IBM VSE/Operator Communication
Control Facility

Diagnosis Reference

Version 1 Release 3

SC33-6333-00

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Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page vii.

First Edition (December 1989)

This edition applies to Version 1, Release 3 of IBM Virtual Storage Extended/Operator Communication Control Facility (VSE/OCCF), Program Number 5746-XC5, and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

This publication describes the design and organization of the VSE/Operator Communication Control Facility (VSE/OCCF); thus, it supplements the program listings. The manual includes overviews of the program's functions and requirements, and the data areas used.

VSE/OCCF interfaces with the VSE/Advanced Functions components SUP (supervisor) and DOC (display operator console support). You may, therefore, need to consult the *VSE/Advanced Functions* publications:

Diagnosis Reference: Supervisor, SC33-6323

Diagnosis Reference: Logical Transients, SC33-6324

VSE/OCCF also interfaces with NetView; for information, refer to the appropriate NetView publication. For the titles and abstracts of publications related to the subject of this manual, refer to *IBM System/370, 30XX and 4300 Processors Bibliography,* GC20-0001.

The IBM publication *VSE/Operator Communication Control Facility Reference,* SC33-6382, is quoted in this manual.

Chapter 1. Introduction

This chapter gives an overview of the VSE/OCCF functions and their relationship within the task structure of VSE/OCCF, and outlines the requirements for operation.

After the appropriate statements/commands have been entered (see *VSE/OCCF Reference*), the VSE/OCCF module ICMINIT receives control. ICMINIT then checks that prerequisites for operation are satisfied, activates VSE/OCCF, and calls/attaches other VSE/OCCF routines and tasks.

Functions

VSE/OCCF functions are provided by a set of routines which are invoked by console I/O requests. The main functions are:

- Route to, and display messages at the system console and the NetView[1] operator station.
- Process message replies and commands.
- Translate messages, message replies, and commands.
- Write messages to the hard copy file and console printer.
- Read data entered at, and write data to the screen.
- Special functions if OCCF generated with UNATTND=YES
  - Start VTAM, NetView and VSE/POWER
  - Controlling the unattended Node environment via heartbeat connection to VTAM, NetView and VSE/POWER, i.e. restart in case of failure
  - Shutdown of system with immediate re-IPL or power-off afterwards.

Linkbooks for VSE/OCCF 1.3

Phase IJBOCCF

The linkbook for phase IJBOCCF consists of the following entries:

PHASE IJBOCCF,S

- INCLUDE ICMINIT
- INCLUDE ICMSVC0
- INCLUDE ICMWRB
- INCLUDE ICMMSG
- INCLUDE ICMNCMS
- INCLUDE ICMACDET
- INCLUDE ICMDIAG
- INCLUDE ICMDOIO
- INCLUDE ICMREP
- INCLUDE ICMDISP
- INCLUDE ICMMATS
- INCLUDE ICMMSGTR
- INCLUDE ICMAB

[1] Netview is a trademark of International Business Machines Corporation

- INCLUDE ICMSCENV Unattended Node Support
- INCLUDE ICMMONCE' Unattended Node Support
- INCLUDE ICMSERV' Unattended Node Support
- INCLUDE ICMIDUMP' IDUMP Support
- INCLUDE ICMEOJ'

Phase DSIEX15

The linkbook for phase DSIEX15 consists of the following entries:

PHASE DSIEX15,S

- INCLUDE DSIEX15

Phase ICMNCMD

The linkbook for phase ICMNCMD consists of the following entries:

PHASE ICMNCMD,S

- INCLUDE ICMNCMD
- INCLUDE OCCF1
- INCLUDE OCCF2
- INCLUDE OCCF3

Relationship of Functions

Figure 1-1 on page 1-3 shows how the VSE/OCCF modules are related and their organization into tasks; it shows the calling sequence of the modules and the attaching of subtasks. In conjunction with the module description in Chapter 2, the figure helps you to trace the logic flow of VSE/OCCF.

The figure does not show the VSE/OCCF modules listed below, because they are called by supervisor and NetView routines.

ICMSVC0	SVC0 appendage routine runs under user task.
ICMEOJ	EOJ/EOT appendage routine runs under user task.
ICMNCMD	Command processor runs under the NetView subtask.
DSIEX15	Error exit for NetView runs under the NetView subtask.
ICMAB	Abend and Program Check exit routine runs under the VSE/OCCF task.

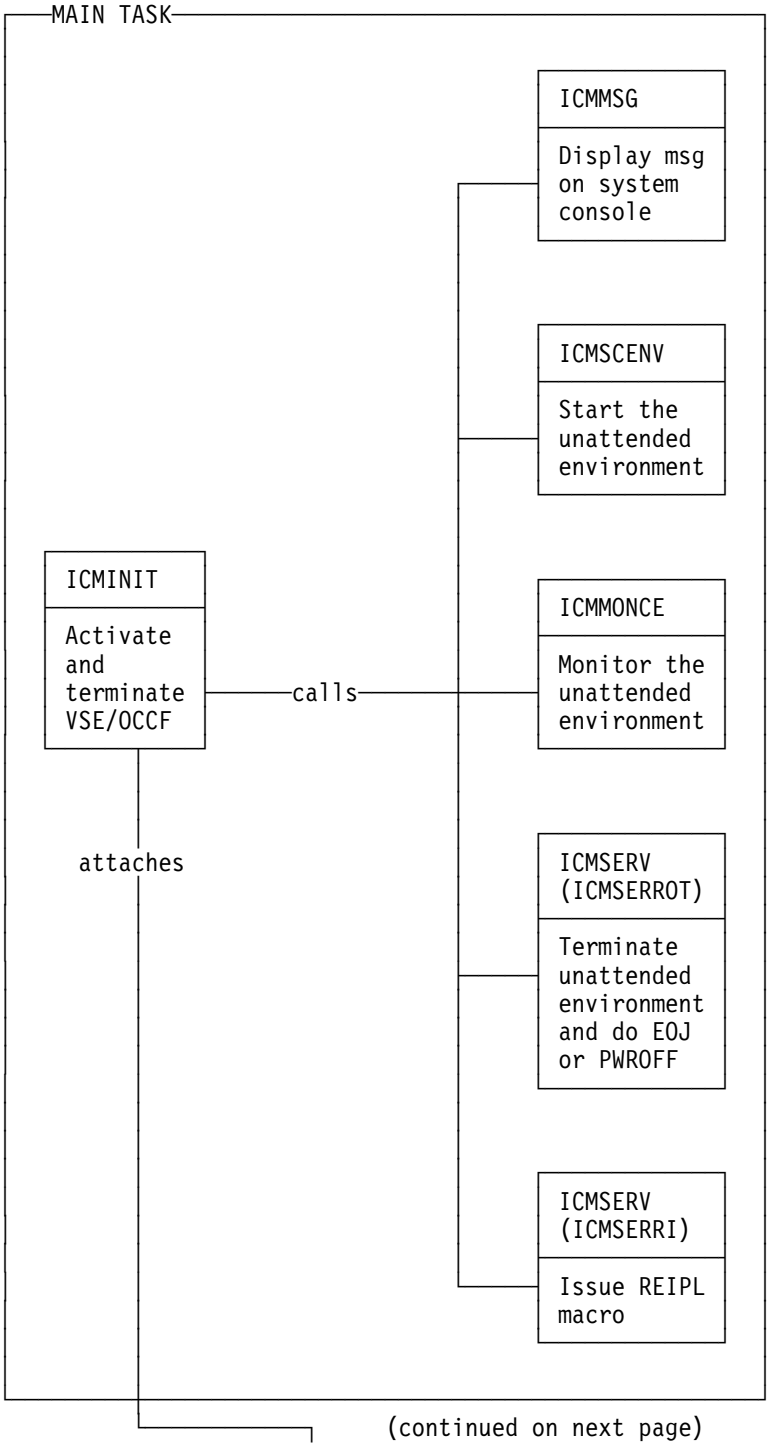


Figure 1-1 (Part 1 of 3). Overview -- Relationship and Structure of VSE/OCCF Tasks, Modules, and Functions

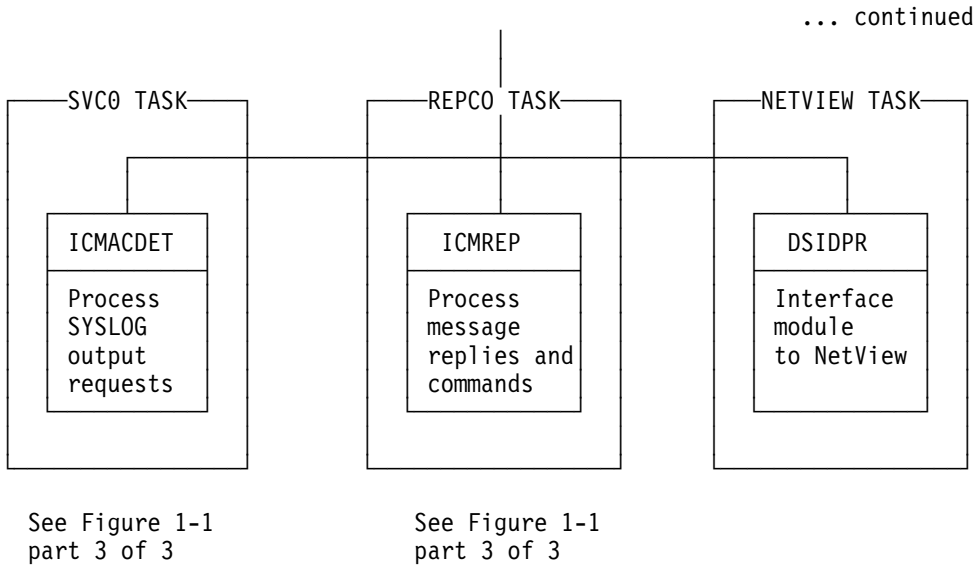


Figure 1-1 (Part 2 of 3). Overview -- Relationship and Structure of VSE/OCCF Tasks, Modules, and Functions

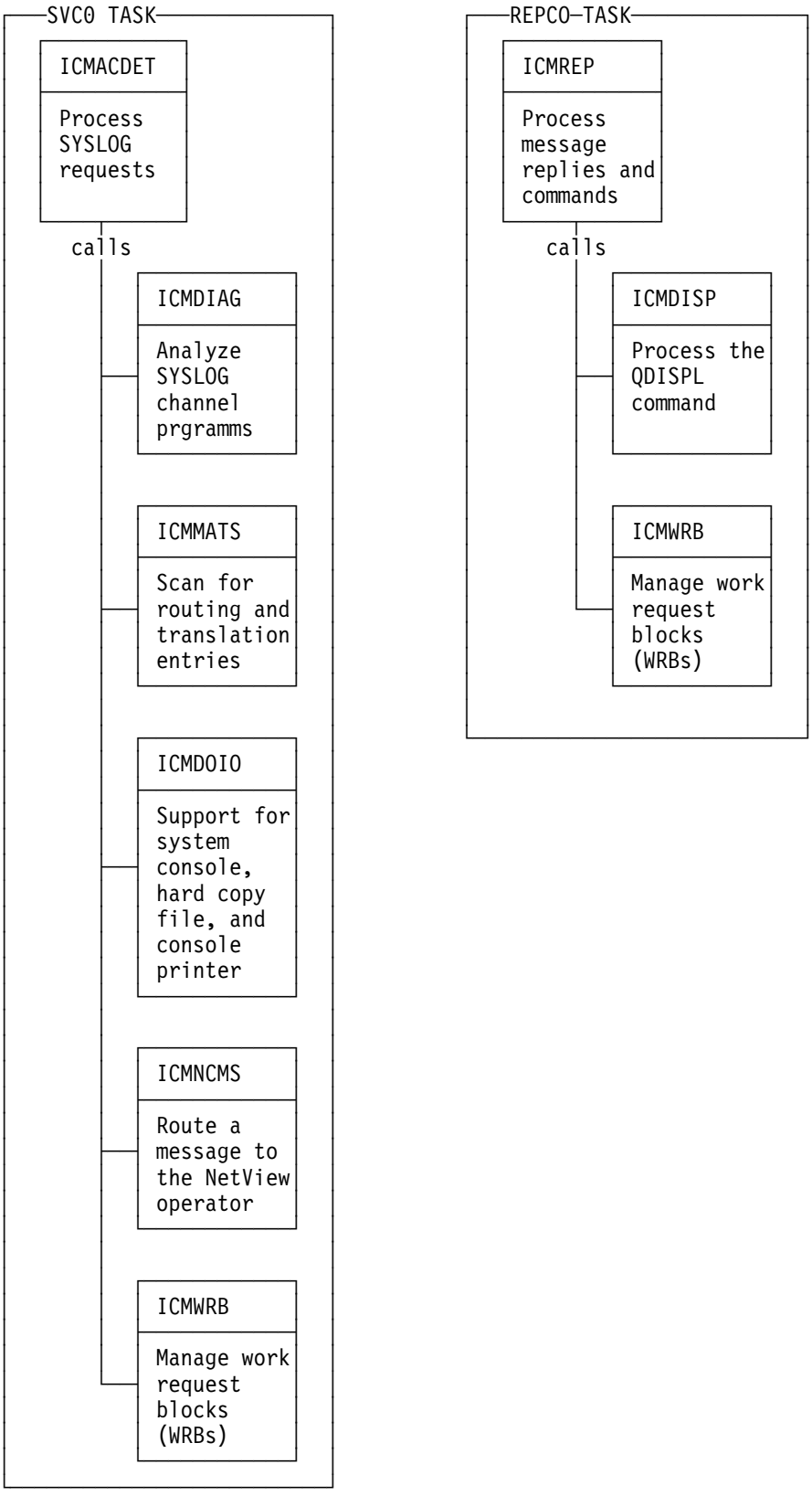


Figure 1-1 (Part 3 of 3). Overview -- Relationship and Structure of VSE/OCCF Tasks, Modules, and Functions

Requirements for Operation

Hardware Requirements VSE/OCCF runs on any IBM processor supported by VSE/Advanced Functions. The system console must be an IBM 3277 Model 2 or 3279 Model 2 display device, or a 3277-data-stream compatible system console.

Programming Requirements VSE/OCCF always requires VSE/Advanced Functions; other programming support depends on whether or not NetView operator stations are used, and on the operating environment. For more information, refer to *VSE/Operator Communication Control Facility Reference*.

Partition Requirements For execution, VSE/OCCF requires a partition of its own which must be in shared space; NetView, if used needs a separate partition which might be in any private address space.**:** For information, refer to “Storage Requirements” in *VSE/Operator Communication Control Facility Reference*.

Partition Layout

Figure 1-2 provides an overview of the VSE/OCCF partition layout. The load address of the modules depends on the size of the user-defined control tables.

D e s c r i p t i o n
Partition Save Area
Loader, VSE/OCCF Communication Area, MATAB
ICMINIT Activation and termination of VSE/OCCF ICMMONCE Monitors the UN controlling environment ICMSCENV Starts UN controlling environment ICMSVC0 SVC0 appendage ICMWRB WRB queue manager ICMSERV Service module ICMMSG VSE/OCCF message library ICMNCMS Sends message to NetView operator station ICMACDET Main routine of SVC0 task ICMDIAG Analyzer of CCW chains ICMDOIO System console, hard copy file, and printer support ICMREP Reply/command processor ICMDISP Processor for QDISPL command ICMMATS MATAB scanner ICMMSGTR Message translator ICMAB ABEND exit routine ICMIDUMP Provides IDUMP information ICMEOJ EOJ/EOT appendage
WRBs (at least 30)
GETVIS area: Message Translation Tables ICMNCMD Command processor DSIEX15 Termination exit for NetView

Figure 1-2. Layout of the VSE/OCCF Partition

Chapter 2. Design Information

This chapter provides an internal view of VSE/OCCF. It describes how the various parts of the program communicate with each other, and provides an overview of the data areas used by VSE/OCCF, and the macros issued by the modules/phases of VSE/OCCF. The larger part of this chapter describes the modules/phases of VSE/OCCF; further information on some of the modules is contained in Chapter 5.

Communication within VSE/OCCF

Communication between the VSE/OCCF routines and tasks is accomplished by enqueuing and dequeuing work request blocks (WRBs) to/from various queues. This is managed by the routine ICMWRB.

In the initialization routine (ICMINIT), a set of thirty to fifty WRBs are preformatted, chained together, and placed into the free-list queue (see below). During processing, VSE/OCCF puts WRBs from the free-list queue into other queues and back again into the free-list queue. For messages issued by VSE/OCCF, one internal WRB is created at assembly time for each message, and enqueued during processing into the work queues.

The VSE/OCCF Queues

The following are the queues and their contents:

- Free-list queue -- for currently unused WRBs.
- SVC0 queue -- for all WRBs that are awaiting processing by the SVC0 task.
- REPLY queue -- for WRBs containing a message for which an automatic reply is defined, but a read request is not yet available.
- REPCO queue -- for WRBs that are awaiting processing by the REPCO task and for which an automatic reply is defined.
- Outstanding-reply queue -- for all WRBs containing messages that are waiting for an operator's reply.

Relationship between Tasks/Routines and Queues

The main task activates and terminates VSE/OCCF processing.

Activation includes the formatting of WRBs, updating of the VSE/OCCF communication region (OCFCOM), loading of message translation tables, and attaching the SVC0, REPCO, and NetView tasks.

Termination includes the detaching of the SVC0 and REPCO tasks, and returning control to VSE job control.

For details, refer to ICMINIT in Chapter 2.

The SVC0 appendage routine receives control from the VSE supervisor whenever an I/O request (SYSLOG request) is directed to SYSLOG by any task. The SVC0 appendage routine retrieves a WRB from the free-list queue (if any is available), includes information on the requestor task and I/O request, enqueues the WRB into the SVC0 queue, and posts the SVC0 task.

For details, refer to ICMSVC0 in Chapter 2.

The SVC0 task processes the messages directed to SYSLOG. It takes the WRB at the top of the SVC0 queue and determines the routing code (action) for the message represented by the WRB. (The message identifier and/or partition identifier is used to find an entry for the message in the MATAB.)

The SVC0 task determines the routing code for every WRB contained in the SVC0 queue:

- WRBs - designated for the system console - are placed into the free-list queue.
- WRBs - designated for the NetView operator station - are placed into the free-list queue.
- WRBs - designated for automatic reply - but no READ CCW available, are placed into the REPLY queue.
- WRBs - designated for automatic reply - and READ CCW available, are placed into the REPCO queue.

WRBs from the REPLY queue are put into the REPCO queue as soon as a stand-alone READ follows.

For VSE/OCCF messages issued by the SVC0 task, the internal WRBs are put into the SVC0 queue.

For details, refer to ICMACDET following later in Chapter 2.

The REPCO task delivers replies to the requestor's task and commands to the VSE attention task, and processes VSE/OCCF commands.

Whenever a reply or command is entered at the system console or the NetView operator station, the REPCO task is posted. The reply/command is checked to determine whether it is a:

- OCCF command. If it is, the command is immediately processed by the REPCO task.
- Reply to a message. If it is, the outstanding reply queue is searched for a matching entry; if found, the entered reply is moved into the input area of the user task. The appropriate CCB and user tasks are posted.
- VSE attention command. If it is, the command is delivered to the VSE attention routine.

For details, refer to ICMREP following later in Chapter 2.

VSE Supervisor and VSE/OCCF

The following outlines the provisions in the VSE supervisor to support VSE/OCCF.

- SYSCOM contains a pointer to the OCFCOM.
- SGIOS branches (BALR) to the SVC0 appendage (ICMSVC0).
- SGAP branches (BALR) to the EOJ/EOT appendage routine (ICMEOJ).
- $$BOCRTK transmits replies/commands entered at the system console to VSE/OCCF.
- $$BOCRTA locks/unlocks the screen image area.
- CRTSAV allows VSE/OCCF to share the CRT screen image area.
- TIBADR provides a bit (OCCFACT) with the meaning "VSE/OCCF has a request for the appropriate task in process".

VSE/OCCF Interface to NetView

The connection to NetView is started via attaching NetView subtask DSIDPR. (For more information about DSIDPR refer the appropriate NetView publication.)

Initialization and termination processing is done via ECB posting and setting pointers in the OCFCOM.

Transfer of messages from VSE/OCCF to NetView is done via the NetView macro DSIMQS.

Transfer of replies/commands from NetView to VSE/OCCF is via the VSE/OCCF command processor ICMNCMD. The processor moves replies/commands into the buffers and posts the appropriate VSE/OCCF task.

Data Areas -- Overview

VSE/OCCF uses the following control blocks (data areas):

VSE System Control Blocks

```
COMREG    Partition communication area
CRTSAV    Save area for CRT support
CRTTAB    Area for CRT pointers and flags
IORB      Input/output request block
PIB       Partition information block
SYSCOM    System communication area
XPCCB     Cross-partition communication block
```

VSE/OCCF Control Blocks

```
AIT       Action indicator table (part of OCFCOM)
OCFCOM    Communication area
ICMWRB    Work request block
```

NetView Control Blocks

```
DSICBH    Control block header
DSICWB    Command work block
DSIMVT    Main vector table
DSIPDB    Parse description block
DSISCT    System command table
DSISVL    Service routine vector list
DSISWB    Service work block
DSITIB    Task information block
DSITVB    Task vector block
DSIUSE    User exit parameter list
```

Macros Used by VSE/OCCF

The VSE, NetView, and VSE/OCCF macros used by the VSE/OCCF modules (described in this chapter) are listed in Figure 2-1 on page 2-5, Figure 2-2 on page 2-7 and Figure 2-3 on page 2-8, respectively.

VSE macro	Module ICM...
ATTACH	INIT
ASSIGN	INIT
ASYSCOM	AB EOJ INIT SVC0
ASYTAB	SVC0
CANCEL CCB	AB INIT MONCE SCENV MSG
CDLOAD	INIT
CLOSEHCF	AB DISP SERV
COMRG	INIT
CRTGEN	INIT
CRTSAV	ACDET DOIO INIT REP SVC0
DETACH	SERV
EOJ	AB INIT MSG SERV
EXCP	DOIO INIT MSG
EXTRACT	DIAG IDUMP INIT REP

VSE macro	Module ICM...
GETFLD	DIAG INIT SCENV SERV REP
GENDTL	AB
IDUMP	IDUMP
IORB	AB ACDET DIAG DOIO INIT MSG NCMS REP SVC0
IJBSCT6	SCENV
IJBXCT6	INIT
LOAD	INIT
LOCK	AB
MAPCOMR	ACDET DOIO IDUMP INIT MONCE NCMD REP SCENV SERV SVC0 WRB
MAPPIB	ACDET DOIO REP WRB
MAPXPCCB	AB INIT SCENV REP

Figure 2-1 (Part 1 of 2). VSE Macros Used by VSE/OCCF

VSE macro	Module ICM...	VSE macro	Module ICM...
MODFLD	INIT REP	SYSCOM	AB ACDET DOIO INIT NCMD REP SCENV SERV SVC0
MODHCF	DISP		
MVCOM	SERV		
ORE	SVC0		
PAGESTAT	DIAG REP	TREADY	AB ACDET DOIO EOJ INIT NCMS REP SERV SVC0 WRB
POINTHCF	DISP DOIO		
POST	INIT NCMD WRB		
READHCF	DISP		
REIPL	SERV	UNLOCK	AB
RLOCK	ACDET DOIO REP	WAIT	ACDET DISP DOIO INIT MSG REP SERV WRB
SETIME	SERV		
SKIPHCF	DISP		
STARTP	SERV	WAITM	INIT MONCE SERV
STXIT	ACDET INIT REP		
SUBSID	AB INIT SCENV SERV	WRITEHCF	DOIO
		XPCC	AB INIT MONCE SERV

Figure 2-1 (Part 2 of 2). VSE Macros Used by VSE/OCCF

NetView Macro	Module ICM...
DSICBS	ICMNCMD ICMNCMS
DSILCS	ICMNCMD
DSIMQS	ICMNCMS
DSIPSS	ICMNCMD

Figure 2-2. NetView Macros Used by VSE/OCCF

VSE/OCCF Macro	Module ICM...
COPYRGHT ICMGBL ICMPROC	Used by all VSE/OCCF modules
CASE	MATS WRB
DEFMSG	MSG NCMD
ICMCBS	INIT MATS MSGTR NCMD REP
MESSAGE	AB ACDET DISP DOIO INIT MONCE NCMD NCMS REP SCENV SERV used also by OCCF module DSIEX15
OCFMPSYM	AB MONCE IDUMP INIT SCENV SERV
POST	NCMD WRB

(continued on next page)

Figure 2-3 (Part 1 of 2). VSE/OCCF Macros Used by VSE/OCCF

... continued

QMAN	ACDET DISP DOIO INIT MONCE NCMS REP
SEGMENT	MSG NCMD REP WRB used also by OCCF module DSIEX15
WAIT	ACDET DISP DOIO REP WRB

Figure 2-3 (Part 2 of 2). VSE/OCCF Macros Used by VSE/OCCF

Command Processing

Figure 2-4 lists the VSE/OCCF modules responsible for processing the VSE/OCCF commands, and the VSE commands RC and REPLID.

Module	Command Processed
ICMNCMD	QLOGON QLOGOFF
ICMREP and ICMDISP	QDISPL
ICMREP	QSTOP QSTART QSHUT QIPLPRIM QIPLALT QPWROFF QEND RC REPLID

Figure 2-4. Command Processing

The Modules/Phases of VSE/OCCF -- Description

The following describes all of the VSE/OCCF modules/phases. It provides the internal view of the VSE/OCCF functions discussed in this manual. The descriptions are given in alphabetical order of the module/phase names.

For modules with a more complex calling structure also a 'Flow of Control' will be given as the last part of the module descriptions.

The standard register convention is as follows:

```
R2  -- pointer to the VSE/OCCF communication area.

R3  -- pointer to the WRB in process.

R12 -- base register for current module.

R11 -- additional base register if R12 is insufficient.
```

MODULE NAME: DSIEX15

```
DESCRIPTIVE NAME: Termination exit for NetView

FUNCTION: Process NetView termination.
          On error conditions in NetView, DSIEX15 receives control
          from NetView in order to enforce a LOGOFF (QLOGOFF)
          for the NetView operator station.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: DSIEX15

  LINKAGE: call issued by NetView

  INPUT: see below.

    REGISTERS: R1  = address of a user exit parameter list containing:
                       the pointer to the 'TVB' control block
               R13 = save area address
               R14 = return address
               R15 = entry point address

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:

    REGISTERS:

      UNCHANGED REGISTERS: all except R15 which contains the return code
                           for NetView

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS: none

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS:
             DSIUSE             NetView user exit parameter list
             DSITVB             NetView task vector block
             DSIMVT             NetView main vector table
```

```
MACROS ISSUED:

  SYSTEM MACROS: none

  OCCF MACROS:
             ICMPROC   define an OCCF module
             MESSAGE   get address of an OCCF message and display it
             SEGMENT   support structured programming

  NetView MACROS:   none

MESSAGES ISSUED:
               OC43
```

MODULE NAME: ICMAB

DESCRIPTIVE NAME: OCCF ABEND exit routine

FUNCTION: 1. AB exit routine for OCCF maintask
2. AB exit routine for SVC0 task
3. AB exit routine for REPCO task

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMABMT, ICMABSST, ICMABRST

LINKAGE: invoked by supervisor in case of abnormal task termination

REGISTERS: none

EXIT NORMAL: return to supervisor

LINKAGE: not applicable

OUTPUT: not applicable

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

CONTROL BLOCKS:

SYSTEM CONTROL BLOCKS:

SYSCOM	used	VSE system communication area

OCCF CONTROL BLOCKS:

OCFCOM	used	OCCF communication area

NetView CONTROL BLOCKS: none

MACROS ISSUED:

SYSTEM MACROS:

ASYSCOM	get address of VSE SYSCOM
CANCEL	cancel current task
CLOSEHCF	close hard copy file
EOJ	terminate job normally
GENDTL	generates the lock parm list
IORB	map of I/O request block
LOCK	lock a resource for exclusive control
MAPXPCCB	map of cross-partition control block
SUBSID	introduce OCCF to VSE
SYSCOM	map of system communication area
TREADY	post task
UNLOCK	unlock a resource for exclusive control
XPCC	cross-partition communication

```
  OCCF MACROS:
             MESSAGE    get address of an OCCF message and display it
             ICMPROC    define an OCCF module
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:
               OC58, OC59, OC68, OC69, OC72, OC73
```

MODULE NAME: ICMACDET

DESCRIPTIVE NAME: OCCF SVC0 task main routine

FUNCTION: This module has 3 functions:
1. determines the rout-code for every SYSLOG request
2. executes the rout-code 'LOCAL','SUPPRESS','REPLY'
3. transmits messages with rout-code=NETV to NetView
(calls ICMNCMS).

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant, PSW-KEY zero,
asynchronously executing subtask of OCCF

ENTRY POINT: ICMACDET

LINKAGE: this module is the main routine of a subtask of OCCF
it is attached during initialization of OCCF and is
set into a WAIT state until an ECB (OCFECB5) is posted.
This can be done by
1. The SVC0 appendage
2. The REPCO Task (see ICMREP).

EXIT NORMAL: via the EOJ or CANCEL macro to terminate OCCF

LINKAGE: The task is set into a wait state until the
ECB OCFECB5 is posted.
The task is detached by the main task of OCCF.

OUTPUT: not applicable

EXIT ERROR: For program checks within this tasks or
at other abnormal terminations the abend exit
routine 'ICMABSST' gets control.

EXTERNAL REFERENCES:

CONTROL BLOCKS:

SYSTEM CONTROL BLOCKS:

SYSCOM	used	VSE system communication area
COMREG	used	VSE partition communication area
CRTSAV	used	VSE save area for CRT support
PIB	used	VSE partition information block and PIB extension
IORB	used	VSE I/O request block

OCCF CONTROL BLOCKS:

OCFCOM	used	OCCF communication area

NetView CONTROL BLOCKS: none

MACROS ISSUED:

SYSTEM MACROS:

STXIT	set exit
RLOCK	lock CRT resources
TREADY	post task
MAPCOMR	map of partition commun. region
MAPPIB	map of PIB
IORB	map of I/O request block
SYSCOM	map of system communication area
CRTSAV	map of CRTSAV
WAIT	wait for I/O completion

OCCF MACROS:

MESSAGE	get address of an OCCF message and display it
QMAN	WRB manipulation macro
WAIT	generate assembler code for VSE WAIT macro
ICMPROC	define an OCCF module

NetView MACROS: none

MESSAGES ISSUED:

OC09, OC18, OC19, OC27, OC40, OC53, OC55, OC61

FLOW OF CONTROL

```
ICMACDET                        Module entry point
|
|-->DELETE                      Set line within screen image deletable
|------------------->ICMDIAG    External module
|------------------->ICMDOIO    External module
|------------------->ICMMATS    External module
|-->MSGDUPL                     Duplicate message for NetView operator
|-->POSTCCB                     Post routine for SYSLOG 'NO-READ'
|                                 requests
|
+-->ROUTE                       Execute requested route code
    |------------->ICMDOIO      External module
    |-->SYSCN                   Execute route-code = SYSCN
    |   |--------->ICMDOIO      External module
    |   +-->POSTCCB             Post routine for SYSLOG 'NO-READ'
    |                             requests
    |-->SELECT1                 Determine route code
    |-->SUPPRESS                Determine route-code = SUPPRESS
    |   +-->POSTCCB             Post routine for SYSLOG 'NO-READ'
    |                             requests
    |-->NETV                    Determine route-code = NETV
    |   |--------->ICMDOIO      External module
    |   |-->SYSCN               Execute route-code = SYSCN
    |   +--------->ICMNCMS      External module
    |-->REPLY                   Determine route-code = REPLY
    |   +-->POSTCCB             Post routine for SYSLOG 'NO-READ'
    |                             requests
    +-->FRELINES                Check message area for deletable lines
        |-->FINDFFL             Find first free line
        |-->DELLINES            Delete line
        |   +-->MOVEUP          Move non-deletable messages
        +-->MANLMODE            Routine for manual deletion mode
            +------->ICMDOIO    External module
```

MODULE NAME: ICMDIAG

DESCRIPTIVE NAME: OCCF analyzer of CCW chains

FUNCTION: Every SYSLOG request is checked for logical consistency, whenever a specification is detected, which is not according to the rules for 1052 channel programs the requestor is canceled with cancel code X'39'.
In addition the following restrictions apply:
1. The issuing task of the SYSLOG request is canceled, when
   - the command chaining bit is on in a READ CCW.
   - the IDA or PLI bit is on in any of the CCWs.
   - the CCW chain consists of more than 32 CCWs.
2. When an error is detected in a CCW chain, the whole channel program is ignored and the requestor is canceled.
3. As response to a SENSE command always X'00' is placed into the first byte of the data area.
4. The request for execution of a channel end appendage routine is ignored.
5. Requests with the EXCP real bit on in the CCB are handled as invalid and the requestor is canceled.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMDIAG

LINKAGE: this module is called by ICMACDET,
it is always returned to the caller.

INPUT: see below.

REGISTERS:
R2 contains the address of the OCCF internal communication area.
R3 contains the address of the WRB in process.

EXIT NORMAL:

LINKAGE: return to caller

OUTPUT: - whole message in WRB,
- indicators set in WRB,
- locations for carriage return in WRB,
- address of first read CCW in WRB

EXIT ERROR: on abnormal termination the abnormal exit routine ICMAB gets control

```
EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS: none
             IORB     used      VSE I/O request block

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none

MACROS ISSUED:

  SYSTEM MACROS:
             PAGESTAT   validate address
             EXTRACT    get partition limits
             GETFLD     get address of LTA
             IORB       map of I/O request block

  OCCF MACROS:
             ICMPROC    define an OCCF module

  NetView MACROS:   none

MESSAGES ISSUED:
               OC66
```

MODULE NAME: ICMDISP

DESCRIPTIVE NAME: OCCF process QDISPL command

FUNCTION: This module has 2 functions:
- the QDISPL-command is processed.
- the QDISPL-mode is entered or left.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMDISP

LINKAGE: this module is called by ICMREP

INPUT: see below.

REGISTERS:
R2 contains the address of the OCCF internal communication area.

EXIT NORMAL:

LINKAGE: return to caller

OUTPUT: not applicable

EXIT ERROR: on abnormal termination the abnormal termination exit ICMAB gets control

EXTERNAL REFERENCES:

CONTROL BLOCKS:

SYSTEM CONTROL BLOCKS: none

OCCF CONTROL BLOCKS:

OCFCOM	used	OCCF communication area

NetView CONTROL BLOCKS: none

MACROS ISSUED:

SYSTEM MACROS:

POINTHCF	open hard copy file for read
READHCF	read from hard copy file
MODHCF	hard copy file macro
SKIPHCF	hard copy file macro
CLOSEHCF	close hard copy file
WAIT	wait for I/O completion

```
  OCCF MACROS:
             MESSAGE    get address of an OCCF message and display it
             ICMPROC    define an OCCF module
             QMAN       WRB manipulation macro
             WAIT       generate assembler code for VSE WAIT macro

  NetView MACROS:   none

MESSAGES ISSUED:
               OC15, OC16, OC17, OC35, OC56
```

MODULE NAME: ICMDOIO

```
DESCRIPTIVE NAME: OCCF SVC0 task I/O routines

FUNCTION:    This module has 6 functions:
             1. Write a message to the hard copy file.
             2. Write a message to the console printer.
             3. Move a message into the screen image area.
             4. Add the message prefix to a message.
             5. Read data entered on the screen.
             6. Write data to the screen.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMDOIO

  LINKAGE: this module is called by ICMACDET and ICMNCMS

  INPUT: see below.

    REGISTERS:
             R2 contains the address of the OCCF internal
                communication area.
             R3 contains the address of the WRB with the
                message to be written.

EXIT NORMAL:

  LINKAGE: return to caller

EXIT ERROR: 'ICMAB' gets control
             1. on irrecoverable I/O errors on the screen
             2. program checks

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area
             COMREG   used      VSE partition communication area
             CRTSAV   used      VSE save area for CRT support
             PIB      used      VSE partition information block
             IORB     used      VSE I/O request block

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             RLOCK      lock CRT resources
             POINTHCF   open hard copy file for write by OCCF
             WRITEHCF   write to hard copy file
             TREADY     post task
             WAIT       wait for I/O completion
             EXCP       start I/O operation
             SYSCOM     map of system communication area
             MAPCOMR    map of partition commun. region
             IORB       map of I/O request block
             CRTSAV     map of CRTSAV
             MAPPIB     map of PIB

  OCCF MACROS:
             MESSAGE    get address of an OCCF message and display it
             ICMPROC    define an OCCF module
             QMAN       WRB manipulation macro
             WAIT       generate assembler code for VSE WAIT macro

  NetView MACROS:   none

MESSAGES ISSUED:
               OC28, OC29, OC30, OC31, OC32, OC33, OC34, OC54, OC58,
               OC60, OC68
```

MODULE NAME: ICMEOJ

```
DESCRIPTIVE NAME: OCCF EOJ/EOT appendage

FUNCTION:    A flag is set in the AIT for the appropriate task
             and the REPCO task is posted in order to put a WRB
             (which might be in the outstanding-reply-queue) into
             the free-list-queue.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMEOJ

  LINKAGE: this module is called by the termination routine of
           the supervisor (SGAP)

    REGISTERS:
              all registers are saved at entry of the module
              and restored at exit.

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:  not applicable

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none

MACROS ISSUED:

  SYSTEM MACROS:
             ASYSCOM    get address of VSE SYSCOM
             TREADY     post task

  OCCF MACROS:
             ICMPROC    define an OCCF module

  NetView MACROS:  none

MESSAGES ISSUED:   none
```

MODULE NAME: ICMIDUMP

```
DESCRIPTIVE NAME: OCCF IDUMP routine

FUNCTION:    Depending on the function code the module does:
             1. Initializes the REIPL macro           (FC = X'01')
             2. Creates an IDUMP of the OCCF partition (FC = X'02')
             3. Stores the unattended node symptom string
                prepared by OCCF                      (FC = X'04')

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMIDUMP

  LINKAGE: 1. this module is called by OCCF module ICINIT (FC = X'01')
           2. this module is called by OCCF module ICMAB  (FC = X'02'
              or FC = X'04')

  INPUT:  1. function code         IDMPFCT
          2. cancel code           CANCODEP (FC = X'02' only)
          3. ADDR(STXIT save area) SAVARPTR (FC = X'02' only)

    REGISTERS:
              R2 contains the address of the OCCF internal
                 communication area.

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:  1. return code provided by IDUMP macro (not for FC = X'01')
           2. Number of IDUMP of OCCF partition. Provided only in case
              of RC=0 passed via external defined variable

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             COMREG   used      VSE partition communication area

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             IDUMP      create IDUMP of OCCF partition
             EXTRACT    get partition boundary
             MAPCOMR    map of partition commun. region

  OCCF MACROS:
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:  none
```

MODULE NAME: ICMINIT

DESCRIPTIVE NAME: OCCF initialization and termination routine

FUNCTION: This module has several functions:
1. It is checked whether the supervisor generation options, the system- and partition prerequisites are available to run OCCF. If they are not available an appropriate error message is displayed to the local operator and the initialization is terminated. If OCCF is running in an unattended node environment, a re-IPL is requested.
2. All OCCF control blocks are preformatted and initialized.
3. The MTTs which are not yet in core are loaded.
4. Two subtasks are attached as
   - SVC0 task
   - REPC0 task
5. The NetView interface task is attached when NetView is to be supported.
6. The procedures ICMSCENV and ICMMONCE are called for startup and control of the unattended node environment.
7. Preparation for the local console printer is done.
8. Direction of SYSLOG Messages to CRT routines is terminated.
9. XPCC ident for the XPCC connection to NetView.
10. XPPC connect to NetView when running attended.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMINIT

LINKAGE: fetch provided by the user generated MATAB

INPUT: see below.

REGISTERS:
R2 contains the address of the OCCF internal communication area.

EXIT NORMAL: via the EOJ or CANCEL macro to terminate OCCF

LINKAGE: waits for OCFECB4 = termination of OCCF
OCFECB3 = Abnormal termination of NetView subtask
IJBXCECB = connect of ECB of XPCC to NetView

OUTPUT: not applicable

EXIT ERROR: 1. routine ICMABMT gets control in case of abnormal system termination
2. routine ICMSERRI gets control in case of initialization errors in an unattended node

```
EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area
             COMREG   used      VSE partition communication area
             CRTSAV   used      VSE save area for CRT support
             CRTTAB   used      VSE area for CRT pointers and flags
             IOCB     used      VSE I/O request block
             XPCC     used      cross-partition communication

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             ASSGN      get logical unit for physical device
             ASYSCOM    get address of VSE SYSCOM
             ATTACH     attach subtask
             CANCEL     terminate job abnormally
             CDLOAD     load into GETVIS area
             COMRG      get address of VSE partition COMREG
             CRTGEN     map of CRTTAB
             CRTSAV     map of CRTSAV
             EOJ        terminate job normally
             EXCP       start I/O operation
             EXTRACT    get partition boundary
             GETFLD     get field
             IORB       map of I/O request block
             IJBXSCT6   map of IDUMP input
             LOAD       load phase
             MAPCOMR    map of partition commun. region
             MAPXPCCB   map of cross-partition control block
             MODFLD     modify field
             POST       post task
             SUBSID     introduce OCCF to VSE
             STXIT      set up program check exit
             SYSCOM     map of system communication area
             TREADY     post task
             WAIT       wait for I/O completion
             WAITM      wait multiple for ECB'S
             XPCC       cross-partition communication control block

  OCCF MACROS:
             MESSAGE    get address of an OCCF message and display it
             ICMPROC    define an OCCF module
             ICMCBS     OCCF control block declarations
             QMAN       WRB manipulation macro
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:
               OC01, OC02, OC03, OC04, OC05, OC06, OC07, OC08, OC11
               OC20, OC21, OC44, OC45, OC65, OC70, OC71, OC77, OC78
               OC79
```

MODULE NAME: ICMMATS

DESCRIPTIVE NAME: OCCF MATAB processor

FUNCTION: Process the table MATAB.
- Scan the table MTRDIR for a matching entry for message translation.
- Scan the table MRTTAB for a matching entry for routing messages.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMMATS

LINKAGE: this module is called by OCCF module ICMACDET

INPUT: see below.

REGISTERS:
R2 contains the address of the OCCF internal communication area.
R3 contains the address of the OCCF work request block.

EXIT NORMAL:

LINKAGE: return to caller

OUTPUT:

REGISTERS:

UNCHANGED REGISTERS: ALL

OTHER: WRB modified.

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

CONTROL BLOCKS:

SYSTEM CONTROL BLOCKS: none

OCCF CONTROL BLOCKS:

OCFCOM	used	OCCF communication area
ICMWRB	modified	OCCF work request block

NetView CONTROL BLOCKS: none

ROUTINES: ICMMSGTR

```
MACROS ISSUED:

  SYSTEM MACROS: none

  OCCF MACROS:
             ICMPROC    define an OCCF module
             ICMCBS     OCCF control block declarations
             CASE       support structured programming

  NetView MACROS:   none

MESSAGES ISSUED: none
```

MODULE NAME: ICMMONCE

```
DESCRIPTIVE NAME: OCCF monitoring part of the controlling
                  environment of an unattended node system

FUNCTION:     1. Monitor the controlling environment consisting of
                 NetView, VTAM and VSE/POWER.
              2. Re-connect to a component in case of normal termination.
              3. Restart a component in case of abnormal termination.
              4. Request re-IPL in case a component cannot be restarted.
              5. Monitor the NetView subtask.
              6. Perform final processing for the commands
                 QIPLPRIM, QIPLALT, QPWROFF, QSHUT and QEND.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant, executing as OCCF maintask

ENTRY POINT: ICMMONCE

  LINKAGE: this module is called by OCCF module ICMINIT

  INPUT: see below

    REGISTERS:
              R2 contains the address of the OCCF internal
                 communication area.
              all other registers are used according to the
              linkage conventions of PLS.

EXIT NORMAL:

  LINKAGE: call termination routine in ICMSERV or issue CANCEL macro

  OUTPUT: none

EXIT ERROR: none

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             MAPXPCCB used      map of cross-partition commun. block
             COMREG   used      partition communication region

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none
```

```
  ROUTINES:

  INTERNAL:
      AVOIDRLP
      HBPOST
      RSTRTCOM
      SYSTERM

  EXTERNAL:
      ICMSERCC (ENTRY IN ICMSERV)
      ICMSEROT (ENTRY IN ICMSERV)
      ICMSERSH (ENTRY IN ICMSERV)
      ICMSERST (ENTRY IN ICMSERV)
      ICMSERUP (ENTRY IN ICMSERV)

MACROS ISSUED:

  SYSTEM MACROS:
             CANCEL     cancel current task
             XPCC       cross-partition communication
             WAITM      wait multiple for ECBs
             MAPCOMR    map of partition commun. region

  OCCF MACROS: none
             ICMPROC    define an OCCF module
             MESSAGE    get address of an OCCF message and display it
             QMAN       WRB manipulation macro
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:
               OC76
```

MODULE NAME: ICMMSG

DESCRIPTIVE NAME: OCCF message library

FUNCTION: This module has the following functions:
- Anchor the message library in the OCCF communication area.
- Define all OCCF messages.
- Display an OCCF message on the system console, wait for a reply when it is an 'A' or 'D' message. If the caller requests EOJ after the message is processed or the entered reply is 'CANCEL', the VSE macro 'EOJ' is issued.
- Display an OCCF message on the system console, wait for a reply when it is an 'A' or 'D' message, and return the reply to the caller.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant

ENTRY POINT: ICMMSG

LINKAGE: call provided by OCCF macro 'MESSAGE'

INPUT: see below.

REGISTERS: R0 byte 0 contains the function indicator:
1 = anchor message library in OCCF communication area.
2 = return to caller
- when it is an 'I'-type message
- when it is am 'A' or 'D'-type message and the reply is not 'CANCEL'

3 = issue EOJ after message is displayed
4 = move reply into callers area.

R0 bytes 1 to 3 contain the address of the caller reply area for function 4.
R1 contains the address of the message to be processed.

EXIT NORMAL:

LINKAGE: return to caller

OUTPUT:

REGISTERS:

UNCHANGED REGISTERS: ALL

OUTPUT REGISTERS: none

EXIT ERROR: same as EXIT NORMAL.

```
EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             IORB     modified  VSE I/O request block

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none

  ROUTINES: none

MACROS ISSUED:

  SYSTEM MACROS:
             CCB        VSE command control block
             EXCP       execute channel program
             WAIT       wait for I/O completion
             EOJ        terminate job normally
             IORB       map of I/O request block

  OCCF MACROS:
             ICMPROC    define an OCCF module
             DEFMSG     define an OCCF message
             SEGMENT    support structured programming

  NetView MACROS:   none

MESSAGES ISSUED:
               OC34
```

MODULE NAME: ICMMSGTR

```
DESCRIPTIVE NAME: OCCF message translation processor

FUNCTION:    This module has the following function:
             - finds, for the original message number a matching entry in
               the according MTT and translate the message text.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMMSGTR

  LINKAGE: this module is called by OCCF module ICMMATS

  INPUT: see below.

    REGISTERS:  R1 contains the address of a parameter list
                R2 contains the address of the OCCF internal
                   communication area.
                R3 contains the address of the OCCF work request
                   block.
    PARAMETER LIST FORMAT:
                bytes 0-7    : message ID
                bytes 8-11   : address of MTT
                bytes 12-13  : length of message text

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:

    REGISTERS:

      UNCHANGED REGISTERS: ALL

      OUTPUT REGISTERS: none

    OTHER:      WRB modified

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES: none

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS: none

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area
             ICMWRB   modified  OCCF work request block

    NetView CONTROL BLOCKS: none
```

```
MACROS ISSUED:

    SYSTEM MACROS: none

    OCCF MACROS:
              ICMPROC    define an OCCF module
              ICMCBS     OCCF control block declarations

MESSAGES ISSUED: none
```

MODULE NAME: ICMNCMD

```
DESCRIPTIVE NAME: OCCF command processor

FUNCTION:    Provide the interface between NetView and OCCF for all
             OCCF input.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: reentrant

ENTRY POINT: ICMNCMD

  LINKAGE: call by NetView routine

  INPUT:       standard command processor input for NetView.

    REGISTERS: R1 = address of a CWB containing:
                    the pointer to the 'SWB' control block
                    the pointer to the 'TIB' control block
                    the pointer to the 'PDB' control block
                    the pointer to a dynamic work buffer
               R13 = save area address
               R14 = return address
               R15 = entry point address

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:

      UNCHANGED REGISTERS: all except R15 which contains the return code
                           for NetView.

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area
             COMREG   used      VSE partition communication area

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area
```

```
  NetView CONTROL BLOCKS:
           DSICWB              NetView command work block
           DSITIB              NetView task information block
           DSITVB              NetView task vector block
           DSIPDB              NetView parse descriptor block
           DSIMVT              NetView MAIN VECTOR TABLE
           DSISCT              NetView SYSTEM COMMAND TABLE
           DSISVL              NetView SERVICE ROUTINE VECTOR LIST

ROUTINES:
           ICMMSG      display an OCCF message
```

MACROS ISSUED:

SYSTEM MACROS:

SYSCOM	map of system communication area
MAPCOMR	map of partition commun. region
POST	post a VSE subtask

OCCF MACROS:

ICMPROC	define an OCCF module
MESSAGE	get address of an OCCF message and display it
POST	generate assembler code for VSE POST macro
SEGMENT	support structured programming
DEFMSG	define an OCCF message
ICMCBS	OCCF control block declarations

NetView MACROS:

DSICBS	control block include facility
DSILCS	obtain a service work block
DSIPSS	write a message to NetView operator

MESSAGES ISSUED:

OC38, OC41, OC42, OC46, OC47, OC48, OC50, OC51, OC52

FLOW OF CONTROL

ICMNCMD	Module entry point
├→CHKOCCF	Check whether OCCF is active
│ └→MSGNCOP	Send a message to the NetView operator
├→GETCMD	Get and save the entered command/reply
├→CHKPREV	Check whether the previous entered command/reply is processed
│ └→MSGNCOP	Send a message to the NetView operator
├→CHKSTOP	Process input when OCCF is QSTOPPED
│ └→MSGNCOP	Send a message to the NetView operator
├→OCFNOOP	Process command/reply when OCCF is not QLOGGED ON
│ └→MSGNCOP	Send a message to the NetView operator
├→OCFOP	Process command/reply when OCCF is already QLOGGED ON
│ └→MSGNCOP	Send a message to the NetView operator
└→POSTREP	Post REPCO task

MODULE NAME: ICMNCMS

```
DESCRIPTIVE NAME: Send message to NetView operator

FUNCTION:    This module has 2 functions:
             1. sends a message to the NetView operator.
             2. writes this message to the hard copy file.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant,PSW-key zero

ENTRY POINT: ICMNCMS

  LINKAGE: this module is called by OCCF module ICMACDET

  INPUT: see below

    REGISTERS: R2 contains the address of the OCCF internal
                  communication area.
               R3 contains the address of that WRB whose
                  message text is to be sent to the NetView operator.

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:

    REGISTERS:

      UNCHANGED REGISTERS: ALL

      OUTPUT REGISTERS: none

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             IORB     modified  VSE I/O request block

    OCCF CONTROL BLOCKS:
             OCFCOM   modified  OCCF communication area
             AITE     modified  OCCF ACTION INDICATOR TABLE

    NetView CONTROL BLOCKS:
             DSISWB             NetView service work block
             DSIMVT             NetView MAIN VECTOR TABLE
             DSICBH             NetView control block header
             DSISVL             NetView SERVICE ROUTINE VECTOR LIST

  ROUTINES:
             ICMDOIO    OCCF I/O routines
             ICMWRB     OCCF WRB-queue manager
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             TREADY     post task
             IORB       map of I/O request block

  OCCF MACROS:
             ICMPROC    define an OCCF module
             MESSAGE    get address of an OCCF message and display it
             QMAN       WRB manipulation macro

  NetView MACROS:
             DSICBS     control block include facility
             DSIMQS     enqueue a message to NetView

MESSAGES ISSUED:
               OC27, OC39
```

MODULE NAME: ICMREP

DESCRIPTIVE NAME: OCCF reply and command processor

FUNCTION: Process replies and commands.
1. Replies and commands are translated.
2. Attention commands are delivered to the attention routine.
3. Replies are delivered to the requesting task.
4. Requested messages are translated and displayed.
5. OCCF commands are executed.

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant, PSW key zero
asynchronously executing subtask of OCCF.

ENTRY POINT: ICMREP, but only during activation of OCCF.

LINKAGE: This module is the main routine of a subtask of OCCF and is called the 'REPCO-TASK'.
It is attached during activation of OCCF via the VSE macro 'ATTACH' and set into a WAIT state until an ECB (OCFECB6) is posted by another OCCF task or the CRT task, or the NetView command processor, or the ECB OCFECBA is posted by EOJ.
This is done by the following modules:
- ICMINIT OCCF initializer, via ATTACH macro when the REPCO task is to be attached,
- ICMNCMD OCCF-NetView interface, via POST macro, when a valid OCCF command is entered by the NetView operator,
- ICMWRB OCCF WRB queue management, via POST and TREADY macro, when a WRB is enqueued in the REPCO queue,
- ICMACDET OCCF SVC0 task, via call to ICMWRB, when a WRB is to be routed to the system console and a reply is expected (READ CCW) and more than 16 replies are outstanding,
- ICMSVC0 OCCF SVC0 task, via POST macro, when a task has already an outstanding reply.

INPUT: see below

REGISTERS: none

OTHER:
- The REPCO task indicators in the OCCF communication area, set by the invoking modules.
- The entered command/reply.
- WRBs in the REPCO queue.

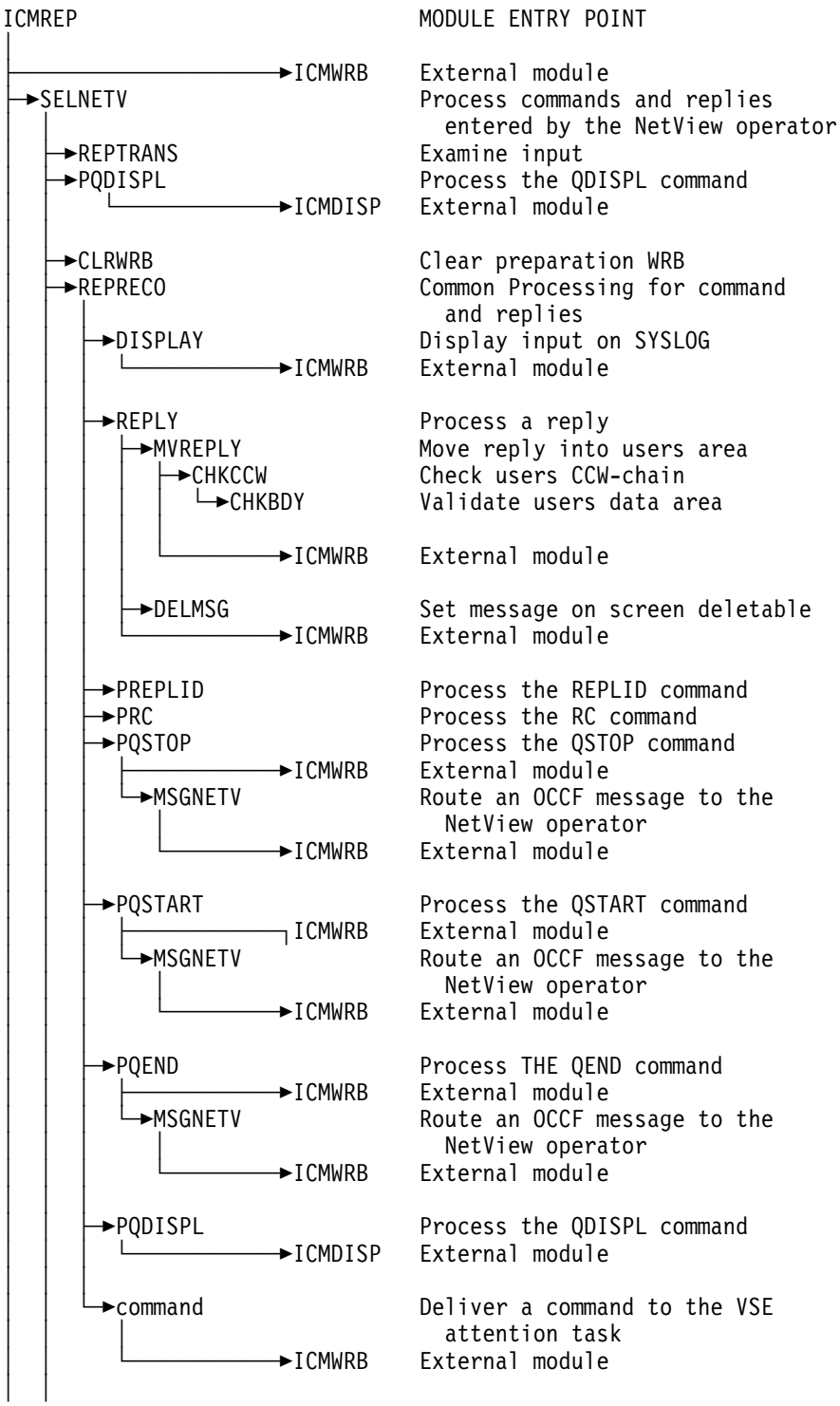
EXIT NORMAL:

LINKAGE: 1. The task is set into a WAIT state until the ECB OCFECB6 is posted.
2. The task is detached by the main task of OCCF.

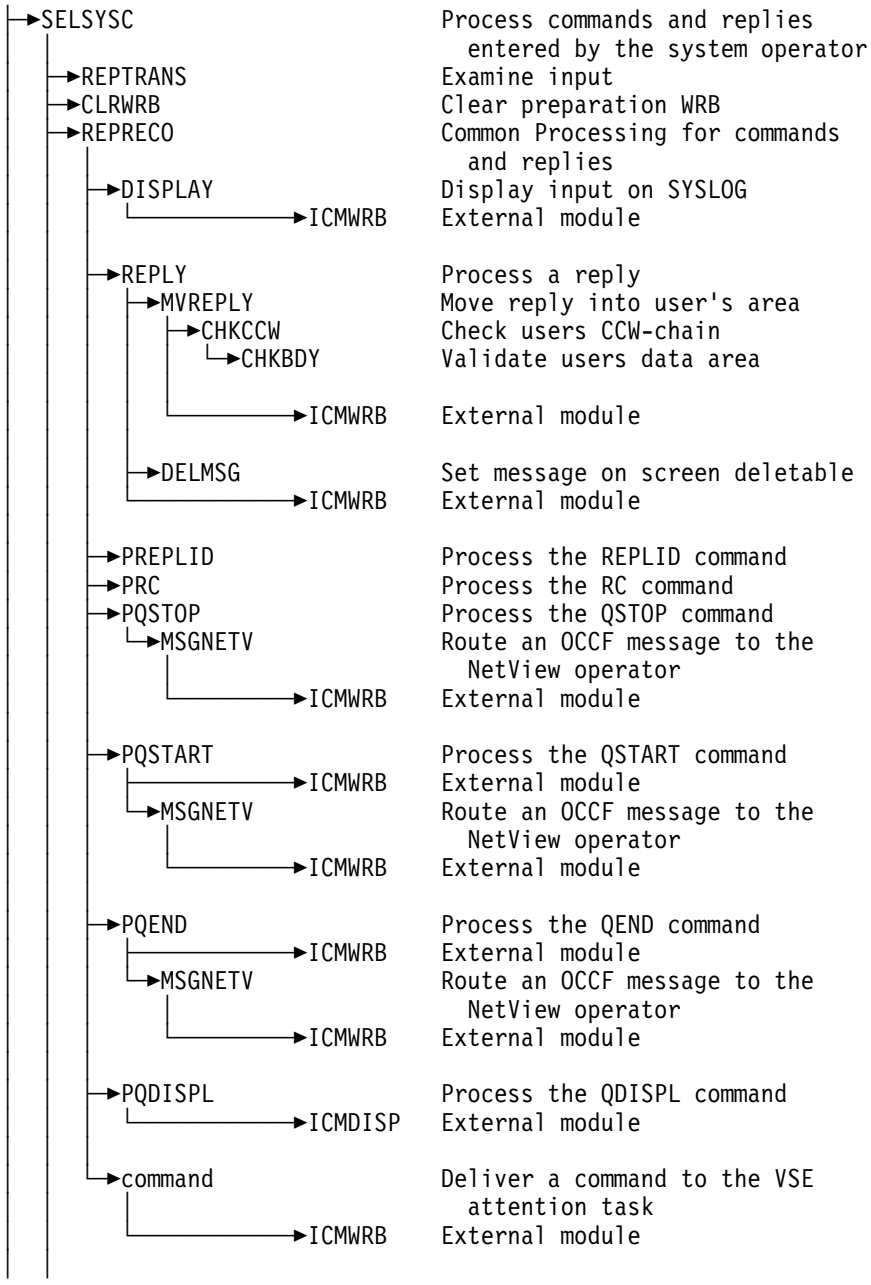
```
  OUTPUT:

    REGISTERS:

      UNCHANGED REGISTERS: ALL

EXIT ERROR: for abnormal termination the abend exit routine ICMAB gets
            control

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             CRTSAV   modified  VSE save area for CRT support
             COMREG   used      VSE partition communication area
             IORB     modified  VSE I/O request block
             MAPXPCCB used      map of cross-partition commun. block
             PIB      used      VSE partition information block
             SYSCOM   used      VSE system communication area

    OCCF CONTROL BLOCKS:
             OCFCOM   modified  OCCF communication area

    NetView CONTROL BLOCKS: none

  ROUTINES:
           ICMWRB   OCCF WRB-QUEUE MANAGER
           ICMDISP  OCCF QDISPL COMMAND PROCESSOR

MACROS ISSUED:

  SYSTEM MACROS:
             TREADY     post a resource used as follows:
                        COND=OCCFIO,TASK=...
                        COND=ATTINT
                        COND=CANCEL,TASK=...,CODE=...
                        COND=CRTSAV
             MODFLD     set partition requestor's address space
             PAGESTAT   validate CCW addresses
             EXTRACT    retrieve partition boundary
             GETFLD     retrieve LTA address
             WAIT       wait for I/O completion
             STXIT      AB, establish abnormal termination exit
             RLOCK      lock CRT resources
             SYSCOM     map of system communication area
             MAPCOMR    map of partition commun. region
             IORB       map of I/O request block
             MAPPIB     map of PIB
             MAPXPCCB   map of cross-partition control block
             CRTSAV     map of CRTSAV
```

```
  OCCF MACROS:
             ICMPROC    define an OCCF module
             ICMCBS     OCCF control block declarations
             MESSAGE    get address of an OCCF message and display it
             QMAN       WRB manipulation macro
             SEGMENT    support structured programming
             WAIT       generate assembler code for VSE WAIT macro

  NetView MACROS:   none

MESSAGES ISSUED:
               OC09, OC12, OC13, OC14, OC22, OC23, OC24, OC25, OC26,
               OC37, OC38, OC57, OC62, OC63, OC75, OC76
```

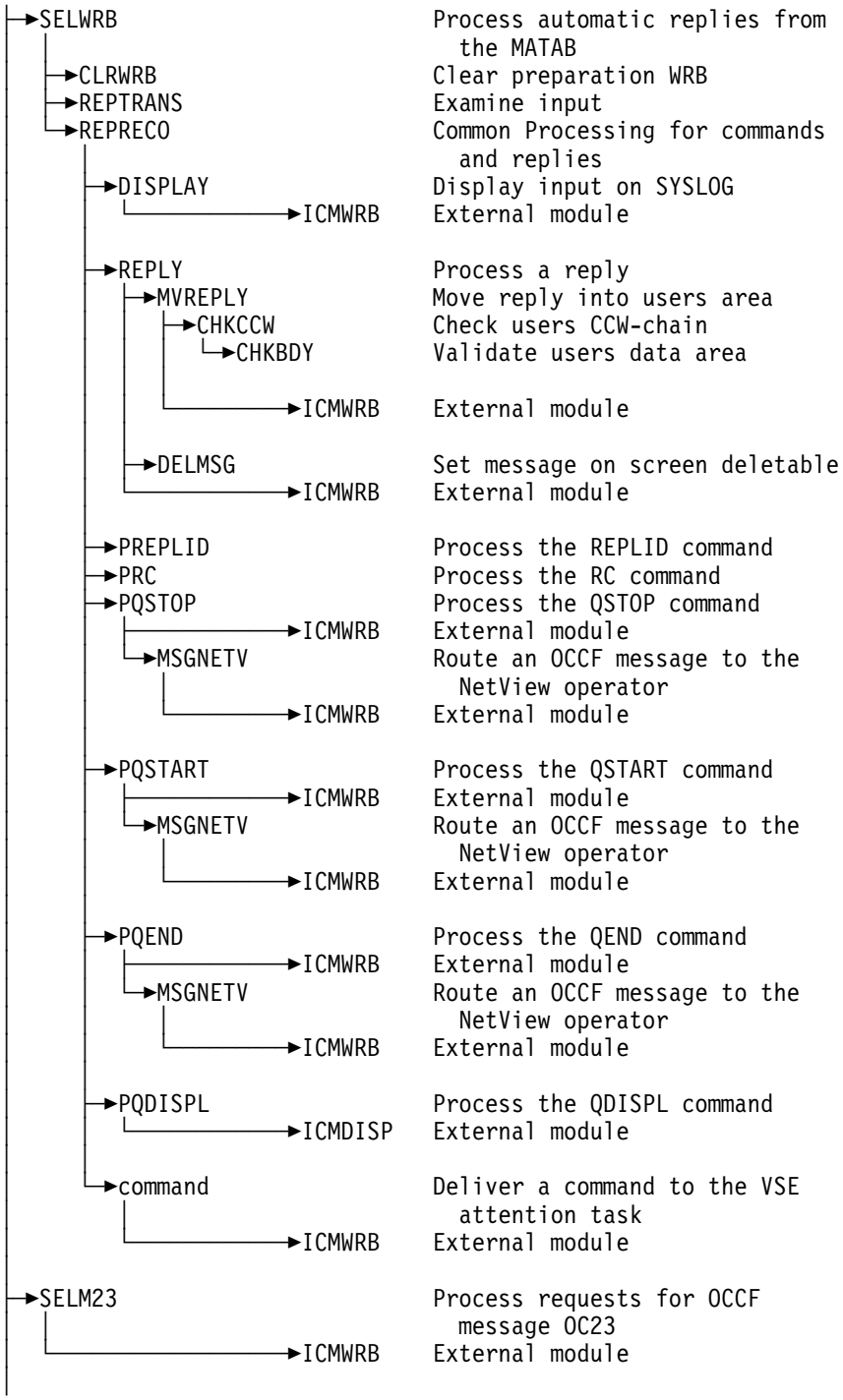
FLOW OF CONTROL



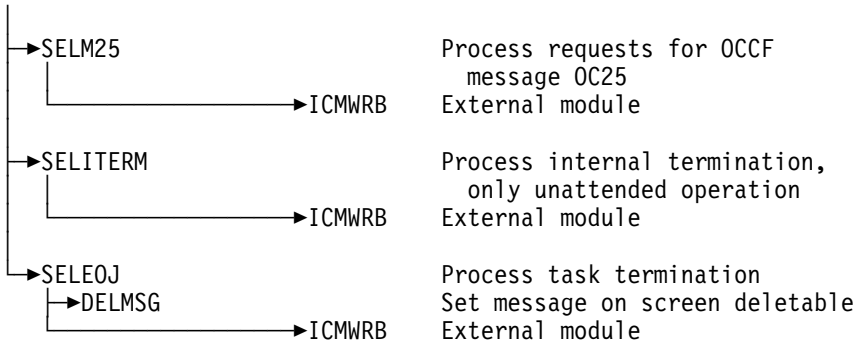
FLOW OF CONTROL (continued)



FLOW OF CONTROL (continued)



FLOW OF CONTROL (continued)



MODULE NAME: ICMSCENV

```
DESCRIPTIVE NAME: Start unattended controlling environment

FUNCTION:    This module is only invoked for unattended operation.
             It consists of 2 functions, required subroutines
             are located in module ICMSERV:
             1. Check the controlling environment
             2. Start the controlling environment

MODULE TYPE: procedure

  PROCESSOR: PLS

  ATTRIBUTES: non-reentrant, executing in OCCF maintask

ENTRY POINT: ICMSCENV

  LINKAGE: called by ICMINIT during initialization of OCCF
  INPUT: none

EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:
         UNCHANGED REGISTERS: all

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area
             COMREG   used      VSE partition communication area
             MAPXPCCB used      map of cross-partition commun. block

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none

    ROUTINES:
             ICMMSG   display an OCCF message on SYSLOG
             ICMSERST attach NetView subtask DSIDPR
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             CANCEL     cancel a VSE/AF task
             GETFLD     VSE/AF get field service
             SUBSID     retrieve subsystem information
             MAPCOMR    map of partition commun. region
             SYSCOM     map of system communcation area
             TREADY     ready or cancel a VSE/AF task
             MAPXPCCB   map of cross-partition commun. block

  OCCF MACROS:
             ICMPROC    define an OCCF module
             MESSAGE    get address of an OCCF message and display it
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:
               OC36, OC49, OC74
```

MODULE NAME: ICMSERV

DESCRIPTIVE NAME: OCCF service module

FUNCTION: This module has several entries, that are externally used.
1. ICMSERST
   Starts NetView, VTAM or POWER depending on input value
2. ICMSERSH
   Shuts down NetView, VTAM or POWER depending on input value
3. ICMSERUP
   Unbatches NetView, VTAM or POWER partition depending on input value
4. ICMSEROT
   Terminates OCCF and do, depending on request, EOJ, power off or re-IPL
5. ICMSERRI
   Issues the REIPL macro
6. ICMSERCC
   Converts a binary value into character format

MODULE TYPE: procedure

PROCESSOR: PLS-III

ATTRIBUTES: non-reentrant,

ENTRY POINT: see above

LINKAGE:
- ICMSERST (called by ICMSCENV and ICMMONCE)

- ICMSERSH (called by ICMSCENV and ICMMONCE)

- ICMSERUP (called by ICMMONCE)

- ICMSEROT (called by ICMINIT and ICMMONCE)

- ICMSERRI (called by ICMINIT)

- ICMSERCC (called by ICMMONCE)

INPUT:
- ICMSERST: index FOR COMPONENT TO BE STARTED
  index = 1: NetView
  index = 2: VTAM
  index = 3: VSE/POWER

- ICMSERSH: index for component to be terminated
  (values see ICMSERST)

- ICMSERUP: index for partition to be unbatched
  (values see ICMSERST)

```
          - ICMSEROT:  none

          - ICMSERRI:  none

          - ICMSERCC:  binary value to be converted

    REGISTERS:
          R2 contains the address of the OCCF COMREG

EXIT NORMAL:
          - ICMSERST:  return to caller

          - ICMSERSH:  return to caller

          - ICMSERUP:  return to caller

          - ICMSEROT:  EOJ, re-IPL or power off

          - ICMSERRI:  re-IPL

          - ICMSERCC:  return to caller

  LINKAGE: normal PLS linkage convention

  OUTPUT:
          - ICMSERST:  return code indicating success/not success
                       of start

          - ICMSERSH:  return code indicating error occurred during
                       shutdown (shutdown is done in any case)

          - ICMSEROP:  return code indicating success/not success
                       of unbatch partition

          - ICMSEROT:  none

          - ICMSERRI:  none

          - ICMSERCC:  character format of binary value

EXIT ERROR: none

EXTERNAL REFERENCES:   symptom string, REIPL-record

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
              SYSCOM   used      VSE system communication area
              COMREG   used      VSE partition communication area
              MAPXPCCB used      VSE XPCC control block mapping macro

    OCCF CONTROL BLOCKS:
              OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none
```

```
MACROS ISSUED:

  SYSTEM MACROS:
             CLOSEHCF   close hard copy file
             DETACH     detach subtask
             EOJ        terminate job normally
             GETFLD     VSE/AF get field service
             REIPL      software re-IPL
             SETIME     set time
             STARTP
             SUBSID     introduce OCCF to VSE
             WAIT       wait for I/O completion
             WAITM      wait multiple for ECB'S
             TREADY     post task
             XPCC       cross-partition communication
             SYSCOM     map of system communication area
             MAPCOMR    map of partition communication area
             MVCOM      update user area in partition COMREG

  OCCF MACROS:
             ICMPROC    define an OCCF module
             MESSAGE    get address of an OCCF message and display it
             OCFMPSYM   map of symptom string in re-IPL symptom record

  NetView MACROS:   none

MESSAGES ISSUED:
               OC58, OC64
```

MODULE NAME: ICMSVC0

```
DESCRIPTIVE NAME: OCCF SVC0 appendage routine

FUNCTION:    This module has 2 functions:
             1. During the activation of OCCF, all tasks issuing
                SYSLOG requests are set 'OCCF-BOUND'.
                Only if all messages are replied, OCCF activation is
                set complete and OCCF is posted.
             2. When OCCF is active, a WRB is retrieved from the
                free list queue, updated with the CCB address,
                the TID and the PID and enqueued into the SVC0 queue.
                If no WRB is available for a task, it is set 'OCCF-
                BOUND' and set to 'RESVC'.
                'OCCF-BOUND' tasks are always posted as soon as a WRB
                is freed.


  DEPENDENCIES: This code runs as subroutine of the supervisor macro
                SGIOS.


  RESTRICTIONS: do not issue SVC's in this module except 'TREADY'.

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMSVC0

  LINKAGE: via a BALR interface from SGIOS it is branched into the module

  INPUT: see below.

    REGISTERS:
                R1 contains the address of the CCB belonging to the
                   SYSLOG request.

EXIT NORMAL: return to SGIOS with a return code in R15

  LINKAGE: none

  OUTPUT:  all registers besides R15 are delivered unchanged to SGIOS.

  OUTPUT REGISTERS: register 15 contains the return code:
                     0 set requestor of syslog request 'OCCF-BOUND'
                     4 deliver request to CRT
                     8 call dispatcher
                    12 WRITE request from OCCF (do not deliver to CRT)
                    16 READ request from OCCF (do not deliver to CRT)

EXIT ERROR: none

EXTERNAL REFERENCES: none
```

```
  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             SYSCOM   used      VSE system communication area
             COMREG   used      VSE partition communication area
             CRTSAV   used      VSE save area for CRT support
             ASYTAB   used      VSE asynchronous op.com. control block
             ORE      used      VSE operator reply element
             IORB     used      VSE I/O request block

    OCCF CONTROL BLOCKS:
             OCFCOM   used      OCCF communication area

    NetView CONTROL BLOCKS: none

MACROS ISSUED:

  SYSTEM MACROS:
             ASYSCOM    get address of VSE SYSCOM
             IORB       map of I/O request block
             CRTSAV     map of CRTSAV
             ASYTAB     map of ASYTAB
             ORE        map of ORE
             MAPCOMR    map of partition commun. region
             TREADY     post task
             SYSCOM     map of system communication area

  OCCF MACROS:
             ICMPROC    define an OCCF module
             QMAN       WRB manipulation macro

  NetView MACROS:   none

MESSAGES ISSUED: none
```

MODULE NAME: ICMWRB

```
DESCRIPTIVE NAME: OCCF queue manager

FUNCTION:    This module has 2 functions:
             1. ENQ, to dequeue a WRB from a specific queue and
                enqueue it in another queue.
             2. FIND, to find a specific WRB in a queue.

NOTES:

  RESTRICTIONS: This module does not have an internal save area

MODULE TYPE: procedure

  PROCESSOR: PLS-III

  ATTRIBUTES: non-reentrant

ENTRY POINT: ICMWRB

  LINKAGE: call provided by OCCF macro 'QMAN'

  INPUT: see below.

    REGISTERS: R1 contains the address of a parameter list.
               R2 contains the address of the OCCF internal
                  communication area.

    PARAMETER LIST FORMAT:
               BYTE 0:  indicates the requested function.
                        1 = DEQUEUE/ENQUEUE
                        2 = FIND
               BYTE 1:  indicates the queue from which a WRB is
                        to be dequeued ('FROM'-queue).
                        1 = OCCF-MESSAGES ($OCFQ)
                        2 = FREE-QUEUE  ($FLQ)
                        3 = REPLY-QUEUE ($REPLQ)
                        4 = SCV0-QUEUE  (SVC0Q)
                        5 = REPCO-QUEUE (REPCQ)
                        6 = OUTSTANDING REPLY-QUEUE  ($ORQ)
               BYTE 2:  indicates the queue from which a WRB is
                        to be enqueued ('TO'-queue).
                        1 = OCCF-MESSAGES ($OCFQ)
                        2 = FREE-QUEUE  ($FLQ)
                        3 = REPLY-QUEUE ($REPLQ)
                        4 = SCV0-QUEUE  (SVC0Q)
                        5 = REPCO-QUEUE (REPCQ)
                        6 = OUTSTANDING REPLY-QUEUE  ($ORQ)
               BYTE 3 : indicates the contents of bytes 4 to 7.
                        1 = TID (FIND A WRB WITH A SPECIFIC 'TID').
                        2 = WRB (ADDRESS OF WRB TO BE ENQUEUED).
                        3 = REPLY-ID (FIND A WRB WITH THIS REPLY-ID)
                        4 = SEQ (FIND A WRB AT A SPECIFIC LOCATION
                            IN THE QUEUE).
               BYTES 4 to 7: contain the address of the subparameter
                             specified by byte 3.
```

```
EXIT NORMAL:

  LINKAGE: return to caller

  OUTPUT:

    REGISTERS:

      UNCHANGED REGISTERS: all except R1

      OUTPUT REGISTERS:
                  for functions= 'ENQ' and 'FIND':
                   R1 = 0  WRB cannot be enqueued/found
                   R1 > 0  address of WRB in its queue

     OTHER:    WRB-queues modified.

EXIT ERROR: same as EXIT NORMAL

EXTERNAL REFERENCES:

  CONTROL BLOCKS:

    SYSTEM CONTROL BLOCKS:
             COMREG   used      VSE partition communication area
             PIB      used      VSE partition information block

    OCCF CONTROL BLOCKS:
             OCFCOM   modified  OCCF communication area

    NetView CONTROL BLOCKS: none

  ROUTINES:    none
```

MACROS ISSUED:

```
  SYSTEM MACROS:
             TREADY     post a resource used as follows:
                        COND=OCCF
                        TASK=...
             POST       post a resource
             WAIT       wait for a resource
             MAPCOMR    map of partition communication area
             MAPPIB     map of PIB

  OCCF MACROS:
             ICMPROC    define an OCCF module
             SEGMENT    support structured programming
             CASE       support structured programming
             POST       generate assembler code for VSE POST macro
             WAIT       generate assembler code for VSE WAIT macro

  NetView MACROS:   none
```

MESSAGES ISSUED: none

FLOW OF CONTROL

```
ICMWRB                          Module entry point
|
|-->FINDWRB                     Find a WRB
|   |-->FTID                    Find a WRB with a specific TID
|   |-->FREPL                   Find a WRB with a reply-ID
|   |-->FSEQ                    Find a WRB on a certain position
|   |-->FNULL                   Dummy segment
|
|-->DEQ                         Dequeue a WRB
|   |-->DEFLQ                   Dequeue a WRB from FREELIST queue
|   |-->DEREPL                  Dequeue a WRB from REPLY queue
|   |-->DESVC0                  Dequeue a WRB from SVC0 queue
|   |-->DEREPC                  Dequeue a WRB from REPCO queue
|   |-->DEORQ                   Dequeue a WRB from OUTST.REPLY queue
|
|-->ENQINT                      Enqueue A WRB from message list
|-->ENQEXT                      Enqueue an external WRB
|-->POST                        Post appropriate tasks
```

Chapter 3. Organization Information

Figure 3-1 summarizes, for quick reference, information presented in Chapter 2.

Module ICM...	Called By	Entry Point	Function Description	Calls	Exits To
AB	Supervisor	ICMABMT ICMABSST ICMABRST	VSE/OCCF abend exit for • OCCF Maintask • SVC0 task • REPCO task	--	Super-visor
ACDET	Receives control via ATTACH macro	ICMACDET	Process SYSLOG requests and determines routing code and handles messages	ICMDIAG ICMMATS ICMMSGTR ICMDOIO ICMNCMS ICMWRB	De-tached by main task
DIAG	ICMACDET	ICMDIAG	Check every SYSLOG request for logical consisten-cy. Requests must conform to the rules for 1052 channel programs; certain restric-tions apply.	--	Caller
DISP	ICMREP	ICMDISP	Enter and leave QDISPL mode, and process the QDISPL command.	--	Caller

Figure 3-1 (Part 1 of 5). Module to Function Cross-Reference

Module ICM...	Called By	Entry Point	Function Description	Calls	Exits To
DOIO	ICMACDET, ICMNCMS	ICMDOIO	Input/Output: • Write a message to the hard copy file and the console printer. • Move a message into the screen area; add the message prefix. • Read data entered on the screen and write data to the screen.	--	Caller or ICMAB
EOJ	Termination routine of the super-visor (SGAP)	ICMEOJ	Post REPCO task (ICMREP) and set cancel flag into the AIT.	--	Caller
IDUMP	ICMAB ICMINIT	ICMIDUMP	• Provide IDUMP information • Initialize REIPL macro • Store the UN symptom string	--	Caller
INIT	Receives control immediately when VSE/OCCF is loaded	ICMINIT	Activate VSE/OCCF: • Check prere-quisites • Load MTTs • Attach subtasks SVC0 and REPCO • Terminate routing to CRT routines • Terminate VSE/OCCF • Attach NetView	ICMNCST ICMMSG ICMSCENV ICMMONCE	EOJ or CANCEL macro or ICMAB or ICMSERV

(continued on next page)

Figure 3-1 (Part 2 of 5). Module to Function Cross-Reference

Module ICM...	Called By	Entry Point	Function Description	Calls	Exits To
			interface • Start/control UN environment • XPCC connect to NetView if attended		
MATS	ICMACDET	ICMMATS	Scan the MATAB	ICMMSGTR	Caller
MONCE	ICMINIT	ICMMONCE	• Monitors controlling environment of UN (VTAM, NetView VSE/POWER) • Monitors NetView subtask • Final processing of OCCF commands QIPLPRIM QIPLALT QPWROFF QSHUT QEND	ICMSERV	caller
MSG	Internal OCCF macro MESSAGE	ICMMSG	Display a VSE/OCCF message on the system console and return the message reply to the caller.	--	Caller
MSGTR	ICMMATS	ICMMSGTR	Translate a message.	--	Caller

(continued on next page)

Figure 3-1 (Part 3 of 5). Module to Function Cross-Reference

Module ICM...	Called By	Entry Point	Function Description	Calls	Exits To
NCMD	NetView program	ICMNCMD	Process QLOGON and QLOGOFF commands; transfer all data entered at the NetView operator station to VSE/OCCF.	--	Caller
NCMS	ICMACDET	ICMNCMS	Route a message to the NetView operator station and hard copy file	ICMDOIO ICMWRB	Caller
REP	Receive control via ATTACH macro	ICMREP	Process message replies and commands: • Translate replies and commands. • Route attention commands to the VSE attention routines. • Route replies to the requesting task. • Execute VSE/OCCF commands.	ICMDISP ICMWRB	Detached by main task
SCENV	ICMINIT	ICMSVENV	Start UN controlling environment	--	Caller

(continued on next page)

Figure 3-1 (Part 4 of 5). Module to Function Cross-Reference

Module ICM...	Called By	Entry Point	Function Description	Calls	Exits To
SERV	ICMINIT ICMMONCE ICMSCENV	ICMSERST ICMERSH ICMERUP ICMEROT ICMERRI ICMERCC	Several external entries • Start NetView, VTAM or POWER • Shutdown NetView VTAM or POWER • Unbatch NetView, VTAM or POWER partition • Terminate OCCF • Invoke REIPL • Convert binary to character	--	Caller
SVC0	SGIOS macro of supervisor	ICMSVC0	Retrieve a WRB from the free-list queue, update it with the CCB address, and put it into the SVC0 queue.	--	Caller
WRB	Internal OCCF macro QMAN	ICMWRB	Dequeue/enqueue a WRB, or find a specific WRB in a queue.	--	Caller
DSIEX15	NetView program	DSIEX15	Process NetView termination and enforce QLOGOFF in case of NetView error	--	Caller

Figure 3-1 (Part 5 of 5). Module to Function Cross-Reference

Chapter 4. Data Area Information

The following describes the VSE/OCCF communication region and work request blocks; the information can be used in conjunction with dumps. For an overview of other data areas used, refer to Chapter 2.

```
Description of Data Area   OCFCOM
```

The address of the VSE/OCCF communication region (OCFCOM) is contained at displacement X'38' in the system communication area (SYSCOM).

Alphabetic Field Names and Offsets

FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)
OCF$NETV	0	OCFECB8	48	OCFOC37	59
OCFAIT	1D4	OCFECB8B	4A	OCFONETV	5C
OCFAITAB	1D4	OCFECB9	4C	OCFOPID	18
OCFALARM	58	OCFECB9B	4E	OCFOREPL	5C
OCFASVC0	AC	OCFECBQ	568	OCFORIG	5C
OCFATERM	B0	OCFECBQB	56A	OCFORIGA	5D
OCFBUFN	DE	OCFECBR	570	OCFOSUPR	5C
OCFBUFNL	DC	OCFECBRB	572	OCFOSYSC	5C
OCFBUFS	134	OCFECBS	56C	OCFOREPL	5C
OCFBUFSL	132	OCFECBSB	56E	OCFPIK	5E
OCFCAPPL	524	OCFECBT	564	OCFPRCCB	2D8
OCFCAFLG	536	OCFECBTB	564	OCFPRCCW	2F0
OCFCEFLG	536	OCFENV	524	OCFPRIOA	2F8
OCFCNFLG	536	OCFEOJ	5A	OCFPRSCW	2E8
OCFCLINE	B8	OCFFFRLI	BC	OCFPRSNS	34B
OCFCOM	0	OCFFLAG1	560	OCFPUB	A0
OCFCOMRE	A8	OCFFLAG2	561	OCFP3277	59
OCFCPID	528	OCFFLAGS	58	OCFQDISP	58
OCFCPNO	52A	OCFFRST	59	OCFQEND	560
OCFCPRCS	536	OCFGATEC	57	OCFQFL	7C
OCFCPROC	52C	OCFGATEW	90	OCFQLOGF	59
OCFCRTSA	9C	OCFIDUMP	560	OCFQLOGO	58
OCFCRTTA	98	OCFIPALT	561	OCFQOR	8C
OCFCSCTE	B4	OCFIPRIM	561	OCFQPWR	561
OCFCSFLG	536	OCFIIORB	CC	OCFQRP	80
OCFDETNS	560	OCFINCOM	58	OCFQSHUT	561
OCFDNETV	6A	OCFINSTR	58	OCFQSTOP	560
OCFDROUT	6A	OCFIOERR	59	OCFQSV	84
OCFDSYSC	6A	OCFLTAGA	14	OCFPRSCW	2E8
OCFDTERM	561	OCFLUBTA	A4	OCFRCTT	2C
OCFECB3	C	OCFMATAB	28	OCFREPCO	5A
OCFECB3B	E	OCFMRCB	51C	OCFRQFL	5A
OCFECB4	38	OCFMSGP	514	OCFRQFLG	5A
OCFECB4B	3A	OCFMSGT	518	OCFRSTRT	562
OCFECB5	3C	OCFMVTAD	24	OCFSCREN	59
OCFECB5B	3E	OCFNETV	5A	OCFSNETV	44C
OCFECB6	40	OCFNETVA	58	OCFSNETN	44C
OCFECB6B	42	OCFNETVP	C0	OCFSOCX	4CC
OCFECB7	44	OCFNRLIR	BE	OCFSRECN	3CC
OCFECB4B	46	OCFNRORQ	76	OCFSRECO	3CC

Alphabetic Field Names and Offsets (continued)

FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)
OCFSSVCN	34C	OCFTIDF	60	OCFUNATT	560
OCFSSVC0	34C	OCFTIDNF	66	OCFVTPID	68
OCFSWBAD	20	OCFTIDRC	64	OCFWQ	78
OCFSTME	534	OCFTIDSV	62	OCFWRB	30
OCFSYSC	5A	OCFTRINA	C4	OCFXX1	520
OCFSYSCO	5A	OCFTRINL	C8	OCF23REQ	5A
OCFTID	60	OCFTTME	535	OCF25	5A

Ascending Offset and Field Names

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
0	OCFCOM	524	OCCF COMMUNICATION REGION
0	OCF$NETV	18	NetView INTERFACE
14	OCFLTAGA	4	ADDRESS OF GATE-BYTE (AVOIDS TRANSFER OF LTA-READ-REQUESTS TO NetView,WHEN NetView OWNS OR WAITS FOR LTA AND VICE VERSA)
18	OCFOPID	8	ID OF NetView operator
20	OCFSWBAD	4	ADDR OF SWB (NetView CTRL BLOCK)
24	OCFMVTAD	4	ADDR OF MVT (NetView CTRL BLOCK)
28	OCFMATAB	4	POINTER TO MATAB
2C	OCFRCTT	4	POINTER TO RCTT
30	OCFWRB	4	POINTER TO WRB TABLE
	ECB GROUP		
34	OCFECEJ	4	POSTEB BY ICMEOJ FOR ALL TERMINATION TASKS
			Bits defined in OCFECEJ
36	OCFECEJB	X'80'	
38	OCFECB4	4	MAIN-TASK WAITING FOR WORK
			Bits defined in OCFECB4
3A	OCFECB4B	X'80'	
3C	OCFECB5	4	SVC0-TASK WAITING FOR WORK
			Bits defined in OCFECB5
3E	OCFECB5B	X'80'	
40	OCFECB6	4	REPCO-TASK WAITING FOR WORK
			Bits defined in OCFECB6
42	OCFECB6B	X'80'	
44	OCFECB7	4	ALL OCCF-TASKS ARE WAITING WHEN Q-MANAGEMENT IS BUSY
			Bits defined in OCFECB7
46	OCFECB7B	X'80'	
4C	OCFECB9	4	THE REPCO TASK IS WAITING WHEN AN INTERNAL WRB IS OCCUPIED
			Bits defined in OCFECB9
4E	OCFECB9B	X'80'	
57	OCFGATEC	1	GATE FOR LOCAL SYSTEM CONSOLE

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
	OCCF STATE		
58	OCFFLAGS	2	STATE OF OCCF
			Bits defined in OCFFLAGS
58	OCFQEND	X'80'	'QEND' command WAS ENTERED
58	OCFQSTOP	X'40'	'QSTOP' command WAS ENTERED
58	OCFQLOGO	X'20'	AN NetView operator QLOGGED ON
58	OCFQDISP	X'10'	OCCF IS IN QDISPL STATE
58	OCFINSTR	X'08'	INITIALIZATION IS STARTED
58	OCFINCOM	X'04'	INITIALIZATION IS COMPLETE
58	OCFNETVA	X'02'	NetView-TASK IS ATTACHED
58	OCFALARM	X'01'	ALARM SPECIF. IN OCFOPT MACRO
59	OCFSCREN	X'80'	WRITE OF WHOLE LOCAL SCREEN
59	OCFP3277	X'40'	CONSOLE PRINTER IN DSPLY MODE
59	OCFQLOGF	X'20'	QLOGOFF DETECTED
59	OCFFRST	X'10'	FIRST QLOGON CMD ENTERED
59	OCFOC37	X'08'	MSG OC37 WAS DISPLAYED
59	OCFIOERR	X'04'	UNRECOVERABLE SYSLOG I/O ERROR
59	OCFHCFOE	X'02'	HCF OPEN ERROR
59	OCFHCFWE	X'01'	HCF WRITE ERROR
	REPCO TASK INDICATORS		
	ATTENTION: CHANGING THE ARRANGEMENTS IN THIS STRUCTURE HAS AN IMPACT ON 'ICMREP'		
5A	OCFRQFLG	2	
			Bits defined in OCFRQFLG
5A	OCFRQFL	xxxxxx..	REPCO-TASK INDICATORS
5A	OCFNETV	X'80'	REQUEST FOR 'NetView'
5A	OCFSYSC	X'40'	REQUEST FOR 'SYSCONS'
5A	OCFREPCO	X'20'	REQUEST FOR 'REPCO-TASK'
5A	OCF23REQ	X'10'	REQUEST FOR MSG OC23
5A	OCF25	X'08'	REQUEST FOR MSG OC25
5A	OCFIQEND	X'04'	REQUEST FOR INTERNAL QEND
5A	OCFEOJ	X'02'	REQUEST FOR TASK TERMINATION
	ORIGINATOR OF INPUT		
5C	OCFORIG	1	INDICATES WHERE DATA ENTERED
			Bits defined in OCFORIG
5C	OCFONETV	X'80'	DATA ENTERED from NetView
5C	OCFOSYSC	X'40'	DATA ENTERED BY SYS operator
5C	OCFOREPL	X'20'	REPLY IS IN REPCO QUEUE
5C	OCFOSUPR	X'10'	DATA WERE NOT DISPLAYED
5D	OCFORIGA	1	INDICATES WHERE LAST ATTN CMD WAS ENTERED

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
	OCCF PARTITION/SUBTASK IDENTIFIERS		
5E	OCFPIKF	2	PARTITION-ID OF THE OCCF-PART
5E	OCFPIK	2	PARTITION-ID OF THE OCCF-PART
60	OCFTIDF	2	TASK IDENTIFIER OF OCCF TASK
60	OCFTID	2	TASK IDENTIFIER OF OCCF TASK
62	OCFTIDSV	2	TASK IDENTIFIER OF SVC0 TASK
64	OCFTIDRC	2	TASK IDENTIFIER OF REPCO TASK
66	OCFTIDNF	2	TASK IDENTIFIER OF NetView TASK
68	OCFVTPID	2	PARTITION-ID OF THE VTAM-PART
	DEFAULT ROUTE-INDICATOR		
6A	OCFDROUT	1	DEFAULT ROUTE-ID
6A	OCFDNETV	X'80'	DEFAULT ROUTE-ID = NetView
6A	OCFDSYSC	X'40'	DEFAULT ROUTE-ID = SYSCONS

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
	WRB MANAGEMENT INFO		
	ATTENTION: CHANGING THE ARRANGEMENT IN THIS SUBSTRUCTURE HAS AN IMPACT ON ICMWRB		
			Bits defined in OCFDROUT
74	OCFNRRPQ	2	NR OF WRB'S IN REPLY-QUEUE
76	OCFNRORQ	2	NR OF WRB'S IN OUTSTANDING REPLY-queue
78	OCFWQ	18	ANCH OR FOR WRB queueS
7C	OCFQFL	4	ADDR OF 1.WRB IN FREE-LIST-Q
80	OCFQRP	4	ADDR OF 1.WRB IN REPLY-QUEUE
84	OCFQSV	4	ADDR OF 1.WRB IN SVC0-QUEUE
88	OCFQRC	4	ADDR OF 1.WRB IN REPCO-QUEUE
8C	OCFQOR	4	ADDR OF 1.WRB IN OREPLY-QUEUE
90	OCFGATEW	1	GATE FOR WRB-MANAGEMENT
	INTERFACES TO VSE		
94	OCFSYSCO	4	ADDRESS OF VSE SYSCOM
98	OCFCRTTA	4	ADDRESS OF CRT-TABLE
9C	OCFCRTSA	4	ADDRESS OF CRT COMMUNICATION AREA
A0	OCFPUB	4	ADDRESS OF VSE PUB-TABLE
A4	OCFLUBTA	4	ADDRESS OF VSE LUB-TABLE
A8	OCFCOMRE	4	ADDRESS OF VSE COMMUNICATION REGION
AC	OCFASVC0	4	ADDRESS OF SVC0 APPENDAGE RTN
B0	OCFATERM	4	ADDRESS OF TERMINATOR APP RTN
	MISCELLANEOUS POINTERS		
B4	OCFCSCTE	4	PTR TO SCT ENTRY IN Process
B8	OCFCLINE	4	PTR TO LINE IN Process
BC	OCFFFRLI	2	NBR OF 1ST FREE LINE IN SCREEN
BE	OCFNRLIR	2	NBR OF LINES FOR CURRENT MSG
C0	OCFNETVP	4	ENTRY POINT OF NetView 'DSIDPR'
	INTERFACES TO OCCF PHASE 'ICMDISP'		
C4	OCFTRINA	4	ADDRESS OF TRANSLATED INPUT
C8	OCFTRINL	4	LENGTH OF TRANSLATED INPUT
	BUFFERS		
CC	OCFIIORB	10	IORB FOR INITIALIZATION
DC	OCFBUFNL	2	LENGTH OF DATA ENTERED BY NetView operator
DE	OCFBUFN	54	BUFFER CONTAINING DATA ENTERED BY NetView operator
132	OCFBUFSL	2	LENGTH OF DATA ENTERED BY SYSTEM operator
134	OCFBUFS	A0	BUFFER CONTAINING DATA ENTERED BY SYSTEM operator
1D4	OCFAITAB	100	ACTION INDICATOR TABLE
1D4	OCFAIT	FF	ACTION INDICATOR TABLE

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
	CONSOLE PRINTER		
2D8	OCFPRCCB	10	CCB FOR CONSOLE PRINTER
2E8	OCFPRSCW	8	SENSE CCW
2F0	OCFPRCCW	8	NORMAL CCW
2F8	OCFPRIOA	53	I/O AREA
34B	OCFPRSNS	1	SENSE BYTE
	SUBTASK SAVE AREAS		
34C	OCFSSVC0	80	SAVE AREA OF SVC0 TASK
34C	OCFSSVCN	8	SUBTASKS NAME
3CC	OCFSRECO	80	SAVE AREA OF REPCO TASK
3CC	OCFSRECN	8	SUBTASKS NAME
44C	OCFSNETV	80	SAVE AREA OF NetView TASK
44C	OCFSNETN	8	SUBTASKS NAME
44C	OCFSOCX	48	SAVE AREA OF OC-EXIT
	MESSAGE POINTERS		
514	OCFMSGP	4	ADDRESS OF MESSAGE MODULE
518	OCFMSGT	4	ADDRESS OF MESSAGE TABLE
51C	OCFMRCB	4	MESSAGE WRITER RCB
520	OCFXX1	4	RESERVED FOR TESTING
	UNATTENDED NODE EXTENSIONS		
524	OCFENV	6	COMP. ENVIR. INFO ARRAY
524	OCFCAPPL	4	COMP. APPLICATION NAME
528	OCFCPID	2	COMP. PARTITION ID F1-FB
52A	OCFCPNO	2	COMP. HEX PARTITION NUMBER
52C	OCFCPROC	8	COMP. STARTUP PROC NAME
534	OCFCSTME	1	COMP. MAX STARTUP TIME
535	OCFCTTME	1	COMP. MAX TERMINATION TIME
536	OCFCEFLG	1	COMP. ENVIRONMENT FLAGS
			Bits defined in OCFCEFLG
536	OCFCPRCS	X'80'	COMP. PROCEDURE SPECIFICATION
536	OCFCNFLG	X'40'	COMP. XPCC CONNECT
536	OCFCAFLG	X'20'	COMP. FUNCTION AVAILABLE
536	OCFCSFLG	X'10'	WAIT FOR COMP. TERMINATION NECESSARY
560	OCFFLAG1	1	OCCF UNATTENDED ENVIRONMENT FLAG 1
			Bits defined in OCFFLAG1
560	OCFUNATT	X'80'	OCCF RUNNING UNATTENDED
560	OCFQSTOP	X'40'	QSTOP MODE
560	OCFIDUMP	X'20'	TAKE IDUMP IN AB EXIT
560	OCFDETNS	X'10'	DETACH NetView SUBTASK
561	OCFFLAG1	1	OCCF UNATTENDED ENVIRONMENT FLAG 2

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
			Bits defined in OCFFLAG2
561	OCFQEND	X'80'	QEND Process RRQUEST
561	OCFIPRIM	X'40'	QIPL PRIMARY SYSRES
561	OCFIPALT	X'20'	QIPL ALTERNATE SYSRES
561	OCFQSHUT	X'10'	QSHUT Process REQUEST
561	OCFQPWR	X'08'	QSHUT AND POWER OFF
561	OCFDTERM	X'04'	DELAYED TERMINATION
562	OCFRSTRT	1	MAX COMP. RESTART COUNT
	ECB'S FOR UNATTENDED NODE		
564	OCFECBT	4	OCCF TERMINATION REQUEST
			Bits defined in OCFECBT
566	OCFECBTB	X'80'	QEND,QSHUT,QIPL,QPWROFF
568	OCFECBQ	4	QLOGON DONE_ECB
			Bits defined in OCFECBQ
56A	OCFECBQB	X'80'	QLOGON ProcessING REQUEST
56C	OCFECBS	4	ATTACH_ECB SVC0 TASK
			Bits defined in OCFECBS
56E	OCFECBSB	X'80'	SVC0 TASK TERMINATING
570	OCFECBR	4	ATTACH_ECB REPSO TASK
			Bits defined in OCFECBR
572	OCFECBRB	X'80'	REPCO TASK TERMINATING

Alphabetic Field Names and Offset (continued)

Description of Data Area AIT

Note: The AIT (action indicator table) is part of the OCFCOM.

Every entry in the AIT consists of one byte; the following shows the bit layout.

Field Name	Bit Pattern	Description
AITNETV	X'80'	Last message went to NetView operator station.
AITSYSCN	X'40'	Last message went to system console.
AITREPLY	X'20'	WRB is in the reply-queue.
AITSUPRS	X'10'	Last message was suppressed.
AITOREPL	X'08'	WRB is in outstanding-reply queue.
AITWRB	X'04'	WRB is occupied.
AITOC23	X'02'	WRB contains message to which immediate reply is required.
AITCNCL	X'01	WRB is to be removed from the outstanding-reply queue.

Description of Data Area WRB

Alphabetic Field Names and Offset

FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)	FIELD NAME	OFFSET (HEX)
WRB	0	WRBINSTL	F	WRBPRFIX	F
WRBADEI	8	WRBINTRN	E	WRBPRGCK	F
WRBALARM	E	WRBINUSE	E	WRBPRTCK	F
WRBAMSG	8	WRBLTA	F	WRBPUTR	E
WRBAREPL	128	WRBLTCCW	134	WRBRDOLY	F
WRBBLANK	1C	WRBMISC	114	WRBREAD	E
WRBBL1	0	WRBMS	14	WRBREPID	19
WRBBWD	4	WRBMSG	16	WRBREPIN	18
WRBCARR	114	WRBMSGLN	14	WRBREPLN	120
WRBCARRT	114	WRBMSP1	16	WRBREPLY	9
WRBCCBUS	12C	WRBMTEXT	1D	WRBROUTE	9
WRBCCWRD	130	WRBMT1	1D	WRBRSRVD	138
WRBCNCL	F	WRBMT2	26	WRBSUPRS	9
WRBDMSG	8	WRBMT3	21	WRBSYSC	9
WRBEMSG	8	WRBMT4	22	WRBTIDC	A
WRBFLAGS	E	WRBNCCF	9	WRBTIDF	A
WRBFWD	0	WRBNOHC	E	WRBTRNS	E
WRBIMSG	8	WRBNOTR	F	WRBTRUBS	124
WRBINS	10	WRBPID	16	WRBTRUNC	E
WRBINSB	10	WRBPIKC	C		
WRBINSL	12	WRBPIKF	C		

Ascending Offset and Field Names

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
0	WRB	1134	WORK REQUEST BLOCK
0	WRBBLI	E	PART 1 OF WRB
0	WRBFW	4	POINTER TO NEXT WRB IN CHAIN
4	WRBBWD	4	POINTER TO PREV WRB IN CHAIN
8	WRBADEI	1	INDICATES TYPE OF MESSAGE
			Bits defined in WRBADEI
8	WRBAMSG	X'80'	INDICATES AN ACTION/DECISION MSG
8	WRBEMSG	X'40'	INDICATES AN EVENTUAL MSG
8	WRBDMSG	X'20'	INDICATES AN ACTION/DECISION MSG
8	WRBIMSG	X'10'	INDICATES AN INFORMATION MSG
	ROUTING INDICATORS		
9	WRBROUTE	1	ROUTING INDICATORS
			Bits defined in WRBROUTE
9	WRBNETV	X'80'	ROUTE MSG TO NetView
9	WRBSYSC	X'40'	ROUTE MESSAGE TO SYSCONS
9	WRBREPLY	X'20'	REPLY DEFINED IN 'MATAB'
9	WRBSUPRS	X'10'	SUPPRESS MESSAGE
	ISSUER OF SYSLOG-SVC0		
A	WRBTIDF	2	TID OF THE ISSUER
A	WRBTIDC	2	
C	WRBPIKF	2	PIK OF THE ISSUER
C	WRBPIKC	2	
	FLAGS FOR queue MANAGEMENT		
E	WRBFLAGS	2	
			Bits defined in WRBFLAGS
E	WRBINTRN	X'80'	OCCF-INTERNAL WRB
E	WRBINUSE	X'40'	WRB IN USE (IN ANY WORK queue)
E	WRBNOHC	X'20'	WRB NOT TO BE WRITTEN TO HC-FILE
E	WRBALARM	X'10'	ALARM CCW WAS DETECTED
E	WRBPUTR	X'08'	PUTR REQUEST
E	WRBTRNS	X'04'	MESSAGE ALREADY TRANSLATED
E	WRBTRUNC	X'02'	TOO LONG MESSAGE TRUNCATED
E	WRBREAD	X'01'	READ IS IN CCW-CHAIN
F	WRBCNCL	X'80'	ICMEOJOT REQUESTED REMOVAL
F	WRBLTA	X'40'	READ REQUEST from LTA TO NetView
F	WRBRDOLY	X'20'	READ ONLY REQUEST
F	WRBPRGCK	X'10'	PROGRAM CHECK IN CCW
F	WRBPRTCK	X'08'	PROTECTION CHECK IN CCW
F	WRBINSTL	X'04'	MOVE MESSAGE INTO INSTR LINE
F	WRBPRFIX	X'02'	NO PREFIXING REQUIRED
F	WRBNOTR	X'01'	MESSAGE NOT TRANSLATED

Ascending Offset and Field Names (continued)

OFFSET (HEX)	FIELD NAME	BYTES AND BIT PATTERN	DESCRIPTION
	MESSAGE PART		
10	WRBINS	4	MESSAGE INSERTION SLOT
10	WRBINSB	2	RELATIVE ADDRESS OF SLOT
12	WRBINSL	2	LENGTH OF SLOT
14	WRBMS	100	MESSAGE PART
14	WRBMSGLN	2	LENGTH OF MESSAGE
16	WRBMSG	FE	MESSAGE INCLUDING PREFIX
16	WRBMSP1	7	MESSAGE PREFIX 1
16	WRBPID	2	PARTITION IDENTIFIER
18	WRBREPIN	1	' ' OR '-' OR '+'
19	WRBREPID	3	REPLY IDENTIFIER
1C	WRBBLANK	1	BLANK (X'40')
1D	WRBMTEXT	F7	MESSAGE TEXT CONTINUOUSLY
1D	WRBMT1	4	MESSAGE ID
20	WRBMT2	1	NUMERIC
21	WRBMT3	1	MESSAGE TYPE ID (A,D,E,I)
22	WRBMT4	1	BLANK (X'40)
	MISCELLANEOUS FIELDS (NOT used FOR INTERNAL WRB'S)		
114	WRBMISC	20	MISCELLANEOUS FIELDS
114	WRBCARR	3	DISPLACEMENTS WITHIN THE MESSAGE
114	WRBCARRT	12	WHERE NEW LINES HAVE TO START
120	WRBREPLN	2	LENGTH OF REPLY IN THE MATAB
	ALPHABETIC INDEX TO FIELD NAMES (CONTINUED)		
124	WRBTRUBS	4	NBR OF TRUNC BYTES IN WRT REQ
128	WRBAREPL	4	POINTER TO THE REPLY IN THE MATAB
12C	WRBCCBUS	4	POINTER TO USER'S CCB
130	WRBCCWRD	4	POINTER TO USER'S READ CCW
134	WRBLTCCW	4	POINTER TO LAST CCW INSPECTED
138	WRBRSRVD	4	RESERVED FOR PATCHING OR FUTURE USE

Chapter 5. Diagnostic Aids

Message to Module Cross-Reference

Figure 5-1 lists the individual VSE/OCCF messages along with the VSE/OCCF module that causes/issues a given message.

The prefix (ICM) of the module name is not shown.

Message OCnn	Caused by Module ICM...	Issued by Module ICM...
01	INIT	MSG
02	INIT	MSG
03	INIT	MSG
04	INIT	MSG
05	INIT	MSG
06	INIT	MSG
07	INIT	MSG
08	INIT	MSG
09	ACDET/REP	WRB/WRB
11	INIT	WRB
12	REP	WRB
13	REP	WRB
14	REP	WRB
15	DISP	WRB
16	DISP	WRB
17	DISP	WRB
18	ACDET	WRB
19	ACDET	WRB
20	INIT	MSG
21	INIT	MSG
22	REP	WRB
23	REP	WRB
24	REP	WRB
25	REP	WRB
26	REP	WRB
27	ACDET	WRB
28	DOIO	WRB
29	DOIO	WRB
30	DOIO	DOIO
31	DOIO	DOIO
32	DOIO	DOIO
33	DOIO	DOIO
34	DOIO/MSG	DOIO/MSG
35	DISP	WRB

Figure 5-1 (Part 1 of 2). Message to Module Cross-Reference

Message OCnn	Caused by Module ICM...	Issued by Module ICM...
36	SCENV	MSG
37	REP	WRB
38	NCMD/REP	NCMD/WRB
39	NCMS	WRB
40	ACDET	WRB
41	NCMD	NCMD
42	NCMD	NCMD
43	DSIEX15	MSG
44	INIT	MSG
45	INIT	MSG
46	NCMD	NCMD
47	NCMD	NCMD
48	NCMD	NCMD
49	SCENV	MSG
50	NCMD	NCMD
51	NCMD	NCMD
52	NCMD	NCMD
53	ACDET	WRB
54	DOIO	DOIO
55	ACDET	DOIO
56	DISP	WRB
57	REP	WRB
58	SERV/AB	MSG/MSG
59	AB	MSG
60	DOIO	DOIO
61	ACDET	WRB
62	REP	WRB
63	REP	WRB
64	INIT/SERV	MSG
65	INIT	MSG
66	DIAG	WRB
67	REP	WRB
68	DOIO	MSG(AB)
69	AB	MSG
70	INIT	MSG
71	INIT	MSG
72	AB	MSG
73	AB	MSG
74	SCENV	MSG
75	REP	WRB
76	REP/MONCE	WRB/WRB
77	INIT	MSG
78	INIT	MSG
79	INIT	MSG

Figure 5-1 (Part 2 of 2). Message to Module Cross-Reference

Abend Codes Supplied by VSE/OCCF

In the unattended node environment VSE/OCCF request re-IPL in case of certain errors. For error diagnostic a re-IPL symptom record is set up along with specific abend codes supplied by VSE/OCCF.

Figure 5-2 lists the individual VSE/OCCF abend codes along with the VSE/OCCF module that sets up the abend code.

Abend Code	Set By Module ICM...	Error cause / Additional info in symptom string
1	INIT	OCCF not running in shared space
2	INIT	No 3277 support
3	INIT	SYSLOG device not 3277
4	INIT	Hard Copy File not open
5	INIT	Message translation table not found
6	INIT	Message translation table could not be loaded
7	INIT	OCCF not invoked as a maintask
8	INIT	OCCF already active in another partition
9	INIT	Attach of OCCF SVC0 subtask failed
10	INIT	Attach of OCCF REPC0 subtask failed
11	INIT	DSIDPR for NetView service task not found
12	INIT	NetView phase DSIDPR could not be loaded
13	INIT	Insufficient virtual storage for OCCF
14	INIT	OCCF not known as a subsystem Additional info: Symptom string origin SYMORGTP = 0
15	INIT	XPCC connection to NetView could not be established Additional info: Symptom string origin SYMORGTP = 1

Figure 5-2 (Part 1 of 4). Abend Code to Module Cross-Reference

Abend Code	Set By Module ICM...	Error cause / Additional info in symptom string
20	SCENV	Attach of NetView subtask failed
21	SCENV	NetView Heardbeat XPCC-abnormal disconnect Additional info: Symptom string origin SYMORGTP = 2
22	SCENV	NetView Heardbeat XPCC-unexpected function Additional info: Symptom string origin SYMORGTP = 3

Figure 5-2 (Part 2 of 4). Abend Code to Module Cross-Reference

Abend Code	Set By Module ICM...	Error cause / Additional info in symptom string
30	SERV	QIPLPRIM request Additional info: Feedback code ADSS3PRR = 2
31	SERV	QIPLALT request Additional info: Feedback code ADSS3PRR = 3
32	SERV	DSIDPR has terminated Additional info: Symptom string origin SYMORGTP = 4
33	SERV	Start of component not successful Additional info: Symptom string origin SYMORGTP = 5
34	SERV	XPCC connect not successful Additional info: Symptom string origin SYMORGTP = 6
35	SERV	Startup time exhausted Additional info: Symptom string origin SYMORGTP = 7
36	SERV	QLOGON from NetView missing Additional info: Symptom string origin SYMORGTP = 8
37	SERV	Restart count exhausted Additional info: Symptom string origin SYMORGTP = 9
38	SERV	CONNECT_ECB unexpected reason code Additional info: Symptom string origin SYMORGTP = 10
39	SERV	Restart not possible; partition not unbatched Additional info: Symptom string origin SYMORGTP = 11

Figure 5-2 (Part 3 of 4). Abend Code to Module Cross-Reference

Abend Code	Set By Module ICM...	Error cause / Additional info in symptom string
50	MONCE	DSIDPR abnormal termination
51	MONCE	XPCC connect unsuccessful Additional info: Symptom string origin SYMORGTP = 12
52	MONCE	Unbatch of partition failed Additional info: Symptom string origin SYMORGTP = 13
53	MONCE	Clock not available Additional info: Symptom string origin SYMORGTP = 14
54	MONCE	Restart count exhausted Additional info: Symptom string origin SYMORGTP = 15
60	AB	Cancel requested by SVC0 task
61	AB	Cancel requested by REPCO task
62	AB	Abnormal maintask termination

Figure 5-2 (Part 4 of 4). Abend Code to Module Cross-Reference

Figure 5-3 lists the VSE/OCCF modules which supply abend codes along with code(s).

Module	Abend Codes
ICMAB	60, 61, 62
ICMINIT	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
ICMMONCE	50, 51, 52, 53, 54
ICMSCENV	20, 21, 22
ICMSERV	30, 31, 32, 33, 34, 35, 36, 37, 38, 39

Figure 5-3. Module to Abend Code Cross-Reference

VSE/OCCF Internal Macros

This section describes the functions and usage of the VSE/OCCF internal macros. Figure 5-3 on page 5-6 provides an overview of the macros.

(For information on VSE/OCCF external macros, refer to *VSE/Operator Communication Control Facility Reference.)*

Macro	Function
ICMPROC	Indicates the beginning of a procedure.
COPYRGHT	Generates the copyright statement.
DEFMSG	Defines a VSE/OCCF message in the VSE/OCCF message library.
MESSAGE	Handles VSE/OCCF messages.
QMAN	Invokes the WRB management routine and manipulates WRB queues.
ICMGBL	Generates declarations (in conjunction with the PROC macro) which are common to all VSE/OCCF modules.
ICMCBS	Includes VSE/OCCF control block declarations.
OCFMPSYM	Map of symptom string in re-IPL symptom record.

Figure 5-4. Overview -- Internal Macros of VSE/OCCF

The ICMPROC Macro

This macro indicates the entry point for a procedure; it must be the first statement for any external or internal procedure.

ICMPROC Format

```
? label:  ICMPROC [(parameter)]
               [OPTIONS (option)]
               [DATAREG (register)]
               [BASEREG (register)]
               [COIBM]
               [LIST]
               ;
```

ICMPROC Parameters

label
: For label define the name for the procedure.

parameter
: Specifies one or more variable names associated with an argument. For parameter, specify one or more names; separate each name by a comma.

OPTIONS (option)
: Alters the standard entry and exit code. For option, specify one or more options; separate each option by a comma.

DATAREG (register)
: Specifies the register(s) to be used for addressing data. Use this option only for external procedures. For register, specify one or more registers; separate each specification by a comma. Do not specify the registers 0, 1, 13, 14, and 15.

BASEREG (register)
: Specifies the register(s) to be used for addressing the generated code. Use this option only for external procedures. For register specify one or more registers; separate each specification by a comma. Do not specify the registers 0, 1, 13, 14, and 15.

COIBM
: Generates a copyright statement in the compiler generated prologue.

LIST
: Includes in the compiler listing the VSE/OCCF control block structures ICM$COM and ICM$WRB, and the common declarations.

The COPYRGHT Macro

This macro generates copyright statements, as comments, in the prolog of a module.

The COPYRGHT macro has no parameters.

The DEFMSG Macro

This macro defines a VSE/OCCF message for the VSE/OCCF message module ICMMSG.

DEFMSG Format

```
             TEXT ('message-text')
?  DEFMSG
             FINISH
             ;
```

DEFMSG Parameters

TEXT ('message-text')
: Defines the VSE/OCCF message. For message-text, specify the message number, the message text, and the slots into which any text or variables are to be inserted during processing of the message.

  The following is an example for specifying TEXT:

  ```
  ? DEFMSG TEXT ('41I QLOGON from NETVIEW operator """');
  ```

  Here, the message identifier is 41I, where the prefix OC (for VSE/OCCF messages) must not be specified. Each underscore ('_') is a place holder (slot) for text or variables defined in the MESSAGE macro.

FINISH

Indicates the end of the ICMMSG module generation. FINISH must be specified with the last message that is defined.

The MESSAGE Macro

This macro defines text and variables for VSE/OCCF messages; the text/variables are inserted in the slots specified in the DEFMSG macro.

MESSAGE Format

```
? [name:] MESSAGE  INIT
                        ('text')
                   INSERT
                        (name)     ;
                       (register)
                       RET
                   mnr, REP, area
                       EOJ
```

MESSAGE Parameters

INIT

Anchors the VSE/OCCF library in the VSE/OCCF communication region to allow access to the VSE/OCCF messages.

INSERT

```
Format:
       INSERT ('text')
       (name)
```

Alters the contents of a pre-defined slot. The message must be addressed by register 3.

For text, specify the text that is to be inserted in the slot.

For name, specify the character variable that is to be inserted in the slot.

If the number of characters exceeds the site of the pre-defined slot, the inserted text/variable will be truncated.

mnr

Specifies the (abbreviated) message number. For mnr specify, for example, 10 - if the message identifier is OC10I.

register

Specifies the register into which the address of the message is to be loaded.

RET

Specifies that ICMMSG is to display the message on SYSLOG and is to return control to the caller.

REP,area

Specifies that ICMMSG is to display the message on SYSLOG, wait for a reply in the case of A- and D-type message, transfer the message reply to the caller, and return control to the caller.

For area, specify the symbolic name of the user area to which the reply is to be returned.

EOJ

Specifies that ICMMSG is to display the message on SYSLOG and issues the EOJ macro of VSE/Advanced Functions.

The QMAN Macro

This macro invokes the WRB management routine ICMWRB in order to allow manipulation of the WRB queues.

QMAN Format

```
? [label:] QMAN          OCFQ             SVC0Q       WRB((reg)|var)
                         FLQ              SVC0Q       WRB((reg)|var)
                         REPLYQ           FLQ         TID((reg)|var)
                  from(  REPCOQ  ) TO(    FLQ       )
                         ORQ              FLQ         TID((reg)|var)
                                          FLQ
                         SVC0Q            REPLYQ
                                          REPCOQ
                                          ORQ
                         REPLYQ           TID
                  FIND(          )        TID
                         ORQ              REPLYID    ((reg)|var)
                                          SEQ
```

QMAN Parameters

from
: Specifies the queue from which a WRB is to be dequeued.

TO
: Specifies the queue into which a WRB is to be enqueued.

WRB
: Specifies (in reg) the register or (in var) the variable name that contains the address of the WRB to be enqueued into the SVC0 queue.

TID (in combination with from/TO)
: Specifies (in reg) the register or (in var) the variable name that contains the identifier of the task for which a WRB is to be dequeued from the reply queue or the outstanding reply queue.

FIND
: Specifies that a queue is to be searched for a WRB having a specific characteristic.

TID (in combination with FIND)
: Specifies (in reg) the register or (in var) the variable name that contains the identifier of the task for which a WRB is to be found in the reply queue or the outstanding reply queue.

REPLYID
: Specifies (in reg) the register or (in var) the variable name that contains the reply identifier for which a WRB is to be found in the outstanding-reply queue.

SEQ

Specifies (in reg) the register or (in var) the variable name that contains the number according to the WRB in the outstanding reply queue which is to be found.

The following are keywords used in conjunction with from/TO and FIND:

```
OCFQ        For internal messages.
FLQ         For the free-list queue.
REPLYQ      For the reply queue.
REPCOQ      For the reply and command (REPCO) queue.
ORQ         For the outstanding-reply queue.
SVC0Q       For the SVC0 queue.
```

The ICMGBL Macro

This macro is used by the PROC macro to include all declarations which are common to all VSE/OCCF modules.

This macro has no parameters.

The ICMCBS Macro

This macro is used to include structure declarations in message translation routines and MATAB scan routines.

ICMCBS Format

```
?[label:] ICMCBS (   MAHEAD     );
                     MARTABE
                     MTRTABE
                     TRANSCOM
                     RCTTMAP
```

MAHEAD through RCTTMAP are keywords assigned to the structure declaration that is to be included.

The OCFMPSYM Macro

This macro declares the OCCF symptom string which will be included in the re-IPL symptom record whenever an IPL has been caused by VSE/OCCF.

The OCFMPSYM macro has no parameters.

OCFMPSYM Format

```
? OCFMPSYM ATTR(LOCAL);
```

The following fields are declared via OCFMPSYM macro :

```
  1 SYMSTRNG LOCAL EXTERNAL,         /* SYMPTOM STRING              */
   2 SYMRLNG FIXED(16) INIT(80),     /* SYMPTOM STRING LENGTH       */
   2 SYMCMPTP CHAR(4)  INIT('OCCF'), /* SYMPTOM STRING COMPONENT    */
   2 SYMRVDAT          INIT(' '),    /* SYMPTOM STRING VAR DATA     */
    3 SYMFRSTF CHAR(20),             /* SYMPTOM STRING FIRST FAIL   */
    3 SYMSECDS CHAR(20),             /* SYMPTOM STRING SECOND FAIL  */
    3 SYMTHRDS CHAR(20),             /* SYMPTOM STRING THIRD FAIL   */
    3 SYMORGTP CHAR(4),              /* SYMPTOM STRING ORIGIN       */
    3 SYMRETCD CHAR(4),              /* SYMPTOM STRING RETURN CODE  */
    3 SYMRACD1 CHAR(4),              /* SYMPTOM STRING REASON CODE 1*/
    3 SYMRACD2 CHAR(4);              /* SYMPTOM STRING REASON CODE 2*/
```

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