

VM/ESA



Open Systems Adapter
Support Facility
User's Guide
For OSA-2

VM/ESA



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Support Facility
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For OSA-2

Note!

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

Fourth Edition (June 1999)

- | This is a major revision of SC28-1992-02.
- | This edition, SC28-1992-03, applies to Virtual Machine/Enterprise Systems Architecture (VM/ESA), Version 2
- | Release 2.4, program number 5654-030, and to all subsequent releases and modifications until otherwise indicated in
- | new editions.

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Year 2000 Support for VM/ESA OSA/SF

No changes were required to OSA/SF for Year 2000. OSA/SF is Year 2000 ready.

Programming Interface Information

This publication primarily documents information that is NOT intended to be used as a Programming Interface of Open Systems Adapter Support Facility.

This publication also documents intended Programming Interfaces that allow the customer to write programs to obtain the services of Open System Adapter Support Facility. This information is identified where it occurs by an introductory statement in the chapter.

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About This Book

This publication provides information for *doing OSA/SF tasks*, not for learning about OSA or planning for OSA. If you want an overview of OSA and how it functions, see *Planning for the System/390 Open Systems Adapter Feature*, GC23-3870. Our goal was to provide you with easy-to-follow task-oriented information that you can quickly access to get your job done.

Who Should Use This Book

This book is for local area network (LAN) planners, LAN administrators, and system programmers.

How This Publication Is Organized

This publication was organized according to the tasks you will need to do.

“Chapter 1. Introduction” on page 1 includes an overview of OSA/SF and the interfaces available to customize an OSA for TCP/IP or SNA modes, with or without ATM LAN emulation.

“Chapter 2. Setting Up OS/2 to OSA/SF Communications” on page 3 includes instructions for setting up the OSA/SF GUI (OS/2 and Windows) for communications with OSA/SF on the host.

“Chapter 3. Using the OSA/SF GUI on OS/2 or Windows” on page 11 includes instructions for using the GUI (OS/2 and Windows).

“Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)” on page 25 includes install, verify, and problem determination instructions for the following OSA modes:

- TCP/IP Passthru
- SNA

These modes can be installed with or without ATM LAN emulation.

“Chapter 5. Customizing OSAs Using REXX from CMS” on page 47 includes instructions for customizing OSAs using REXX.

“Chapter 6. Sharing an OSA between LPs and/or TCP/IP Stacks” on page 57 includes information on sharing an OSA between LPs and/or TCP/IP stacks.

“Chapter 7. Doing Service Updates” on page 61 includes instructions for all service updates.

“Chapter 8. Handling OSA/SF Problems” on page 67 includes problem determination aids.

“Chapter 9. Entering OSA/SF Commands From CMS” on page 73 provides information for entering OSA/SF commands from CMS.

“Appendix A. About the OSA Address Table (OAT)” on page 75 includes information and examples of the OSA Address Table (OAT).

“Appendix B. Setting Up OSA/SF and the GUI (OS/2 or Windows)” on page 81 includes a copy of what is in the Program Directory for Setting Up OSA/SF and the GUI (OS/2 and Windows).

“Appendix C. OSA/SF Messages and Codes” on page 89 contains messages and codes that may be received while using an OSA.

“Appendix D. OSA/SF Commands For CMS” on page 135 contains OSA/SF commands for CMS.

Where to Find More Information

System/390 Open Systems Adapter Support Facility (OSA/SF) for VM/ESA

- *Planning for the System/390 Open Systems Adapter Feature*, GC23-3870
- Program Directory for System/390 Open Systems Adapter Support Facility for VM/ESA
- Online help is available for the OSA/SF commands entered from CMS and for the OS/2 OSA/SF GUI.

OSA Modes of Operation

- *TCP/IP for VM: Planning and Customization Version 2 Release 3*, SC31-6082
- *TCP/IP Version 2 Release 2 for VM*, SC31-6081
- *VTAM Resource Definition Reference*, SC31-6438

Related Information

- *VM/ESA CPIC Communications User's Guide*, SC24-5595
- *VM/ESA Planning and Administration*, SC24-5750
- *VM/ESA CMS Application Development Guide*, SC24-5761
- *VM/ESA Connectivity Planning Administration and Operations*, SC24-5756
- *VM/ESA Planning Dynamic I/O Configuration*, GC24-5695
- *VTAM Resource Definition Reference*, SC31-6438
- *IBM Local Area Network Administrator's Guide*, GA27-3748
- *RACF General Information*, GC28-0722
- *Communications Manager/2 V1.1 Network Administration and Subsystem Management Guide*, SC31-6168
- *Communications Manager/2 V1.1 Host Connect Reference*, SC31-6170
- *Communications Manager/2 V1.1 Scenarios*, SC31-6174
- *Communications Manager/2 V1.1 Information and Planning Guide*, SC31-7007
- *Communications Manager/2 V1.1 Workstation Installation and Configuration Guide*, SC31-7169

Softcopy and Hardcopy for OSA and OSA/SF

A number of the books provided with the hardware and software system platforms that OSA supports discuss OSA and OSA/SF in the context of their platforms. Only the planning guide and user's guide discuss OSA and OSA/SF from the perspective of the OSA feature and its support facility.

- The OSA planning guide and OSA/SF user's guide are available in hardcopy. Subsequent editions, if any, will be published to document a significant change in OSA or OSA/SF. Such editions are not published periodically.
- The OSA planning guide and OSA/SF user's guide are also available in softcopy on the CDROM collection kits. The softcopy book files are updated periodically according to the chronological cycle of the system softcopy collection kit.
- OSA/SF also provides online help information for the panels that are presented by the OSA/SF OS/2, or GUI, interface. These help panels include a set of “How To” instructions located within the Help pull-down.

Summary of Changes

Summary of Changes for SC28-1992-03 VM/ESA Version 2 Release 2.4.0

This major revision includes:

- Query command has a new parameter, IPX_INFO. See “QUERY” on page 148.
- The Query command is now available through the GUI. See the instructions in “Query Command Using the GUI” on page 71.
- The HPDT ATM Native mode is now available in VM. Instructions for using the OSA/SF GUI in HPDT Native mode have been added in “Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)” on page 25.
- The OSA/SF GUI is now supported by the Windows platform including Windows 95 and Windows NT. Windows instructions have been added throughout this publication, most notably in the following areas:
 - “Creating the EHLLAPI Host Icon on the GUI” on page 5
 - “Creating the TCP/IP Host Icon on the GUI” on page 6
 - “Creating the CPIC Host Icon on the GUI” on page 9
 - “Starting the OSA/SF GUI” on page 11
 - “Setting Up the GUI (OS/2 or Windows) for OSA/SF” on page 82
- Chapter 6, “Sharing an OSA between LPs and/or TCP/IP Stacks, has been added.
- Section “Additional SNA Information” on page 35 has been added in Chapter 4.

This book includes terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

Summary of Changes for SC28-1992-02 VM/ESA Version 2 Release 2.3

This major revision includes:

- TCP/IP Passthru mode customization enhancements:
 - You can now define a maximum of 8 IP addresses per OAT entry (UA pair) and a maximum of 16 IP addresses per port. Defining multiple IP addresses to a port provides enhanced availability. See “3) Sharing OSA Ports Between Logical Partitions” on page 28.
 - When the S/390 is being used as a router, you can now specify a secondary default OAT entry in addition to a primary default OAT entry. This allows the secondary default entry to accept IP packets when the primary default entry is not available.
- Updated messages and commands.
- Query command has a new parameter, ATM_INFO. See “QUERY” on page 148.
- A new OSA/SF command, Configure OSA CHPID, contains the functions of two existing EXECs, IOAINATM and IOASNAVM. See “CONFIG_OSA” on page 137

for a description of the command. See “Chapter 5. Customizing OSAs Using REXX from CMS” on page 47 for instructions on using the command to customize the OSA.

Chapter 1. Introduction

Welcome to *Using the System/390 Open Systems Adapter Support Facility for VM/ESA*. Our goal is to provide you with easy-to-follow instructions that enable you to configure and manage OSAs as quickly and easily as possible.

The Open Systems Adapter Support Facility (OSA/SF) is a VM/ESA facility for customizing and managing OSAs. You communicate with OSA/SF through the OSA/SF Graphical User Interface (GUI) or from CMS using OSA/SF commands.

S/390 OSA Modes of Operation for VM/ESA

Using OSA/SF on VM/ESA, you can customize the following *OSA Modes of Operation*:

- TCP/IP Passthru—Providing communications between TCP/IP clients and host TCP/IP applications
- SNA—Systems Network Architecture for VTAM
- HPDT ATM Native

When the OSA feature is a hardware type of OSA-2 ATM, The OSA ports are customized for ATM LAN Emulation with TCP/IP or SNA.

OSA/SF provides a way to customize and manage the OSA modes of operation for your enterprise. For example: if TCP/IP for VM/ESA is installed on your S/390, you customize OSA for TCP/IP Passthru mode. Chapter 3 provides instructions for customizing each OSA mode of operation.

A Perspective of Your Tasks

This user's guide was designed with you in mind. Our focus was on providing clear instructions for *doing* OSA/SF tasks. Overview information and theory of operation is only included when you need it.

We've organized the information according to the following tasks you need to do:

1. **Install** OSA/SF using the program directory.
2. **Set up** GUI to OSA/SF communications, Chapter 2.
3. **Use** the OSA/SF GUI with OSA/SF, Chapter 3.
4. **Customize** OSAs for TCP/IP Passthru, SNA, or HPDT ATM Native:
 - See "Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)" on page 25 for GUI instructions.
 - See "Chapter 5. Customizing OSAs Using REXX from CMS" on page 47 for REXX instructions from CMS.
5. **Share** an OSA between LPs and/or TCP/IP stacks, Chapter 6.
6. **Do Service Updates**, Chapter 7
7. **Handle OSA/SF problems**, Chapter 8
8. **Use CMS** for entering OSA/SF commands, Chapter 9. **Refer** to the Appendixes for details about the OSA Address Table, OSA/SF set up, Messages, and OSA/SF Commands.

Introduction

Chapter 2. Setting Up OS/2 to OSA/SF Communications

This chapter includes instructions and examples for setting up communications between an OS/2 workstation running the OSA/SF GUI and OSA/SF on the host. The connection is from the OSA/SF GUI to an *administrator* ID and then to the OSA/SF server virtual machine. The connection between the OSA/SF server and the administrators is set up during install using the program directory. These examples and instructions establish the connection between the GUI and an *administrator* ID.

The OSA/SF GUI supports any of these communication methods:

EHELLAPI

See "Setting Up EHELLAPI (3270 Sessions) For OSA".

TCP/IP

See "Setting Up TCP/IP" on page 5.

APPC See "Setting Up APPC" on page 7.

Note: See the GUI Interface (OS/2 or Windows) Setup Checklists in *OSA Planning Guide* for more information.

Setting Up EHELLAPI (3270 Sessions) For OSA

If the OS/2 workstation already has 3270 sessions available, see "Creating the EHELLAPI Host Icon on the GUI" on page 5.

Use this information when an OSA is the communications controller between the GUI and host.

The following tasks were done for our example:

1. Updated VTAM definition files:
 - ATCSTRxx VTAMLST
 - ATCCONxx VTAMLST
 - OSA11SWN VTAMLST
 - VSCS VTAMLST
 - OSA VTAMLST
- See "Examples of VTAM Definition Files for EHELLAPI".
2. Update the CM/2 NDF file on OS/2 See "Adding or Changing the CM/2 Workstation NDF File" on page 8.
 3. Activate CM/2 and VTAM with the new definitions.
 4. Establish an EHELLAPI connection between OS/2 and OSA/SF at the host. See "Creating the EHELLAPI Host Icon on the GUI" on page 5.
 5. Verify the connection between OS/2 and OSA/SF. See "Starting the EHELLAPI Connection" on page 5.

Examples of VTAM Definition Files for EHELLAPI

These are examples to assist you with the VTAM definitions. Change the necessary information for your installation.

OS/2 and OSA/SF Communications

ATCSTRxx VTAMLST

Specific to APPN and APPC are: NODETYPE=NN, CPCP=YES, DYNLU=YES

```
SSCPID=5555,  
CONFIG=xx,  
HOSTSA=555,  
HOSTPU=OSAPU,  
SSCPNAME=OSAxxM,  
NODETYPE=NN,  
CPCP=YES,  
NETID=NETA,  
TRACE,TYPE=VTAM,MODE=INT,SIZE=200,OPT=ALL,  
SUPP=INFO,  
DYNLU=YES,  
IOBUF=(600,240,12,F,16,16),LPBUF=70,CRPLBUF=700
```

ATCCONxx VTAMLST

COSAPPN,IBMTGPS,OSA,AVS,VSCS,OSA11SWN

OSA11SWN VTAMLST

```
OSA11SWN VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=1  
PUOSA01 PU ADDR=02,ANS=CONTINUE,CAPACITY=16M,CONNTYPE=APPN, X  
CPCP=YES,DATMODE=HALF,DYNADJCP=YES,DYNLU=YES, X  
IDBLK=05D,IDNUM=00001, X  
ISTATUS=ACTIVE,MAXDATA=1929, X  
MAXOUT=4,MAXPATH=1,PACING=20,PASSLIM=1,PUTYPE=2, X  
MODETAB=ISTINCLM,SSCPFM=FSS,DLOGMOD=CPSVCMMSG, X  
VPACING=20,LOGAPPL=VM  
PAOSA11 PATH DIALNO=01040004AC2043FE, X  
GRPNM=GRPOSA11, X  
CALL=INOUT
```

*
* Note: The LOCADDR must match the definitions for 3270 sessions under
* CM/2 3270 Emulation, Logical Terminal LU LOCAL/NAU address
*

```
OSAGUIA LU LOCADDR=1,DLOGMOD=SNX32702  
OSAGUIB LU LOCADDR=2,DLOGMOD=SNX32702  
OSAGUIC LU LOCADDR=3,DLOGMOD=SNX32702  
OSAGUID LU LOCADDR=4,DLOGMOD=SNX32702  
OSAGUIE LU LOCADDR=5,DLOGMOD=SNX32702  
OSAGUIF LU LOCADDR=6,DLOGMOD=SNX32702  
OSAGUIG LU LOCADDR=7,DLOGMOD=SNX32702  
OSAGUIH LU LOCADDR=8,DLOGMOD=SNX32702
```

VSCS VTAMLST

VSCS VBUILD TYPE=APPL

*
* VM is the VSCS APPL statement
N2XXAVSC APPL AUTH=(ACQ,PASS),PARSESS=YES,
PRTCT=VM,AUTHEXIT=YES,ACBNAME=VM

OSA VTAMLST

```
OSA11XCA VBUILD TYPE=XCA  
PRTOSA11 PORT ADAPNO=0,CUADDR=yyy,MEDIUM=RING,SAPADDR=4,TIMER=60  
* yyy=your OSA CUA address, select ADAPNO for the port in USE.  
GRPOSA11 GROUP ANSWER=ON,CALL=INOUT,DIAL=YES,DYNPU=YES,DYNPUFX=OS,  
ISTATUS=ACTIVE,AUTOGEN=(1,L,P)
```

Creating the EHLLAPI Host Icon on the GUI

Before Starting

Before you can use the OSA/SF GUI, the GUI has to be set up using the program directory. The instructions are also in this book for your reference.

- “Setting Up the GUI (OS/2 or Windows) for OSA/SF” on page 82
- “Setting Up the OSA/SF GUI on OS/2 Without CM/2” on page 86.

1. Log on to an *administrator* ID in a 3270 session.
2. Start the OSA/SF GUI, if not already started:
 - a. **To start on Windows**, click on **Start** in the lower left corner of the window and select **Programs**. Then click on **OSA/SF**.
 - b. **To start on OS/2**, double-click on the **OSA/SF** folder on the OS/2 desktop. (The folder is created during “Setting Up the GUI (OS/2 or Windows) for OSA/SF” on page 82.)
 - c. Double-click on the **OSA/SF** icon in the folder.

The first time the OSA/SF GUI is started a message will be displayed. Enter a valid drive and directory to store user data in.

The **OSA/SF Hosts** window is displayed with a sample host icon when the GUI is first started.
3. From the OSA/SF GUI **OSA/SF Hosts** window, select **Help** from the menu bar at the top of the window.
4. Select **How to**.
5. Double-click on **Create another host icon** and follow the instructions to create a EHLLAPI host icon.

Starting the EHLLAPI Connection

Do the following to see if the EHLLAPI connection is working:

1. Verify the host session is at the cms ready prompt.
2. Double-click on the host icon that was created in “Creating the EHLLAPI Host Icon on the GUI”.
3. Verify the host session ID is correct. Change it if necessary.
4. Select the Open pushbutton
5. If the connection is successful, there will be activity in the 3270 session that was used to start this connection.

If the connection is successful, a **Command Output** window and a **Channels View** window will be displayed.

Setting Up TCP/IP

Use these instructions to set up the TCP/IP communications between the OS/2 OSA/SF GUI and OSA/SF on the host. Also see, “An Alternative for Setting Up TCP/IP” on page 6.

1. Determine which *administrator* ID will be used for GUI to host communications and provide CP Privilege Class B authority for only that ID.
2. Verify that TCPMAINT 592 is accessed as the 'H' disk.
3. Call **IOAXTSRV 2000** at the end of the PROFILE EXEC.

This allows the *administrator* ID to connect to socket 2000.

OS/2 and OSA/SF Communications

4. Have the *administrator* ID autologged by the VM Management Resource of your installation.

An Alternative for Setting Up TCP/IP

As an alternative to the previous instructions, you can do the following:

1. Verify that **REXECD** is running on the host and the *administrator* ID has authorization.

Default value for REXECD is to FORCE OFF the user if no screen activity occurs after 240 seconds. This value can be changed by the TCP/IP administrator by changing the startup profile for the REXECD server. Please consult your VM TCP/IP administrator or refer to the VM TCP/IP Planning and Customization documentation.

2. Enter the following from an OS/2 command line to start the server (*administrator* ID):

```
REXEC hostname -L administrator ID -P password IOAXTSRV 2000
```

When the command is entered, the *administrator* ID will be autologged and receive the IOAXTSRV 2000 command. This makes it ready to accept TCP/IP communications from the workstation.

If the command is successful, the window where the command was entered will appear to be waiting for FORCE or LOGOFF of the *administrator* ID.

3. Continue with Creating the TCP/IP Host Icon on the GUI

Creating the TCP/IP Host Icon on the GUI

Before Starting

Before you can use the OSA/SF GUI, the GUI has to be set up using the program directory. The instructions are also in this book for your reference.

- "Setting Up the GUI (OS/2 or Windows) for OSA/SF" on page 82
- "Setting Up the OSA/SF GUI on OS/2 Without CM/2" on page 86.

1. Start the OSA/SF GUI, if not already started:
 - a. **To start on Windows**, Click on **Start** in the lower left corner of the window and select **Programs**. Then click on **OSA/SF**.
 - b. **To start on OS/2**, double-click on the **OSA/SF** folder on the OS/2 desktop. (The folder is created during "Setting Up the GUI (OS/2 or Windows) for OSA/SF" on page 82.)
 - c. Double-click on the **OSA/SF** icon in the folder.

The first time the OSA/SF GUI is started a message will be displayed. Enter a valid drive and directory to store user data in.

The **OSA/SF Hosts** window is displayed with a sample host icon when the GUI is first started.
2. From the OSA/SF GUI **OSA/SF Hosts** window, select **Help** from the menu bar at the top of the window.
3. Select **How to**.
4. Double-click on **Create another host icon** and follow the instructions to create a icon.
5. Enter **2000** or the number you specified in step 3 on page 5 on the IOAXTSRV command.

Starting the TCP/IP Connection

Do the following to see if the TCP/IP connection is working:

1. Double-click on the host icon that was created in “Creating the TCP/IP Host Icon on the GUI” on page 6.
2. Enter the user ID and password for the *administrator*.
3. Select the Open pushbutton

If the connection is successful, a **Command Output** window and a **Channels View** window will be displayed.

4. To verify the connection between the host and workstation, use the NETSTAT and PING commands.

Setting Up APPC

This connection is for an Advanced Program to Program Communications (APPC) with a control point to control point (CP-to-CP) LU 6.2 independent logical unit (LU) protocol.

Notes:

1. All the setup for the *administrator* IDs is done at install time.
2. OSA/SF VM and CPIC/APPC GUI use a connection to a PRIVATE GATEWAY on the AVS machine. The security is set to PGM.

Before Starting

- AVS, VTAM, and OSA/SF are required on the host.
- Communications Manager is required on the workstation.
- If you are going to use the OSA as the communications controller, customize the OSA for SNA mode before continuing. See “Chapter 5. Customizing OSAs Using REXX from CMS” on page 47.

Examples are shown to assist you with setting up VTAM, AVS, CM/2 and the OSA/SF GUI. These are only examples; modify the instructions for your installation. The examples are based on ACF/VTAM Version 4 Release 2 with the use of APPN.

The following tasks were done for our example:

1. Update VTAM definition files:
 - ATCSTRxx VTAMLST
 - ATCCONxx VTAMLST
 - OSA VTAMLST
 - AVS VTAMLST

See “Updating VTAM Definition Files” on page 8.

2. Add the following to the AGWPROF GCS of your AVS machine AGW
ACTIVATE GATEWAY OSASFPRV PRIVATE
3. Update the CM/2 NDF file on OS/2 See “Adding or Changing the CM/2 Workstation NDF File” on page 8.
4. Activate CM/2, VTAM, and AVS with the new definitions.
5. Establish an APPC connection between OS/2 and OSA/SF at the host. See “Creating the CPIC Host Icon on the GUI” on page 9.
6. Verify the connection between OS/2 and OSA/SF. See “Starting the APPC Connection” on page 10.

Updating VTAM Definition Files

ATCSTRxx VTAMLST Definition File

Specific to APPN and APPC are: NODETYPE=NN, CPCP=YES, DYNLU=YES

```
SSCPID=5555,
CONFIG=xx,
HOSTSA=555,
HOSTPU=OSAPU,
SSCPNAME=OSAxxM,
NODETYPE=NN,
CPCP=YES,
NETID=NETA,
TRACE,TYPE=VTAM,MODE=INT,SIZE=200,OPT=ALL,
SUPP=INFO,
DYNLU=YES,
IOBUF=(600,240,12,F,16,16),LPBUF=70,CRPLBUF=700
```

ATCCONxx VTAMLST Definition File

Includes the following.

```
COSAPPN,IBMTGPS,OSA,AVS
```

OSA VTAMLST Definition File:

```
OSA11XCA VBUILD TYPE=XCA
PRTOSA11 PORT ADAPNO=0,CUADDR=yyy,MEDIUM=RING,SAPADDR=4,TIMER=60
* yyy=your OSA CUA address, select ADAPNO for the port in USE.
GRPOSA11 GROUP ANSWER=ON,CALL=INOUT,DIAL=YES,DYNPU=YES,DYNPUFX=OS,
ISTATUS=ACTIVE,AUTOGEN=(1,L,P)
```

AVS VTAMLST Definition File:

```
AVS VBUILD TYPE=APPL
*
OSASFPRV APPL AUTH=(ACQ,PASS),AUTHEXIT=YES,APPC=YES,SECACPT=ALREADYV, *
VPACING=3,PARSESS=YES,SYNCLVL=SYNCPT, *
DSESLIM=2,DMINWNL=2,DMINWNR=0,AUTOSES=1
```

Adding or Changing the CM/2 Workstation NDF File

```
DEFINE_LOCAL_CP FQ_CP_NAME(NETA.OSAGUI11)
CP_ALIAS(OSAGUI)
NAU_ADDRESS(INDEPENDENT_LU)
NODE_TYPE(EN)
NODE_ID(X'05D00001')
FREE_UNUSED_SESSIONS(NO)
MAX_COMP_LEVEL(NONE)
MAX_COMP_TOKENS(0);

DEFINE_LOGICAL_LINK LINK_NAME(OSALNK01)
FQ_ADJACENT_CP_NAME(NETA.OSAxxM)
ADJACENT_NODE_TYPE(NN)
DLC_NAME(IBMTRNET)
ADAPTER_NUMBER(0)
DESTINATION_ADDRESS(X'your OSA mac address')
ETHERNET_FORMAT(NO)
CP_CP_SESSION_SUPPORT(YES)
SOLICIT_SSCP_SESSION(YES)
NODE_ID(X'05D00001')
ACTIVATE_AT_STARTUP(YES)
USE_PUNAME_AS_CPNAME(NO)
LIMITED_RESOURCE(NO)
LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
MAX_ACTIVATION_ATTEMPTS(USE_ADAPTER_DEFINITION)
EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
COST_PER_BYTE(USE_ADAPTER_DEFINITION)
```

OS/2 and OSA/SF Communications

```
SECURITY(USE_ADAPTER_DEFINITION)
PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
USER_DEFINED_1(USE_ADAPTER_DEFINITION)
USER_DEFINED_2(USE_ADAPTER_DEFINITION)
USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_PARTNER_LU FQ_PARTNER_LU_NAME(NETID.OSASFPRV)
PARTNER_LU_ALIAS(OSASFPRV)
PARTNER_LU_UNINTERPRETED_NAME(OSASFPRV)
MAX_MC_LL_SEND_SIZE(32767)
CONV_SECURITY_VERIFICATION(NO)
PARALLEL_SESSION_SUPPORT(YES);

DEFINE_DEFAULTS IMPLICIT_INBOUND_PLU_SUPPORT(YES)
DEFAULT_MODE_NAME(BLANK)
MAX_MC_LL_SEND_SIZE(32767)
DIRECTORY_FOR_INBOUND_ATTACHES(*)
DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
DEFAULT_TP_CONV_SECURITY_RQD(NO)
MAX_HELD_ALERTS(10);

DEFINE_CPIC_SIDE_INFO SYMBOLIC_DESTINATION_NAME(OSASFPRV)
FQ_PARTNER_LU_NAME(NETA.OSASFPRV)
MODE_NAME(#INTER)
TP_NAME(IOAXCSRV);

START_ATTACH_MANAGER;
```

Note: IOAXCSRV is the program to be called by the HOST OSA Administrator userid after autolog occurs when the connection is attempted.

If APPN is not being used, the additional CM/2 definition is required:

```
DEFINE_PARTNER_LU_LOCATION FQ_PARTNER_LU_NAME(NETA.OSASFPRV)
DESCRIPTION(Private AVS gateway)
WILDCARD_ENTRY(NO)
FQ_OWNING_CP_NAME(NETA.OSAxxM)
LOCAL_NODE_NN_SERVER(NO);
```

Creating the CPIC Host Icon on the GUI

Before Starting

Before you can use the OSA/SF GUI, the GUI has to be set up using the program directory. The instructions are also in this book for your reference.

- “Setting Up the GUI (OS/2 or Windows) for OSA/SF” on page 82
- “Setting Up the OSA/SF GUI on OS/2 Without CM/2” on page 86.

Note: The CPIC icon represents the APPC connection

1. Start the OSA/SF GUI, if not already started:
 - a. **To start on Windows**, click on **Start** in the lower left corner of the window and select **Programs**. Then click on **OSA/SF**.
 - b. **To start on OS/2**, double-click on the **OSA/SF** folder on the OS/2 desktop. (The folder is created during “Setting Up the GUI (OS/2 or Windows) for OSA/SF” on page 82.)
 - c. Double-click on the **OSA/SF** icon in the folder.
The first time the OSA/SF GUI is started a message will be displayed. Enter a valid drive and directory to store user data in.

OS/2 and OSA/SF Communications

The **OSA/SF Hosts** window is displayed with a sample host icon when the GUI is first started.

2. From the OSA/SF GUI **OSA/SF Hosts** window, select **Help** from the menu bar at the top of the window.
3. Select **How to**.
4. Double-click on **Create another host icon** and follow the instructions to create a CPIC host icon.
5. Enter **OSASFPRV** for the Symbolic destination name.

Starting the APPC Connection

Do the following to see if the APPC connection is working:

1. Double-click on the CPIC host icon that was created in “Creating the CPIC Host Icon on the GUI” on page 9.
2. Enter the User ID of one of the OSA *administrators*.
3. Enter the VM logon password for the *administrator* ID.
4. Select the Open pushbutton

If the connection is successful, a **Command Output** window and a **Channels View** window will be displayed.

Verifying the APPC Connection

Do the following if the APPC connection is not established between the OSA/SF GUI and OSA/SF on the host.

1. Verify a CNOS flow from the AVS machine to the workstation by issuing the following on the AVS machine:

```
AGW CNOS OSASFPRV OSAGUI11 #INTER 8 4 4
```

If the CNOS is established, the connection exists.

If it fails, try the following:

- Use VTAM Display MAJNODES to isolate and correct the problems. Other VTAM Display commands are available, see the VTAM documentation.
- Use CM/2 Subsystem Management. You can verify states of your configuration to isolate the problems.

Chapter 3. Using the OSA/SF GUI on OS/2 or Windows

This chapter will help you become familiar with the OSA/SF GUI so you can communicate with OSA/SF on the host or hosts.

The OSA/SF graphical user interface (GUI) provides user-friendly windows that enable you to easily do all tasks for one or many OSAs. You can shift your attention away from command names and data files to more important things.

If you are familiar with IBM OS/2 or Microsoft Windows applications, you will find that OSA/SF objects, pull-downs, notebooks, and help functions are similarly designed. If you are not experienced with OS/2 or Windows, then you should use the appropriate tutorial to become familiar with the interface. The tutorial for OS/2 is located within the Information icon on the desktop. For Windows, click on the Start icon and select help. If you are willing to read help panels, you may be able to operate the OSA/SF GUI with very little OS/2 or Windows experience because help is included with the GUI. For details on the type of help available, see "Getting Help" on page 18.

Starting the OSA/SF GUI

Before Starting

Before you can use the OSA/SF GUI, you should have completed one of the following using the program directory. The instructions are also in this book for your reference.

- "Setting Up the GUI (OS/2 or Windows) for OSA/SF" on page 82
- "Setting Up the OSA/SF GUI on OS/2 Without CM/2" on page 86.

If you are using 3270 emulation as the host-to-workstation communications, make sure one of the *administrator* IDs is logged on and at the CMS Ready prompt.

1. **To start on Windows**, click on **Start** in the lower left corner of the window and select **Programs**. Then click on **OSA/SF**.
2. **To start on OS/2**, double-click on the **OSA/SF** folder on the OS/2 desktop. (The folder is created during "Setting Up the GUI (OS/2 or Windows) for OSA/SF" on page 82.)
3. Double-click on the **OSA/SF** icon in the folder.

The first time the OSA/SF GUI is started a message will be displayed. Enter a valid drive and directory to store user data in.

The **OSA/SF Hosts** window is displayed with a sample host icon when the GUI is first started.

Note: The next step might already be complete if the instructions in Chapter 2 were done.

4. To create a host icon for communications between the GUI and OSA/SF:
 - a. Select **Help** from the menu bar at the top of the **OSA/SF Hosts** window. See Figure 1 on page 13.

Using the OSA/SF GUI

- b. Select **How to** and then double-click on **Create another host icon**. Follow the instructions.

See “Chapter 2. Setting Up OS/2 to OSA/SF Communications” on page 3 for detailed instructions and examples.

If you need planning information for GUI to host communications, see “OSA/SF OS/2 Interface (GUI) Setup Checklists” in Chapter 2 of *Planning for the S/390 Open Systems Adapter Feature*.

Attention

The remainder of this chapter provides you an overview of the OSA/SF GUI, how to navigate, customize, and get help. We recommend you read it, but if you’re already familiar with the OSA/SF GUI, go to “Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)” on page 25. If you leave this section, at a minimum, look at “OSA/SF GUI Flow Quick Reference” on page 19 and keep it nearby to help you navigate through the GUI while customizing the OSA.

Notes:

- a. If you are not familiar with operating an OS/2 or Windows interface, select **General Help** from the pull-down list, but don’t forget to come back here when you’re done exploring.
- b. Help is available for all the windows and objects within the windows. To get help for an object within a window, select the object and press **F1** on the keyboard, or select the help pushbutton. If you need help for a pull-down item from the menu bar, use the arrow keys on the keyboard to highlight the item, then press **F1**.
- c. When you’re done reading a help window, press **Esc** on the keyboard to close the help window.

The OSA/SF Hosts Window Is Displayed When You Start the GUI

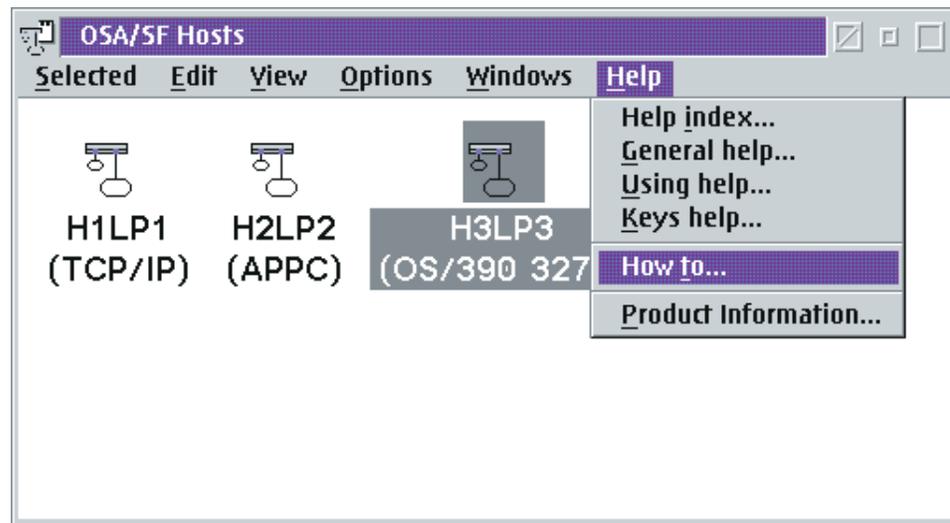


Figure 1. Example of an OSA/SF Hosts Window with Three Host Icons. When the OSA/SF GUI is first started, there is only one sample host icon. The sample disappears when you create another host icon. You can use the How To instructions to create another host icon.

Each host icon in the example represents a host system running OSA/SF. For this example, an OSA/SF image is running in HOST1LP1, HOST2LP2, and HOST3LP3. The OSAs can be configured, monitored, and managed from any of these System/390 hosts. HOST1LP1 is selected (highlighted) in the above example; therefore any tasks done for the OSAs would be managed by the OSA/SF image running in HOST1LP1.

Note: All OSA/SF GUI tasks start from this window, the **OSA/SF Hosts** window.

This publication does not describe the purpose or function of every window because online help is available for all windows, and OSA How To instructions are provided for frequently done tasks.

Using the How To Instructions to Display the OSA Channels

To give you a better idea of how easy it is to use the GUI, do the following to display a view of the OSA channels:

1. Click on **Help** at the menu bar.
2. Click on **How to** from the pull-down list to see the panel shown in Figure 2 on page 14.
3. Double-click on **Display the OSA channels**.
4. Follow the instructions until the **OSA Channels View** is displayed See Figure 3 on page 15.

There are two views of the OSA channels, **Tree View** and **Details View**. The default settings determine which of the views is displayed. See "How to Display the Other Channels View" on page 21 to display the other channels view. See "How to Change the Default Settings for the Channels View" on page 20 to change the default settings.

Using the OSA/SF GUI

If you can't display a channels view window

If the **Sample** host is the only icon displayed on your **OSA/SF Hosts** window, use **Create another host icon** in the **How to** instructions from the **Help** selection on the menu bar.

See the OSA Planning Checklists in *Planning for the S/390 Open Systems Adapter Feature* for more information.

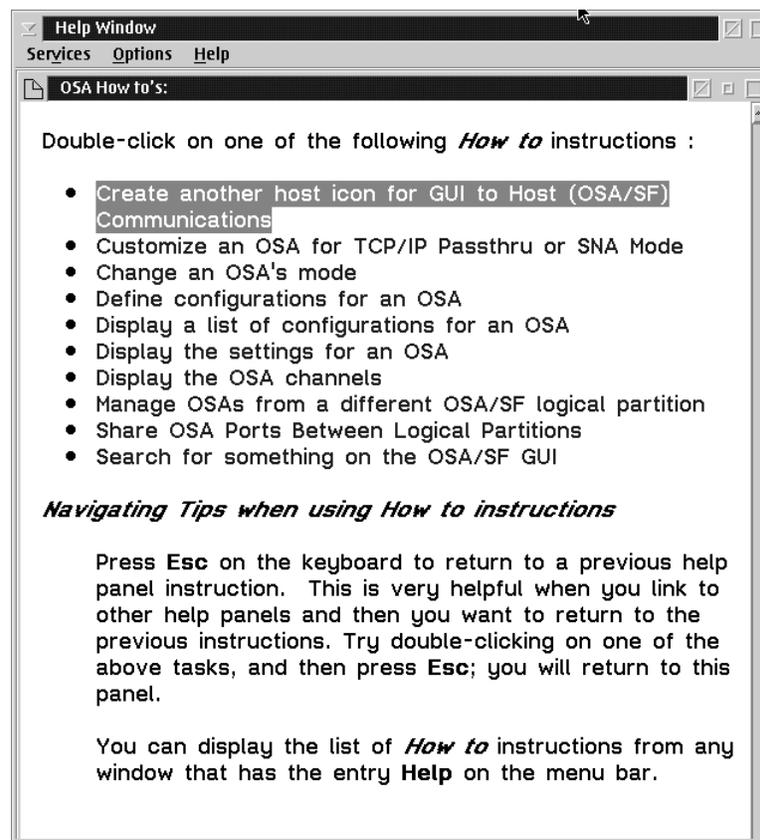


Figure 2. OSA How To Instructions. Double-click on any selection to display the instructions.

OSA Channels View from HOST1LP1

The **OSA Channels - Tree View** shows the OSAs installed on the System/390. A plus sign next to the OSA number indicates that there is more to see about the OSA. Click on the plus sign next to the OSA number to see more information about the OSA.

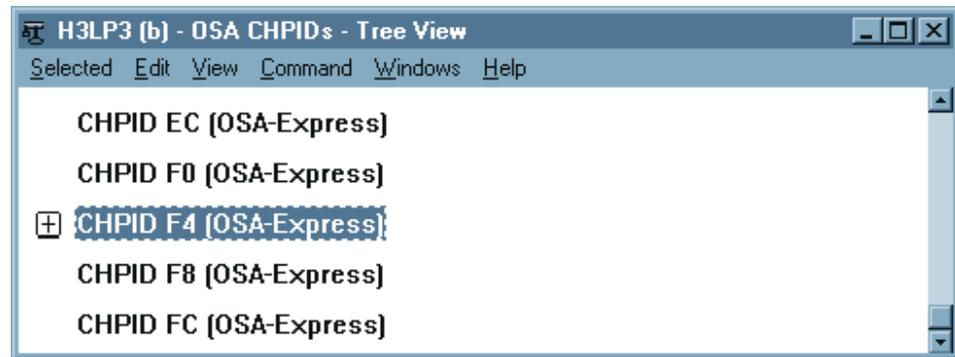


Figure 3. OSA Channels for HOST1LP1

OSA 73 Expanded after Clicking on the Plus Sign Next to OSA 73

You can expand any entry in the tree view by clicking on the plus sign next to an entry. Once you expand an entry, you can look at the settings of an object by double-clicking on the object.

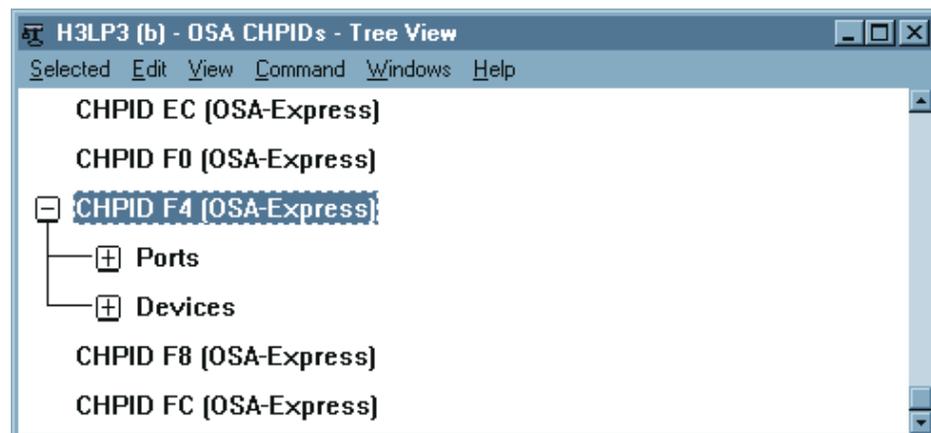


Figure 4. OSA Channels-Tree View with OSA 73 Expanded

Ports Expanded after Clicking on the Plus Sign Next to Ports

To see the ports for an OSA, click on the plus next to Ports. To see the settings for a port, double-click on the port number.

Using the OSA/SF GUI

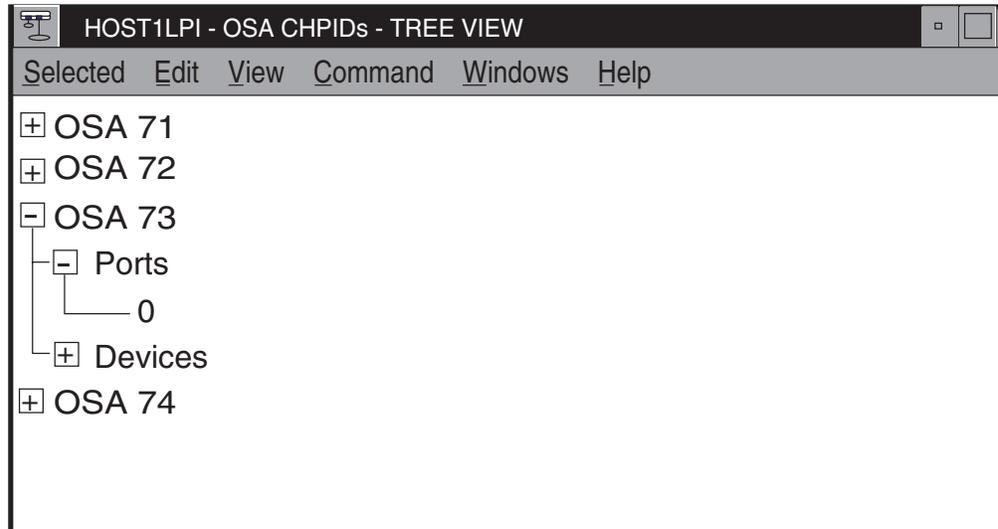


Figure 5. OSA Channels-Tree View with OSA 72 and Ports Expanded

LAN Settings Displayed after Double-Clicking on Port 0

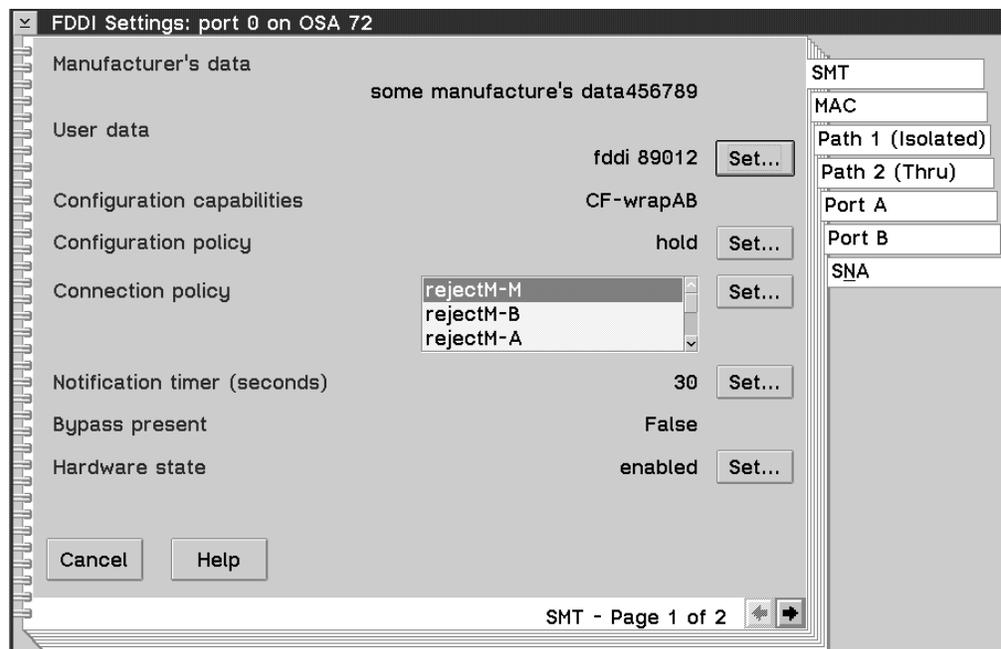


Figure 6. FDDI Settings for Port 0 on OSA 72

Opening the Four Main OSA/SF Windows

The OSA/SF GUI has four main windows that contain all other panels, notebooks, settings, and descriptions. The main windows are the:

- OSA/SF Hosts
- Command Output
- OSA Channels View (Tree or Detail)
- Configuration for OSA

To open the four windows do the following steps:

1. From the **OSA/SF Hosts** window, select **Help**.
2. Select **How to**.
3. Double-click on **Define configurations for an OSA**.
4. Follow the instructions until all windows are opened.

OSA/SF GUI windows are displayed by the OS/2 Presentation Manager. This means you can manage the OSA/SF GUI windows the same as other OS/2 windows. You can change their size, move them around on the desktop, and minimize or maximize them. When you're working with several OSA/SF windows, a window can be hidden behind other window. The OSA/SF GUI has a window list similar to the OS/2 window list to let you quickly select and see all open windows.

Using the OSA/SF Window List

Sometimes a window is hidden behind another window and you may want to determine which OSA/SF windows are open. Use the OSA/SF Window List.

1. Select **Windows** from any window's menu bar.
2. Select **Window List**.
3. Double-click on any window title in the list to activate the window.

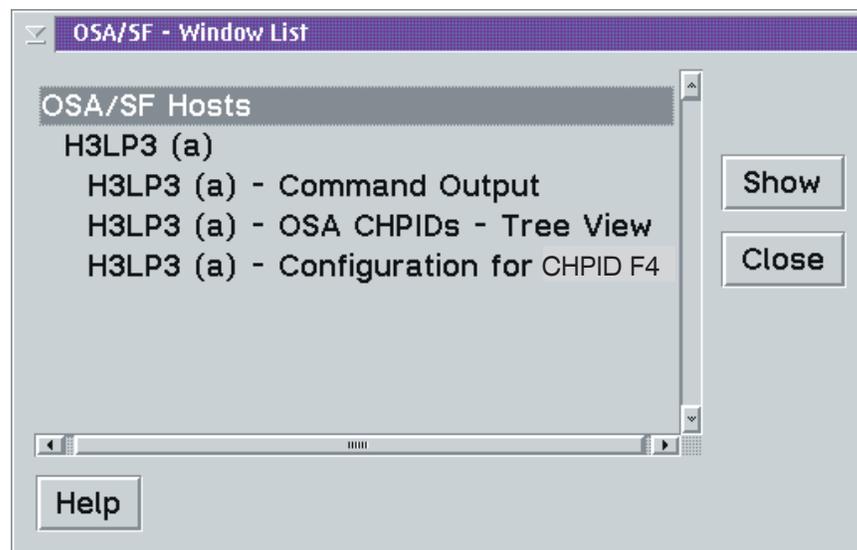


Figure 7. OSA/SF Window List. The window list shows the open windows for each host.

Note: The OSA/SF window list is not the same as the OS2 window list that you see when pressing **Ctrl** and **Esc** on the keyboard. The OS/2 window list contains one entry for the OSA/SF GUI; it is listed as **OSA/SF Hosts**.

Opening OSA/SF Windows from Different OSA/SF Hosts

Your installation may have more than one host icon on the **OSA/SF Hosts** window for any of the following reasons:

- A second OSA/SF image for backup
- Different physical S/390s
- Nonshared logical partitions and OSAs for security reasons

Regardless of the number of OSA/SF host icons, you will only have one **OSA/SF Hosts** window, but you can open other windows for each OSA/SF host at the same time. For example: you can open a channels view window for each host icon.

Using the OSA/SF GUI

If you open the same window from different host icons, it's a good idea to use the Window List to make sure you're looking at the correct host.

If you have more than one host icon, do the following to open two **Command Output** windows and two **Channel View** windows:

1. Select a host icon on the **OSA/SF Hosts** window.
2. Open an **OSA Channels View** window; use the How to instructions if necessary.
3. Select a different host icon and open an **OSA Channels View** window for this host.
4. Select **Windows** and **Window list** from the menu bar on any window.

A **Command Output** window and an **OSA Channels View** window is listed on the window list for each host.

Getting Help

You can get help for all windows, menu bar selections, and entry fields. To get help for an object or entry field within a window, select the object and press **F1** on the keyboard.

There is also a **Help** selection on all menu bars that contains **General Help** and a **Help Index**.

How to Get Help for Menu Bar Choices on a Window

You will do most tasks by selecting an object from the menu bar of a window.

To get help for any menu bar choice on a window, do the following with the window displayed in the foreground:

1. Press **F10** on the keyboard, notice that **Selected** is highlighted on the menu bar at the top of the window.
2. Use the right and left arrow keys on the keyboard to highlight different choices on the menu bar. Use the up and down arrow keys to expand the choice and select other choices.
3. Press **F1** to get help for a highlighted choice.

Note: If you select a menu bar choice with the mouse and press **F1**, help is displayed for the first item in the pull-down list. If you need help for one of the items on the menu bar or within the pull-down list, use **F10** and the arrow keys to highlight the item and then press **F1**.

Finding It on the GUI

If you have to find something on the OSA/SF GUI, but don't have a clue where to look or how to get there, do any of the following:

- See "OSA/SF GUI Flow Quick Reference" on page 19 for a visual flow of the GUI.
- Use the search option on the GUI.
 1. Select **Services** from the top of any *Help* window.
 2. Select **Search**.
 3. Enter the search string, select **All sections** and then **Search**.

All the help information is searched for your request and a list of topics shown that matched your search string. Double-click on the topic you want to display. Most help information for an object also describes how to display the object.

- Use the index on the GUI.
 1. Select **Help** from the menu bar of any window.
 2. Select **Help index**.
 3. Page up and down or use the scroll bar to locate the object and then double-click on the object.

Determining Which OSA/SF Image is Managing the OSA

Do the following to determine which OSA/SF image and LP number is managing an OSA:

From the OSA Channels Tree View

1. Double-click on the OSA number.
2. Select the **Statistics** notebook tab.

From the OSA Channels Details View

1. Select the OSA number.
2. Select **Selected** from the menu bar.
3. Select **Open as** and then **Channel settings**.
4. Select the **Statistics** notebook tab.

OSA/SF GUI Flow Quick Reference

The following flow shows the main OSA/SF GUI windows. Each **X** represents a required selection you choose from the window to advance to the next selection or window.

Using the OSA/SF GUI

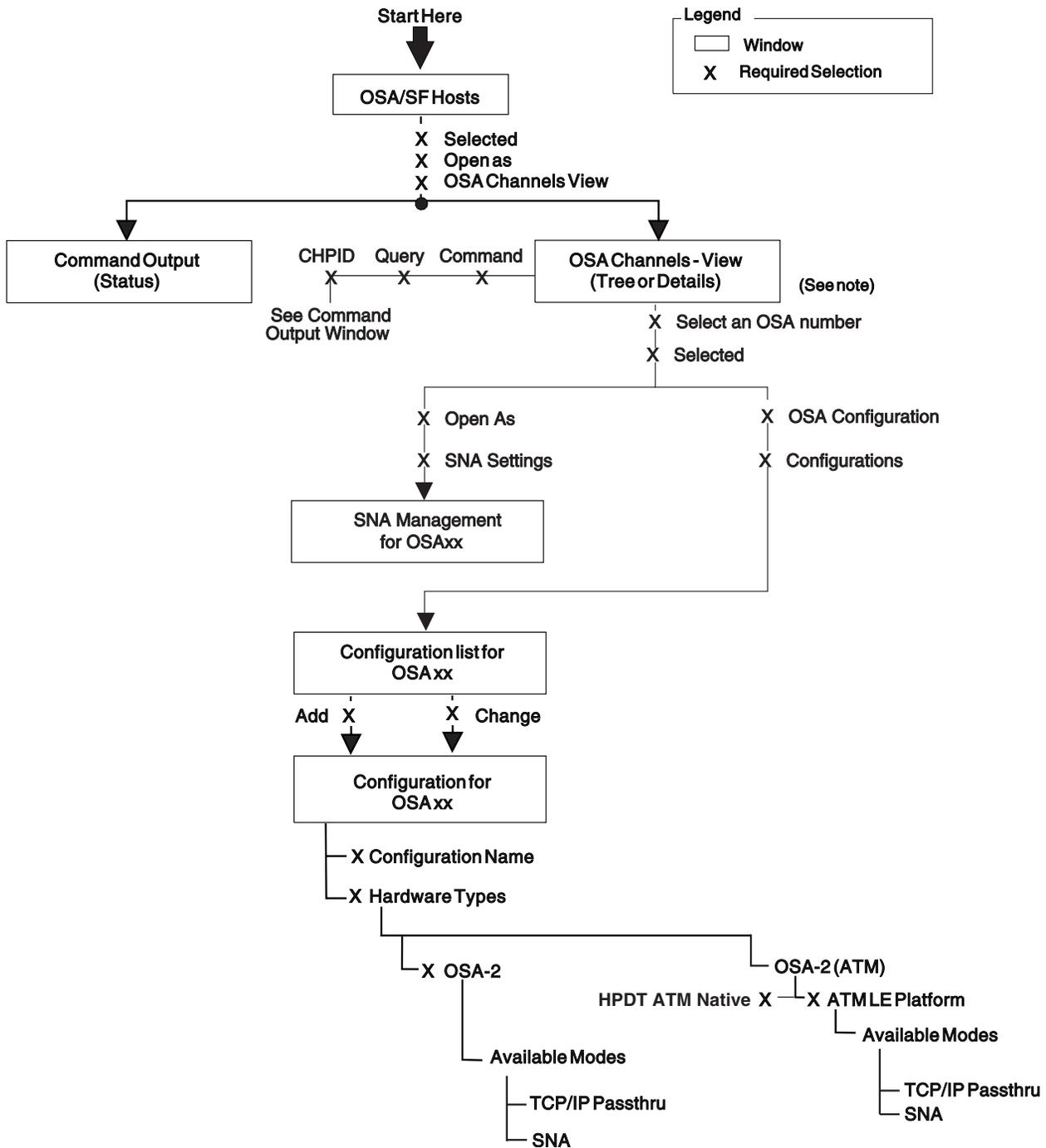


Figure 8. OSA/SF GUI Main Window Flow and Required Selections

Note: There are two views of the OSA channels, **Tree View** and **Details View**. The default settings determine which of the views is displayed. See “How to Display the Other Channels View” on page 21 to display the other channels view. See “How to Change the Default Settings for the Channels View” to change the default settings.

How to Change the Default Settings for the Channels View

1. Display the OSA/SF Hosts window.
2. Select **Options**.
3. Select **Channels view window defaults**.

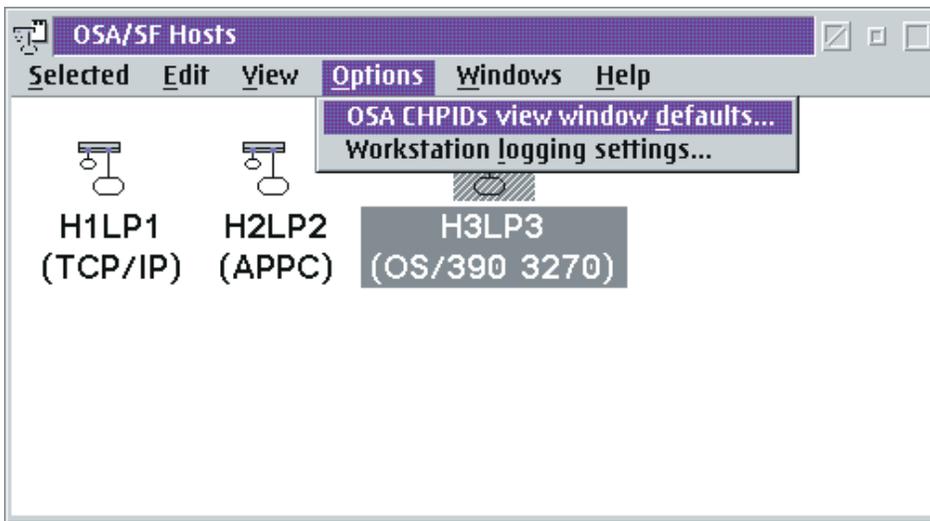


Figure 9. How to Display the Channels View Window Defaults



Figure 10. Channels View Window Defaults

How to Display the Other Channels View

1. Select **View** from the **Tree View** or **Details View**.
2. Select **Style**.
3. Select **Tree** or **Details**.

How to Use the OSA Channels - Tree View

Use the following flow to display OSA settings (characteristics).

Using the OSA/SF GUI

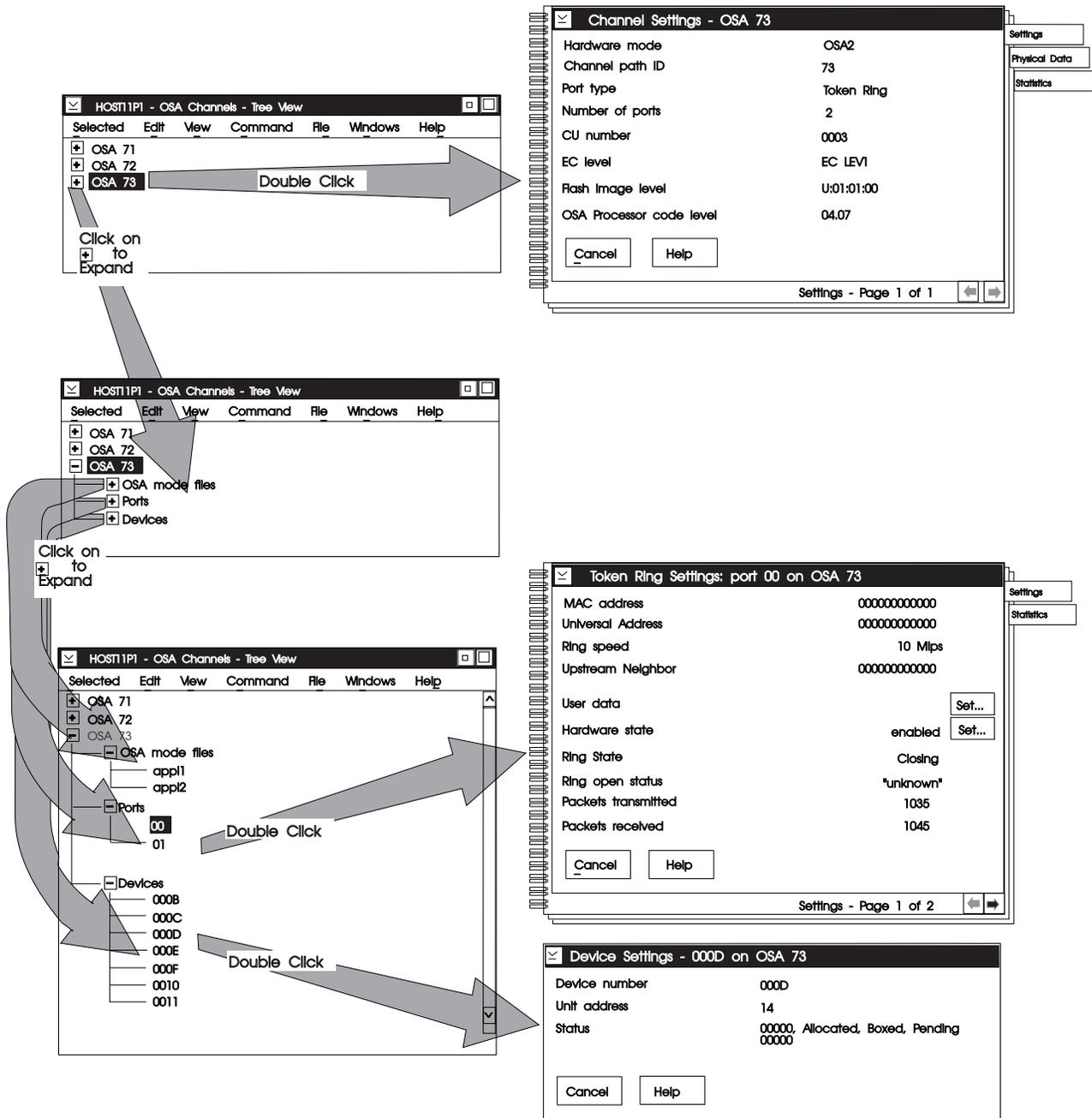


Figure 11. OSA Channels Tree View

Notes:

1. Each OSA can be expanded by clicking on the plus to see OSA mode files, ports, and devices for the OSA.
2. Double-click on any object to display that objects settings (characteristics).
3. Some settings are displayed in a notebook. To see other pages in the notebook, select one of the tabs on the right of the page.

Use the How To's to Start Configuring OSA Modes

Before starting

Before you define configurations for an OSA, see “Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)” on page 25 for a complete list of instructions to customize the OSA. Creating the configuration is only one task within customizing an OSA.

The How To's provide instructions for you to display windows within the GUI.

1. Select **Help** from the **OSA/SF Hosts** window.
2. Select **How to**.
3. Double-click on **Define configurations for an OSA** as shown below.

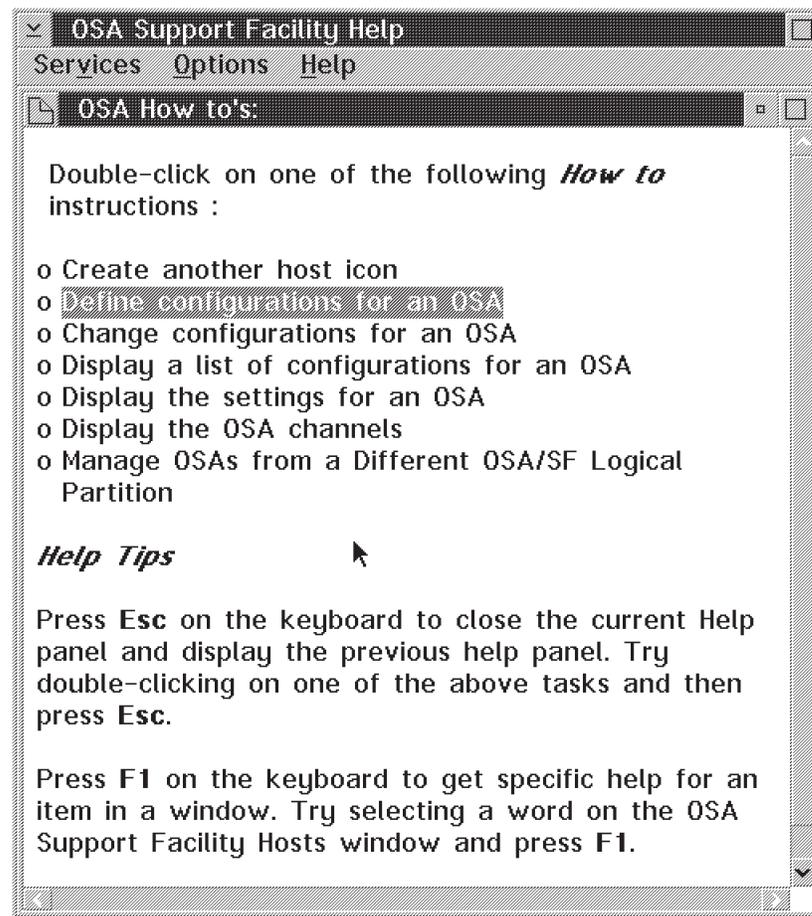


Figure 12. OSA How To Instructions. Double-click on any selection to display the instructions.

Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)

Use this chapter to customize an OSA for TCP/IP Passthru, SNA, or HPDT ATM Native mode. Instructions for ATM LAN Emulation are included within the Passthru and SNA instructions.

Because you can configure an OSA for different modes of operation, the OSA/SF GUI provides a way for you to define and save configurations by name so that you can change or activate different OSA modes of operation.

Each configuration can be saved and activated separately for the same OSA.

The Activate and Install tasks are disruptive to all devices using the OSA (CHPID). You can create configurations, save them and then defer the install to a more appropriate time by selecting **ACTIVATE (no install)**, then see “Deferring an OSA Mode Install” on page 44 to complete the install.

The GUI makes it easy to define OSA configurations that in turn define an OSA’s mode of operation. If you want a quick look at how to define configurations from the GUI, do the following, but use Table 1 to locate the complete instructions for customizing OSAs for modes of operation.

1. Start the OSA/SF GUI if its not already started, see “Starting the OSA/SF GUI” on page 11 if necessary.
2. Select **Help** from the menu bar of any window.
3. Select **How to**.
4. Double-click on **Define configurations for an OSA**.

Attention

Defining configurations with the OSA/SF GUI is one step within the overall task of customizing an OSA. Use the following table to see the complete list of instructions.

Table 1. Where to Find Instructions for Customizing OSA Modes

OSA Mode	See
TCP/IP Passthru	“OSA TCP/IP Passthru Mode” on page 26
SNA	“OSA SNA Mode” on page 31
HPDT ATM Native	“OSA HPDT ATM Native Mode” on page 38
Changing Configurations and Modes	“Changing OSA Configurations and Modes From the GUI” on page 43

ATM LAN Emulation

The instructions for setting up ATM LAN Emulation (OSA-2 ATM) are included within the Passthru and SNA instructions.

OSA TCP/IP Passthru Mode

TCP/IP Passthru mode provides connectivity between TCP/IP hosts to TCP/IP clients on the LAN. Data packets pass through the OSA to TCP/IP running in the host.

If you are going to use the default unit addresses, no ATM, no port sharing, and the OSA will operate in TCP/IP passthru mode only; no customization is necessary. Define the I/O hardware configuration and OSA is ready for TCP/IP traffic.

Use these instructions for:

1. Creating an OSA configuration with TCP/IP Passthru
2. Assigning or changing unit addresses
3. Sharing OSA ports between logical partitions
4. Saving and activating the configuration
5. Starting the new configuration.

Before Starting

- Verify that the hardware I/O configuration was updated (see *Planning for the S/390 Open Systems Adapter Feature*).
- Verify that OSA/SF and the GUI was installed and set up using the Program Directory.
- The GUI should be started and working. See “Chapter 3. Using the OSA/SF GUI on OS/2 or Windows” on page 11.

Installing TCP/IP Passthru Mode

1) Creating a Configuration for the OSA:

1. If you are using 3270 emulation (EHLLAPI) as the host-to-workstation communications, make sure the host session has one of the OSA/SF *administrator* IDs logged on and in the CMS Ready state.
2. Write down the logical partition name of where OSA/SF is running and the associated icon name shown on the OSA/SF GUI **Hosts** window:

OSA/SF Logical Partition Name _____

OSA/SF GUI Host Icon Name _____

If more than one OSA/SF image is installed, you will see corresponding host icons on the **OSA/SF Hosts** window.

3. From the OSA/SF GUI, do the following to start managing the OSA:

Note: If the OSA hardware is not yet installed, do *not* do this step. You will have to do the Start Managing after the OSA feature is installed.

- a. From the **OSA/SF Hosts** window, select the host icon (OSA/SF image) that you want to use to manage the OSA.
- b. Display the **OSA Channels - Tree View** or **Details View** window. If you need instructions, select **Help** from the menu bar, then select **How to**, and then double-click on **Display the OSA channels**.
- c. Select the OSA number on the channels view window.
- d. Select **Command** from the menu bar.
- e. Select **Manage channel** from the pull-down.

- f. Select **Start** and then **Ok**.

If another OSA/SF image is managing the OSA, issue the **Stop Managing** command from the current OSA/SF image that is managing the OSA, and then issue the **Start** command from the OSA/SF image that you want to manage the OSA from.

4. Do the following to display the **Configuration for OSA** window. If you know how to display the configuration window, go to step 5.
 - a. Select **Help** on the menu bar.
 - b. Select **How to** from the pull-down.
 - c. Double-click on **Define Configurations for an OSA**.

Attention

If the OSA is already customized for SNA mode and it's the communications controller between the workstation and host, do not define a new configuration, change the current configuration by selecting **Change configurations for an OSA** from the **How to** instructions. For details on changing a configuration, see "Changing the Current Configuration" on page 44.

The **How to** instructions will assist you with displaying the configuration window; when the **Configuration for OSA** window is displayed, continue with the next step.

5. From the **Configuration for OSA** window, verify the **Hardware type** and **Port type** are correct.

Note: The hardware type and port type are read from the OSA hardware feature if the OSA is installed in the system, the I/O hardware configuration is complete, and the OSA CHPID is online to at least one LP. If you are defining a configuration prior to these conditions, select the hardware type and port type.

6. Enter a **Configuration name** of your choice for this OSA.
7. If the OSA hardware type is OSA-2 (ATM), do these substeps; otherwise go to step 8.
 - a. Select **ATM LAN Emulation (LE)** from the **Available modes** listbox.
 - b. Enter the required input for logical port 0, or logical port 0 and logical port 1. There are three pages in the notebook for each port. Click on the arrows at the bottom right of the notebook to display the other pages. Use **Set** after entering the values and then continue with the next step to add Passthru to the configuration.
8. From the **Configuration for OSA** window, select **TCP/IP Passthru** from the **Available modes** listbox, select **Add**, and then select **Add** again to see the **Passthru OAT record definition** window. Each OSA has an OSA Address Table (OAT).

Use this window to change the default unit addresses and to share ports between logical partitions. See the following instructions.

2) Assigning or Changing the Default Unit Addresses

If you were following the previous instructions, the **Passthru OAT record definition** window was displayed in step 8. Enter the **LP**, **Unit address**, and **Port** to assign or change the OSA Address Table (OAT). Select **Add** after each entry. Please read the following important notes.

GUI Instructions

Notes:

1. If the OSA CHPID is not shared between LPs or the system is in basic mode, enter **0** for the LP number.
2. IBM supplies default values for the OAT. These are referred to as the Default OAT. See *Planning for the S/390 Open Systems Adapter Feature*.
3. If you want to reinstall the default OAT, select the **Default OAT** pushbutton from the **TCP/IP Passthru Settings** window which is displayed when you add or change a configuration from the **Configuration for OSA** window. Any previously defined entries will be lost if you select the default OAT.
4. The default OAT contains the maximum entries to accommodate the maximum number of LPs with port sharing. If you are not sharing ports between LPs, do not enter an associated IP address. Unused entries in the default OAT will not cause a problem. A message may be displayed indicating that entries exist for port sharing without an IP address, but this is ok if you are not sharing ports between LPs.

3) Sharing OSA Ports Between Logical Partitions

If you were following the previous instructions, the **Passthru OAT record definition** window was displayed in step 8 on page 27. Do the following to share ports between logical partitions.

1. Enter the **LP, Unit address, and Port** number to be shared.
2. Enter the **S/390 home IP Address** of the logical partition.
3. Select if you want the specified LP number UA combination to be either the primary or secondary default entry for the port being shared. Only one default entry may be specified for each port. You cannot have a secondary (sec) default entry without a primary (pri) default entry.
4. Do the previous three steps again for the other LPs that will share the port.

Note: Be sure to select **Add** after each entry.

Adding SNA Mode with TCP/IP Passthru

If you are *not* adding SNA mode with Passthru, continue at “4) Saving and Activating the Configuration”.

If you are also adding SNA mode for this OSA, select SNA from the **Available Modes** list box on the **Configuration for OSA** window, select **Add**, select **Add** again, and then enter the **SNA OAT record definition** information. If you were successful adding TCP/IP and SNA to this configuration, they will both be displayed in the **Configured Modes** listbox at the bottom of the **Configuration for OSA** window.

4) Saving and Activating the Configuration

Do these instructions to save the configuration and then activate it on the OSA.

1. After you have defined the configuration and added the changes, return to the **Configuration for OSA** window.
2. Select **Configuration** from the menu bar at the top of the window and then select **Save**.

Attention

The Activate task is disruptive to all devices using the OSA (CHPID). You can defer the install to a more appropriate time by selecting **ACTIVATE (no install)**, then see “Deferring an OSA Mode Install” on page 44 to complete the install.

3. Once the configuration is saved successfully, select **Configuration** again from the menu bar and then do one of the following:
 - If the OSA is being used as the communications controller between the workstation and host, select **Activate (no install)** and then issue the **Install** command from CMS before continuing with the instructions. See “Appendix D. OSA/SF Commands For CMS” on page 135 for details on the OSA/SF Install command for CMS.
 - If the OSA is not being used as the communications controller, select **Activate** and continue.
4. After activating the configuration, be sure to read the following labeled boxes and continue with these instructions. The activation takes a few minutes; monitor the command output window and the system console.

Important Message

A message will be displayed on the GUI indicating that activation completed successfully. You will be instructed to configure the CHPID offline, then online. Continue following these instructions.

5) Starting the New OSA Configuration:

1. Vary off the OSA devices and then configure the OSA CHPID offline from *every* logical partition that can use or share the CHPID.

Attention

The OSA base code will not be installed unless the CHPID is configured offline from every logical partition, regardless of what operating system is running in the partition.

2. Configure the CHPID back online to appropriate logical partitions. This starts the base code just loaded onto the OSA.
3. The devices that were defined in the configuration should now be online. Use the appropriate TCP/IP commands to start using the devices.

Verifying that TCP/IP Passthru Mode Is Operational

Do the following to verify a communication path between the passthru OSA and TCP/IP running on the host. If you cannot verify successful passthru operations, see “TCP/IP Passthru Problem Determination Aids” on page 30.

1. Use the **NETSTAT DEVLINKS** command to verify that the passthru OSA device is defined in the PROFILE TCPIP file and show the status of the device. See *TCP/IP for VM*, SC31-6081 for details on the NETSTAT command.
2. Use the PING Command from a client.

GUI Instructions

The PING command sends an echo request to a host to determine if the host is accessible over the network. For more information about the PING command on VM/ESA, see *TCP/IP for VM, SC31-6081*.

If the NETSTAT DEVLINKS was successful and the PING was successful, the OSA Passthru mode is installed and running.

Note: If SNA mode was also configured with Passthru mode on the OSA, see “Verifying SNA Operations” on page 34.

TCP/IP Passthru Problem Determination Aids

If you suspect a problem with TCP/IP for VM/ESA, see *TCP/IP for VM, SC31-6081*.

If you suspect a hardware problem with OSA, contact the IBM service personnel.

Traces, error logs, and dumps are available from the Hardware Management Console (HMC).

Do the following to identify problems with OSA Passthru mode:

1. Verify that the OSA (CHPID) is assigned to the logical partition which contains the TCP/IP user ID.
2. Verify that the OSA CHPID is configured online.
3. Verify that the device address and IP address configured in PROFILE TCPIP corresponds to the one you entered.
4. If the system is in basic mode, or the OSA (CHPID) is defined as not shared, a zero must be specified for the logical partition number in the OSA address table (OAT). To change the OAT, select the configured mode from the Configuration for OSA window, select Change until you see the Passthru OAT Record definition window.
5. Verify the hardware configuration definitions are complete and accurate. Refer to *Planning for the S/390 Open Systems Adapter Feature*.
6. View the OAT record for appropriate information.
 - a. From the OSA/SF GUI, display the **OSA Channels-Details View**.

Notes:

- 1) If you need help, select **Help** from the menu bar, select **How to**, and then **OSA Channels**.
- 2) If the **OSA Channels-Tree View** is displayed, select **View Style** and **Details View** from the Channels-Tree View window to display the **OSA Channels-Details View**.
- b. Verify that the **Entry type** is **Passthru** for the OSA CHPID number and Unit address (device number) configured for Passthru mode. The LP number and Unit address associates the OSA to TCP/IP running on the host.

If the system is in basic mode, or the OSA (CHPID) is defined as not shared, a zero must be specified for the logical partition number in the OSA address table (OAT).
- c. Double-click on the device number that you want to verify.
- d. Verify that the **LAN port ID**, **S/390 Home IP address**, and the **Default entry** are correct.

If the previous steps do not solve your host-to-OSA connectivity problem, you might have malfunctioning hardware. Check the Hardware Management Console for hardware errors.

OSA SNA Mode

OSA provides the connectivity to support clients on LANs that use the Systems Network Architecture (SNA) and Advanced Peer-to-Peer Networking (APPN).

In SNA mode, LAN clients can access the Advanced Communications Function/Virtual Telecommunications Access Method (ACF/VTAM) running on an VM/ESA system. This connectivity to ACF/VTAM provides:

- The interface between host application programs and other resources in an SNA network.
- The link between peer users of a network.

VTAM establishes and terminates sessions between users of the network, forwarding session data to and from each session partner. VTAM also:

- Activates and deactivates resources under its control including devices to which VTAM is directly attached
- Keeps information on the network configuration, active sessions, and network conditions.

Before Starting

These instructions are for the OSA/SF GUI (OS/2 or Windows). If you want to issue OSA/SF commands from CMS and not use the GUI, go to “Chapter 5. Customizing OSAs Using REXX from CMS” on page 47. If you want to set up the OSA as the communications controller between the workstation and host, see “Chapter 2. Setting Up OS/2 to OSA/SF Communications” on page 3.

If not already done, do the following:

- Use the OSA planning checklist and configuration worksheets in *Planning for the S/390 Open Systems Adapter Feature*.
- Verify that VTAM and OSA/SF are installed on the host.

Note: If the OSA was already set up previously for TCP/IP mode stop the use of the devices being used by TCP/IP for VM/ESA.

Installing SNA Mode

Do the following instructions for *each* OSA planned for SNA mode:

1. Write down the logical partition name of where OSA/SF is running and the associated icon name shown on the OSA/SF GUI **Hosts** window:

OSA/SF Logical Partition Name _____

OSA/SF GUI Host Icon Name _____

If more than one OSA/SF image is installed, you will see corresponding host icons on the **OSA/SF Hosts** window.

2. From the OSA/SF GUI, do the following to start managing the OSA:

Note: If the OSA feature (hardware) is not yet installed, do *not* do this step. You will have to do the Start Managing after the OSA feature is installed.

GUI Instructions

- a. From the **OSA/SF Hosts** window, select the host icon (OSA/SF image) that you want to use to manage the OSA.
 - b. Display the **OSA Channels - Tree View** or **Details View** window. If you need instructions, select **How to** from the menu bar and double-click on **Display the OSA channels**.
 - c. Select the OSA number on the channels view window.
 - d. Select **Command** from the menu bar.
 - e. Select **Manage channel** from the pull-down.
 - f. Select **Start and Ok**.
If another OSA/SF image is managing the OSA, issue the **Stop Managing** command from the current OSA/SF image that is managing the OSA, and then issue the Start command from the OSA/SF image that you want to manage the OSA from.
3. Do the following to display the **Configuration for OSA** window. If you know how to display the configuration window, go to step 4.
 - a. Select **Help** on the menu bar.
 - b. Select **How to** from the pull-down.
 - c. Double-click on **Define Configurations for an OSA**.

Attention

If the OSA is already customized for TCP/IP mode and it's the communications controller between the workstation and host, do not define a new configuration, change the current configuration by selecting **Change configurations for an OSA** from the **How to** instructions. For details on changing a configuration, see "Changing the Current Configuration" on page 44.

The **How to** instructions will assist you with displaying the configuration window, when the **Configuration for OSA** window is displayed, continue with the next step.

4. From the **Configuration for OSA** window, verify the **Hardware type** and **Port type** are correct.
Note: The hardware type and port type are read from the OSA feature (hardware) if the OSA feature is installed in the system, the I/O hardware configuration is complete, and the OSA CHPID is online to at least one LP. If you are defining a configuration prior to these conditions, select the hardware type and port type.
5. Enter a **Configuration name** of your choice for this OSA.
6. If the OSA hardware type is OSA-2 (ATM), do these substeps, otherwise go to step 7.
 - a. Select **ATM LAN Emulation (LE)** from the **Available modes** listbox.
 - b. Enter the required input for logical port 0, or logical port 0 and logical port 1. There are three pages in the notebook for each port. Click on the arrows at the bottom right of the notebook to display the other pages. When complete, continue with the next step to add SNA to the configuration.
7. From the **Configuration for OSA** window, select **SNA** from the **Available modes** listbox, select **Add**, and then select **Add** again to see the **SNA OAT record definition** window. Enter the required information.

Adding TCP/IP Passthru Mode and SNA Mode

If you are *not* also adding TCP/IP Passthru mode, continue at step 8.

If you are also adding TCP/IP Passthru mode for this OSA, select TCP/IP Passthru from the **Available Modes** list box on the **Configuration for OSA** window, select **Add**, select **Add** again, and then enter the **Passthru OAT record definition** information. If you were successful adding TCP/IP and SNA to this configuration, they will both be displayed in the **Configured Modes** listbox at the bottom of the **Configuration for OSA** window.

8. Do the following to save the configuration and then activate it:
 - a. Select **Configuration** from the menu bar and then select **Save**.

Attention

The Activate task is disruptive to all devices using the OSA (CHPID). You can defer the install to a more appropriate time by selecting **ACTIVATE (no install)**, then see "Deferring an OSA Mode Install" on page 44 to complete the install.

- b. Once the configuration is saved successfully, select **Configuration** from the menu bar and then do one of the following:
 - If the OSA is being used as the communications controller between the workstation and host, select **Activate (no install)** and then enter the following command from CMS on any of the OSADMIN or OSAMAIN IDs:

IOACMD INSTALL xx where xx is the OSA (CHPID) number
 - If the OSA is not being used as the communications controller, select **Activate**.
 - c. After activating the configuration, be sure to read the following labeled boxes and continue with these instructions. The activation takes a few minutes; monitor the command output window and the system console.

Important Message

A message will be displayed on the GUI indicating that activation completed successfully. You will be instructed to configure the CHPID offline, then online. Do step 9 first and then in step 10 you will configure the CHPID offline.

9. Vary off the OSA devices and then configure the OSA CHPID offline from *every* logical partition that can use or share the CHPID.

Attention

The OSA base code will not be installed unless the CHPID is configured offline from every logical partition, regardless of what operating system is running in the partition.

GUI Instructions

10. Configure the CHPID back online to the appropriate logical partitions. This activates the base code just loaded onto the OSA.
11. If required, vary on the device with unit address of FE.
12. If required, vary on the SNA devices to the appropriate host.
13. Start the connection using the VTAM host program.

Installing Service Updates for SNA Mode

1. Do the installation and set up steps in the OSA/SF Program Directory.
2. Do the following from the OSA/SF GUI to install and download the SNA files to the OSA:
 - a. Select the OSA number on a **Channels View** window.
 - b. Select **Command, Install, No force**, and then **Ok**.
3. Vary off the OSA devices and then configure the OSA CHPID offline from *every* logical partition that can use or share the CHPID.

Attention

The OSA base code will not be installed unless the CHPID is configured offline from every logical partition, regardless of what operating system is running in the partition.

4. Configure the CHPID back online to the appropriate logical partitions. This activates the base code just loaded onto the OSA.
5. If required, vary on the device with unit address of FE.
6. If required, vary on the SNA devices to the appropriate host.
7. Start the SNA connection using the SNA host program.

Verifying SNA Operations

1. Use VTAM commands to verify that the connection is active.
2. Verify the IOCP definitions. Refer to *Planning for the S/390 Open Systems Adapter Feature*.
3. Verify that the OSA CHPID is varied on.
4. Verify that the OSA is defined to the logical partition of the VM/ESA system where VTAM is running.
5. View the OAT record for appropriate information.
 - a. From the OSA/SF GUI, display the **OSA Channels-Details View**.
If the **OSA Channels-Tree View** displays, select **View Style** and **Details view** from the Channels-Tree View window to display the **OSA Channels-Details View**.
 - b. Verify that the **Entry type** is **SNA** for the OSA CHPID number and Unit address (device number) configured for SNA mode. The LP number and Unit address associates the OSA to SNA running on the host.
If the system is in basic mode, or the OSA (CHPID) is defined as not shared, a zero must be specified for the logical partition number in the OSA address table (OAT).
 - c. Double-click on the device number that you want to verify.
 - d. Verify that the **LAN Port ID** and the **Record type** is SNA.
If any of these are not correct, the configuration was not done properly.

Additional SNA Information

For OSA-2 ATM and OSA-2 Fenet CHPIDs, there are improvements in SNA network management to allow you to acquire detailed information at the port, SAP, and connection level. The type of information you can view is:

1. Station level statistics: the number of each type of frame that has been transmitted and received.
2. Link station state.
3. Whether a particular connection is congesting and determine whether OSA or the remote client is causing the congestion.
4. The route being taken through the customer's network. Most customers have many bridges and LAN segments.
5. All pertinent connection and SAP level configuration information displayed in one place.
6. A dynamic view of the SNA load on the OSA at the port, SAP, and connection level.
 - a. Number of SAPs currently open on a given port.
 - b. Number of stations currently open on a given port.
 - c. Number of stations currently open under a given SAP.
 - d. Various frame types sent/received on a particular SAP.
 - e. Various frame types sent/received on a particular connection.

This data is available as a version of the Query command (SNA_INFO) if using REXX or from the **Selected, Open As, SNA settings** on GUI. This information does not require a SNA OAT entry with UA of 'FF'x.

The following describes the information returned for each type of query issued:

Port view:

- Port number
- Source MAC address
- LAN type

Port details:

- LAN type
- Source MAC address
- Stations open
- SAPs open

SAP view:

- Source SAP
- LP number
- Unit Address (UA)

SAP details:

- LAN type
- LP number
- UA
- Stations open
- Stations available
- UI frames sent/received
- XID frames sent/received
- Test frames sent/received
- RR frames sent/received
- RNR frames sent/received
- REJ frames sent/received

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- I frames sent/received

NULL SAP details:

- Source MAC address
- XID frames sent/received
- Test frames sent/received

Connection view:

- Destination MAC
- Destination SAP

Connection details:

- LP number
- UA
- LAN type
- Inactivity timer (ti)
- Response timer (t1)
- Acknowledgment (t2)
- Station state
- XID frames sent/received
- Test frames sent/received
- SABME frames sent/received
- UA frames sent/received
- RR frames sent/received
- RNR frames sent/received
- REJ frames sent/received
- I frames sent/received
- UI frames sent/received
- Routing information
- Max I field (N1)
- Max retransmissions (N2)
- Maximum transmit window (TW)
- Max I frames before ack (N3)
- Working window increment (Nw)
- Send state (Vs)
- Acknowledgment state (Va)

In addition, you can clear the SAP details, NULL SAP, and connection details.

For details of how to issue this command using REXX, see “QUERY” on page 148.

Sample output for each of the above queries (in output provided by the REXX interface) are shown in the following examples. The port types shown in any of the examples can be any of:

- FDDI
- Token ring
- 10 Mbs Ethernet
- 100 Mbs Ethernet
- LAN emulated Ethernet
- LAN emulated token ring

The following shows the REXX output for a port view:

```
*****  
* SNA port list for OSA CHPID cc *  
*****  
Port   Source MAC Address   LAN Type
```

```

0      4D9834ED9988      LAN emulated token ring
1      029834ED9989      100 Mbs Ethernet

```

The following shows the REXX output for a port details view:

```

*****
* SNA Port details for OSA CHPID cc Port pp *
*****
LAN type -----> 10 Mbs Ethernet
Source MAC Address --> 1234567890AB
Stations Open -----> 982
SAPs open -----> 97

```

The following shows the REXX output for a SAP view:

```

*****
* SAP List for port p *
*****
Source   LP      Unit
SAP     Number  Address

   4       5      82
   8       6      90
   C       4      72

```

The following shows the REXX output for a SAP details view:

```

*****
* SNA SAP details for OSA CHPID nn Port p SAP s *
*****
LAN type ----->
LP ----->
UA ----->
Stations Open ----->
Stations available ----->

UI frames sent ----->
UI frames received ----->
XID frames sent ----->
XID frames received ----->

Test frames sent ----->
Test frames received ----->
RR frames sent ----->
RR frames received ----->

RNR frames sent ----->
RNR frames received ----->
REJ frames sent ----->
REJ frames received ----->
I frames sent ----->
I frames received ----->

```

The following shows the REXX output for a connection view:

```

*****
* Connection list for source SAP ss Port p *
*****
Destination MAC  Destination SAP
112233445566      0C
FFEECCDDCCBB      1F

```

The following shows the REXX output for a connection details view:

```

*****
* SNA Connection details for OSA cc Port pp *
* DMAC 423456789012 DSAP dd *
* SMAC 499999333333 SSAP ss *

```

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```
*****
LP ----->
UA ----->
LAN type ----->
Inactivity timer (ti) ----->
Response timer (t1) ----->
Acknowledgment timer (t2) -->
Station state -----> Connected or Not connected
XID frames sent ----->
XID frames received ----->
Test frames sent ----->
Test frames received ----->
SABME frames sent ----->
SABME frames received ----->

UA frames sent ----->
UA frames received ----->
RR frames sent ----->
RR frames received ----->
RNR frames sent ----->
RNR frames received ----->

REJ frames sent ----->
REJ frames received ----->
I frames sent ----->
I frames received ----->
Routing information ----->
(There are 2 examples of routing that follow)
```

There are four route designators to process. The following output will be produced:

```
Routing information -----> Maximum information field 4472
                               Ring 005 to ring 003 via bridge 1
                               Ring 003 to ring 006 via bridge 2
                               Ring 006 to ring 008 via bridge 7
```

No bridge designators returned. The following output will be produced:

```
Routing information -----> Destination is locally attached.
Max I field (N1) ----->
Max retransmissions (N2) ---->
Transmit window (TW) ----->
Max I frames before ack(N3) ->
Working window increment (Nw)>
Send state (Vs) ----->
Acknowledgment state (Va) -->
```

The following shows the REXX output for a NULL SAP view:

```
*****
* SNA NULL SAP details for OSA CHPID cc Port pp *
*****
Source MAC -----> ABCD99887766
XID frames sent -----> 286331153
XID frames received -----> 572662306
Test frames sent -----> 858993459
Test frames received -----> 1145324612
```

OSA HPDT ATM Native Mode

Overview

OSA/SF provides support for High Performance Data Transfer (HPDT) Asynchronous Transfer Mode (ATM). The instructions in this section are for

customizing an OSA for HPDT ATM Native mode. An OSA customized for HPDT ATM Native cannot run any other OSA mode concurrently.

If you want to customize an OSA for ATM LAN Emulation (ATM LE), see the TCP/IP Passthru and SNA instructions because Passthru or SNA must be configured on the OSA with ATM LAN emulation.

The HPDT ATM Native support for an OSA is shipped with the OSA/SF product. By using the instructions in this section you can quickly customize an OSA for HPDT ATM Native mode. The OSA/SF GUI enables you to customize your OSA ATM communications. For example, you can define the ATM connection as a permanent virtual circuit (PVC) or a switched virtual circuit (SVC). All entry fields on the GUI provide online help to assist you with defining the ATM settings for the OSA.

In addition to customizing the OSA, you will be able to easily view ATM physical port parameters from the OSA Channels View windows on the GUI by double-clicking on the ATM OSA port number.

Attention

The Activate and Install tasks are disruptive to all devices using the OSA (CHPID). You can defer the install to a more appropriate time by selecting **ACTIVATE (no install)**, then see “Deferring an OSA Mode Install” on page 44 to complete the install. The instructions will inform you at the point the activation is disruptive.

Installing OSA HPDT ATM Native Mode

Before Starting

These instructions require the OSA/SF GUI to customize an ATM OSA-2. You cannot configure ATM Native mode on the same OSA with TCP/IP or SNA mode. This includes if the OSA is being used as the communications controller between the workstation and host.

Do the following for *each* OSA planned for HPDT ATM Native mode:

1. Write down the logical partition name of where OSA/SF is running and the associated icon name shown on the OSA/SF GUI **Hosts** window:
 - OSA/SF Logical Partition Name _____
 - OSA/SF GUI Host Icon Name _____

If more than one OSA/SF image is installed, you will see corresponding host icons on the **OSA/SF Hosts** window.

2. From the OSA/SF GUI, do the following to start managing the OSA:

Note: If the OSA feature (hardware) is not yet installed, do *not* do this step. You will have to do the Start Mangaging after the OSA feature is installed.

- a. From the **OSA/SF Hosts** window, select the host icon (OSA/SF image) that you want to use to manage the OSA.

GUI Instructions

- b. Display the **OSA Channels - Tree View** or **Details View** window. If you need instructions, select **How to** from the menu bar and double-click on **Display the OSA channels**.
 - c. Select the OSA number on the channels view window.
 - d. Select **Command** from the menu bar.
 - e. Select **Manage channel** from the pull-down.
 - f. Select **Start, No force**, and **Ok**. If another LP was managing the OSA, use **force**.
- ___ 3. Do the following to display the **Configuration for OSA** window. If you know how to display the configuration window, go to step 4.
- a. Select **Help** on the menu bar.
 - b. Select **How to** from the pull-down.
 - c. Double-click on **Define Configurations for an OSA**.
The **How to** instructions will assist you with displaying the configuration window, when the **Configuration for OSA** window is displayed, continue with the next step.
- ___ 4. From the **Configuration for OSA** window, verify the **Hardware type** and **Port type** are correct.
- Note:** The hardware type and port type are read from the OSA hardware if the OSA feature is installed in the system, the I/O hardware configuration is complete, and the OSA CHPID is online to at least one LP. If you are defining a configuration prior to these conditions, select the hardware type and port type.
- ___ 5. Enter a **Configuration name** of your choice for this OSA.
- ___ 6. From the **Configuration for OSA** window, select **HPDT ATM Native** from the **Available modes** listbox, select **Add**.
- a. Enter a **Port name**. An eight character name that defines the ATM port. The name must be identical for all logical partitions sharing the OSA.
 - b. Enter the number of VPI and VCI bits supported by this adapter.
 - c. Select the UNI version or select **AUTO** to have the UNI version automatically set by the OSA.
 - d. Select **Add** to see the **MPC OAT record definition** window. Enter the logical partition, even unit address, and OSA name. When you are done entering the information on the OAT definition window, select **Add**, a confirmation message should be displayed, select **Ok**. If you want to include additional OAT definitions, type over the previous information and select **Add** for each entry. When you are done, select **cancel** and then be sure to select **Set**.

Attention

The Port name must be defined in the appropriate VTAM definitions (XCA and TRL). The OSA name must also be defined in the appropriate VTAM definitions (XCA).

If the system is in basic mode, or the OSA (CHPID) is defined as not shared, a zero must be specified for the logical partition number in the OSA address table (OAT).

Place the cursor on any entry field within the windows and press Help for details about that entry.

- ___ 7. To enter the PVC definitions at this time, use the following directions. If you wish to define the PVCs at a later time, you may use the instructions in "Defining PVCs" on page 42 at that time and continue with step 8 now.
 - a. Click on the **PVC** tab on the **HPDT ATM Native settings** window.
 - b. Click **Add** to create a PVC definition.
 - c. Enter the required information for each PVC and select **Add** to add the configuration. Repeat this step for each PVC to be added.
 - d. When done, click **Cancel**.
 - e. Click **Create** to create the PVC entries.
- ___ 8. Do the following to save the configuration and then activate it:
 - a. Select **Configuration** from the menu bar and then select **Save**.

Attention

The Activate task is disruptive to all devices using the OSA (CHPID). You can defer the install to a more appropriate time by selecting **ACTIVATE (no install)**, then see "Deferring an OSA Mode Install" on page 44 to complete the install.

- b. Select **Configuration** and then select **Activate**. The activation takes a few minutes; monitor the command output window and the MVS console.

Important Message

A message will be displayed on the GUI indicating that activation completed successfully. You will be instructed to configure the CHPID offline, then online. Continue with these instructions.

- ___ 9. Vary off the OSA devices and then configure the OSA CHPID offline from *every* logical partition that can use or share the CHPID.

Attention

The OSA base code will not be installed unless the CHPID is configured offline from every logical partition.

GUI Instructions

- ___ 10. Configure the CHPID back online to the appropriate logical partitions. This activates the base code just loaded onto the OSA.
- ___ 11. If required, vary on the device with unit address of FE.
- ___ 12. If you are defining a Switched Virtual Circuit (SVC), you are done customizing the OSA. If you are defining permanent virtual circuits (PVC), continue with "Defining PVCs".

Note: Verify that the ATM switch is properly setup and that the OSA-2 ATM ports are connected and enabled.

Defining PVCs

There are two ways to access the PVC definitions. To create or view the PVC definitions while installing an OSA in the HPDT ATM Native mode, follow the instructions on step 7 on page 41. To create or view the PVC definitions from the **OSA Channels-Tree View** panel, you may use the following instructions:

- ___ 1. Display the **OSA Channels-Tree View** and double-click on the port number for the OSA configured for ATM Native mode.
An ATM Native notebook is displayed for the OSA settings. The first page of the notebook is for PVC information.
- ___ 2. Select **Set** to see the **Set PVC Table** window.
- ___ 3. Select **Add** to create a PVC definition. Enter the required information for each PVC and select **Add** for each PVC entry. When you are done select **Cancel** and then select **Set**. Use Help for details on any entry field. Be sure to select **Set** on the **Set PVC Table** window when you are done.
- ___ 4. When you are done, return to the **OSA Channels-Tree View** and select **Options** and then **Refresh** from the menu bar to update the parameters.
You are done defining the PVC settings.

Note: Verify that the ATM switch is properly setup and that the OSA-2 ATM ports are connected and enabled.

Installing Service Updates for HPDT ATM Native Mode

- ___ 1. Do the installation steps in the OSA/SF Program Directory to get the OSA ATM files off the SMP/E tape and into MVS data sets.
- ___ 2. Do the following from the OSA/SF GUI to install and download the ATM image to the OSA:

Attention

The Install task is disruptive to all devices using the OSA (CHPID). Stop the use of any devices using the OSA.

- a. Select the OSA number on a **Channels View** window.
- b. Select **Command, Install, No force**, and then **Ok**.
- ___ 3. Vary off the OSA devices and then configure the OSA CHPID offline from *every* logical partition that can use or share the CHPID.

Attention

The OSA base code will not be installed unless the CHPID is configured offline from every logical partition.

- ___ 4. Configure the CHPID back online to the appropriate logical partitions. This activates the base code just loaded onto the OSA.
- ___ 5. If required, vary on the device with unit address of FE.

Verifying HPDT ATM Native Mode

- ___ 1. View the OAT record for appropriate information.
 - a. From the OSA/SF GUI, display the **OSA Channels-Details View**.
If the **OSA Channels-Tree View** displays, select **View Style and Details view** from the Channels-Tree View window to display the **OSA Channels-Details View**.
 - b. Verify that the **Entry type** is **MPC** for the OSA CHPID number and Unit address (device number) configured for ATM mode. The LP number and Unit address associates the OSA for ATM.

If the system is in basic mode, or the OSA (CHPID) is defined as not shared, a zero must be specified for the logical partition number in the OSA address table (OAT).

Changing OSA Configurations and Modes From the GUI

An OSA can be customized for TCP/IP Passthru mode, SNA mode, or both. Configurations identify which OSA modes are installed on the OSA.

You can change an OSA's mode by:

- Selecting a previously defined configuration.
- Changing the current configuration.
- Creating a new configuration.

Selecting a Previously Defined Configuration

The OSA/SF GUI allows you to create different configurations for the same OSA and save them for later use. This capability is usually only needed when the OSA has to be customized for different modes at different times. Several configurations are created and saved by name to be activated at a later time.

To see a list of previously defined configurations by name, do the following:

1. Close the **Configuration for OSA** window.
2. Select the OSA number on the **Channels View** window.
3. Choose **Selected** from the menu bar.
4. Select **OSA Configurations** and then **Configurations**.

A **Configuration list for OSA** window is displayed showing a list of all previously defined configurations for this OSA. To activate a new configuration, select the configuration name in the list and then select **Change**, you can activate the configuration from the **Configuration for OSA** window.

Attention

If you activate a different configuration, the current configuration will be lost. If you do not want to lose the current OSA mode, see Changing the Current Configuration. The activation is disruptive to all devices using the OSA (CHPID).

Changing the Current Configuration

Change the current configuration when you don't want to lose the current OSA mode and you want to add the other OSA mode to the configuration. For example: the current configuration contains TCP/IP Passthru mode and you want to add SNA mode. Change the configuration by doing the following:

1. Enter the configuration name in the **Configuration for OSA** window, or if you do not know the current configuration name, close the configuration window and then open it again. A **Configuration list for OSA** window is displayed showing a list of all previously defined configurations for this OSA. The last activated configuration will be displayed under the list of configuration names. Select the configuration you want to change and then select **Change**.
2. The OSA modes for this configuration are displayed at the bottom of the **Configuration for OSA** window. You can add another OSA mode to this configuration or change the current OSA mode settings.

Creating a New Configuration

New configurations are created initially to customize the OSA for the first time. You can create new configurations and save them at anytime without activating them. Once a new configuration is created and activated, the current configuration is deactivated; therefore you should be certain that you want the new configuration activated. In most cases, changing the current configuration would be appropriate.

Deferring an OSA Mode Install

From the OSA/SF GUI, you can create an OSA configuration, save it, and select **Activate (no Install)** from the **Configuration** pull-down of the OSA's configuration window. This prevents disrupting an OSA that is already running with a different configuration. You can defer the install to a more appropriate time, then use any one of the following two methods to complete the install.

Methods for Completing a Deferred Install

The OSA mode install can be completed using these instructions.

1. Enter the INSTALL command from one of the following places:
 - a. *CMS*, run IOACMD job and enter the following OSA/SF command:

```
INSTALL xx FORCE
```

Where xx is the OSA number (CHPID).
 - b. *From the OS2 OSA/SF GUI* OSA Channels-Tree View window:
 - Select the OSA number.
 - Select Command from the menu bar.
 - Select Install, Force, and then Ok.
2. After the install completes, vary off the OSA devices, configure the OSA (CHPID) offline and then online. Start the connection using VTAM or TCP/IP on the server.

Attention

Note: If the S/390 is running in LPAR mode, the CHPID must be configured offline from *all* logical partitions sharing the CHPID.

GUI Instructions

Chapter 5. Customizing OSAs Using REXX from CMS

Use this section to customize OSAs using CMS with OSA/SF commands.

APAR #OW33394 merged REXX EXECs IOAINATM and IOASNAVM into the IOACMD EXEC as the Configure OSA command. If you installed this APAR, IOACMD is the only EXEC you need in order to configure any OSA mode.

The first section contains instructions for an ATM OSA-2 feature and the second section contains instructions for all other OSA features. References to more detailed information are included when necessary.

ATM OSA-2 Feature

Use these instructions to customize an ATM OSA-2 feature. The instructions will help you install an OSA Address Table (OAT) and the necessary ATM configuration parameters on the OSA.

1. Make sure the hardware configuration is complete. See "OSA in a VM/ESA Environment" in the *OSA Planning Guide* for setting up the hardware configuration.
2. Make sure OSA/SF is running on the server (host).
3. Make sure the OSA (CHPID) is configured online and that the OSAD device is online.
4. Copy one of the following templates from the E (200) minidisk or from the SFS directory (VMSYS.2VMVMV20.OSA.PBLDCODE).

Note: The following templates are samples that you can change for your installation. Use the instructions in the template to add and delete information as required.

Table 2. Summary OAT Templates

OSA Mode	Filename on the E (200) Minidisk	To See The Template	Type of Template
TCP/IP Only	IOAOSHRT	Figure 14 on page 55	Ports Shared Between LPs
SNA Only	IOAOSHRs	Figure 15 on page 55	Ports Shared Between LPs
HPDT ATM Native	IOAOMPC	Figure 16 on page 57	Setting up HPDT ATM Native on an OSA-2 ATM CHPID

5. Write down the name of the file that contains the template that you will use as input for the OAT.

Filename of the OAT Template _____

6. Modify the template that you just copied according to the instructions in the template.

Attention: If you are not familiar with the OSA address table (OAT) and you need more information than what is in the template, see "Appendix A. About the OSA Address Table (OAT)" on page 75.

7. Copy file IOAATM2 from the E (200) minidisk.

CMS Instructions

Write down the filename where you store IOAATM2. It will be used as input with the IOACMD EXEC.

Filename of the New Copy of IOAATM2 _____

8. Modify the copy of IOAATM2 for your installation. The instructions that are contained in the header of IOAATM2 are shown in Figure 13 on page 49.
9. After modifying IOAATM2, enter:

IOACMD

The EXEC will display a list of commands. Select the **CONFIGURE OSA CHPID** command. If this command is not in the list, then APAR #OW33394 is not installed. In that case, quit the IOACMD and enter the following:

IOAINATM

Follow the prompts for either EXEC. They both install the OAT and ATM parameters.

Note: If you do not have APAR OW33394 and you did not provide the file name for the OAT to be installed on the OSA, enter the following:

IOACMD PUT_OAT

10. Configure the CHPID (OSA) offline and then online to all logical partitions to activate the OSA mode.

Attention

The OSA will not be properly set up unless the CHPID is configured offline and then online from every logical partition using the CHPID, regardless of the operating system in the logical partition.

The OSA-2 ATM feature is now customized and ready for use.

IOAATM2 File

```

/* Config file for installing OSA2-ATM modes      OW33393 PQ16071 OW33394
/*
/* This file contains the required input parameters to customize an
/* OSA-2 ATM feature. Follow the instructions to modify the file and
/* then execute job IOACMD, specifying the 'Configure OSA CHPID
/* (CONFIG_OSA)' command, to put the parameters on the OSA (CHPID).
/*
/* An OSA Address Table (OAT) is required as input with the
/* Configure OSA command. To make an OAT, use the Get OAT command or
/* the OAT templates. See the OSA/SF User's Guide for instructions.
/*
/* Notes: 1) This should be a copy of the sample file (IOAATM2).
/*        2) Lines that start with a slash asterisk (/*) are comments.
/*        3) The file is not case sensitive.
/*        4) See the OSA Planning Guide for help with the parameters.
/*
/* Instructions:
/* 1) Change the first line (mode=LE) to the mode you want to customize.
/* 2) Modify the ATM physical parameters, atmphy.1 through atmphy.8.
/*    These are required for all modes.
/* 3) Follow the instructions for the mode you are customizing:
/*
/* ATM LAN emulation (Valid for OS/390, MVS, VM and VSE)
/* 1) Delete all the ATM Native and PVC sections
/*    (nat.1 and pvc.1.1 through pvc.1.12).
/* 2) Modify the LE parameters, le.1 through le.19.
/* 3) To add a second emulated port (port 1), copy all the le
/*    fields (le.1 through le.19) and place them after le.19.
/*    CONFIG_OSA identifies the first section as port 0 and the
/*    second section as port 1.
/*    NOTE: You should now have 2 copies of le.1 through le.19
/*
/* ATM Native (Valid for OS/390 and MVS only)
/* 1) Delete all of the LAN emulation section (le.1 through le.19)
/* 2) Modify the ATM Native entry (nat.1)
/* 3) Modify the PVC fields pvc.1.1 through pvc.1.12 if needed
/* 4) To add additional PVC entries, do the following:
/*    a) Copy all the pvc fields (pvc.1.1 through pvc.1.12) of the
/*       first entry and place them after pvc.1.12 as pvc.2.1
/*       through pvc.2.12. Modify these new fields as necessary.
/*    b) Continue this naming scheme for all subsequent PVC entries
/*       NOTE: The entry number must be sequentially
/*            incremented by 1 and cannot exceed 256
/*            (only 256 PVC entries are allowed).
/*       NOTE: CONFIG_OSA identifies the first entry as pvc 1, the
/*            second entry as pvc 2, the next as pvc 3, and so on.
/*    c) Modify subsequent PVC entry fields as necessary.

```

Figure 13. IOAATM2 File (Part 1 of 4). The header contains instructions for modifying the file.

CMS Instructions

```
/*
/* IP Forwarding (Valid for OS/390 and MVS only)
/* 1) Delete all of the LAN emulation and ATM Native sections
/* (le.1 through le.19 and nat.1)
/* 2) Modify the PVC fields pvc.1.1 through pvc.1.12 if necessary.
/* NOTE: There can only be one PVC entry.
mode = LE /* config type. one of
/* LE - ATM LAN emulation
/* NAT - ATM Native
/* IP - IP forwarding
/*=====
atmphy.1 = ATM2 config name /* Config name (34 char max)
atmphy.2 = AUTO /* UNI version (AUTO, 30 or 31)
/* Ignored for IP forwarding
/* Ignored if control plane = 3
atmphy.3 = 0 /* Max VPI bits (0-5)
atmphy.4 = 11 /* Max VCI bits (6-11)
/* VPI + VCI must be 6-11
atmphy.5 = 3 /* Control plane use
/* 0 - ILMI/SVC enable
/* 3 - ILMI/SVC disable
/* Ignored for LE & IP forwarding
atmphy.6 = 0 /* Transmit clock source
/* 0 - OSA generated
/* 1 - Network generated
atmphy.7 = 1 /* Physical layer type
/* 0 - Sonet
/* 1 - SDH
atmphy.8 = portname /* Port name (max 8 chars)
/*-----
/* LAN emulation section starts here
/*-----
le.1 = 155.0 /* Best effort peak rate
/* 1-155 in .1 increments
le.2 = 0 /* IBM enhanced mode
/* 0 - drop direct connect
/* Not 0 - keep connections
le.3 = 3 /* LEC traffic type
/* 1 - TCPIP traffic only
/* 2 - SNA traffic only
/* 3 - Combined TCPIP & SNA
le.4 = 2 /* Emulated port type
/* 1 - Ethernet
/* 2 - Token ring
le.5 = 000000000000 /* Local MAC address (12 digits)
/* specify 0 to use burned in
/* MAC address
le.6 = ELAN name /* ELAN name (32 chars max)
```

Figure 13. IOAATM2 File (Part 2 of 4). The header contains instructions for modifying the file.

```

le.7 = 0                /* LEC auto configure
                        /* 0 - disable auto config
                        /*   parms 8-19 are valid
                        /* Not 0 - enable auto config
                        /*   parms 8 & 10-19 are ignored
le.8 = 120              /* Control timeout (10-300)
le.9 = 4544             /* Max LAN frame size
                        /* 1516, 4544, 9234 or 18190
le.10 = 1200           /* VCC timeout
le.11 = 300            /* Aging time (10-300)
                        /* LES ATM addr (40 digits)
le.12 = 1122334455667788990011223344556677889900
le.13 = 5              /* Max unknown frame count (1-10)
le.14 = 2              /* Max retry count (0-2)
le.15 = 15            /* Forward delay time (4-30)
le.16 = 1              /* LE arp timeout (1-30)
le.17 = 1              /* Flush timeout (1-4)
le.18 = 6              /* Path switching delay (1-8)
le.19 = 4              /* Connect complete timeout (1-10)
/*-----
/* ATM Native logical information start
/*-----
nat.1 = 2              /* Bandwidth allocation
                        /* 1 - Best Effort only
                        /* 2 - Reserve bandwidth
                        /*   & best effort
                        /* 3 - Reserved bandwidth
/*=====
/* This portion of the file contains the required input parameters
/* to configure the PVC entries for IP forwarding or ATM Native.
/* All lines (or partial lines) starting with '/' are comments.
/*
/* The fields starting with pvc.n are there to specify the needed PVC
/* entries. Use the digit after the letters 'pvc.' to indicate which
/* PVC entry to send to OSA/SF.
/*
/* For IP forwarding, the PVC name MUST be WANPVC00, therefore it
/* will always be set to that regardless of what is specified.
/*
/* To specify a reserved bandwidth PVC, set field pvc.n.8 to 1.
/* To use the defaults, set pvc.n.8 to 0. You MUST leave fields 9-12
/* in the file, even though they will be ignored.
/*=====
/* PVC entry 1 starts here
/*=====
pvc.1.1 = PVC name     /* PVC name (max 8 char)
                        /* always WANPVC00 for IP forwarding
pvc.1.2 = 353207       /* Forward peak cell rate (0-353207)
pvc.1.3 = 353207       /* Backward peak cell rate(0-353207)

```

Figure 13. IOAATM2 File (Part 3 of 4). The header contains instructions for modifying the file.

CMS Instructions

```
/*=====
/* The VPI and VCI settings are calculated using the values in parms
/* atmphy.3 and atmphy.4 above. These will be called max_vpi and max_vci
/* VPI ranges from 0 to (2 ** max_vpi) - 1
/* max_vpi set to 3 above allows VPI values of 0-7 for this PVC entry
/* VCI ranges from 32 to (2 ** max_vci) - 1
/* max_vci set to 8 above allows VCI values of 32-255 for this PVC entry
/*=====
pvc.1.4 = 0                /* VPI for this PVC entry
pvc.1.5 = 35              /* VCI for this PVC entry
/*=====
/* The recommended PDU sizes are 9188 for IP and 8448 for NAT modes.
/* The forward and backward PDU value should be the same for both
/* pvc.n.6 and pvc.n.7. Do not set them with different values.
/*=====
pvc.1.6 = 8448            /* Forward Max AAL5 PDU size (64-9188)
pvc.1.7 = 8448            /* Backward Max AAL5 PDU size(64-9188)
pvc.1.8 = 0                /* Traffic shaping (mode = IP) -OR-
                          /* Reserved bandwidth (mode = NAT)
                          /* 0 - Use defaults
                          /* 1 - Specify parms 9-12
/*=====
/* If pvc.n.8 is 1, then the values in pvc.n.9-pvc.n.12 are used
/* If pvc.n.8 is 0, then the parms must still be here, but are ignored
/*=====
pvc.1.9 = 353207          /* Forward sustain cell rate (0-353207)
pvc.1.10= 353207         /* Backward sustain cell rate(0-353207)
pvc.1.11= 353207         /* Forward cell burst rate (0-353207)
pvc.1.12= 353207         /* Backward cell burst rate(0-353207)
/* Start additional PVC entries after this line, which can be deleted
```

Figure 13. IOAATM2 File (Part 4 of 4). The header contains instructions for modifying the file.

ENTR, FENET, and FDDI OSA-2 Features

Use these instructions to customize ENTR (ethernet and token ring), FENET (fast ethernet), and FDDI OSA features.

Attention: Before Starting

1. If you are not familiar with the OSA address table (OAT) and you need more information than what is provided, see "Appendix A. About the OSA Address Table (OAT)" on page 75.
2. Make sure the hardware configuration (IOCDS) is complete. See "OSA in a VM/ESA Environment" in the *OSA Planning Guide* for setting up the hardware configuration.
3. Make sure OSA/SF is running on the server.
4. Make sure the OSA (CHPID) is configured online and that the OSAD device has come online.

The numbers correspond to the numbers in the following instructions.

- ___ 1. Get an OAT template. See "1) Getting an OAT Template" on page 53.
- ___ 2. Modify the template. See "2) Modifying the OAT Template" on page 53.
- ___ 3. Install the OSA mode and the OAT. See "3) Installing the OSA Mode and the OAT" on page 54.
- ___ 4. Configure the OSA (CHPID) offline and online. See "4) Activating the OSA Mode" on page 54.

1) Getting an OAT Template

You have two choices to get a template for making an OAT:

- Use the sample templates that are on the E (200) minidisk.
- Use the Get OAT command to get the OAT that is currently on the OSA. A new OSA ships with a default OAT.

The default OAT contains entries for all logical partitions and ports. Because of the many entries in a default OAT, you might find it easier to use the samples on the sample disk. The samples have only a few entries to show you the format and then you can use them as templates for making your own OAT. The instructions that follow show both methods of getting a template. If you choose to use the Get OAT command, we recommend that you use the Summary option so that you will not get all the OAT detail.

Using Templates

The following templates are samples and there is not a sample for every situation. Most configurations are shown in IOAOSHRA. Use the instructions in the template to add and delete information as required.

1. Copy one of the following templates based on the OSA mode and type of OAT you want to install on the OSA:

Table 3. Summary OAT Templates for FDDI, ENTR, and FENET Features

OSA Mode	Filename on the E (200) Minidisk	To See The Template	Type of Template
TCP/IP Only	IOAOSHRT	Figure 14 on page 55	Ports Shared Between LPs
SNA Only	IOAOSHRS	Figure 15 on page 55	Ports Shared Between LPs

2. Continue at “2) Modifying the OAT Template”.

Using the Get OAT Command Instead of Templates

If you are going to use the Get OAT command, be sure to specify the Summary option when prompted.

1. Enter the following to get a summary view of the OAT.

IOACMD GET_OAT

When prompted, enter the CHPID (OSA number), Summary option, and the filename of where you want to store the OAT.

2) Modifying the OAT Template

The format of the OAT varies according to how you got the OAT.

- If you used the templates from the sample disk, follow the instructions included in the template.
- If you did a Get OAT with the Summary option, use the legend at the bottom of the OAT.

Note: Within the summary OAT, the Entry and Valid column fields are ignored on input.

- If you did a Get OAT command and did not include the Summary option, the entire detailed OAT was returned.

CMS Instructions

3) Installing the OSA Mode and the OAT

Enter the following to install the proper image and put the OAT on the OSA:

IOACMD

A list of commands will be displayed. Select the **CONFIGURE OSA CHPID** command. If this command is not in the list, enter:

IOASNAVM

Follow the prompts for either of the EXECs. They both install the OAT and the correct SNA, TCP/IP, or ATM Native image on the OSA.

Note: If you do not have APAR OW33394 and you did not provide the file name for the OAT to be installed on the OSA, enter the following:

```
IOACMD PUT_OAT
```

For OSA-2 ATM and OSA-2 Fenet CHPIDs, detailed information can now be obtained at the port, SAP, and connection level. For details on the type of information available, see "Additional SNA Information" on page 35.

4) Activating the OSA Mode

1. Configure the CHPID (OSA) offline and then online to all logical partitions to activate the OSA mode.

Attention

The OSA will not be properly set up unless the CHPID is configured offline and then online from every logical partition. This includes any logical partition using the CHPID, regardless of the operating system.

The OSA is customized and ready for use.

OAT Templates

```

* This OAT template is a sample for setting up TCP/IP passthru mode
* with port sharing between LPs.
* LP 5 and LP 7 are sharing ports 0 and 1.
* Each OAT entry has more than one IP address associated with it.
* To use this template, do the following:
*
* 1) Change the LP numbers to match your installation.
* The LP number must precede all entries for that LP.
* 2) Change the unit addresses. UAs must be even numbers for passthru.
* The odd entries will automatically be added by the CHPID.
* 3) Passthru is required in the mode field.
* 4) Change the port number of the OSA if necessary.
* 5) Specify if the LP should be the default entry (No, PRI, or SEC).
* Only one entry per port can be the PRImary default entry.
* Only one entry per port can be the SECondary default entry.
* 6) Change the IP addresses. They are required for TCP/IP when
* sharing a port. You can have up to 8 IP addresses per entry
* and up to 16 IP addresses per port.
* 7) Add additional entries as required.
*****
*UA Mode Port Default IP Address
*****
LP 5
00 passthru 00 PRI 105.000.005.005
105.000.005.015
02 passthru 01 SEC 105.001.006.006
105.001.006.016
105.001.006.026

LP 7
00 passthru 00 no 107.000.075.075
107.000.075.085
02 passthru 01 PRI 107.001.076.076
107.001.086.086

```

Figure 14. OAT Template For TCP/IP With Ports Shared Between LPs (IOAOSHRT on the E (200) disk).

```

* This OAT template is a sample for setting up SNA mode with port
* sharing between LPs.
* LP 5 and LP 7 are sharing port 0.
* To use this template, do the following:
*
* 1) Change the LP numbers to match your installation.
* The LP number must precede all entries for that LP.
* 2) Change the unit addresses. UAs can be odd or even for SNA.
* 3) SNA is required in the mode field.
* 4) Change the port number of the OSA if necessary.
* 5) Add additional entries as required.
*****
*UA Mode Port Entry specific information
*****
LP 5
0A sna 00

LP 7
0A sna 00

```

Figure 15. OAT Template For SNA With Ports Shared Between LPs (IOAOSHRS on the E (200) disk).

CMS Instructions

```

* This OAT template is a sample for setting up HPDT ATM Native on an
* OSA-2 ATM CHPID.
*
* 1) Change the LP numbers to match your installation.
*   The LP number must precede all entries for that LP.
* 2) Change the unit addresses. UAs must be even numbers for MPC entries.
*   The odd entries are automatically added by the CHPID.
* 3) The mode must be mpc (for this example).
* 4) The port number must be 00 for the HPDT ATM Native.
* 5) Specify the OSA name for all MPC entries. It is a
*   required field. The following rules for OSA name apply:
*   a) a-z, 0-9, @, #, $ are valid
*   b) 0-9 not valid 1st character
*   c) 0 not valid last character
* 8) Add additional MPC entries as required for each LP you are
*   configuring.
*****
*UA  Mode   Port   OSA Name
*****
                                LP 5
00  mpc    00     OSANAME1
*****
                                LP 7
00  mpc    00     OSANAME2
02  mpc    00     NAMEOSA3

```

Figure 16. OAT Template For HPDT ATM Native (IOAOMPC on the E (200) disk).

Chapter 6. Sharing an OSA between LPs and/or TCP/IP Stacks

An OSA that comes with a default OAT can be used without OSA/SF to transfer data between one LP and one TCP/IP stack on each port. By using OSA Support Facility (OSA/SF) to configure the OSA (a process that tailors the OSA and replaces the default OAT), you can have one OSA support any or all of the following:

1. Two or more logical partitions (LP).
2. Two or more applications (TCP/IP, SNA) on different LPs.
3. Two or more applications (TCP/IP, SNA) on the same LP.
4. Two or more TCP/IP stacks on the same LP.
5. Two or more VM guests on the same LP (see example 2 for details).

The key to allowing these variations is based on the OSA Address Table (OAT). The OAT is described in more detail in "Appendix A. About the OSA Address Table (OAT)" on page 75.

An OSA has storage for 223 OAT entries. When an OSA comes with a default OAT (FDDI, Token Ring/Ethernet (ENTR), or Fast Ethernet (FENET)), it contains a pair of OAT passthru (TCP/IP) entries (but no SNA entries) for each LP that can be defined (16) and for each port on the OSA. An OSA-2 FDDI or FENET which has 1 physical port, contains 32 OAT entries in the default OAT. An OSA-2 ENTR which has 2 physical ports, contains 64 OAT entries.

OSA routes traffic from the LAN to the Host using:

1. For TCP/IP: The IP address plus the LP number plus the unit address pair as defined in the OAT.

2. For SNA: The LP number plus the SAP as defined in the VTAM XCA major note. (The unit address is matched to the SAP by VTAM in the XCA major node.)

When OSA transfers data, a single path from one port to one LP is used. When a default OAT is used, the OSA does not know which LP is supposed to get the data since there are no IP addresses defined. Without knowing which IP addresses are assigned to which host application on which LP, the OSA does not know where to send this traffic. OSA is programmed to send all traffic on a port to the first LP that configures the OSA on-line when the default OAT is being used. This may not be the application or LP you desire. This also slows down your host processing, as each packet must be looked at by your host application (for example, there is no IP filtering when a default OAT is used).

Using OSA/SF, you can:

1. Replace the default OAT entries, thereby freeing up OAT storage for other OAT entry definitions.
2. Add OAT entries to run more applications on a single port, such as TCP/IP and SNA at the same time on the same port.
3. Add IP addresses to an OAT entry which enables the "sharing" of a port and permits the OSA to exercise IP filtering.

Notes:

1. In all the above instances, you must define these additional addresses in your system hardware definitions, and also make the corresponding changes in your TCP/IP profiles, VTAM setup, TRLE statements, etc. These changes are not addressed in this document.
2. You must be sure the IOCDs has unit address definitions to match the OAT entries (either previously defined, or you must add additional entries).

Example 1

Let's say you wish to run the following on port 1 of CHPID 80, which is an OSA-2 ENTR.

1. A TCP/IP stack using address 10.10.10.10 on LP 5.
2. Another TCP/IP stack using address 11.11.11.11 on LP5.
3. SNA on LP 5.
4. A TCP/IP stack using address 30.30.30.30 on LP 7.
5. SNA on LP 7.
6. Another SNA on LP 7.

An OSA-2 ENTR comes with a default OAT. If you issue Get OAT, you will see the following OAT entries for LP 5 and LP 7. Notice that if the same devices are defined for the same UA ranges on each LP, the data returned looks the same since each LP has its own UA/device combinations defined.

Note: In this example, we will ignore the other 56 entries that are returned for the other LPs as well as the "entry" and "valid" fields. These fields are not used on input to Put OAT or Configure OSA commands.

US(Dev)	Mode	Port	Entry specific information
			LP 5 (host5)
00(0400)	passthru	00	no 000.000.000.000
01(0401)	passthru	00	no 000.000.000.000
02(0402)	passthru	01	no 000.000.000.000
03(0403)	passthru	01	no 000.000.000.000
			LP 7 (host7)

```

00(0400) passthru 00 no 000.000.000.000
01(0401) passthru 00 no 000.000.000.000
02(0402) passthru 01 no 000.000.000.000
03(0403) passthru 01 no 000.000.000.000

```

Using the default definitions will not allow the traffic you wish to have running work properly. Without knowing where traffic from 10.10.10.10 or 11.11.11.11 goes, the OSA has no idea where to send this data. To have the OSA properly send the packets to the correct host applications, the following OAT entries are needed (they are shown in the format used with IOACMD.EXEC):

```

US(Dev)  Mode      Port  Entry specific information
                                LP 5 (host5 )
00(0400) passthru  01  no  010.010.010.010
02(0402) passthru  01  no  011.011.011.011
0A(040A) sna        01
                                LP 7 (host7 )
00(0400) passthru  01  no  030.030.030.030
0A(040A) sna        01
0B(040B) sna        01

```

Note: Keep in mind that all "odd" OAT entries for TCP/IP mode are added automatically by the OSA.

When you configure the OSA using Configure OSA from IOACMD, each of the passthru entries will become a pair of entries, thereby giving you 4 OAT entries for passthru on LP 5 and 2 OAT entries for passthru on LP 7. Unit addresses 00 and 01 on LP 5 are used for IP address 10.10.10.10; unit addresses 02 and 03 on LP 5 are used for IP address 11.11.11.11; and unit addresses 00 and 01 on LP 7 are used for IP address 30.30.30.30.

After you have completed the Configure OSA and reset the OSA from all logical partitions, the following OAT entries will be on the OSA:

```

US(Dev)  Mode      Port  Entry specific information
                                LP 5 (host5 )
00(0400) passthru  01  no  010.010.010.010
01(0401) passthru  01  no  010.010.010.010
02(0402) passthru  01  no  011.011.011.011
03(0403) passthru  01  no  011.011.011.011
0A(040A) sna        01
                                LP 7 (host7 )
00(0400) passthru  01  no  030.030.030.030
01(0401) passthru  01  no  030.030.030.030
0A(040A) sna        01
0B(040B) sna        01

```

Using this example, port 0 could also be configured to LP 5 and LP 7 at the same time if desired, using different IP addresses for each definition of course. The limiting factor is that all OSA-2 CHPIDs have storage for only 223 OAT entries spread over all logical partitions.

Example 2

Let's say you wish to run 2 VM guests on LP 6. Each of the guests uses port 1 of CHPID F8, which is an OSA-2 ENTR. The guest could be running OS/390, VM, or VSE.

1. A TCP/IP stack using address 60.60.60.60 on guest 1.
2. Another TCP/IP stack using address 61.61.61.61 on guest 2.
3. SNA on guest 1.

4. Another SNA on guest 2.

The difference in this example from the previous one is that each guest needs a different UA defined in the "host" VM system. This is due to the fact that the OSA "sees" only the original VM system that is supporting the other guests.

In the IOCDs, you would need definitions for 4 UAs for the 2 different IP addresses needed, as well as an additional 2 UAs for the SNA entries. If you define UAs of 00–03 for the passthru entries, and 0A–0B for the SNA entries, the following OAT entries are needed: (They are shown in the format used with IOACMD.EXEC):

US(Dev)	Mode	Port	Entry specific information
			LP 6 (host6)
00(0400)	passthru	01	no 060.060.060.060
02(0402)	passthru	01	no 061.061.061.061
0A(040A)	sna	01	
0B(040B)	sna	01	

Note: Keep in mind that all "odd" OAT entries for TCP/IP mode are added automatically by the OSA.

When you configure the OSA using Configure OSA from IOACMD, each of the passthru entries will become a pair of entries, thereby giving you 4 OAT entries for passthru and 2 OAT entries for SNA. Unit addresses 00 & 01 on LP 6 are used for IP address 60.60.60.60. Unit addresses 02 & 03 on LP 6 are used for IP address 61.61.61.61. The TCP/IP profiles on each of the 2 guests should be defined so guest 1 uses IP address 60.60.60.60 and guest 2 uses 61.61.61.61.

After you have completed the Configure OSA and reset the OSA from all logical partitions, the following OAT entries will be on the OSA:

US(Dev)	Mode	Port	Entry specific information
			LP 6 (host6)
00(0400)	passthru	01	no 060.060.060.060
01(0401)	passthru	01	no 060.060.060.060
02(0402)	passthru	01	no 061.061.061.061
03(0403)	passthru	01	no 061.061.061.061
0A(040A)	sna	01	
0B(040B)	sna	01	

You can repeat this process for each additional application or VM guest you wish to run on a single OSA. You can add as many passthru, SNA, and/or MPC entries that are valid for your installation and the modes you have configured. This applies for every logical partition. It also applies for each port on the OSA.

Chapter 7. Doing Service Updates

This section has instructions for performing the following:

- Service for OSA hardware replacement
- Updating an OSA image (SNA or ATM mode) with a PTF
- Updating any of the REXX EXECs (IOACMD, etc.) with a PTF
- Updating the OSA/SF GUI with a PTF

OSA Hardware Replacement

Do the following whenever an OSA CHPID must be replaced and the new OSA will operate in the same OSA mode as the previous one. If you want to change the OSA mode of the new OSA, you must customize the OSA mode from the beginning.

1. Stop the affected host products for the OSA modes running on the OSA being replaced. Stop any use of OSA.
2. Vary off the OSA devices, configure the OSA (CHPID) offline and have the service personnel install the new OSA. Configure the OSA back online.
3. Do *one* of the following to customize the new OSA depending on how the previous OSA was customized:

a. *If the previous OSA was customized using the OSA/SF GUI or IOACMD (Configure OSA):*

- 1) From the OSA/SF GUI OSA Channels-Tree View, select the OSA number.
- 2) Select Command from the menu bar.
- 3) Select Install, Force, and then Ok.
- 4) From CMS, run job IOACMD and enter the following OSA/SF command:

```
INSTALL xx FORCE
```

Where xx is the OSA number (CHPID).

b. *If the previous OSA was customized with either IOASNAVM or IOAINATM (no GUI):*

- 1) From CMS, run job IOACMD and enter the following OSA/SF command:

```
INSTALL xx FORCE
```

Where xx is the OSA number (CHPID).

2)

- If you know the filename that contains the OSA Address Table (OAT) that was used for the previous OSA, run the IOACMD EXEC and specify the Put OAT command with the filename of the OAT.
- If you do not know the filename that contains the OAT from the previous OSA, do steps "1) Getting an OAT Template" on page 53 and "2) Modifying the OAT Template" on page 53 to create an OAT and then run IOACMD EXEC and specify the Put OAT command with the filename of the OAT.

Note: The install command installed all the configuration files and OSA mode, you only have to put the OAT on the OSA.

4. After the install completes, vary off the OSA devices, configure the OSA (CHPID) offline and then online. Start the connection using VTAM or TCP/IP on the server.

The devices that were defined in the configuration should now be online.

OSA Mode (Image) Update

Use the following instructions for any PTFs that affect the SNA mode (image) with or without ATM LAN emulation.

1. Follow the PTF install steps to get the data from SES on to the minidisks.
2. Stop any use of the OSA.
3. Do *one* of the following to install the OSA mode files on the OSA for the PTF:
 - a. *CMS*, use run IOACMD and enter the following OSA/SF command:

```
INSTALL xx FORCE
```

Where xx is the OSA number (CHPID).

- b. *From the OSA/SF GUI* OSA Channels-Tree View window:
 - Select the OSA number.
 - Select Command from the menu bar.
 - Select Install, Force, and then Ok.
4. After the install completes, vary off the OSA devices, configure the OSA (CHPID) offline and then online. Start the connection using VTAM or TCP/IP on the server.

The devices that were defined in the configuration should now be online.

REXX and Master Index Updates

If any of the following parts require service, follow the PTF install steps to get them from SES and put them on the minidisks.

- IOACMD
- IOAINX

OSA/SF GUI Updates

Finding Out What the Current Level Is

1. Change directories to the directory in which SI resides. SI is installed in OSA/SF's subdirectory. The default is **C:\IBMIOA**.
2. To start SI, enter *IOAINSTS*, where *IOA* is the prefix of the product used to install SI.
3. Select **OSA Support Facility** on the **Installation and Maintenance** window.
4. Select the **Details** menu bar choice.
5. Select **Product Status...** to display the data on the **Product Status** window.
6. Select the **Service Level...** pushbutton to display the data on the **Service Level** window.
7. Select the **Cancel** pushbutton to display the data on the **Product Status** window.
8. Select the **Cancel** pushbutton to display the data on the **Installation and Maintenance** window.
9. To exit SI, do one of the following:

- Double-click on the system icon.
- Or select **File** and then select **Exit**.

Applying a New Service Level

For Windows

Follow these instructions after installing a new release of OSA/SF or whenever the Windows OSA/SF GUI requires updating. These instructions will update the OSA/SF GUI on the Windows workstation.

1. Verify that the current OSA/SF GUI is *not* started. All OSA/SF GUI windows should be closed.
2. At the server, transfer in binary the installation program, IOAWINST, from IOA.SIOAWIN to a temporary directory of your choice. Use any server to workstation transfer program. The file should be IOAWINST.EXE on the workstation.
3. Start IOAWINST.EXE, either by double-clicking the IOAWINST object in Windows Explorer, or by entering IOAWINST at a command prompt. Follow the prompts.

When the EXEC completes, click **Start** on the Taskbar and select **Programs**. Look for an entry named **IBM OSA Support Facility**.

For OS/2

Follow these instructions after installing a new release of OSA/SF or whenever the OS/2 OSA/SF GUI requires updating. These instructions will update the OSA/SF GUI on the OS/2 workstation.

1. Verify that the current OSA/SF GUI is *not started*. All OSA/SF GUI windows should be closed.
2. Establish a host session on the OS/2 workstation. You may have to start Communications Manager/2 if no host sessions are started.
3. Logon to one of the *administrator* IDs that can access the disk that the GUI files are stored on. The same disk where IOAG* PAKBIN, IOACATE BIN, and IOAPKGB BIN files reside.
4. Make sure that the *administrator* ID is at the READY prompt.
5. From OS/2, if you are not accessing the directory in which SI resides, change to it. SI is installed in OSA/SF's subdirectory. The default is C:\IBMIOA.
6. To start SI, enter: **IOAINSTS**
7. Select **OSA Support Facility** on the **Installation and Maintenance** window.
8. Select **File** from the action bar, then select **Open Catalog**, and then select **Host**.
9. Select the host session ID where the *administrator* ID is running.
10. Select **VM** as the host operating system, and then select **Open**. This should display the Installation and Maintenance window.
11. Select the **Action** menu bar choice.
12. Select **Update...** to display the **Update** window.
13. If you are updating on a LAN server or if you want to update the CONFIG.SYS file manually on your machine:
 - a. Deselect the **Update CONFIG.SYS** option.
 - b. Select the **Update** pushbutton.
 - c. Reply to the warning message that tells you SI will not update your CONFIG.SYS file.

- d. Select the **Update** pushbutton on the Update window to begin the update process.
14. Select the **OK** pushbutton after you see a message that indicates downloading has completed successfully.
15. To exit SI, do one of the following:
 - Double click on the system icon.
 - Or select **File** and then select **Exit**

Complete the following for your installation:

1. If you updated the OSA/SF GUI on a LAN server, each requester on the LAN that accesses OSA/SF must now be updated. Continue at “Updating a Requester Machine” on page 84.
2. If you did not update OSA/SF GUI on a LAN server *and* you deselected the **Update CONFIG.SYS** option in step 13a on page 63, you must update your CONFIG.SYS file. Continue at “Updating the CONFIG.SYS File on a Non-Requester Machine” on page 84.
3. If you did not update OSA/SF GUI on a LAN server and you allowed software installer to update the CONFIG.SYS file, you will have to shut down your workstation and reboot it. The OSA/SF GUI service update is complete. See *OSA/SF User’s Guide* for using the OSA/SF GUI and customizing OSA modes of operation.

Restoring the Preceding Level

1. If you are not accessing the directory in which SI resides, change to it. SI is installed in OSA/SF’s subdirectory. The default is **C:\IBMIOA**.
2. To start SI, enter **IOAINSTS**, where **IOA** is the prefix of the product used to install SI/2.
3. Select **OSA Support Facility** on the **Installation and Maintenance** window.
4. Select the **Action** menu bar choice.
5. Select **Restore...** to display the **Restore** window and start processing.
6. Select the **OK** pushbutton when you see the message indicating that the Restore process has completed successfully.
7. To exit SI, do one of the following:
 - Double-click on the system icon.
 - Or select **File** and then select **Exit**.

Deleting the OSA/SF GUI Files

1. If you are not accessing the directory in which SI resides, change to it. SI is installed in OSA/SF’s subdirectory. The default is **C:\IBMIOA**.
2. To start SI, enter **IOAINSTS**, where **IOA** is the prefix of the product used to install SI.
3. Select **OSA Support Facility** on the **Installation and Maintenance** window.
4. Select the **Action** menu bar choice.
5. Select **Delete...** to display the **Delete** window.
6. Select the **Delete** pushbutton to start the delete process.
7. Select the **OK** pushbutton when you see the message indicating that the Delete process has completed successfully.
8. To exit SI, do one of the following:

- Double click on the system icon.
- *Or* select **File** and then select **Exit**.

Note: SI does not remove updates to the CONFIG.SYS, nor does it remove any files from the directory structure that were generated by OSA/SF GUI.

Chapter 8. Handling OSA/SF Problems

Use this chapter to help determine the cause of a problem and to report problems to IBM.

There are two major areas of problem determination.

1. Using what OSA/SF provides; messages, logs, and dumps
2. Using aids that are unique to the customized OSA mode of operation.

This chapter describes OSA/SF problem determination aids. When this chapter does not help or you need problem determination aids specific to the OSA mode, use the following table for a quick reference to locate the problem determination aids for each OSA mode:

Table 4. Locating Problem Determination Aids for Specific OSA Modes

OSA Mode	See:
TCP/IP Passthru	"TCP/IP Passthru Problem Determination Aids" on page 30
SNA	"Verifying SNA Operations" on page 34
HDPT ATM Native	"OSA HPDT ATM Native Mode" on page 38

Using OSA/SF Problem Determination Aids

OSA/SF provides the following aids for problem determination:

- Messages from OSA/SF
- Messages from OSA/SF GUI (IOAGxxxx)
- Message Log
- Trace Log
- Query command using the GUI

OSA/SF Messages

The messages displayed by OSA/SF are listed in the appendix. Locate the message you are looking for by the last 4 characters in the message.

IOAGxxxx Messages

Messages that start with IOAG are *not* listed in this book. IOAGxxxx messages are displayed by the GUI and provide a description with the message displayed. These are usually displayed when you forget to enter a parameter or do a task out of sequence. Think of them as reminders or immediate help.

OSA/SF messages have a message ID in the following format:

Example: IOAxnnms

IOA The first three characters are the product identifier.

If you are looking at the OSA/SF message log, you may see a message without a message ID or with a message ID in the format IOBxnnms. Take

Handling Problems

the action that is stated explicitly or implicitly by the message text. If the severity level of an IOB message is E or S, report the message to IBM.

- x* Component that detected the condition. In some cases, more than one component can cause OSA/SF to issue the same message; therefore messages are listed in the book with the variable *x*. If you search for a message and the message is shown with an *x*, it is the correct description. The component identifier will be used by IBM to identify the problem.
- nnn* 3 digit message sequence number. The messages in this book are listed numerically according to these three digits.
- s* The message severity, denoted by one of the following characters:
 - I** Informational, no action required
 - W** Warning, action is not required, but an error can occur later
 - A** Action, which is a severity level used only in some OSA/SF GUI messages
 - E** Error that requires action eventually
 - S** Severe or serious error that requires immediate action

See Appendix C for explanations and how you should respond (User Response) to OSA/SF messages.

OSA/SF GUI Messages (IOAGxxxx)

All GUI messages begin with IOAG. The GUI displays messages with a description of the problem. There is no reason to use an appendix to look up what the message means. If you do need more information after reading a message, use the help information for the window you received the message from.

Most OSA/SF GUI messages are issued because of invalid user input. For example: invalid text string, missing information, and doing tasks out of order. Think of the GUI messages as your safeguard when using the interface. The messages are similar to help information; they help you with the task at hand.

OSA/SF Reason Codes

Reason codes that are issued as part of OSA/SF messages are for IBM use only. This is why explanations of reason codes are not documented. Reason codes may be encountered in messages found in the OSA/SF message log.

In the event that a message contains a reason code, note the message number, the reason code, and contact IBM service.

OSA/SF Message Log

OSA/SF has a message log that contains a record of all OSA/SF commands issued, responses, and error messages. All error messages are logged, even when multiple failures occur that cause only one message to be displayed.

You can look at the message log and send the log to the IBM support center. Each OSA/SF image has a message log.

The message log is stored as MESSAGE LOG on OSASF's 191 (A) disk.

If there is more than one OSA/SF running, to determine what OSA/SF was managing the OSAs, see “Determining which OSA/SF Image Is Managing an OSA” on page 71.

If you know which OSA/SF message log you want, you can get the log by using the OSA/SF GUI or an OSA/SF command. See the following.

Using OSA/SF GUI to Get the Message Log

1. Double-click on the host icon from the **OSA/SF Hosts** window and **Open** a channels view window.
2. Select **Command** from the menu bar at the top.
3. Select **OSA SF**.
4. Select **Get debug**.
5. Select **Message log**.
6. Select **All**.
7. Enter the **File name** for the host or workstation.

Note: If a file name is not entered the message log will only be sent to the Command Output window.

8. Select the **Send** pushbutton.

Entering an OSA/SF command to Get the Message Log

See “GET_DEBUG” on page 139.

```
IOAC101I OSA Support Facility initialization started 03/08/1996 20:06:58
IOAA002E Device 90a is offline
IOAA002E Device 91a is offline
IOAA002E Device 92a is offline
IOAA002E Device 93a is offline
IOAC150I 20:07:46 Interrupt Handler component started
IOAK999I Configuration Mode for CHPID 28 is 0
IOAK326I CHPID 28 is currently managed by partition 05
IOAA002E Device 99a is offline
IOAA002E Device 9aa is offline
IOAA002E Device 9ba is offline
IOAC145W 20:08:08 Only 1 of 8 OSA devices initialized
IOAC141I 20:08:08 API APPC component started
IOAC102I OSA Support Facility initialization completed 03/08/1996 20:08:08
IOAC100I OSA Support Facility version VxRxMx
```

Figure 17. Example of a Message Log

OSA/SF Trace Log

The trace log has hex data that contains the 8000 most recent trace records generated during program execution. When the trace log is full, the oldest entries are overwritten.

You may be requested by the IBM support center to provide a trace log for OSA/SF. Each OSA/SF image has its own trace log.

To determine what OSA/SF image was managing the OSAs, see “Determining which OSA/SF Image Is Managing an OSA” on page 71.

If you know which OSA/SF trace log you want, you can get the trace log by using the OSA/SF GUI or an OSA/SF command. See the following:

Handling Problems

How to Get the OSA/SF Trace Log Using the GUI

1. Double-click on the host icon from the OSA/SF Hosts window and Open a channels view window.
2. Select **Command** from the menu bar at the top.
3. Select **OSA SF**.
4. Select **Get debug**.
5. Select **Trace log**.
6. Select **All**.
7. Enter the **File name** of the reader file that will be sent to the OSAMAIN ID.
8. Select the **Send** pushbutton.

Getting the OSA/SF Trace Log Using OSA/SF Command (GET_DEBUG)

See "GET_DEBUG" on page 139.

SNA Memory Dump

The SNA OSA memory dump contains the image of storage on the OSA device. Specify the CHPID (OSA) number with this parameter.

SNA Management Information

Enhancements to OSA/SF allow you to get more detailed SNA information from the network. You can use the OSA/SF GUI on OS/2 or the Query command to display SNA details for active SNA-configured OSA devices. (If an SNA-configured OSA device is not in use, SNA information will not be available.)

- For the OSA/SF GUI windows, see "OSA/SF GUI Flow Quick Reference" on page 19. Look for the SNA Management for OSAXX window.
- For non-GUI, see "QUERY" on page 148.

ATM Memory Dump

The ATM memory dump is read from an OSA, approximately 2 Mb when the OSA is configured for SNA with ATM. Specify the CHPID (OSA) number with this parameter.

SNA Trace

The SNA trace buffer is read from the OSA device when the OSA is configured for SNA mode. Specify the CHPID (OSA) number with this parameter.

SNA Message Log

The SNA message log is read from the OSA device when the OSA is configured for SNA mode. Specify the CHPID (OSA) number with this parameter.

ATM Trace

The ATM trace buffer is read from the OSA device when the OSA is configured for SNA with ATM LAN emulation. Specify the CHPID (OSA) number with this parameter. The buffer number is not required and will default to zero. There are eight buffers, 0-7.

OSA/SF Dump

If OSA/SF abends, the OSA/SF dump is sent to OSAMAIN's reader. The VM operator gets a message indicating that OSA/SF abended and a dump is being taken. The dump is then sent to OSAMAIN's reader and the OSA/SF server

machine is logged off. Once the server is logged off, commands from the GUI or from CMS will cause the server to logon and reinitialize.

OSA Channel Memory Dump

Use the following to get a memory dump of the OSA device:

1. Double-click on the host icon from the **OSA/SF Hosts** window and **Open** a channels view window.
2. Select the OSA number for the dump you want.
3. Select **Command** from the menu bar at the top.
4. Select **Get Memory dump**.
5. Enter the **File name** to receive the dump.

Query Command Using the GUI

The Query command is available through the GUI for problem determination. The results of the Query command are displayed in the Command Output window. To access the Query command, perform the following steps:

1. From either the **Tree view** or the **OSA Channels - Details view**, choose **Command** from the menu bar at the top.
2. Select **Query**.
3. Select **CHPID Information**.

Determining which OSA/SF Image Is Managing an OSA

If more than one OSA/SF image is running on the S/390 and you want to determine which image is managing an OSA, do the following:

1. Double-click on one of the host icons from the **OSA/SF Hosts** window to **Open** a channel view window.
If the **OSA Channels - Details view** is displayed, select **View** from the menu bar, select **style** and then **Tree view**.
2. Double-click on the OSA number you want to see.
3. Select **Statistics** from the notebook tab.
4. Look for **Managing OSA SF LP number (name)**.

Alert Processing by OSA/SF

There could be situations when the OSA/SF server is not running, but you want alerts to be processed. If you always want alerts to be processed, do the following:

1. Add the OSA/SF server machine to the autolog list of VMs brought up during system IPL.
2. Add the following two additional lines to the PROFILE EXEC of the OSA/SF server. The lines should be added immediately following the 'GLOBAL LOADLIB SCEERUN' statement
'LOADMOD IOACMAIN'
'START'
3. Make the OSA/SF server exempt from inactivity forcing, similar to PVM and RSCS.

Handling Problems

Chapter 9. Entering OSA/SF Commands From CMS

This section provides information for using a General-use programming interface. Many of the tasks that can be done from the OS/2 OSA/SF GUI can also be done by entering OSA/SF commands from CMS.

How to Enter OSA/SF Commands from CMS

Use the REXX EXEC named **IOACMD EXEC** with OSA/SF commands to communicate from CMS to OSA/SF.

Attention

- See “Appendix D. OSA/SF Commands For CMS” on page 135 for a description of the OSA/SF commands that can be used with **IOACMD EXEC**.

IOACMD EXEC runs the same as other EXECs on a VM user ID. The user ID that uses the EXEC must have the proper authority to perform the command. See the RACF publications for details of how to set up the proper security levels.

There are four ways to run the EXEC:

- Full prompting
- Partial prompting by the EXEC
- Typing in all parameters
- Starting the EXEC and asking for help

Full Prompting

If you enter the following, the EXEC will show you a list of the OSA/SF commands and prompt you for the command and parameters.

```
IOACMD
```

Partial Prompting

Enter **IOACMD** and the OSA/SF command with no parameters. The EXEC then prompts for all the parameters needed. Help messages, when available for some of the parameters, are displayed.

After you enter the parameters, the EXEC processes the command and parameters. The data is used to generate the proper input needed by OSA/SF. The results are then either displayed on the terminal or put in the specified file.

```
IOACMD GET_OAT
```

In this example you are prompted for the CHPID, filename, filetype, and filemode.

Typing In All Parameters

Enter the name of the exec followed by the OSA/SF command and parameters. The results are either displayed or, when requested, put in the specified file. Some commands require a file name and file type to be specified.

Using CMS

```
IOACMD GET_OAT 4B myosa table
```

where:

GET_OAT is the command

4B is the CHPID (OSA)

myosa table is the file the data is stored into

Starting the EXEC and Asking for Help

Enter: **IOACMD HELP**

This displays a list of all the OSA/SF commands. You can then enter the name of the EXEC with the command name and the EXEC will prompt you for parameters.

You can also get help for a specific command by entering the command name.

IOACMD HELP QUERY

This would show you the parameters for the Query command.

Appendix A. About the OSA Address Table (OAT)

An OSA Address Table (OAT) is used as the tracking tool to manage data transfer through an OSA.

Each OSA has its own OAT. The OAT is stored in the OSA in non-volatile storage. There are two sources that can change the OAT:

- The OSA/SF GUI during an activate
- The IOACMD EXEC with a Put OAT command.

The hardware configuration has input to the OAT and must be defined before an OSA can transfer data. See "OSA in a VM/ESA Environment" in the *OSA Planning Guide* for setting up the hardware configuration.

If you are using the OSA/SF GUI on OS/2 to customize OSAs, there are configuration windows that organize the OAT and provide you an easy method for creating and changing the OAT; therefore, you do not have to know the details of the OAT format as described in this section.

If you are not using the OSA/SF GUI on OS/2, this section is for you.

The OAT Format

An OAT entry consists of a minimum of two lines:

The First Line

Regardless of the type of entry, the first line in the OAT always includes the same parameters, separated by one or more spaces:

LP *n* (*hostname*)

where

LP is a keyword signaling the beginning of an OAT entry for the partition identified in the following number.

n is a 1-digit hex partition number.

(*hostname*)

is an optional, descriptive, partition name ignored by the program.

The Second Line

The content of the second line differs according to the type of entry. Parameters are separated by one or more spaces.

For TCP/IP

The second line in the OAT includes the following:

ua passthru port_number default_entry Home_IP Net_mask

where

ua is a 1 or 2-digit unit address number, either alone (0A, for example) or concatenated to a device address, as in 0A(023A). The device address is ignored.

| *passthru*
| identifies the type of entry.
|
| *port_number*
| specifies the port number.
|
| *default_entry*
| indicates whether this entry forwards unknown IP addresses, and is set to one
| of the following:
|
| **NO** specifies that this is not a default entry.
|
| **PRI** specifies a primary default entry.
|
| **SEC** specifies a secondary default entry to be used when the primary is not
| available.

| *Home_IP*
| is the home IP address in standard w.x.y.z format, with values ranging from 0
| to 255 in each position. This can be left blank when port sharing is not used, or
| when you do not want an address assigned to this OAT entry. You cannot have
| both zero and non-zero addresses in the same OAT.

| *Net_mask*
| is the netmask to be used with the Home IP address *only* for ATM IP
| forwarding on OSA-2. This can be left blank for no IP forwarding. It is also in
| the format of w.x.y.z where each one has a range of 0 to 255. If you specify a
| net_mask, you must specify the home IP address. (This field is only valid for
| OS/390).

| To specify more than 1 IP address for a passthru OAT entry, add a line
| following the initial 'passthru line'. This line must start with the home IP
| address. For IP forwarding, you must also include the netmask. All other
| parameters are ignored.

| **For SNA**

| The second line in the OAT includes the following:

| ***ua sna port_number VTAM_idnum***

| where

| *ua* is a 1 or 2-digit unit address number, either alone (0A, for example) or
| concatenated to a device address as in 0A(023A).

| **sna**

| identifies the type of entry.

| *port_number*

| specifies the port number

| *VTAM_idnum*

| is the 5 digit VTAM id number used for network management. Specify this
| parameter *only* if the port number is FF. Otherwise it is ignored, and you can
| omit it. You can have only 1 SNA network management entry per OAT.

| **For MPC**

| The second line in the OAT includes the following:

| ***ua mpc port_number default_entry osa_name (MPC_type)***

| where

| *ua* is a 1 or 2-digit unit address number, either alone (0A, for example) or
| concatenated to a device address as in 0A(023A).

mpc
identifies the type of entry.

port_number
specifies the port number. N/A is specified for QDIO control.

default_entry
for QDIO data only.

osa_name
for HPDT MPC and HPDT ATM Native entries only. This is a maximum of 8 characters. This parameter must *not* begin with 0-9, but it can contain the characters a-z, 0-9, @, #, \$ in all other positions except the last, where 0 is not allowed.

(MPC_type)
is set to one of the following:

- (IP traffic)
- (IPX traffic)
- (QDIO Data)
- (QDIO Control)
- (Unassigned)

To Remove an OAT Entry

Replace the entry type of an existing OAT entry with the keyword **unassigned** to remove it from the OSA configuration.

Additional OAT Lines

When modifying OAT entries returned from the Get OAT command, you may see additional lines for certain TCP/IP and MPC entries. For IP and QDIO traffic, a home IP address may be shown. This value cannot be set through OSA/SF. If it occurs in the input file, it is ignored.

Guidelines for Changing an OAT

An OAT entry defines the data path between a port and a logical partition and unit address.

- Port sharing is defined as:
 - One port enabled for traffic of more than one kind, for example passthru and SNA
 - or
 - One type of traffic for more than one LP
- Multiple partition/unit address pairs can be associated with a single port only if the IP addresses are unique. If a port is being shared and IP traffic is flowing, each passthru OAT entry must have an IP address assigned to it.
- If the port is not shared between logical partitions, all IP addresses should be set to a value of 0.0.0.0.
- When changing an existing entry, any operation currently executing may be interrupted if you use the FORCE option. See “PUT_OSA_ADDRESS_TABLE | PUT_OAT | PUT_OSA | PUT_TABLE” on page 145 for details.
- Make sure that an entry for each partition is defined when sharing a specific port.

OAT Examples

TCP/IP Passthru with No Port Sharing

This OAT manages TCP/IP traffic through an OSA CHPID operating in basic mode. Only one partition is defined.

```
*****
* UA(Dev) Mode    Port    Entry specific information    Entry Valid
*****
                                LP 1 (PARTNAME)
02(0402) passthru  00 no  000.000.000.000                SIU    ALL
```

Figure 18. Summary OAT TCP/IP Passthru with No Port Sharing

TCP/IP with Port Sharing Between LPs

This OAT manages TCP/IP traffic through an OSA CHPID communicating with two logical partitions.

```
*****
* UA(Dev) Mode    Port    Entry specific information    Entry Valid
*****
                                LP 1 (LPLEFT)
00(0400) passthru  01 pri 009.112.018.017                SIU    ALL
                                LP 2 (LPRIGHT)
04(0404) passthru  01 no  009.112.012.016                SIU    ALL
```

Figure 19. Summary OAT TCP/IP with Port Sharing

TCP/IP and SNA Port Sharing

This OAT manages TCP/IP and SNA traffic through an OSA CHPID in basic mode.

```
*****
* UA(Dev) Mode    Port    Entry specific information    Entry Valid
*****
                                LP 1 (LPLEFT)
00(0400) passthru  01 pri 009.112.018.017                SIU    ALL
0A(040A) sna      01
SIU    ALL
```

Figure 20. Summary OAT TCP/IP and SNA with Port Sharing

TCP/IP with Multiple IP Addresses

This OAT manages TCP/IP traffic through an OSA CHPID in basic mode, with one logical partition for which three different IP addresses are defined.

```

*****
* UA(Dev) Mode      Port      Entry specific information      Entry Valid
*****
                                  LP 1 (LPLEFT)
00(0400) passthru  00 PRI 255.254.035.158          SIU  ALL
                                  002.003.035.158
                                  018.019.019.030

```

Figure 21. Summary OAT TCP/IP with Multiple IP Addresses

SNA

This OAT manages SNA traffic through the OSA CHPID.

```

*****
* UA(Dev) Mode      Port      Entry specific information      Entry Valid
*****
                                  LP 1 (LPLEFT)
00(0100) sna        0

```

Figure 22. OAT for One SNA Entry

Appendix B. Setting Up OSA/SF and the GUI (OS/2 or Windows)

These instructions are also included in the OSA/SF Program Directory. They are provided here for your convenience.

Setting Up APPC

APPC is used to pass commands from the requestor virtual machine (OSA administrator) to the server virtual machine and to send the results back.

The requestor ID and the server ID must be in the same VM system (logical partition).

Do the following to set up the APPC communications:

1. Verify the following directory entry for the server virtual machine (OSA/SF):

IUCV ALLOW - See Planning and Administration Guide, page 474.

2. Verify the following entries for the PROFILE EXEC file of the server virtual machine (OSA/SF):

SET SERVER ON

SET FULLSCREEN OFF

SET AUTOREAD OFF

3. Verify the following in the global search order during the LOAD/GENMOD phase.

- DMSSVM5
- VMLIB
- CMSSAA
- COMMTXT - only if using TCP/IP
- SCEELKED
- SCEERUN

4. For the server virtual machine (OSA/SF), create a names file called **\$SERVER\$ NAMES** and add the following entries:

```
:nick.IOASERV :list.OSADMIN1
                    OSADMIN2
                    OSADMIN3
:module.IOACMAIN
```

5. For the requestor virtual machines, OSADMIN1 through OSADMIN3, update a names file called **UCOMDIR NAMES** and add the following entries:

```
:nick.IOASERV :lname.*USERID OSASF
:tpn.IOASERV
```

Attention: *USERID is a keyword, type it in exactly as shown, do not substitute a userid in its place. OSASF is a variable and can be changed if you used something other than OSASF.

Setting Up the GUI (OS/2 or Windows) for OSA/SF

For Windows

Do the following to set up the OSA/SF GUI on Windows.

When to Use These Instructions

Use these instructions after you have:

- Installed OSA/SF using the Program Directory.
- Set up OSA/SF.

1. At the server, transfer in binary the installation program, IOAWINST, from IOA.SIOAWIN to a temporary directory of your choice. Use any server to workstation transfer program. The file should be IOAWINST.EXE on the workstation.
2. Start IOAWINST.EXE, either by double-clicking the IOAWINST object in Windows Explorer, or by entering IOAWINST at a command prompt. Follow the prompts.

When the EXEC completes, click **Start** on the Taskbar and select **Programs**. Look for an entry named **IBM OSA Support Facility**.

For OS/2

This section provides instructions for downloading and installing the OSA/SF GUI files from the host to OS/2 on the workstation.

If you do not have Communications Manager/2 installed, go to “Setting Up the OSA/SF GUI on OS/2 Without CM/2” on page 86. These instructions use the RECEIVE command to download files from the host to the workstation.

Use the following instructions to download and install the OSA/SF GUI files from the host to an OS/2 workstation. The instructions include steps to:

- Download an installation tool referred to as the *Software Installer (SI/2)*
- Use Software Installer to download and install the OSA/SF GUI.

Use these instructions after you have:

- Installed OSA/SF using the Program Directory
- Verified the RECEIVE command will work to transfer files from the host to workstation. The IND\$FILE MODULE is required for RECEIVE to work.

1. Establish a host session on the OS/2 workstation. You may have to start Communications Manager/2 if no host sessions are started.
2. Log on to one of the *administrator* IDs that can access the OSA/SF production disk 200.
3. Make sure the VM user ID has the READY prompt.
4. To download the Software Installer bootstrap file, do the following from an OS/2 command line:

Enter: **RECEIVE IOAINENU.EXE a: IOAINENU BIN** replacing *a* with the host session identifier that you established in step 1.

Note: If the download is successful, you will see the message, *File transfer complete*.

Setting Up the GUI for OSA/SF

5. Enter: **IOAINENU** to install Software Installer.
 6. Select **Continue** to start the installation.
 7. Select the VM option to indicate the Host Operating System you are installing on. Select **Continue**.
 8. Select the *administrator* session you established.
A window is displayed with the drive, subdirectory, and file name. We recommend you use these defaults for service updates.
Software Installer Drive, Directory, Filename

 9. Select **OK** to start software installer installation. The **Install - progress** window is displayed.
 10. When you see the **Instructions** window, select **Continue** to proceed with installing the OSA/SF GUI.
 11. The **Install** window is displayed.
 12. If you are installing or servicing on a LAN server *or* if you do not want SI to update your CONFIG.SYS file on your machine, do the following. Otherwise select **OK** and go to the next step.
 - a. Deselect the **Update CONFIG.SYS** option.
 - b. Select **OK**.
 - c. Reply to the warning message that tells you SI will not update your CONFIG.SYS file.
 - d. Select **Yes**.
 13. When the **Install - Directories** window is displayed, either accept the defaults or enter your own.
OSA/SF Drive and Subdirectory _____
- Note:** If you want to check your disk space, select **Disk Space**.
14. Select **Install...** to start downloading OSA/SF GUI files.
 15. Select **OK** when you see the message that indicates successful completion.
 16. To exit SI, double-click on the system icon or select **File** and then select **Exit**

Choose one of the following for your installation: _____

1. If you installed OSA/SF GUI on a LAN server, each requester on the LAN that accesses OSA/SF must now be updated. Continue at "Updating a Requester Machine" on page 84.
2. If you did not install OSA/SF GUI on a LAN server *and* if you deselected the **Update CONFIG.SYS** option in step 12, you must update your CONFIG.SYS file. Continue at "Updating the CONFIG.SYS File on a Non-Requester Machine" on page 84.
3. If you did not install OSA/SF GUI on a LAN server and you allowed software installer to update the CONFIG.SYS file, you will have to shut down your workstation and reboot it. The OSA/SF GUI install is complete. See *OSA/SF User's Guide* for using the OSA/SF GUI and customizing OSA modes of operation.

Setting Up the GUI for OSA/SF

Updating the CONFIG.SYS File on a Non-Requester Machine

You must update your CONFIG.SYS file if you deselected the **Update CONFIG.SYS** option when you installed OSA/SF GUI on your machine *or* after you applied a service level to OSA/SF GUI that affects the values in the CONFIG.SYS file.

1. Back up your current **CONFIG.SYS** file.
2. View the **CONFIG.ADD** file that was created during downloading and installing the OSA/SF GUI with software installer.
The CONFIG.ADD file is a copy of your current CONFIG.SYS file with changes for OSA/SF.
3. Verify or change the drive and directory for OSA/SF in the following statements:
 - **SET PATH**
 - **SET HELP**
 - **LIBPATH**
4. Verify or change the drive and directory for the following statements that were added:
 - **SET IOAERR=drive:\dir** (IOAERR is for trace logs and error logs)
 - **SET IOAWORK=drive:\dir** (The drive you choose for IOAWORK should have at least 7MB of free space. IOAWORK is the subdirectory from which the OSA/SF GUI creates other subdirectories and files.)
 - **SET IOAESIZE=2** (2 represents 2 KB of error log before wrapping.)
 - **SET HOSTPAGE= 037** for English
5. After you verified or made the necessary changes in the CONFIG.ADD file, rename it to **CONFIG.SYS**.
6. Reboot your workstation.
7. See the OSA/SF User's Guide for instruction on using the GUI and customizing OSA modes of operation.

Updating a Requester Machine

Requester machines are other workstations that will access the OSA/SF GUI files on the LAN server workstation.

When to update the requester machines

Update each requester machine after:

- OSA/SF GUI is installed on a LAN server and the CONFIG.SYS file was updated *and*
- After a service level has been applied to OSA/SF GUI on the LAN server that affects the values in the CONFIG.SYS file.

You can perform these tasks manually as described in "Updating a CONFIG.SYS File on a Requester Machine" on page 86 *or* using SI as described in "Updating a Requester Machine Using SI".

Updating a Requester Machine Using SI

First, verify that the following are complete::

OSA/SF GUI must be installed on the LAN server. To check:

1. Switch to (or create and switch to) another OS/2 window.

Setting Up the GUI for OSA/SF

2. Change to the drive that contains OSA/SF
3. Enter **DIR** and note the OSA/SF subdirectory. (You will need it in step 7 or step 8.)

SI must already have been installed on the LAN server. The default subdirectory was IBMIOA for the Software Installer. (Check with your LAN administrator.)

The requester machine must have SI accessed from the LAN server.

The requester machine must have OSA/SF GUI accessed from the LAN server.

Note: The drive mapping that is used to access OSA/SF GUI must be the same drive for every access. The designated drive is the one that the CONFIG.SYS file will be updated with.

Then, follow these instructions::

1. Change to the directory in which SI resides. The default was **C:\IBMIOA**; if it was changed, see step 8 on page 83.
2. To start SI, enter:

IOAINSTS /S:IBMIOA

Note: The default directory for OSA/SF was IBMIOA. If the default directory was not used during the install, see step 13 on page 83.

IOAINSTS, where *IOA* is the prefix of the product used to install SI.

Follow with a blank and then **/S:**

Conclude with the name of the OSA/SF subdirectory.

For example, if you are using the OSA/SF subdirectory, enter **IOAINSTS /S:IBMIOA**

3. Select the **File** menu bar choice.
4. Select **Open catalog**.
5. Select **Drive...** to display the *Open drive catalog* window.
6. Select the drive to use. (It must have access to the OSA/SF GUI directory structure.)
7. If the OSA/SF subdirectory is IBMIOA, enter **\IBMIOA\USR\IOACATE.ICF** in the *Filename* field under the Catalog section.
8. If the OSA/SF subdirectory is *not* IBMIOA, enter **\xxx\IOACATE.ICF** in the *Filename* field under the Catalog section, where *xxx* is the value of the OSA/SF subdirectory.
9. Select the **Open** pushbutton to get the selected catalog file from the LAN server to display the *Installation and Maintenance* window.
10. Select **OSA/SF LAN Requester Install**.
11. Select the **Action** menu bar choice.
12. Select **Install...** to display the **Install** window.
13. If you do not want SI to update the CONFIG.SYS on your machine:
 - a. Deselect the **Update CONFIG.SYS** option.
 - b. Select the **OK** pushbutton.
 - c. Reply to the warning message that tells you SI will not update your CONFIG.SYS file.
 - d. Select the **Yes** pushbutton.
14. Select the **OK** pushbutton to display the *Install - directories* window.
15. Accept the defaults or enter your own.

Setting Up the GUI for OSA/SF

- The **LAN REQUESTER** label must identify the drive and directory on the requester machine that will contain the files generated by OSA/SF GUI.
 - The **LAN SERVER** label must identify the drive and OSA/SF subdirectory that were used by the requester machine to access OSA/SF GUI from the server.
16. Select **Install...** to initiate processing. (A message is displayed when processing completes successfully.)
 17. Select the **OK** pushbutton.
 18. To exit SI, do one of the following:
 - Double-click on the system icon.
 - *Or* select **File** and then select **Exit**.
 19. If you choose to not have your CONFIG.SYS file updated, do the instructions in "Updating a CONFIG.SYS File on a Requester Machine", or if the CONFIG.SYS file was updated, reboot the requester machine before you start OSA/SF GUI.
 20. See the *OSA/SF User's Guide* for instruction on using the GUI and customizing OSA modes of operation. An OSA/SF folder has now been added to your OS/2 workplace (desktop) to give you access to OSA/SF GUI.

Updating a CONFIG.SYS File on a Requester Machine

1. Back up your current CONFIG.SYS file.
2. View the CONFIG.ADD file that was created during downloading and installing the OSA/SF GUI with software installer.

The CONFIG.ADD file is a copy of your current CONFIG.SYS file with changes for OSA/SF.
3. Verify or change the drive and directory for OSA/SF in the following statements:
 - **SET PATH**
 - **SET HELP**
 - **LIBPATH**
4. Verify or change the drive and directory for the following statements that were added:
 - **SET IOAERR=drive:\dir** (IOAERR is for trace logs and error logs)
 - **SET IOAWORK=drive:\dir** (The drive you choose for IOAWORK should have at least 7MB of free space. IOAWORK is the subdirectory from which the OSA/SF GUI creates other subdirectories and files.)
 - **SET IOAESIZE=2** (2 represents 2 KB of error log before wrapping.)
 - **SET HOSTPAGE= 037** for English
5. After you verified or made the necessary changes in the CONFIG.ADD file, rename it to **CONFIG.SYS**.
6. Reboot your workstation.
7. See the *OSA/SF User's Guide* for instruction on using the GUI and customizing OSA modes of operation.

Setting Up the OSA/SF GUI on OS/2 Without CM/2

Use these instructions if you do not have Communications Manager/2 installed on the OS/2 workstation or the RECEIVE command does not work. If CM/2 is installed and the RECEIVE command works, see "Setting Up the GUI (OS/2 or Windows) for OSA/SF" on page 82 for instructions.

Software installer (SI/2) will be set up and then the OSA/SF GUI for OS/2.

Setting Up the GUI for OSA/SF

1. Log on to one of the *administrator* IDs that can access the OSA/SF production disk 200.
2. Transfer the following files from the host to the workstation using the names and details shown in the list. Use the same directory for all the files. The files will require approximately 5 Meg of disk space.

Note: All files are located on the E disk.

Drive and Path = _____

Note: You can use any transfer method (FTP, Almcopy, etc..) that can transfer in both ASCII and Binary.

VM File	OS/2 Name	Host to OS/2 Transfer Mode	Description
IOACATE BIN	IOACATE.ICF	ASCII	OSA/SF catalog for SI/2
IOAPKGB BIN	IOAPKGB.PKG	ASCII	OSA/SF pkg file for SI/2
IOADESUS BIN	IOADESUS.DSC	ASCII	OSA/SF description file
IOAINSTS BIN	IOAINSTS.EXE	BIN	Front-end/main SI/2
IOAIPII BIN	IOAIPII.DLL	BIN	more SI/2
IOAIPRCS BIN	IOAIPRCS.EXE	BIN	more SI/2
IOAIUPCK BIN	IOAIUPCK.EXE	BIN	more SI/2
IOAINENU BIN	IOAINENU.EXE	BIN	more SI/2
IOAIEXTS BIN	IOAIEXTS.DLL	BIN	more SI/2
IOAIHPLB BIN	IOAIHPLB.HLP	BIN	more SI/2
IOAIMSG BIN	IOAIMSG.MSG	BIN	more SI/2
IOABPKGB BIN		BIN	OSA/SF package file for OS/2
	or----->		See note that follows this figure
IOABPKGBJ BIN		BIN	OSA/SF package file for OS/2-J
IOAGCMD PAKBIN	IOAGCMD.BIN	BIN	OSA/SF .cmd files
IOAGDLL PAKBIN	IOAGDLL.BIN	BIN	OSA/SF .dll files
IOAGEXE PAKBIN	IOAGEXE.BIN	BIN	OSA/SF .exe files
IOAGHLP PAKBIN	IOAGHLP.BIN	BIN	OSA/SF .hlp file

Note: If you are using an OS/2-J workstation, transfer IOABPKGBJ in place of IOABPKGB, but transfer it as IOABPKGB.PKG on the workstation.

3. From an OS/2 window or full screen:

Enter: **IOAINSTS**

The Installation and Maintenance window is displayed.

4. Select **File** from the action bar, then select **Open catalog**, and then select **Drive**. The Open drive catalog window is displayed.
5. Enter the drive (letter) of where you installed the files in step 2
6. Under Catalog (filename:) enter the path used in step 2 and specify a filename of **IOACATE.ICF**. (For example: C:\subdir\IOACATE.ICF)
7. Select **Open** to return to the Maintenance and Installation window.
8. Select **Action** from the action bar.
9. Select **Install** to begin the OSA/SF GUI installation.

When the installation is complete, continue at step 15 on page 83.

Setting Up the GUI for OSA/SF

Appendix C. OSA/SF Messages and Codes

Attention

- Messages that start with **IOB** are not listed in this book. Take the action that is stated explicitly or implicitly by the message text. If the severity level of an IOB message is E or S, report the message to IBM.
- Message numbers contain an *x* in this book because the character is a variable. The variable is assigned when a component detects the condition.

Example:

Message number: IOAA954E
Documented as: IOAx954E

OSA/SF Return Codes

OSA/SF provides the following return codes:

- 0 indicates that the command completed successfully.
- 4 indicates the command completed and any data that is returned is valid. However, a warning message is issued.
- 8 The command failed. Any data that is returned is not valid. A message with an E-severity level is issued.
- 12 The command failed. No data is returned. A message with an S-severity level is issued.

OSA/SF Messages

OSA/SF messages have the following format:

Example: **IOAxnnns**

IOA The first three characters are the product identifier.

If you are looking at the OSA/SF message log, you may see a message without a message ID or with a message ID in the format IOB*xnnns*. Take the action that is stated explicitly or implicitly by the message text. If the severity level of an IOB message is E or S, report the message to IBM.

x Component that detected the condition. In some cases, more than one component can cause OSA/SF to issue the same message; therefore messages are listed in the book with the variable *x*. If you search for a message and the message is shown with an *x*, it is the correct description.

nnn 3 digit message sequence number. The messages in this book are listed numerically according to these three digits.

s The message severity, denoted by one of the following characters:

I Informational, no action required

W Warning, action is not required, but an error can occur later

A Action, which is a severity level used only in some OSA/SF GUI messages

Messages

- E Error that requires action eventually
- S Severe or serious error that requires immediate action

OSA/SF Reason Codes

Reason codes that are issued as part of OSA/SF messages are for IBM use only. It is for this reason that explanations of reason codes are not documented. Reason codes may be encountered in messages found in the OSA/SF message log.

In the event that a message contains a reason code, note the message number, the reason code, refer "Chapter 8. Handling OSA/SF Problems" on page 67.

IOAx000I Command completed successfully

Explanation: The last command completed successfully or was sent successfully.

User Response: Look at the Command Output window on the OSA/SF OS/2 GUI for additional information.

IOAx001E Device *nnnn* incorrectly defined

Explanation: The device number *nnnn* is not defined in the hardware I/O configuration (IOCDS) with unit type=OSAD.

User Response: Verify the hardware I/O configuration to ensure the unit type of this device number is OSAD.

IOAx002E Device *nnnn* is offline

Explanation: Device *nnnn* is offline to the operating system.

User Response: Vary device *nnnn* online and then retry the task you were performing.

IOAx003E Device *nnnn* incorrectly defined and is offline

Explanation: The OSAD device (UNITADD=FE) is not defined correctly in the hardware I/O configuration (IOCDS), and the device is offline.

User Response: Check the I/O configuration to ensure device *nnnn* is specified with a unit type = OSAD, then vary the device online. Retry the task.

IOAx004E Cannot establish non-swappable environment for device *nnnn*

Explanation: An internal OSA/SF error has occurred.

User Response: Check the IOCDS for proper OSA device definitions. Refer to the OSA planning guide for OSA IOCDS requirements. If the condition continues, contact the IBM support center.

IOAx005E Unit control block not found for device *nnnn*

Explanation: OSA/SF attempted to find device *nnnn* and could not locate the unit control block (UCB).

User Response: Verify that the device is correctly defined in the hardware I/O configuration (IOCDS). Refer to the OSA planning guide for OSA IOCDS requirements. If the condition continues, contact the IBM support center.

IOAx006E Status Modifier received when accessing device *nnnn*

Explanation: An error occurred while trying to perform a task to the OSA. This is probably a hardware error.

User Response: Review the console log for hardware related messages. Attempt a retry of the last task that caused the error. If the condition continues, contact the IBM support center.

IOAx007E Unable to pagefix/pagefree storage for device *nnnn*

Explanation: OSA/SF was unable to manage storage for OSA device *nnnn*. This could also be an OSA/SF internal error.

User Response: Verify that the OSA/SF region size is correct. Also check for system storage constraints. If the condition continues, contact the IBM support center.

IOAx008E Unable to build CCW chain for device *nnnn*

Explanation: An internal OSA/SF error has occurred.

User Response: Verify that OSA device *nnnn* is properly defined in the hardware I/O configuration (IOCDS). If the condition continues, contact the IBM support center.

IOAx009E Failed to get the OSA lock for device *nnnn*

Explanation: An internal software lock could not be obtained in order to communicate with OSA device *nnnn*.

User Response: Verify that another OSA/SF image or the hardware management console (HMC) is not currently accessing this CHPID (OSA), then retry the command. If the condition continues, contact the IBM support center.

IOAx010E Failed when testing the OSA lock for device *nnnn*

Explanation: While in the process of performing a task on the OSA, changes to the state of the OSA were detected for device number *nnnn*.

User Response: Verify that another OSA/SF image or the hardware management console (HMC) is not currently performing a task on this OSA at the same time, then retry the command.

IOAx011E Failed when freeing the OSA lock for device *nnnn*

Explanation: An internal OSA/SF error has occurred.

User Response: Stop OSA/SF. Then vary device *nnnn* offline and online. Restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx015E Communication with OSA device *nnnn* failed (cond code=3)

Explanation: Communication failed with the OSA device.

User Response: Look for I/O errors on the OSA/SF userid console. If you are using the OSA/SF GUI, do a Refresh from the OSA Channels Tree view or Details view. Ensure the OAT definitions and OSA mode are correctly defined by reviewing the configuration panels. Retry the task. If the condition continues, contact the IBM support center.

IOAx016E Communication with OSA device *nn* timed out

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx018E Cannot install/initialize the interrupt handler for device *nnnn*

Explanation: The OSA/SF interrupt handler could not be started.

User Response: Check for I/O errors on the OSA/SF userid console. Stop OSA/SF if it is running, and then

restart it. If the condition continues, contact the IBM support center.

IOAx019E Cannot start or stop managing device *nnnn*

Explanation: The OSA CHPID is currently being managed by a different OSA/SF image in another logical partition. The action that was requested cannot be performed from this logical partition.

User Response: Do the task from the logical partition running the OSA/SF image that is managing the OSA. If you don't know what image is managing the OSA, from the GUI double-click on the OSA number from the Channels Tree view and select the Statistics page.

If you want to manage the OSA from this partition, first Stop Managing the OSA from the partition that is currently managing the OSA, then do a Start Managing from the new partition.

IOAx020E Device *nnnn* is already managed by another partition

Explanation: The OSA device *nnnn* is currently being managed by a different OSA/SF image in another logical partition.

User Response: The OSA/SF image that is managing the OSA must be used to perform the action that received this message. To locate which logical partition is managing the OSA, from the GUI double-click on this OSA number from the Channels Tree view and select the Statistics window.

If you want to manage the OSA from this partition, first Stop Managing the OSA from the partition that is currently managing the OSA, then do a Start Managing from the new partition.

IOAx022E I/O Error for device *nnnn* with return code *nnnn*

Explanation: OSA/SF issued a macro to start an I/O operation to the OSA. Communications failed between OSA/SF and the specified device. The return code may be one of the following hexadecimal expressions. The return codes are:

- X'0000': The specified device is working correctly but VM is not at the Version 2 Release 4 level (or level 2.2 or 2.3 with APAR VM62184 applied).
- X'0041': permanent I/O error
- X'0042': extent error (DASD only)
- X'0044': an error occurred after the previous I/O request to the device was posted complete
- X'0045': program check or machine check occurred in IOS while the I/O request was being processed
- X'0048': channel program was purged
- X'0074': simulated error status, which is set for the following conditions:

Messages

- A start I/O operation was attempted to a device that is in a permanent error state, boxed, or not connected.
- A missing interrupt was detected and the I/O operation was terminated as a result of recovery operations by the missing interrupt handler.

User Response: Check the system console for additional messages pertaining to this failure. Contact IBM Support if a hardware error occurred.

IOAx023E Unit check on device *dddd* with sense byte 10 value *xx*

Explanation: The command that was sent to the OSA returned a unit check.

User Response: An internal OSA error occurred. If the condition continues, contact the IBM support center.

IOAx024E Parameter value is too large for device *mm*

Explanation: An attempt was made to access an OSA device application area that does not exist.

User Response: Contact IBM support.

IOAx025E Missing value in parameter table for device *mm*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx026E Requested function is unsupported for device *mm*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx028E *x* code = *xx* for device *mm*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx03nE API failed attempting to make the connection with OSA/SF

Explanation: An APPC connection between the *administrator* VM and the OSA/SF server VM failed. *n* is a variable and can be any digit from one through nine.

User Response: Verify OSA/SF did not abend and check the OSA/SF console.

IOAx051E Memory allocation error

Explanation: Memory allocation failed in the OSA/SF server virtual machine.

System Programmer Response: The request was for storage in the OSA/SF server VM. Stop OSA/SF if required, correct the condition, and restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx052E Memory free error

Explanation: There has been a FREEMAIN failure in the OSA/SF server virtual machine.

User Response: If the condition continues, contact the IBM support center.

IOAx053E File I/O error

Explanation: The file that was being accessed has encountered an I/O error.

User Response: Verify the file name is correct and that no hardware errors have been encountered. Retry the command. If the condition continues, contact the IBM support center.

IOAx054E Command code is unknown or not valid

Explanation: An internal OSA/SF error was detected.

User Response: If the condition continues, contact the IBM support center.

IOAx055E Incorrect parameter

Explanation: An incorrect parameter was detected by OSA/SF on the command received.

User Response: Verify that you entered the parameters correctly, if the problem persists, contact the IBM Support Center.

IOAx056E *ff* file not found

Explanation: The file *fff...fff* was not found.

User Response: Ensure that the file exists and that it is accessible to this logical partition. If the condition continues, contact the IBM support center.

IOAx057E File write failed for

ff

Explanation: An attempt to write file *fff...fff* failed.

User Response: Verify the file is not open by another user or application. Try to browse the file to verify that the file can be accessed.

Retry the command. If the condition continues, contact the IBM support center.

Messages

IOAx090W Loading of the OSA/SF attention handler code failed.

Explanation: The attention handler code for this OSA/SF failed to load during initialization of OSA/SF. Attention interrupts from the OSA device will not be processed for this OSA/SF.

User Response: OSA/SF will continue to run, but to display interrupts for an OSA, issue the Start Managing command. To resolve the problem, stop OSA/SF in this logical partition and restart it. If the condition continues, contact the IBM support center.

IOAx100I OSA Support Facility version VxRyMz APAR OWnnnnn

Explanation: V=version, R=release, M=modification level

User Response: None.

IOAx101I OSA Support Facility initialization started at hh:mm:ss

Explanation: Self-explanatory.

User Response: None. OSA/SF is in the process of starting. Wait for message IOAx102I to be issued.

IOAx102I OSA Support Facility initialization completed at hh:mm:ss

Explanation: Self-explanatory.

User Response: None. OSA/SF operations and commands can now be processed. The GUI interfaces can now be established.

IOAx103I OSA Support Facility terminated at hh:mm:ss

Explanation: The OSA/SF successfully stopped at the specified time. Before you can issue another OSA/SF command, you must re-start OSA/SF.

User Response: None.

IOAx104E OSA/SF internal error. Could not spawn task ttttttt

Explanation: An attempt to start the OSA/SF task, *ttttttt*, failed. An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx105E hh:mm:ss Unrecognized command cc was entered

Explanation: An unknown command, *cc*, was sent to OSA/SF by the API interface.

User Response: contact the IBM support center.

IOAx106E Improper syntax was used in command

Explanation: An OSA/SF command was not entered correctly or an OS/2 OSA/SF GUI command is not working.

User Response: If you entered an OSA/SF command from a command line, verify that the proper syntax was used. If you issued the command from the OS/2 OSA/SF GUI, contact the IBM support center.

IOAx107E Incorrect block length passed on the command

Explanation: The command was issued from the API interface. The command requires more parameters than OSA/SF received.

User Response: Check the amount of data passed on input along with the length indication given. Verify the API command control block structure. (Refer to the control block section in the user's guide for the command control block structure.) Then retry the command that received the message.

IOAx108E hh:mm:ss userid on system not authorized to use command

Explanation: *userid* has attempted to issue a command (*command*) and does not have the proper user access authority. See Controlling Access to OSA/SF (RACF) in Chapter 6 of the *OSA Planning Guide*.

User Response: Check with the system administrator to coordinate the user access authority for this *userid* with this command.

IOAx109E File allocation error. Error code eeee info code iii

Explanation: OSA/SF internal code attempted to allocate a file. The allocation failed.

User Response: If the condition continues, contact the IBM support center.

IOAx110I Notice - Shut down complete

Explanation: The sub-components of OSA/SF have all successfully ended.

User Response: None.

IOAx111I OSA/SF task ttttttt not terminated

Explanation: An OSA/SF sub-task (*ttttttt*) has not terminated within the time limit. OSA/SF will still terminate.

User Response: OSA/SF has issued this warning message for self-documentation and an audit trail. No action is required unless other messages indicate that a call to the IBM Support Center is necessary in which

case this message should be reported.

IOAx112W OSA/SF is shutting down. You will be disconnected

Explanation: This message is sent to any *user_ID* that is currently waiting for a response while OSA/SF is terminating.

User Response: Check with the system administrator as to why OSA/SF on this host was shut down.

IOAx113I Waiting for *ttttttt* to terminate

Explanation: OSA/SF is waiting for internal task *ttttttt* to terminate. This message is part of normal OSA/SF shutdown.

User Response: None. Normal OSA/SF shutdown will resume shortly.

IOAx114I *ttttttt* has terminated

Explanation: As part of OSA/SF shutdown, task *ttttttt* has ended. This message is part of a normal OSA/SF shutdown.

User Response: None. Normal OSA/SF shutdown continues.

IOAx115E This OSA/SF level does not support the configuration for CHPID *cc*

Explanation: The installed mode on OSA CHPID *cc* is at a different level than is supported by this version of OSA/SF.

User Response: Ensure that the version of OSA/SF that has been started on this system is at the required level for the mode installed on the OSA. See the planning guide for detailed information about needed version-release levels for OSA mode support.

IOAx116E A copy of OSA/SF is already running. Start OSA/SF not completed

Explanation: An attempt was made to start a second copy of OSA/SF in this logical partition; a copy of OSA/SF is already running. The second copy of OSA/SF was not started.

User Response: Verify that a copy of OSA/SF is running. Only one copy of OSA/SF can be running on an LP at a time.

IOAx118I Inx Comp Type ID Address Time

Explanation: This is the header information for the OSA/SF trace table dump. The information from the trace table dump is used by IBM for problem determination. The field headings are:

- Inx - The Trace entry number
- Comp - Component that inserted the trace entry

- Type - A reference indicator to point to the location in the source code
- ID - Identifies which task was active when the entry was put into the trace table
- Address - The address in memory where the entry resides
- Time - Time stamp in hours, minutes, and micro-seconds.

User Response: Save the trace table dump output. If the condition continues, contact the IBM support center.

IOAx119E No trace table available

Explanation: A Get_Debug operation was attempted and no trace table was found. A trace table should always be available. An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx120I OSA Support Facility terminated

Explanation: OSA/SF has completed its shutdown sequence.

User Response: None. Normal OSA/SF termination is complete.

IOAx121E The Message Log processing has ended due to an error

Explanation: This error indicates that the Message Log function had an error and is no longer active. No message logging is currently being done.

User Response: To reactivate message logging, OSA/SF must be stopped and restarted. Also, check to see if message IOAx143W was displayed. If so, this problem may have occurred due to a user viewing the message log while OSA/SF was trying to write to it.

IOAx124I domain port *nm* internet address *nm*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx125I *hh:mm:ss user_ID* on *sssssss* issued command *ccc...ccc*

Explanation: The user ID *user_ID* on system *sssssss* issued the command *ccc...ccc* at time *hh:mm:ss*

User Response: This message is part of OSA/SF's audit trail. No user action is required.

Messages

IOAx126I *hh:mm:ss user_ID cmd*
cccccccccccccccccccc RC=cc Reason=rrrr

Explanation: The specified *user_ID* on the system entered the specified command with the resulting return code and reason code.

User Response: Look in the OSA/SF message log for subsequent messages with additional information regarding this condition.

IOAx127I *hh:mm:ss API connection x number y*

Explanation: An APPC connection of type *x* was made to OSA/SF, thus bringing the total of currently active connections to *y*.

User Response: None. Normal APPC operation continues.

IOAx128W *hh:mm:ss Reading of device nnnn*
information failed with RC=cc, reason
rrr

Explanation: Device *nnnn* has had changes made since the last command was issued.

User Response: Make sure no other instance of OSA/SF or the hardware management console (HMC) is attempting to communicate with this device. Review the message log for additional messages that will accompany this message. Retry the command. If the condition continues, contact the IBM support center.

IOAx130E *hh:mm:ss APPC call ATBREA2 RC:*
aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
Reason:*bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb*

Explanation: An error occurred from APPC for a call to ATBREA2. Look at the APPC manuals for more information on the return code and reason code.

aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa = return code
bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb = reason code

User Response: Refer to *SAA: Common Programming*, SC26-4399, for the return code, reason code, and for more information. If the condition continues, contact the IBM support center.

IOAx134E *hh:mm:ss cmrcv return code error*

Explanation: An APPC CMRCV function call error has occurred. The data displayed after this message will show the reason for the failure.

User Response: If the condition continues, contact the IBM support center.

IOAx135E *hh:mm:ss cmsend return code error*

Explanation: An APPC CMSEND function call error has occurred. The data displayed after this message will show the reason for the failure.

User Response: If the condition continues, contact the IBM support center.

IOAx136E *hh:mm:ss cmsdt return code error*

Explanation: An APPC CMSDT function call error has occurred. The data displayed after this will show the reason for the failure.

User Response: If the condition continues, contact the IBM support center.

IOAx137E *hh:mm:ss cmptr return code error*

Explanation: An APPC CMPTR function call error has occurred. The data displayed after this will show the reason for the failure.

User Response: If the condition continues, contact the IBM support center.

IOAx138I **APPC call to aaaaaaaa failed with**
ssssssssssssssssssssssssssssss

Explanation: This displays the return code text for the failure that occurred in the function indicated.

aaaaaaa = APPC function
ssssssssssssssssssssssssssssss = return code text

User Response: If the condition continues, contact the IBM support center.

IOAx139E *mm/dd/yyyy hh:mm:ss OSA/SF failed to*
start due to error nn

Explanation: The OSA Support Facility failed to start for the reason listed below.

- *mm/dd/yyyy hh:mm:ss* are the date and time stamp
- *nn* is the value that represents what area of OSA/SF had the error.

All Errors after error 4 are also recorded in the MESSAGE LOG on OSA/SF's 'A' disk. Error numbers 6, 8, and 9 have additional information in the message log.

The following is a list of possible error numbers and their meaning:

- -1 - SVM error
- 0 - Reserved
- 1 - Trace table initialization
- 2 - File command error
- 3 - Startup profile parser
- 4 - Startup profile parser open log file
- 5 - OSA/SF userid console error
- 6 - SCC error (see message log)

- 7 - Data manager failure - verify the 70xx disk is allocated for all available OSAs in the complex
- 8 - OSA/SF interrupt handler error (see message log)
- 9 - APPC error (see message log)
- 13 - Missing Message filename
- 14 - Message Log file allocation failed

If any of the failures occur before the Message log is created, all the messages that were intended for the message log will be displayed on the OSA/SF ID.

User Response: Use the above list of error numbers to isolate the failure. Correct the problem, if possible. Stop and restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx140I *hh:mm:ss* **API APPC component ended**

Explanation: Informational message to track that the API of the APPC component terminated.

User Response: None. Normal APPC termination continues.

IOAx141I *hh:mm:ss* **API APPC component started**

Explanation: Informational message to track that the API of the APPC component has activated.

User Response: None. Normal APPC activation continues.

IOAx142E **Message File** *ffffffffffff* **Error** *nn*

Explanation: An error occurred attempting to open the message log filename. The MESSAGE LOG is on the OSASF virtual machine's A disk.

- *ffffffffffff* - Message log file
- *nn* - The value is used by IBM service.

User Response: This message will occur after a predetermined amount of opens were attempted. If the value of *nn* is 45 or 61, check to see if the file is open by a user or another program, including users and programs in other logical partitions. If the file is open, it must be closed before the message log can be opened by OSA/SF.

If the value of *nn* is neither 45 nor 61, then contact the IBM support center.

IOAx143I *hh:mm:ss* **API COMM component ended**

Explanation: The COMM component is the APPC component which handles the individual API connection. This message is issued as part of the normal system shutdown sequence.

User Response: None. The API COMM component has ended normally. The shutdown sequence continues.

IOAx144I *hh:mm:ss* **ALL OSA devices initialized**

Explanation: This is an OSA/SF startup message. OSA/SF has made the internal connection with all OSA CHPIDs and OSAD (X'FE') unit addresses.

User Response: None. Normal OSA/SF initialization continues.

IOAx145W *hh:mm:ss* **Only *x* of *y* OSA devices initialized**

Explanation: Of the total number of OSAs, *y*, known to the channel subsystem only *x* were successfully initialized.

User Response: Check the preceding entries in the message log to determine why the remaining device numbers could not be initialized.

The following items should be checked:

- Check OSA definitions in the IOCDS
- Verify channel and diagnostic devices (X'FE') are online
- Verify that the OSA device addresses are online.

Stop OSA/SF, correct any problems, then restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx146E *hh:mm:ss* **No OSA devices were initialized**

Explanation: None of the OSA devices found in the channel subsystem could be initialized. Additional messages in the message log explain why the devices were not initialized.

User Response: Check the message log to determine why the OSA devices could not be initialized.

Check the following items:

- Check OSA definitions in the IOCDS
- Verify channel and diagnostic devices (X'FE') are online
- Verify that the OSA device addresses are online.

Stop OSA/SF, correct any problems, then restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx149I *hh:mm:ss* **Interrupt Handler component ended**

Explanation: This message is issued as part of OSA/SF shutdown. The interrupt handler component has ended normally.

User Response: None. Normal OSA/SF shutdown continues.

Messages

IOAx150I *hh:mm:ss* **Interrupt Handler component started**

Explanation: This message is issued as part of normal OSA/SF initialization. The interrupt handler component has started.

User Response: None. Normal OSA/SF initialization continues.

IOAx151E **SVM return code received was not valid**

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx172I **OSA Support Facility** *mm/dd/yyyy*
hh:mm:ss

Explanation: This message is used as a date and time stamp in the message log. It is automatically written to the message log at midnight each day. The message serves as a delimiter when looking through the message log to see what day entries were placed in the message log.

User Response: None. Normal OSA/SF operation continues.

IOAx173I *mm/dd/yyyy hh:mm:ss* **AutoLog component ended**

Explanation: This message indicates the AutoLog component has completed. This should only occur when OSA/SF is stopped.

User Response: During normal OSA/SF termination, no user action is required and OSA/SF termination continues. If this message is issued at a time other than normal OSA/SF termination, contact the IBM support center.

IOAx174I *mm/dd/yyyy hh:mm:ss* **AutoLog component started**

Explanation: When OSA/SF is being initialized, this message indicates that the AutoLog component is running.

User Response: None. Normal OSA/SF initialization continues.

IOAx201I *hh:mm:ss* **CHPID cc reports a logical port state change**

Explanation: A logical port state has changed other than the OSA/SF host program which triggered an alert to OSA/SF which issued this message. The change could have been from an external network manager, a cable pull, a LAN Emulation Server, etc.

User Response: Refresh the GUI Tree or Detail

channel view to reflect the change and view the current state of the logical ports for the given OSA.

IOAx202I *hh:mm:ss* **CHPID cc reports an OSA ready**

Explanation: OSA/SF has been signaled that OSA CHPID *cc* has entered the "ready" state. This could occur if the OSA CHPID had been in the "not ready" state and the condition was corrected.

User Response: None. Normal OSA/SF operation continues with CHPID *cc*.

IOAx204I *hh:mm:ss* **CHPID cc reports Application area dump alert**

Explanation: An error has occurred in the application code that was installed on the OSA by OSA/SF. A dump was taken by OSA/SF. The OSA and OSA/SF continue to run.

User Response: If the condition continues, contact the IBM support center.

IOAx210I *hh:mm:ss* **CHPID cc reports Error Log Alert**

Explanation: This is a result of an interrupt from the OSA device. This indicates that an unusual condition requiring immediate host attention has occurred. This message is only issued for an OSA running in SNA mode.

User Response: If the condition continues, contact the IBM support center.

IOAx211I *hh:mm:ss* **CHPID cc reports Abend Alert**

Explanation: This indicates that the OSA device reported an alert indicating that a non-recoverable error has occurred within an application running on the OSA device. As a result the application has abended. Message IOAC233E will indicate the application and the error code.

User Response: The CHPID must be reset for the operation to be resumed. To recover operations, configure the CHPID Offline from all logical partitions and then back ONLINE.

If using CMS, issue the Get Debug command to save the OSA/SF SNA memory dump. From the GUI, using the Command window, get the SNA memory dump. If the condition continues, contact the IBM support center.

IOAx212E *hh:mm:ss* **CHPID cc reports Application Area Startup Failure**

Explanation: The OSA mode failed during initialization.

hh:mm:ss = time of entry
cc = CHPID

User Response: From the OSA/SF GUI, do the following to issue the ACTIVATE command.

1. Display the **Configuration** window for the OSA (CHPID).
2. Enter or select the configuration name for the OSA.
3. Select **Configuration** from the menu bar and then select **Activate**.

Note: After the activate you will have to reset the CHPID.

If the problem persists, contact the IBM support center.

IOAx213I hh:mm:ss CHPID cc reports Application Area Config. Rejection

Explanation: A mismatch exists between the OSA mode files and the OSA/SF GUI on OS/2. Message IOAC234E should also be displayed with more information.

hh:mm:ss = time of entry
cc = CHPID

User Response: Make sure the latest level of the OSA/SF GUI for OS/2 is installed. See "OSA/SF GUI Updates" in Chapter 7.

IOAx214I hh:mm:ss CHPID cc reports Diagnostic Completion Report

Explanation: A port diagnostic subcommand has completed. This message is only for information. There is not a problem.

hh:mm:ss = time of entry
cc = CHPID

User Response: No response required.

IOAx215I hh:mm:ss OSA mode on CHPID cc is now functional

Explanation: The OSA mode has completed initialization and is ready.

hh:mm:ss = time of entry
cc = CHPID

User Response: No response required. Message is for information only.

IOAx216I hh:mm:ss CHPID cc reports Application Area Config. Mod.

Explanation: The OSA's ATM logical, or LAN emulation client (LEC), parameters for configuration were changed during initialization from the ATM network to allow the OSA mode to run. For example, the LAN Emulation Configuration Server (LECS) could have changed the parameters if **Allow LEC automatic configuration** was specified for the logical port in the configuration.

hh:mm:ss = time of entry
cc = CHPID (OSA)

User Response: This message is for your awareness. If you want to see the OSA's ATM logical port parameters, do the following from the OSA/SF GUI:

1. Refresh the OSA/SF GUI by selecting **View** and then **Refresh now** from an OSA Channels window.
2. Double-click on the port number from the **OSA Channels - Tree View** window.

IOAx217I hh:mm:ss CHPID cc reports Device Offline Alert

Explanation: A device has failed or has been stopped.
hh:mm:ss = time of entry
cc = CHPID

User Response: Display the **OSA Channels - Details View** on the OSA/SF GUI and look at the **Entry state** for the entries to determine what the current values are.

If one of the entries is **Not Started**, this device is the problem. The device will also go offline to the operating system and will no longer be available for use by the host program.

IOAx218I hh:mm:ss CHPID cc reports a Physical port state change

Explanation: The state of the physical port on the OSA has changed.

hh:mm:ss = time of entry
cc = CHPID

User Response: Message IOAC242I will display the state of the physical port.

IOAx219I (timestamp) CHPID *nn* asynchronous event

Explanation: An unexpected event has occurred in the CHPID named in the message. This message is followed by another giving details of the event that occurred.

User Response: See additional messages.

IOAx2yyI hh:mm:ss CHPID cc reports an Undefined Register Bit *n*

Explanation: *yy*=19 through 32 to indicate messages IOAC219I through IOAC232. Each of these messages reports this internal OSA/SF error at *hh:mm:ss* time for CHPID *cc*.

User Response: If the condition continues, contact the IBM support center.

IOAx233E CHPID cc OSA mode xxxxxxxx failed with a code of xxxxxxxx

Explanation: After an application area abend alert is posted from the OSA, this message indicates which CHPID *cc*, OSA mode, and failure code xxxxxxxx were associated with the application area abend alert.

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Message IOAC211I should accompany this message.

User Response: The CHPID must be reset for the operation to be resumed. To recover operations, configure the CHPID offline from all logical partitions and then back online. If the condition continues, contact the IBM support center.

IOAx234E **CHPID cc sss Configuration reject code of xx**

Explanation: The OSA mode configuration created for this OSA was found to be in error.

cc = CHPID

sss = SNA, ATM, or ERR - Application area that had the reject code.

xx = Hex value of the reject code.

User Response: Try to reactivate the configuration from the Configuration window on the OSA/SF GUI. If the problem persists contact the IBM support center.

IOAx235I **Created Dump file ssssssss**

Explanation: This message is displayed with message 211. When the alert took place the dump area was read and placed into file ssssssss

User Response: OSA/SF automatically gathers problem determination information. In an event of a service need, IBM support will direct you to send this file for detailed analyst.

IOAx236E **Dump file ssssssss already exist.**

Explanation: The file that was to be used to read the dump area into already exist and needs to be renamed or deleted so another dump area can be read.

User Response: Response: Rename or erase the filename ssssssss

IOAx237E **Empty Appl. Area Dump Alert request code for CHPID cc**

Explanation: The Alert data for the dump area was empty so no dump could be taken.

User Response: Call the IBM support center.

IOAx238I **hh:mm:ss CHPID cc reports Logical port n is sssss**

Explanation: The OSA ATM logical port (LAN Emulation Client) parameter, **Client enabled state** changed. This parameter indicates the status of the OSA's logical port for LAN emulation.

hh:mm:ss = time of entry

cc = CHPID (OSA)

n = Port number

sssss = Disabled by Internal Failure, Disabled by Physical Port, Disabled by OSA/SF, Disabled Externally, Not Defined, LEC Activating, Enabled, or Unknown.

User Response: Use this status to determine the state of the logical ATM port (LAN Emulation Client). You can display the port's ATM LAN Emulation Settings by double-clicking on the OSA port number from the OSA Channels - Tree view.

IOAx239I **hh:mm:ss CHPID cc reports Logical port p changed, REASON=rr**

Explanation: This reason code is displayed when the status changes for an OSA ATM port. The state of the port is displayed in message IOAC238I.

hh:mm:ss = time of entry

cc = CHPID

p = Port number

rr = Reason Code

User Response: No response required. The reason code is information for IBM support.

IOAx240I **hh:mm:ss CHPID cc reports port parameter changed for logical port x**

Explanation: An OSA ATM logical port (LAN Emulation Client) parameter changed. This parameter indicates the status of the OSA's logical port for LAN emulation. Message IOAC238I indicates the state of the logical port.

hh:mm:ss = time of entry

cc = CHPID (OSA)

p = Port number

User Response:

To display the parameter from the OSA/SF GUI, do the following:

1. Refresh the OSA/SF GUI by selecting **View** and then **Refresh now** from an OSA Channels window.
2. Double-click on the port number from the **OSA Channels - Tree View** window.
3. Select the **Emulation** notebook tab and look for **Client enabled state**.

You can view the port parameters by double-clicking on the OSA port number from the **OSA Channels - Tree View** window.

IOAx241I **hh:mm:ss CHPID cc had port value v, bytes 4/5 as y are not valid**

Explanation: The OSA ATM port parameters were changed, but the data is not valid.

hh:mm:ss = time of entry

cc = CHPID

v = Port value

y = invalid data

User Response: Record the information in this

message and report the problem to the IBM support center.

IOAx242I **hh:mm:ss CHPID cc reports Physical port p is sssss**

Explanation: The state of the physical port has changed to enabled, disabled or unknown.

hh:mm:ss = time of entry

cc = CHPID

p = Port number

sssss = Enabled, Disabled, or unknown.

User Response: Use the status in the message to determine what to do next. You can display the OSA's physical port parameters by double-clicking on the port number from the **OSA Channels - Tree View** window, and then selecting the Physical notebook tab.

IOAx250I **A port parameter was changed for port *nnn* on CHPID *nn***

Explanation: A port parameter was changed by a source other than OSA/SF.

User Response: See message IOAC251I to determine what port parameter changed, and if you need to take any action.

If the problem persists, contact the IBM support center.

IOAx251I **Port parameter *sssssss* changed for port *nn***

Explanation: The port parameter, *sssssss*, was changed by a source other than OSA/SF.

User Response: Determine if any action is necessary based on the parameter that changed.

IOAx252I **The state of port *p* changed on CHPID *cc***

Explanation: The state of port *p* on CHPID *cc* has changed. Message IOAC253I contains the state of the port if it became disabled. Message IOAC260I contains the state of the port if it became enabled.

User Response: See the user response for either message IOAC253I or IOAC260I, whichever applies.

IOAx253I **Port *p* is disabled with *sssssss***

Explanation: The state of port *p* has changed. The state is one of the following:

1. Internal port failure
2. Port temporarily disabled
3. Service element disabled
4. External disabled
5. Host program disabled
6. Configuration change (N/A for OSD)

7. Link failure threshold.

User Response: Do one of the following:

- If the disabled reason is 3, 4 OR 5, enter a command from the SE, with LAN manager, or with OSA/SF, to enable the port.
- All other reasons are generated by the CHPID. You can reset the CHPID; this may bring the port online.

IOAx254E **CHPID *nn* rejected a configuration file**

Explanation: CHPID *nn* rejected the configuration file from either a LAN driver or an SNA application.

User Response: Check the configuration file for the error. Message IOAC255I contains additional information to help pinpoint the error.

User Response: Message **IOAC262I** contains the detailed information about this alert.

IOAx255I ***sss* field *sss* is in error.**

Explanation: The first value in the message is the configuration file type. This can be:

- 0x10** LAN emulation
- 0x19** Native ATM
- 0x29** Physical ATM
- 0x81** Native SNA

The second value (*sss*) tells you what field is in error.

User Response: Check validity of values for the specified field in the configuration file. Make corrections and reissue command.

IOAx256W ***cc* CHPID *pp* reports a config file and LAN driver mismatch.**

Explanation: The configuration file that CHPID *cc* is attempting to use has values inconsistent with the LAN driver on the CHPID. This file will not be used. The current port parameters remain in effect.

User Response: Configure the CHPID using a new configuration as specified in the OSA/SF documentation. For more information, contact the IBM support center.

IOAx257I ***sss* field *sss* has been changed**

Explanation: The first value in the message is the configuration file type. This can be:

- 0x01** LAN emulation
- 0x19** Native ATM
- 0x29** Physical ATM
- 0x41** Gigabit Ethernet

Messages

| 0x81 Native SNA

| The second value (*sss*) tells you what field has been changed.

| **User Response:** None. This message is for your awareness.

| **IOAx258I CHPID *c* reports a discarded message alert**

| **Explanation:** The message buffer for the specified CHPID is full. Some alert conditions may have been lost. This will occur when there is no OSA/SF running and managing the specified CHPID.

| **User Response:** Make sure there is always an OSA/SF on one partition running and managing each OSA.

| **IOAx260I Port *p* enabled on CHPID *c***

| **Explanation:** The port is now enabled.

| **User Response:** None

IOAx261I An alert condition has occurred for CHPID *nn*

Explanation: This message is to inform you that an alert has occurred on the given CHPID.

User Response: Message **IOAC262I** contains the detailed information about this alert.

IOAx262I CHPID *nn* port *pp* error code=*eeee* severity=*ss*

Explanation: This message provides the details of the alert condition that occurred for the CHPID.

User Response: See the following table for a detailed explanation and to determine the action you should take for the error code and severity.

Error Code	Sev	Explanation	User Response
1144	1	Indicates a port number mismatch between a request that was received from the host and the port number saved in the LSA LAN control block at initialization.	Check for errors in the VTAM configuration file.
1400	2	LLC reported that the LAN header is not valid. Alert Category: 2	Contact IBM Support.

1401	2	Unsupported routing information length received from VTAM. Alert Category: 2	Contact IBM Support.
1402	2	User LLC station or service access point (SAP) undefined. Alert Category: 2	Contact IBM Support.
1403	1	VTAM commands received before initialization. Alert Category: 2	Re-activate the XCA Major node. If the problem persists, contact IBM Support.
1404	1	VTAM commands received before LAN adapter enabled. Alert Category: 2	Contact IBM Support.
1405	2	Unsupported VTAM interface header length. Alert Category: 2	Contact IBM Support.
1406	2	Parameter data length not valid. Alert Category: 2.	Contact IBM Support.
1407	2	Network layer identifier not supported. Alert Category: 2.	Contact IBM Support.
1408	2	Identifier type not valid. Alert Category: 2.	Contact IBM Support.
1409	2	Unsupported VTAM interface version. Alert Category: 2.	Contact IBM Support.
140A	2	Padding length not valid in data from VTAM. Alert Category: 2.	Contact IBM Support.
140C	2	Command or response bits not valid for LAN data. Alert Category: 2.	Contact IBM Support.
140D	1	Unsupported function for network management SAP. Alert Category: 2.	Verify that the host is configured for NetView on the SAP. If the problem persists, contact IBM Support.

140E	1	LLC connection not opened by VTAM. Alert Category: 2.	Contact IBM Support.
140F	2	Unsupported LLC options received from VTAM. Alert Category: 2.	Contact IBM Support.
1410	2	Unsupported LLC flow control options received from VTAM. Alert Category: 2.	Contact IBM Support.
1411	2	Unsupported function request received from VTAM. alert Category: 2.	Contact IBM Support.
1412	1	Received connect request or response before LLC station opened. Alert Category: 2.	Contact IBM Support.
1413	2	Unsupported connection confirmation options received from VTAM. Alert Category: 2.	Contact IBM Support.
1414	1	Received close LLC station response with no request outstanding. Alert Category: 2.	Contact IBM Support.
1803	3	Normal indication if token-ring cable is not connected to access unit or appropriate wall outlet; if token-ring cable is connected, status code might indicate lobe wire fault or defective access unit. Alert Category: 3.	Make sure the Token Ring port is attached to the network. If so, contact IBM Support.

191D	3	An unspecified network error has occurred. Alert Category: 10.	Verify the cable connection to the network. Verify that the correct transceiver type is configured. The adapter device driver will periodically attempt to recover. It will clear the error if recovery is successful. If the problem persists, contact IBM support.
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IOAx276E A copy of the Attention Server already exists

Explanation: A copy of the Attention Server (IOANMAIN) is already attached.

User Response: Determine if the other Attention Server (IOANMAIN) is running.

IOAx277E An incorrect command target was entered

Explanation: Incorrect parameters were passed to OSA/SF on the command from the API interface.

User Response: If the condition continues, contact the IBM support center.

IOAx278E SNA image for port *pp* does not support this command.

Explanation: The current level of the SNA mode running on the OSA does not support this command

User Response: Apply a new version of the SNA image that supports this command. To help you determine which image to install, do one or more of the following:

- Check RETAIN.
- Review applicable PTFs.
- Contact IBM Support Center.

IOAx279E Error opening message log

Explanation: An error occurred while processing the Clear Debug command. The MESSAGE LOG file could not be opened.

User Response: Verify that the MESSAGE LOG file exists on the OSA/SF server ID's 191 (A) disk as MESSAGE LOG. Retry the Clear Debug command.

If the condition continues, contact the IBM support center.

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IOAx280E Error closing file

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx281E File already exists

Explanation: A command has been issued against an OSA/SF file that requires that the OSA/SF file be rewritten. The file already exists but the Replace option was not specified on the command.

User Response: Reissue the command that received this message specifying the Replace option.

**IOAx282E OSAD device does not exist for CHPID
cc**

Explanation: The OSAD device with unit address *X'FE'* associated with the specified CHPID (*cc*) has not been defined.

User Response: Perform the following checks and steps:

- Check the I/O definitions in the IOCDS to ensure an OSAD device (*X'FE'*) has been defined for this CHPID
 - Update and activate the IOCDS if necessary
 - Display the CHPID and unit status information for CHPID *cc*
 - Verify the OSAD device is ONLINE
 - Then restart operations on CHPID *cc*
-

IOAx283W ND mismatch occurred on CHPID cc

Explanation: A node descriptor (ND) mismatch occurred on the indicated CHPID. This occurs if there has been a change in the hardware associated with the specified CHPID or if the data currently known by OSA/SF has been altered.

User Response: Verify that the system is operating correctly and issue the Synchronize command. Refer to the user's guide for information about the Synchronize command.

**IOAx284W OSA/SF internal data has been updated
with new ND value**

Explanation: The ND value found on the card has been stored internally.

User Response: None.

IOAx286E File name was not specified

Explanation: A filename and filetype was not included when the command was issued.

User Response: Retry the command that received this message specifying a filename and filetype.

**IOAx289E CHPID_{mm} does not support this
command**

Explanation: The command you issued to the specified CHPID is not valid for this type of CHPID.

User Response: Check "Appendix D. OSA/SF Commands For CMS" on page 135 to make sure this command is valid.

IOAx290E Internal SNA command error for port pp

Explanation: Internal processing error occurred during SNA command

User Response: Contact the IBM support center.

**IOAx292E Force indicator is required as one or
more devices are in use**

Explanation: The FORCE option is needed to execute the command but was not specified.

User Response: Reissue the command specifying the FORCE option.

IOAx294E OSA configuration data has changed

Explanation: Changes have been made to OSA configuration information since the last command was entered. This can be caused by another OSA/SF in another logical partition with controlling access.

User Response: Refresh the GUI or use the Query command to obtain the new configuration information, then retry the command that received this message.

**IOAx295E Cannot complete command since
CHPID cc is in use**

Explanation: Another command is currently being processed by this OSA/SF. The command that received this message could not be executed.

User Response: Wait a short period of time then retry the command that received the message. If contention continues, check OSA/SF status in each partition. Stop and restart OSA/SF if necessary.

**IOAx296W Unable to start managing CHPID cc for
this OSA/SF**

Explanation: OSA/SF was unable to start managing this OSA CHPID.

User Response: See the command output window if you're using the OSA/SF GUI. If you're entering commands from CMS, additional messages will be displayed.

IOAx298W Unable to stop managing CHPID *cc* for this OSA/SF

Explanation: OSA/SF was unable to stop managing this OSA CHPID.

User Response: See the command output window if you're using the GUI. If you're using CMS, additional messages will be displayed.

IOAx299I VTAM is not using port *pp*.

Explanation: There is no VTAM currently using port *pp*.

User Response: Refresh the port view on the GUI.

IOAx301W Unable to synchronize this channel for this OSA/SF

Explanation: Synchronization between the OSA/SF internally stored data and OSA device data failed.

User Response: Refer to the message log and the command output window for additional messages. If the cause of the problem can not be located or the problem persists, contact the IBM support center.

IOAx303E *cccc* is only permitted on a single channel

Explanation: The command *cccc* that was issued is restricted to just one channel at a time; that is, multiple channels or ALL are not allowed.

User Response: Specify ONE CHANNEL as the command target and retry the command.

IOAx304E CHPID *cc* is not managed by this copy of OSA/SF

Explanation: An OSA/SF command was entered to a copy of OSA/SF that is not managing the OSA channel that was specified in the command.

User Response: Try this command from the partition in which the managing OSA/SF is running, or enter the command after this OSA/SF becomes the managing facility. Refer to the Start Managing command in the user's guide for more information.

IOAx305E Input value for *ssss* is out of range

Explanation: The input value for a load balancing parameter is out of range. *ssss* is one of the following:

- Session Delay (0-375)
- Load Balancing (0-25)
- Load Balancing Enable (0 or 1)

User Response: Enter a value within the specified range.

IOAx306E OSA port type does not match the OSA/SF internal data record

Explanation: Synchronization was attempted to update the card with the OSA/SF internal port data but the port type was not the same as found on the OSA device. This situation can occur if a new OSA was installed that contains different port parameters than the OSA that was originally installed (for example, ports were token ring and are now FDDI).

User Response: Check that the correct OSA device was installed. If so, then issue the Synchronize command to store the OSA data into the OSA/SF internally maintained data records.

If an OSA device with different port parameters has been installed, refer to "Service for an OSA device Replacement" in the user's guide. Also, refer to the planning guide for a description of mode and port parameters.

IOAx307W Channel offline, only data from OSA/SF returned

Explanation: The channel that the command was directed to is offline to the operating system. The only valid information that OSA/SF could determine was from the OSA/SF internally maintained data. No data from the OSA device is available.

User Response: The command requires that the OSA CHPID be online to the operating system. Determine why the channel is offline, correct the problem and then retry the command.

IOAx308I CHPID *cc* Port *pp* *ssssssss* was found to have different values

Explanation: For the port on OSA *cc*, a mismatch was detected between the data maintained by OSA/SF on the host system and the value on the OSA device.

- *pp* - Port number
- *cc* - OSA CHPID number
- *ssssssss* - Description of the port parameter that does not match between OSA/SF and OSA device

User Response: Review the message log for additional information regarding the mismatch. If the OSA is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

Then retry the command that received the message.

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IOAx309I CHPID *cc* LP *p* UA *uu* *sssssss* was found to have different values

Explanation: The item indicated was found to have a mismatch between OSA/SF internally maintained data and the value on the OSA.

cc = OSA CHPID

p = Logical partition number

uu = Unit Address

sssssss = Description of item in conflict

User Response: Review the message log for additional information regarding the mismatch. The data from the message log should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

Then retry the command that received the message.

IOAx310W Unable to set parameter for a port on this CHPID

Explanation: The Set Parameters command that was issued contained a parameter that is not valid or that was unable to be set.

User Response: See the command output response in the message log for more information.

IOAx312I Station doesn't exist on port *pp*. See message log.

Explanation: A station on port *pp* with a source SAP *nm*, destination SAP, and destination MAC address *mmmmmmmmmmmmmmmm* does not exist.

User Response: Refresh the connection view on the GUI.

IOAx313I SAP *nm* is not open on port *nm*

Explanation: SAP that was open has changed since the last operation.

User Response: Refresh the SAP view on the GUI.

IOAx314E Incorrect LAN port parameter ID *iiiiiii*

Explanation: An incorrect LAN port parameter has been specified or the LAN port parameter is not valid for this OSA mode of operation.

iiiiiii = port parameter ID that is not valid

User Response: Check the Parameter ID specified with the SET PARM command. If using the GUI, verify that the configuration is valid for this OSA mode and

OSA device type. Then retry the command that received this message.

IOAx315I OSA/SF internal data has value *ddddddd*

Explanation: This message corresponds to a previous message, IOAK308I, which describes which item OSA/SF found to be mismatched with the channel hardware. A following message, IOAK316I shows the value obtained from the channel.

ddddddd = hexadecimal value OSA/SF has in its internal record

User Response: Using the values from messages IOAx308I, IOAx315I, and IOAx316I, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

IOAx316I OSA hardware has data value *ddddddd*

Explanation: This message corresponds to a previous message, IOAK308I, which describes which item OSA/SF found to be mismatched with the channel hardware. A previous message, IOAK315I shows the value obtained from the internal OSA/SF data.

ddddddd = hexadecimal value received from the channel

User Response: Using the values from messages IOAx308I, IOAx315I, and IOAx316I, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

IOAx317E Unable to set the managing partition for CHPID *cc*

Explanation: A Start Managing command was issued to OSA/SF. OSA/SF was unable to set the "managing partition" indicator in the specified OSA CHPID. An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx318E Update to OAT failed due to in use OAT entries

Explanation: An attempt to unassign an OAT entry that is associated with the subchannel was attempted. The unassign attempt was not successful.

User Response: OAT entries that are currently in use can not be unassigned. The currently executing applications for those entries that are in use must be UNLOADed from the OSA. Refer to the LANRES mode section of the user's guide for more information. Once the applications have been UNLOADed, then update the OAT.

IOAx319E Update to OAT failed due to in use passthru entries

Explanation: An attempt was made to unassign an OAT entry that is associated with an active device address in the OSA/SF TCP/IP Passthru mode. The device address was in use and cannot be unassigned without the Force parameter.

User Response: Retry this command with the Force parameter. USE CAUTION! This is an active TCP/IP Passthru port. The FORCE option will terminate active connections through the port. An alternative action is to stop the use of entries by terminating devices from TCP/IP at the host.

IOAx320E Prime of database did not complete successfully

Explanation: An operation was attempted to copy database records from the OSA and it failed. This indicates that an OSA channel file could not be created.

User Response: If the condition continues, contact the IBM support center.

IOAx321I OSA/SF internal data has value dddddddd

Explanation: This message corresponds to a previous message, IOAK308I, which describes which item OSA/SF found to be mismatched with the channel hardware. A following message, IOAK322I shows the character string value obtained from the OSA.

ddddddd = character string OSA/SF has in its internal record

User Response: Using the values from messages IOAx308I, IOAx321I, and IOAx322I, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

IOAx322I OSA hardware has data value dddddddd

Explanation: This message corresponds to a previous message, IOAK308I, which describes which item OSA/SF found to be mismatched with the channel hardware. A previous message, IOAK321I shows the character string value obtained from the internal OSA/SF data.

ddddddd = character string received from the OSA

User Response: Using the values from messages IOAx308I, IOAx321I, and IOAx322I, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

IOAx323W CHPID cc OSA OAT and OSA/SF internal OAT data are out of sync

Explanation: The OSA address table (OAT) data and the data maintained by the OSA/SF server ID do not match.

cc - OSA (CHPID) that is no longer synchronized

User Response: Review the message log for additional information regarding the mismatch. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

Then retry the command that received the message.

IOAx324W CHPID cc OSA PORT and OSA/SF internal PORT data are out of sync

Explanation: The port data maintained by the OSA hardware (CHPID *cc*) no longer matches the internal port data maintained by OSA/SF on the host system. This condition can occur, for example, if a network management program that has access to the OSA altered the port data.

User Response: Review the message log for additional information regarding the mismatch. The data from the messages should provide help in determining whether the OSA device or the OSA/SF host files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the

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parameters on the OSA. Refer to the Synchronize and Install commands as well as “OSA Hardware Replacement” on page 61 .

Then retry the command that received the message.

IOAx325I **CHPID *cc* is no longer managed by partition *pp***

Explanation: CHPID *cc* is no longer managed by partition *pp* because a Stop Managing command was entered from this partition.

cc = CHPID
pp = LP number

User Response: No action is required. The Stop Managing command has completed successfully.

IOAx326I **CHPID *cc* is currently managed by partition *pp***

Explanation: This message was issued during initialization or a Start Managing command.

cc = CHPID
pp = LP number

User Response: None. Normal OSA/SF initialization or the Start Managing command continue.

IOAx327W **ND mismatch occurred on CHPID *cc***

Explanation: An OSA device has been replaced and the physical information from the old card does not match the physical information on the new card. The current and previous physical information are listed in the message log.

cc = CHPID
ND = Node Descriptor

User Response: Review the data in the message log. Refer to “OSA Hardware Replacement” on page 61 for additional information on OSA device replacement.

IOAx328W **No saved configuration file for CHPID *cc***

Explanation: No information about the specified channel was saved while OSA/SF was being refreshed or initialized; that is, the channel file information for CHPID *cc* does not exist or the channel file for CHPID *cc* can not be located.

User Response: If the condition continues, contact the IBM support center.

IOAx329W **Could not write OSA information to file for CHPID *cc***

Explanation: A write error occurred while trying to save information about the specified channel in an OSA/SF file.

User Response: Check the OSA/SF userid console for error messages.

If the condition continues, contact the IBM support center.

IOAx330E **Port *pp* on CHPID *cc* is not in the enable state**

Explanation: The specified port must be enabled for the previous task to complete.

User Response: Enable the port and then retry the command. You can use the OSA/SF GUI or the OSA/SF Set Parameter command to enable the port.

IOAx333E **Port *pp* does not exist on this CHPID**

Explanation: A Set Parameters command has been issued specifying a PORT number as part of the command. The OSA targeted by the command does not contain the specified PORT number.

pp - The port number on the OSA that does not exist

User Response: Check that the OSA targeted by the command is correct. Verify the number of PORTs on the OSA. From the OSA GUI, the PORT information can be checked from the Channel View window. Reissue the Set Parameters command.

IOAx334E **Port is in service processor control mode. Operation not allowed.**

Explanation: An attempt was made to enable or disable a port on an OSA. The action can not be completed because the port on the OSA is in hardware service processor control mode.

User Response: Service processor control mode can be removed by using the Hardware Management Console (HMC). Retry the Set Parameters command.

IOAx335E **Unable to store the current data key in OSA/SF internal data**

Explanation: An internal OSA/SF error has occurred during the condition described in the message text.

User Response: Stop and restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx336E **Enable of port failed**

Explanation: OSA/SF was unable to enable the port specified in the Set Parameters command because the port was disabled externally or the port is not operational.

User Response: Check the hardware management console (HMC) for OSA port status and hardware errors. Re-attempt to enable the port if the port is disabled. Contact IBM Service if required.

IOAx340E Incorrect group size *n* specified

Explanation: An incorrect group size was specified in the OSA/SF Put Table command. Passthru device types should each have a group size of 2. SNA device types should have a group size of 1.

n = group size that was specified

User Response: Correct the group size and retry the command that received this message.

IOAx341W Not all *sss* entries stored successfully for CHPID *cc*

Explanation: During a Put OAT ADDRESS TABLE or INSTALL operation, some of the OAT/PVC (indicated by *sss*) entries were not written to OSA.

cc = OSA CHPID number

User Response: Review the message log for further messages. Each OAT/PVC entry that is not valid should have an explanation. If some messages have reason codes associated with them, this could be the result of an internal OSA/SF error; reason codes are reserved for IBM use only. For further assistance, contact the IBM support center.

IOAx342E No *sss* entries stored successfully for CHPID *cc*

Explanation: During a Put OAT ADDRESS TABLE or INSTALL operation, none of the OAT/PVC (indicated by *sss*) entries were written to the OSA.

cc = OSA CHPID number

User Response: Review the message log for further messages. Each OAT/PVC entry that is not valid should have an explanation. If some messages have reason codes associated with them, this could be the result of an internal OSA/SF error; reason codes are reserved for IBM use only. For further assistance, contact the IBM support center.

IOAx343E No OAT slot for this group of input is available

Explanation: This group of OAT entries was not written to the card because there are no free slots on the OSA for the entries specified.

User Response: Using the GUI, OSA Configurations, delete some of the defined entries. If using the PUT OSA command, delete even-odd pairs of entries that are not in use or set them to UNASSIGNED. Retry the command that resulted in this message.

IOAx345E PVC entry *n* has incorrect format

Explanation: The PVC data entry specified as *n* does not have the correct eye-catcher or the correct control block ID.

User Response: An internal OSA/SF error occurred.

| Report the problem to the IBM Support Center.

IOAx346E *ffff* for PVC name *nnnn* is out of range

| **Explanation:** One of the following fields as specified by *ffff* has a value that is not within the allowed range.

- | • Forward Peak Cell Rate (0-353207)
- | • Backward Peak Cell Rate (0-353207)
- | • Forward Max PDU size (64-9188)
- | • Backward Max PDU size (64-9188)

| **User Response:** Enter a value in the range shown for the field in error. The OSA/SF GUI checks these values on input, if you are using the Set Parameters command, correct the value.

IOAx347E Incorrect LP *p* with UA *uu*

Explanation: The logical partition (LP) number, *p*, for the unit address (UA) *uu* is not valid.

User Response: Check the OSA unit address and logical partition numbers in the IOCDS. Correct the partition number and retry the command.

IOAx348E Must set LP number to zero for this OAT entry

Explanation: This channel is not a shared channel. For a channel that is not shared between LPs, only LP number 0 can be used for this channel in the command.

User Response: Change the LP number to 0 and retry the command.

IOAx349E CHPID *cc* is not online

Explanation: The CHPID *cc* (OSA) is offline to the operating system.

User Response: Configure the CHPID (OSA) online and retry the command.

IOAx350E IP Address *iiiiiiiiiiii* already used by LP *p uu*

Explanation: The IP Address (*iiiiiiiiiiii*) specified in a PUT OSA operation is already in use by another logical partition.

iiiiiiiiiiii = IP Address

p = LP number

uu = Unit address

User Response: If TCP/IP port sharing is desired, the IP addresses must be unique to each logical partition (refer to the planning guide for more information). Provide a unique IP address for each logical partition and retry the command.

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IOAx351W Portions of the Query command failed

Explanation: The Query command completed but not all of the data that was requested was returned.

User Response: Explanations of why portions of the data were not returned are interspersed in the output files from the Query command. Refer to messages in the command output for further information.

IOAx352E Query command failed, no data was returned

Explanation: The Query command did not complete successfully. No output data from the command was returned.

User Response: If using the GUI, refer to the command output window for additional messages. If using CMS, additional messages will be displayed in the query command output files specified on the CMS command input. If the condition continues, contact the IBM support center.

IOAx353E Incorrect *cccccc* target *tttt*

Explanation: The command target or port target for a Query command has an incorrect value.

cccccc = either command or port
tttt = specified target in hexadecimal notation

User Response: The target is a field that is passed through the API; that is the target of the command being issued. This field indicates if the command is for: ONE (channel), ALL CHANNELS, or OSA/SF. If the condition continues, contact the IBM support center.

IOAx359E LP *p* UA *uu* has a zero IP address for the default OAT entry

Explanation: The OAT entry specified by LP *p* and unit address *uu* is specified as either a primary or secondary default entry. The default entry cannot have an IP address of all zeros.

p = logical partition (LP) number
uu = unit address (UA)

User Response: A non-zero IP address must be specified. Correct the IP address for the default entry. Reissue the PUT OSA or Install command, whichever was used.

IOAx360E *nnn* entries were specified as default OAT entry for port *pp*

Explanation: A port can only have one of the following:

- No default entries
- One primary default entry
- Both a primary default entry and a secondary default entry

A PUT OAT command was issued and more than one OAT entry was specified as the primary or secondary default entry. Only one logical partition can be specified as the primary or secondary default entries.

nnn number of entries
pp port number

User Response: Fix the data being used for the PUT OAT command. Reissue the PUT OAT or Install command, whichever was used.

IOAx361E Current *ddd* default LP (LP *p* and UA *uu*) missing from input

Explanation: An incorrect LP number and/or UA was specified for the default TCP/IP. CHPID can have either no default entries, one primary default entry, or both a primary and a secondary default entry in the TCP/IP Passthru OAT entries.

A PUT OSA command was specified to add additional OAT entries. (i.e. "N" was specified for the IOACMD PUT OSA prompt IOACMD: 'Should the input data replace all the current entries? (Y/N)').

The input contains a primary and/or secondary default entry already exist on the OSA.

ddd = primary or secondary
p = logical partition (LP) number of default router
uu = unit address (UA) of the default router

User Response: Either of the following:
Specify "Y" for the IOACMD PUT OSA prompt OR
Include the current primary and/or secondary default entry on the OSA in the input with the default entry indicator set to "NO" or "not primary or secondary".
Then reissue the PUT OSA or Install command.

IOAx362E All *nnn* OAT entries for port *pp* must be specified with port sharing

Explanation: To use TCP/IP port sharing mode, all OAT entries associated with port *pp* must be specified in the OAT and all entries must be non-zero.

nnn = number of entries
pp = port number

User Response: Include all of the OAT entries associated with this port, verify all entries are non-zero. If using the GUI, follow the instruction in the user's guide for customizing TCP/IP Passthru mode, Sharing OSA Ports. If using CMS, correct the OAT and issue the Put OSA command to rewrite the OAT.

Next, configure the OSA offline to all logical partitions then back online.

IOAx365E Unable to clear the OAT table for CHPID *cc*

Explanation: During an Install command or during a Put OSA Address Table command with the New Table option, OSA/SF attempted to clear the previous OAT

table entries. A problem was encountered during the attempt to clear existing OAT table entries for CHPID *cc*.

User Response: Check the following:

1. Review the OSA GUI message log and command output windows for related messages
2. Review the CMS screen for additional messages if using the CMS interface

Retry the command. If the condition continues, contact the IBM support center.

IOAx366I Disk image loaded, config CHPID *cc* off/on before reissuing INSTALL

Explanation: The OSA image specified in the IOACFG file was successfully written to the specified OSA (CHPID). The CHPID must be configured offline to all logical partitions to activate the code image.

User Response: The installation of an OSA mode has successfully progressed to this point. Configure the CHPID offline from all logical partitions and then back online to activate the OSA image.

Refer to the user's guide for more information on the install and activation processes.

IOAx367E *hh:mm:ss uuuuuuuu* on *sssssss* not authorized to use FORCE option

Explanation: At the specified time, user ID *uuuuuuuu* on system *sssssss* entered a command with the Force option, which this user ID is not authorized to use.

User Response: Reissue the command without the Force option or contact the system administrator to obtain authorization to use the Force option.

IOAx372E Install Command Failed

Explanation: The Install command failed, or the initialization of the OSA mode failed.

User Response: Check the following:

1. Review the OSA GUI message log and command output windows
2. Review the CMS screen for additional messages if using the CMS interface

Retry the command. If the condition continues, contact the IBM support center.

IOAx373E Trace mask *tt* is out of range. Must be less than *oxffff*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx376W Unable to allocate file for channel data for CHPID *cc*

Explanation: An error occurred when OSA/SF attempted to create a file to store the OSA channel file information for CHPID *cc*.

User Response: During initialization or processing of a command, OSA/SF could not create the file, please try the command again. If the condition continues, contact the IBM support center.

IOAx377E Input Value *dddd* for parameter ID *pppppppp* is out of range

Explanation: The decimal input data *dddd* for a Set Parameter command with hexadecimal parameter ID *pppppppp* is not in the valid range.

User Response: Check the parameter and input data and retry this command.

IOAx378I OSA hardware has data value *sss...sss*

Explanation: This message is issued with a previous message, **IOAK308I**, that describes which item OSA/SF found to be mismatched with the channel hardware. Another message, **IOAK379I**, shows the value obtained from the internal OSA/SF data.

sss...sss = hexadecimal value received from the channel

User Response: Using the values from messages **IOAx308I**, **IOAx378I**, and **IOAx379I**, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF server ID files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the parameters on the OSA. Refer to the Synchronize and Install commands as well as "OSA Hardware Replacement" on page 61.

IOAx379I OSA/SF internal data has value *sss...sss*

Explanation: This message is issued with a previous message, **IOAK308I**, that describes which item OSA/SF found to be mismatched with the internal data. Another message, **IOAK378I**, shows the value obtained from the OSA hardware data.

sss...sss = hexadecimal value received from the channel

User Response: Using the values from messages **IOAx308I**, **IOAx378I**, and **IOAx379I**, determine which data value is correct. The data from the messages should provide help in determining whether the OSA device or the OSA/SF Server ID files contain the correct information. If the card is determined to be correct, issue the Synchronize command to realign the OSA/SF files. If the OSA/SF files are determined to be correct, issue the Install command to put the

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parameters on the OSA. Refer to the Synchronize and Install commands as well as “OSA Hardware Replacement” on page 61 .

IOAx381I **OSA/SF has an OAT entry for CHPID *cc* LP *pp* UA *uu*, but not the OSA.**

Explanation: The OAT entry exists as specified, but the corresponding OSA hardware is not installed. This message is issued as the result of the synchronize command. As the synchronize command processes the OAT, each time an entry in the OAT does not correspond to the OSA CHPID *cc*, this informational message is issued.

cc - OSA CHPID in OAT

pp - Logical partition identified in the OAT

uu - Unit address that does not match the OSA

User Response: The synchronize command continues to re-align the internal files with the OSA hardware information. Normal operation continues.

IOAx382E **Port *yy* on CHPID *xx* could not be enabled.**

Explanation: The specified port could not be enabled.

User Response: Check the message log for additional information. Verify that the port is not disabled from the hardware management console. Try to enable the port from the hardware management console. If the port cannot be enabled, try unplugging the LAN cable from the OSA port and then enable the port. If you cannot enable the port, contact the IBM support center.

IOAx383E **Port *yy* on CHPID *xx* could not be disabled.**

Explanation: The specified port could not be disabled.

User Response: Check the message log for additional information. Try to disable the port from the hardware management console. If you still cannot disable the port, unplug the LAN cable from the OSA port and then try to disable it. If the problem persists, contact the IBM support center.

IOAx386E **Port *yy* on CHPID *xx* was enabled, but the OAT update failed**

Explanation: An internal OSA/SF error has occurred.

User Response: Contact the IBM support center.

IOAx387E **Port *yy* on CHPID *xx* was not disabled and the OAT updated failed.**

Explanation: A failure occurred while updating the OAT for the specified port. The port enable/disable status is unchanged.

User Response: Check the message log for additional

information. If problem persists, contact the IBM support center.

IOAx388E **Error detected while writing non-volatile storage for CHPID *xx*.**

Explanation: An error was detected while updating non-volatile storage for CHPID (OSA) *xx*.

User Response: Check for messages and errors on the hardware management console. If a hardware error is not found, retry the previous task. If the problem persists, contact the IBM support center.

IOAx389E **Incorrect buffer number *nn* for GET ATM TRACE**

Explanation: You entered an incorrect value for the ATM trace buffer.

User Response: Valid values are 1–16. Contact the IBM support center.

IOAx390E **Not a valid command for CHPID *cc***

Explanation: The command issued cannot be issued against this CHPID because the command is only valid for OSAs running in a different mode.

User Response: Check the command in the user’s guide to see what OSA mode types are valid. Issue the Query command against the OSA to see what mode the OSA is running.

IOAx391W **Empty trace buffer was found for CHPID *cc***

Explanation: This error occurred because of an OSA SNA image error such that the SNA trace buffer was not created.

User Response: Perform a single reinstall of the SNA image on the OSA. If the condition continues, contact the IBM support center.

IOAx392W **Empty message log buffer was found for CHPID *cc***

Explanation: This error occurred because of an OSA SNA image error such that the SNA message log buffer was not created.

User Response: Perform a single reinstall of the SNA image on the OSA. If the condition continues, contact the IBM support center.

IOAx393E **OSA CHPID *cc* not set up for SNA**

Explanation: A Set Parameter command specifying an SNA option was issued to OSA CHPID *cc* but the licensed internal code installed on this OSA does not support SNA mode.

User Response: Install SNA mode on the OSA or correct the Set Parameter command so that SNA options are not specified.

IOAx394E Unknown device type *dd* found in OAT for CHPID *cc*

Explanation: The OSA address table contains an unknown device type.

User Response: Examine the OAT. Correct the device type entry and reissue the API.

IOAx395I CHPID *nm* date and time cannot be autoselected by OSA/SF to match system

Explanation: This message is part of the LANRES mode. The OSA running LANRES was not able to set the date and time.

User Response: If you take no action, the time stamp on the OSA/SF logs for CHPID *nm* will not be synchronized with the host logs. However, you can set the OSA/SF time to match the system clock by issuing the Install command to OSA CHPID *nm*.

IOAx396W Port data is set in OSA hardware but OSA/SF has different port type

Explanation: The port data specified in the **Set Parameter** command is set in the OSA hardware successfully but OSA/SF internal data shows this port has a different port type.

User Response: Issue the Synchronize command to update the OSA/SF internal data. Refer to the Synchronize command in the user's guide for further information. If the condition continues, contact the IBM support center.

IOAx397W Set command completed but LAN port is in disabled state

Explanation: This message indicates no query data for this port is shown because the LAN port is in a disabled state.

User Response: The LAN port data for this port can be obtained by:

1. Enabling the port by one of the following methods
 - Set Parameter command from CMS
 - The hardware management console
2. Issue a Query command to the OSA specifying this port or refresh the GUI.

IOAx398E Input value for group address entry *nm* is incorrect

Explanation: The OAT input file group address field is not correct for entry *nm*. This message follows a SET PARM command that has submitted data in which the group address is not valid.

User Response: Retry the command specifying the group address according to the following rules.

- For a FDDI LAN attachment, set bits 0 and 1 of each group address to 1.
- For a token-ring LAN and token-ring ATM LAN emulation attachments, set bits 0 and 1 to 1; set bits 2–15 to 0; set bit 16 to 1.
- For an Ethernet LAN and Ethernet ATM LAN emulation attachments, set bits 0–5 to 0; set bits 6 and 7 to 1; set bits 8–15 to 0; set bit 23 to 1.

IOAx399I SNA image loaded, config CHPID *cc* off/on to activate loaded image

Explanation: The code image specified in the IOACFG file was successfully written to the specified OSA (CHPID).

cc = CHPID

User Response: Configure the CHPID offline from all logical partitions and then online to activate the OSA image just written.

IOAx401E UA *uu* specified for partition *p* is out of range

Explanation: The specified UA in the OAT entry is out of range. The valid ranges for LANRES configuration is 0 through 210(X'00' - X'DB'). The valid range for HPDT MPC, HPDT ATM native, SNA and TCP/IP Passthru configurations is 0 through 253(X'00' - X'FD') where:

uu = Unit Address

p = Partition Number

User Response: Correct the unit address in the input data and reissue the command.

IOAx402E Write SNA Control Command failed. Return code *nm*

Explanation: Internal error

User Response: Contact the IBM support center.

IOAx403E Input value for address *ssss* is incorrect

Explanation: The input data for a Set Parameter command for the address (*ssss*= functional or MAC) specified is not valid.

User Response: Correct the input data and reissue the Set Parameter command. Contact the IBM Support Center for assistance.

IOAx404E There is no corresponding data found in OSA/SF for this port

Explanation: When executing the Install command, OSA/SF host based data does not have data to correspond to a port on the OSA device. The Install command has found a mismatch between the number of ports on the OSA device and the number of ports for

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this OSA device as found in the host information data base. The Install command terminates.

User Response: This message can be issued if OSA was replaced and now the Install command is being used to update the information on the new OSA. Refer to "OSA Hardware Replacement" on page 61 for more information.

If the condition continues, contact the IBM support center.

IOAx405W CHPID *cc* is shared, but partition number is zero

Explanation: In a shared channel (port sharing) EMIF (ESCON Multiple Image Facility) environment, the LP number can not be zero. For OSA CHPID *cc* the LP number is zero for one of the port shared entries in the OAT. This message can be issued by either the Put OSA or Install command.

cc = channel path id

User Response: Correct any LP values in the OAT that are specified as zero for all devices on shared CHPID *cc*. Use the GUI configuration windows or the Put OSA Address Table command to correct the LP numbers in the OAT. Reissue the command that resulted in this message.

IOAx406W CHPID *cc* is dedicated, but partition number is not zero

Explanation: If a channel is dedicated to a logical partition (LP), that is, the channel is not shared, then the LP number for the devices associated with the channel in the OAT must be specified as zero. This message can be issued by either the Put OSA or Install command.

cc = channel path id

User Response: Specify zero as the LP number for all device addresses in the OAT for CHPID *cc*. Reissue the command that caused this message. The OSA address table (OAT) can be changed from the configuration windows on the GUI or by using the Put OSA Address Table command.

IOAx409I OAT updated, config CHPID *cc* off/on to activate the changes

Explanation: The OSA address table (OAT) from the IOACFG file was successfully written to the OSA (CHPID) *cc*.

User Response: Configure the CHPID *cc* offline from all logical partitions and then back online to activate the OAT.

IOAx410E timerX value (tttt msec specified) must be cccccc than timerY value (tttt msec specified)

Explanation: When setting the SNA timer values, timerX was found to have an incorrect value because of setting of timerY value.

timerX,timerY = Ti(SNA LLC Inactivity Timer), T1(SNA LLC Response Timer), or T2(SNA LLC Acknowledgment Timer).

ccccc = greater or less

tttt = time unit in msec

User Response: Correct the timerX value and re-issue the command.

IOAx411E OSA/SF does not support OSA processor code level of CHPID *cc*

Explanation: The OSA processor for CHPID *cc* is not at the correct level. OSA/SF will not be able to communicate with the OSA device correctly.

cc = CHPID

User Response: Upgrade the code level for the OSA processor.

IOAx413E CHPID *cc* is not configured as ATM Native mode

Explanation: PVC entries are only for OSAs configured for ATM Native mode. This message should not be displayed if you are using the GUI.

User Response: If you are using the OSA/SF commands, either delete the PVC entries for this OSA using the Set Parameter command or customize the OSA for HPDT ATM Native mode using Put OAT.

IOAx414E No PVC data was found in input for CHPID *cc*

Explanation: You attempted to use the set PVC command without supplying the associated PVC data.

User Response: Retry the command using the appropriate input PVC data. If the problem persists, contact the IBM support center.

IOAx415E CHPID *cc* has *n* PVC entries and has reached the limit

Explanation: The maximum number of PVC entries for an OSA is 256.

User Response: Delete PVC entries that are not needed.

IOAx416E LP *x* UA *y* is already used by LP *x* UA *z*
(Group of 2)

Explanation: The unit address specified by *y* is already being used. The second LP and unit address specified in the message has a group size of 2. This means that it is a TCP/IP Passthru entry which uses an even odd pair.

User Response: Change the UA for one of the OAT entries.

IOAx417E ssss completed with reason code rrrrrrrr

Explanation: In the process of an INSTALL/ACTIVATE command, image file ssss specified in the configuration completed with reason code rrrrrrrr.

sss = specified image file
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action needed.

IOAx418E LP *p* UA *uu* completed with reason code rrrrrrrr

Explanation: In the process of an INSTALL/ACTIVATE command, an OAT entry specified in the configuration with partition *p* and unit address *uu* completed with reason code rrrrrrrr.

p = partition number
uu = Unit Address
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action.

IOAx419E Query for CHPID *cc* completed with reason code rrrrrrrr

Explanation: In the process of doing the QUERY command for CHPID *cc*, it completed with reason code rrrrrrrr.

cc = CHPID
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action.

IOAx420E Query for CHPID *cc* Device *dd* completed with reason code rrrrrrrr

Explanation: In the process of doing the QUERY command for CHPID *cc*, it completed with reason code rrrrrrrr when trying to obtain device information.

cc = CHPID
dd = Device number
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action.

IOAx421E Current LP *x*(LP_NAME*x*), Managing LP *y*(LP_NAME*y*) CHPID *cc* rrrrrrrr

Explanation: In the process of a START/STOP MANAGING command for CHPID *cc*, it completed with reason code rrrrrrrr.

x = current partition number
LP_NAME*x* = name of current partition
y = managing partition number
LP_NAME*y* = name of managing partition
cc = CHPID
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action.

IOAx422E Operation on port *p* completed with reason code rrrrrrrr

Explanation: In the process of a command associated with port *p* it completed with reason code rrrrrrrr.

p = port number
rrrrrrr = reason code

User Response: See the message that follows immediately for details and action.

IOAx424E PVC operation for CHPID *cc* failed with reason code *rrrr*

Explanation: The Add, Modify, or Delete of a PVC entry failed.

User Response: Look in the message log for more information. There should be a message following this one that contains more information. The reason code is for use by IBM in problem determination.

IOAx426E OAT entry *nn* has incorrect format

Explanation: When processing the OSA address table (OAT) entries, OAT entry number *nn* has an incorrect format.

nn = OAT entry number

User Response:

- If this failure occurs during a PUT_TABLE command, check the input OAT entry number.
- If this failure occurs during a QUERY or GET_TABLE command, an internal OSA/SF error has occurred.

IOAx427E CHPID *nn* hardware is not OSA2-ATM

Explanation: The specified CHPID *nn* is not of type OSA-2 ATM.

User Response: The function you requested is only valid on an OSA-2 ATM CHPID.

Messages

IOAx428E CHPID *cc* is not configured as *mmm* mode

Explanation: The specified CHPID *cc* is not configured as *mmm* mode for the SET_PARM command to complete successfully.

cc = CHPID number
mmm = SNA or ATM

User Response: Configure the CHPID with the *mmm* mode and retry the command.

IOAx430I ATM image loaded, config CHPID *cc* off/on to activate loaded image

Explanation: The OSA image specified in the IOACFG file was successfully written to the specified (OSA) CHPID.

cc = CHPID

User Response: Configure the CHPID offline from all logical partitions and then online to activate the image just written.

IOAx431W LP *p* and UA *uu* defines sharing of port *x* without an IP address

Explanation: The OAT entry for logical partition *p* and unit address *uu* is specified as a passthru type entry for port *x*. There is also an SNA type entry that shares the same port. This means that an IP address must be specified with the passthru entry type to allow port sharing.

p = Logical partition number
uu = Unit address
x = Port number

User Response: Do the following to specify an IP address from the OSA/SF GUI.

1. Display the Configuration window for the OSA.
 2. Select **TCP/IP Passthru** from the **Configured Modes** listbox and then select **Change**.
 3. Select the entry you want to change in the listbox and then select **Change**.
 4. Enter the IP address for this logical partition and unit address entry.
 5. Select **Change** and then select **Set**.
 6. Select **Configuration** from the menu bar of the Configuration window and then save the configuration.
 7. Select **Configuration** from the menu bar and then select **Activate**.
-

IOAx432I *sssss* type LP *n* UA *uu* defines sharing of port *n*

Explanation: The entry specified defines port sharing. Another message follows indicating what is the problem. The *sssss* can be the 'Passthru', 'SNA', or 'MPC' (for MVS only).

User Response: See the message that follows this one for more information.

IOAx433W LP *p* UA *uu* voids Passthru entries for port *x* with no IP address

Explanation: The OAT entry for logical partition *p* and unit address *uu* is specified as an SNA type entry for port *x*. However, there are existing passthru OAT entries with no IP address. By configuring this SNA entry, all the passthru devices that share this port without an IP address will not be functional.

p = LPAR number
uu = unit address
x = port number

User Response: Do the following to specify an IP address from the OSA/SF GUI.

1. Display the Configuration window for the OSA.
 2. Select **TCP/IP Passthru** from the **Configured Modes** listbox and then select **Change**.
 3. Select the entry you want to change in the listbox and then select **Change**.
 4. Enter the IP address for this logical partition and unit address entry. Select **Change** and the select **Set**.
 5. Select **Configuration** from the menu bar of the Configuration window and then save the configuration.
 6. Select **Configuration** from the menu bar and then select **Activate**.
-

IOAx434I PT type LP *n* UA *xx* defines sharing port *y* without IP address

Explanation: You have specified a port for port sharing but the IP address is all zeroes.

User Response: You cannot share a port without a specific IP address on each OAT entry that wishes to use the port.

IOAx435E VPI *x* and VCI *y* already used by PVC name *ssss*

Explanation: The VPI and VCI combination specified for the PVC is already being used by another PVC. The combination of these two parameters must be unique for each PVC entry.

User Response: Change the VPI or VCI so that it is unique for this PVC.

IOAx436E Invalid *tttt* name *nnnn*

Explanation: *tttt* is either PVC or OSA. *nnnn* is either the PVC name or OSA name. The PVC name or OSA name is not valid.

User Response: Enter a name of 1 through 8 characters in the following format:

- | First Character - Any capital letter A through Z, @ # \$.
 - | Remaining Characters - Capital letters A through Z, 0 through 9, @ # \$.
-

IOAx437E ATM OSA mode *sssssss* is corrupted.
Reason = *nnnnnnnn*

Explanation: The ATM image, *sssssss* loaded on the card has been corrupted.

User Response: Re-configure the card.

IOAx439E PVC name *sssssss* not found

Explanation: Specified PVC name *sssssss* cannot be found on this ATM card.

User Response: Correct the name and retry the command. If the problem persists, contact the IBM support center.

IOAx440E LP *nn* UA *nn* is already used by *nn* port *nn*

Explanation: The LP and UA in the OAT entry in the install process are already used by another port.

User Response: This message is generated when configuring an OSE CHPID that has multiple logical ports. Change the OAT entry and retry the command.

IOAx441E NetMask a.b.c.d for LP *x* UA *y* is incorrect

Explanation: The NetMask specified for OAT entry LP *x* UA *y* is 255.255.255.255

User Response: Change the NetMask and retry the command. If the problem persists, contact the IBM support center.

IOAx444E Port type *ttttttt* not supported on CHPID *cc* port *pp*

Explanation: The port type, *ttttttt*, is not supported on the specified CHPID.

ttttttt can be one of

- Token ring
- FDDI
- Ethernet
- Fast ethernet
- Gigabit ethernet
- ATM Native
- ATM LAN emulation

User Response: None. This is an internal error. Contact the IBM support center.

IOAx446E Set of LAN port parameter ID *pppp* is invalid for port *nn*

Explanation: The input parameter is improper for the specified port type.

User Response: Reenter the correct parameter or specify the correct port type. If the error persists, contact the IBM support center.

IOAx448E No OAT entries were specified for port *pp*

Explanation: The OAT file specified in the master index (ioainx) contains no OAT entries for the port the install was directed to, where *pp* is the target port number.

User Response: If OAT entries are necessary to configure this port, use the GUI configuration tool. If problem persists, contact the IBM support center.

IOAx449W OSA/SF was not able to access channel file information for CHPID *cc*

Explanation: OSA/SF had a channel error during OSA/SF initialization. It is necessary to correct this error in order for OSA/SF to function properly. Message IOAD499W and IOAD505W detail the error

User Response: Make sure a 70xx minidisk has been created and is available as described in the planning guide. If this is not a VM guest, then a channel file is missing or unable to be accessed. Processing can continue, but certain commands will not work.

IOAx450E Task not supported by SNA image level *xx* on CHPID *cc*

Explanation: The SNA firmware level to support the input command is not installed on the specified CHPID.

User Response: Upgrade the SNA firmware level on the specified CHPID. If the error persists, call IBM service.

IOAx451I Indicators have been set in one or more channel blocks

Explanation: One of the following conditions was detected by the OSA/SF:

- Physical card mismatch
- No file information found for card
- The port type has not been set for this card
- Could not write file information for this card

User Response: This is an internal OSA/SF error. If the condition continues, contact the IBM support center.

IOAx455E The specified OSA mode file already known to OSA/SF

Explanation: During a Put File command, the file name specified was already known by OSA/SF and the Replace option was not selected.

User Response: Retry the Put File command and specify the Replace option. If the problem persists, issue the Delete File command to first remove the file and then reissue the Put File command.

Messages

IOAx456E **The specified OSA mode file not known by this copy of OSA/SF**

Explanation: The OSA mode file specified on a Delete File command is not known by this copy of OSA/SF.

User Response: Verify that the fully-qualified name in the Delete File command is correct. Use the List File command to display the files on the OSA to check proper filename specifications.

IOAx457E **The specified CHPID is managed by another partition.**

Explanation: The OSA (CHPID) is currently being managed by another OSA/SF server machine (image).

User Response: Issue the Stop Managing command from the OSA/SF image currently managing the OSA then issue the Start Managing command from the new OSA/SF image managing the OSA.

See the appendix in the user's guide for the Stop Managing command that can be entered from CMS, or use the Command pull-down from the Channels view window on the GUI.

IOAx459E **The specified CHPID is not known by this copy of OSA/SF**

Explanation: The CHPID (OSA) number specified on the current command is not known by the OSA/SF server virtual machine.

User Response: Verify that the CHPID number specified is defined as an OSA channel in the IOCDs (hardware configuration). Reissue the command that resulted in this message.

IOAx460E **The specified port is not known by this copy of OSA/SF**

Explanation: The port number specified does not match the allowed OSA port number range. For a FDDI port, only port number 00 is valid. On an OSA-2, port numbers 00 and 01 are valid for a token-ring or Ethernet port.

User Response: Verify the OSA type. Check the port number range. Reissue the command. If the condition continues, contact the IBM support center.

IOAx464W **The system is currently in configuration mode**

Explanation: While refreshing the OSA/SF GUI information about the system, it was determined that there are hardware (IOCDs) configuration changes currently being made. The data that is returned may not be current.

User Response: Check with the system programmer to ensure that configuration changes are complete and

then refresh the OSA/SF GUI once more.

IOAx466E **The system is not running in EMIF mode**

Explanation: The system on which OSA/SF is to run and on which an OSA is installed must support the ESCON Multiple Image Facility mode (EMIF mode). An attempt has been made to start OSA/SF on a system without EMIF firmware support.

User Response: See the planning guide for the hardware requirements for OSA. Multiple image facility mode support is a prerequisite requirement for OSA hardware devices and the OSA Support Facility software.

IOAx467E **Incorrect code returned to OSA/SF**

Explanation: OSA/SF has attempted to communicate with the channel subsystem and the communication has failed. An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx468E **Service not available for this request**

Explanation: OSA/SF has attempted to communicate with the channel subsystem and the communication has failed. An internal OSA/SF error has occurred.

User Response:

- For the OSA CHPID that was the target of the command that received this message, configure the OSA CHPID offline in all logical partitions (CF CHP(nn),OFFLINE), Then back online (CF CHP(nn),ONLINE).
- Stop and restart OSA/SF

If the condition continues, contact the IBM support center.

IOAx469E **The specified CHPID in use - cannot complete command**

Explanation: The OSA CHPID to which the last command was directed is in use either by another user or another partition. The command that was issued did not execute.

User Response: Wait a short period of time for the OSA CHPID to complete its current task. Then resubmit the command that received this message. If the condition continues, contact the IBM support center.

IOAx470E **Channel is unlocked (query) or it must be locked (set)**

Explanation: The OSA CHPID to which the last command was directed is in use either by another user or another partition. The command that was issued did not execute.

User Response: Wait a short period of time for the OSA CHPID to complete its current task. Then resubmit the command that received this message. If the condition continues, contact the IBM support center.

IOAx472E Could not access Channel Subsystem information

Explanation: OSA/SF could not be accessed Channel Subsystem information.

User Response: If you are running as a VM guest, you must specify the RMCHINFO in the VM directory entry for this guest. Contact the IBM support center.

IOAx473E A parameter for a internal OSA/SF request is incorrect

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx474E The requested Channel Subsystem Command is not supported

Explanation: The Channel Subsystem Command (CHSC) is not supported on this processor. This support is a requirement for OSA and OSA/SF.

User Response: Refer to the planning guide for information on hardware requirements to attach OSA and to run OSA/SF. If all requirements are met, contact the IBM support center.

IOAx475I No channel subsystem physical information is available

Explanation: The Channel Subsystem Command (CHSC) attempted to obtain information from the channel subsystem and could not.

User Response: Refer to the planning guide for information on hardware requirements to attach OSA and run OSA/SF. If all requirements are met, contact the IBM support center.

IOAx476I Requested channel is not defined in the I/O configuration

Explanation: A command attempted to access a CHPID that is not defined in the IOCDS.

User Response: Verify that the IOCDS has an entry for each OSA. Refer to the planning guide for hardware and IOCDS requirements. Check that the command was issued to a valid OSA CHPID.

IOAx477I No device information available for this type CHPID

Explanation: An OSA CHPID in the IOCDS has no device information associated with it. Device and unit address values are required in the IOCDS for the OSA CHPID.

User Response: Verify that the IOCDS has CNTLUNIT and IODEVICE information associated with each OSA CHPID. Refer to the planning guide for hardware and IOCDS requirements.

IOAx478I No devices associated with this CHPID are applicable

Explanation: An OSA CHPID in the IOCDS has device information associated with it, but the device information is not valid for an OSA CHPID.

User Response: Verify that the IOCDS CNTLUNIT and IODEVICE information associated with each OSA CHPID has valid OSA device information. Refer to the planning guide for hardware and IOCDS requirements.

IOAx479I The requested partition is not described in the I/O configuration

Explanation: The specified LP is not defined in your IOCDS.

User Response: Return to HCD and define LP to system.

IOAx480W No LP reconfig access for the requested CHPID

Explanation: OSA/SF attempted to access the internal logical partition reconfiguration information for an OSA CHPID. The attempt failed.

User Response: Refer to the planning guide for information on hardware requirements to attach OSA and run OSA/SF. If all requirements are met, contact the IBM support center.

IOAx481E No reconfig access to LP processing command

Explanation: OSA/SF attempted to access the internal logical partition reconfiguration information for an OSA CHPID. The attempt failed.

User Response: Refer to the planning guide for information on hardware requirements to attach OSA and run OSA/SF. If all requirements are met, contact the IBM support center.

| **IOAx492E** **Could not access file:** ssssssss

Explanation: This message is in response to message IOAx491E. It indicates which channel file could not be accessed.

User Response: Refer to message IOAx491E for further information and corrective action.

IOAx493E **Input or output block pointer not correct on command**

Explanation: An OSA/SF internal error occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx494E **ALL specified for command which is directed to one channel**

Explanation: The "ALL" option was specified for a command that does not support the "ALL" option.

User Response: If this message is issued for a command entered from CMS, remove the "ALL" option. If the message is issued for another reason, contact the IBM support center.

IOAx495E **Unknown field ID used on command. See message log for details**

Explanation: An OSA/SF internal error occurred.

User Response: Check the ID listed in message IOAD496E in the message log. If it is not a valid ID, correct it and reenter the command. ID values must be in the form of X'0000nnnn'. If it is a valid ID, contact the IBM support center.

IOAx496E **Incorrect ID xxxxxxxx is being set for ssssssss field**

Explanation: xxxxxxxx is the ID being set. ssssssss is replaced by one of the following: non-port type, FDDI, Token Ring, or Ethernet.

User Response: See message ID IOAx495E for more information and instructions.

| **IOAx497E** **File Open Error xx on sss...sss**

Explanation: The OSA channel file sss...sss could not be opened because of error xx. The value of xx could be any of the following:

- 07 - I/O buffer could not be allocated
- 08 - LRECL or BLKSIZE exceeds maximum allowable value
- 41 - System level open failed
- 45 - File is already open
- 47 - Invalid input for filename
- 49 - Cannot locate the file specified
- 50 - Cannot catalog new filename used in rename routine

- 57 - Open mode string is invalid
- 61 - Error trying to define file to system
- 63 - Error in control block
- 67 - Trying to open non-existent file for READ
- 74 - Open parameters require "type=record" specified
- 79 - File was not opened as: "type=record"
- 86 - Open mode specified invalid for PDS member
- 87 - File characteristics specified do not match those of the existing file
- 88 - Open mode specified invalid for device
- 91 - Unable to perform function due to failure of a system utility
- 92 - An I/O abend has been trapped
- 95 - Requested disk not accessed or file not found
- 98 - Invalid RECFM for opening PDS member
- 113 - Bad file descriptor
- 117 - File exists
- 121 - Invalid argument

These error numbers are found in *IBM C/370 Programming Guide Version 2 Release 1*, SC09-1384.

User Response: During initialization or processing of a command, OSA/SF could not create the file, please try the command again. If the condition continues, contact the IBM support center.

IOAx498W **Channel File Error. View Message Log for error**

Explanation: An error has occurred during a file operation for a channel file. Additional information about the error can be found in the OSA/SF message log.

User Response: Issue the Get Debug command to get a copy of the message log. (Refer to the command section in the user's guide for information about the Get Debug command.) Locate message IOAx498W in the message log. Then look back a few lines in the message log for additional channel file error messages. These messages will provide additional information.

| **IOAx499E** **Channel File Error. Do get_debug TRACE**

Explanation: An internal OSA/SF error has occurred. The error relates to the channel file data sets.

User Response:

- Issue the Get Debug command to obtain a copy of the OSA/SF trace table.
- Reissue the Get Debug command to get a copy of the OSA/SF message log.
- Contact the IBM support center.

| **IOAx500E** **CHPID in PVC and input block mismatch**

| **Explanation:** The CHPID number does not match on the OSA/SF data cache operation.

Messages

| **User Response:** Report the problem to the IBM Support Center.

IOAx501E Empty PVC block passed

| **Explanation:** No data is passed to OSA/SF data cache component for the PVC operation.

| Report the problem to the IBM Support Center.

IOAx503E A Data Manager internal block was not found

| **Explanation:** This is an internal error.

| **User Response:** Issue the Get Debug command, specifying Trace Table and send it to IBM. Contact the IBM support center.

| Currently, this error only occurs when the DMGR SaveInfo area has not been found. In the future, this will become a generic message for any internal DMGR block not found. There will always be a trace associated with this message specifying exactly which block was not found.

IOAx505E Bad return code *nm*. Get debug trace from OSA/SF

| **Explanation:** The return code *nm* was received trying to do the requested function.

| **User Response:** Do the following:

- Issue the GET_DEBUG command, specifying TRACE_table.
- Forward this data to IBM service.
- Contact the IBM support center.

IOAx506I The system channel type does not match the one currently in OSA/SF

| **Explanation:** The current channel type (as determined by the channel subsystem information) is different from the channel type currently in the OSA/SF cache. The old channel file information will be removed from the cache and replaced with information appropriate for the new channel type.

| **User Response:** None. This message is generated if you put in a new channel of a different type. For example, if the old channel type in cache is OSA2 and the channel type from CHSC is Hydranet.

IOAx507I Channel saved information not being used due to channel type mismatch

| **Explanation:** The current channel type (as determined by the channel subsystem information) is different from the channel type saved in the channel files. The information from the channel files will not be used.

| **User Response:** None. This message is generated if you put in a new channel of a different type. For

| example, if the old channel type in cache is OSA2 and the channel type from CHSC is Hydranet.

IOAx508E Size mismatch for *sssss*. ID is *xx*, size is *yy*

| **Explanation:** This is an internal error.

| **User Response:** None.

IOAx509E The CHPID type for CHPID *cc* is not valid for this command

| **Explanation:** The command is not allowed for the type of CHPID targeted.

| **User Response:** Reissue the command against the correct type of CHPID.

IOAx510E Parameter length of *pp* not valid for port info structure

| **Explanation:** Internal error. The size of the input structure to set the port type is incorrect.

| **User Response:** Contact the IBM support center.

IOAx511W Number of ports not specified when setting port type

| **Explanation:** Internal OSA/SF component did not set up parameters correctly.

| **User Response:** Contact the IBM support center.

IOAx522E OSA/SF was not able to access channel file information for CHPID *cc*

| **Explanation:** OSA/SF had a channel file error after initialization was completed. Messages IOAD499W and IOAD505W detail the error. You must resolve this error before issuing any other OSA/SF commands.

| **User Response:** Make sure a 70xx minidisk has been created and is available as described in the planning guide. If this is not a VM guest, then a channel file is missing or unable to be accessed for some reason. Processing can continue, but certain commands will not work.

IOAx523E OSA/SF was not able to access channel file information for a CHPID

| **Explanation:** OSA/SF had a channel file error after initialization was completed. Messages IOAD499W and IOAD505W detail the error. The actual CHPID number is in message log in message IOAD522E. You must resolve this error before issuing any other OSA/SF commands.

| **User Response:** Make sure a 70xx minidisk has been created and is available as described in the planning guide. If this is not a VM guest, then a channel file is

missing or unable to be accessed. Processing can continue, but certain commands will not work.

IOAx525E Size of ssss (ssd); constant size is sss

Explanation: A control block has changed in the OSA/SF internal data.

User Response: You must upgrade to the most recent copy of OSA/SF.

IOAx526E Data block size mismatch. See message log for details

Explanation: This is an internal error.

User Response: This error occurs when the data manager control blocks are updated incorrectly and are no longer the correct size. The message log contains complete details (IOAD508E/IOAD525E). Collect this information and contact the IBM support center.

IOAx601I Minidisk I/O problem DevNum=xxxx, RC=yyyy

Explanation: The OSA/SF server virtual machine attempted a link to a minidisk and the link was unsuccessful.

xxx = the CHPID specific minidisk
 yyy = return code

Description of the return codes:

- 1yyy - A MR link was attempted, but failed. yyy is the CP return code of the failing command. CP return codes are described in *VM CP Command Reference Guide*. A failure to obtain a MR link is usually because the disk is already linked in write mode by another OSA/SF image, or the minidisk was not properly defined in the CP directory during installation.
- 2yyy - a Read Only (RR) link was attempted, but failed. yyy is the CP return code. CP return codes are described in *VM CP Command Reference Guide*. Verify that the minidisk is properly defined in the CP directory.
- 3yyy - an internal OSA/SF error occurred. Contact the IBM Support Center.

User Response: Use the explanations to determine more information. Verify the minidisks are properly defined in the CP directory and that another OSA/SF image does not have the disk linked in write mode. If you cannot correct the problem, contact the IBM Support Center.

IOAx638E No SNA connection data available for port pp

Explanation: No VTAM is actively using the OSA for Port pp.

User Response: None. Check again after VTAM activity has started.

IOAx639W The Netview PPI module could not be loaded into memory

Explanation: The module containing the Netview Program to Program Interface (PPI) function could not be loaded into memory. An alertable condition was detected by OSA hardware. OSA/SF attempted to load the Netview PPI module into memory as part of the processing required to notify Netview of the alertable condition detected by the OSA hardware. The load of the module into memory failed.

User Response: If the Netview product is not installed or Netview is not being used to record alert conditions detected by OSA hardware, then this message may be ignored.

If the Netview product is installed and Netview is to be used to record alert conditions detected by OSA hardware, then verify that the library containing the Netview PPI module is in the library search path specified when starting OSA/SF.

- For MVS, verify that the Netview load module library is included in the list of libraries specified by the STEPLIB DD statement in the JCL procedure used to start OSA/SF.
- For VM, verify that the Netview load module library is included in the list of libraries specified on a GLOBAL LOADLIB command issued before OSA/SF was started.
- For VSE, verify that the Netview load module library.sublibrary is in the startup JCL for the OSA/SF job.

IOAx640E LEC port state is unchanged. Physical port on CHPID cc is disabled

Explanation: An attempt was made to enable a logical ATM port, but the associated physical port was disabled.

User Response: Enable the physical port, then enable the logical port.

IOAx641E Netview PPI failed to send alert, PPI rc=rc

Explanation: OSA/SF uses the Netview program-to-program interface (PPI) to report alerts (messages describing a problem) to a Netview focal point. An attempt to use the PPI failed. Return coderc was issued by the Netview program-to-program interface.

User Response: Refer to the NetView Application Programming Guide to determine the cause of the PPI failure and perform corrective actions as indicated.

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IOAx642E The Netview subsystem is not active or available

Explanation: OSA/SF uses the Netview program-to-program (PPI) interface to report alerts (messages describing a problem) to a Netview focal point. The PPI is used to query the program-to-program interface status before attempting to report an alert to Netview. This query indicated that the Netview PPI was not able to receive alerts.

User Response: If the Netview product is not installed or Netview is not being used to record alertable conditions detected by OSA hardware, then this message may be ignored.

If the Netview product is installed and Netview is to be used to record alertable conditions detected by OSA hardware, then verify that the library containing the Netview PPI module is in the library search path specified when starting OSA/SF.

- For MVS, verify that the Netview load module library is included in the list of libraries specified by the STEPLIB DD statement in the JCL procedure used to start OSA/SF.
- For VM, verify that the Netview load module library is included in the list of libraries specified on a GLOBAL LOADLIB command issued before OSA/SF was started.
- For VSE, verify that the Netview load module library.sublibrary is in the startup JCL for the OSA/SF job.

Determine the state of the Netview PPI as described in NetView Operation. Perform the actions necessary to activate the PPI as described in Netview Operation.

IOAx643E Unknown adapter type reported by OSA/SF.

Explanation: OSA/SF identified an unknown adapter. OSA/SF can only forward alerts (messages describing a problem) to Netview for Token Ring, Ethernet, FDDI, and Fast Ethernet.

User Response: Contact the IBM support center.

IOAx644E OAT entry LP *pp* UA *uu* was specified more than once in the input

Explanation: Logical Partition number and Unit Address number was specified more than once in the PUT_OAT input dataset

User Response: Correct the input data and reissue the command

IOAx645E SNA Network Management device was specified more than once in the input

Explanation: For each OSA device operating in SNA mode, there can only be one SNA network management device.

User Response: Correct the input data and reissue the command.

IOAx646I SNA Network Management device LP *pp* UA *uu* already exists

Explanation: The existing SNA network management device with Logical Partition number and Unit Address number is already defined.

User Response: None.

IOAx647W No OAT entries specified in input for CHPID *cc*

Explanation: There is no OAT entries found in the input file for PUT_OAT command. *cc* is the CHPID.

User Response: Specify OAT entries in the input file for PUT_OAT command.

IOAx648I Command completed successfully. Config CHPID *cc* off/on to activate

Explanation: The requested action completed. A CHPID reset is required to activate the changes.

User Response: Quiesce all traffic on the LAN ports on the associated OSA CHPID. Configure the CHPID offline and then online from all logical partitions.

IOAx649E LAN port parameter ID *xx* is not supported by port *mm*

Explanation: The input parameter is not valid for the specified port type.

User Response: reenter the correct parameter or specify the correct port type or port number. If error persists, call IBM service.

IOAx650E Input not supported by firmware level *ll* of CHPID *cc*

Explanation: The minimum firmware level to support the input is not installed on the specified CHPID.

User Response: Upgrade the firmware level of the specified CHPID. If error persists, call IBM service.

IOAx652E OSA configuration data has changed

Explanation: Changes have been made to OSA configuration information since the last command was entered. OSA/SF is responding to an alert status from the OSA. A SNMP may have accessed the OSA.

User Response: Use the Query command to obtain the updated information on the OSA. Then resume the command sequence in progress when this message was issued.

IOAx653E Image ssssssssss is not compatible with OSA processor code level x

Explanation: A mismatch exists between the OSA mode image and the OSA processor code that is currently on the OSA features.

sssssssssss = label of the OSA mode image
 x = high-level qualifier of the OSA processor code

User Response: Make sure the machine is at the appropriate MCL level to support the OSA ATM feature.

IOAx654E Specified configuration file is not supported by this hardware type

Explanation: The IOACFG configuration file for this CHPID does not match the hardware definition.

User Response: Create a new configuration that matches the hardware definition for the CHPID.

IOAx655E Specified configuration file is corrupted

Explanation: The configuration file specified in the IOACFG is not readable.

User Response: Configure the CHPID using a new configuration as specified in the OSA/SF documentation.

IOAx656E No dataset found in OSA Configuration file for this install

Explanation: The install command was issued but the IOACFG did not contain any information for the specified CHPID.

User Response: Set up the configuration and issue the install command.

If you are using the GUI:

1. Highlight the CHPID on the OSA-CHPIDs panel
2. Selected from the Click menu bar
3. Click Configuration from the pop-up menu
4. Click Configuration-list from the pop-up menu
5. Create a new configuration using the Add button
6. Save and activate the configuration

If you are using REXX:

1. Copy the sample configuration from the IOA.SIOASAMP
2. Modify the configuration file and set up an OAT file
3. Enter Configure OSA command from REXX

If the problem persists, contact the IBM support center.

IOAx657E Configuration file version x is not supported

Explanation: OSA/SF and OSA firmware are not compatible.

User Response: Either upgrade OSA/SF or OSA firmware. Contact the IBM support center.

IOAx658E Incorrect configuration file specified for ssss port pp

Explanation: The specified configuration file for port pp is not the correct type for the port type or configuration file type shown in ssss.

User Response: Correct the filetype in OSAS.CONFIG or use the GUI to set up the configuration file. If problem persists, contact the IBM support center.

IOAx659E File not installed due to failure on the ssss file

Explanation: This configuration file was not written because the associated physical configuration file encountered a failure when writing to the OSA feature. ssss is the OSA port type.

User Response: See error message that is associated with the physical configuration file and take appropriate action. If the problem persists, contact the IBM support center.

IOAI660E %s = %s and is out of range

Explanation: The specified configuration variable (s) entered in the configuration file was found to have a value (x) that exceeds the valid range.

User Response: Update the configuration file variable that fits in the valid range.

Contact the IBM support center.

IOAx661E Unable to open OSA configuration file

Explanation: An error has occurred while trying to open the OSA/SF configuration file.

User Response: Ensure the OSA configuration file is cataloged to this partition, is not in use by another user or another user in another logical partition. If the condition continues, contact the IBM support center.

IOAx662E Incorrect parameter pointer passed to Install

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

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IOAx663E Incorrect operation code passed to Install

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx664E Incorrect parameter length passed to Install

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx665W Incorrect file name found in OSA Configuration file

Explanation: A filename, in a format which is not valid, was found in the OSA configuration file (IOACFG).

User Response: Examine the list of files found in the OSA configuration file to find the file which is not valid.

IOAx666E Install output table overflow

Explanation: An internal OSA/SF error has occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx667E No OSA mode file for CHPID *cc* in the OSA configuration file.

Explanation: An Install of an OSA mode to an OSA was attempted. The OSA mode file and/or the OSA image and/or the OAT was (were) not loaded on the OSA device.

User Response: If using the GUI, check the command output window and message log output window for further messages and information. If using the CMS interface, additional information should be displayed. After corrections, retry the Install command. If the condition continues, contact the IBM support center.

IOAx668W Incorrect file name length

Explanation: A file specified in the OSA/SF master index file has an incorrect logical record length (LRECL) or an incorrect block size (BLKSIZE).

User Response: The OSA/SF master index file contains a list of OSA/SF files. One of the files in the list has a logical record length (LRECL) or a block size (BLKSIZE) that does not match the files in the list *of the same OSA/SF configuration type*.

IOAx671W GETMAIN failure

Explanation: Unable to allocate storage for an OSA/SF operation. This could be the result of a storage constraint or an OSA/SF region size that is inadequate.

User Response: Free up system storage resources. Also check the OSA/SF userid console for error messages. Increase the OSA/SF region size. Stop then restart OSA/SF.

IOAx672W Dynamic de-allocation failed with RC=*aaaa*, reason=*bbbb*

Explanation: Dynamic de-allocation failed for a data set specified in the OSA configuration data set.

aaaa = return code from DYNALLOC macro

bbbb = reason code from DYNALLOC macro

User Response: Check return code from DYNALLOC macro. The DYNALLOC macro documentation can be found in *Programming: Authorized Assembler Services Reference, Volume 1*, GC28-1475. Make corrections. Stop and restart OSA/SF.

IOAx673W Install command did not complete successfully

Explanation: An Install of an OSA mode to an OSA was attempted. The OSA mode (image) was not installed on the OSA.

User Response: If using the GUI, check the command output window and message log output window for further messages and information. If using the CMS interface, additional information should be displayed. After corrections, retry the Install command. If the condition continues, contact the IBM support center.

IOAx674W CHPID number found in OSA configuration file is not valid

Explanation: A CHPID number in the OSA's configuration file was found to have an incorrect format. The correct format is:

OSAnn ...where "nn" is the OSA CHPID number.

User Response: Examine the OSA configuration file and look for an incorrectly formatted OSAnn CHPID number.

Make corrections. Then reissue the Install command.

IOAx677E Unable to open Master Index File

Explanation: OSA/SF was unable to open the master index file.

User Response: Ensure that the file is not in use by another user in this logical partition or in any other logical partition.

IOAx678E OSA Status Register read failed

Explanation: An OSA/SF internal error occurred.

User Response: If the condition continues, contact the IBM support center.

IOAx679E Open failed for file to be downloaded

Explanation: OSA/SF was unable to open one of files listed in the configuration or master index files. Verify that the files are not in use by another user or application.

User Response: Check that the files specified in the configuration and master index files are correct.

If the condition continues, contact the IBM support center.

IOAx680E OSA/SF release VxRxMx doesn't support hardware level of CHPID cc

Explanation: There is a co-dependency between the OSA hardware and the OSA/SF software level. For CHPID *cc* the co-dependency is not met.

User Response: Refer to the planning guide for a list of OSA device and OSA/SF mode co-dependencies. Obtain the correct level of OSA/SF that supports the OSA CHPID.

IOAx681W Code Image xxxx wasn't written because it's already loaded on the OSA

Explanation: The code image *xxxx* was not written to the OSA. The name of the image that was requested to be written (installed) matches the name of the OSA mode image that is currently installed on the OSA device.

User Response: To write (re-write) the same named OSA mode image *xxxx*, reissue the OSA/SF Install command with the Force option.

IOAx682E Unable to open file *fff..fff*

Explanation: The file could not be opened during the Install process.

fff..fff = name of the file that could not be opened by OSA/SF

User Response: Determine why the file cannot be accessed. If the condition continues, contact the IBM support center.

IOAx683E Unable to read file *fff*

Explanation: The file could not be read during the Install process.

fff = name of file that could not be read by OSA/SF

User Response: Determine if the file exists. If the file exists determine why it cannot be accessed.

If the condition continues, contact the IBM support center.

IOAx684E Configuration Set Up Error

Explanation: The file type (image type) specified in the configuration file is not valid for this OSA device.

User Response: Check the configuration for this OSA. Then check the file type in the configuration file. Correct the configuration file, stop OSA/SF if it is still running, then restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx687E Incorrect Image type is specified for this OSA hardware type

Explanation: The image file (I-file) that is identified in the configuration file contains an image that is not valid for this OSA.

User Response: Verify the OSA type installed. Verify the configuration matches the OSA hardware (for example FDDI, Token Ring, ATM, or Ethernet). See the planning guide for more information on configurations and OSA hardware types. Verify that the OSA/SF install completed successfully.

If the condition continues, contact the IBM support center.

IOAx688E Specified configuration is not supported by this OSA hardware type

Explanation: The image data set (I-file) that is identified in the OSA/SF configuration data set contains an image that is not valid for this OSA-1 device type.

User Response: Verify the OSA type installed. Then verify the configuration matches the OSA-1 hardware (for example FDDI, Token Ring, or Ethernet). See the planning guide for more information on configurations and OSA hardware types. Use the Activate sequence to load the configuration to the OSA. The OSA/SF configuration data set is pointed to by the IOACFG entry in the OSA/SF startup profile. The OSA/SF Startup Profile is a data set that is pointed to from the DD card IOAPROF within the OSA/SF Started Procedure (task). See chapter 2 of the user's guide for more information about the OSA/SF startup profile.

If problems continue, Contact the IBM support center.

IOAx689E Specified configuration is not supported by this OSA hardware type

Explanation: The image file (I-file) that is identified in the configuration file contains an image that is not valid for this OSA-2 hardware type.

User Response: Verify the OSA type installed. Verify the configuration matches the OSA-2 hardware (for

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example Token Ring or Ethernet). See the planning guide for more information on configurations and OSA hardware types. Use the Activate sequence to load the configuration to the OSA.

If the condition continues, contact the IBM support center.

IOAx690E Specified configuration is not supported by this OSA hardware type

Explanation: The image file (I-file) that is identified in the configuration file contains an image that is not valid for this OSA-2 hardware type.

User Response: Verify the OSA type installed. Then verify the configuration matches the OSA2-ATM hardware (for example Token Ring or Ethernet). See the planning guide for more information on configurations and OSA hardware types. Use the Activate sequence to load the configuration to the OSA.

If the condition continues, contact the IBM support center.

IOAx691E Unknown hardware model passed to Install

Explanation: This is an internal OSA/SF error.

User Response: If the condition continues, contact the IBM support center.

IOAx692E Unable to read label for ssss

Explanation: In the process of an INSTALL/ACTIVATE command, OSA/SF is unable to read the label for the specified image file ssss. The possible cause could be a corrupted image file.
ssss = specified image file in the IOACFG

User Response: Report to IBM service.

IOAx693W Install for CHPID cc not complete. See Message log for details

Explanation: The INSTALL sequence for this CHPID (OSA) did not complete successfully. See the message log for more information.
cc = CHPID

User Response: Read the message log. It may be necessary to do an ACTIVATE or INSTALL again.

IOAx694I Install CHPID nm completed successfully

Explanation: The Install command was issued from either the GUI or CMS. The OSA mode (image) was successful for OSA (CHPID) nm.

User Response: Continue with the instructions in the OSA/SF user's guide.

IOAx695I Install CHPID nm started

Explanation: An install operation was issued from the operator Modify command. The installation process has successfully started.

User Response: Monitor the system and message log for additional messages that will state the success or failure of the installation. Processing continues.

IOAx696W Install for CHPID cc not complete. See command output for details

Explanation: The INSTALL sequence for this CHPID (OSA) did not complete successfully. See the command output window for more information if using the GUI. If CMS, messages should be in system console that issued command.

cc = CHPID

User Response: Read the command output window. It may be necessary to do an ACTIVATE or INSTALL again. If the condition continues, contact the IBM support center.

IOAx697E Incorrect CHPID cc was specified

Explanation: Incorrect CHPID (OSA) was specified with the MVS modify command.

cc = CHPID - must be alphanumeric from 00 through FF

User Response: Correct the CHPID and retry the command.

IOAx698E Busy installing CHPID cc. Retry command later

Explanation: OSA/SF is busy trying to install CHPID cc. This could be because OSA/SF is currently doing an install to another CHPID.

cc = CHPID - must be alphanumeric ranged from 00 through FF

User Response: Retry the command when the INSTALL for CHPID cc is complete.

IOAx699E Incorrect option specified for CHPID cc

Explanation: An incorrect option was entered with the MVS modify command for an OSA install. Valid options are FORCE and NOFORCE. The default is NOFORCE.

NOFORCE installs the OSA mode only when an image does not already exist, or when the images are different.

FORCE installs the OSA mode regardless of any image already on the OSA feature.

Command Syntax: F OSASE,INSTALL cc,FORCE or NOFORCE

User Response: Retry the command with the correct option.

IOAx700E Incorrect parameter ssssss specified

Explanation: An incorrect parameter was specified with the MVS modify command for an OSA install. The only valid command is INSTALL. The only required parameter is the CHPID number. Optional parameters are FORCE or NOFORCE. The default is NOFORCE.

The syntax is **F OSASF,INSTALL cc,FORCE**; where OSASF is the started task name, and cc is the CHPID (OSA).

User Response: Retry the command with the correct parameter or syntax.

IOAx701E An attempt was made to free a not valid internal region

Explanation: This is a internal OSA/SF error.

User Response: If the condition continues, contact the IBM support center.

IOAx702I Delete the unknown region at line d of s

Explanation: Where the first replaceable is replaced by the line number of the module which issued the delete and the second is the filename. The pointer to the region will be contained in a trace entry. An OSA/SF component has attempted to free an internal storage area that was already freed.

User Response: OSA/SF continues to run. Contact IBM support and have the message log available.

IOAx756W IOASTADM load failed with rc=rrrrrrrr

Explanation: OSA/SF uses a recovery routine, IOASTADM, to handle errors. The recovery routine is LOADED when OSA/SF is started. OSA/SF was unable to load the OSA/SF recovery routine successfully. Therefore, no OSA/SF recovery action will take place for any exception conditions.

rrrrrrrr = return code from LOAD macro.

User Response: Investigate the return code from the LOAD macro. Make corrections. Then stop and restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx801E Region service failed with RC=rrrrrrrr

Explanation: An internal error has occurred in an OSA/SF memory allocation service routine.

rrrrrrrr = return code for IBM diagnostic use

User Response: Additional storage resources are needed by OSA/SF. Check the OSA/SF region size and increase if required. Also check the OSA/SF ID for additional storage resource constraint messages. Free

up system storage resource and retry the command that received this message.

If allocating additional storage for OSA/SF does not correct the situation, contact the IBM support center.

IOAx820I CHPID cc is no longer managed by this partition

Explanation: The OSAD device number with unit address X'FE' was varied offline, so OSA CHPID *cc* cannot be managed by OSA/SF in this partition.
cc = CHPID

User Response: No action is needed if the OSAD device was knowingly varied offline from the system. Vary the OSAD device back online. Message IOAx821I should then follow.

IOAx821I CHPID cc is now managed by this partition

Explanation: The OSAD device for the CHPID (OSA) was varied online and is now being managed by the OSA/SF in this partition.
cc = CHPID

User Response: When an OSAD device comes online to the system, OSA/SF will assume management control of the CHPID (if no other OSA/SF is currently managing the OSA). This informational message notifies the user that no user action is required.

IOAx823E GETMAIN failed with rc = dddd.

Explanation: Unable to allocate storage successfully. Failing return code is indicated by *dddd*.
dddd = GETMAIN return code

User Response: Investigate the return code from the GETMAIN macro. Make corrections. Then stop and restart OSA/SF. If the condition continues, contact the IBM support center.

IOAx861E Specified PVC name ssssssss is not valid for ATM IP forwarding mode

Explanation: When running in ATM IP Forwarding mode, only PVC name WANPVC00 is allowed.

User Response: Correct the PVC name in the input and retry the command.

IOAx862E Only one PVC is allowed when configuring ATM IP forwarding mode

Explanation: You specified more than one (1) PVC entry while configuring ATM IP forwarding.

User Response: Fix the input file (GUI or REXX) and retry command.

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IOAx863E More than 16 passthru entries with IP addresses specified for port 0

Explanation: There are more than 16 TCP/IP entries with IP addresses defined in the OAT. You can only define a maximum of 16 IP addresses per port.

User Response: Define only a maximum of 16 OAT entries with IP addresses for the specified port.

IOAx864E Primary default entry not removed; secondary (LP p UA uu) exists

Explanation: A port can only have one of the following:

- No default entries
- One primary default entry
- Both a primary default entry and a secondary default entry

This OAT entry was previously defined as the primary default entry for the associated port. Replacing this entry would cause the port to have a secondary default entry without a primary default entry. This is not valid. The secondary default entry currently defined has a unit address uu for logical partition p .

- p = logical partition (LP) number
- uu = unit address

User Response: Specify a replacement primary default entry or remove both the primary and secondary default entry.

IOAx865E Multi IP addresses not supported by OSA processor code level $x.yy$

Explanation: The multiple IP addresses protocol is not supported by the OSA processor code level $x.yy$. The OSA processor code that supports this enhancement is as follows:

- OSA2-6.30
- OSA2-ATM-5.A0
- OSA2-FENET-1.50

User Response: Obtain the specified or higher level of OSA processor code and reissue the PUT_OAT command.

IOAx866E Secondary default entry (LP p UA uu) specified without a primary

Explanation: A secondary default entry was specified without a primary LP being on the port.

User Response: Add a primary default entry to the input and reissue the PUT_OAT command..

IOAx867E Get configuration command not valid for new ATM CHPID cc

Explanation: A new ATM CHPID does not contain a configuration. This command will therefore not work

correctly until the CHPID has been configured once.

User Response: Use either the GUI configuration panels or the IOAATM2 SAMPLE file to configure this CHPID. Once you have configured the ATM CHPID using either of these methods, this command will return valid data.

IOAx868E Duplicate IP addresses found for LP p UA uu

Explanation: The specifies OAT entry for LP p UA uu has multiple IP addresses and more than one IP address was found to have the same value.

- p = logical partition (LP) number
- uu = unit address

User Response: Fix the data being used for the PUT_OAT command. Reissue the PUT_OAT command, whichever was used.

IOAx869E Data not consistent for LP p UA uu & LP p UA vv (Group of 2)

Explanation: OAT entries LP p UA uu and LP p UA vv combine to make one valid OAT entry with a group size of 2. The settable data for both entries (if specified in the input) must match.

- p = logical partition (LP) number
- uu = unit address(even)
- vv = unit address(odd)

For Passthru Type, check
port number
IP address(es)
NetMask(s) if applicable

For HPDT MPC Type
port number
OSA name

User Response: Fix the data being used for the PUT_OAT command. Reissue the PUT_OAT or Install command, whichever was used.

IOAx870E Entry type dd is not supported for CHPID cc

Explanation: The specified device type dd is not supported on this OSA platform/configuration.

Where dd can be:
Passthru
SNA
SNA Network Management

User Response: Fix the data being used for the PUT_OAT command. Reissue the PUT_OAT or Install command, whichever was used.

IOAx871E PVC name *ssss* already used by another PVC entry in the input

Explanation: The PVC name specified *ssss* is already used by another PVC entry in the input.

User Response: Choose another PVC name for this entry or remove this PVC entry.

IOAx872E Entry type *dd* is not supported in *ssss* mode for CHPID *cc*

Explanation: The specified entry type *ssss* is not supported when the OSA is configured in *mmmm* mode.

Where *ssss* can be:

- | Passthru
- | SNA
- | SNA Network Management

Where *mmmm* can be:

- | HPDT Native
- | ATM(LE)

User Response: Fix the data being used for the Put OAT command. Only MPC entry types are valid when the OSA is in HPDT Native mode. Only passthru and SNA entry types are valid in ATM (LE) mode.

IOAx873I timestamp CHPID *cc* port *pp* default entry is LP *nn* UA *uu*

Explanation: All unknown IP packets received by port *pp* in CHPID (OSA) *cc* will be forwarded to LP *nn* UA *uu* per default OAT entry. This situation can occur under these conditions:

You reset the specified CHPID, and either the primary or secondary default OAT entry is now active.

No primary or secondary default OAT entry was originally defined, but now you have defined one and activated the new configuration.

Both primary and secondary default OAT entries were defined. Because of either an overt action on your part or because of an error on the primary, unknown packets are now being forwarded to LP *n* UA *uu* as defined for the secondary default.

Where

- cc* = CHPID number
- pp* = port number
- nn* = Logical partition number
- uu* = unit address number

The specified port on the CHPID (OSA) was previously identified as the default entry for forwarding IP packets and is no longer forwarding the packets.

User Response: No action is necessary if you want unknown IP packets to be forwarded to the LP/UA specified in the message text. If you do not want

unknown packets forwarded to this LP/UA combination, do the following:

- Check that the OAT entries you specified as being the primary or secondary default OAT entries are on the CHPID.
- After this check, if you determine it is not what you want, remove the default OAT entry indicator from this LP/UA OAT entry.
- After this check, if the LP/UA specified is for the secondary default OAT entry and you want unknown packets going to the primary default OAT entry, then verify that TCP/IP is active on this combination. This may require problem determination as to why the primary default originally failed.

IOAx874W timestamp CHPID *cc* port *pp* is no longer forwarding unknown packets

Explanation: The specified port on the CHPID (OSA) was previously identified as the default entry for forwarding IP packets and is no longer forwarding the packets.

Where

- cc* = CHPID number
- pp* = port number

User Response: This message may require you to take action.

If there was a primary or secondary default OAT entry on the specified CHPID/port forwarding unknown packets, one or both of these entries are no longer available.

Check that TCP/IP is active on the specified LP/UA designated as the primary and/or secondary default OAT entry.

IOAx875E Empty Application Dump area for CHPID *cc*

Explanation: The CHPID you issued the GET_DEBUG command to does not have an active SNA application. For OSA2-ATM, there can be two application segments, one for the SNA application and one for the ATM application.

This message can be issued if:

- The OSA2-ATM CHPID is not configured for any mode.
- The OSA2-ATM CHPID is configured in HPDT ATM Native or IP forwarding mode. In either of these modes, the SNA application is not active.

User Response: To configure the OSA mode, refer to “Chapter 4. Customizing OSAs Using OSA/SF GUI (OS/2 or Windows)” on page 25 or “Chapter 5. Customizing OSAs Using REXX from CMS” on page 47.

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IOAx876E Incorrect data returned from CHPID *cc*

Explanation: The data returned from CHPID *cc* is not valid. This is an internal error probably in the OSA firmware.

User Response: Contact the IBM support center.

IOAx877E An internal OSA/SF error occurred.
Reason code *cccc*

Explanation: An internal OSA/SF error occurred. The reason code is used by IBM to determine where the failure occurred.

User Response: Contact the IBM support center.

IOAx878E Port state on CHPID *c* Port *p* is not valid

Explanation: The port specified has indicated an unarchitected state to OSA/SF.

User Response: Click on the port you are trying to recover.

- Click on hardware state.
- Select the Disable option.
- Click on hardware state again.
- Select the Enable option.

If the problem persists, contact the IBM support center.

IOAx879E Unable to enable physical port associated with port *pppp*

Explanation: This message is generated when you attempt to enable a physical port and an error occurs enabling the associated physical port.

User Response: Follow local procedures for enabling port.

IOAx880E *ssss* port *pp* is not currently configured for CHPID *cc*.

Explanation: Where *ssss* is either Native ATM or emulated, this message is returned whenever you issue a command against a specific port type that is not configured on the OSA feature.

User Response: Determine desired action (either reconfigure the card or issue the correct parm ID for the currently configured type) and reissue command.

IOAx881E LP *n* UA *nnn* had an OSA OAT reject code of *xxxx*

Explanation: The LP/UA combination indicated had an error described by the reject code *xxxx*.

User Response: See *OS/390 eNetwork Communications Server: IP User's Guide*, SC31-8514, for more information about this error.

IOAx882I Action complete. Configure CHPID *cc* off/on to activate the changes.

Explanation: The action you started is complete. Configure the CHPID offline in all logical partitions and then online to complete the action you just performed.

User Response: See *OS/390 eNetwork Communications Server: IP User's Guide*, SC31-8514, for more information about this error.

IOAx883E SSAP *nn*, DSAP *nn*, DMAC *nn*

Explanation: This message contains the information that could not fit into message IOAx312I.

User Response: Same as IOAx312I.

IOAx887W LP *x* UA *y* is not defined in the Channel Subsystem

Explanation: The specified OAT entry is defined in the configuration but not defined in the Channel Subsystem. The OSA can only flow traffic if the LP/UA combination is defined in both the Channel Subsystem and in the OAT.

User Response: Define the devices in the Channel Subsystem and retry the process.

IOAx950E No file ID for file *mm*

Explanation: None.

User Response: Contact the IBM support center.

IOAx951W Not valid or closed pipe

Explanation: This is an internal OSA/SF error.

User Response: Stop and restart OSA/SF to attempt a recovery. If the condition continues, contact the IBM support center.

IOAx952W Failed to open pipe communications

Explanation: This is an internal OSA/SF error.

User Response: Stop and restart OSA/SF to attempt a recovery. If the condition continues, contact the IBM support center.

IOAC956E Pipe Communication Error *dd*

Explanation: An internal communication error occurred within OSA/SF.

User Response: Stop and restart the Attention Server (IOANMAIN). If the problem persists, contact the IBM support center.

IOAx999I Configuration Mode for CHPID cc is
mmmmmmmmmm

Explanation: This is an informational message to indicate what configuration mode the specified CHPID is running with.

mmmmmmmmmm is one of the following or a valid combination of the following.

- ATM(LE)
- TCP/IP Passthru
- SNA

User Response: None.

Messages

Appendix D. OSA/SF Commands For CMS

This section describes OSA/SF commands for the CMS end user interface.

Enter OSA/SF commands from a CMS Ready prompt. All tasks done with OSA/SF commands can also be done using the OS/2 OSA/SF GUI. Many of the commands have the same name on the GUI, but not all of them.

Attention

Enter **IOACMD** in front of all OSA/SF commands. This IOACMD EXEC can be accessed from any of the *administrator* IDs or the OSAMAIN (maintenance) User ID.

Example:

IOACMD CLEAR_DEBUG

See “Chapter 9. Entering OSA/SF Commands From CMS” on page 73 for more information about using the EXEC.

CLEAR_DEBUG | CLR | CLR_DEBUG | CLEAR

Purpose

The Clear Debug command clears the contents of the current message log maintained by the OSA/SF. The message log contains a history of all commands issued, responses generated, informational messages, and any errors that have occurred since the Clear Debug command was last issued.

Note: IBM Service may require the contents of the message log to perform problem isolation; therefore, do not use this command unless you are sure you want to clear the current contents of the message log.

Syntax

▶▶—CLEAR_DEBUG—◀◀

Operands

None
This command requires no parameters.

Results

None
No response is displayed from the command.

Limitations

If RACF is installed, Clear Debug requires a minimum of CONTROL authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

This command does not require an OSA (CHPID) number to be entered; therefore it does not matter what OSA/SF image is managing the OSAs.

IOACMD CLEAR_DEBUG

Clears the message log.

CONFIG_OSA

Purpose

Use the Configure OSA command to customize any OSA-2 feature. The command will prompt you for the required input. See “Chapter 5. Customizing OSAs Using REXX from CMS” on page 47 for the instructions on using the command to customize OSAs.

Syntax

►►—CONFIG_OSA—◄◄

Operands

None

This command requires no parameters, it will prompt you for input.

Results

The OSA is configured based on your response to prompts.

IOACMD CONFIG_OSA

The command will prompt you for the required input based on the OSA-2 feature and what mode of operation you want to install.

GET_CONFIG

Purpose

This command works only for an OSA-2 ATM feature. Use the Get Config command to get the configuration file (ATM parameters) in a format that can be used as the IOAATM2 input with IOACMD. This is helpful when you have an existing OSA and you want to copy that configuration to the new OSA.

Syntax

▶▶—GET_CONFIG—chpid—filename filetype (filemode)—▶▶

Operands

chpid

Value that indicates the hexadecimal OSA number for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'.

This field is required.

filename filetype (filemode)

This specifies where the data is to be stored. This field is required. Filemode is optional.

Results

The current configuration file is stored into the specified file for the OSA (CHPID) you specify.

Limitations

If RACF is installed, this command requires READ authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

IOACMD GET_CONFIG 42 CHPID42 CONFIG

Puts the config data for CHPID 42 into a file named CHPID42 CONFIG.

GET_DEBUG

Purpose

Use this command to gather information to help IBM debug any problems that are reported. You will be directed to issue this command by IBM support personnel when appropriate. Most of the information returned is not in a readable format.

Use the Get Debug command to get the message log or memory dump for OSA/SF, or to get SNA and ATM information from an OSA.

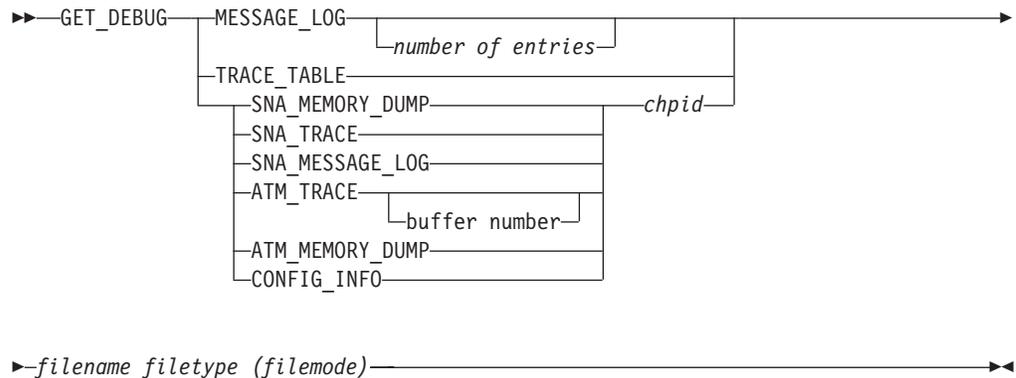
A filename and filetype must be specified. The filename filetype for the output file cannot be the same as that of any file already existing on the OSA/SF A-disk. Filemode is optional. This file is sent to the OSAMAIN user ID. No data is displayed on the terminal for the Get Debug command. Use the normal edit and browse tools to look at the filename and filetype.

To request the newest, most recent portion of the OSA/SF message log, set the optional *number of entries* field to a value from 1 to *n*, where *n* can be a maximum of 65,535. A value of 65,535 is the same as ALL. If no value is specified for the *number of entries*, the entire message log will be read because ALL is the default.

If you specify a number for the *number of entries* field, the data is returned starting from the most recent timed stamped entry and going back the number of entries you specify. The trace table option does not use a *number of entries* field; if one is specified, it is ignored.

If an error occurs, no data is returned and a failing message is displayed.

Syntax



Operands

MESSAGE_LOG

The OSA/SF message log contains information on every command issued, command returned, informational messages, and any errors that occurred since the last Clear Debug command was issued that cleared the message log.

OSA/SF Commands

TRACE_TABLE

The OSA/SF trace table contains up to the last 8000 trace points that the OSA/SF code executed. When the table is full the oldest entries are overwritten.

SNA_MEMORY_DUMP

The OSA memory dump contains the image of storage on the OSA device. Specify the CHPID (OSA) number with this parameter.

SNA_TRACE

The SNA trace buffer is read from the OSA device when the OSA is configured for SNA mode. Specify the CHPID (OSA) number with this parameter.

SNA_MESSAGE_LOG

The SNA message log is read from the OSA device when the OSA is configured for SNA mode. Specify the CHPID (OSA) number with this parameter.

ATM_TRACE

The ATM trace buffer is read from the OSA device when the OSA is configured for Passthru or SNA with ATM. Specify the CHPID (OSA) number with this parameter. The buffer number is not required and will default to zero. There are eight buffers, 0-7.

ATM_Memory_Dump

The ATM memory dump is read from an OSA, approximately 2 Mb when the OSA is configured for passthru or SNA with ATM. Specify the CHPID (OSA) number with this parameter.

CONFIG_INFO

The output will be the entire configuration file read from the OSA. This can be used by IBM for failure analysis.

chpid

Represents the OSA number.

number of entries

Specifies the number of entries that should be returned for the OSA/SF message log. Omitting this field causes the entire message log to be returned.

Note: This parameter is only valid when requesting the message log. If used for any others, it is ignored.

filename filetype (filemode)

The name of the VM file where you want to store the returned data.

File mode is optional.

Results

The Get Debug command returns either the contents of the OSA/SF message log or trace table, the OSA SNA trace or message log, or the OSA ATM trace or memory dump. These commands are also available on the OS2 OSA/SF GUI.

Limitations

If RACF is installed, Get Debug requires READ authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

You must enter this command from the OSA/SF image managing the OSA.

Examples

```
IOACMD GET_DEBUG TRACE_TABLE OSASF TRACE
```

Gets the trace table and puts it into a file called OSASF TRACE.

```
IOACMD GET_DEBUG MESSAGE_LOG 20 OSASFMSG LOG
```

Gets the 20 most current entries from the message log and puts them in the file called OSASFMSG LOG.

GET_OSA_ADDRESS_TABLE | GET_OAT | GET_OSA | GET_TABLE

Purpose

Use the Get OSA Address Table command to obtain the OSA address table for the specified CHPID (OSA) number. The output returned can be modified and used as input for the Put OSA Address Table command. See “Appendix A. About the OSA Address Table (OAT)” on page 75 for detailed information and examples for the OAT.

Note: See “PUT_OSA_ADDRESS_TABLE | PUT_OAT | PUT_OSA | PUT_TABLE” on page 145.

Syntax

```

▶▶ GET_OAT—chpid—[REPLACE] [SUMMARY]—filename filetype (filemode)▶▶
    
```

Operands

chpid

Value that indicates the hexadecimal OSA number for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'.

This field is required.

REPLACE

This indicator is used to overwrite the VM file if the filename and filetype exists.

SUMMARY

This option will return the OAT in a summary format. You can use the summary format with the PUT OAT command.

filename filetype (filemode)

This specifies the filename and filetype name where the OSA address table is to be stored. File mode is optional. This field is required.

Results

The **GET_OAT** command gets the OSA address table for the CHPID specified. A filename and filetype **must** be specified.

Limitations

If RACF is installed, this command requires READ authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

The copy of OSA/SF issuing this command does NOT need to be managing the CHPID specified.

IOACMD GET_OAT 4C REPLACE OSA4C OAT

Gets the OSA address table for OSA 4C and puts it into filename and filetype OSA4C OAT. If the filename and filetype already exists, it is overwritten.

Attention

When using the Get OSA Address Table command, entries in the OAT will always be returned as an even and odd pair for passthru devices. One entry is returned for SNA devices.

INSTALL

Purpose

The Install command sets up the OAT, OSA mode (image), and port parameters on the specified OSA (CHPID).

Use the Install command to load an existing configuration onto an OSA only when replacing the feature, not for initial installation. To perform initial configuration, use the Configure OSA (REXX) or Activate (GUI) command.

The Install command is disruptive to all devices using the OSA (CHPID).

Syntax

```

▶▶—INSTALL—chpid—┐
                    └─FORCE─┘
  
```

Operands

chpid

Value that indicates the hexadecimal CHPID for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not 'X'4B'. The CHPID *must* be online and accessible.

FORCE

Causes the OSA mode (image) to be loaded, even if it already exists on the card.

Results

The Install command returns a successful completion status if all the data sets were installed properly, the OAT was successfully set, and the CHPID is operational.

If any of the filename and filetypes listed in the configuration filename and filetype could not be installed properly or if any of the OAT entries fails, a list of failures is returned.

Limitations

If RACF is installed, this command requires CONTROL authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

This command must be entered from the OSA/SF image managing the OSA.

IOACMD INSTALL 7C

Installs the specified files and OSA mode (image) onto CHPID 7C. If the OSA mode (image) is already on the OSA, it is not reloaded.

PUT_OSA_ADDRESS_TABLE | PUT_OAT | PUT_OSA | PUT_TABLE

Purpose

Use the Put OSA Address Table command to change the current OAT settings on the specified OSA (CHPID). The input filename and filetype should be in the same format that was returned from the Get OSA Address Table command. See “Appendix A. About the OSA Address Table (OAT)” on page 75 for detailed information and examples for the OAT.

When you issue the Put OAT command, you will be asked if the input file should replace all the current entries. Use the following as a guideline to determine how to answer the question:

- No — If you are adding only a few entries and your input file contains only these new entries. The current configuration remains on the OSA plus the new entries in the input file will be added to this configuration (current and updates).
- Yes — If your input file contains all the entries (current, new, or some were deleted) that are required for your configuration for this OSA. The configuration on the OSA will be completely replaced with the entries from the input file (full replace).

Attention

To activate a new OAT, you must configure the OSA (CHPID) offline and then online to all logical partitions regardless of the operating system running in the logical partition.

Syntax

```

▶▶ PUT_OAT—chpid—[FORCE] [NEW_TABLE] filename filetype (filemode)▶▶

```

Operands

chpid

Value that indicates the hexadecimal CHPID (OSA) for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'.

This is a required field.

filename filetype (filemode)

Name of the filename and filetype containing the new address table entries. This filename and filetype must be available to the user ID issuing the command. Any entries that match those already on the card are ignored, only new entries are written.

This is a required field.

FORCE

This indicator is used in Passthru mode when all the changes to the address

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table **must** be done. This means that if an entry is in use when this command is issued, the entry will be updated even if it stops data transfer.

Notes:

1. Use the FORCE option with caution because unpredictable results may occur.
2. In all modes except Passthru, this indicator is ignored if the CHPID is in use.

This is an optional field.

NEW_TABLE

This causes *all* the current entries to be replaced on the OSA.

Attention

Use this option only if your input file contains all the entries (current, new, or some were deleted) that are required for your configuration for this OSA. The configuration on the OSA will be completely replaced with the entries from the input file (full replace).

Results

When the **PUT OSA ADDRESS TABLE** command completes successfully, all the address table entries contained in the input file have been successfully set up on the OSA.

Attention

The OSA (CHPID) must be configured offline and online to activate the new OSA.

When the command is not successful, a display showing the results (success or failure) for each address table entry attempted is shown.

Limitations

If RACF is installed, this command requires UPDATE authority. If the FORCE indicator is set, this command requires CONTROL authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

You must enter this command from the OSA/SF image managing the OSA.

Examples

```
IOACMD PUT_OAT 4A CHAN4A DAT
```

Puts the address table entries specified in the input filename and filetype CHAN4A DAT to OSA CHPID 4A. Any entries that are found in filename and filetype CHAN4A DAT and are active on the OSA are not replaced.

```
IOACMD PUT_OAT 24 FORCE CHAN24 DAT
```

Puts the address table entries specified in the input file CHAN24 DAT to the OSA for CHPID 24. Any Passthru entries that are found to be active on the OSA are

stopped and the address table entry is updated. You should then re-start any applications that were running on the changed address table entries.

QUERY

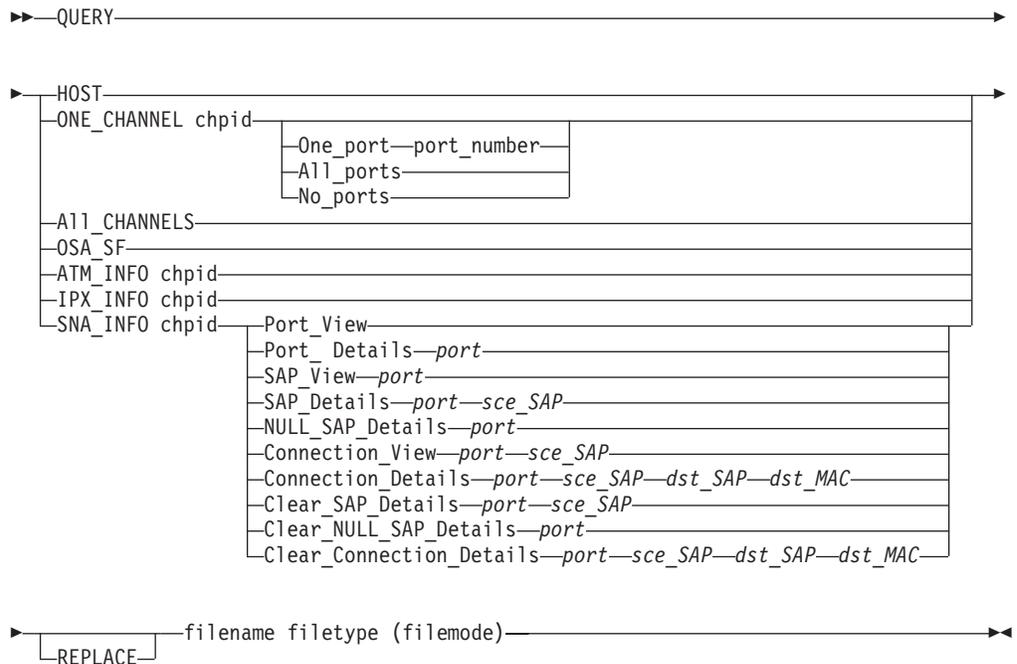
Purpose

Use the query command to obtain information about all or parts of the OSA, Open Systems Adapter/Support Facility, and OSA modes running on the OSA.

Syntax

Attention: The following abbreviations are used in the syntax diagram:

- port - port number
- sce - source
- dst - destination



Operands

Host

Returns all information about OSA/SF, CHPIDs, ports, OSA modes, and devices.

One_channel

Returns information related to one CHPID (OSA). You must enter **ONE_CHANNEL** with the CHPID number.

All_CHANNELS

Returns information related to all CHPIDs including OSA mode information.

OSA_SF

Returns only information related to OSA/SF.

ATM_Info

Use this option to query the ATM connection data. Specify a CHPID and a data set name with this option.

IPX_info

Use this option to query the IPX connection data. Specify a CHPID and a data set name with this option.

SNA_Info

Used for SNA network management information.

CHPID

Only used if **One_channel** is specified. This value indicates the hexadecimal CHPID for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'.

One_port

Returns information related to the port specified by **port-number**.

All_ports

Returns information related to all ports on the CHPID specified by **CHPID**.

No_ports

Causes no port information to be returned.

Port_number

Specifies a specific port number on the CHPID specified by **CHPID**. Ports are numbered from 0 to (n-1), where *n* is the number of physical ports on the CHPID.

REPLACE

Specify to replace the existing VM file.

filename filetype (filemode)

The name of the VM file used to store the requested information. This is required.

File mode is optional.

Results

Limitations

If RACF is installed, Query requires READ authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

IOACMD QUERY ONE_CHANNEL 44 OSA44 INFO

Returns all the information for CHPID (OSA) 44 and puts it in file OSA44 INFO. The following examples show how you can use the Query command to get specific SNA information. You can also just enter Query and allow the job to prompt you for input.

Query the port view for CHPID 64 and put the data in QUERYOUT FILE.

```
IOACMD QUERY SNA_INFO 64 PORT_VIEW QUERYOUT FILE',SIZE=1100K
```

Query the port details for CHPID 7C and show the data on the display.

```
IOACMD QUERY SNA_INFO 7C PORT_DETAIL 0',SIZE=1100K
```

Query the SAP view for CHPID 7C, port 1, and put the data in SAPVIEW INFO1.

```
IOACMD QUERY SNA_INFO 7C SAP_VIEW 1 SAPVIEW INFO1',SIZE=1100K
```

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Query the SAP details for CHPID 7C, port 1, SAP C and show the data on the display.

```
IOACMD QUERY SNA_INFO 7C SAP_DETAIL 1 C',SIZE=1100K
```

Query the NULL SAP details for CHPID 38, port 1, and show the data on the display.

```
IOACMD QUERY SNA_INFO 38 NULL_SAP_DETAIL 1',SIZE=1100K
```

Query the connection view for CHPID 7C, port 1, SAP 8 and show the data on the display.

```
IOACMD QUERY SNA_INFO 7C CONNECT_VIEW 1 8',SIZE=1100K
```

Query the connection details for CHPID 7C, port 1, source SAP 8, destination SAP 14, destination MAC 123456789012 and show the data on the display.

```
IOACMD QUERY SNA_INFO 7C CONNECT_DETAIL 1 8 14 123456789012',SIZE=1100K
```

Clear the SAP details for CHPID 68, port 1, SAP 4.

```
IOACMD QUERY SNA_INFO 68 CLEAR_SAP_DETAIL 1 4',SIZE=1100K
```

Clear the connection details for CHPID 20, port 0, source SAP 4, destination SAP 1C, destination MAC 123456789012 and show the data on the display.

```
IOACMD QUERY SNA_INFO 20 CLEAR_CONNECT_DETAIL 0 4 1C 123456789012',SIZE=1100K
```

SET_PARAMETERS | SET_PARM | SET_PARMS Command

Purpose

Use the Set Parameters command to set information for one of the ports on an OSA (CHPID). One parameter is set each time the command is entered. Multiple parameters cannot be set with one Set Parameters command.

Syntax

```
►►—SET_PARMS—chpid—port number—item to set—value to be set—►►
```

Operands

chpid

Value that indicates the hexadecimal CHPID (OSA) for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'. The CHPID *must* be online and accessible.

port_number

Port on the specified OSA (chpid) that is to be changed.

item_to_set

Enter the number on the left, or the name on the right for the following parameters. For example: enter: 1011 or FDDI_USER_DATA.

FDDI parameters

```
1011 -OR- FDDI_USER_data
101A -OR- FDDI_CONFIGuration_policy
101B -OR- FDDI_CONNECTION_policy
101D -OR- FDDI_NOTIFICATION_timer
103C -OR- FDDI_STATION_action
2020 -OR- FDDI_REQUESTED_PATHS
2029 -OR- FDDI_MAC_ADDRESS (local MAC address)
```

```
205F -OR- FDDI_FRAME_error_threshold
2076 -OR- FDDI_ENABLE_unit_data
0190 -OR- FDDI_HARDWARE_state
```

```
n202C -OR- FDDI_GROUPn_addresses (where n specifies which of 32 addr (1-32))
```

(Replace 'n' with '1' or '2' in the following parameters)

```
n320D -OR- FDDI_PATHn_RING_LATENCY
n3213 -OR- FDDI_PATHn_RESTRICTED_dialog_time_limit
n3215 -OR- FDDI_PATHn_TVX_LOWER_bound
n3216 -OR- FDDI_PATHn_T_MAX_LOWER_bound
n3217 -OR- FDDI_PATHn_T_REQ_MAX_TIME_value
```

(Replace 'n' with 'A' or 'B' in the following parameters)

```
n400E -OR- FDDI_PORTn_DESIRED_CONNECT_policy
n4011 -OR- FDDI_PORTn_PATHS_REQUESTED
n4015 -OR- FDDI_PORTn_MAC_LOOP_TIME
n401F -OR- FDDI_PORTn_XMIT_LINE_STATE
n403A -OR- FDDI_PORTn_LINE_ERROR_RATE_CUTOFF
n403B -OR- FDDI_PORTn_LINE_ERROR_RATE_ALARM
n4046 -OR- FDDI_PORTn_PORT_ACTION
```

```
6191 -OR- FDDI_INACTIVITY_timer
```

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6192 -OR- FDDI_RESPONSE_timer
6193 -OR- FDDI_ACKNOWLEDge_timer
66991 -OR- FDDI_LOAD_balancing

Token Ring parameters

0257 -OR- TR_FUNCTIONAL_ADDRESS
0258 -OR- TR_MAC_ADDRESS (local MAC address)
025F -OR- TR_EARLY_TOKEN_RELEASE
0260 -OR- TR_USER_DATA
0290 -OR- TR_HARDWARE_state
n025A -OR- TR_GROUPn_addresses (where n specifies which of 32 addresses)
6291 -OR- TR_INACTIVITY_timer
6292 -OR- TR_RESPONSE_timer
6293 -OR- TR_ACKNOWLEDge_timer
6991 -OR- SNA_LOAD balancing

Ethernet or Fast Ethernet parameters

n035A -OR- ETH_GROUPn_addresses (where n specifies which of 32 addresses)
0358 -OR- ETH_MAC Address (local MAC address)
3383 -OR- ETH_DUPLEX control (ethernet only)
0360 -OR- ETH_USER_DATA
0390 -OR- ETH_HARDWARE_state
6391 -OR- ETH_INACTIVITY_timer -OR- FETH_INACTIVITY
6392 -OR- ETH_RESPONSE_timer -OR- FETH_RESPONCE_timer
6393 -OR- ETH_ACKNOWLEDge_timer -OR- FETH_ACKNOWLEDge

4383 -OR- FETH_SPEED_mode (fast ethernet only)
6394 -OR- FETH_MAX_I_frames_before_ack
6395 -OR- ETH_ACKNOWLEDge_timer -OR- FETH_ACKNOWLEDge

ATM Token ring parameters

n0601 -OR- ATM_TR_GROUPn_addresses (where n specifies which of 32 addresses)
0603 -OR- ATM_TR_USER_DATA
6291 -OR- ATM_TR_INACTIVITY_timer
6292 -OR- ATM_TR_RESPONCE_timer
6293 -OR- ATM_TR_ACKNOWLEDge_timer
6294 -OR- ATM_TR_MAX_I_frames_before_ack
6295 -OR- ATM_TR_TRANSMIT_window
6991 -OR- ATM_TR_SNA_LOAD_balancing

ATM Ethernet parameters

n0701 -OR- ATM_ETH_GROUPn_addresses (where n specifies which of 32 addresses)
0703 -OR- ATM_ETH_USER_DATA
6391 -OR- ATM_ETH_INACTIVITY_timer
6392 -OR- ATM_ETH_RESPONCE_timer
6393 -OR- ATM_ETH_ACKNOWLEDge_timer
6294 -OR- ATM_ETH_MAX_I_frames_before_ack
6295 -OR- ATM_ETH_TRANSMIT_window

ATM Physical Port Parameters

457 -OR- ATM_MAC_address (local MAC address)
461 -OR- ATM_MANAGING_ip_addr
463 -OR- ATM_PORT_description

ATM port parameters

573 -OR- ATM_LE_CLIENT_enable_disable
590 -OR- ATM_ENABLE_port
591 -OR- ATM_DISABLE_port

Value_to_set

The value to be set.

Results

The Set Parameter command sets the value for the item specified on the port specified.

Limitations

If RACF is installed, Set Parameter requires CONTROL authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

You must enter this command from the OSA/SF image managing the OSA.

```
IOACMD SET_PARMS 54 0 FDDI_GROUP2_ADDR 534259474351
```

Sets the parameter second group address on FDDI CHPID 54, Port 0 to "534259474351".

SHUTDOWN

Purpose

The SHUTDOWN command causes the OSA/SF server machine to release all resources and logoff the userid. Once the server is shutdown, commands from the GUI or from CMS will cause the server to logon and start again.

Syntax

►►—SHUTDOWN—◄◄

Limitations

If RACF is installed, Shutdown requires CONTROL authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

You must enter this command from the OSA/SF image managing the OSA.

START_MANAGING

Purpose

The Start Managing command results in the copy of OSA/SF running in the logical partition (LP) where this command is issued to take over management of the specified CHPID (OSA). When this command completes, another copy of OSA/SF running on another LP is limited to executing commands to this CHPID that do not change the CHPID's environment. To determine if a command can be used from another LP, see that command's "Limitations" section.

Syntax

►►—START_MANaging—chpid—◄◄

Operands

chpid

Value that indicates the hexadecimal CHPID for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'. The CHPID *must* be online and accessible.

Results

The Start Managing command causes the copy of OSA/SF currently running in this partition to take over management of the specified CHPID.

Limitations

If RACF is installed, Start Managing requires UPDATE authority. If the Force option is specified, CONTROL authority is required. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

Examples

```
IOACMD START_MANAGING 58
```

Starts managing CHPID 58.

STOP_MANAGING

Purpose

The Stop Managing command stops the current OSA/SF image from managing the OSA CHPID. The command must be issued from the same LP that is currently managing the CHPID.

Syntax

▶▶—STOP_MANaging—chpid—▶▶

Operands

chpid

Value that indicates the hexadecimal CHPID for the command. The value is **not** entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'. The CHPID *must* be online and accessible.

Results

The Stop Managing command stops management of the specified CHPID.

Limitations

If RACF is installed, Stop Managing requires UPDATE authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

This command must be entered from the OSA/SF image managing the OSA.

IOACMD STOP_MANAGING 22

Stops managing CHPID 22 from this copy of OSA/SF. If an OSA mode is running, it continues to run.

SYNCHRONIZE | SYNC

Purpose

Use the synchronize command to update OSA/SF when port parameters are changed for the OSA from a source other than OSA/SF.

Attention

If an OSA device is replaced, the synchronize command is *not* required. See “OSA Hardware Replacement” on page 61 for instructions when an OSA device is replaced.

Syntax

```
▶▶ SYNCHRONIZE—chpid◀◀
```

Operands

chpid

Hexadecimal value that indicates the OSA number. The value is not entered with single quotes around it. For example, CHPID 4B should be entered as 4B, not X'4B'. The CHPID must be online and accessible.

Results

Failures show which values could not be made to match and why.

Limitations

If RACF is installed, Synchronize requires UPDATE authority. The RACF authority you specify pertains to the appropriate RACF facility as defined in the OSA/SF planning guide.

This command must be entered from the OSA/SF image managing the OSA.

IOACMD SYNCHRONIZE 98

Copies the definitions from CHPID (OSA) 98 on the OSA device to OSA/SF.

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