blank field deactivates the command represented. The following are the values used for the Time Interval input field:

FILE ==> <==

Displays the startup member that matches the file name between the arrows.

Enable CPU statistics

Enables CPU %, PAGE IN, and PAGE OUT and POWER queue, data and account file statistics on the Unicenter CA-FAQS ASO 'D S,S' display and ASO J output. This field enables the system task to collect these statistics. Enter an ‘X’ to enable CPU statistics collection.

Line end Character

Specifies a character to be used to separate multiple commands entered together on the VSE console. To use, specify the line end character as the first character of the command and use it to separate each command. For example, if % is the line end character, entering the console command %ASO S%ASO J would execute the ASO S command followed by ASO J. The commands are actually entered by an IMOD running under FAQSAO.

FBUF value

Specify the space allocated for each partition to monitor phase loads if GSFAQS supports EOJ reporting. Enter the number of K to be allocated, YES for the default value of 512 bytes, or NO if phase-load monitoring is not to be enabled. This storage will be allocated in 31-bit system getvis. Every 1K of storage allocated allows room for about 28 entries.

STEPS value

Enter the number of job steps to be monitored for EOJ reporting if EOJ reporting is to be supported by GSFAQS, YES for the default of 8 job steps or NO if GSFAQS is not to support EOJ reporting. Each step requires about 60 bytes of 31-bit system getvis.

GSFAQS Console PF-Key Definitions

Console PF keys are no longer supported by Unicenter CA-FAQS ASO on VSE/ESA 2.1 and higher. To tailor PF keys for IBM consoles, see VSE/ESA Administration for information on the IJBDEF macro.

GSFAQS Message Definitions

The Unicenter CA-FAQS ASO GSFAQS message action panels enable you to automate your system and improve console messages.

Message actions may be set by the following methods:

- Message Action Definition panels
- AO LOAD MSG command
- JCL statements // OPTION MSG=
- GSFAQS command SET MSG=

For more information about setting up message actions for Unicenter CA-FAQS ASO, see the chapter, “Using GSFAQSHC.” And, for more information about setting up messages actions using the GSFAQS SET MSG= command, see the appendix, “GSFAQS Command Summary.”

GSFAQS Command Definitions

This section describes GSFAQS command definitions.

What Are User-Defined Console Commands?

With Unicenter CA-FAQS ASO you can define files that contain user-defined commands. The directory contains command files that can be loaded by:

- GSFAQS
- The Unicenter CA-FAQS ASO AO LOAD command
- The Load PF key (PF6) from the Command Directory List

Each file contains console commands that are intercepted from the AR (Attention Routine) and processed by Unicenter CA-FAQS ASO.

How to Use User-Defined Console Commands

User-defined console commands can be used to combine individual commands for GSFAQS. For example, you can:

- Create a REXX IMOD that defines issues a series of commands or displays some useful information
- Give that IMOD a command name
- Activate that command file using the COMMAND *filename* command in a GSFAQS job

Advantages of Defining Console Commands

You can specialize your use of GSFAQS even further by defining user-defined console commands. Some advantages include the ability to:

- Create synonyms for long commands
- Redefine system commands (for example, POWER command)
- Create REXX IMODs to permit complex operations
- Create REXX IMODs to make intelligent decisions

Defining and Initializing Console Command Files

Use the following panels to define user-defined console command files:

- Console Command File Directory List
- Console Command Directory List
- Console Command Definition

Initializing Console Command Files

Initializing a console command file loads it into the SVA and thereby makes the file the current definition. There are numerous ways to initialize console command files. Use one or more of the following to initialize console command files:

- **COMMAND** command in GSFAQS. For information about this command, see the appendix "GSFAQS Command Summary."
- **STARTUP** command in GSFAQS. For information about this command, see the appendix "GSFAQS Command Summary."
- **AO LOAD** operator command. Use the AO LIST CMD command to list what command files are available.
- **Load** PF key on the Command Directory List. Information about this PF key is provided later in this chapter.

Before you can use user-defined console commands, you must enable AO. Use the ENABLE AO command as described in the chapter, "FAQSAO."

Listing and Modifying Console Command Files

There are two ways to list the defined console command files:

- Use the Console Command File Directory List.
- Issue the Operator command AO LIST CMD.

Console Command File Directory List

The Console Command File Directory List is the first panel displayed when you select the Command Definitions option on the Unicenter CA-FAQS ASO Initialization and Configuration menu.

The Console Command File Directory List serves as a:

- List of the defined command files
- Menu where you select (edit) files
- Means to delete, rename, copy, or add files

The following is an example of the Console Command File Directory List:

```
FAOMENUC.C ** Unicenter CA-FAQS ASO Online 5.0-0203**  ID=DEV12345.ABC
=>
** Unicenter CA-FAQS ASO--Console Command File Directory List **  Key ==> * <==

  COMMAND FILE    RECORDS   UPDATE TIMESTAMP      LOAD TIMESTAMP
_ AOSAMPLE             17   01/11/02 10.12.09     00/00/00 00.00.00
_ FAQSAO               15   09/06/01 11.38.58     09/01/01 17.13.37
_ MARY2                 7   01/09/02 18.37.38     00/00/00 00.00.00
_ SFAQSAO              17   01/11/01 10.10.15     00/00/00 00.00.00
_ TEST                 19   12/06/01 12.57.17     12/22/01 09.43.55
_ TRW                   2   10/17/01 12.40.45     12/22/01 09.43.55



 X=Edit L=Delete R=Rename C=Copy

 PF1=Help PF3=Return PF4=Refresh PF5=Add PF6=Current def
```

Console Command File Directory List Fields

The following fields are found on the Console Command File Directory List.

Key ==> <==

Criteria to display command files:

- An asterisk (*) alone displays all files.
- An asterisk (*) as a wildcard replaces one or more characters of a filename.

_ (input)

Input field for valid commands:

X Edit

L Delete

R Rename

C Copy

COMMAND FILE

Command filename, up to eight characters.

Modifying Console Command Files

To edit a console command file, type **X** in the input field of the file you want to edit, or place you cursor next to the file and press ENTER. This panel displays a complete list of the commands defined to the console command file.

Deleting a Console Command File

To delete a console command file, type **L** in the input field of the file you want to delete and press ENTER. The command file is deleted and displays on the panel as deleted. Press PF4 to refresh the panel and remove the entry.

Renaming a Console Command File

To rename a console command file, type **R** in the input field of the file you want to rename. The cursor tabs past the current filename. Type in the new filename, and press ENTER. The command file is renamed and the new name is displayed on the panel.

Copying a Console Command File

Use the Copy command to create a console command file that is similar (but not identical) to an existing command file. You can copy the existing command file, make the necessary changes to the new file, and save it.

To copy a console command file, type C in the input field of the file you want to copy. The cursor tabs past the current filename. Type the new filename and press ENTER. A message indicates that the command file was copied to the new name. Press PF4 to refresh the panel and edit the new file.

Adding a Console Command File

To add a new console command file, press the Add PF key, or type **A** next to any command file and press ENTER. A blank Command Definition panel is displayed. Fill in the fields of the Command Definition panel. Include the name of the command file you want to create in the FILE ==> field. Press PF5 (Add). The command file you specified is created. The file contains the command you just defined.

Listing Console Command Files

There are two ways to list the commands contained in a console command file. You can use:

- The Command Directory List panel.
- The operator command AO LIST CMD.

Console Commands Directory List

The Console Commands Directory List is a subdirectory of the Command File Directory List. It is displayed after selecting a command from the Console Command File Directory List and it displays the commands contained in each individual command file. You can have multiple commands in each command file.

The Console Commands Directory List serves as a:

- List of the console commands defined for the file
- Menu where you select files to edit
- Means to delete, rename, copy, or add files

The following is an example of the Console Commands Directory List:

```
FAOMENUC.0   ** Unicenter CA-FAQS ASO Online 5.0-0203**  ID=DEV12345.ABC
=>
** Unicenter CA-FAQS ASO--Console Commands Directory List ** FILE ==> FAQSAO   <==
                                                          KEY==>            <=
  Console Command LOG Function:  GOAL IMOD or Command
_ $MSG              N IMOD=$MSG
_ ADDRESS           N IMOD=ADDRESS
_ CONSOLE           N IMOD=CONSOLE
_ CP                N IMOD=CP
_ FAQS              N CMD=PRTY J
_ JOBNAME           N IMOD=JOBNAME
_ MESSAGE           N IMOD=MESSAGE
_ PA                N IMOD=PA
_ PHASE             N IMOD=PHASE
_ POST              N IMOD=POST
_ POWER             N IMOD=POWER
_ PWRCMD            N IMOD=PWRCMD
_ QT                N IMOD=TIME
_ RDR               N CMD=D RDR
_ READCONS          N IMOD=READCONS
_ REPLYID           N IMOD=REPLID
_

 X=Edit L=Delete A=Add

  PF1=Help PF3=Return PF4=Refresh PF5=IMOD Menu PF6=Load PF8=Fwd
```

Console Commands Directory List Fields

The following fields identify specific command instructions:

FILE ==> <==

Displays only the commands that are in the file named between the arrows.

Key ==> <==

Criteria to display command files:

- An asterisk (*) alone displays all files.
- An asterisk (*) as a wildcard replaces one or more characters of a filename.

_ (input)

Input field for valid commands:

X Edit

L Delete

R Rename

C Copy

Unique Console Commands Directory List PF Keys

The PF keys are:

PF5 (IMOD Menu)

Displays the REXX IMOD File Directory List.

PF6 (Load)

Loads the file you are viewing into the SVA. This file becomes the current definition.

Modifying Console Commands

This section describes how to modify console commands.

Deleting a Console Command

To delete a console command from the Console Commands Directory List, type **L** in the input field of the file you want to delete and press ENTER. The command is deleted and displayed on the panel as deleted. Press PF4 to refresh the panel and remove the entry. Press PF6 to load the modified command file.

Adding a Console Command

You can add a command from the Console Commands Directory List in either of the following ways:

To add a brand-new command, enter **A** in the input field of any command. A blank Console Command Definition panel is displayed. Fill in the fields on this panel. Press PF5 (Save). The command is added to the current file.

To edit a console command similar to the desired command, enter **X** in the input field of a command. A Console Command Definition panel is displayed. Modify the Command Name ===> on this panel. Make any other changes to the command and press the Save PF key. The command is added to the current file.

Editing a Console Command

To edit a command from the Console Commands Directory List, enter X in the input field of the command you want to edit. The Command Definition panel is displayed. Change the desired fields on this panel. Press PF5 (Save). The command is updated in the edited command file.

Console Command Definition Panel

A Console Command Definition panel is displayed after you select a command from the Console Commands Directory List.

The following is an example of the Console Command Definition panel:

```
FAOMENUC.O    ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEV12345.ABC
=>
   ** Unicenter CA-FAQS ASO--Console Command Definition ** FILE ==> CONSOLE  <==

   COMMAND   ==> CONSOLE      <== Console command to intercept

                YES   NO
   LOG Command  (   ) ( X )

                     Run an REXX IMOD for the COMMAND
 EDIT
  _ IMOD ==> CONSOLE <==     REXX exec to execute
  _ Args ==> _               Old style Args

                   Replace COMMAND with the CMD below
 ==>                                                              <==

  PF1=Help PF3=Return PF5=Save PF6=IMOD DIRECTORY
```

Console Command Definition Panel Fields

FILE ==> <==

Displays only the command information for the console command named between the arrows. This field may be modified to copy a command to another file.

COMMAND ==>

Specifies the name of the console command to intercept. Enter the new command to be intercepted by AR (1 to 12 characters). It should not start with a numeric character. A plus sign (+) is used as a generic character. For example, a command defined as T+ could be used to reply to all dynamic partitions in class T.

LOG Command

Not used on ESA 2.1 and above. Instead "* ASO" is displayed on the console to indicate that a Unicenter CA-FAQS ASO console command was executed.

Run a REXX IMOD

If you specify an IMOD, you cannot use the "Replace command" field.

_IMOD ==>

The area to the right of the ==> prompt specifies the IMOD to execute when this command is intercepted. (Press PF6 for a directory list of all IMODs currently written.)

Enter X before IMOD to access the IMOD Edit panel for the specified IMOD.

Args ==> _

Indicates how information is passed to IMODs via REXX ARGS. This field is provided for upward compatibility with older versions of Unicenter CA-FAQS ASO. If this field is specified, the entire command (as entered on the console) is passed to the IMOD as ARG1. This information, while useful, is not compatible with normal operations of REXX.

In normal operation mode, only the original command *args* are passed to the IMOD. All other information is available through the ASOENV() REXX function. For a sample of this function, look at the REXX IMOD $ARG.

Replace COMMAND with the CMD below ==> <==

Specifies the console command to execute when the command in the COMMAND field is intercepted.

To specify multiple commands, use the line-end character between commands. The PFKEY Definition panel defines the line-end character. For more information, see the appendix, "Communicating Between VSE and VM."

If you use this field, you *cannot* use the IMOD field.

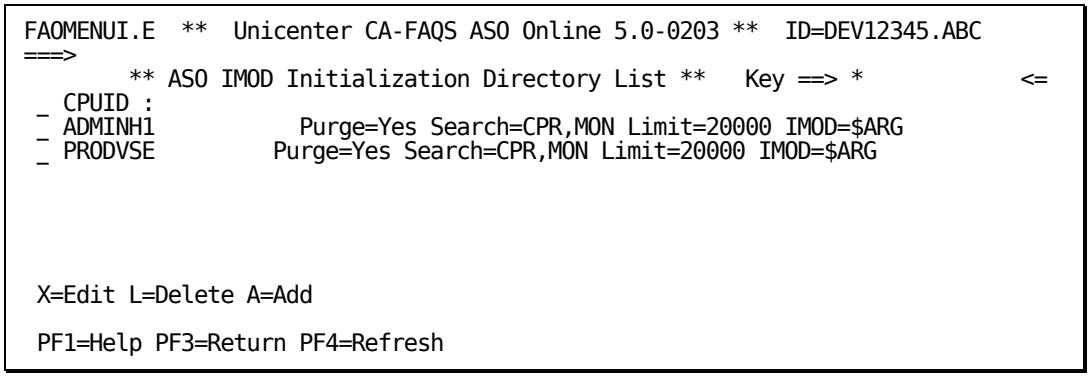
REXX IMOD Initialization

When the FAQSAO task is initialized, the AOINIT IMOD is executed. AOINIT looks for initialization and configuration data for a particular CPU ID or a default file of *. Initialization and configuration data is defined on the Unicenter CA-FAQS ASO IMOD Initialization Directory List.

For more information about setting up REXX IMODs, see the section on initialization options in the *CA-GSS for VSE REXX User Guide*.

Accessing the IMOD Initialization Directory List

From the Unicenter CA-FAQS ASO Initialization and Configuration Menu, select the REXX IMOD Initialization and Tailoring option (option R) to display the ASO IMOD Initialization Directory List.



The Action and PF-Key Functions are:

A Add a REXX IMOD Initialization

L Delete a defined REXX IMOD Initialization

X Edit a defined REXX IMOD Initialization

PF1 Access help information for this screen

PF3 Return to the previous screen

PF4 Refresh the current display

IMOD Configuration Screen

From the ASO IMOD Initialization Directory List, use the action codes to access the IMOD Configuration Screen.

For example, to edit a specific initialized CPU ID, enter **X** in the input field next to the desired CPU ID to display the IMOD Configuration screen for that CPU. You can alter information by typing over existing information; then press PF5 to save.

To add a new initialized CPU ID, enter **A** in the input field next to any CPU ID. A blank IMOD Configuration screen is displayed, shown next.

```
FAOMENUI.M ** Unicenter CA-FAQS ASO Online 5.0-0203 **         ID=DEV12345.ABC
===>
      ** ASO -- IMOD Configuration **         CPUID ==> ADMINH1 <==


   CPUID  ==> ADMINH1  <== CPUID or VM ID or use * for any CPU

   Purge Queue    ( X )  Purge any IMODs in queue at initialization
   Extended Dump  (   )  Produce extended dumps on abend
   Trace/Say exit (   )  Use MSG not MSGNOH on SMSG initiated IMODS.

   Instruction limit = 20000      Number of REXX instructions to allow
   Imod search chain = CPR , MON  PDS IMOD search order xxx,MON or MON,xxx

   Auto IMOD Execution:
    Imod      Data
     $ARG      XX


  PF1=Help PF3=Return PF5=Save
```

The fields are:

CPUID

The CPU ID or VM machine name where the FAQSAO task is initiated. The CPU ID '*' allows the file to be loaded on any CPU if a matching CPUID or VM machine name is not found. The CPU ID can be modified on the screen to enable you to copy an entry to a new or existing file.

Purge

Indicates whether or not AOINIT purges outstanding IMODs queued for execution when FAQSAO is initialized.

Ext Dmp

Indicates whether or not extended dumps are on when FAQSAO is initialized. Ext Dmp should be off unless requested by Computer Associates Technical Support.

Limit

Indicates the number of REXX instructions to allow in an IMOD execution. Setting a limit enables you to prevent loops that can be coded in an IMOD. When the limit is reached, the IMOD is canceled. If this field is set to *, infinite loops can be coded.

Imod search chain

Specifies PDSs to search for IMODs. A maximum of two IMODs can be specified as search targets.

MON is the default.

Unicenter CA-FAQS ASO searches the specified PDSs in the order in which they appear in this search chain. For example, specifying Imod search chain=CPR, MON means that the SYS$CPR PDS is searched first, then the SYS$MON PDS. This PDS will be searched in addition to any PDSs specified in the CA-GSS Rexx configuration option panels.

IMOD

Indicates one or two IMODs to initialize. You can pass optional data to the IMODs.

Event Definition

Unicenter CA-FAQS ASO can run REXX IMODs that are triggered via GEM (Global Event Manager) from other Computer Associates products. Events are defined by a panel shared between Unicenter CA-FAQS ASO and Unicenter CA-FAQS PCS. This allows for system compatibility if one or the other products is licensed at a later date.

What Is an Event?

An event is a set of conditions that, when met, executes a command. An event can be something as simple as a time of day or as complicated as a time of day, a day of the week, and three jobs completing.

When you define an event, you name it and describe its conditions. For example, you could name an event JOB2TIME and describe the conditions for the event as after 1:00 P.M. and JOB1 has completed.

Event Posting

An event is complete (posted) and its command executed when one of the following occurs:

- The conditions of the event are met (Unicenter CA-FAQS PCS only).
- A Computer Associates product says the event occurred (posts an event).

Posting an Event from another Computer Associates Product

The following table lists the other Computer Associates products that can post events. It also describes how an event is posted with the product.

Product	How It Posts an Event
Unicenter CA-FAQS PCS	Executes the POST command for the event.
Unicenter CA-Explore Performance Management for VSE (hereafter called Unicenter CA-Explore for VSE)	Uses the Threshold panel. Unicenter CA-Explore can post an event when one of its thresholds is satisfied, for example, if CPU utilization is getting too high or too low.
Unicenter CA-Explore Performance Management for CICS (hereafter called Unicenter CA-Explore for CICS)	Uses the Threshold panel. See Unicenter CA-Explore for VSE above.
BrightStor CA-MASTERCAT VSAM Catalog Management for VSE) (hereafter called BrightStor CA-MASTERCAT)	Executes a POST event-name control statement by using the BrightStor CA-MASTERCAT batch facility.

Defining Events

With Unicenter CA-FAQS ASO, you can define events for Unicenter CA-FAQS PCS and for Unicenter CA-FAQS ASO. Defining events for either product uses the same set of panels.

Event Execution

Unicenter CA-FAQS PCS is a full-command event scheduling product. Unicenter CA-FAQS PCS schedules events by:

- Date
- Time
- Calendar

If you are running Unicenter CA-FAQS PCS, it receives all event-posting commands. Events defined for Unicenter CA-FAQS PCS are acted on by Unicenter CA-FAQS PCS. Events defined for Unicenter CA-FAQS ASO are passed to Unicenter CA-FAQS ASO and acted on by Unicenter CA-FAQS ASO.

If you are not running Unicenter CA-FAQS PCS, Unicenter CA-FAQS ASO receives all event-posting commands. Events defined for Unicenter CA-FAQS PCS are ignored. Events defined for Unicenter CA-FAQS ASO are acted on.

When Unicenter CA-FAQS PCS is initialized, it checks the Unicenter CA-FAQS ASO event file for event definitions for Unicenter CA-FAQS PCS. These events are added to Unicenter CA-FAQS PCS's master event file.

Defining Unicenter CA-FAQS PCS Events

Defining Unicenter CA-FAQS PCS events by using Unicenter CA-FAQS ASO is identical to defining Unicenter CA-FAQS PCS events by using Unicenter CA-FAQS PCS. Unicenter CA-FAQS PCS event definition is not explained in this manual. For more information on defining Unicenter CA-FAQS PCS events, see the *Unicenter CA-FAQS PCS Operations Guide*.

Unicenter CA-FAQS ASO gives you a central place where you can define events for your entire system.

Events defined for Unicenter CA-FAQS PCS can be used by Unicenter CA-FAQS PCS only.

Defining Unicenter CA-FAQS ASO Events

While using Unicenter CA-FAQS ASO Online, you can define events that:

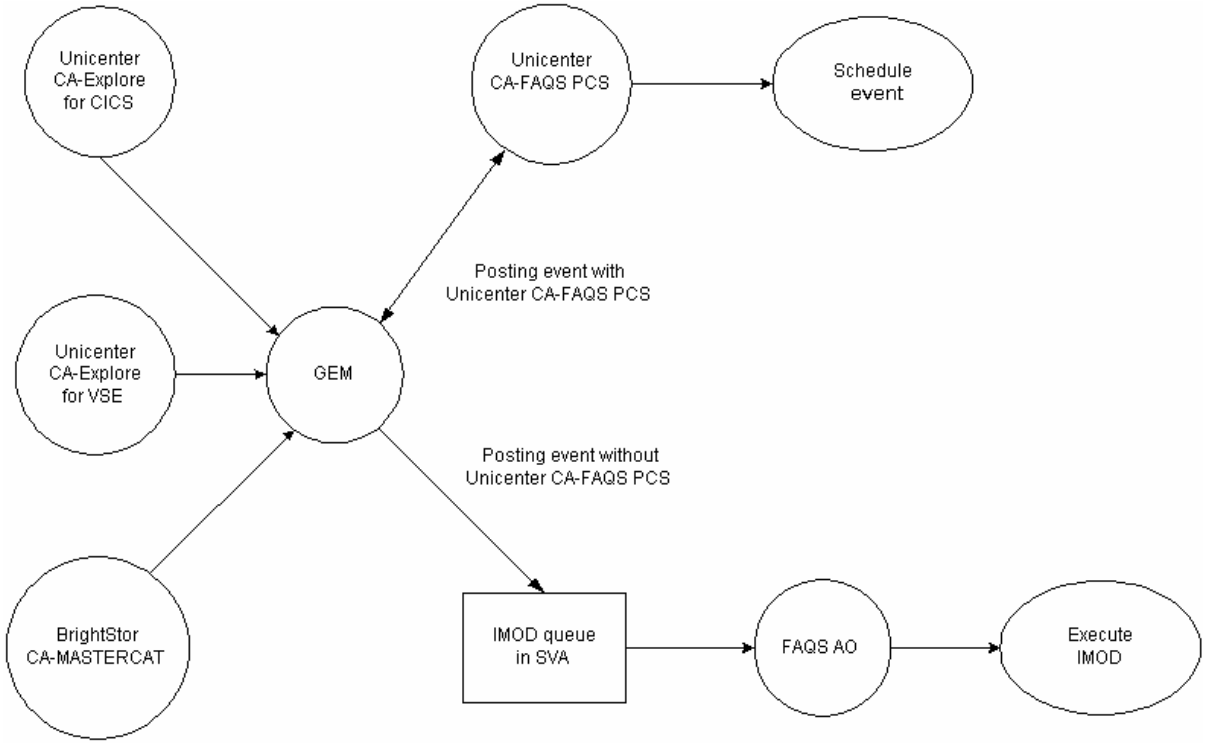
- Are posted by other CA-products
- Execute REXX IMODs

If you are not using the Unicenter CA-FAQS PCS product, only the following event definition fields can be used:

- Event name
- Description
- Command (must be in &AO imodname format)
- Event CPU ID (entered by the system)
- WHEN conditions (only PROD= with VSAMMCV, EXPV or EXPC)

Flow of Event Posting

The following graphic depicts a flow of events being posted:

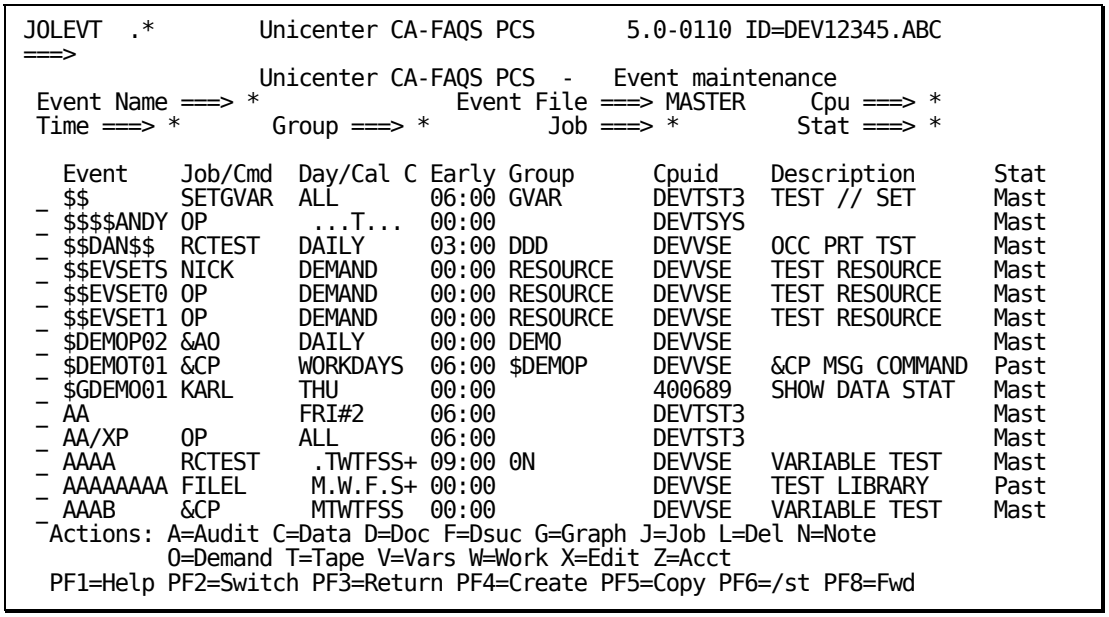


Listing Defined Events

The Event Directory List displays all events defined for Unicenter CA-FAQS ASO. If you are running Unicenter CA-FAQS PCS, it also lists all events defined for Unicenter CA-FAQS PCS.

Display the Event Directory List by selecting the Event Definitions option from the Unicenter CA-FAQS ASO Initialization and Configuration Menu.

The following is an example of the Event Directory List:



```
JOLEVT  .*        Unicenter CA-FAQS PCS       5.0-0110 ID=DEV12345.ABC
===>
                  Unicenter CA-FAQS PCS  -   Event maintenance
 Event Name ===> *               Event File ===> MASTER     Cpu ===> *
 Time ===> *       Group ===> *          Job ===> *         Stat ===> *

   Event    Job/Cmd  Day/Cal C Early Group      Cpuid    Description      Stat
 _ $$       SETGVAR  ALL       06:00 GVAR       DEVTST3  TEST // SET      Mast
 _ $$$$ANDY OP        ...T...  00:00            DEVTSYS                   Mast
 _ $$DAN$$  RCTEST   DAILY     03:00 DDD        DEVVSE   OCC PRT TST      Mast
 _ $$EVSETS NICK     DEMAND    00:00 RESOURCE   DEVVSE   TEST RESOURCE    Mast
 _ $$EVSET0 OP       DEMAND    00:00 RESOURCE   DEVVSE   TEST RESOURCE    Mast
 _ $$EVSET1 OP       DEMAND    00:00 RESOURCE   DEVVSE   TEST RESOURCE    Mast
 _ $DEMOP02 &AO      DAILY     00:00 DEMO       DEVVSE                    Mast
 _ $DEMOT01 &CP      WORKDAYS  06:00 $DEMOP     DEVVSE   &CP MSG COMMAND  Past
 _ $GDEMO01 KARL     THU       00:00            400689   SHOW DATA STAT   Mast
 _ AA                FRI#2     06:00            DEVTST3                   Mast
 _ AA/XP    OP       ALL       06:00            DEVTST3                   Mast
 _ AAAA     RCTEST    .TWTFSS+ 09:00 0N         DEVVSE   VARIABLE TEST    Mast
 _ AAAAAAAA FILEL     M.W.F.S+ 00:00            DEVVSE   TEST LIBRARY     Past
 _ AAAB     &CP       MTWTFSS  00:00            DEVVSE   VARIABLE TEST    Mast
 Actions: A=Audit C=Data D=Doc F=Dsuc G=Graph J=Job L=Del N=Note
          O=Demand T=Tape V=Vars W=Work X=Edit Z=Acct
  PF1=Help PF2=Switch PF3=Return PF4=Create PF5=Copy PF6=/st PF8=Fwd
```

Event Directory List Fields (Top)

The following fields are at the top of the Event Directory List. Provide the following information to list the corresponding event(s).

Event name ===>

Specifies event name. An asterisk (*) can replace one or more characters. An asterisk alone displays all files.

Event File ===>

Specifies event file. Only MASTER is available with Unicenter CA-FAQS ASO.

CPU ===>

Identifies the CPU ID.

Time ===>

Specifies early time. Only an asterisk (*) is available with Unicenter CA-FAQS ASO.

Group ===>

Identifies a specific group.

Job ===>

Executes the specified procedure. Only an asterisk (*) is available with Unicenter CA-FAQS ASO.

Stat ===>

Displays events having this current status. Only Mast is available with Unicenter CA-FAQS ASO.

Event Directory List Fields (Middle)

The following fields are in the middle of the Event Directory List. These fields display the events that correspond to the information provided in the top section.

_ (input field)

Use this field to specify the action to perform against the event file. Valid values are:

X Edit

L Delete

R Rename

C Copy

Event

Name of the event.

Job/Cmd

Name of the job that runs or the command that is issued.

Day/Cal

Days on which the event can occur.

C

Indicates how the days were specified in the Day/Cal field.

Early

Earliest time the event can occur.

Late

Latest time the event can occur.

Abort

Time at which the event will terminate.

Cpuid

ID of the CPU on which the event executes.

Description

Short description of the event.

Stat

Status of the event. Only Mast is available for Unicenter CA-FAQS ASO which means the event is in the master event file.

Deleting, Adding, and Modifying Event Definitions

Events can be deleted, added, or modified from the Event Directory List or the Event Maintenance panel.

Deleting an Event Using the Event Directory List

To delete an event, type L in the input field of the event name you want to delete and press ENTER. The event is deleted and the panel is refreshed.

Adding an Event Using the Event Directory List

1. Access the Event Directory list by selecting the Event Definitions option from the Unicenter CA-FAQS ASO Main Menu.
2. Press the Create PF key. A blank Event Maintenance panel is displayed.
3. Fill in the fields of the Event Maintenance panel:

   Event Name

   A unique event name.

   Description

   An event description.

   Command

   The only valid command without Unicenter CA-FAQS PCS is &AO. This command has the format **&AO** *imod args*. *args* can be any data you want passed to the IMOD or a ?. The product that posts the event also passes some data.
4. Press PF4 (Update). The event is added to the event file you are working in. If the IMOD does not exist, you are taken into the EDITOR to create the IMOD. If you are not ready to create an IMOD, add a REXX comment similar to the following:

   ```
   /* REXX IMOD */
   ```
5. Enter **FILE** on the command line. The Event Maintenance panel is displayed. Press PF4 (Update).

Editing an Event

To edit an event, type X in the input field of the event you want to edit, or place the cursor next to the member, and press ENTER. A new panel is displayed. This panel is a full screen display of the event.

Event Maintenance Panel

The Event Maintenance panel is displayed after you have selected the name of an event from the Event Directory List.

The panel contains fields which enable you to define an event.

The following is an example of the Event Maintenance panel:

```
JOLEVT  .4        Unicenter CA-FAQS PCS       5.0-0110 ID=DEV12345.ABC
===>
          ** Event Maintenance for File=MASTER  --- Status=Past   **
   Event Name  ===> $DEMOT01              Group Name  ===> $DEMOP
   Description ===> &CP MSG COMMAND       Event Hold  ===> Y
   Event Cpuid ===> DEVVSE                ABND RC     ===> 0004
   Command     ===> &CP MSG NICK THIS IS A TEST OF $DMOT01
   CSPD        ===> ____                  Target Node ===>

   Early Time  ===> 0600                  Late Time  ===> 2955
   Abort Time  ===> 2955            XDATE OR ¬  MTWTFSS   CYCLE H Hol-id  W
   Event Day   ===> WORKDAYS          ___   _  _ _______   000   _   000   _
   Occurrences ===> 005                     Frequency  ===> 0001
   Start Date  ===> 91/01/01                End Date   ===> 93/05/05

   When Cond.  ===> N                       Successors ===> Y
   Variables   ===> N                       Data Sets  ===> N
   Tape Reels  ===> 00                      Cartridges ===> 00
   Resources   ===> N                       Excl type  ===>
   Exclude     ===> ____________________ ____ ____ ____ ____ ____ ____ ____
   PF1=Hlp PF2=Tra PF3=Ret PF4=Upd PF5=New PF8=Fwd PF9=Del PF10=When PF11=For
```

Event Maintenance Panel Fields

The following fields on the Event Maintenance panel are relevant to Unicenter CA-FAQS ASO:

Event Name

Name of the event. You specify the Unicenter CA-FAQS ASO setting.

Description

Optional. Short (15-character) description of the event. You specify the Unicenter CA-FAQS ASO setting.

Event Cpuid

ID of the CPU the event is to be scheduled on. The Unicenter CA-FAQS ASO setting is the current CPU ID.

Command

REXX IMOD to execute when all the conditions of the event are met. Type &AO, a space, and an IMOD name. For example, &AO FAQS. Type an X in the input field and press ENTER to edit the named REXX IMOD. The IMOD must exist before the EVENT may be filed. You specify the Unicenter CA-FAQS ASO setting.

When Cond.

You must specify Y and press PF10 to make this event available for execution. For GSFAQS events, only posting from another Computer Associates product is a valid WHEN condition. Type PROD=product-code. Computer Associates products that can post events include:

- Unicenter CA-Explore for CICS (PROD code is EXPC)
- Unicenter CA-Explore for VSE (PROD code is EVSE)
- BrightStor CA-MASTERCAT (PROD code is VSAMMCV)

You specify the Unicenter CA-FAQS ASO setting.

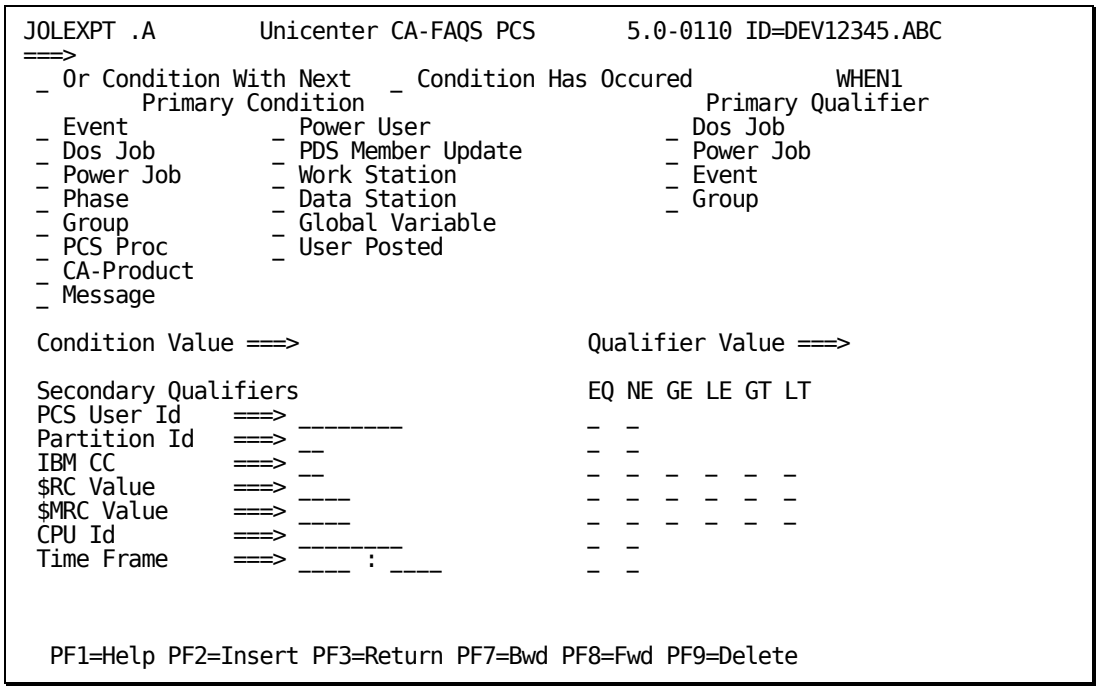
Target Node

GMF name of a GMF-enabled node with which your VSE system can communicate.

This name must appear in the GMF names table for your VSE system. This table is contained in the GSSLUSRV.B member in PRD2.CONFIG. You specify the Unicenter CA-FAQS ASO setting.

Defining WHEN Condition

The following is an example of the WHEN Condition panel you can access from the Event Maintenance panel by pressing PF10 (When):



Online Command Definition

From the Unicenter CA-FAQS ASO Online Command Definition panel, you can define the following types of commands:

- Unicenter CA-FAQS ASO online commands
- Fast paths into a menu panel
- REXX IMODs that will display on a user's terminal

For more information about setting up Unicenter CA-FAQS ASO online command files, see the U*nicenter CA-FAQS ASO Online User Guide*.

CICS Auto Print Initialization

The CICS Print Auto Initialization Directory List enables you to view all CPUs that are initialized. For each CPU defined, the class, timer, printer, and forms information is also displayed.

CICS auto print support is enabled by a match on the CPU ID when the FAQSAO task is enabled. You can specify an interval for the $PWRPRNT IMOD to look for members to spool to CICS.

For more information about setting up automatic initialization options for CICS Auto Print support, see the *CA-GSS for VSE CPR User Guide*.

Unicenter Automation Point Definition

You can use a PC to detect online conditions in Unicenter CA-FAQS ASO and have the PC initiate actions to respond to those conditions. For example, you can set a condition in GSFAQS that instructs the PC to detect when a particular event occurs. When that event occurs, you can have the PC call a list of users. Once reached successfully, users can call and receive a voice message telling them how to respond to the GSFAQS condition.

Hardware requirements: You must have a PC, modem, and connection to the mainframe.

How Unicenter Automation Point Works

When Unicenter Automation Point is running and communicating with either Unicenter CA-FAQS ASO or Unicenter CA-FAQS PCS, the Unicenter CA-FAQS products can tell the PC to take an action depending on conditions that occur on the mainframe.

The PC interrogates the mainframe at user-defined intervals. If the mainframe does not respond, the PC assumes that the system is down and takes whatever actions are defined to the PC for Unicenter Automation Point condition 00.

How Conditions Are Triggered

Conditions are triggered by executing the $BEEPER IMOD with the parameters of SET *nn*, where *nn* is the associated Unicenter Automation Point condition. When the PC interrogates the mainframe, and one of these conditions has occurred, the mainframe sends the condition along with the PC data filename and a possible initial message for the PC to use for this action. Once the PC has processed the condition, the mainframe resets the condition and waits for another condition to occur.

$BEEPER IMOD

$BEEPER, a REXX IMOD, determines whether a user-defined mainframe condition exists and activates Unicenter Automation Point. $BEEPER passes on a user-defined mainframe condition ID to the PC interface. Your PC then activates the relevant user-defined message associated with a particular mainframe condition.

Note: Do not attempt to modify the $BEEPER IMOD. If you modify $BEEPER, you will disable Unicenter Automation Point.

$BEEPER can be triggered in two different ways:

- Directly, by a user-defined mainframe condition
- Indirectly, through $BEEPASO

$BEEPASO

$BEEPASO checks to see whether certain user-defined conditions for initiating Unicenter Automation Point are met before any telephone calls are placed or messages logged by your PC.

$BEEPASO also checks to see which list of telephone numbers (if any) you want your PC to call. $BEEPASO allows you to specify different lists of numbers to be called for different sets of conditions.

For example, you have an incident on a nonworking holiday and you do not want Unicenter Automation Point to activate your regular weekday call list. $BEEPASO will recognize this condition and this call list will not be activated for this holiday. In this example, you could specify that only a particular supervisor or systems programmer be called on nonworking holidays.

$BEEPASO, as it is shipped to you, is a sample implementation of the $BEEPER IMOD. You may modify $BEEPASO to meet your operating needs.

How $BEEPASO Triggers $BEEPER

The following process shows how $BEEPASO works to trigger the $BEEPER IMOD. $BEEPASO triggers the $BEEPER IMOD if one of your user-defined conditions satisfies its condition checklist.

Stage	$BEEPASO Action	$BEEPASO Result
1	Gets shift information about time of day, day of the week, and date	Decides whether it is a workday, non-workday, or a holiday
2	Checks to see what triggered it	Chooses from: ■ Console message ■ AR command ■ SMSG ■ Mainframe event
3	Decides which user-defined PC call list to activate	Sets the condition ID
4	Triggers $BEEPER IMOD	$BEEPER IMOD passes condition ID to the PC interface

For more information about Unicenter Automation Point, see the *Unicenter Automation Point User Guide*.

Viewing Unicenter Automation Point Conditions

To access the Unicenter Automation Point Condition Status panel, take the following steps:

1. From the Unicenter CA-FAQS ASO Main Menu, select the Initialization and Configuration option. The Initialization and Configuration Menu is displayed.
2. From the Initialization and Configuration Menu, select the Unicenter Automation Point Definition and Maintenance option. The Unicenter Automation Point Condition Status panel is displayed.

Unicenter Automation Point Condition Status Panel

The Unicenter Automation Point Condition Status panel displays all Unicenter Automation Point conditions defined on the system. A maximum of 99 Unicenter Automation Point conditions can be defined. The following is an example of the Unicenter Automation Point Condition Status panel:

```
JOLBEEP .J        Unicenter CA-FAQS PCS       5.0-0110 ID=DEVCICS4.D08001
===>
             **Unicenter Automation Point Condition Status **

     Mainframe Down Condition ===> ON
     Cond S PC Call List              Description

    _  02    TECH1                    test









    L=Delete  R=Reset  U=Update
   PF1=Help PF3=Return PF4=Add PF5=Terminal Def
```

Information Fields

The following are the Unicenter Automation Point Condition Status panel fields:

Mainframe Down Condition ===>

Instructs the PC to detect and report when the mainframe goes down. If the value is ON, the PC takes the appropriate action when the mainframe is down. If the value is OFF, the PC ignores the mainframe down condition. OFF is useful during a scheduled IPL.

Cond

Unicenter Automation Point condition number. This condition is satisfied by the $BEEPER IMOD.

S

Status of the condition. A value of S indicates that the condition has occurred and that the PC has not yet processed the condition.

PC Call List

Call list file on the PC that tells the PC who to call when the specified Unicenter Automation Point condition occurs on the mainframe.

Description

Brief description of the Unicenter Automation Point condition.

Actions and PF-Key Functions

The following table explains the actions and PF keys on the Unicenter Automation Point Condition Status panel:

L

Deletes a Unicenter Automation Point condition

R

Resets a Unicenter Automation Point condition

U

Updates a Unicenter Automation Point condition

PF4

Adds a Unicenter Automation Point condition

PF5

Accesses the terminal definition list

Defining Unicenter Automation Point Conditions

You can define a maximum of 99 conditions for the PC to detect on the mainframe. When the PC is set to watch the mainframe, it looks for the conditions you define on the Unicenter Automation Point Definition panel and acts on those conditions, once they occur. How the PC reacts depends on the call list, the call ID, and the voice data that is supplied as part of the definition.

The Unicenter Automation Point Definition panel enables you to define detailed documentation about a condition in addition to actually defining the condition.

You may want to document the conditions that trigger this Unicenter Automation Point condition, and the desired function performed when triggered--for example, who is contacted.

To update the information defined on this panel, press PF4 to save the definitions to disk.

Accessing the Unicenter Automation Point Definition Panel

To access the Unicenter Automation Point Definition panel, take the following steps:

1. From the Unicenter CA-FAQS ASO Main Menu, select the Initialization and Configuration option. The Initialization and Configuration Menu is displayed.
2. From the Initialization and Configuration Menu, select the Unicenter Automation Point Definition and Maintenance option. The Unicenter Automation Point Condition Status panel is displayed.
3. From the Unicenter Automation Point Condition Status panel, press PF4 to add a Unicenter Automation Point condition. You can also enter R or U in the input field of a Unicenter Automation Point condition to access the Unicenter Automation Point Definition panel.

The following is an example of the Unicenter Automation Point Definition panel:

```
OLBEEP .u        Unicenter CA-FAQS PCS       5.0-0110 ID=DEVCICS4.D08001
===>
              **Unicenter Automation Point Definition Panel **

     Condition ID   ===> 02
     PC Call List   ===> TECH1_____________________
     Description    ===> test_____________________________________
     Voice Data
     THIS IS A TEST_____________________________________________________

                          Free Form Description
  ===>
  ===>
  ===>
  ===>
  ===>
  ===>
  ===>
  PF1=Help PF3=Return PF4=Update
```

Input Fields

The following input fields are on the Unicenter Automation Point Definition panel.

Condition ID ===>

Associates the condition to a specific Unicenter Automation Point number. Values can be 01-99. Value 00 is reserved for internal use only.

PC Call List ===>

Specifies the call list that the PC should use. The call list can contain 1-10 users to call when the PC detects that a particular condition has occurred. Value can be a maximum of 25 alphanumeric characters.

Description ===>

Text to be displayed on the Unicenter Automation Point Condition Status panel and used to describe the Unicenter Automation Point condition. Value can be a maximum of 25 characters.

Voice Data ===>

Allows pre-defined voice messages to be sent to a call list. Numbers outside of parentheses are associated with a predefined message. If undefined data is to be sent, enclose this in parentheses. Data enclosed in parentheses is spoken character by character. This data can also contain variables that are resolved at post time and sent to the PC. For example, MESSAGE(1Q47I) JUST OCCURED AT (&TIME) expands to the following voice message: "Message 1 Q 4 7 I occurred at twelve o'clock."

Defining the Terminal Address

To use the PC interface, you must provide an address for the BTAM terminal session. DCMTDRIV initiates the BTAM terminal session for the specified address.

Accessing the Unicenter Automation Point Automatic Initiation Definition Panel

To access the Unicenter Automation Point Automatic Initiation Definition panel, take the following steps:

1. From the Unicenter CA-FAQS ASO Main Menu, select the Initialization and Configuration option. The Initialization and Configuration Menu is displayed.
2. From the Initialization and Configuration Menu, select the Unicenter Automation Point Definition and Maintenance option. The Unicenter Automation Point Condition Status panel is displayed.
3. From the Unicenter Automation Point Condition Status panel, press PF5. The Unicenter Automation Point Automatic Initiation Definition panel is displayed.

The following is an example of the Unicenter Automation Point Automatic Initiation Definition panel:

```
DCMTDRVB.*  **  CA-GSS - Terminal Driver 5.0-0208**   ID=DEVCICS4.D08001
===>

               ** FAQS/CALL Automatic Initiation Definition **



      Local BTAM Terminal Address  ===> 000
```

Local BTAM Terminal Address

The value supplied in the Local BTAM Terminal Address field is used by DCMTDRIV to initiate a BTAM terminal session for the specified address for the PC interface. Values can be SYSnnn or a specific CUA. To save the terminal address defined on this panel to disk, press PF4 (Update).

SYSOUT Archival Files

This section discusses setting up and maintaining SYSOUT archival files. For more information on viewing archive files online, see the *Unicenter CA-FAQS ASO Online User Guide*.

Defining SYSOUT Archival Files

The SYSOUT Archival facility is used to capture end-of-job console reports and save them in the SYS$ARC PDS for online viewing. You can delete and browse SYSOUT files using line commands. You can also search for SYSOUT files or refresh the current menu display with PF keys.

Requirements

You must allocate the SYS$ARC file prior to enabling SYSOUT archival. If you already have SYS$ARC allocated because of previous product installations, you do not need to reallocate it. For more information on allocating and defining the SYS$ARC PDS file, see the *Unicenter CA-FAQS ASO Getting Started Guide*.

Activation

The fields in the Unicenter CA-FAQS ASO startup file are used to initialize the Unicenter CA-FAQS ASO SYSOUT archival facility. These can be maintained online using the GSFAQS Startup Definition panel (shortcut AO I.G). For details, see GSFAQS Startup Definition Panel (1).

Maintaining SYSOUT Archival Files

Because SYSOUT archival accumulates and archives all end-of-job summary reports, you will need to maintain the volume of archival files kept and prevent the SYS$ARC PDS from running out of space.

If you get the message *GFF390 SYS$ARC - 75 percent full, nnnnnn DATA BLOCKS, and nnnnn USED BLOCKS*, you can use and modify a REXX EXEC designed to automatically maintain the number of SYSOUT archival files. For a description of the REXX EXEC that performs SYSOUT file maintenance, see the following section. For more information about making backups and formatting, see the *Unicenter CA-FAQS ASO and Unicenter CA-FAQS PCS Getting Started* and the *CA-GSS for VSE Getting Started*.

$SYSOUT REXX IMOD

Unicenter CA-FAQS ASO supplies a REXX IMOD called $SYSOUT.OAL to do such maintenance. This EXEC can be triggered using a console command or the following message:

```
GFF390 SYS$ARC -75 percent full, nnnnnn DATA BLOCKS, and nnnnn USED
BLOCKS.
```

This IMOD can be viewed and edited online using Unicenter CA-FAQS PCS or Unicenter CA-FAQS ASO IMOD maintenance panels or from the ASO command line using the .U= editor command or the X command supplied in the FAQSASO sample online command file. The comments at the start of the exec show the format of the parameters that can be supplied:

```
/*********************************************************************/
/* $SYSOUT  REXX PROCEDURE: CREATED 12/07/01  BY BOB SMITH           */
/*                                                                   */
/* This IMOD is designed to maintain the sysout archival members.    */
/* It can be trigered via an console command or a message 'GFF390'   */
/* FAQS/ASO is shipped with a A/R command "$SYSOUT" in the FAQSASO   */
/* command file.                                                     */
/*                                                                   */
/*                                                                   */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=mm/dd/yy              */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=(mm/dd/yy,mm/dd/yy)   */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=(*-5,*)               */
/*                                                                   */
/*                                                                   */
/* To use European date format, use the following format:            */
/*                                                                   */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=(dd/mm/yy)            */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=(dd/mm/yy,dd/mm/yy)   */
/* $SYSOUT DELETE MAXRC<=xx jobname=xxxxx DATE=(*-5,*)               */
/*                                                                   */
/*********************************************************************/
```

The IMOD, by default, deletes all SYSOUT archival files older than two days with MRC=0. You can modify the exec, but note that a GSSUTIL INSTALL will overlay modified any IMODs.

SYSOUTMSG & SYSOUTMSG2 Action

The action *SYSOUTMSG* is supplied in the sample FAQSASO message action file which can be accessed online on the Message Management panels (AO I.M) By default this message action is set to execute $SYSOUT.OAL when the GFF390 message occurs. SYSOUTMSG2 is supplied to take more drastic action when the SYS$ARC file is 90 percent or more filled.

Console Command

The sample FAQSASO console command file includes a SYSOUT command that can be executed from the Unicenter CA-FAQS ASO Online command line or from a VSE/ESA console.

Chapter 3: Defining Message Management

This chapter explains how to define action files to manage console messages.

Unicenter CA-FAQS ASO message management enables you to make the system respond to situations, rather than having to handle them yourself.

With Unicenter CA-FAQS ASO you can define action files that respond to console messages. These action files are read by GSFAQS.

Message management includes:

- Message highlighting
- Message reply
- Message retention
- Message routing
- Message suppression
- Message unhold
- AR, POWER, and VTAM command processing as a result of a message
- REXX IMOD execution as a result of a message

Directing Console Activity through Messages

Using Unicenter CA-FAQS ASO message management, you can reduce your workload by setting up actions that execute in response to message occurrences.

Message Highlighting

Message highlighting causes any messages that match a designated message type or partition to be highlighted on the VSE system console for easy viewing. All JOB statements, EOJ statements, cancel messages, or any other type of exceptional console activity can be highlighted on the system console.

With VSE/ESA 2.1, Unicenter CA-FAQS ASO provides console filtering as the way to perform message highlighting on individual consoles. For information about console filtering, see the *Unicenter CA-FAQS ASO Online User Guide*.

Message Reply

Message reply issues replies, AR commands, or POWER commands from GSFAQS based on specified selection criteria. Message reply allows better throughput on production and test systems by replying to a job as soon as a reply is needed. The job no longer waits for an operator to reply manually.

Replies to partitions can be stacked by using the ASO REPLY pid command. The actual reply ID will be generated by GSFAQS, allowing subtask replies to be handled as well. This allows the operator to pre-answer anticipated replies to currently running jobs. Stacked replies can be cleared with the ASO REPLY CANCEL (or ASO REPLY CLEAR) command and viewed with the ASO MSG REPLY command.

Example	**Reply ID**
ASO REPLY BG	0000
ASO REPLY F2 DELETE	0002 DELETE
ASO REPLY F7 IGNORE	0007 IGNORE
ASO REPLY CANCEL	Clears table
ASO REPLY CLEAR BG	Clears table for BG only
ASO MSG REPLY	Show pending replies

Message Retention

Message retention causes console messages that match a specified message ID, jobname, phase name, time range, or partition ID to be held on the current console display until deleted by the operator. In this way, critical messages that would normally be lost during console update are retained. On VSE/ESA 2.x, IBM console support deletes held console messages at EOJ. It is possible to have the messages written from AR. Contact Technical Support for help in setting this up.

With VSE/ESA 2.1, Unicenter CA-FAQS ASO provides console filtering as the way to perform message retention for individual consoles. For information about console filtering, see the *Unicenter CA-FAQS ASO Online User Guide*.

Message Routing

Message routing allows specified messages to be routed to a CMS user via VM MSG, MSGNOH, SMSG, or RSCS support. Through message routing, specific CMS users can be notified when critical conditions occur.

Message Suppression

Message suppression enables the user to specify any message or class of console activity to be suppressed from the current console display. You can prevent unnecessary or nuisance messages from cluttering the current console. These messages are printed on the hardcopy file.

With VSE/ESA 2.1, Unicenter CA-FAQS ASO provides console filtering as the way to perform message suppression on individual consoles. For more information on console filtering, see the *Unicenter CA-FAQS ASO Online User Guide*.

Message Unhold

Message unhold enables you to unhold messages from the current console display--that is, to let these messages scroll off the console as it is updated. In this way, the console is kept from being burdened with less critical partitions or messages.

With VSE/ESA 2.1, Unicenter CA-FAQS ASO provides console filtering as the way to perform message unhold for individual consoles. For more information about console filtering, see the *Unicenter CA-FAQS ASO Online User Guide*.

Defining and Initializing Message Management

With Unicenter CA-FAQS ASO, you can manage messages automatically by defining files that contain actions to be performed in response to specified messages.

The files you define are called action files. The definitions the files contain are actions.

Defining Actions

There are three ways to define automatic actions for messages. You can use the:

- // OPTION MSG=parameter statement. For information about this statement, see the next section, //OPTION MSG Parameters.
- SET MSG command in GSFAQS. For information about this command, see the appendix, GSFAQS Command Summary.
- Action File Directory List, Action Directory List, and Action Definition panels. These panels are described in the section, Listing Action Files.

Initializing Action Files

Initializing an action file loads it into the SVA, making the file the current definition. Use one or more of the following to initialize action files:

- STARTUP command in GSFAQS to access an action file defined in Unicenter CA-FAQS ASO. For information about this command, see the appendix, GSFAQS Command Summary.
- MESSAGE command in GSFAQS. For information about this command, see the appendix, GSFAQS Command Summary.
- AO LOAD operator command on any console. Use the AO LIST command to list available action files.
- PF6 key on file List panel

// OPTION MSG Parameters

You can use // OPTION MSG statements in jobstreams. // OPTION MSG is an IBM job control statement and cannot be continued (one line only). In the statement // OPTION MSG=parameter, you can specify any one of the following for parameter:

```
ACTION,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,REP='reply',STOP
ACTION,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,CMD='command',STOP
`HI,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,STOP
HOLD,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,STOP
MASK,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,MASK=(+o,l,f),STOP
MSG,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,U=userid,STOP
MSGNOH,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,U=userid,STOP
SUPP,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,STOP
RSCS,M='msgid',S=(n,n),M2='xxxx',S2=(n,n),C=nn,U=userid,R=rscsid,N=node
id,STOP
```

// OPTION MSG Keyword Abbreviations

The keyword abbreviations used in the // OPTION MSG=parameter statements correspond to the following keywords:

Abbreviation	Keyword
C	Count
CMD	Command
M	Mid
M2	Mid2
N	Node

Abbreviation	Keyword
R	Rscs
REP	Reply
S	Scan
S2	Scan2
U	User

// OPTION MSG Keywords

The various // OPTION MSG=parameter statements make use of the following keywords.

CMD

Specifies that an AR command is to be issued. Can be up to 72 characters. If CMD is specified, REP is not available. See also the section, Substitution.

Count

Defines the number of matches that can occur on the entry. When the specified number of matches occurs, the entry is removed from the system. The default is one match. If Count is not specified, any number of matches can occur. If the entry should always match, specify Count=*.

MASK

Specifies the offset to mask the current message. The offset can be a positive or negative, relative to the column where the Mid was located. The len value is the length to mask. The fill value is the mask character. For example, if PW= is located in column 8, the mask length is 4, and the mask character is @ (+3,4,@), the following will result:

```
01 BG 000 ID=BOB,PW=FAQS
01 BG 000 ID=BOB,PW=@@@@
```

Mid

Specifies the message identifier (Mid) for a single message or a group of messages. Can be up to eight characters. If the message ID contains one or more blanks, enclose it in single quotes. To define a specific message, enter it exactly as it will appear on the console. A Mid of 'JOB' highlights all JOB statements, and a Mid of 'EOJ' highlights all EOJ statements. Messages with a common identifier can be grouped using the following generic notation:

+ (plus sign)

Position is ignored.

< (less-than sign)

Position must be alphabetic.

= (equal sign)

Position must be numeric.

For example, the messages 0P24I, 0P18I, 0P08A, and 0P11D can be defined with a generic definition of 0P==<.

Mid2

Specifies a secondary message identifier when a match occurs on the primary message identifier (Mid). Can be up to eight characters. Mid2 enables you to specify equivalence or nonequivalence. If the Mid contains one or more blanks, enclose it in single quotes. To define a specific message, enter it exactly as it will appear on the console. Messages with a common identifier can be grouped using the following generic notation:

+ (plus sign)

Position is ignored.

< (less-than sign)

Position must be alphabetic.

= (equal sign)

Position must be numeric.

Node

Specifies an eight-character RSCS node ID to which to route the specified message.

REP

Specifies the reply that is made, which can be up to 72 characters. For example, if the reply was for BG, '0000' would be supplied. If REP is specified, CMD is not available. See also the next section, Substitution.

Rscs

Specifies the VM RSCS machine name. Normally, this is RSCS.

Scan

Defines the start column and the maximum number of characters to search on each console line to find the defined Mid. The scan begins at the first position following the partition ID and the reply ID on the line.

If Scan=(1,1) is applied to the entry, the Mid must start at the beginning of the line. To search past the first message, code Scan=(1,n), where n represents the number of additional characters to check. Note that additional overhead is involved when the search limit is extended since each console line must be checked. If the Scan parameter is omitted, Scan=(1,1) is assumed.

Scan2

Defines the start column and the maximum number of characters to search on each console line to find the defined Mid2. The scan begins at the first position following the partition ID and the reply ID on the line. If Scan2=(1,1) is applied to the entry, the Mid2 must start at the beginning of the line. To search past the first message, code Scan2=(1,n), where n represents the number of additional characters to check. Note that additional overhead is involved when the search limit is extended since each console line must be checked. If the Scan parameter is omitted, Scan2=(1,1) is assumed.

STOP

Stops the scan search once the Notify, IMOD, Reply, or Command actions that are enabled for this message have been processed. Normally, a scan performs all possible actions for a message. However, sometimes it may be desirable to stop the scan (thus saving overhead) if no further action is expected for the message.

User

Specifies the VM virtual machine to which to route the specified message.

Substitution

REP and CMD support substitution of data with the following variables. The resulting command cannot exceed 72 characters or it will be truncated.

&P

Substitute the partition ID. For example, BG.

&V

Substitute the virtual machine name.

&J

Substitute the partition jobname.

&(r,l)

Substitute the data from the message located at relocation factor r, for a length of l.

&R

Substitute the task's replid. For example 0000.

Listing Action Files

There are two ways to list the defined action files. You can use:

- The Action File Directory List.
- The Operator command AO LIST CMD.

Action File Directory List

The Action File Directory List is the first panel displayed when you select the Message Definitions option (M) on the Unicenter CA-FAQS ASO Initialization and Configuration Menu. The Action File Directory List serves as a:

- List of the defined action files
- Menu where you can select files to edit
- Means to delete, rename, copy, or add files

The following is an example of the Action File Directory List:

```
 FAOMENUM.M     ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEVVSE.PROFILE
===>
 ** Unicenter CA-FAQS ASO--Console Action File Directory List ** Key ==> *  <==

   ACTION FILE     RECORDS   UPDATE TIMESTAMP      LOAD TIMESTAMP
 _ AREND                16   06/09/02 08.18.47     06/09/02 08.18.53
 _ BOBTEST               3   06/29/02 06.05.40     06/29/02 06.05.57
 _ EXAMPLES              2   09/19/02 11.55.44     09/19/02 11.55.48
 _ FAQSAO               11   09/10/02 16.25.09     10/02/02 21.53.28
 _ FAQSASO              13   08/06/02 12.24.27     08/06/02 12.13.11
 _ TESTWW                1   05/05/02 09.16.24     05/05/02 09.16.35
 _ XXX                   2   04/20/02 16.07.35     04/20/02 15.45.52
 _ YYY                  21   10/27/02 12.06.29     04/30/02 16.31.49
 _




  X=Edit L=Delete R=Rename C=Copy A=Add P=Print

  PF1=Help PF3=Return PF4=Refresh PF5=Add PF6=Current Def
```

Action File Directory List Fields

The Action File Directory List contains the following fields:

Key ==> <==

Criteria to display action files. An asterisk (*) alone displays all files. An asterisk (*) as a wildcard character replaces one or more characters of a filename. A question mark (?) as a wildcard character replaces one character of a file name.

_ (input field)

Input field for valid commands:

X Edit

L Delete

R Rename

C Copy

A Add

P Print

ACTION FILE

Action filename, up to 8 characters.

Modifying Action Files

To edit an action file, type **X** in the input field of the action file you want to edit, or place the cursor next to the file and press ENTER. A list of the actions defined to the action file is displayed.

Deleting an Action File

To delete an action file, type an **L** in the input field of the action file you want to delete and press ENTER.

The action file is deleted and displayed on the panel as deleted. Press PF4 to refresh the panel and remove the entry.

Renaming an Action File

To rename an action file, type **R** in the input field of the action file you want to rename. The cursor tabs past the current file name. Type in the new file name and press ENTER. The action file is renamed and the new name is displayed on the panel.

Copying an Action File

Use the Copy command to create an action file that is very similar (but not identical) to an existing action file. You can copy the existing action file, make the necessary changes to the new file, and save it.

To copy an action file, type C in the input field of the action file you want to copy. The cursor tabs past the current file name. Type the new filename and press ENTER. A message indicates the action file was copied to the new name. Press PF4 to refresh the panel and edit the new file.

Adding an Action File

To add a new action file, press the Add PF key, or type an **A** next to any action file, and press ENTER. A blank Action Definition panel is displayed. Fill in the fields. Include the name of the action file you want to create in the FILE ===> field. Press PF5 (Save). The action file you specified is created. The file contains the action you just defined.

Printing an Action File

Action files can be printed by a batch job. The entries are explained in English language format rather than card or panel format. To print an action file, type **P** in the input field of the action file you want to print. A new panel is displayed specifying the file you want to print. Press PF5 to submit the file for a batch print job (FAQSUTIL). Press PF6 to create job card information.

Listing, Editing, and Modifying Actions

There are three ways to list the actions contained in an action file. You can use:

- The Action Directory List panel.
- The Unicenter CA-FAQS ASO AR command ASO MSG.
- The operator command AO LIST ACTION.

Action Directory List

The Action Directory List lists the components (arbitrary action names) of individual action files and sample displays of the files' actions. It is a subdirectory list of the Action File Directory List. To display the Action Directory List, select an action file from the Action File Directory List. The Action Directory List serves as the following:

- List of the actions defined for the file
- Means to load an action file for testing
- Menu where you select actions to edit
- Means to delete and add actions

The following is an example of the Action Directory List:

```
FAOMENUM.F    ** Unicenter CA-FAQS ASO Online V4.6.x **       ID=DEVVSE.PROFILE
===>
  ** Unicenter CA-FAQS ASO--Console Action Directory List ** FILE ==> AREND <==
                                                        Key ==> *            <=
   Action Name       Function:
_ AR01              CMD M=(EOJ)
_ AR02              CMD M=(EOJ)
_ EOJ               High,IMOD M=(EOJ)
_ HIIBM             High M=(0<==<)
_ JOB               High,IMOD M=(// JOB)
_ LIBR-SHAREDV      Reply M=(L2828)
_ POWERFORMS        High,CMD M=(1Q40A)
_ PW=               Mask M=(PW+)
_ REPLYDEL          Reply M=(4444D) M2¬(PROD)
_ SUPPRESS          Supp M=(1I40I)
_ SYSOUTMSG         IMOD M=(GFF390)
_ SYSOUTMSG2        CMD M=(GFF390) M2=(09=)
_ VTAM IST105I      IMOD M=(IST105I)
_ VTAM 5B05I        IMOD M=(5B05I)
_ 1S78I             IMOD M=(1S78I)
 X=Edit L=Delete A=add
 PF1=Help PF3=Return PF4=Refresh PF5=PRINT PF6=Load File
```

Action Directory List Fields

The following fields are on the list that identify specific actions.

FILE ==> <==

Displays only the actions contained in the file named between the arrows. You may switch to a new file simply by over-typing the file specified in this field and pressing ENTER.

Key ==> <==

Criteria to display action files. An asterisk (*) alone displays all files. An asterisk (*) as a wildcard character represents one or more characters of a file name. A question mark (?) as a wild card character replaces one character of a file name.

_ (input field)

Action to perform against the action name:

X Edit

L Delete

A Add

Unique Directory List PF Keys

The following are the PF Keys:

PF5 (PRINT)

Displays ACTION Print panel. From this panel, you can submit a batch job to print a message explanation and message text. For an example of the output, see the report in the section, Printing Message with Explanation.

PF6 (Load File)

Loads the file into the SVA. The loaded file becomes the current definition.

Modifying Actions

You can modify actions.

Deleting an Action

To delete an action from the Action Directory List, type L in the input field of the action file you want to delete and press ENTER. The action is deleted and displayed on the panel as deleted. Press PF4 to refresh the panel and remove the entry. Press PF6 to load the modified action file.

Adding an Action

You can add an entry from the Action Directory List in two ways. You can:

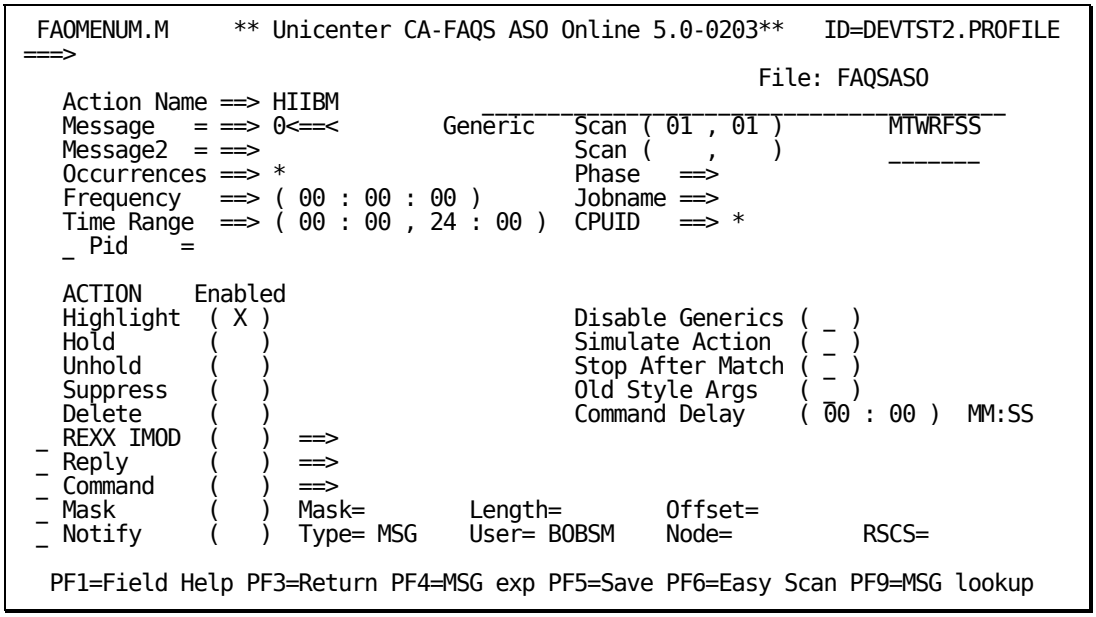
- Add a brand-new entry. Type A in the input field of any action. A blank Console Action Definition panel is displayed. Fill in the fields on the Action Definition panel. Press PF5 (Save). The action is added to the current file.
- Edit an action that is similar to your desired action. Type X in the input field of an action and press ENTER. A Console Action Definition panel is displayed. Modify the Action Name ===> on the Action Definition panel. Make any other changes to the action and press PF5 (Save). The action is added to the current file.

Editing an Action

Type X in the input field of the action you want to edit. The Action Definition panel is displayed. Change the desired fields. Press PF5 (Save). The action is updated in the edited file.

Information about accessing additional fields for managing the Unicenter CA-FAQS ASO-Manager database is provided later in this chapter.

The following is an example of the Action Definition panel:



Unique Action Definition Panel PF Keys

The following are the PF keys:

PF1 (Help)

This panel has individual help panels for each input field. Pressing PF1 displays a help panel for any input field that the cursor is on. If the cursor is not on an input field, a generic help panel is displayed.

PF4 (MSG exp)

Gives an English language explanation of when this action will trigger and what will happen.

PF6 (Easy Scan)

Accesses the Easy Scan Panel used to establish scan start points and ranges

PF9 (MSG lookup)

Attempts to look up the message defined in the IBM IESMSGS file. Pressing this PF key displays message text, message explanation, system action, programmer response, and operator response.

Action Definition Panel: Criteria Input Fields

Use the following fields to determine the messages, partitions, and phases that will be affected by the actions defined in the second half of the Action Definition panel.

FILE ==> <==

The 1-to-8-character name of the file that contains this action. To move the action to another file, change this filename.

Action Name

The 1-to-12-character name that uniquely identifies this action within the message file.

Message =

The 1-to-12-character primary ID of the message(s) that will trigger this action.

= or ¬ indicates whether the message text should equal this ID.

The following special characters support generics in this field:

+ (plus sign)

Match any character

= (equal sign)

Match any numeric character

< (less-than sign)

Match any alpha character

Scan

Indicates where (starting column) in the message to scan, and how many columns to search. You can use the Easy Scan PF key (PF6) to access a scan definition panel to set up scan ranges.

Message2 =

The 1-to-12-character secondary ID of the message(s) that will trigger this action. This secondary message ID is used to further qualify a message--for example, you could specify an action to occur based on what user ID, volume ID, or cuu is found in the message.

= or ¬ indicates whether the message text should equal this ID.

The following special characters support generics in this field:

+ (plus sign)

Match any character

= (equal sign)

Match any numeric character

< (less-than sign)

Match any alpha character

Scan

Indicates where (starting column) in the message to scan, and how many columns to search. You can use the Easy Scan PF key (PF6) to access a scan definition panel to set up scan ranges.

Pids

Partition IDs affected. Values are AR, BG, or F1-FB or any dynamic classes or partitions.

= or ¬ indicates whether the messages it scans for should equal the ID indicated in this field.

You can specify or exclude dynamic partitions (C1, W6) or partition classes. Valid partition classes are Cx through Zx, where x can be any alphanumeric character.

Occurrences

The maximum number of times the action can occur.

Phase

The phase affected.

Frequency

The maximum number of minutes between occurrences.

Jobname

The name of the job affected.

MTWRFSS

The days of the week on which the action is valid. Type X under the day or days of the week to make the action valid on those days.

Time Range

The time range in which the action can occur.

CPUID

A VM Machine name, or the last 6 characters of the CPUID for a non-VM machine. For example, if your CPU ID was 07400769, specify 400769 for the CPU ID. An asterisk (*) is generic for all CPU IDs.

Action Definition Panel: Action Control Fields

Provide information in the following fields to cause the system to initiate the actions you define.

Disable Generics

Enables you to disable generic message support for this action. If your message contains a plus sign (+), equal sign (=), or less-than sign (<), disable generics by entering X in this field so that a literal match can be made.

Simulate Action

Tests actions defined for IMODs, replies, and commands. All other actions will take place as normal. Enter X in this field to set your definition as a test definition.

When a test action is triggered for an IMOD, reply, or command, the action is not executed. Instead, AR handles them as follows:

- A reply or command action is printed on the console with a asterisk (*) prefixed to it.
- A REXX IMOD action is passed to the FAQSAO IMOD processor and logged on the console as:

  ```
  SIMULATE, IMOD=imodname ARGS=arguments
  ```

- *arguments* can be up to 60 characters of the IMOD arguments.

Stop After Match

Use the Stop After Match field to stop a message from activating on multiple message actions. Enabling Stop After Match reduces excess overhead since no more entries in the file will be checked.

Advanced uses include using this field in conjunction with Frequency and Occurrences. For example, you can have one action occur n number of times within the specified frequency. Once that has happened, another message action can be set up to do something else.

Old Style Args

Indicates how information is passed to IMODs via REXX ARGS. This field is provided for upward compatibility with Unicenter CA-FAQS ASO 3.2. If this field is specified, the following information is passed to the IMOD as ARG1: action name, partition ID, jobname, phase name, time, and message that triggered the IMOD. This information, while useful, is difficult to parse.

In normal operation mode, only the message and no more than one continued line is passed. All other information is available via the ASOENV() REXX function. For a sample of this function, see the REXX IMOD $ARG provided with Unicenter CA-FAQS ASO.

Command Delay

The amount of time in minutes and seconds to wait before issuing a specified command. This function can be used to delay actions that are triggered but Unicenter CA-FAQS ASO responds too quickly for the operating system.

'ASO:' may be written to the console to trigger delayed commands.

Action Definition Basic Message Actions

The following table describes some of the basic functions you can perform with the Action Definition panel. To enable any of these actions, enter X in the input field to the right of the action.

With VSE/ESA 2.1, Unicenter CA-FAQS ASO provides console filtering as the way to perform message highlighting, holding, and suppression for individual terminals. For more information about console filtering, see the *Unicenter CA-FAQS ASO Online User Guide*.

Action	**Function**
Highlight	Highlights the message identified in the action criteria at the top of the Action Definition panel.
Hold	Holds the defined message on the console display where it appears for operator intervention.
Unhold	Disables holding of a message on the console display. This is useful for setting up entire dynamic classes to be unheld.
Suppress	Suppresses the defined message from the console display but not from the hardcopy file.
Delete	Overlays the message line with blanks.

Action Definition Complex Message Actions

This part of the panel allows you to define more powerful actions which can affect more than the console display and hardcopy reports. For example, you can set up GSFAQS so that IMODs or commands execute as a result of a message. You can also make the system automatically reply to a message or notify CMS users.

You can enter all of the parameters for these actions directly on the Action Definition panel, or you can enter X in the input field of an action and press ENTER. An input panel is displayed where you can define each type of action.

Defining Complex Message Actions

The following table explains how to use the Action Definition panel to define actions.

Action	Option	Explanation
Mask	Offset	Number of characters to skip before beginning the mask. The default starts at the beginning of message.
	Length	Length of data to mask.
	Mask char	Character that types over (masks) data. Note that only messages can be masked, not replies.
Notify	Type	MSG, SMSG, MSGNOH, or RSCS. GMF is also available as an option.
	User	Required VM User ID.
	Node	Required VM target.
	RSCS	The RSCS ID. Required if you use RSCS notify type.
IMOD	IMOD name	The name of the IMOD to execute. You can either use an existing IMOD or create a new IMOD. To access a blank IMOD definition panel, type the name of a new IMOD. You cannot use an IMOD triggered by a message to delete a message, suppress a message, run another IMOD, or execute a command. This restriction is designed to prevent loops.

Action	Option	Explanation
IMOD	old style args	Indicates whether to pass to the IMOD the following information: Action name Partition ID Jobname Phase name Time Message that triggered the IMOD This information was passed with Version 3.2. With newer versions, only the message that triggers the IMOD is passed to the IMOD.
Reply	N/A	The reply for the specified message.
Command	N/A	The name of the command to execute. You can either use an existing command or create a new command.
	Command Delay	The amount of time to wait before issuing the specified command. Expressed in minutes and seconds. Delaying a command is useful when you know the system is not ready to process a response. For example, POWER produces the message 1Q40A FORMS NEEDED ON CUU, but it is not ready to accept the PGO command for several seconds after producing the message. Specifying a delay of 5 seconds before issuing the command allows POWER to prepare for the command.

Masking a Message

The following is an example of the Console MASK Definition Panel:

```
FAOMENUM.m      ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEVVSE.PROFILE
===>
             **  Unicenter CA-FAQS ASO Console MASK Definition **

   Offset    ==>         Enter Relative offset from location where Message
                         string is located, or else from start of Message
   Length    ==>         Length of data to mask
   Mask char ==>         Character to mask data


   SAMPLE:

   If we have a message on console as follows:

      18 BG 000 1Q47I JOB CARD READ PW=BOBSM

   And we select on PW= with offset +3 length 8  mask *  then:

x     18 BG 000 1Q47I JOB CARD READ PW=********


  PF3=Return
```

Mask Definition Fields

Message masking defines a message type to be masked permanently on the console display and the hardcopy file.

Three input fields are used to mask messages that appear on the system console:

Offset

Indicates the number of characters to skip (from the beginning of the message) before the masking begins.

Length

Indicates the number of mask characters to type.

Mask char

Identifies the character to use as the mask.

Replying to a Message

The Console Reply Definition panel allows you to enter a reply that is given upon the occurrence of the specified message.

A maximum of 72 characters can be specified. If no reply is indicated and the Reply option is enabled, an EOB is assumed.

```
FAOMENUM.r      ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEVVSE.PROFILE
===>
             **  Unicenter CA-FAQS ASO Console Reply  **

  Enter Reply
==>                                                                  <==

  Enter desired reply, the partition replid will be provided



  PF3=Return
```

Console Commands

The Console Command Definition panel allows you to enter an AR command to be executed upon the occurrence of the specified message.

A maximum of 72 characters can be specified. If this option is used, the Reply option cannot be used.

```
FAOMENUM.c    ** Unicenter CA-FAQS ASO Online 5.0-0203**       ID=DEVVSE.PROFILE
===>
             **  Unicenter CA-FAQS ASO Console Command Definition **

  Enter Command
==> R RDR,AR02                                                       <==

  Enter desired Attention Routine command




  PF3=Return
```

Additional Panels for Actions

This section describes additional Unicenter CA-FAQS ASO panels you can use.

Easy Scan

You can use the Easy Scan Panel to help make defining scan columns easier.

Easy Scan Panel - Message List

The Easy Scan Panel - Message List (accessed by pressing PF6 from the Action Definition Panel) displays the current console messages.

To locate a specific message or type of message:

- Use the MSG field to limit the messages displayed by the data they contain. This field does not respect scan columns defined. It simply displays all message that contain the specified MSG.
- Use the MSG2 field to further limit the messages displayed by the data they contain. You may use a not sign to indicate to not display messages that contain the MSG2 field. This field does not respect scan columns defined. It simply displays all messages that contain the specified MSG.
- Use the PID input field to limit the messages displayed by partition.

Sample Easy Scan Panel - Message List

Once you have the list of messages you want, place the cursor next to the message for which you want to set up scan ranges and press ENTER.

```
FAOMODEL.6      ** Unicenter CA-FAQS ASO Online 5.0-0203**    ID=DEVVSE.PROFILE
===>
                          ** FAQS -- Easy Scan **
      MSG  ==>               MSG2 ==> =                PID ==>

_  F7 023 It's just after twenty-five past four.                    16:27:20
_  F1 001 1Q34I  LST WAITING FOR WORK ON 00F                        16:27:19
_  F1 001 1Q34I   F8 WAITING FOR WORK                               16:27:19
_     DATE 10/04/02,CLOCK 16/27/18,DURATION   00/00/05              16:27:19
_  F8 008 EOJ GSEDITI   MAX.RETURN CODE=0000                        16:27:19
_  F7 023 This is the start of job number 24 since 4 Oct 1993 09:41:316:27:14
_  F7 023 Beeper condition 2 SET by $MSG ( // GSEDITI               16:27:14
_     DATE 10/04/02,CLOCK 16/27/12                                  16:27:14
_  F8 008 // JOB GSEDITI CATALOG TO S=PRODLIB.FAQSPCS USING GSEDITI VSELNK
_  F1 001 1Q47I   F8 GSEDITI 29869 FROM DEVVSE TO MERROW , TIME=16:27:12
_  F1 001 1Q34I  RDR WAITING FOR WORK ON 00C                        16:27:14
_  F7 023 It's almost a quarter past four.                          16:13:44
_  F1 001 1Q34I  LST WAITING FOR WORK ON 00F                        16:13:43
_  F1 001 1Q34I   F8 WAITING FOR WORK                               16:13:43
_     DATE 10/04/02,CLOCK 16/13/42,DURATION   00/00/07              16:13:43
_  F8 008 EOJ GSEDITI   MAX.RETURN CODE=0000                        16:13:43

 PF01=Help PF03=Return     X=Select MSG for Easy Scan
```

Criteria Definition Panel

The following is an example of the Easy Scan Criteria Definition panel. You can enter scan starting points and ranges by using the PF keys.

```
FAOMENMD.M     ** Unicenter CA-FAQS ASO Online 5.0-0203**         ID=DEVTST3.KJM
===>
                        ** Unicenter CA-FAQS ASO -- Easy Scan **
Required:
   Place your cursor on the first scan text and hit PF01
Optional:
   Place your cursor on the first scan Range column and hit PF02
         Note: this is the number of compares FAQS will do to find a match
               from first scan text column. Default is 1.

Optional:
   Place your cursor on the optional second scan text and hit PF04
   Place your cursor on the optional second scan Range column and hit PF05

 EXPC253I PROGRAMS ARE BEING DELETED FROM THE DYNAMIC STORAGE AREA


 MSG  ==>                   Scan (    ,    )


 MSG2 ==>                   Scan (    ,    )


 PF03=Return PF06=Commit to action panel
```

The previous example shows a scan of (1 , 1). A scan of (1 , 1) means that this is a normal message with its starting column fixed in column 1.

To create this panel, type X on the fourth line of the Easy Scan Message List and press ENTER. The Easy Scan panel is displayed with the message text. You can use the message text to trigger an action.

Starting Column

Note that because BG 000 is stripped, column 1 begins with the message ID, EOJ. To define the starting column for this message ID as column 1, place the cursor on EOJ and press PF1. Once you have defined the starting column for a message ID, the starting column will always be the same.

If you want the starting column to be either 1, 2, or 3, you would need a scan of (1 , 3). A scan of (1 , 3) tells Unicenter CA-FAQS ASO to make three compares, beginning at column 1, to see if EOJ is in a console message. Since an iterative compare loop is done on each console message, choosing a large second number for a scan results in excessive system overhead.

Secondary Scan

To generate the secondary scan in the previous example, place the cursor on the data string, CODE=0008 and press PF4. A (26 , 1) scan specifies that the string must occur in the message at column 26.

Often the secondary message ID is not in a fixed column. For example, if a message is built that contains a jobname, the data might begin in different columns. In this case, find the data at its lowest place and select that column as the starting column. Once you have done this, press PF5 to specify how far into the message the search string can start if other data is present. Since the messages checked in the secondary scan are pre-qualified, checking variable messages does not increase system overhead.

Saving Data

Once you are satisfied with your message scan definitions, press PF6 to save the data to the Message Action panel.

Easy Scan Criteria Definition PF Keys

The following are the PF keys.

PF01

Starting point for a primary scan when the cursor is placed on the first scan message text.

PF02

Range for a primary scan when the cursor is placed on the target scan range column. For example, if you want the primary scan to include data from the first column to the fifteenth column, move the cursor to the fifteenth position of the message and press PF2. This assumes the start position was the first column.

PF04

Starting point for a secondary scan when the cursor is placed on the second scan message text.

PF05

Range for a secondary scan when the cursor is placed on the target scan range column. For example, if you want the scan to include data from the first column to the fifteenth column, move the cursor to the fifteenth position of the message and press PF5. This assumes the start position was the first column.

Printing Message with Explanation

To print a hardcopy of any action file, access the ACTION Print panel. You can access this panel from the Console Action File Directory List panel by entering P in the command area next to the file, or you can press PF5 (PRINT) from the Console Action Directory List panel.

```
FAOPRINT.*    ** Unicenter CA-FAQS ASO Online 5.0-0203**      ID=DEVVSE.PROFILE
===>
                        **  ACTION Print **

 File ==>   AREND



  PF01=Help PF03=Return PF04=View Job PF05=Submit PF06=Job Info
```

From this panel, you can:

- Access an online menu with print job generation information by pressing PF6 (Job Info) from this panel.
- View the job to be submitted by pressing PF4 (View Job) from this panel.
- Submit the job by pressing PF5 (Submit) from this panel.

Message Explanation

The following is an example of the Action Explanation for Unicenter CA-FAQS ASO Console Action Definition panel. To access this panel, press PF4 from the Action Definition panel.

```
FAOMENUM.4     ** Unicenter CA-FAQS ASO Online 5.0-0203**     ID=DEVVSE.PROFILE
===>
   ** Action Explanation for Unicenter CA-FAQS ASO Console Action Definition **

 Action AR01 will trigger when:

   * Message "EOJ" occurs in column 1.

 When triggered, the following actions will occur:

   * The command "R RDR,AR02" will be issued to AR.


  PF3=Return PF7=Backward PF8=Forward
```

Message Lookup

The following is an example of the Message Display panel. To access this panel, press PF9 from the Action Definition panel.

```
                *** Unicenter CA-FAQS  - CA-FAQS/VSE MESSAGE DISPLAY ***

GFF390      SYS$ARC nnn PERCENT FULL, nnnn DATA BLKS, nnnn USED BLKS
            FAQS produces this message when the SYS$ARC file for SYSOUT
            archival is over 75 percent full.  Old entries may be purged via
            online or a REXX IMOD.



ENTER FAQS COMMAND       (OPERATOR MODE)                          16:55:35
MSG GFF390
```

Chapter 4: Using GSFAQSHC

This chapter explains GSFAQSHC, the Unicenter CA-FAQS ASO hardcopy file utility.

GSFAQSHC Utility

The GSFAQSHC utility is used to print the IJSYSCN hardcopy file on SYSLST and to back up the hardcopy file to disk or tape.

Unicenter CA-FAQS ASO enables you to define and run GSFAQSHC jobs from online panels. Just fill in the blanks and press the Submit PF key to run the job.

Error detection is immediate and online help is available. You no longer have to enter an editor, code job parameters, file the job, run the job, and wait for it to complete.

GSFAQSHC functions are user tailored through the use of control statements. Print selections can be made based upon date and time intervals, explicit or generic jobnames, partition ID, or any user defined scan argument. The backup function enables you to create backups or merge existing backups with new data. An existing backup can also serve as input to the GSFAQSHC print function.

Running GSFAQSHC

You can run the GSFAQSHC utility in one of the following ways:

- Use the GSFAQSHC option on the Unicenter CA-FAQS ASO Main Menu. The panels accessed through this option enable you to generate, view, and submit GSFAQSHC jobs to POWER.
- Execute GSFAQSHC and use the control commands discussed in this chapter.

Recommended Procedure

The recommended procedure for hard copy printing and backup is to use CREATE, NEW with output to disk to backup current messages and reset the wraparound pointer. Printed output can be produced at the same time or in another step. The disk backup can then be merged with a history type using FAQSUTIL HCMERGE.

GSAFQSHC Control Commands

GSFAQSHC accepts any number and combination of control commands. The exceptions are CREATE and MERGE. Only one of these commands can be used during each execution of GSFAQSHC.

All control statements are read and edited for errors in syntax and context before action is taken. A listing is printed that shows all control statements and errors. Control statements are accepted from SYSIPT or the system console depending upon the following conditions:

- If the // EXEC GSFAQSHC job control statement is read from SYSIPT, all control statements are assumed to be on SYSIPT.
- If // EXEC GSFAQSHC is entered on the system console, all parameter control statements must be entered through the console (SYSLOG).

  GSFAQSHC prompts you for each parameter with the following message:

  ```
  GFH800D ENTER NEXT COMMAND
  ```

- A /*, /&, END, or EOJ command must be the last parameter entered to indicate the end of the input control statements.

Control Statement Format

The following rules apply to the GSFAQSHC control statement format:

- Control statements are free form. Entries can begin in any statement column.
- Statement columns 1 72 are available for parameter entries. Columns 73 80 can be used for sequence numbers or left blank.
- A continued statement is indicated by following the last parameter with a comma. The next parameter can start in any column of the following statement. The only valid GSFAQSHC control statements are PRINT, MERGE, and CREATE.

Online GSFAQSHC

To access the GSFAQSHC panels, select the GSFAQSHC option from the Unicenter CA-FAQS ASO Main Menu. The GSFAQSHC Online Menu is displayed.

The GSFAQSHC Online Menu contains options that define a GSFAQSHC job. The following is an example of the GSFAQSHC Online Menu:

```
FAOMENHC.3     ** Unicenter CA-FAQS ASO Online 5.0-0203**     ID=DEVVSE.PROFILE
 ===>


     ** Unicenter CA-FAQS ASO    GSFAQSHC Online Menu **

     P     Print Options
     C     Create Options
     M     Merge Options




   PF01=Help PF03=Return
```

Selecting an Option

To select an option from the GSFAQSHC Online Menu, do one of the following:

- Place the cursor on the selection you want and press ENTER.
- Type the option letter on the command line and press ENTER.

The options on the GSFAQSHC Online Menu enable you to specify the following information:

Print

Selection criteria to use to print the hardcopy file or its backup.

Create

Information to create a backup of the hardcopy file.

Merge

Information to merge a new backup of the hardcopy file with an existing backup.

GSFAQSHC Reports

GSFAQSHC provides the following reports:

- Control Card Input report
- Hardcopy Print report
- Hardcopy File Print Cross Reference report

Control Card Input Report

The Control Card Input report reflects all control statements encountered as input to GSFAQSHC. The report also documents all syntax errors found within the control statements.

The PRINT parameters cause GSFAQSHC to read the hardcopy file backup on SYS009 and to print selected records from it. For information about the PRINT parameters, see the section, Printing the Hardcopy File or Backup.

The following is an example of the Control Card Input report:

```
Unicenter CA-FAQS ASO FOR VSE - CONSOLE ARCHIVE REPORT 5.0 0203 12/11/2000 14.28.13  CPU-
FF02175596720000
                                GSFAQSHC - CONTROL CARD INPUT                    PAGE   1

 GSFAQSHC - 5.0-0203    - 03/13/02
PRINT DATE=(08/12/99,01/13/00),
     TIME=(10.00.00,12.00.00),
     JOBNAMES=(CICS.ALL,+++POWER,GO,A/R),
     PARTITIONS=(AR,BG,F1,F2,F7,A,T,W),
     INTAPE=SYS009,REW,
     SCAN=(CANCEL,JOB,EOJ),
     FLAGS=(CANCEL),
     LINES=60,
     XREF=NO,
     NEW,
     CASE=UPPER
```

Hardcopy File Print Report

The Hardcopy File Print Report is the printed hardcopy file backup. Each line of this report contains a sequence number, the hardcopy file record, a datestamp, a timestamp, and the name of the job running in that partition.

The PRINT parameters cause GSFAQSHC to read the hardcopy file backup on SYS009 and to print selected records from it.

The following report is an example of the Hardcopy File Print report. The PRINT parameters produce output similar to that found in this sample report.

```
Unicenter CA-FAQS ASO FOR VSE - CONSOLE ARCHIVE REPORT 5.0 0203 12/11/2000  14.51.03 CPU-FF02175596720000

PRINT DATE=(08/01/2000,08/02/2000) TIME=(10.00.00,19.00.00) XREF=NO LINES=060 FLAGS=(CANCEL)     PAGE   1

          PARTITIONS=(AR,BG,F7,F2,F1,A,T,W) JOBNAMES=(CICS.ALL,+++POWER.ALL,GO,A/R) SCAN=(CANCEL,JOB,EOJ)

0001  F1 001 // JOB DTRPOWER START VSE/POWER FOR VSE3TST  SYSTEM          08/01/00 10.13.34 DTRPOWER
0002  F1 001 1R57I  F COMMAND IGNORED, TASK IS AT JOB BOUNDARY            08/01/00 16.43.51 DTRPOWER
0003 *CANCEL F2                                                          08/01/00 16.44.06         CAN
0004  BG 000 // JOB GO                                                   08/01/00 17.33.31 GO
0005  BG 000 // PAUSE BETWEEN JOBS                                       08/01/00 17.33.31 GO
0006  BG 000 EOJ GO        GO                                            08/01/00 17.33.37 GO
0007  F2 002 // JOB CICSMROA  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE  08/01/00 17.42.02 CICSMROA
0008 *2 CANCEL                                                           08/01/00 17.42.23 CICSMROA CAN
0009  F2 002 1I20I  JOB CICSMROA CANCELED DUE TO OPERATOR INTERVENTION.  08/01/00 17.42.23 CICSMROA CAN
0010  F2 002 EOJ CICSMROA                                               08/01/00 17.42.28 CICSMROA
0011  F2 002 // JOB CICSMROA  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE  08/01/00 17.43.31 CICSMROA
0012 *2 CANCEL                                                           08/01/00 17.45.16 CICSMROA CAN
0013  F2 002 1I20I  JOB CICSMROA CANCELED DUE TO OPERATOR INTERVENTION.  08/01/00 17.45.16 CICSMROA CAN
0014  F2 002 EOJ CICSMROA                                               08/01/00 17.45.19 CICSMROA
0015  F2 002 // JOB CICSMROA VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE  08/01/00 17.51.36 CICSMROA
0016  F2 002 EOJ CICSMROA                                               08/01/00 17.53.34 CICSMROA
0017  F2 002 // JOB CICS24   VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE  08/01/00 17.54.58 CICS24
0018  F2 002 EOJ CICS24                                                 08/01/00 18.01.01 CICS24
0019  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE   08/01/00 18.08.46 CICS24
0020  F2 002 EOJ CICS24                                                 08/01/00 18.12.03 CICS24
0021  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE   08/01/00 18.12.34 CICS24
0022  F2 002 EOJ CICS24                                                 08/01/00 18.21.28 CICS24
0023  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE   08/01/00 18.26.18 CICS24
0024  BG 000 // JOB GO                                                   08/01/00 18.27.37 GO
0025  BG 000 // PAUSE BETWEEN JOBS                                       08/01/00 18.27.37 GO
0026  BG 000 GJ313I JCLM $JOBEXIT SDL SUCCESSFULLY ACTIVATED             08/02/00 10.23.38 GO
0027  F1 001 // JOB DTRPOWER START VSE/POWER FOR VSE3TST  SYSTEM         08/02/00 10.23.39 DTRPOWER
0028  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE    08/02/00 10.24.44 CICS24
0029  F2 002 EOJ CICS24                                                 08/02/00 10.31.38 CICS24
0030  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE   08/02/00 10.31.46 CICS24
0031  BG 000 // JOB GO                                                   08/02/00 10.35.05 GO
0032  BG 000 // PAUSE BETWEEN JOBS                                       08/02/00 10.35.05 GO
0033  BG 000 EOJ GO        GO                                            08/02/00 10.38.27 GO
0034  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE    08/02/00 11.52.00 CICS24
0035  F2 002 1I70I  JOB CICS24  CANCELED DUE TO CONTROL STATE MENT ERROR  08/02/00 11.52.19 CICS24   CAN
0036  F2 002 EOJ CICS24                                                 08/02/00 11.52.22 CICS24
0037  F2 002 // JOB CICS24  VSE/REL3 STARTUP WITH CICS/VS 2.3 FOR VSE    08/02/00 11.53.00 CICS24

GFH815I  TAPE RECORDS ACCESSED   13,659
GFH814I  DASD RECORDS ACCESSED       0
GFH834I  NO CROSS REFERENCE AVAILABLE
GFH813I  END OF GSFAQSHC REQUEST
```

Hardcopy File Print Cross Reference Report

The Hardcopy File Print Cross Reference report provides a printed cross reference for the Hardcopy File Print report. Each // JOB statement that is printed creates a cross reference entry on this report. This entry includes the following information:

- The starting job's jobname, partition ID, page number, datestamp, and timestamp
- The ending job's page number, datestamp, and timestamp
- The job duration
- The EOJ type
- The maximum return code

Any record flagged with the FLAGS parameter (if used) will also have a cross reference entry on the Hardcopy File Print Cross Reference report. This entry includes the flagged character string, denoted by an asterisk (*); the partition ID; and the page, date, and time on which the flagged record was printed.

The Hardcopy File Print Cross Reference report can print cross references in chronological order or sort them on any one of five fields: JOBNAME, PARTITION, START TIME, END TIME, and DURATION.

The following is an example of the Hardcopy File Print Cross Reference report:

```
Unicenter CA-FAQS ASO FOR VSE - CONSOLE ARCHIVE REPORT  5.0 0203 12/11/2000  14.51.03 CPU-
FF02175596720000

                                HARDCOPY FILE PRINT CROSS REFERENCE                PAGE     1

                          ----------START-----------   ------------- END --------
JOBNAME  PARTITION  PAGE   DATE      TIME      PAGE     DATE       TIME      DURATION   EOJ TYPE  MAX RC
*CONSPOOL    BG        1   08/02/00   10.23.23
 DTRPOWER    F1        1   08/02/00   10.23.39
 DFHPCT      BG        1   08/02/00   10.24.37   3    08/02/00   10.30.37    00.05.59   0S03I       0008
 CICS24      F2        1   08/02/00   10.24.44   3    08/02/00   10.31.38    00.06.53   NORMAL      0000
 FAQSIUCV    F6        1   08/02/00   10.24.54
 JCLSCHED    F3        1   08/02/00   10.24.55
 TESTGSX     F7        2   08/02/00   10.25.23
 DFHPCT      BG        3   08/02/00   10.30.38   4    08/02/00   10.35.03    00.04.25   NORMAL      0000
 CICS24      F2        3   08/02/00   10.31.46
 GO          BG        4   08/02/00   10.35.05   4    08/02/00   10.38.27    00.03.22   NORMAL
 JCLXCU      BG        4   08/02/00   10.38.28   4    08/02/00   10.38.31    00.00.03   NORMAL      0000
 DISCLOG     BG        4   08/02/00   10.38.33   4    08/02/00   11.07.42    00.00.07   NORMAL
 CONSPOOL    BG        4   08/02/00   11.07.40
 GSXIGEN     BG        5   08/02/00   11.16.21   5    08/02/00   11.16.50    00.00.29   NORMAL
 JCLPWRSM    BG        5   08/02/00   11.30.49   5    08/02/00   11.31.05    00.00.14   NORMAL
 JCLPWRSM    BG        5   08/02/00   11.35.53   5    08/02/00   11.36.10    00.00.16   NORMAL
 JCLPWRSM    BG        5   08/02/00   11.45.55   5    08/02/00   11.46.12    00.00.17   NORMAL
 CICS24      F2        5   08/02/00   11.52.00   5    08/02/00   11.52.22    00.00.21   NORMAL
 CICS24      F2        5   08/02/00   11.53.00

     GFH813I END OF GSFAQSHC REQUEST
```

In the previous sample report, the first cross reference entry, CONSPOOL, contains an asterisk denoting that it is the result of a flagged record on page 1 of the Hardcopy File Print Report with a timestamp of 10.23.23. The job DTRPOWER begins on page 1 with a timestamp of 10.23.39. No end statistics are available because this job did not finish during the time requested in the Hardcopy File Print Report. The third entry, for job DFHPCT, starts on page 1 at 10.24.37 and ends abnormally (with message 0S03I) on page 3 at 10.31.37.

Printing the Hardcopy File or Backup

The PRINT command of GSFAQSHC functions exactly like PRINTLOG by updating the hardcopy file wraparound pointer on a PRINT NEW or nonselective PRINT ALL request. This pointer is the DASD address within the IJSYSCN file used by VSE to determine when to print the message OD25E HARDCOPY FILE IN OVERLAY MODE.

Parameters

Using the PRINT command parameters, you can print either the hardcopy file from disk or its backup from tape or disk. All PRINT parameters are optional and are listed as follows:

```
PRINT {DATE={(date{,date}),}
          {TIME=(hh.mm.ss{,| }hh.mm.ss),}
          {JOBNAMES=(name{,name}{,A/R}),}
          {PARTITIONS=(id{,id}{,cid}...),}
          {SCAN=(data{,data}...){,N=nn},}
          {INTAPE=SYSnnn{,REW},}
          {FLAGS=(data{,data}...),}
          {LINES=nn,}
          {XREF=type{,ONLY}},
          {NEW,}
          {CASE={UPPER|MIXED}
```

Generating Print Jobs

To generate jobs in order to print the hardcopy file or its backup, select Print Options (P) from the GSFAQSHC Online Menu. Fill in the appropriate information on the GSFAQSHC Online Print Command Options panel and press PF8 (FWD) if more detail is needed. Optionally, press PF6 (Job Info) to update job control information. Update any desired information and press ENTER. If all fields entered are valid, press PF3 (Return). Then press PF4 (View Job) to view the job that is generated. When the job is set up to your satisfaction, press PF5 (Submit) to submit the job to POWER for execution.

The following is an example of the GSFAQSHC Online Print Command Options Panel, Panel 1:

```
FAOMENHC.P   ** DCM Systems  Unicenter CA-FAQS ASO Online 5.0-0203**  ID=DEVVSE.KSD
 =>
              ** GSFAQSHC Online Print Command Options **
 Lines    =>  ___         Number of lines per page

 New      => ( _ )        Press PF1 for information on PRINT NEW command

 Dates    =>  __ / __ / __    ,   __ / __ / __
 Times    =>  __ : __ : __    ,   __ : __ : __

 Jobnames =>  ________   ________   ________   ________   ________   ________

 Partitions    AR BG F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE
                _  _  _  _  _  _  _  _  _  _  _  _  _  _  _  _

    The following Fields should be filled in for printing from a GSFAQSHC
    Archive tape, instead of printing from the VSE hardcopy file on disk.

   Intape   => ________________  Specify File ID For Input Tape
             SYS ___            Enter Programer Logical Unit For Input Tape
             CUU ___            Enter CUU For Input Tape
          Rewind ( _ )          X  Rewind Tape  Blank   Rewind and Unload
                 ( _ )          Tape manager present  No cuu required

 PF01=Help PF03=Return PF05=Submit PF06=Job Info PF08=FWD
```

For Panel 2 of the GSFAQSHC Online Print Command Panel, press PF8 (FWD) from Panel 1.

```
FAOMENHC.P  ** DCM Systems Unicenter CA-FAQS ASO Online 5.0-0203 ** ID=DEVVSE.KSD
 =>
        ** GSFAQSHC Online Print Command Options Continued**


                            Scan parameters

   Option 1 =>  Specify Up To six 1  to 8  Character Arguments.
    =>  ________ ________   ________   ________   ________   ________

   Option 2 =>  Specify A 1  to 58  Character Long Argument.
    => ____________________________________________________________
    Number  ____   Optional number of msgs to print when scan data found

      Flag Parameters
    =>   ________   ________   ________   ________   ________   ________

 XREF Selection  =>  Only Print XREF Report ( _ )  Do not print XREF  ( _ )
 XREF Sort Options
     Start Time ( _ ) End Time ( _ ) Jobname ( _ )
     Partition  ( _ )  Duration ( _ )

 PF01=Help PF03=Return PF05=Submit PF06=Job Info PF07=BWD
```

PRINT Command Parameters

Following are the PRINT Command parameters:

DATE

The DATE parameter selects a day or range of days for which messages are printed. The parameter accepts one or two dates. If one date is specified, only that day's messages are printed. If two dates are specified, the lower date goes first, followed by the higher date. The range specified is inclusive:

```
PRINT DATE=(01/01/00,12/31/00)
                or
PRINT DATE=(01/01/00,31/12/00)
```

If DATE=DMY is specified in the STDJC macro of your supervisor assembly, the GSFAQSHC DATE parameter must also be specified in DMY format.

Another possible format for the DATE parameter is to code a negative number instead of an actual date. For example:

```
PRINT DATE=( 5, 1)
```

With the negative format, GSFAQSHC automatically converts the negative numbers to the proper date. This format removes the need to change the dates on the control statement every time the utility is executed. To print the previous day's log each morning, PRINT DATE= 1 would be coded and would never need to be changed. PRINT DATE= 0 would print the current date.

TIME

The TIME parameter works along with the DATE parameter to select a certain time period for which messages are printed. The TIME parameter accepts one or two times. If one time is specified, the second time is assumed to be the same. If two times are specified, the lower time goes first, followed by the higher time. If no TIME parameter is coded, the value defaults to the following:

```
TIME=(00.00.00,23.59.59)
```

The TIME parameter has two possible formats:

```
TIME=(09.00.00,12.00.00)
           or
TIME=(09.00.00 12.00.00)
```

If the first format (comma separating the times) is used, the hardcopy file is printed from 9 AM on the first date specified on the DATE parameter to 12 PM on the second date, inclusively. If the second format (dash separating the times) is used, the hardcopy file is printed from 9 AM to 12 PM, inclusively, on each date in the date range.

JOBNAMES

The JOBNAMES parameter selects messages by specific jobnames. Any number of jobnames can be specified. The jobnames can be specific, generic, or distributed. An example of a specific jobname would be PA0050. A generic jobname would be PA.ALL. A distributed jobname would be ++0050.ALL. With a specific jobname, all characters of the jobname must match before the job's messages are printed.

With a generic jobname, only the characters before the .ALL must match for the job's messages to be selected. A distributed jobname works like a generic jobname except that all positions where a plus sign (+) is found are ignored. For example, a distributed jobname of ++0050.ALL would match jobnames PA0050, FX0050, and GS0050.

```
1.  PRINT JOBNAMES=(INV480,EDPRINT,GSF.ALL)
2.  PRINT JOBNAMES=(MFH+++.ALL,EDP+++++,GSFAQSHC)
```

A special jobname of A/R causes all Attention Routine messages that occurred during the execution of any job to be printed.

PARTITIONS

The PARTITIONS parameter selects messages by specific partitions. The parameter accepts all valid partition IDs (AR, BG, F1 FB) as well as dynamic partition classes.

```
1. PARTITIONS=(AR,F3,F6,FA,FB)
2. PARTITIONS=(F8)
3. PARTITIONS=(C,D,T,W)
```

INTAPE

The INTAPE parameter directs the PRINT command to read the IJSYSCN hardcopy file backup from the tape or disk on the drive assigned to the specified SYSxxx number. The backup must have been created by a previous GSFAQSHC CREATE or MERGE command. A TLBL or DLBL must be present for the filename HCTAPEI. Any valid SYSxxx number can be used, in the following format:

```
PRINT INTAPE=SYS008
```

REW

This parameter applies only to tape backups. If the REW parameter is specified, the input tape will rewind only, rather than rewind and unload (RUN, the default). Once REW is encountered, all other GSFAQSHC tape operations will rewind only for the duration of that execution of GSFAQSHC. Specify REW in the following format:

```
PRINT INTAPE=SYS002,REW
```

FLAGS

The FLAGS parameter selectively appends an area on the print line to verify that a specific action was authorized. Up to seven flag arguments, 1 8 characters long, can be used to tell PRINT which records you want the authorization area appended to. For example, if you wanted to add authorization areas to all messages that included DELETE or CANCEL, you would code the following statement:

```
FLAGS=(DELETE,CANCEL)
```

GSFAQSHC would then add the first three characters of the flag argument, followed by five underlines in the last eight print positions of each line containing that argument. Using the previous example, each line containing the character string DELETE would have DEL_____ appended, and each line containing CANCEL would have CAN_____ appended. This authorization area offers to the authorizer of the action a convenient place for initializing the record. The flag arguments cannot contain embedded commas or parentheses.

SCAN

The SCAN parameter prints each occurrence of a specific message. GSFAQSHC scans the text of each message and prints only those messages for which there is a match on the scan argument. The SCAN parameter has three different formats:

```
Format 1.  PRINT SCAN='0P18I',N=4,PARTITIONS=(BG)
Format 2.  PRINT SCAN='0<==+'
Format 3.  PRINT SCAN=(0S03I,GFF121,GTF615)
```

With format 1, the SCAN argument must be enclosed in quotes and can be 1 64 characters in length. The entire argument must fit on a single statement. Any character can be included between the quotes. An optional number (N=) within the SCAN argument prints n messages in the hardcopy file once the argument is located (this option is not valid for multiple SCAN arguments). The example of format 1 above prints four messages from the BG partition once the argument OP18I is located.

Format 2 is the generic scan facility. Within this format, the following special characters are used:

```
+ (plus sign)         is any character
< (less than sign)    is any alphabetic character
= (equal sign)        is any numeric character
```

In the format 2 example, all IBM messages prefixed with 0 are printed.

Format 3 makes one pass through the hardcopy file and prints only those records containing any of the specified SCAN arguments. Up to seven 1 to 8 character arguments can be specified. The arguments field must be enclosed in parentheses, and the arguments cannot contain embedded commas or parentheses.

CASE

The optional CASE parameter selects whether the report prints in uppercase or mixed case. The default is uppercase. To change the case to mixed, use the following statement:

```
PRINT CASE=MIXED
```

NEW

The NEW parameter prints all messages that have accumulated since the last printing of the hardcopy file. GSFAQSHC selects the records written to the hardcopy file since the last time the file was printed with the PRINT command. The NEW parameter can be specified either alone or with other PRINT parameters.

LINES

The LINES parameter determines the number of lines per output page on a PRINT request. The default is the SYSLINE value found in COMREG. This value is determined by the STDOPT LINES Job Control Command during system IPL. The maximum number of lines available per page via the LINES parameter is 999.

XREF

The XREF parameter selects the type of sort to be performed on the cross reference table entries for the Hardcopy File Print Cross Reference report. Valid XREF arguments are as follows:

XREF=NO

Do not include a cross reference

XREF=YES

Include an unsorted cross reference

XREF=STIME

Sort cross reference by job start time

XREF=ETIME

Sort cross reference by job end time

XREF=JOBNAME

Sort cross reference by jobname

XREF=PARTITION

Sort cross reference by partition ID

XREF=DURATION

Sort cross reference by job duration

If you want a Hardcopy File Print Cross Reference report without the hardcopy file print, specify ONLY as shown after any of the following XREF arguments:

XREF=YES,ONLY

Unsorted cross reference

XREF=STIME,ONLY

Sort by job start time

XREF=ETIME,ONLY

Sort by job end time

XREF=JOBNAME,ONLY

Sort by jobname

XREF=PARTITION,ONLY

Sort by partition ID

XREF=DURATION,ONLY

Sort by job duration

Note: The XREF parameter defaults to YES unless the SCAN parameter is encountered. If SCAN is used, the only valid XREF argument is NO.

PRINT Selection Restrictions

Each additional PRINT command parameter limits the print selection further. The comparisons are made in the following order:

- PARTITIONS
- JOBNAMES
- DATE/TIME
- SCAN

For example, for a SCAN argument to match, the message must first be from one of the partitions specified, with one of the jobnames specified, and must be in the date and time range specified in the DATE and TIME parameters.

The INTAPE, REW, FLAGS, and XREF parameters do not limit the selection of printed records in any way. The NEW parameter limits the selection to records accumulated in the hardcopy file since the last GSFAQSHC PRINT was performed.

The following table shows examples of the GSFAQSHC PRINT statements:

Print All	**JCL Required**
1. 0P24I and 0P27I error messages.	// EXEC GSFAQSHC,SIZE=100K PRINT SCAN=(0P24I,0P27I) /*
2. Messages between 8 AM on 01/01/01 and 5 PM on 01/05/01.	// EXEC GSFAQSHC,SIZE=100K PRINT DATE=(01/01/01,01/05/01), TIME=(08.00.00,17.00.00) /*
3. Messages between 8 AM and noon on 01/01/01 through 01/03/01.	// EXEC GSFAQSHC,SIZE=100K PRINT DATE=(01/01/01,01/03/01), TIME=(08.00.00 12.00.00) /*
4. VSE error messages for F2 partition.	// EXEC GSFAQSHC,SIZE=100K PRINT PARTITIONS=(F2),SCAN=(0<==<,1<==<) /*

Print All	JCL Required
5. Messages for selected jobnames.	// EXEC GSFAQSHC,SIZE=100K PRINT JOBNAMES=(PA00++,FX0020,MP.ALL,DE.ALL) /*

6. Messages from a backup tape. Sort the cross reference by end time.	// ASSGN SYS004,281
	// EXEC GSFAQSHC,SIZE=100K
	PRINT INTAPE=SYS004,XREF=ETIME
	/*

7. OVERLAP ON UNEXPIRED FILE message and the next four messages for BG.	// EXEC GSFAQSHC,SIZE=100K PRINT SCAN='OVERLAP ON UNEXPRD',N=4, PARTITIONS=(BG) /*
8. Messages since the last GSFAQSHC execution. Sort the cross reference by duration.	// EXEC GSFAQSHC,SIZE=100K PRINT NEW,XREF=DURATION /*

Backing Up the Hardcopy File

The GSFAQSHC CREATE command dumps records from the hardcopy file to a backup on tape or disk.

CREATE Format

The CREATE command has the following format:

```
CREATE OUTAPE=SYSxxx
CREATE OUTAPE=SYSxxx,NEW
CREATE OUTAPE=SYSxxx,REW
CREATE OUTAPE=SYSxxx,RESET
CREATE OUTAPE=SYSxxx,PRINT
```

Example: CREATE OUTAPE=SYS005. SYS005 is used for illustrations, but any SYSxxx number can be used.

Online Create Job Generation

To generate jobs in order to create a hardcopy file backup, select Create Options (C) from the GSFAQSHC Main Menu. Fill in the appropriate information on the GSFAQSHC Online Job Generation Panel CREATE Command. To update job control information, press PF6 (Job Info). Update any desired information and press ENTER. If all fields entered are valid, press PF3 (Return). Then press PF4 (View Job) to view the job that is generated. When the job is set up to your satisfaction, press PF5 (Submit) to submit the job to POWER for execution.

The following is an example of the Online Job Generation Panel CREATE Command:

```
FAOMENHC.0       ** Unicenter CA-FAQS ASO Online 5.0-0203 **      ID=DEVVSE.PROFILE
 ===>
            ** GSFAQSHC Online Job Generation Panel **


                  Create Command Options


 Outape   => _________________ Specify the File id for the Output Tape
             SYS ___           Programmer Logical Unit for the Output Tape
             CUU ___           The cuu for the Output Tape

               ( _ )            X   Tape manager present   No cuu required

 New    ( _ )    X   New records   Blank   All records
 Rewind ( _ )    X   Rewind Tape   Blank   Rewind and Unload
 Reset  ( _ )    X   Reset Hardcopy file wraparound pointer
 Print  ( _ )    Print records dumped to tape



  PF01=Help PF03=Return PF04 View Job PF05=Submit PF06=Job Info
```

CREATE Command Parameters

OUTAPE

The OUTAPE parameter provides the SYSxxx number of the hardcopy file backup output. The SYSxxx number must be that of the drive associated with the backup tape or disk. An appropriate TLBL or DLBL statement must be supplied with a filename of HCTAPEO.

NEW

The NEW parameter backs up only the console records added to the hardcopy file since the wraparound pointer for the hardcopy file was last reset.

RESET

If the RESET parameter is used, the wraparound print pointer described in the PRINT command is updated.

PRINT

The PRINT parameter enables you to print the hardcopy file, on a single pass through the file, as it is backed up. The wraparound pointer is not updated unless the RESET parameter is specified. A cross reference of the Hardcopy File Print Report is also provided.

REW

This parameter applies only to tape backups. If the REW parameter is specified, the tape will rewind only, rather than rewind and unload (RUN, the default). Once REW is encountered, all other GSFAQSHC tape operations will rewind only for the duration of that execution of GSFAQSHC.

Merging the Hardcopy File with an Existing Backup

The MERGE command dumps all console records added to the console hardcopy file since the hardcopy file wraparound pointer was last updated and merges them with an existing backup.

The recommended procedure is to use GSFAQSHC CREATE,NEW to create a disk backup of the hardcopy file and FAQSTUIL MERGE to merge the backup with an existing history file. This minimizes the chances of problems due to bad tapes, etc.

MERGE Format

The MERGE command has the following format:

```
MERGE INTAPE=SYSxxx,OUTAPE=SYSyyy
MERGE INTAPE=SYSxxx,OUTAPE=SYSyyy,REW
MERGE INTAPE=SYSxxx,OUTAPE=SYSyyy,RESET
MERGE INTAPE=SYSxxx,OUTAPE=SYSyyy,PRINT
```

Example: MERGE INTAPE=SYS004,OUTAPE=SYS005. INTAPE=SYS004 and OUTAPE=SYS005 could be used, but any SYSxxx numbers will work as long as they are different.

Online Merge Job Generation

To merge the hardcopy file with a previous backup, select Merge Options (M) from the GSFAQSHC Main Menu. Fill in the appropriate information on the GSFAQSHC Online Job Generation Panel MERGE Command. To update job control information, press PF6 (Job Info). Update any desired information and press ENTER. If all fields entered are valid, press PF3 (Return). Then press PF4 (View Job) to view the job that is generated. When the job is set up to your satisfaction, press PF5 (Submit) to submit the job to POWER for execution.

The following is an example of the Online Job Generation Panel - MERGE Command:

```
FAOMENHC.M       ** Unicenter CA-FAQS ASO Online 5.0-0203 **        ID=DEVVSE.PROFILE
 ===>
            ** GSFAQSHC Online Job Generation Panel **

                  Merge Command Options


 Intape   => ________________ Specify the File id for the Input Tape
             SYS ___          Logical Unit for the Input Tape (Required)
             CUU ___          The cuu of the Input Tape       (Required)


 Outape   => ________________ Specify the File id for the Output Tape
             SYS ___          Logical Unit for the Input Tape (Required)
             CUU ___          The cuu of the Input Tape       (Required)

               ( _ )          X   Tape manager present   No cuu required

 Reset  ( _ )    X   Reset Hardcopy wraparound pointer
 Rewind ( _ )    X   Rewind Tape   Blank   Rewind and Unload
 Print  ( _ )    Print records dumped to tape



  PF01=Help PF03=Return PF04 View Job PF05=Submit PF06=Job Info
```

MERGE Command Parameters

INTAPE The INTAPE parameter provides the SYSxxx number of the hardcopy file backup input. This backup must have been created by a previous GSFAQSHC CREATE or MERGE command. The SYSxxx number for INTAPE must be the same as that of the drive associated with the input backup tape or disk. INTAPE requires a TLBL or DLBL statement with the filename of HCTAPEI.

OUTAPE

The OUTAPE parameter provides the SYSxxx number of the hardcopy file backup output. The SYSxxx number for OUTAPE must be the same as that of the drive associated with the output backup tape or disk. The OUTAPE parameter requires a TLBL or DLBL statement with the filename of HCTAPEO.

RESET

If the RESET parameter is specified, the wraparound DASD pointer to the hardcopy file is updated in the same manner as with the PRINT command. RESET is valid only for a DOC mode hardcopy file.

PRINT

The PRINT parameter enables you to print the records that are added to the backup from the hardcopy file as they are written to tape or disk. The wraparound pointer is not updated unless the RESET parameter is specified. A cross reference of the Hardcopy File Print Report is also provided.

REW

This parameter applies only to tape backups. If the REW parameter is specified, the tape will rewind only, rather than rewind and unload (RUN, the default). Once REW is encountered, all other GSFAQSHC tape operations will rewind only for the duration of that execution of GSFAQSHC.

Hardcopy Backup File Merge (FAQSUTIL)

You can use the FAQSUTIL utility to merge GSFAQSHC hardcopy backup files into a single output file for reporting or backup. FAQSUTIL MERGE determines whether the input backup files are from tape or disk, and merges them accordingly.

Syntax

MERGE HC outhc=inhc1+inhc2[+inhc3+...]

Required Parameters

The required parameters are explained as follows:

outhc

Name of the file that will contain the output from the merge of the hardcopy backup files. outhc accepts both DLBL and TLBL statements. For tape, the drive assigned to Sys005 is used for output.

inch

Names of the backup files input for merging. These names must be the same as those used for the files in the GSFAQSHC DLBL and EXTENT statements. The filenames must be listed chronologically by backup date and time (for example, backup files from 11/12/02, 11/16/02, and 11/20/02 must be listed in that order). You can specify as many input filenames as you can fit on the 48 character statement line. inhc accepts both DLBL and TLBL statements. For tape, this drive assigned to Sys004 is used for input.

FAQSUTIL MERGE vs. GSFAQSHC MERGE

The FAQSUTIL MERGE merges backups created by GSFAQSHC. By contrast, GSFAQSHC MERGE merges with its own backup file all new records in the console hardcopy file since the last GSFAQSHC CREATE or MERGE.

JCL Requirements

The GSFAQSHC utility requires appropriate JCL for the files that are to be used during the execution. SYSLST is always used and must be assigned to tape, disk, or a real or pseudo printer. SYSIPT is normally used for statement input. However, if GSFAQSHC is executed from the console, all input must be entered through the console. An input backup destination is required if a MERGE command or a PRINT command with the INTAPE parameter is encountered. An output backup destination is required if a MERGE or CREATE command is used.

SIZE Parameter

Since GSFAQSHC requires additional partition space for I/O buffers, no SIZE parameter should be coded on the EXEC statement. However, if a larger GETVIS size, etc., requires a SIZE parameter on the EXEC statement, a minimum size of 100K should be specified as follows:

```
// EXEC GSFAQSHC,SIZE=100K
```

Do *not* code SIZE=AUTO or SIZE=GSFAQSHC.

Sample JCL for Tape Backup

You can include the JCL needed to define the IJSYSCN hardcopy file either in the execution jobstream or on the standard label cylinder. Since IJSYSCN is an online active file, its JCL is better left on the standard label cylinder.

```
// ASSGN SYS004,X'380'
// TLBL HCTAPEI,'INPUT.BACKUP',,,1
// ASSGN SYS005,X'381'
// TLBL HCTAPEO,'OUTPUT.BACKUP',,,1
// DLBL IJSYSCN,'HARDCOPY.FILE',,SD
// EXTENT SYSREC,SYSRES,1,0,6000,150
// EXEC GSFAQSHC
```

Sample JCL for Disk Backup

```
// ASSGN SYS004,X'261'
// DLBL HCTAPEI,'GSFAQSHC.ARCHIVE'
// EXTENT SYS004,SYS261,1,0,1,0,400
// ASSGN SYS005,X'381'
// TLBL HCTAPEO,'OUTPUT.BACKUP',,,1
// DLBL IJSYSCN,'HARDCOPY.FILE',,SD
// EXTENT SYSREC,SYSRES,1,0,6000,150
// EXEC GSFAQSHC
```

Additional GSFAQSHC JCL Examples

```
// JOB PRINT A SELECTED PORTION OF THE HARDCOPY FILE
// EXEC GSFAQSHC
 PRINT DATE=01/10/01,TIME=(12.00.00,22.00.00),
       PARTITIONS=(F2),JOBNAMES=IN.ALL,
       SCAN=(0S==+,0P==+)
/*
/&


// JOB PRINT A SELECTED TIME RANGE OF A BACKUP TAPE
// TLBL HCTAPEI,'FAQS.HC.BACKUP',,,1
// ASSGN SYS008,X'380'
// EXEC GSFAQSHC
 PRINT INTAPE=SYS008,XREF=STIME,
 DATE=( 5, 1),TIME=(01.00.00 05.45.00)
/*
/&
```

```
// JOB PRINT A SELECTED TIME RANGE OF A DISK BACKUP
// DLBL HCTAPEI,'GSFAQS.HC.BACKUP'
// EXTENT SYS004,SYS261,1,0,1,0,400
// ASSGN SYS004,X'261'
// EXEC GSFAQSHC
 PRINT INTAPE=SYS004,XREF=STIME,
 DATE=( 4, 2),TIME=(01.00.00 02.30.00)
/*
/&


// JOB CREATE A BACKUP TAPE AND PRINT IT
// TLBL HCTAPEO,'FAQS.HC.BACKUP',,,1
// TLBL HCTAPEI,'FAQS.HC.BACKUP',,,1
// ASSGN SYS009,X'280'
// EXEC GSFAQSHC
   CREATE OUTAPE=SYS009,PRINT,REW
/*
/&


// JOB MERGE A BACKUP TAPE WITH THE HARDCOPY DISK FILE
// TLBL HCTAPEI,'FAQS.HC.BACKUP',,,1
// ASSGN SYS004,X'380'
// TLBL HCTAPEO,'FAQS.HC.BACKUP',,,1
// ASSGN SYS005,X'381'
// EXEC GSFAQSHC
   MERGE INTAPE=SYS004,OUTAPE=SYS005,PRINT,RESET,REW
/*
/&
```

Chapter 5: Fast Transient Loader

This chapter covers the Unicenter CA-FAQS ASO Fast Transient Loader (FTL) utility.

System Overview

This section provides an overview of the FTL, including the fast Printer Support (FPS).

Fast Transient Loader

The Resident Program support of the Fast Transient Loader (FTL) allows any user written or system phase to be placed in the SVA in MOVE mode. FTL moves the phase directly into the partition or transient area rather than loading it from a core image library on each fetch request.

Job control, B transients, CRT transients, and other user or system phases can be maintained in storage (real or virtual) in FTL MOVE mode.

When phases are moved from storage rather than loaded from the core image library, DASD contention is reduced since the library directory search is no longer necessary and the phase is not read from disk. System overhead time is also reduced since the amount of time required by the system to fetch a supported phase has been decreased considerably, alleviating the bottleneck of the single threaded fetch routine.

VSE FETCH Overview

The VSE FETCH routine is a single threaded supervisor routine that has proven to be one of the critical bottlenecks in VSE processing. The ability to define multiple libraries in the core image search chain has been both a blessing and burden to VSE users.

The FETCH routine initially searches the temporary LIBDEF chain to find the directory entry of the phase to be loaded and if not found, searches the permanent LIBDEF chain one track at a time. This could potentially represent 32 temporary and 32 permanent core image library directories to search.

The net result is that directory searching can often significantly increase channel utilization, resulting in wasted DASD revolutions and longer transaction processing times for other users. Needless to say, this is quite time consuming and can have a major impact on overall throughput.

How FTL Works

Whenever a transient is to be fetched into the LTA (logical transient area), , FTL determines whether the phase is supported in storage. If the phase is resident, it is then moved directly to the transient area, eliminating the overhead required to read the phase from the core image library while reducing the time the transient area is tied up from servicing other tasks. Likewise, when a user written or system phase is supported by FTL, FTL moves the phase directly to the specified load address. Some of the more common phases which can be made resident are

- All of the job control phases
- The $$A ERP transients
- Any frequently referenced user routines

FTL supports any number of phases and maintains full statistics on the fetch/load activity of each phase. A separate monitor function, also incorporated into FTL, monitors the fetch activity of all nonresident phases. This can be used to assist in fine tuning the system by selecting only the most active phases to be put under FTL control.

FTL Major Features

The major features of the Resident Program support of FTL are:

- FTL is not affected by the VSE MOVE mode support. Since FTL establishes its exit prior to the actual fetch support, B transients defined in MOVE mode can still be supported by FTL. Similarly, FTL will monitor all MOVE mode transients as well as any other phases fetched from the core image library.
- In addition to B transients, FTL supports any phase under 32K in size. This allows support of the more frequently accessed $JOBCTL job control phases, $$A transients, user loaded subroutines, and any other self relocating or relocatable phases.
- The FTL Resident Activity report and Phase Load Monitor report are both available online through the Unicenter CA-FAQS ASO Online transaction and in a batch execution of GSFTL. These reports provide an easy and convenient means to monitor and tune the overall fetch/load activity on a system.

Fast Printer Support (FPS)

The Fast Printer Support (FPS) feature of FTL provides extended buffering of printer I/O requests in the partition GETVIS area. FPS blocks print requests in an I/O buffer obtained from the partition GETVIS area and issues a chained I/O request to pass a full buffer of print data to POWER rather than interrupting the task and POWER processing for each individual print line. From as few as 15 to over 100 print I/O requests are blocked before the actual I/O is performed. In addition, FPS reduces the number of CCW commands required to print ASA carriage control by combining CCW operation codes.

LTAB Parameter

You may want to specify an LTAB parameter value in the GSFTL startup for FPS if no POWER LTAB value was defined at system initialization.

For more information about the LTAB parameter value, see the section, LTAB Parameter, later in this chapter.

FPS Benefits

Implementing FPS allows you to realize the following benefits:

- Decreased supervisor overhead time. The decrease occurs by reducing the number of times the supervisor must dispatch POWER and redispatch the partition to perform printer I/O. A 25% to 70% reduction in supervisor overhead should be realized when processing printer I/O requests when using the FPS feature of FTL.
- Decreased POWER overhead required to process print lines. The decrease occurs by reducing the number of print I/O requests passed to POWER.
- Decreased POWER processing time and supervisor overhead time. The decrease provides more CPU cycle time for important processing such as a teleprocessing monitor or critical production jobs.

Resident Program Support

This section describes the resident support program.

Initializing the Resident Program

GSFTL

Use the GSFTL utility to initialize the Resident Program support of FTL. At initialization, you specify which phases are supported and whether they are to be kept in virtual or real storage.

For more information about GSFTL, see the section, GSFTL Utility, later in this chapter.

Storage Requirements

A minimum of one page of real storage is required for the execution code plus the FTL directory of resident phases (RDL). The amount of additional storage that is needed depends on the number of phases to be supported, the size of each phase, and where they are loaded.

Phases to be supported in real storage are placed in system GETVIS in contiguous fixed storage to minimize the number of real storage pages required. Phases to be kept in virtual storage are loaded in system GETVIS, so that any phase less than 2048 bytes does not cross a page boundary.

A report is printed at initialization time displaying the name of each phase loaded, phase length, storage address of where the phase is loaded, and the number of unused bytes in the storage page when the subsequent phase has to be loaded at the next page boundary.

FTL Feature Activation

The FTL Monitor can be activated at initialization by specifying the FTL MONITOR parameter on the FTL RDL=CREATE command. The FTL Monitor requires a minimum of 2K of additional storage from system GETVIS. The Monitor records the fetch activity of all non-supported transients. The FTL Monitor can also monitor fetch activity of non $$B transients fetched by the system. This requires an additional 2 to 18K of real storage (amount specified by the user).

FTL provides an optional interface to the Unicenter CA-FAQS ASO Console Spooling facility. FTL monitors all fetch/load requests for an eligible partition and records the entries in an acquired buffer in the system GETVIS area.

The default size of this buffer is 512 bytes for each partition. The buffer size can be increased to allow for more phases by specifying the FBUF parameter on the RDL=CREATE statement.

FTL requires an entry in the SDL for each phase to be made resident. If an entry does not already exist in the SDL at initialization time, the GSFTL program will automatically load the SDL entry by calling the IBM directory maintenance phase, $MAINDIR. Sufficient space for the SVA and SDL must be specified in the SVA command of the ASI IPL procedure.

Dynamic partitions use dynamic GETVIS rather than system GETVIS.

Executing the Resident Program

At initialization, GSFTL establishes an exit within the VSE supervisor in order to examine each load request. If the phase to be loaded is located in the FTL internal directory list (RDL), it is moved directly from memory (real or virtual storage) to the appropriate processing area, eliminating the overhead required to fetch the phase from the library. When the monitor facility is active, any transients which are not supported by FTL are recorded by the monitor. In addition to B transients, FTL can monitor fetch activity for any other type of phase.

Because FTL bypasses the actual fetching of supported phases, an SDAIDS fetch/load trace might provide inaccurate data.

Accessing and Printing FTL Statistics

FTL maintains detailed statistics on the fetch activity of all supported phases. The information collected includes the number of times each phase was loaded, the number of times the phase was moved from real storage without a page fault, and the number of times the phase had to be paged in in order to be moved into the processing area. In addition to the statistics, FTL records the number of times each non-supported phase is loaded when the monitor facility is active.

Print the FTL statistical reports by executing the GSFTL utility in a batch partition and specifying the STATUS command. The RESET option of the STATUS command resets all statistic counters to zero. The statistic reports are also printed when FTL is deactivated using the GSFTL program.

You can also obtain the FTL statistics by issuing the FTL command in Unicenter CA-FAQS ASO Online. Unicenter CA-FAQS ASO Online displays the Resident Program statistics and the FTL monitor statistics. Use the FTL RDL command to display the Resident Program statistics and the FTL MON command to display the monitor information.

Deactivating the Resident Program

The DISABLE command of the GSFTL utility deactivates a single phase within the FTL list of resident phases (RDL), deactivates the FTL Monitor, or deactivates the entire Resident Program support. Deactivation of a single phase involves flagging the entry in the FTL RDL as inactive. Any further load requests for that phase will read the phase from the core image library as normal. Deactivation of the FTL Monitor causes FTL to stop monitoring fetch/loads for nonresident phases. The deactivation of the entire FTL facility causes termination of all Resident Program support. Deactivation involves restoring the exit within the supervisor to its original status and returning all acquired virtual and real pages to the system.

The FTL statistical reports are printed automatically whenever the FTL facility or monitor function is deactivated.

Fast Printer Support (FPS)

This section describes fast print support.

System Requirements

FPS (Fast Printer Support) gets a 2K 9K buffer from the partition GETVIS area when a DTFDI, DTFCP, or DTFPR print file is opened. The printer DTF in the user program is altered to point to an FPS logic module, which is also loaded in the GETVIS. When the program issues a print request, FPS blocks the print information into the buffer from the GETVIS. When the buffer becomes full, a physical I/O request is issued to the supervisor (SVC 0), indicating that the entire contents of the print buffer should be passed to POWER or to the actual printer if no spooler is active. The I/O buffer is also flushed when the print file is closed or at end of job if no CLOSE was issued for the file. Buffering print lines into chained I/O operations reduces both POWER and supervisor overhead.

FPS operates in both the SVA and the partition GETVIS area. The necessary VSE OPEN/CLOSE transients are automatically front ended by the FPS B transients to establish the FPS printer support for a task. FTL allows the FPS transients to be loaded before the IBM transients without requiring any core image library renames or SDL modifications. The FPS logic modules GSFPSDI and GSFPSPR are loaded into the partition GETVIS area when the print file is opened.

FPS only supports fixed length PRMODs. Variable length PRMODs generate the GTF617 error message.

Initialization

FPS is an optional feature of the FTL facility. You select whether the FPS feature is to be activated at FTL initialization time. To initialize the FPS feature, enter the FPS command prior to the RDL=CREATE command of GSFTL. For information about this command, see the section, Unicenter CA-FAQS ASO Phase Load List Buffer. If FPS is not specified, FPS is not activated. The partitions to be supported by FPS, the GETVIS buffer size to use for each partition, and the optional "card flush" parameter are specified in the FPS command.

LTAB Parameter

If you activate FPS, you may want to specify an LTAB parameter value in the GSFTL startup for FPS if no POWER LTAB value was defined at system initialization.

Deactivation

FPS support is automatically disabled when the FTL Resident Program support is deactivated by the DISABLE command of GSFTL. FTL cannot be deactivated without also deactivating the FPS facility, since the FPS support depends upon hooks within FTL.

You can disable FPS support by partition by specifying the GSFTL command FPS with the partition ID and the parameter OFF.

```
FPS=BG(OFF),F1(OFF),Fn(OFF)
```

Special Considerations

This section describes special circumstances and considerations to be aware of.

Performance Benefits

FPS provides performance benefits by buffering print requests into the partition GETVIS area, thereby reducing the number of supervisor and POWER interruptions required to perform printer I/O. Please note, however, that if you are using job accounting data to determine the actual benefit of FPS, partition CPU usage will not decrease by using FPS.

The benefits gained from FPS are evident in both a reduction in supervisor overhead time and POWER processing time. The reduction is reflected in decreased execution duration times and varies depending on the amount of printing performed on your system.

How FPS Works

FPS maintains a buffer of print requests in the partition GETVIS area. This buffer is forced out under the following five different conditions:

- When the buffer becomes full
- When the DTF is closed
- At task termination time if the DTF was not closed
- On a SEGMENT request using the $$BSGMNT macro
- Whenever the program reads an input card with the card flush option active for the partition

It is a practice at some installations to segment printer output without making any modifications to the programs simply by inserting a POWER JECL card (* $$ LST) in the middle of the program's SYSIPT input data stream. POWER intercepts the LST card on the read request and segments any print data that the program has printed up to that point. Whenever FPS is initialized, anywhere from 1 to 100 print requests might still be in the FPS buffer in the partition GETVIS area when POWER performs segmentation on the printer. This condition can cause undesired results if a special POWER printer forms control or option in the LST card has been specified.

To circumvent this problem, specify the card flush option of FPS for any partitions that use a POWER LST card in the input data stream to perform printer segmentation. This option causes FPS to force out any outstanding printer I/O for the job on any DTFDI/DTFCD GET requests for card data. If you are not using POWER LST cards to segment printer output at your installation, the card flush option does not need to be specified at FPS start up time. (The card flush option tends to reduce some of the benefits of FPS.)

FPS support is activated for each individual program when the printer file is opened. If the program does not issue an open for the printer DTF, the FPS support will not be initialized for that file. This does not cause any problems unless a program uses two separate DTFs for the same logical printer device and only one of the DTFs is opened. In this case, the output from the opened DTF is buffered by FPS while any output from the unopened file is printed immediately. It is recommended that you open your printer DTFs.

Compatibility with Other Programs

Computer Associates makes every attempt to ensure that FPS is compatible with other programs. Despite these efforts, on occasion FPS won't be compatible with a particular program. This incompatibility can result in lost or incorrect output. Before putting FPS to work in your system, you should first use it in a test environment to ensure that it is compatible. If you encounter any compatibility problems, execute the GSFPSOFF program to disable FPS for a single product or job.

FPS cannot support COBOL II, since it cannot perform OPENs for COBOL II. Instead, FPS generates an informational message.

GSFPSOFF Program

The GSFPSOFF program temporarily turns off FPS in any partition for the duration of a single job. Insert the following statement in the jobstream at the point that FPS is to be turned off:

```
// EXEC GSFPSOFF
```

The GSFPSOFF program temporarily disables the FPS feature for that partition until end of job. FPS is then automatically reset to its original status for the partition. This program provides an easy and convenient method to temporarily shut off FPS for a job regardless of the partition in which the job is run.

GSFPSON Program

FPS can also be temporarily turned on in a partition for a single job. Insert the following statement in the jobstream at the point that FPS is to be turned on:

```
// EXEC GSFPSON
```

By executing GSFPSON in the jobstream, you can obtain the benefits of FPS in a partition until the jobname changes. FPS is then automatically reset to its original status at end of job.

GSFTL Utility

The GSFTL utility is used to:

- Define all phases to be supported by FTL
- Initialize the Resident Program support and move the phases to storage
- Print the statistical reports
- Initialize and update the FPS facility
- Disable the monitor function
- Disable a single phase or the entire Resident Program support

GSFTL must be executed in the BG virtual partition while initializing or deactivating FTL.

To print the statistical reports, GSFTL can be executed in any partition. The GSFTL utility requires a minimum partition size of 128K. Do not use a ,SIZE= parameter on the GSFTL EXEC card.

GSFTL Control

GSFTL is controlled by parameter control cards. Control cards can be entered from SYSIPT or the system console (SYSLOG), depending on the following criteria:

If the // EXEC GSFTL statement is read from SYSIPT, all control cards are assumed to be on SYSIPT.

If the // EXEC GSFTL is entered on the system console, all control statements must be entered via the console as well. GSFTL prompts the user for each input statement with the following console message:

```
ENTER F T L COMMAND
```

Use /*, /&, or END commands to end the current input stream. Columns 1 through 71 on the input statement are available for the control card information. The control card format is free form so that a statement can begin in any column. Only one command per card is permitted.

GSFTL Initialization

Use the RDL=CREATE command of the GSFTL utility to initialize the Resident Program support. The command causes GSFTL to initialize the Resident Directory List, an internal list of all phase names which are to be maintained in storage.

RDL=CREATE

```
RDL=CREATE [,MONITOR(n)]
           [,FBUF={1 n|NO}]
```

MONITOR and FBUF are optional parameters. n is a value 1 9.

Use the MONITOR parameter of the RDL=CREATE command to initialize the FTL Monitor. The FTL Monitor requires a minimum of 2K of additional real storage. More storage is required to monitor the activity of the B transients plus all other phases loaded by the system. To monitor all phases, enter a value of 2 9 in the MONITOR parameter. The value indicates the number of storage pages to be obtained. If 1 is specified, or if the value is omitted, one additional page is obtained for the monitor and only B transients are monitored.

Unicenter CA-FAQS ASO Phase Load List Buffer

Unless FBUF=NO is specified on the RDL=CREATE command, FTL maintains a buffer in the system GETVIS area to keep a wrap around table of the most recent phases loaded by each job. The Unicenter CA-FAQS ASO Console Spooling report uses this buffer to print the Phase Load List Activity report at end of job.

The default size of the system GETVIS buffer is 512 bytes, which holds approximately 13 entries before wrapping. To increase the size of this buffer for each partition, specify the FBUF=n parameter, where n represents the amount of system GETVIS to be acquired for each partition in 1024 byte (1K) increments.

Dynamic partitions use dynamic GETVIS rather than system GETVIS. To suppress the end of job report, specify the FBUF=NO parameter and system GETVIS will not be allocated.

Job Control Statement	Explanation of Parameters
RDL=CREATE	No parameters
RDL=CREATE,MONITOR	Monitor only B transients
RDL=CREATE,MONITOR(n)	n=2 9 to monitor all phases
RDL=CREATE,FBUF=NO	Suppress phase load list report
RDL=CREATE,FBUF=n	n=1 9 to increase load list size

For example, executing the following statement increases the partition buffer size by 2K and monitors all phases:

```
RDL=CREATE,FBUF=2,MONITOR(4)
```

Specifying Resident Phases

To indicate which phases are to be made resident, specify the names of the corresponding phases in the subsequent control statements (one name per card), each having the following format:

Job Control Statement	Explanation
phasename	Any phase under 32K
phasename,SVA	SVA eligible phase to be loaded into SVA
$$Bname	B transient name
$$Bname,REAL	To load a phase into real
FAQS	Support the Unicenter CA-FAQS ASO job control phases
FTLLIST	The FTL list of frequently loaded phases

Special Considerations

You must take the following special considerations into account when specifying resident phases:

- Do *not* put $$BOTSVA or $$BOTLTA under FTL control. Putting either one of these B transient names under FTL control will cause errors in your SYSLOG.
- When the REAL operand is specified, the phase is maintained in real storage rather than virtual storage. If REAL is omitted, the phase is stored in virtual storage. The phase name specified must be a valid B transient (maximum size of 1792 bytes), or any system or user phase up to 32K. If any of the phases to be supported are not in the system core image library, the proper user core image library must be defined when FTL is initialized. The Resident Program support will also support any B transient that is already loaded into the SVA through the VSE MOVE mode support. The current SVA copy of the B transient is used by FTL to avoid keeping two copies of the phase in storage.
- FTLLIST generates a list of about 35 phase names that are the most highly accessed phases in a typical system. GSFTL then automatically loads all of the applicable phases in the FTLLIST from the core image library for FTL support. Additional phase names can be supported by adding the names after the FTLLIST statement.
- All of the Unicenter CA-FAQS ASO phases that must be supported by FTL are automatically processed when the FAQS command is specified. FTL performs the SDL swap for Unicenter CA-FAQS ASO so that you do not have to add any Unicenter CA-FAQS ASO phases to the SDL or SVA.

- When the FAQS command is specified in GSFTL, FTL supports a 512 byte buffer in the system GETVIS area for each partition eligible for Console Spooling support. All phase names loaded into the partition are stored in this buffer to record the phase name, library name, and time of day of the fetch. The Unicenter CA-FAQS ASO EOJ Console Spooling routine extracts the recorded information from the GETVIS buffer to print the Phase Load List report. The size of the system GETVIS phase load buffer can either be increased to hold more phases, or eliminated altogether by specifying the FBUF parameter on the RDL=CREATE command.
- GSFTL will load any phase that is link edited and SVA eligible into the SVA in the standard SVA resident mode. If the phase has already been loaded into the SVA, GSFTL will not load a second copy of the phase. SVA eligible phases are not moved from the SVA into a partition or the LTA, but actually execute within the SVA. To load an SVA eligible phase into the SVA, specify phasename,SVA.
- Other products may use vendor exits or SDL swaps to rename phases that are under FTL control. Such products should be initialized after FTL to prevent FTL from loading the vendor phase instead of the one intended. If FTL loads a vendor phase instead of the original IBM phase, a loop will probably result since loading either phase will actually invoke the vendor phase.

Acquiring Storage

After the phase names for all phases to be made resident have been entered, enter the RDL=END command. When this command is processed, GSFTL takes the required virtual and real storage from the SVA. The selected transients and phases are loaded from the system libraries into storage, and the exit within the supervisor to the FTL logic is established. Phases that do not have an entry in the SDL are added to the SDL by GSFTL. By maintaining an entry in the SDL for each FTL phase, FTL can automatically disable the phase if it is renamed, deleted, or re-cataloged.

FTL Monitor Standalone Initialization

Specify the RDL=CREATE,MONITOR(n) command followed immediately by the RDL=END command to initialize the FTL Monitor in stand alone mode. The FTL Monitor in stand alone mode requires a minimum of 4K of real storage.

FPS Initialization

FPS is an optional feature of the FTL facility. The FPS feature must be activated at FTL initialization. To initialize the FPS feature, enter the FPS command prior to the RDL=CREATE command of GSFTL. If FPS is not specified, FPS is not activated. The partitions to be supported by FPS, the GETVIS buffer size to use for each partition, plus the optional card flush parameter are specified in the FPS command.

```
FPS=id(n,C),id(n),id(n),id(n)...
```

The partition to be supported is specified as a 2 character partition identifier (BG and F1 through FB).

You can also use dynamic partition classes Cx Ex or Gx Zx.

In addition, you can specify

- Activation of the card flush option for partition (C)
- The size of GETVIS to use for each I/O buffer (n)

The card flush option and the GETVIS parameter are optional.

GETVIS Buffer Size

Specify a value from 2 to 9 to indicate the size of the GETVIS buffer to be obtained to block the printer I/O (2 = 2K, 4 = 4K, etc.). If the buffer size parameter is omitted, a 2K buffer is used. The card flush option causes FPS to force out any partially filled print buffers for a partition on each card input read request. This feature is necessary if POWER segmentation is performed by inserting JECL LST statements in the middle of an input data stream. (For a complete explanation of FPS, see the section, How FPS Works.) Any partitions not specified in the FPS command are not supported.

In the following example, the user has indicated that FPS is to support F2, F5, F6, F7, F8, and BG. The size of the GETVIS buffer will be 2K for BG and F6, 4K for F8 and F7, and 8K for F2 and F5. The card flush option has been specified for F2.

```
FPS=BG,F8(4),F7(4),F6,F5(8),F2(8,C)
```

The optimum value to use for GETVIS buffer space depends on each installation's memory requirements. Systems with relatively low paging rates can use the maximum 9K buffer from the partition GETVIS without any impact on paging. Systems with high paging rates should leave the buffer size at 2K in order to alleviate an increase in paging. FPS obtains the buffer space from the partition GETVIS for each opened printer in the supported partition. Therefore, any programs which print to more than one printer device will require a separate GETVIS I/O buffer for each print device that is opened.

LTAB Parameter

Device independent DTFs (DTFDI) with PRINTOV=YES specified may require an LTAB. FPS obtains this information by looking for LTAB values in the following order:

1. The POWER LTAB default value defined at system initialization.
2. A user defined LTAB value (if no POWER LTAB default value is available). This value can be defined at GSFTL startup.
3. The FPS default LTAB value hard coded in the FPS routine (if no POWER or user defined LTAB values are available). The FPS default value is

   ```
   LTAB=(56,00,10,15,20,25,30,35,40,45,50,55,56)
   ```

You must enter the FPS command first, prior to entering the LTAB parameter value.

Format

You can use the following format to define your own LTAB value:

```
LTAB=(xx,aa,bb,cc,dd,ee,ff,gg,hh,ii,jj,kk,ll)
```

xx is the number of lines per page. *aa* through *ll* are the line numbers where printing starts after a skip to channel.

LTAB Error Message

If you receive the GTF615 NO LTAB AVAILABLE error message when you try to run FPS, contact Computer Associates Technical Support.

Unicenter CA-FAQS ASO Support

To support the Unicenter CA-FAQS ASO phases with FTL, specify the FAQS command in the GSFTL initialization execution. FTL automatically loads all of the required phases.

FTLLIST

The FTLLIST command causes GSFTL to automatically generate a list of approximately 35 of the most highly accessed phases in a typical system.rThese phases include B transients, DOC transients, and job control phases. Add or delete entries by modifying the FTLLIST.A book in the source statement library. After modifying this book, re-catalog the FTLLIST phase into the Unicenter CA-FAQS ASO library. The following example demonstrates the JCL necessary to re-catalog FTLLIST:

```
// JOB FTLLIST
// OPTION CATAL
   PHASE FTLLIST,*
// EXEC ASSEMBLY
   COPY FTLLIST
   END
/*
// EXEC LNKEDT
/&
```

GSFTL Examples

The following example shows how to initialize the FTL Monitor and FPS for BG, F5, F6, and F7:

```
// JOB INIT MONITOR AND FPS FACILITIES
// EXEC GSFTL
   FPS=BG,F6,F7,F5(4)
   RDL=CREATE,MONITOR(3)
   RDL=END
/*
```

The following example shows how to initialize FTL with FPS, Resident Program Support, and Monitoring:

```
// JOB INIT FTL
// EXEC GSFTL
   FPS=BG,FB,FA,F9,F8,F7,F6,C,T(8)
   RDL=CREATE,MONITOR(2)
   FAQS
   FTLLIST
   RDL=END
/*
```

FPS Updates

Use the FPS command of GSFTL to modify the status of FPS in a partition. However, FPS must have been initialized prior to issuing the RDL=CREATE command of GSFTL. A partition can be dropped from or added to FPS support in an update execution of GSFTL. In addition, the buffer size of any partition can be altered using the FPS command.

FPS=*id(n)*

Add a partition or modify buffer size.

FPS=*id***(OFF)**

Drop a partition from support.

FPS=*

Add the current partition back to FPS. * is supported for static and dynamic partitions. FPS=*(n) modifies buffer size, and FPS=*(OFF) drops the current (static) partition from FPS. For dynamic partitions, this command turns on the entire class.

```
// JOB FPS UPDATE
// EXEC GSFTL
   FPS=BG(6),F4(6)
   FPS=*(OFF)
   FPS=F8(OFF)
/*
/&
```

GSFPSOFF Program

The GSFPSOFF program temporarily turns off FPS in any partition for the duration of a single job. Insert the following statement in the jobstream at the point that FPS is to be turned off:

```
// EXEC GSFPSOFF
```

The GSFPSOFF program temporarily disables the FPS feature for that partition until end of job. FPS is then automatically reset to its original status for the partition. This program provides an easy and convenient method to temporarily shut off FPS for a job regardless of the partition in which the job is run.

GSFPSON Program

FPS can also be temporarily turned on in a partition for a single job. Insert the following statement in the jobstream at the point that FPS is to be turned on:

```
// EXEC GSFPSON
```

By executing GSFPSON in the jobstream, you can obtain the benefits of FPS in a partition until the jobname changes. FPS is then automatically reset to its original status at end of job.

GSFTL Status and Statistics

The current status of the FTL Resident Program support is available at any time by specifying the STATUS command of GSFTL. In addition to displaying the current operational status (active/not active), this command also causes GSFTL to print the statistical reports on SYSLST.

The statistical reports detail the use of all the resident phases plus the activity of all nonresident phases that are loaded over the statistical period. The Fetch/Load Monitor report is produced only when the monitor facility is active.

Specify the STATUS command in the following formats:

```
STATUS
STATUS=RESET
```

The optional RESET operand of the STATUS command causes GSFTL to reset all statistic counters to zero. The RESET option eliminates the need for terminating and reloading Resident Program support to gather new statistics over a new time frame.

Statistical Reports

The statistical reports produced by the GSFTL utility STATUS command are described as follows:

Resident Program Activity

Prints the activity of each phase supported by FTL. Each resident phase is listed in ascending sequence along with the number of times the phase was referenced, the number of time the phase was moved to the processing area from storage without a page fault, and the number of times a page fault occurred. This report is available online via the Unicenter CA-FAQS ASO Online transaction by entering the FTL RDL command.

FTL Monitor

Lists each unsupported phase name that was loaded over the statistical time period and the number of times it was loaded. The report By Phase Name is sorted in ascending sequence by phase name. The report By Activity is sorted in descending order by phase activity. The reports can be obtained on the Unicenter CA-FAQS ASO Online transaction by entering the FTL MON command. The FTL Monitor must be active.

FPS Status

Details print activity and the effective blocking factor gained by using FPS. The report lists the number of EXCPs that would be required if FPS were not active, the actual number of EXCPs issued by FPS, the number of printer CCW commands blocked into each EXCP, and the number of printer DTFs opened for each partition supported with FPS.

GSFTL Deactivation

The DISABLE command of the GSFTL utility will deactivate a single phase, the monitor function, or the entire Resident Program support.

Command	Phases Disabled
DISABLE	All phases
DISABLE=MONITOR	FTL Monitor
DISABLE=phasename	Single phase named phasename

Single Phase Deactivation

To deactivate any phase supported by FTL, specify the DISABLE command and the phasename to be deactivated. Once the phase has deactivated, all subsequent fetch/loads for the phase will read the module from the library as normal. The phase remains disabled until Resident Program support is re enabled using the RDL=CREATE command.

FTL will automatically disable a phase if the phase is deleted, renamed, or re-cataloged and the SDL entry for the phase is modified. This guards against FTL supporting an incorrect copy of a phase.

Following is an example of JCL used to disable a single phase:

```
// JOB DISABLE PHASES
// EXEC GSFTL
   DISABLE=$$BOPN01
   DISABLE=$JOBCTLG
   DISABLE=$$BFAQS
/*
```

Monitor Deactivation

The DISABLE=MONITOR command permanently deactivates the FTL Monitor. FTL will stop gathering statistics of all nonresident phase activity. The monitor function remains disabled until FTL is re initialized at Unicenter CA-FAQS ASO startup (or at Unicenter CA-FAQS ASO IPL). This command also generates the statistical reports on SYSLST described previously in this chapter.

```
// JOB DISABLE THE MONITOR
// EXEC GSFTL
   DISABLE=MONITOR
/*
```

Resident Program Deactivation

The DISABLE command with no operands immediately deactivates Resident Program support. The deactivation process involves restoring the supervisor exits to their original status and returning the pages acquired from real storage to the to the SVA.

GSFTL will print at deactivation time the statistical reports on SYSLST described previously in this chapter.

```
// JOB DISABLE FTL
// EXEC GSFTL
   DISABLE
/*
```

Resident Program support can be disabled and re initialized in the same jobstream but not in the same GSFTL execution.

GSFTL Command Summary

The following contains a summary of the GSFTL control statements and an explanation of each statement:

/*, /&, END

Indicates the end of all input statements for console input.

DISABLE

Terminates and purges Resident Program support. Also produces the four statistical reports on SYSLST. For more information, see the section, GSFTL Status and Statistics, earlier in this chapter.

DISABLE=$$Bname

Deactivates the specified phase. The phase is set ineligible for FTL support.

DISABLE=MONITOR

Terminates the FTL Monitor. The four statistical reports are automatically produced on SYSLST. For more information, see the section, GSFTL Status and Statistics, earlier in this chapter.

FAQS

Automatically loads all phases required by the Unicenter CA-FAQS ASO Console Spooling facility into storage and creates the required SDL entries.

FPS=id(n,C),..

Activates Fast Printer Support. id is a partition ID or dynamic class, n is the requested buffer size, and C is the card flush option. Must be specified prior to the RDL=CREATE command.

FPS=id(OFF),..

Deactivates Fast Printer Support for the specified partition or dynamic class.

FTLLIST

Automatically generates a list of frequently referenced phase names to be supported by FTL.

RDL=CREATE

Initiates Resident Program support by creating the RDL list. Any phases to be supported by FTL must be entered in the subsequent statements.

RDL=CREATE,MONITOR

Starts the creation of the RDL list and the activation of the FTL Monitor.

RDL=CREATE,FBUF=n

Starts the creation of the RDL list and indicates the size of the system GETVIS buffer to use to record entries for the Unicenter CA-FAQS ASO Console Spooling Phase Load List Activity report. FBUF=NO suppresses this report. Defaults to FBUF=YES.

RDL=END

Marks the end of selected phases to be supported. When this command is read, GSFTL initializes Resident Program support, the monitor facility (if specified), and loads the selected phases into real and virtual storage.

STATUS

Displays the current status of FTL on SYSLST and SYSLOG, and prints the four statistical reports on SYSLST if the Resident Program support is active.

STATUS=RESET

Displays the current status of FTL on SYSLST and SYSLOG, and prints the statistical reports on SYSLST (see the section, GSFTL Status and Statistics) if the Resident Program support is active. Also resets all of the statistic counters to zero.

GSFTL Considerations

The following represents commonly asked questions about GSFTL:

Which phases should be made resident?

Only the most active phases should be kept resident in storage. Generally, you can expect the job control phases, $$A transients, OPEN/CLOSE phases, and VSAM related transients to be the most active in the system. However, to determine the most consistently referenced phases, use the optional FTL Monitor. By running the FTL Monitor during various periods of the day, it should become apparent in a relatively short time which phases should be supported by FTL.

How many phases should be made resident?

The number of phases to be kept in storage by FTL will vary depending on storage capacity and paging activity. Systems that are not plagued with high paging activity and frequent partition deactivation can afford to make more phases resident than systems that experience high paging rates. The FTL Monitor provides the optimum phases to place in storage.

The following will help approximate the number of loads required before it is beneficial to set any phase resident. The disk access time alone for a single I/O operation is between 30 and 60 milliseconds depending on the type of disk and the distance the arm mechanism must travel.

A standard transient fetch requires a minimum of two I/O operations to read it from the core image library. If the phase is in the system core image library with an entry in the System Directory List (SDL), it is possible to load the phase in a single I/O. The VSE FETCH routine must search the entire library definition chain (LIBDEF) until the phase is found.

This can be only one library or it could be up to 64 different libraries to search to find the phase (32 temporary and 32 permanent). Each core image library that must be accessed will involve a minimum of one I/O. No I/O operations are involved for FTL to move the phase directly from storage unless a page fault occurs.

Therefore you can generally expect to gain a minimum of 30 to 120 milliseconds up to several seconds for each FTL load. This figure will vary depending upon the degree of CPU I/O overlap, page fault activity, and the number of libraries in the search chain.

Should phases be loaded into real or virtual storage?

Since it is possible for a page fault to occur when moving a phase from the SVA, any phases with extremely high reference counts can be placed in real storage, thereby preventing the possibility of a page fault.

Sample Reports

This section describes various sample reports.

Resident Program Activity

The Resident Program Activity report provides detailed information on the activity of all phases supported by FTL over the statistical period. The STATUS and DISABLE commands of GSFTL request the Transient Activity report. A sample report is shown on the following page. This report provides the following data:

DURATION

Length of time over which the statistics have been gathered. The statistical period starts at initialization time and can be reset with the STATUS=RESET command.

PHASE NAME

Each phase supported by FTL sorted in phase name sequence.

LOAD COUNT

Number of load requests issued for the given phase over the statistical period.

IN REAL

Number of times the phase was moved to the transient area without causing a page fault. When a phase can be moved without a page fault, a time savings of anywhere from 30 to 120 milliseconds can be expected (depending on whether the phase contains an entry in the SDL).

PAGED IN

Number of times the phase had to be paged in from the page dataset in order to be moved to the transient area. Phases placed in real storage at initialization should never cause a page fault.

MODE

VIRT indicates the phase was put into virtual storage at initialization time. Phases loaded in real storage are marked with REAL. MOVE indicates FTL is supporting a phase that is in IBM move mode. Disabled phases are marked with DISABLE in the mode field. If any of the supported phases were specified to be loaded at an invalid address by a user program, the phase will be flagged by ERR25 in the mode field.

LOAD PT

Load address of the phase in the SVA.

LENGTH

Length of the phase in bytes.

The following is a sample Resident Program Activity Report:

```
DURATION 005:22       *** RESIDENT TRANSIENT ACTIVITY ***
PHASE     LOAD COUNT     IN REAL    PAGED IN      MODE     LOAD PT    LENGTH
$$BACLOS           0           0           0      MOV     01B2DDF8       562
$$BATTNA           1           1           0      MOV     01B2E030     1,332
$$BCEOV1           0           0           0      MOV     01DACB64        74
$$BCLOSE          29          29           0      MOV     01B54CF8       780
$$BCLOS2           5           5           0      MOV     01B2F2B0       624
$$BCLRPS           0           0           0      MOV     01B2F868       720
$$BOCP01          10          10           0      MOV     01B2FE60       946
$$BOESTV           0           0           0      MOV     01B30578       849
$$BOMLTA           0           0           0      MOV     01B30D50       848
$$BOMSVA           0           0           0      MOV     01B310A0       888
$$BOMSV2           0           0           0      MOV     01B31418     1,584
$$BOPEN           39          39           0      MOV     01B549E8       780
$$BOPENR           4           4           0      MOV     01B31DC0     1,180
$$BOPEN1          44          44           0      MOV     01B32260     1,188
$$BOPEN2           0           0           0      MOV     01B32708       880
$$BOPEN4           0           0           0      MOV     01DACBB0       888
$$BOSFBL          25          25           0      MOV     01DAD000       760
$$BOSMIN           7           7           0      MOV     01DAD718       576

ENTER FAQS COMMAND    (OPERATOR MODE)                                  11:30:08
FTL
```

FTL Monitor

The FTL Monitor reports display the most frequently accessed phases. The FTL Monitor requires a minimum of 2K of additional real storage from the page pool and is activated by specifying the MONITOR option of the RDL=CREATE command. GSFTL obtains one page of real storage to monitor fetch/load activity of all of the non-supported B transients. You can also monitor fetch/loads of non B transients by specifying an additional parameter on the MONITOR option, indicating that more than one page of storage should be obtained for monitoring purposes. By specifying any value from 2 to 9 with the MONITOR parameter, FTL will obtain the indicated number of pages to monitor all phases loaded over the FTL activity period.

The STATUS and DISABLE commands of GSFTL request the FTL Monitor reports. The reports are the same except that the first report is sorted by phase name and the second report is sorted by activity. A sample report by activity is shown on the following page. The reports are printed on SYSLST and contain the following information:

DURATION

Length of time over which the statistics have been gathered. The statistical period begins at initialization time and can be reset with the STATUS=RESET command.

PHASE NAME

Name of each nonresident phase loaded during the statistical period. About 200 phase names can be supported in each page obtained for the monitor facility. When an overflow condition is reached, all subsequent loads for any non-supported phase that are not already recorded will not be entered in the monitor list. To avoid this situation, use the STATUS=RESET command to periodically clear the monitor list. Phases in the SVA are marked either SVA or MOVE; phases in the SDL are marked SDL.

LOAD COUNT

Number of fetch/load requests issued for each of the corresponding phases over the time period.

The FTL Monitor report is printed twice for each request. The first report is sorted by phase name and the second report is sorted by activity.

The following is a sample FTL Monitor Report:

```
VSE - GSFTL UTILITY         5.0-0203  CPUID=FF0458429672     VSE/AF 6.5.0   04/15/02    8.19.14   PAGE   8
DURATION   90 HR., 40 MIN.                      M O N I T O R   R E P O R T          (BY ACTIVITY)
PHASE NAME   REFERENCED     MODE   PHASE NAME   REFERENCED     MODE    PHASE NAME   REFERENCED     MODE

  $IJBSLA        67,794      SVA     $JOBCTLJ          357             $$ABERA3           66
  IKQVCAT        60,762      SVA     IKQVCHK           338             ASSEOA             64
  IKQVSHR        38,203      SVA     S1M610            230             ASSEQA             64
  $$BCVS02       18,672      MOVE    GSLSTOP           228             ASSESA             64
  IKQVDNT        18,649      SVA     $$BOTSVA          227             ASSEMBLY           64
  $$BCLOSE       17,799  FTL MOVE    IKQVPBF           219      SVA    ASSECA             64
  IKQVSTM        17,798      SVA     $$BOSDC1          219      MOVE   ASSEFA             64
  $$BOPEN1       17,696  FTL MOVE    $$BOTLTA          212             ASSEIA             64
  IKQVCLC        17,660      SVA     $$BOAXP1          204      MOVE   ASSEJA             64
  IKQVCLOS       17,635              SORT              198             ASSEKA             64
  IKQVLAB        17,198      SVA     CA70D100          197             ASSELA             64
  $IJJHCVH       17,138      SVA     CA70B100          197             ASSEMA             64
  $$BOPEN        16,883  FTL MOVE    CA70B015          197             $$BATTN2           61  FTL VIRT
  $IJBASGN       15,406      SVA     CA70B012          197             CA70E303           59
  IKQVASMT       15,082      SVA     CA70B008          197             IDCDI02            58
  IKQVGEN        10,745      SVA     CA70B007          197             IDCDI01            58
  IKQVMSG         9,541      SVA     CA70B005          197             JCLSECUR           56
  IKQFTIND        9,215      SVA     CA70B004          197             $$BFAQIR           55
  IKQVOPEN        9,128      SVA     CA70B003          197             MCCLST             54
  IKQVRM          9,127      SVA     CA70B002          197             IDCVY01            54
  $$BOVSAM        9,127  FTL MOVE    CA70A002          197             IDCCDVY            54
  $$BOAXP2        9,119      MOVE    CA70A001          197             INV930             52
  $IJBCJC         8,682      SVA     CAICOPEN          197             IKQVBRP            52       SVA
  IKQVDTPE        8,647      SVA     $LNKEDT           197      SDL    GSC2PUN            49
  $$BCVSAM        8,399      MOVE    CA70E107          193             IDCTSPR0           48
  $$BOSFBL        8,007  FTL VIRT    CA70C110          191             IDCPR01            48
  $$BOSMXT        7,341  FTL MOVE    CA70B205          189             IDCCDPR            48
  $$BOSMIN        7,214  FTL VIRT    IKQVNEX           163      SVA    GVPRODCD           48
  $$BOVS01        6,204  FTL MOVE    FCOBOL            145             IDCIO03            44
  $$BOSVLT        4,369  FTL VIRT    FCOBOL61          143             MCLTCLU            40
  $JOBCTL5        4,287  FTL VIRT    FCOBOL60          143             $$ABERAB           40
  $JOBCTLG        4,287  FTL VIRT    FCOBOL51          143             $$ABERAA           40
  IKQSMMON        3,768      SVA     FCOBOL50          143             $$ABERRJ           36
  $IJGXSRV        3,446      SVA     FCOBOL40          143             $$BSYSWR           35
  $JOBCTLE        2,813  FTL VIRT    FCOBOL30          143             $$ABERA7           32
  $$BCLOSU        2,686      MOVE    FCOBOL22          143             MCPRODCD           30
  $$BFPSCX        2,686  FTL MOVE    FCOBOL21          143             $$BOPNR3           28       MOVE
  $$BCLOS2        2,686  FTL VIRT    FCOBOL20          143             IDCTSDL0           28
  $$BOCP01        2,653  FTL MOVE    FCOBOL11          143             IDCDL01            28
  $$BFPSDX        1,840  FTL MOVE    LIBR              131             GL467              28
  $$BOCP03        1,840  FTL VIRT    IDCTSTP0          130             $JOBCTLF           27
  $FAQS           1,553      SVA     IDCTSRI0          130             DFHSIP             26
  $JOBCTLN        1,407  FTL VIRT    IDCTSEX0          130             S1M550             23
  $JOBCTLA        1,405  FTL VIRT    IDCTP04           130             CONVUC             22
  $$BOPIGN        1,393  FTL MOVE    IDCSA05           130             ECPIWRTR           22       SVA
  $$BFPSPX        1,381  FTL MOVE    IDCRI01           130             $$ABERAG           20
  $$BOUR01        1,381  FTL VIRT    IDCRILT           130             GVRESTOR           20
```

FPS Status

An FPS status report details print activity and the effective blocking factor gained by using FPS. To print the report, specify the STATUS command of the GSFTL utility. The STATUS=RESET command of GSFTL will reset the FPS statistics as well as the Resident Program statistics. The FPS status report is printed automatically at FPS/FTL deactivation time. A sample report is shown on the following page.

PARTITION

Partition ID.

LOGICAL I/O COUNT

Number of EXCP requests that would be required if FPS were not active. This value also indicates the number of times the partition would have been interrupted, a supervisor code was entered, and POWER was dispatched in order to print the requested lines. This value is usually higher than the total number of lines printed, since ASA carriage control requires two I/Os for every line to be printed.

PHYSICAL I/O COUNT

Count of EXCPs actually issued by the FPS support.

BLOCKING FACTOR

Number of printer CCW commands blocked into each EXCP. This value is the logical I/O count divided by the physical I/O count.

OPEN COUNT

Number of printer DTFs opened.

BUFFER SIZE

Buffer size used to buffer print I/O.

STATUS

Status of FPS for the partition.

The following is a sample FPS Status Report:

```
GSFTL UTILITY    5.0-0203  CPUID=FF0458429672   VSE/AF 6.5.0   04/15/02   11.27.40  PAGE 1

** F T L ** RELEASE 5.0-0203 03/19/02 STATUS
GTF600 FPS FACILITY ACTIVE
PARTITION    LOGICAL I/O    PHYSICAL I/O   BLOCKING    OPEN    BUFFER    STATUS
               COUNT          COUNT        FACTOR     COUNT    SIZE
BG              9,734          162          60          16       2K      ACTIVE CARD FLUSH
FB                  0            0           0           0               (OFF)
FA                  0            0           0           0               (OFF)
F9                  0            0           0           0               (OFF)
F8                  0            0           0           0               (OFF)
F7                  0            0           0           2        2K     ACTIVE CARD FLUSH
F6                  0            0           0           2        2K     ACTIVE CARD FLUSH
F5                  0            0           0           2        2K     ACTIVE CARD FLUSH
F4                  0            0           0           2        2K     ACTIVE CARD FLUSH
F3                  0            0           0           2        2K     ACTIVE CARD FLUSH
F2                  0            0           0           2        2K     ACTIVE CARD FLUSH
F1                  0            0           0           0               (OFF)
X1                  0            0           0           0        2K     ACTIVE
X2                710           46          15           0        2K     ACTIVE
X3             15,408          495          31           0        2K     ACTIVE

TOTALS         25,852          703          36          18
```

Appendix A: GSFAQS Command Summary

This section lists and explains the GSFAQS batch commands.

GSFAQS Commands

The following section contains the GSFAQS batch commands. Although their functionality has been replaced by the AO panel system, they are still supported for upward compatibility.

/*, /&, or END

Ends input processing for console input.

CANCEL

Signals GSFAQS to go immediately to the end of job without processing any additional commands and to ignore all previous ones. Used for console input.

COMMAND filename

Initializes the specified Unicenter CA-FAQS ASO command file. The file contains user defined commands or redefined system commands.

Specify DLBL and EXTENT statements for SYS$VIO in the standard labels.

`CONSPOOL id,...EXIT,TIME=YES/NO`

Defines each partition's eligibility for the EOJ Console Summary Report that is printed after a job.

id can be BG, F1, or any of the dynamic partitions.

The EXIT parameter is an optional parameter that causes GSFAQS to activate the EOJ user exit, FAQSEXIT.

Use this command instead of or in combination with the STARTUP command. If more than one CONSPOOL command for a partition is encountered, the last command encountered is used.

CONSPOOL *id,...*

Updates the status of any partition once console spooling has been initialized. Partition IDs are the only permissible options on an update run. The valid syntax for the IDs are as follows: *id*(L), *id*(A), *id*(OFF), and *id*.

- *id* adds the partition to EOJ reporting
- *id*(OFF) drops the partition from EOJ reporting
- *id*(A) adds the partition to EOJ reporting if the job abends
- *id*(L) adds the partition to EOJ reporting if OPTION LOG is in effect

id can be BG, F1, or any of the dynamic partitions.

Use this command instead of or in combination with the STARTUP command. If more than one CONSPOOL command for a partition is encountered, the last command encountered is used.

DISABLE CLOG

DISABLE CPU

DISABLE AO

DISABLE AR

DISABLE SMSG

DISABLE CLOG,AO,CPU

Deactivates the specified component of Unicenter CA-FAQS ASO. Specify DLBL and EXTENT statements for SYS$VIO in the standard labels.

ENABLE CLOG

ENABLE CPU

ENABLE AO

ENABLE AR

ENABLE SMSG

ENABLE CLOG,AO,CPU

Initializes the specified component of Unicenter CA-FAQS ASO.

Specify DLBL and EXTENT statements for SYS$VIO in the standard labels.

Use this command instead of or in combination with the STARTUP command. If more than one ENABLE command for a function is encountered, the last command encountered is used.

SET AOBUF

Sets number of AO buffers. Used for SMSG message action timers and to run REXX IMODs.

SET FBUF

Specify the space allocated for each partition to monitor phase loads if GSFAQS supports EOJ reporting. Enter the number of K to be allocated, YES for the default value of 512 bytes, or NO if phase-load monitoring is not to be enabled. This storage will be allocated in 31-bit system getvis. Every 1K of storage allocated allows room for about 28 entries.

SET LINEND

Specify a character to be used to separate multiple commands entered together on the VSE console. To use, specify the line end character as the first character of the command and use it to separate each command. For example, if % is the line end character, entering the console command %ASO S%ASO J would execute the ASO S command followed by ASO J. The commands are actually entered by an IMOD running under FAQSAO.

SET MSG=xxx

Define message types, where xxx is a valid parameter. Use parameters as shown:

```
SET MSG=ACTION,REPLY='72char',
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be automatically replied to. REPLY='72char' specifies the reply that is made. Up to 72 characters can be specified. If the REPLY or COMMAND parameters are not used, an EOB is assumed.

Use the following variables for substitution in the reply. The built command cannot exceed 72 characters or it will be truncated.

&P

Substitute the partition ID. For example, BG.

&V

Substitute the virtual machine name.

&J

Substitute the partition jobname.

&(r,l)

Substitute the data from the message that is located at the relocation factor of r, for a length of l.

```
SET MSG=ACTION,COMMAND='72char',
Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be automatically replied to. COMMAND='72char' specifies an A/R command or user defined command from GSFAQS to be issued. Up to 72 characters can be specified. If the REPLY or COMMAND parameters are not used, an EOB is assumed.

Use the following variables for substitution in the command. The built command cannot exceeded 72 characters or it will be truncated.

&P

Substitute the partition ID. For example, BG.

&V

Substitute the virtual machine name.

&R

Substitute the task's replid. For example 0000.

&J

Substitute the partition jobname.

&(r,l)

Substitute the data from the message that is located at the relocation factor of r, for a length of l.

```
SET MSG=HI,Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be highlighted on the system console. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is highlighted.

```
SET MSG=HOLD,Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be held on the top of the current system console display. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the operator must manually delete the line to cause it to scroll from the console.

```
SET MSG=SUPP,Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be suppressed from view on the system console. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is suppressed on the current console.

```
SET MSG=MASK,MASK=(+o,l,m),
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message to be masked permanently on the console display and the hardcopy file. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is masked according to the specified mask. Messages that are masked are permanently masked and will show masked on D L and hardcopy file prints.

```
SET MSG=MSG,User=userid,
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be routed to a specified CMS user. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is sent to the specified CMS user via the VM MSG services.

```
SET MSG=MSGNOH,User=userid,
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be routed to a specified CMS user. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is sent to the specified CMS user via the VM MSGNOH services.

```
SET MSG=SMSG,User=userid,{Node=xxxxxxxx,}
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',Phase='phasename',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be routed to a specified CMS user. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is sent to the specified CMS user via the VM SMSG services. If the optional NODE parameter is specified, the node ID is prefixed to the message.

```
SET MSG=RSCS,User=userid,Rscs=rscsid,Node=nodeid,
    Mid='message',Scan=(n,n),Mid2{¬}=message2,Scan2=(n,n),
    Time=(hh.mm,hh.mm),Job='jobname',
    PID=(id,id,..id)|{=|¬=}id,Count=nn
```

Defines a message type to be routed to a specified RSCS node. When Unicenter CA-FAQS ASO finds a console message that matches the defined message type, the corresponding console line is sent to the specified CMS user via the VM SMSG services.

SET PAUSE

SET PAUSE=YES

SET PAUSE=NO

Initializes the automatic job pause for jobs that abend.

Use this command instead of or in combination with the STARTUP command. If more than one SET PAUSE command is encountered, the last command encountered is used.

SET SMSGOP

Defines the Unicenter CA-FAQS ASO SMSG hook to intercept OP commands and issue them to AR. This extremely powerful feature could be considered a security exposure in some shops.

SET STEPS

Enter the number of job steps to be monitored for EOJ reporting if EOJ reporting is to be supported by GSFAQS, YES for the default of 8 job steps or NO if GSFAQS is not to support EOJ reporting. Each step requires about 60 bytes of 31-bit system getvis.

STARTUP *filename*

Initializes the specified GSFAQS startup file. The file contains definitions that are equivalent to the following commands:

- COMMAND
- CONSPOOL
- ENABLE
- MESSAGE
- SET PAUSE

Use this command instead of or in combination with the commands listed previously. If more than one of the same command is encountered, the last command encountered is used.

Specify DLBL and EXTENT statements for SYS$VIO in the standard labels.

For information about creating startup files, see the chapter, Defining Message Management.

STATUS

Lists the current operational status of each of the GSFAQS facilities.

SYSOUT id,...

Defines each partition's eligibility for the EOJ reports that go to the PDS named SYS$ARC, and updates the status of any partition once SYSOUT archiving has been initialized. Partition IDs are the only permissible options on an update run. Valid syntaxes for the IDs are as follows: *id*(L), *id*(A), *id*(OFF), and *id*.

- *id* adds the partition to EOJ reporting
- *id*(OFF) drops the partition from EOJ reporting
- *id*(A) adds the partition to EOJ reporting if the job abends
- *id*(L) adds the partition to EOJ reporting if OPTION LOG is in effect

id can be BG, Fx, or any of the dynamic partitions.

Use this command instead of or in combination with the STARTUP command. If more than one SYSOUT command for a partition is encountered, the last command encountered is used.

Appendix B: Attention Routine ASO

This appendix explains the ASO command of the VSE AR (Attention Routine).

Using Attention Routine ASO

The following section describes the tasks which can be performed using the ASO command of the VSE AR (Attention Routine).

AR Support

The ASO command of the AR can be used to display the general status of the various components of GSFAQS. GSFAQS must have AR enabled.

Current Status

You can display the current status of GSFAQS at any time by entering an ASO S command via the system console. AR responds with message GFF311, GFF312, or GFF313, depending on the status of each component.

GFF321 shows the LINE END character if one is defined.

GFF322 shows the status of the automation buffers. MAX is the maximum number of slots available for use. (Each 4K buffer allocated has 16 slots; one slot is reserved for error processing.) HIGH shows the maximum number of slots in use. CUR is the current number of slots in use. This should normally be zero. If it is not, check that FAQSAO is actively processing IMOD's and use ASO MSG,REPLY to see if there are replies stacked. If there are, there may be a message action that is replying to a message that does not accept replies. ASO REPLY,CANCEL,pid can be used to delete unwanted replies.

The GFF323 lines show statistics for the different vendor exits Unicenter CA-FAQS ASO uses.

The first three, EOT, PHS MON and EX-PHS are used when GSFAQS supports EOJ reporting. The EOT total includes both job steps and subtask terminations. STEPS is the total number of maintask terminations. PHS MON is the exit used to collect phase-load statistics. MON is the number of loads actually monitored. WRAP on both lines indicates the number of times the monitoring buffers have wrapped. Long-running jobs like CICS, POWER, VTAM, and FAQSMAIN are likely to load and reload many phases, so they should be excluded from monitoring before you conclude that your FBUF size needs to be increased. EX-PHS is the exit used to load GSJOBCTL.

MSG is the exit used to process message actions. TOT is the total calls to the exit and LINES is the total number of message lines processed. Messages are split into multiple lines when one is too long to fit on a single line of the console display (e.g. GFF328). Multi-line output from a single WTO or command-chained CCW's are processed as separate lines. CNTRL is the number of lines whose control information is altered by message actions (highlight, hold, unhold, etc.). The other counts show the number of IMOD's, console commands, replies and notify actions taken.

The CMD exit is the console router vendor exit used to process console commands. The total does not include replies or RED commands. SUBS is the number of commands that are modified by console command processing.

AR CMD is the attention routine vendor exit used to process ASO commands. If the total here is less than the CMD total, it indicates that the CMD exit was driven more than once for a command because the AR was busy.

GFF327 shows the last active IMOD processed by FAQSAO and its current status.

GFF328 shows what IMODs are queued for execution.

The partition priority sequence will always be the priority arrangement that is active at the time the command is entered.

The following is a sample of the ASO S display:

```
aso s
AR 0015 GFF313 CLOG  ENABLED
AR 0015 GFF313 AR    ENABLED
AR 0015 GFF313 SMSG  ENABLED
AR 0015 GFF321 LINE END=%
AR 0015 GFF322 AUTOMATION BUFFER HIGH: 00001 CUR: 00000 MAX: 00031
AR 0015 GFF323 EOT     TOT:   0000000046 STEPS: 0000000028 WRAPS: 0000000001
AR 0015 GFF323 PHS MON TOT:   0000001351 MON:   0000000430 WRAPS: 0000000003
AR 0015 GFF323 EX-PHS  TOT:   0000006629 GSJOB: 0000000096
AR 0015 GFF323 MSG     TOT:   0000001009 LINES: 0000001058 CNTL:  0000000079
AR 0015 GFF323         CMDS:  0000000000 REPLY: 0000000008 IMOD:  0000000014
AR 0015 GFF323         NOTFY: 0000000000
AR 0015 GFF323 CMD     TOT:   0000000039 SUBS:  0000000016
AR 0015 GFF323 AR CMD  TOT:   0000000039 ASO:   0000000019
AR 0015 GFF327 LAST EXEC SERVICED: $PWRPRNT  STATUS: FREE
AR 0015 GFF328 EXEC: $PWRPRNT -> WAIT     STATUS: WTIM R9=0062FEA0,
        R13=00638610
AR 0015 PRTY V,U,S,R,Q,P,O,N,M,L,K,I,H,G,D,E,Z,C,BG,FB,FA,F9,F8,F6,F5,F4,F3,
AR 0015      F2,F7,W,T,F1
```

System Status

You can display the current status of the VSE system by entering ASO DEBUG on the system console. ASO DEBUG may optionally be qualified with the name of a static or dynamic partition. AR or SY can be specified to display information on system tasks.

The following shows some sample output.

```
aso debug
AR 0015 TASK  PHASE    COMREG  PCB    TIB    TCB  TCBSAVE TSS  STATUS

AR 0015 F7-6A FAQSVMX  003898 052260 3EF5A0 3EF61C 610100 82 WAITM
AR 0015    6D FAQXASUB               37D000 37D07C 60D1D0 82 WAITM
AR 0015    6E FAQXCSUB               37D2D0 37D34C 6214F0 83 READY
AR 0015    6F FAQSTSKG               37D5A0 37D61C 628C00 82 W-I/O-> 0062881C
AR 0015    70 FAQSTSKP               37D870 37D8EC 631658 82 W-I/O-> 0063116C
AR 0015    28 FAQSMAIN               053C00 05C198 600000 82 WAITM
AR 0015 F4-25 JCLSCHED 0034A8 051CC0 053D80 05D038 600000 82 OP RESP
AR 0015 T1-31 PHASE*** 3FF4F0 3FF088 3FF268 3FF2E8 620000 82 TIMER-> 006200FA
AR 0015 T2-32 PHASE*** 4014F0 401088 401268 4012E8 620000 8E W-RUR
AR 0015 TASK  32 WAITING ON RESOURCE TEST002      WHICH IS OWNED BY TASK 031
AR 0015 SY-04 PMR-TASK 002F68 051540 053100 054FD8 00AF30 82 W-I/O-> 00092E40
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    12 CST-TASK            053780 059418 00B390 82 WAITM
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    14 FCP-TASK            053880 059EA8 00B430 82 W-I/O-> 00000000
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    10 DSP-TASK            053680 058988 00B2A0 50 DSPBND
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    11 SPT-TASK            053700 058ED0 00B2F0 82 WAITM
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    13 HCF-TASK            053800 059960 00B3E0 82 W-I/O-> 0004DF1C
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    1F CA-TASK             35C000 35C07C 35C5C0 82 WAITM
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    1E VSYS--30            35C800 35C87C 35CDC0 82 WAITM
AR 0015                           TIBFLAG1=01 (SYSACT)
AR 0015    20 AR-TASK             053900 05A3F0 00B340 83 READY
AR 0015                           TIBFLAG1=01 (SYSACT)
```

Message Management Display

Any of the initialized active message reply, highlight, suppression, routing, and retention entries are displayed by entering the ASO MSG command through AR. GSFAQS is displayed if it is present and active. Any stacked console replies are also displayed.

ASO MSG REPLY will display only the stacked console replies.

Pre Answer

Replies to partitions are stacked by use of the ASO REPLY Fx command. The actual reply ID will be generated by Unicenter CA-FAQS ASO. This allows subtask replies to be handled also, allowing the operator to pre answer anticipated replies to currently running jobs. Stacked replies can be cleared using the ASO REPLY CANCEL command.

The following are ASO REPLY ID examples:

Example	Actual Reply ID
ASO REPLY BG	0000
ASO REPLY F2 DELETE	0002 DELETE
ASO REPLY F7 IGNORE	0007 IGNORE
ASO REPLY CANCEL	Clears table
ASO REPLY T1	0020

Subtask replies are handled dynamically by identifying the partition where the message originated. Any generated replies that are not made are cleared at partition EOJ. ASO REPLY CLEAR can also be used to clear all outstanding replies.

Job Overview Report

The Job Overview Report is produced when a user enters an ASO J command via the console. This report lists the jobname running in each partition, duration of the job, the phase executing in each partition, the duration of the phase, plus the total CPU seconds and SIO counts used by each phase. In addition, the current run code or Task Status Flag is displayed for each partition.

The run code information is obtained from the TIB. A description of the various run codes and the meaning of the flag values can be found in the IBM VSE/Advanced Functions Handbook under the section, "Task Status Flags," or from the Unicenter CA-FAQS ASO Online transaction by entering MSG TSS.

The following is an example of the ASO J command. Any jobs that have been stopped by the AR ASO STOP command are flagged with an asterisk beside the partition ID. Only active partitions are shown. CPU utilization, paging rates, POWER queue, data and account file utilization, and any outstanding replies are also shown:

```
aso j
AR 0015    JOBNAME  DURATION  PHASE    DURATION CPU SEC  TSS/RUNCODE   SIO'S
AR 0015 F1 POWSTART 03.50.15  POWER2H  03.50.14   013.7  82-W-I/O       9548
AR 0015 W2 FAQSIUX  03.50.01  FAQSIUX  03.50.00   000.6  82-W-I/O         51
AR 0015 W1 DCMTDRIV 03.50.01  DCMTDRIV 03.50.00   000.5  82-W-I/O         92
AR 0015 F7 DCMTASK  03.50.02  FAQSMAIN 03.50.01   005.1  82-W-I/O       2143
AR 0015 F2 CICS410  00.02.54  DFHSIP   00.02.54   009.5  82-W-I/O      17139
AR 0015 F3 VTAM     03.50.10  ISTINCVT 03.50.09   003.8  82-W-I/O       1566
AR 0015 FB FB       03.50.26  TSSMNGR  03.50.25   000.9  82-W-I/O        799
AR 0015 CPU:   0.04% PAGING IN:     0/S OUT:     0/S PWR Q/D/A:   6/  5/ 22
AR 0015 REPLY -> F2-0109
```

Job STOP

An active partition can be stopped in the middle of processing by entering the ASO STOP command. The job is set non-dispatchable until the operator reactivates the partition with the ASO START command.

```
ASO STOP,id    (id is the partition ID to stop)
```

Job START

Jobs that have been stopped using the ASO STOP command can be activated by specifying the ASO START command.

```
ASO START,id    (id is the partition ID to start)
```

VM/CP Interface

VM CP commands can be entered directly through the system console via AR with the ASO CP command. GSFAQS passes the CP command directly to VM using a special diagnose command. The response from VM is then returned on the system console. Any valid VM CP command can be entered with the ASO CP command in this fashion.

```
ASO CP IND FAVOR
ASO CP Q PRT
ASO CP MSG USER1 PLEASE DET 280
ASO CP ATT 280 DOSVSE 281
ASO CP SET FAVOR DOSVSE 100
```

ASO Commands

Use the following ASO commands to display information about components of GSFAQS.

ASO CP

Any VM CP command can be entered directly through the system console.

ASO CP Q CPUID

Displays the processor ID that is in use by the virtual machine. This command can be issued when not in operator mode.

ASO DEBUG *id*

Provides a report of all tasks active in the system at any given time or only in the specified partition. The report is designed to provide easy access to all of the major partition- and task-related control blocks for problem determination.

ASO IMOD *imod parms*

ASO I *imod parms*

Provides a way to execute an IMOD from the VSE console without defining a console command. To use the old long parameter form, specify ASO IMODL or ASO IL. The imod name and parameters are transmitted to FAQSAO for execution through a queue in the automation buffers.

ASO J

Causes the Job Overview Report to be printed on the system console. This report lists each job executing in each partition plus the phase name and duration of job and step.

ASO MSG

Lists the active message highlight, message suppression, message action, message notification, and message retention entries of the console. GSFAQS is displayed if it is present and active. Any stacked console replies are also displayed.

ASO MSG REPLY

Lists any stacked console replies.

ASO REPLY fx value

Stacks a reply to the specified partition fx. The actual reply ID will be generated by Unicenter CA-FAQS ASO. This allows subtask replies to be handled also, allowing the operator to pre answer anticipated replies to currently running jobs. Stacked replies can be cleared via the ASO REPLY CANCEL command.

ASO REPLY CANCEL

Clears all stacked replies generated via GSFAQS MSG=ACTION and ASO REPLY fx command.

ASO S

Display status of various Unicenter CA-FAQS ASO functions.

ASO START,id

Activates a task previously stopped by GSFAQS; id represents the partition in which the task is executing.

ASO STOP,id

Stops the specified partition from processing. The partition is set non-dispatchable until it is reactivated with an ASO START command.

ASOH*text*

Write the message represented by 'text' from the attention routine so that it is held and highlighted. This can be used in a message action command to write a held message that will not be deleted when the job that triggered the message action ends. Too many held messages may fill up console screens and may eventually cause the AR to cancel, freeing all the held messages so they should be deleted as soon as possible.

ASOW*text*

Write the message represented by 'text' from the attention routine. This can be used, for example, to test message actions or as a message action command to write a message to the console using variable substitution.

Appendix C: AO Commands

This appendix describes how to use the AO console command.

AO Command

You can use the AO command either to access the Unicenter CA-FAQS ASO AO menu system from the online-system or to issue an operator command. To use AO to access the AO menu system, enter AO x, where x is an optional single letter associated with one of the options on the Unicenter CA-FAQS ASO AO menu. (See AO MENU SYSTEM.)

To use AO to issue an AR command, get into operator mode and enter AO followed by one of the command options listed. AR commands can also be issued from the system console.

FAQSAO must be running in a partition and GSFAQS must have been executed with ENABLE AO or a STARTUP file with ENABLE AR HOOK selected.

Command Format

The following is the format for the AO command when used in operator mode. If you issue AO with any of the following options outside of operator mode, you will access the AO menu system.

Command	Use One of the Options	Use One of the Parameters	Use One or None of the Variables
AO	CLEAR	CMD	
		MSG	
		ACTION	
	LIST	CMD	*
		MSG	filename
		PFK	
		ACTION	
	LOAD	CMD	*
		MSG	filename
		PFK	
		ACTION	
	CANCEL		imodname
	CANCEL		
	HELP		
	SHUTDOWN		
	STATUS		

Command Function

The AO command is used to accomplish the following.

- List the defined command and action files
- List the commands and actions in those files
- Load a command or action file
- Shut down the Unicenter CA-FAQS ASO REXX processor task
- Find out which command and action files are current
- Receive a list of AO options, parameters, and variables
- Cancel an executing IMOD or a previous AO CANCEL command

CLEAR Option Parameters

The following describes the parameters that are available with the CLEAR option.

Parameter	Frees
CMD	Current commands
MSG	Current message actions
ACTION	Current message actions

LIST Option Parameters

The following table describes the parameters and variables that are available with the LIST option.

When this parameter	Is used with this variable	It lists this on the console
CMD		Defined command files
	*	Commands in the current command file
	filename	Commands in the specified command file
MSG		Defined action files
	*	Commands in the current action file

LOAD Option Parameters

The following describes the parameters and variables that are available with the LOAD option.

When this parameter	Is used with this variable	It loads this file into the SVA
CMD	*	Current command file again
	filename	Specified command file
MSG	*	Current action file again
	filename	Specified action file
ACTION	*	Current action file again
	filename	Specified action file

CANCEL, HELP, SHUTDOWN, and STATUS Options

The CANCEL, HELP, SHUTDOWN, and STATUS options available with the AO command are explained as follows:

Option	Explanation
CANCEL	Cancels a specific IMOD or a previous AO CANCEL command.
HELP	Displays on the console the AO command and its options, parameters, and variables. A brief description of each possible combination is included.
SHUTDOWN	Shuts down the Unicenter CA-FAQS ASO REXX processor task.
STATUS	Displays on the console the names of the currently loaded command and action files.

Sample AO Commands

If you enter the command AO LIST CMD, you get information similar to that on lines 03-16 in the AO LIST CMD display:

```
 01 F3 020 AO LIST CMD  CMS MKC                                          CPU:   0.4%
 02*AO LIST CMD                                                          F3 JCLSCHET
 03 F7 007 ------------------------------------------------------        83 FAQSVM
 04 F7 007 THURSDAY - 4 JAN 1990 - 13:38:21
 05 F7 007 COMMAND - CURRENT FILE: FAQSAO                                  13:38:21
 06 F7 007 FILE   COMMANDS UPDATE TIME STAMP     LOAD TIME STAMP         13:38:21
 07 F7 007 ------------------------------------------------------          13:38:21
 08 F7 007 ****          7  12/20/02 16.36.06     12/22/02 09.43.57       13:38:21
 09 F7 007 FAQSAO       17  01/02/02 09.30.50     01/04/02 04.18.05       13:38:21
 10 F7 007 FAQSAOS      17  12/26/02 11.54.43     12/27/02 12.32.07       13:38:21
 11 F7 007 FAQSAO2       1  10/25/02 09.50.11     12/27/02 12.32.06       13:38:21
 12 F7 007 SADTEST      16  09/20/02 15.21.39     12/22/02 09.43.55       13:38:21
 13 F7 007 TEST         19  12/06/02 12.57.17     12/22/02 09.43.55       13:38:21
 14 F7 007 TRW           2  10/17/02 12.40.45     12/22/02 09.43.55       13:38:21
 15 F7 007 17           17  12/26/02 11.54.31     00/00/00 00.00.00       13:38:21
 16 F7 007 ------------------------------------------------------          13:38:21
 17 F1 001 1Q34I   BG WAITING FOR WORK                                     13:38:22
 18 F1 001 1Q34I  LST WAITING FOR WORK ON 00F                              13:38:23
 19 F3 020 OP L RDR,*NICK  CMS NICK2                                       13:38:24
 20*L RDR,*NICK                                                            13:38:24
REPLY TO- F3-003
ENTER FAQS COMMAND       (OPERATOR MODE)     (TIMED RE-DISPLAY)           13:38:25
```

If you enter the command AO LIST MSG, you get information similar to the following in the AO LIST MSG display:

```
 01 F6 0157 GAO791 GETQUE ERROR RC=16                                CPU:  1.26%
 02 W3 0165 EVSE255W EVSEARC ARCHIVE FILE IS  95% FULL               F5 FAQSMAIN
 03 F6 0006 GJJ209I FOLLOWING EVENT COMMANDS BEING SCHEDULED:        83 FAQXASUB
 03 F6 0006 &REMCMD CORS6000 PS                              RS6TST  83 FAQXCSUB
 04 F5 0005 GFX004I APM      SESSION ESTABLISHED                     83 FAQSMAIN
 05 F6 0006 GJJ844W EVENT SCHDTST  HAS BEEN ABORTED                  W4 FAQSIUX
 06 F6 0006 GJJ844W EVENT EVSEABND HAS BEEN ABORTED                  83 FAQSIUX
 07 F6 0006 GJJ844W EVENT EVSEGMON HAS BEEN ABORTED
 08 F6 0006 GJJ209I FOLLOWING EVENT COMMANDS BEING SCHEDULED:           23:00:08
 09 F6 0006 OP PRTY J                                        DDRTEST    23:00:08
 10 AR 0015 1I02I  INVALID COMMAND                                      23:00:08
 11 AR 0015 1I40I  READY                                                23:00:08
 12 F6 0006 &REMCMD CORS6000 PS                              RS6TST     23:00:11
 13 AO LIST MSG *                                       APM             23:04:14
 14 F6 0157 ------------------------------------------------------      23:04:14
 15 F6 0157 Monday - 3 Jul 1995 - 23:04:14                              23:04:14
 16 F6 0157 ACTION FILE: DEVTST3                                        23:04:14
 17 F6 0157 ------------------------------------------------------------ 23:04:14
 18 AR 0015 1I02I  INVALID COMMAND                                      23:04:14
 19 AR 0015 1I40I  READY                                                23:04:14
 REPLY -> F6-0006 C3-0047 W3-0053
ENTER FAQS COMMAND    (OPERATOR MODE)   (TIMED RE-DISPLAY)   (SCROLL) 3:05:00

                                                          DEVTST3  XCM APM
```

If you enter the command AO LOAD CMD *, you get information similar to that on lines 15 and 16 in the AO LOAD CMD * display:

```
 01 BG 000 *ZAP HAS BEEN APPLIED                                     CPU:   2.2%
 02 BG 000 EOJ JAMZAP    MAX.RETURN CODE=0000                        F3 JCLSCHET
 03    DATE 01/04/02,CLOCK 13/44/36,DURATION 00/00/55                83 FAQSVM
 04 F1 001 1Q34I   BG WAITING FOR WORK
 05 F1 001 1Q34I  LST WAITING FOR WORK ON 00F                           13:44:38
 06 F6 006 4 S=PRODLIB.EXPCTEST  CMS JAM3                               13:44:55
 07*4 S=PRODLIB.EXPCTEST                                                13:44:55
 08 F4 004 *ZAP HAS BEEN APPLIED                                        13:44:56
 09 F4 004 EOJ JAMZAP    MAX.RETURN CODE=0000                           13:44:57
 10    DATE 01/04/02,CLOCK 13/44/58,DURATION 00/00/32                   13:44:57
 11 F1 001 1Q34I  LST WAITING FOR WORK ON 00F                           13:45:00
 12 F1 001 1Q34I   F4 WAITING FOR WORK                                  13:45:00
 13 F3 020 AO LOAD CMD *  CMS MKC                                       13:45:39
 14*AO LOAD CMD *                                                       13:45:39
 15 F7 007 LOAD - CMD - THURSDAY - 4 JAN 1990 - 13:45:40                13:45:39
 16 F7 007 GAO669 COMMAND FILE FAQSAO LOADED                            13:45:40
 17 F1 001 1Q34I  LST WAITING FOR WORK ON 00F                           13:45:58
 18 F6 006 4 S=PRODLIB.EXPCTEST  CMS JAM3                               13:45:59
 19*4 S=PRODLIB.EXPCTEST                                                13:46:01
 20 F4 004 *ZAP HAS BEEN APPLIED                                        13:46:06
 REPLY TO- F3-003
ENTER FAQS COMMAND       (OPERATOR MODE)     (TIMED RE-DISPLAY)        13:46:11
```

If you enter the command AO HELP, you get information similar to that on lines 01-20 displayed in the AO HELP display:

```
 01 F7 007 ----------------------------------------------------    CPU:  15.2%
 02 F7 007 THURSDAY - 4 JAN 1990 - 13:47:55                       F3 JCLSCHET
 03 F7 007 ----------------------------------------------------    83 FAQSVM
 04 F7 007 AO LIST CMD      - LIST COMMAND FILES AVAILABLE        F4 CICSEC16
 05 F7 007 AO LIST CMD *    - LIST COMMANDS FOR CURRENT FILE      83 IDCAMS
 06 F7 007 AO LIST CMD FILE - LIST COMMANDS AND ACTIONS IN THE    F7 FAQSAO
 07 F7 007 AO LIST MSG      - LIST ACTION FILES AVAILABLE         83 FAQSAO
 08 F7 007 AO LIST MSG *    - LIST ACTION FOR CURRENT FILE
 09 F7 007 AO LIST PFK      - LIST PFKEY FILES AVAILABLE             13:47:56
 10 F7 007 AO LIST PFK *    - LIST PFKEY FOR CURRENT FILE            13:47:56
 11 F7 007 AO LOAD CMD *    - RELOAD THE CURRENT FILE                13:47:56
 12 F7 007 AO LOAD CMD FILE - LOAD A NEW CONSOLE COMMAND FILE        13:47:56
 13 F7 007 AO LOAD MSG *    - RELOAD THE CURRENT MSG FILE            13:47:56
 14 F7 007 AO LOAD MSG FILE - LOAD A NEW CONSOLE MSG FILE            13:47:56
 15 F7 007 AO LOAD PFK *    - RELOAD THE CURRENT PFKEY FILE          13:47:56
 16 F7 007 AO LOAD PFK FILE - LOAD A NEW PFKEY FILE                  13:47:56
 17 F7 007 AO HELP          - DISPLAY VALID COMMANDS                 13:47:56
 03 F7 007 AO SHUTDOWN      - TERMINATE AO FEATURES                  13:47:56
 04 F7 007 AO STATUS        - DISPLAY STATUS OF AO FEATURES          13:47:57
 20 F7 007 ----------------------------------------------------    13:47:57
 REPLY TO- F3-003
 ENTER FAQS COMMAND       (OPERATOR MODE)     (TIMED RE-DISPLAY)      13:48:00
```

If you enter the command AO STATUS, you get information similar to that on lines 13 and 14 in the AO STATUS display:

```
 01 F7 007 AO LOAD PFK FILE - LOAD A NEW PFKEY FILE               CPU:  10.5%
 02 F7 007 AO HELP          - DISPLAY VALID COMMANDS              F3 JCLSCHET
 03 F7 007 AO SHUTDOWN      - TERMINATE AO FEATURES               83 FAQSVM
 04 F7 007 AO STATUS        - DISPLAY STATUS OF AO FEATURES       F6 FAQS320
 05 F7 007 ----------------------------------------------------   83 FAQSINIT
 06 AR 015 1C39I COMMAND PASSED TO POWER                             13:48:01
 07 F1 001 1R88I  OK                                                 13:48:08
 08 F3 003 GJJ209I FOLLOWING EVENT COMMANDS BEING SCHEDULED:         13:48:10
 09 F3 003 &CP MSG NICK THIS COMMAND HAPPEND                         13:48:14
 10 F4 004 4228I FILE DFHNTRA    OPEN  ERROR X'74'(116)              13:48:16
 11 F3 020 AO STATUS  CMS MKC                                        13:48:18
 12*AO STATUS                                                        13:48:18
 13 F7 020 COMMAND FILE - FAQSASO                                    13:48:20
 14 F7 020 MESSAGE FILE - FAQSASO                                    13:48:20
 15 F7 020 PFKEY   FILE - FAQSASO   % @                              13:48:20
 16 F1 001 1Q34I   BG WAITING FOR WORK                              13:48:28
 17 F1 001 1Q34I  LST WAITING FOR WORK ON 00F                        13:48:29
 18 F3 020 OP L RDR,*NICK  CMS NICK2                                 13:48:29
 19*L RDR,*NICK                                                      13:48:29
 20 AR 015 1C39I COMMAND PASSED TO POWER                             13:48:29
 REPLY TO- F3-003
ENTER FAQS COMMAND       (OPERATOR MODE)     (TIMED RE-DISPLAY)      13:48:50
```

Appendix D: Console Command Interface

This appendix explains the interface to the system console provided by FAQSOPER.

FAQSOPER

The phase FAQSOPER provides an interface to the system console or the AR (Attention Routine). The interface can either be a called subroutine or run as a stand alone batch job. This allows any console command to be issued from a batch job or from a called subroutine. When a command is submitted to the AR for processing, the command will also be logged to the console with the suffix *** FAQSOP COMMAND *** to clearly show where the command originated for the operators.

Note: Be careful when using FAQSOPER. This program does no verification or validity checking.

Batch Execution

To execute FAQSOPER from a batch jobstream, execute FAQSOPER and provide the desired commands as SYSIPT data. One command per statement can be entered. There are two control statements, WAIT= and TIME=.

WAIT= *nnnn* causes a wait for the specified number of seconds when the control statement is encountered.

TIME= *nnnn* causes a wait for the specified number of seconds between each command. The wait is not performed until the next operator command is encountered.

The TIME= *nnnn* and WAIT= *nnnn* control statements must be in statement column 1 and can occur anywhere in the data stream.

&R=*jobname* sets the name of a job for which a replid will be required.

&R *reply* will issue a reply to the first available replid found in the first partition found running the job whose name was set in an &R=*jobname* statement.

Sample FAQSOPER Batch Console Interface

Note: GSFAQS must be enabled prior to executing this jobstream.

```
// EXEC FAQSOPER,SIZE=FAQSOPER
ASO J

MAP
3 PAUSE
/*
```

Example using &R to issue a MSG to a jobname:

```
// EXEC FAQSOPER,SIZE=FAQSOPER
&R=CICSPROD
MSG CICSPROD
&R CEMT P SHUT
/*
```

Called Subroutine

FAQSOPER can be called from other transactions or programs by:

- Loading the PHASE
- Setting up the proper linkage
- Calling the routines

The following are FAQSOPER subroutine calling conventions:

```
REGISTERS AT ENTRY
         REG 0  contains character string "FAQS".
         REG 1  contains address 80 card image.
         REG 13 contains address of 9 double word save area.
         REG 14 contains return address.
         REG 15 is set as base register to FAQSOPER. (BALR 14,15)
EXIT CONVENTIONS
    REG 15 = 0  command submitted to the ATTENTION routine.
    REG 15 = 8  Asynchronous task busy.  (Attempted 10 times.)
   REG 15 = 12 Command not accepted (Invalid reply)
    REG 15 = 16 command rejected. (That is, no product code )
                                    (or  Incorrect version.)
```

Appendix E: User Exit

This appendix explains the user exit for the EOJ Console Summary report.

Writing the Subroutine Exit

You have the option of writing a subroutine exit for the EOJ Console Summary report. The user exit is entered once at the beginning of each report and again immediately prior to the printing of each line of the report. From the exit, you can select whether the report should be printed or ignored. Each individual line of the report can also be altered or deleted from the exit.

Guidelines

The subroutine exit must be cataloged as a self relocating phase in the system core image library. The phase name and entry point of the user exit must be FAQSEXIT. All registers are saved by the $JOBCTLG phase prior to entering the exit. All general registers are available within the exit except registers 8 and 9. These registers are the base registers for $JOBCTLG.

Do not use registers 8 and 9.

The first time FAQSEXIT is entered at the beginning of the EOJ Console Summary report, register 1 contains 0 (zero). At this time, you can choose to ignore the report, print the report, or let GSFAQS make the normal tests to determine whether the report should be printed (abend only, OPTION LOG logging, etc.).

Each time the exit is entered thereafter, register 1 will point to the console line to be printed.

Console Line Format

The format of the console line is as follows:

```
HH.MM.SS ID (console message)
1...5...10...15...
```

ID is the 2 character partition ID and HH.MM.SS is the time of day the message was generated. Register 15 is used to return the action code to the $JOBCTLG phase. The return code is used to determine the next action to be taken.

Activating the User Exit

To activate the user exit, specify the EXIT parameter on the GSFAQS CONSPOOL command. This causes the FAQSEXIT phase to be loaded at end of job time by the $JOBCTLG phase and the user exit to be entered as described above.

The framework for the user exit is provided in the GSFAQS installation under the book-nameFAQSEXIT.A. By displaying this book from the source statement library, the user can get a general idea of how the exit should be coded.

```
REGISTERS AT ENTRY
        REG 1  contains zero (first time only) or points to printline
        REG 14 contains return address
        REG 15 set as base register to exit
 EXIT CONVENTIONS  (first time through a job)
        REG 15 = 0  print summary report for the job
        REG 15 = 1  ignore summary report
        REG 15 = 2  do normal testing to determine eligibility
 EXIT CONVENTIONS  (after first call)
        REG 15 = 0  print the current line
        REG 15 = 1  ignore remainder of report
        REG 15 = 2  omit current line from report
```

Appendix F: Communicating Between VSE and VM

This appendix shows you some basic ways you can communicate between your systems using Unicenter CA-FAQS ASO.

The procedures in this appendix are primarily examples of what is possible using Unicenter CA-FAQS ASO. You can build on these examples to generate more complex procedures.

Controlling Your VM System from VSE

This section describes how to send messages to CMS users from VSE and how to execute a job on VM from VSE.

Sending Messages to CMS Users from VSE

An important feature of Unicenter CA-FAQS ASO is the ability to communicate between VSE and VM systems. This is accomplished through the use of REXX IMODs in Unicenter CA-FAQS ASO and REXX EXECs in VM.

By creating REXX IMODs in Unicenter CA-FAQS ASO and REXX EXECs in VM, you can send messages between the systems and start jobs on other systems.

Necessary Conditions

Your VSE machine must:

- Be running under VM
- Be running the FAQSAO task
- Have AO enabled

Your VM machine must be set up to receive SMSG commands if you are going to use SMSG commands.

Procedure

To send a message to a CMS user from a VSE machine, follow these steps:

1. In Unicenter CA-FAQS ASO, code a REXX IMOD that includes the CP command function specifying a MSG, MSGNOH, WNG, or SMSG VM CP command.

   For example, to send the user MKC a message, code one of the following lines:

   ```
   z.=cp('MSG MKC HI THERE')
   z.=cp('SMSG MKC HI THERE')
   z.=cp('WNG MKC HI THERE')
   z.=cp('MSGNOH MKC HI THERE')
   ```

2. Create a user defined command that executes the IMOD created in Step 1.
3. Execute the command created in Step 2.

Running a Job on VM from VSE

To run a job on a VM machine, real or virtual, from VSE, your VSE machine must:

- Be running under VM
- Be running the FAQSAO task
- Have AO enabled

Also, your VM machine must be set up to accept SMSG commands.

Procedure

To run a job on a VM machine, real or virtual, from VSE, follow these steps:

1. In VM, code a REXX EXEC that runs a job. The VM machine must be running an exec using a program such as IBM's WAKEUP to process commands sent via SMSG.
2. In Unicenter CA-FAQS ASO, code a REXX IMOD that includes the CP command function specifying a SMSG VM CP command. Use the following syntax for the CP command:

   ```
   z.=cp('SMSG machine exec args')
   ```

   machine

   is the name of the VM machine, real or virtual.

exec

is the name of the REXX EXEC you want to run on VM.

args

are any arguments you want to send to the EXEC.

For example, coding the following line executes the TEST EXEC on the machine named MNT19D:

```
z.=cp('SMSG MNT19D TEST')
```

3. In Unicenter CA-FAQS ASO, define a user defined command that executes the IMOD created in Step 2.
4. On the VSE machine, execute the command created in Step 3.

Running a Job on another VSE Machine

This section describes how to run jobs on another virtual machine.

Jobs on VSE on another Virtual Machine

To run jobs on another virtual VSE machine, your VSE machines must:

- Be running under VM
- Be running the FAQSAO task
- Have AO enabled

Procedure

To run a job on another VSE machine, real or virtual, follow these steps:

1. In Unicenter CA-FAQS ASO on the sending VSE machine, code a REXX IMOD that includes the CP command function specifying the SMSG VM CP command. Use the following syntax for the CP command:

   ```
   z.=cp('SMSG machine ASO imod args')
   ```

   machine

   is the name of the receiving machine, real or virtual.

   ASO

   specifies that this is a command for Unicenter CA-FAQS ASO on the receiving machine.

   imod

   is the name of the user defined IMOD that runs on the receiving machine.

args

are any arguments you want to send to the IMOD on the receiving machine.

For example, coding the following line executes the QT command on a machine named DEVVSE:

```
z.=cp('SMSG DEVVSE ASO QT'))
```

2. In Unicenter CA-FAQS ASO on the sending VSE machine, define a user defined command that executes the IMOD created in Step 1.
3. In Unicenter CA-FAQS ASO on the receiving VSE machine, code the REXX IMOD you want to run.
4. In Unicenter CA-FAQS ASO on the receiving VSE machine, define a user defined command that executes the IMOD created in Step 3.
5. In Unicenter CA-FAQS ASO on the sending VSE machine, execute the command created in Step 2.

With VSE on another CPU

To run jobs on a VSE machine running on another CPU, your VSE machines must:

- Be running under VM
- Be running the FAQSAO task
- Have AO GSFAQS hooks enabled
- Be running Unicenter CA-FAQS PCS

Procedure

To run a job on another VSE machine that is running on another CPU, follow these steps:

1. In Unicenter CA-FAQS PCS on the sending VSE machine, define an event that runs a job on the receiving VSE machine.
2. In Unicenter CA-FAQS ASO on the sending VSE machine, code a REXX IMOD that posts the event you defined in Step 1. Use the POST command function.
3. In Unicenter CA-FAQS ASO on the sending VSE machine, define a user defined command that executes the IMOD created in Step 2.
4. In Unicenter CA-FAQS ASO on the sending VSE machine, execute the command created in Step 3.

Performing a Function on VSE from VM

To perform functions on a VSE machine from VM, your VSE machine must:

- Be running under VM
- Be running the FAQSAO task
- Have AO enabled

ASO EXEC

ASO EXEC is a REXX EXEC file provided with Unicenter CA-FAQS ASO. ASO EXEC concatenates VM data and sends messages to your VSE machine to perform the functions you want.

Invoking ASO EXEC

The command format for invoking ASO EXEC is:

```
ASO machine imod args
```

machine is the name of the VSE machine, real or virtual. *imod* is the name of an IMOD you select from the IMODs provided with ASO EXEC (or your own user defined IMOD). *args* are any arguments you want to send to the IMOD on the VSE machine. For example:

```
ASO DEVVSE $GETVIS BG
```

In this example, the ASO EXEC is invoked, the $GETVIS IMOD is executed on the DEVVSE machine, and the status of the background partition GETVIS area is displayed.

Entering a particular partition ID here as argument generates a display of the status of the GETVIS area for that particular partition. If you do not enter a partition ID in this example, the status of the GETVIS areas of all the partitions will be displayed.

User Defined IMODs

The IMODs defined in ASO EXEC are the default values. While it is recommended that you use ASO EXEC to perform functions on VSE from VM, you may want to define your own IMODs to suit your operating needs.

Procedure

Follow the steps to perform functions on a VSE machine, real or virtual, from VM using your own IMODs.

1. In Unicenter CA-FAQS ASO, code a REXX IMOD to perform the function you want.
2. In Unicenter CA-FAQS ASO, define a user defined command that executes the IMOD created in Step 1.
3. In VM, send a message to the VSE machine, using the following format of the SMSG command:

   ```
   SMSG machine ASO imod args
   ```

   machine

   is the name of the VSE machine, real or virtual.

   ASO

   specifies that this is a command for Unicenter CA-FAQS ASO on your VSE machine.

   imod

   is the name of the user defined IMOD that runs on your VSE machine.

   args

   are any arguments you want to send to the IMOD on the VSE machine.

   For example, sending the following executes the OPEN IMOD on a machine named TESTVSE:

   ```
   SMSG TESTVSE ASO OPEN
   ```

Appendix G: FAQSUTIL Commands

This appendix describes the commands used with FAQSUTIL.

FAQSUTIL Commands

This section describes FAQSUTIL commands.

FAQSUTIL

FAQSUTIL provides the following types of user profile maintenance support for the SYS$VIO PDS:

- Initialization
- Back up
- Restore
- Deleting
- Modeling
- Printing
- Recovering

SYS$VIO contains the following items:

- Panel definitions for the menu driven system
- User profiles
- Unicenter CA-FAQS ASO configuration data
- AllFusion CA-FLEE audit trail file

FAQSUTIL Command Format

The FAQSUTIL commands are free format but must be contained on one line. When the Backup and Restore commands are used, assign SYS005 to the tape drive. The tapes are unlabeled.

BACKUP

Syntax

```
Backup < null | PW >
```

Function

The Backup command requires SYS005 to be assigned to a tape drive.

The format of the tape is variable length records blocked at 32K. The first record on the tape is a header label, which identifies the tape for restores.

Parameters

null

Back up all user profiles from the SYS$VIO PDS.

PW

Back up only the user profiles from the SYS$VIO PDS.

DELETE

Syntax

```
Delete < PW=user-profile >
```

Function

Deletes user profile. User profiles can also be deleted by using the online security function.

Parameters

PW=*user-profile*

Specify a 1 to 8 character user profile to be deleted.

INITIALIZE

Syntax

```
Initialize PW
```

Function

Initialize security. This command can be run at any time and will always disable security and reset the default user profile.

Parameters

PW

Initialize Unicenter CA-FAQS ASO user profiles. Initializes the SYS$VIO PDS with security disabled and a default profile for all users.

INSTALL

Syntax

```
Install
```

Function

Initialize security. This command is normally used only for initial installation. If there is a Unicenter CA-FAQS ASO configuration file on SYS$VIO, nothing is done. If there is no configuration file, a default user profile is created.

MERGE

Syntax

```
MERGE HC outhc=inhc1+inhc2[+inhc3+...]
```

Function

Merge GSFAQSHC hardcopy backup files into a single output file for printing. FAQSUTIL MERGE determines whether the input backup files are from tape or disk, and merges them accordingly.

Parameters

outhc

Name of the file that will contain the output from the merge of the hardcopy backup files. outhc accepts both DLBL and TLBL statements. If tape is used, SYS005 must be assigned for output.

inhc

Names of the backup files input for merging. These names must be the same as those used for the files in the GSFAQSHC DLBL and EXTENT statements. The filenames must be listed chronologically by backup date and time (for example, backup files from 11/12/02, 11/16/02, and 11/20/02 must be listed in that order). You can specify as many input filenames as you can fit on the 48 character statement line. inhc accepts both DLBL and TLBL statements. If tape is used, SYS004 must be assigned for input.

FAQSUTIL MERGE vs. GSFAQSHC MERGE

The FAQSUTIL MERGE merges backups created by GSFAQSHC. By contrast, GSFAQSHC MERGE merges with its own backup file all new records in the console hardcopy file since the last GSFAQSHC CREATE or MERGE.

MODEL

Syntax

```
Model from pw target pw
```

Function

Uses the master user profile as a model for new user profiles. Model is useful when there are many user profiles that need generation and all require the same level of authority.

Parameters

from pw

Specify the user profile to be used for modeling.

target pw

Specify the target user profile.

PRINT

Syntax

```
Print<IMOD=imodname | PW | ACTION=msgfile | LVTOC=<volser | cuu | all>>
```

Function

Prints out a specified REXX IMOD, user profile file, or online message action file.

Parameters

IMOD=imodname

Prints the specified REXX IMOD name.

PW

Prints all user profiles.

ACTION=msgfile

Prints the specified online message action filename.

LVTOC=*volser*

Prints a vtoc listing for the specified DASD volume.

LVTOC=*cuu*

Prints a vtoc listing for the specified DASD address.

LVTOC=ALL

Prints vtoc listings for all DASD volumes.

RECOVER

Syntax

```
Recover
```

Function

Validate encrypted user profile names and delete any profiles that are invalid. It should not generally be necessary to use this function.

RESTORE

Syntax

```
Restore <null | PW>
```

Function

Restores user profiles to the appropriate files. This function requires SYS005 to be assigned to a tape drive. The format of the tape is variable length records blocked at 32K. The first record on the tape is a header label, which identifies the tape.

Parameters

null

Restore user profiles to the SYS$VIO PDS.

PW

Restore user profiles to the SYS$VIO PDS.