

System z9 and @server zSeries z890 and z990



Open Systems Adapter-Express Integrated Console Controller User's Guide

System z9 and @server zSeries z890 and z990



Open Systems Adapter-Express Integrated Console Controller User's Guide

Notice

Before using this information and the products it supports, be sure to read the general information under "Notices" on page 63. You should also familiarize yourself with the *System z9 and zSeries Open Systems Adapter-Express Customer's Guide and Reference*, SA22-7935, *Hardware Management Console Operations Guide*, SC28-6830, and *zSeries 890 and 990 Support Element Operations Guide*, SC28-6831.

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This edition, SA22-7990-01, refers to the IBM Open Systems Adapter-Express Integrated Console Controller for the following operating systems: z/OS Version 1 Release 2 or higher (5694-A01), and z/OS.e Version 1 Release 3 or higher (5655-G52), Open Systems Adapter Support Facility for z/Virtual Machine/Enterprise (z/VM) Version 3 Release 1, Version 4 Release 2 (Program Number 5654-A17), and Version 4 Release 3 or higher (Program Number 5739-A03), OSA/SF for VSE Version 2 Release 2 (part of VSE Central Functions 6.1.1, 5686-066) in VSE/ESA Version 2 Release 2.6 (5690-VSE) or higher, and to all subsequent releases and modifications until otherwise indicated in new editions or technical newsletters.

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About This Publication

This document describes the configuration process for the Open Systems Adapter-Express Integrated Console Controller.

Who Should Use This Publication

This document is intended for the technical staff who will configure the Open Systems Adapter-Express Integrated Console Controller.

What Is Included in This Publication

This publication contains the following chapters and appendixes:

- Chapter 1, “Open Systems Adapter-Express Integrated Console Controller Overview,” on page 1 is an introduction to the Open Systems Adapter-Express Integrated Console Controller.
- Chapter 3, “Controlling and Configuring an OSA-ICC,” on page 9 describes the tasks for configuring your Open Systems Adapter-Express Integrated Console Controllers.
- Chapter 4, “OSA-ICC Programming Considerations,” on page 49 describes the differences between the 3174 and the 2074.
- “Notices” on page 63 contains the trademarks, services marks, and information about the use of online books.

Related Publications

Important

Please ensure that you are using the most recent version of all related documentation.

Other IBM publications that you will find helpful and that you should use along with this publication include:

- 2074 Usage Tips, GM13–0316.
- IOCP User’s Guide for ICP IOCP, SB10–7037

A Note on Terminology

Throughout this publication, certain equipment terms and short versions of product names are used to make the information more easily understood. These are:

CS Communications Server

1000Base-T

1000Base-T Ethernet feature capable of 10, 100, or 1000 Mbps

GbE Gigabit Ethernet feature

OSA Abbreviation for Open Systems Adapter. This document deals exclusively with the OSA-Express features and may refer to OSA-Express as OSA.

OSA-Express

Abbreviation for Open Systems Adapter-Express features.

OSA-ICC

Abbreviation for Open Systems Adapter-Express Integrated Console Controller features.

OSC The channel type name for OSA-Express features that are configured as Open Systems Adapter-Express Integrated Console Controller.

OSD The channel type name for OSA-Express features that run under Queued Direct Input/Output architecture (QDIO).

OSE The channel type name for OSA-Express features that do not use QDIO architecture (typically SNA/APPN/HPR applications).

OSN The channel type name for OSA-Express2 features that use QDIO architecture and CDLC protocol.

PCOMM

The Host Access Client Package which includes the eNetwork Personal Communications V5.6 emulator.

I

Summary of Changes

Summary of Changes for SA22-7990-01

This document has been updated to include the System z9 Open Systems Adapter-Express Integrated Console Controller configuration panels.

Summary of Changes for SA22-7990-00

This is the initial release of the document.

Chapter 1. Open Systems Adapter-Express Integrated Console Controller Overview

The IBM® Open Systems Adapter-Express Integrated Console Controller (OSA-ICC) is the replacement for 2074 Console Support Controller and local, non-SNA DFT 3174 Control Units. Its primary application is to provide 3270 sessions so you can IPL your logical partitions within any channel subsystem (CSS) and to provide System Operator/Master consoles for z/OS®, z/OS.e, z/VM®, TPF, and VSE. These sessions can also be used by TSO, VM, or VSE system programmers.

The OSA-ICC is one port on an Open Systems Adapter-Express (OSA-Express) 1000Base-T Ethernet feature. An OSA-Express 1000Base-T feature has 2 ports and either or both can be configured as an OSA-ICC. OSA-ICC function is included with your OSA-Express 1000Base-T feature as Licensed Internal Code and you can enable it by defining the channel path type as OSC.

Throughout this document **OSA-Express** may be referred to as **OSA**.

Each OSA-ICC is capable of handling 120 sessions. The OSA-ICC uses TCP/IP connections over Ethernet LAN to attach to personal computers (PCs) which are running an RFC 2355 compliant TN3270E emulator.

IBM has tested the Host Access Client Package which includes the eNetwork Personal Communications V5.6 emulator (PCOMM) in CSD3 running under Microsoft Windows XP + for compatibility, however there is no reason to believe that other RFC 2355 compatible emulators may not work. Please contact the emulator product vendor directly for terms, conditions, prices and other product details related to such vendor's emulator.

OSA-ICC Introduction

Your system can have one or more OSA-ICC features defined. Before you can use an OSA-ICC as a 3270 control unit, you must configure it. OSA-ICC configuration panels are accessible on your Hardware Management Console and your Support Element (SE) console. These panels allow you, the system programmer, to customize each OSA-ICC on your system. This document will describe what is on each of the configuration panels and how to perform specific tasks using these panels.

Planning Considerations

OSA-ICC offers significant consolidation of console support. Consequently, it is **STRONGLY RECOMMENDED** that production environments use redundant configurations where operator consoles are defined through two different OSA-ICC LANs on two different OSA cards to prevent the loss of console control in the unlikely event of a failure. The OSA-ICC documentation and support material assumes this is the case and shows appropriate configuration information for one OSA-ICC feature.

Security Concerns

Depending on how you connect your TN3270E client systems, you may or may not have security concerns. An alternative to physically local LANs is the use of one or more Virtual Private Networks (VPNs). The use of an external device or software is necessary to provide additional security for clients attaching to a host via OSA-ICC.

Chapter 2. Defining your OSA-ICC configuration

There are four different possible Channel Path ID (CHPID) types for OSA-Express channels. An OSA-Express channel may be defined as an OSE, OSD, OSN, or an OSC CHPID. An OSA-ICC is an OSC CHPID. In order for your system to recognize an OSC CHPID, you must define the CHPID as such in your Input/Output Configuration Dataset (IOCDs) via the Hardware Configuration Definition (HCD), or the Input/Output Configuration Program (IOCP).

You must define in the IOCDs each OSA-Express 1000Base-T port you wish to use. Each OSA-ICC function requires a unique CHPID, control unit, and device definition. These definitions are made using HCD or IOCP, which defines the OSA-Express feature to the I/O hardware configuration.

A TN3270E session is associated with a single device in one logical partition. You may configure a maximum of 120 sessions to be used. However, the IOCDs can contain more than 120 configurable devices.

Defining an OSC CHPID via IOCP

You can define each OSA-Express 1000Base-T port you wish to use in the IOCDs via IOCP or HCD. The following is a sample IOCP configuration for defining an OSA-ICC channel. For instructions on defining an OSA-ICC channel via HCD, see “Steps for defining an OSC CHPID via HCD” on page 4.

```
RESOURCE PART=((CSS(0),(LP01,1),(LP02,2),(LP05,5)), *
              (CSS(1),(MVS1,3),(VM2,5)), *
              (CSS(2),(VSE,8),(LP34,4),(LP3A,A)))
CHPID PCHID=1C0,PATH=(CSS(0,1,2),80),TYPE=OSC
CNTLUNIT CUNUMBR=1000,PATH=((CSS(0),80),(CSS(1),80),(CSS(2),80)), *
        UNIT=OSC
IODEVICE ADDRESS=(2400,96),CUNUMBR=1000,UNIT=3270,MODEL=X
```

RESOURCE PART: The RESOURCE statement defines all of the logical partitions and the logical channel subsystems (LCSSs) in the configuration. It also assigns a MIF image ID to each logical partition (for example, logical partition MVS1 has MIF ID 3 in LCSS 1).

CHPID PCHID: The CHPID statement defines a single OSC channel path. The OSA-Express port is associated with PCHID 1C0. The channel path is defined to have CHPID 80 in logical channel subsystems (LCSSs) 0, 1, and 2 and, because the PART keyword is not used, to each logical partition in the LCSSs.

CNTLUNIT: The control unit definition is assigned control unit number 1000 and has access to all 3 LCSSs. Since you can only assign a single control unit to an OSC channel path, be sure to include every CSS for which you want to have TN3270E sessions.

IODEVICE ADDRESS: Device numbers 2400-245F are defined and available to every logical partition in each of the LCSSs. A total of 768 devices (8 logical partitions * 96 devices) are available in the configuration but only a maximum of 120 can be configured for use.

Note: If you are using HCD to define your configuration it is important that you select control unit type OSC and device type 3270-X for OSA-ICC.

Recommendation: If you define multiple IOCDSs with different OSA configurations respectively, before Power-On-Reset, please export the OSA-ICC configuration file to a diskette. In addition, after Power-On-Reset, please import a new customized OSA-ICC configuration file from a diskette. For more information on importing and exporting your definitions, see “Import source file” on page 29 and “Export source file” on page 30.

Steps for defining an OSC CHPID via HCD

You can define each OSA-Express 1000Base-T port you wish to use in the IOCDS via IOCP or HCD. The following is an example HCD configuration for defining an OSA-ICC channel. For instructions on defining an OSA-ICC channel via IOCP, see “Defining an OSC CHPID via IOCP” on page 3. The OSA-ICC function requires a unique CHPID, control unit, and device definition.

Note: You can only dynamically delete console devices after first removing them with IEAVG730 or IEARELCN. For more information, see z/OS HCD Planning, GA22–7525 or z/OS MVS Planning: Operations, SA22–7601.

Channel path definition

1. From the HCD main menu, Select option 1, and press Enter. The Define, Modify, or View Configuration Data menu is displayed.

```
z/OS V1.4 HCD
Command ==>
(C) Copyright IBM Corp. 1990, 2003. All rights reserved.
Hardware Configuration

Select one of the following.

  1. Define, modify, or view configuration data
  2. Activate or process configuration data
  3. Print or compare configuration data
  4. Create or view graphical configuration report
  5. Migrate configuration data
  6. Maintain I/O definition files
  7. Query supported hardware and installed UIMs
  8. Getting started with this dialog
  9. What's new in this release

For options 1 to 5, specify the name of the IODF to be used.
I/O definition file . . . 'IODF.IODF4D' +

F1=Help      F2=Split    F3=Exit     F4=Prompt   F9=Swap     F12=Cancel
F22=Command

MB a 08/002
```

Figure 1. Hardware configuration main menu

2. Select Option 3 “Processors”, and press Enter. The Processor List is displayed.
3. Select the processor to update, and press Enter. The Actions on Selected Processors screen is displayed. The screen selection options are identified here by the action code entered, rather than the screen item number, to avoid confusion when a particular HCD menu changes.

4. On the Actions on Selected Processors screen, select S “Work with attached channel paths”, and press Enter. The Channel Subsystem List is displayed.

5. On the Channel Subsystem List, select the required CSSID, and press enter. The Actions on Selected Channel Subsystems screen is displayed.

6. On the Actions on Selected Channel Subsystems screen, select S “Work with attached channel paths”, and press Enter. The Channel Path List is displayed.

7. On the Channel Path List, press F11 to add a channel path. The Add Channel Path screen is displayed.

8. On the Channel Path List, enter the:
 - Channel path ID
 - PCHID
 - Channel path type OSC (to define the OSA-ICC function)
 - Operation mode SHR (to share this channel path among logical partitions)
 - Description

9. Complete the channel path definitions on the screen, press Enter. The Define Access List is displayed.

10. Complete the Access List for the partitions sharing the channel, and press Enter. The Candidate List Definition screen is displayed.

11. On the Candidate List Definition screen, select the partitions to include in the candidate list and press Enter, or simply press Enter if you do not want any additional partitions in the candidate list. The Channel Path List screen is displayed.

Control unit definition

1. Select the CHPID just defined (CHPID 04, in our configuration), and press Enter. The Actions on selected channel paths screen is displayed.

2. On the Actions on selected channel paths screen, select S “Work with attached control units”, and press Enter. The Control Unit List is displayed.

3. On the Control Unit List, press F11 to add a control unit. The Add Control Unit screen is displayed.

4. On the Add Control Unit screen, enter the:
 - Control unit number
 - Control unit type OSC
 - Description

-
5. Complete the channel path definitions on the screen, and press Enter. The Select Processor / CU screen is displayed.

 6. On the Select Processor / CU screen, select the processor for the control unit, and press Enter. The Actions on Selected Processors screen is displayed.

 7. On the Actions on Selected Processors screen, select S for Select (connect, change), and press Enter. The Add Control Unit screen is displayed. The Add Control Unit screen shows the OSC control unit information just entered. Note the unit address is set to 00 and the number of units must be 254.

 8. Confirm the control unit definitions on the screen are correct, and press Enter. The Select Processor / CU screen is displayed again.

 9. Press Enter again to return to the Control Unit List screen.
-

Device definition

1. From the Control Unit List screen select the control unit, and press Enter. The Actions on Selected Control Units screen is displayed.

2. On the Actions on Selected Control Units screen, select S “Work with attached devices”, and press Enter. The I/O Device List is displayed.

3. On the I/O Device List, press F11 to add a device. The Add Device screen is displayed.

4. On the Add Device screen, enter the:
 - Device number
 - Number of devices
 - Device type 3270-X. Device type 3270-X is the only valid device type for the OSA-ICC function. The HCD configuration process will not allow any other device type to be defined.
 - Description

5. Complete the device definitions on the screen, and press Enter. The Update Serial Number, Description and VOLSER screen is displayed, press Enter. The Device / Processor Definition screen is displayed.

6. On the Device / Processor Definition screen, select the required processor, and press Enter. The Define Device / Processor screen is displayed.

7. On the Define Device / Processor screen, you have the option of changing the starting unit address. Verify the value and press Enter. The Device / Processor Definition screen is again displayed.

8. On the Device / Processor Definition screen, press Enter. The Define Device to Operating System Configuration screen is displayed.

-
9. On the Define Device to Operating System Configuration screen, select the operating system to which you want to connect the devices, and press Enter. The Actions on selected Operating Systems screen is displayed.

 10. On the Actions on selected Operating Systems screen, select S and press Enter. The Define Device Parameter / Features screen is displayed.

 11. On the Define Device Parameter / Features screen make appropriate changes based on your environment, then press Enter. The Assign / Unassign Device to Esoteric screen will appear.

 12. On the Assign / Unassign Device to Esoteric screen make appropriate changes based on your environment, then press Enter.

 13. Repeat the process for each operating system as needed, then exit from the Define Device to Operating System Configuration screen, by pressing F3 or F12.

 14. You should now be at the Device List panel. Press F3 multiple times to return to the main HCD screen (Hardware Configuration), for activating or processing the configuration data you just defined.
-

Notes:

1. You can only dynamically delete console devices after first removing them with IEAVG730 or IEARELCN. For more information, see z/OS HCD Planning, GA22–7525 or z/OS MVS Planning: Operations, SA22–7601.
2. If any of the Console addresses defined are going to be used as MVS NIP consoles, then addition steps are needed:
 - Select 1 Operating system configuration
 - Select config ID with /
 - Option 6, work with consoles
 - F11 to add console addresses to the NIP CONSOLE LIST
 - Continue with the Production IODF step

You have defined the CHPID, CU, and Devices. Now complete the creation of a new production IODF and write a new IOCDs. Dynamic I/O Activation for OSC is restricted, so a POR is required to activate the configuration.

Recommendation: If you define multiple IOCDs with different OSA configurations respectively, before Power-On-Reset, please export the OSA-ICC configuration file to a diskette. In addition, after Power-On-Reset, please import a new customized OSA-ICC configuration file from a diskette. For more information on importing and exporting your definitions, see “Import source file” on page 29 and “Export source file” on page 30.

IOCP statements

The example above converted CHPID 07 in LCSS 1 assigned to PCHID 381 from OSD to OSC, and defined control unit E300 and devices E300-E377. The following

is an example of the IOCP statements generated by HCD for the configuration of the logical partitions, both OSC CHPIDs, and the associated control unit and device definitions.

```

RESOURCE PARTITION=((CSS(0),(A0A,A),(A0B,B),(A0C,C),(A0D,D),(A*
0E,E),(A0F,F),(A01,1),(A02,2),(A03,3),(A04,4),(A05,5),(A*
06,6),(A07,7),(A08,8),(A09,9)),(CSS(1),(A1A,A),(A1B,B),(*
A1C,C),(A1D,D),(A1E,E),(A1F,F),(A11,1),(A12,2),(A13,3),(*
A14,4),(A15,5),(A16,6),(A17,7),(A18,8),(A19,9))),
MAXDEV=((CSS(0),64512),(CSS(1),64512))
CHPID PATH=(CSS(0),07),SHARED,
PARTITION=((A0A,A0B,A0C,A01,A02,A03,A04,A05,A06,A07,A08,*
A09),(=)),PCHID=380,TYPE=OSC
CHPID PATH=(CSS(1),07),SHARED,
PARTITION=((A1A,A1B,A11,A12,A13,A14,A15,A16,A17,A18,A19)*
,(=)),PCHID=381,TYPE=OSC
CNTLUNIT CUNUMBR=E200,PATH=((CSS(0),07)),UNIT=OSC
IODEVICE ADDRESS=(E200,120),MODEL=X,CUNUMBR=(E200),UNIT=3270
CNTLUNIT CUNUMBR=E300,PATH=((CSS(1),07)),UNIT=OSC
IODEVICE ADDRESS=(E300,120),MODEL=X,CUNUMBR=(E300),UNIT=3270

```

Refer to *Input/Output Configuration Program User's Guide for ICP IOCP*, SB10-7037 for further information about IOCP and IOCDs.

Chapter 3. Controlling and Configuring an OSA-ICC

Before you can start any TN3270E sessions, you must install an OSA-Express 1000Base-T card and be online to the Hardware Management Console or the Support Element (SE). In order for that to happen, you must first configure your OSA-ICC by entering data in the IOCDs and then further configure your OSA-ICC via panel entry, manual entry, or a combination of both. This chapter discusses these configuration options in detail, as well as functions to control and display information about the OSA-ICC card.

Hardware Management Console and Support Element console

You can control and configure your OSA-ICC from the Card Specific Advanced Facilities panel which is accessible from either your Hardware Management Console or your SE console. These two consoles are the only way you can access the OSA-ICC control panels. For more information on these consoles, see *eServer Hardware Management Console Operations Guide, SC28-6830* and *eServer zSeries 890 and 990 Support Element Operations Guide, SC28-6831*.

Structure of the OSA-ICC control panels

The diagram below shows the relationship of the panels which are accessed from the **Card Specific Advanced Facilities** panel.

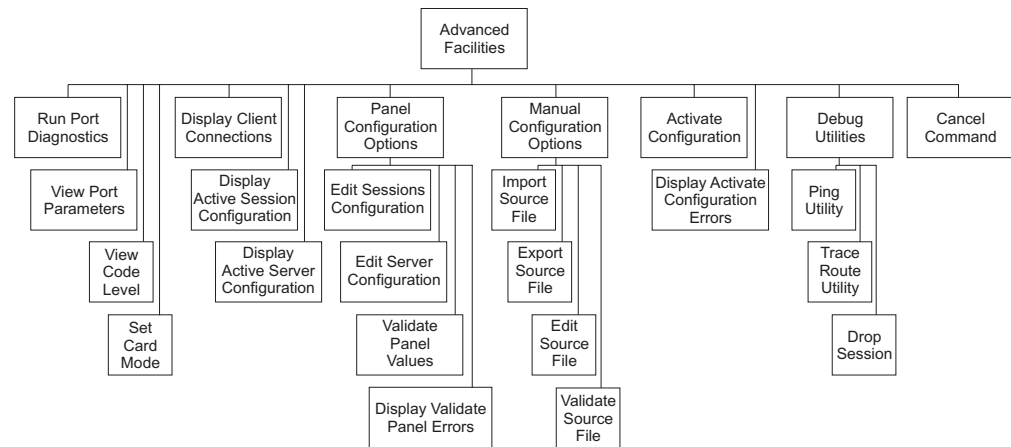


Figure 2. The structure of the control panels

All OSA-ICC control operations are selected from the **Advanced Facilities** panel as shown in Figure 6 on page 14.

The following is a brief explanation of what tasks you can perform from each of these panels:

Run port diagnostics	This panel allows you to run diagnostics on the OSC channel.
View port parameters	This panel allows you to view Network Interface Card statistics.
Set card mode	This panel is used to set the speed and mode of the OSC.

Display client connections	This panel is used to view client connection parameters.
Display active session configuration	This panel is used to display the active session configuration for a given OSC.
Display active server configuration	This panel is used to display the active server configuration for a given OSC.
Panel configuration options	This panel allows you to edit session configurations, edit server configurations, validate panel values, and view any errors which occurred during validation.
Manual configuration options	This panel allows you to import a source file, export a source file, edit a source file, and validate a source file.
Activate configuration	This panel allows you to activate a configuration.
Display activate configuration errors	This panel allows you to view errors from configuration activation.
Debug utilities	This panel allows you to ping a client work station, trace the route of a packet of data to a client workstation, and drop a session.
Cancel command	This panel allows you to cancel a command which is executing on an OSC.

For a complete description of the panels and the meaning of their entry fields, see “Advanced Facilities OSA-ICC control panels” on page 14.

Steps for accessing the Advanced Facilities panel

Perform the following steps to get to the Advance Facilities panel. This example is using the Hardware Management Console. If you are using the SE, the initial panels to select the CHPID will be different.

1. From the Defined CPCs Work Area, drag the selected processor to OSA Advanced Facilities.

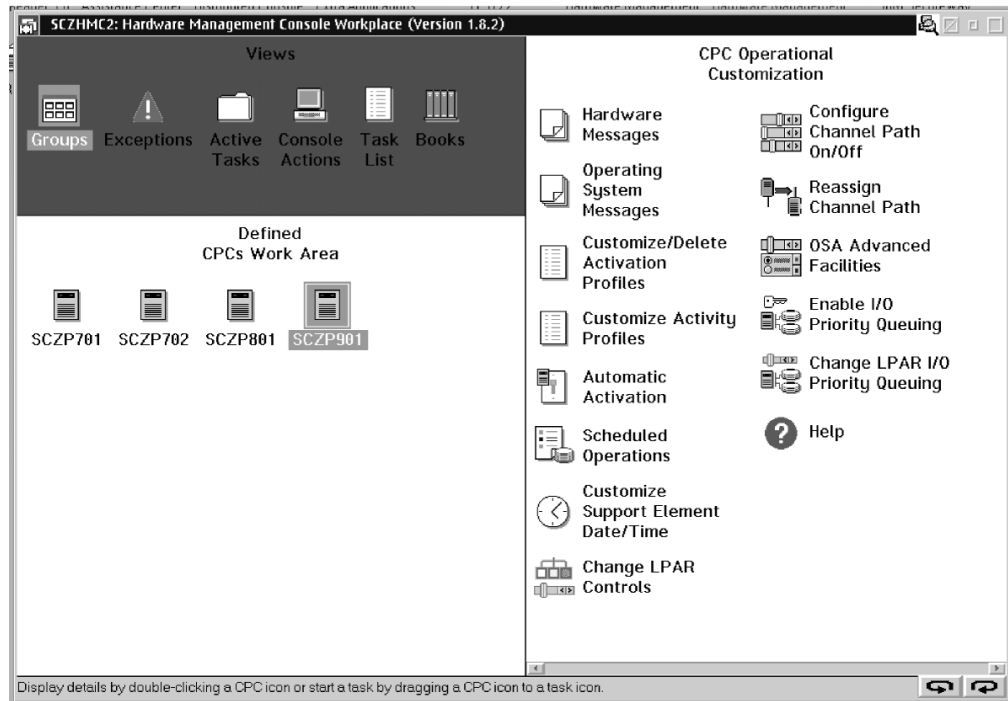


Figure 3. Hardware Management Console workspace panel

2. The OSA Advanced Facilities screen will open. Select the PCHID you wish to configure and select OK.

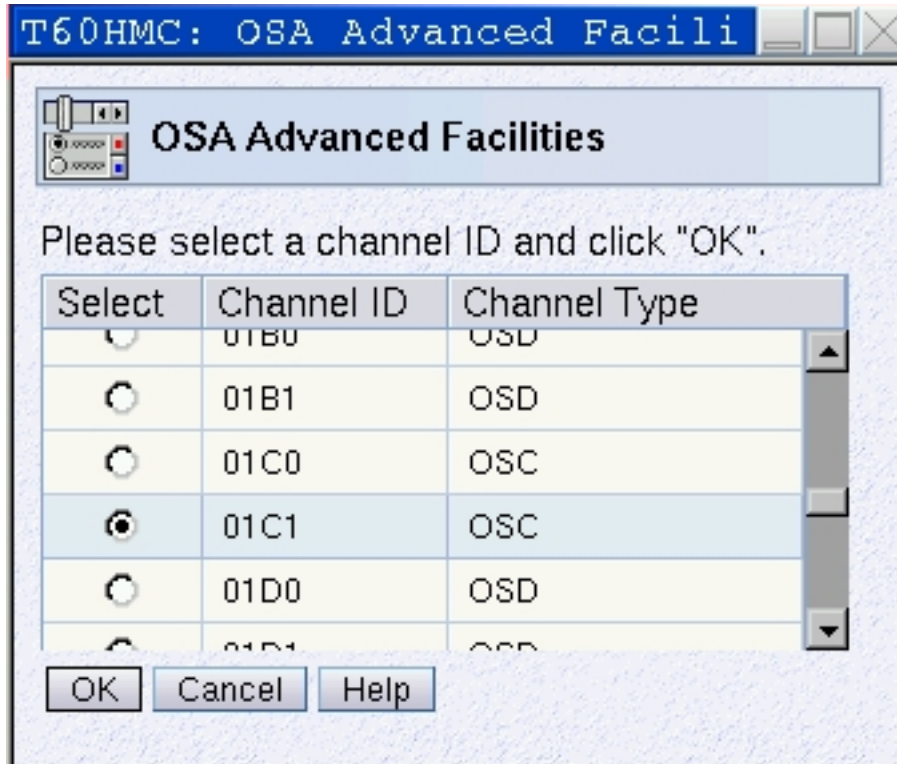


Figure 4. OSA advanced facilities panel

3. The **Standard Channel Advanced Facilities** panel will be displayed. Select **Card Specific Advanced Facilities** and click OK.

Note: The **View code level** and **Card trace/log/dump facilities...** panels are not described in this document.

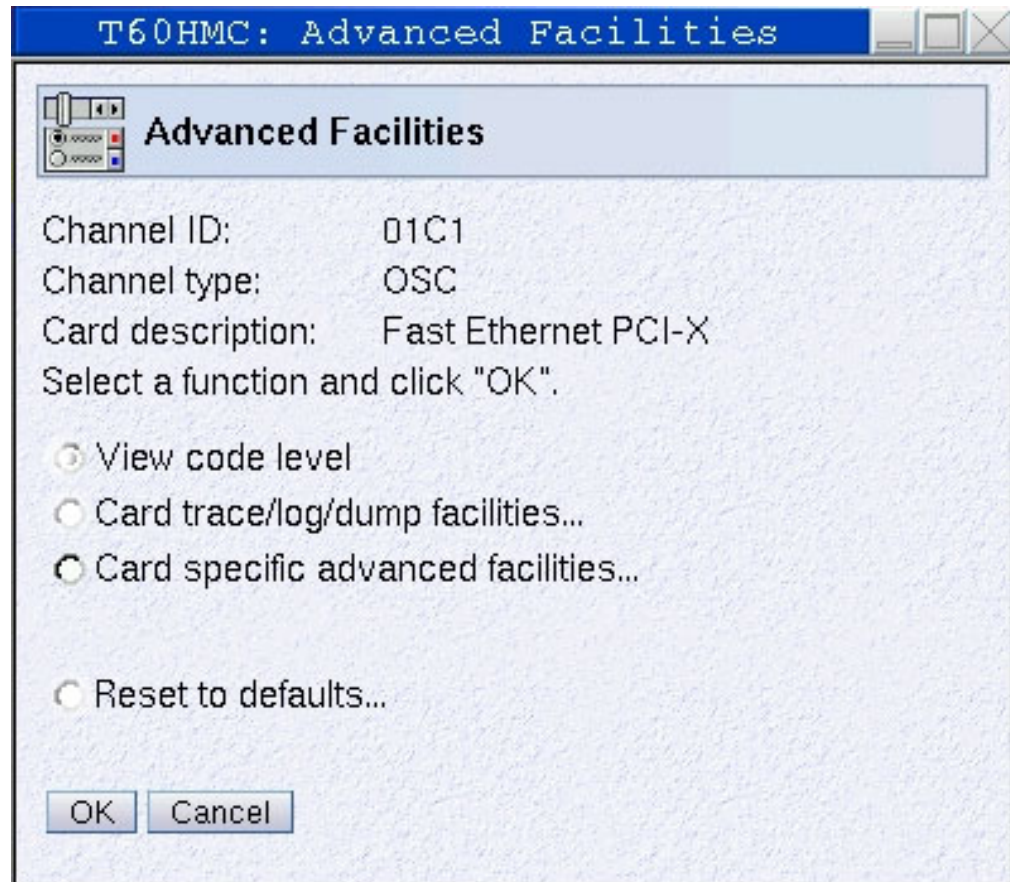


Figure 5. Standard channel advanced facilities

You should now see the **Advanced Facilities** panel.

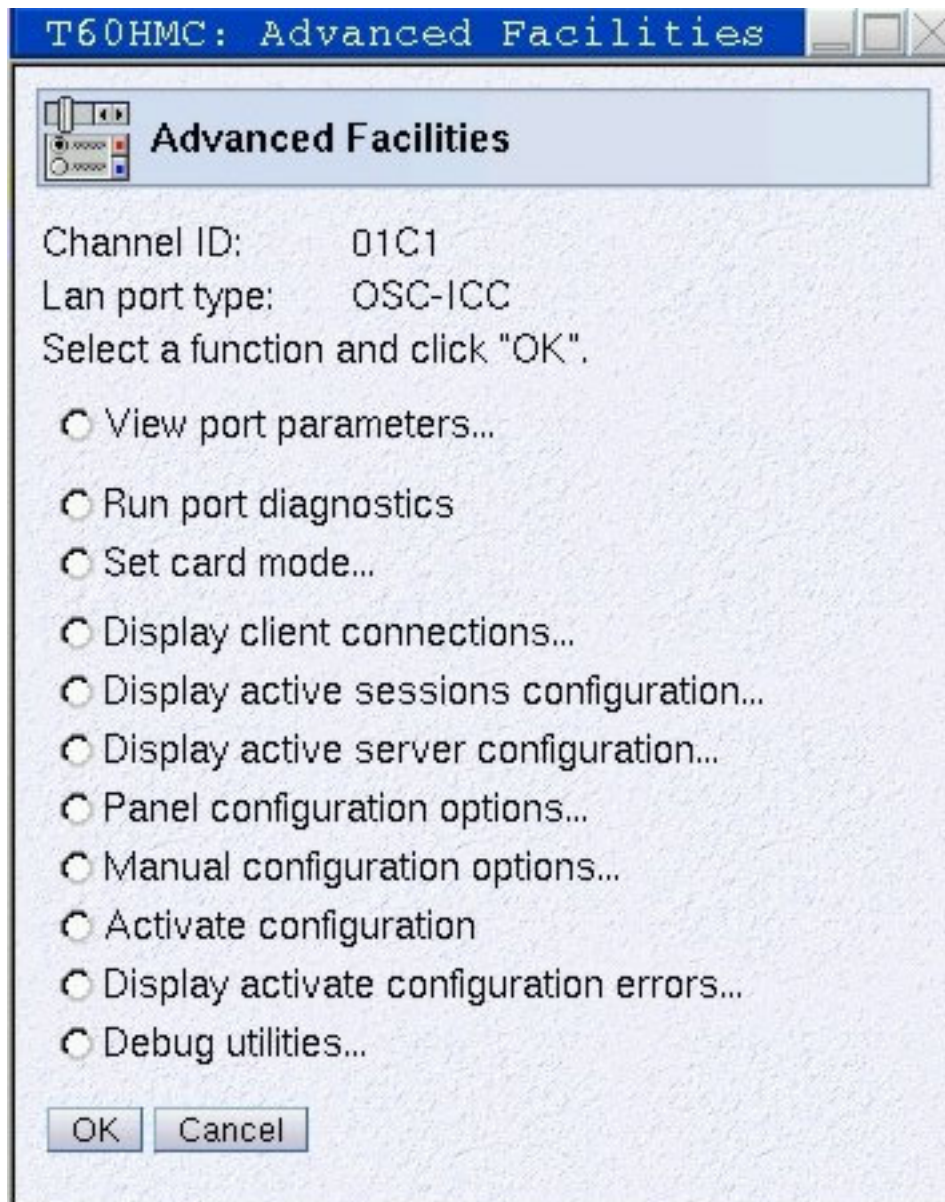


Figure 6. Advanced facilities panel

Advanced Facilities OSA-ICC control panels

This section describes the following OSA-ICC Advanced Facilities control panels:

- View port parameters, see “View port parameters” on page 15
- Run port diagnostics, see “Run port diagnostics” on page 17
- Set card mode, see “Set card mode” on page 17
- Display client connections, see “Display client connections” on page 18
- Display active session configuration, see “Display active session configuration” on page 20
- Display active server configuration, see “Display active server configuration” on page 21

- Panel configuration option, see “Panel configuration options” on page 23
 - Edit session configuration, see “Edit session configuration” on page 23
 - Edit server configuration, see “Edit server configuration” on page 27
 - Validate panel values, see “Validate panel values” on page 27
 - Display validate panel errors, see “Display validate panel errors” on page 28
- Manual configuration options, see “Manual configuration options” on page 28
 - Import source file, see “Import source file” on page 29
 - Export source file, see “Export source file” on page 30
 - Edit source file, see “Edit source file” on page 33
 - Validate source file, see “Validate source file” on page 42
- Activate configuration, see “Activate configuration” on page 43
- Display activate configuration errors, see “Display activate configuration errors” on page 44
- Debug utilities, see “Debug utilities” on page 44
 - Ping utility, see “Ping Utility” on page 45
 - Trace route utility, see “Trace route utility” on page 46
 - Drop session, see “Drop session” on page 47
- Cancel command, see “Cancel” on page 47

View port parameters

The View port parameters panel allows you to view Network Interface Card statistics. When enabled, it gives you statistical information and setting information on your OSA-ICC. This panel is enabled after activating your server configuration.

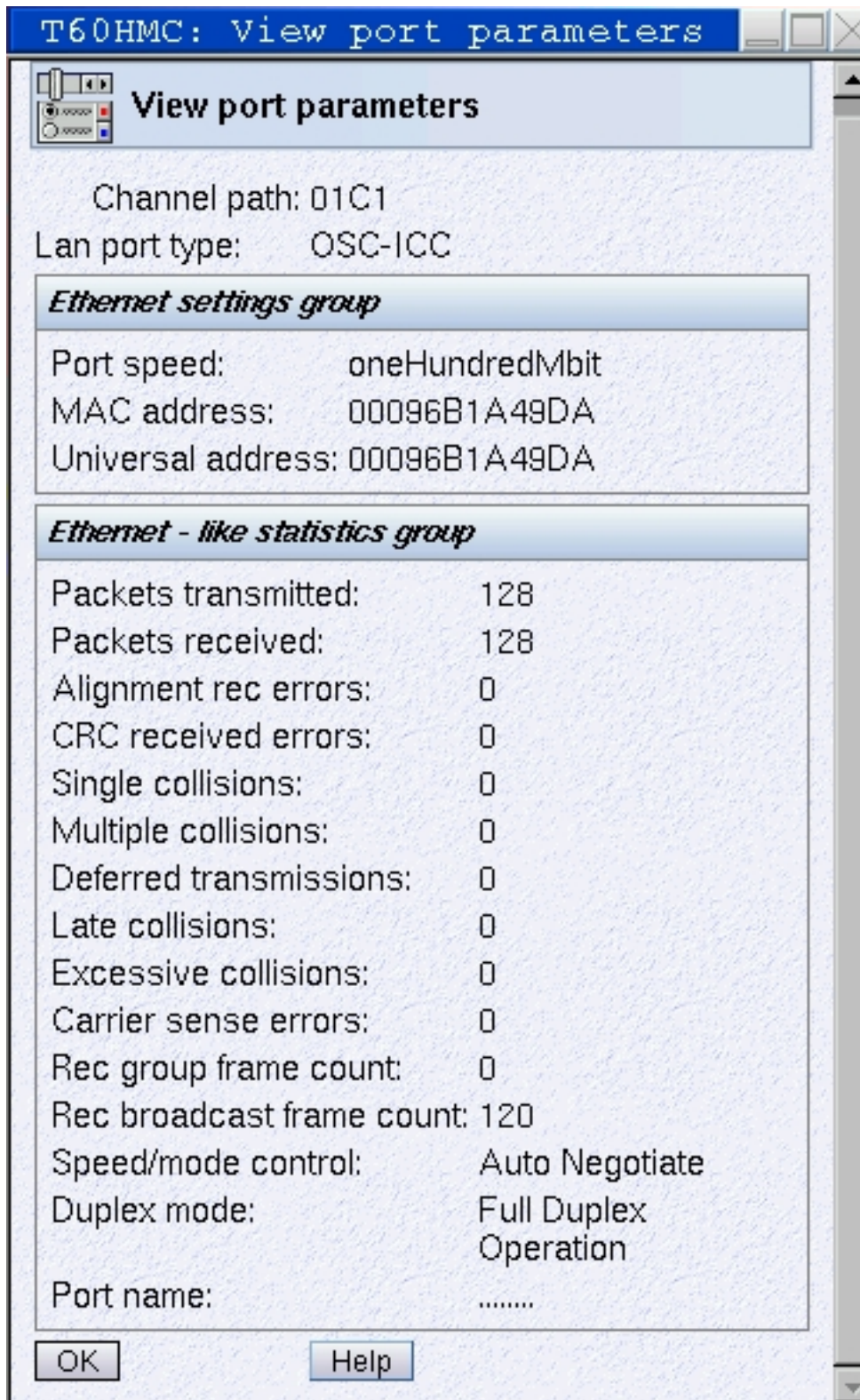


Figure 7. View port parameters panel

Run port diagnostics

The **Run port diagnostics** panel is used to run diagnostics. The purpose of running these diagnostics is to check if everything is correct in the hardware. Running port diagnostics will stop regular traffic on the card.

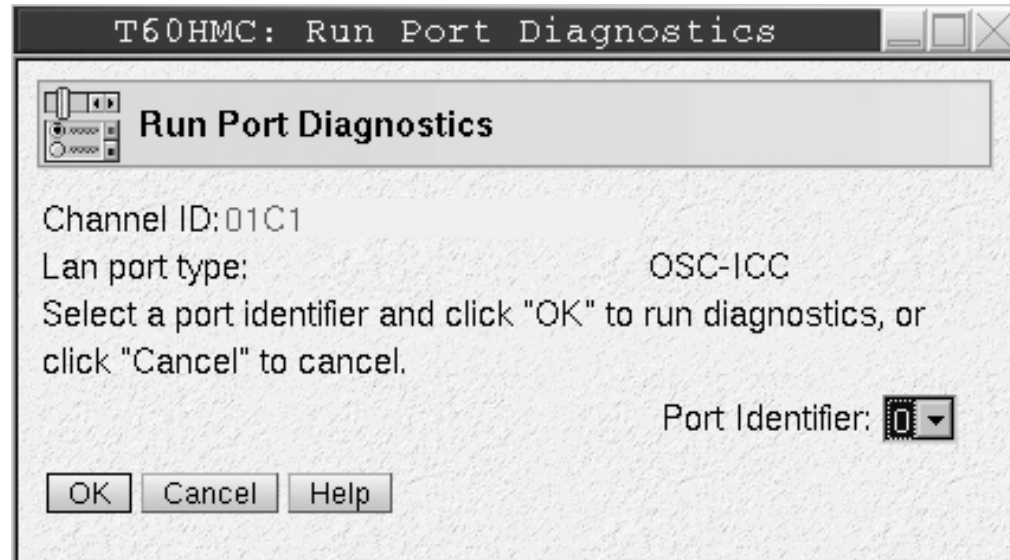


Figure 8. Run port diagnostics panel

Port identifier: Identifies the port you want to run diagnostics on. Since there is only one port in OSA-ICC, the entry field default is 0. This field is not used.

Set card mode

The **Set card mode** panel is used to set the speed and mode of the OSA-ICC.

Note: This panel does NOT show the way the card is currently set. It is NOT a display card mode panel. This panel shows options to set the card. See "View port parameters" on page 15 to see HOW the card is set.

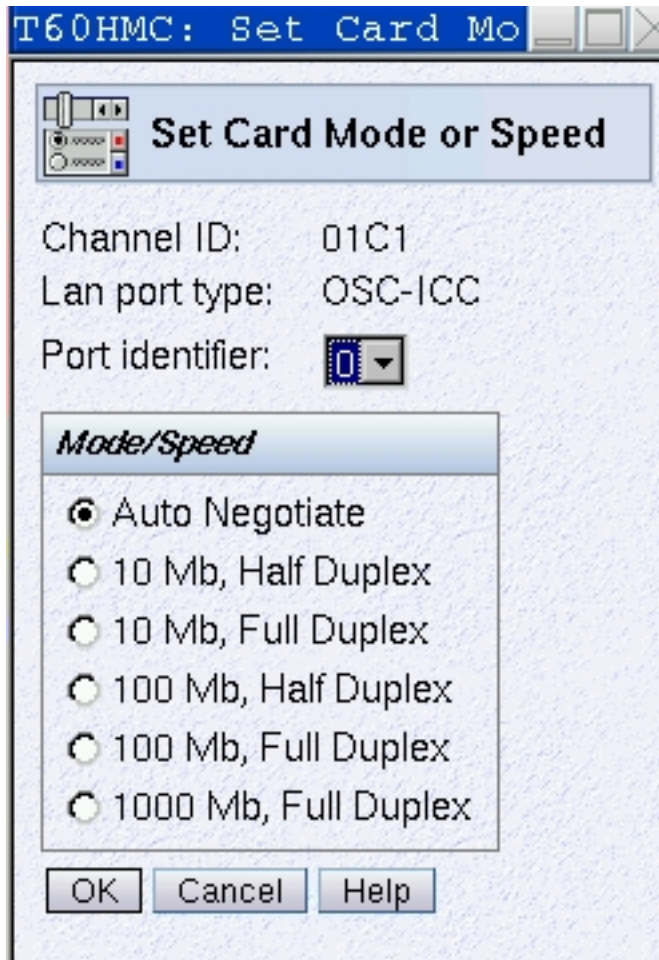


Figure 9. Set card mode panel

Port identifier: Since there is only one port in OSA-ICC, the entry field default is blank.

Speed/Mode: The default is Auto Negotiate. If auto-negotiate fails, the default is 100 Mb, half duplex. The speed/mode can be changed dynamically, but it is recommended that you do not make this change while sessions are active and connected.

Display client connections

The *Display client connections* panel allows you to view currently connected clients. This information is queried at the time you open this panel. To refresh the information, exit the panel and reopen it.

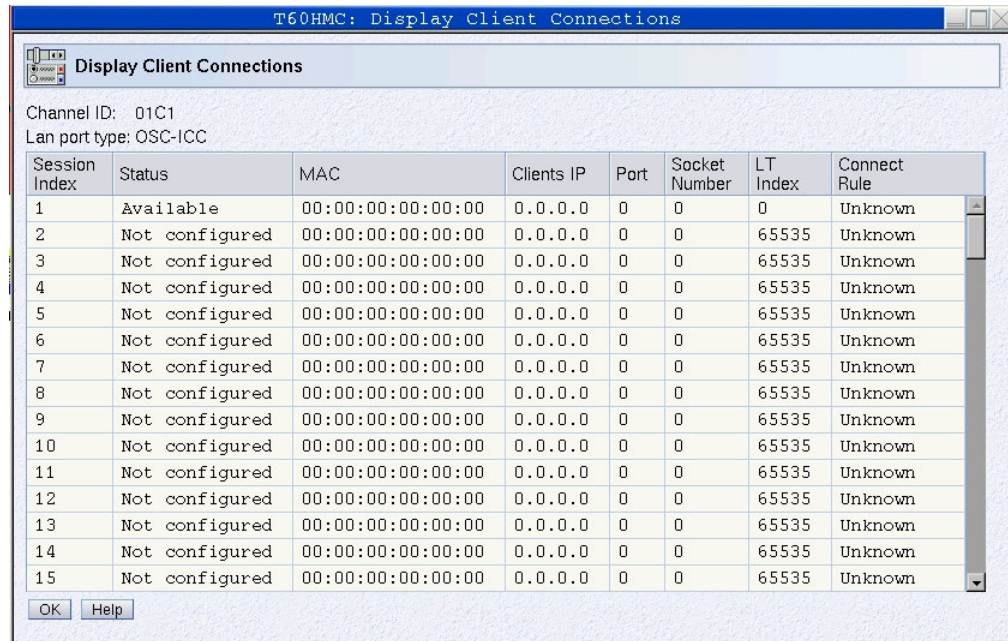


Figure 10. Display client connections panel

Session Index specifies the session number. The valid range is from 1–120.

Status specifies whether the session is not configured, available, connected, active, or has a definition error:

- Not configured: the session has not yet been configured.
- Available: the session has been configured and the client can connect to it.
- Connected: the session has been configured and the client is connected to it.
- Active: the session has been configured, the client is connected to it, and the client is connected to the host.
- DHD Pending: the client has been disconnected. However, since DHD was enabled, OSA-ICC has not notified the host operating system yet.
- Definition error: the session is not a valid session and the client cannot connect. The session CSS, MIFID, or Device Number does not exist or was dynamically deleted during dynamic I/O.

MAC specifies the address of the client that is being connected if the client is on the local end. Otherwise, the MAC address of the router is displayed.

Client's IP specifies the IP address of the attached client.

Port specifies the port number of the attached client.

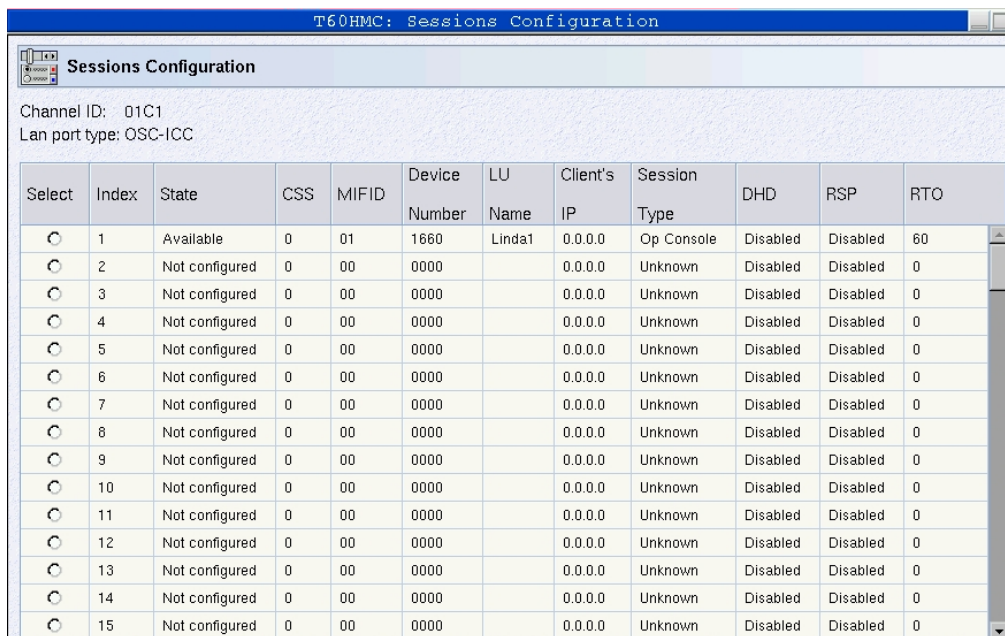
Socket Numbers specifies the Local TCP socket number that uniquely defines the connection. This parameter is only useful to the OSA-ICC PE.

LT Index specifies the index in the LT table. A valid range is from 1–120. This parameter is only useful to the OSA-ICC PE.

Connect rule can be IP only, LU only, IP & LU, unknown. For more information on connection rules, see Chapter 6, "Connection rules," on page 55.

Display active session configuration

The **Display active session configuration** panel is used to display the active session configuration for a given OSC. This includes a list of the sessions that are configured for the OSC and configuration information about each session.



The screenshot shows a window titled "T60HMC: Sessions Configuration" with a sub-panel "Sessions Configuration". It displays the following information:

Channel ID: 01C1
Lan port type: OSC-ICC

Select	Index	State	CSS	MIFID	Device Number	LU Name	Client's IP	Session Type	DHD	RSP	RTO
<input type="radio"/>	1	Available	0	01	1660	Linda1	0.0.0.0	Op Console	Disabled	Disabled	60
<input type="radio"/>	2	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	3	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	4	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	5	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	6	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	7	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	8	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	9	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	10	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	11	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	12	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	13	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	14	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0
<input type="radio"/>	15	Not configured	0	00	0000		0.0.0.0	Unknown	Disabled	Disabled	0

Figure 11. Display active session configuration panel

Index specifies the session number.

State specifies whether the session is not configured, available, or has a definition error:

- Not configured: the session has not yet been configured.
- Available: the session has been configured and the client can connect to it.
- Definition error: the session is not a valid session and the client cannot connect. The session CSS, MIFID, or Device Number does not exist or was dynamically deleted during dynamic I/O.

CSS specifies the logical channel subsystem ID. The valid range for CSS is 0–3.

MIFID is the logical partition MIF image ID. A valid range for the image ID is 1–F.

Device Number is a number assigned for each device that was defined in the IOCDs.

LU Name defines a group pool of devices which identifies what session you are going to connect to.

Client's IP (optional) specifies the IP address that a client will use to connect to the session. The client's IP address can remain 0.0.0.0 or empty in order to allow any client to connect to a specific session. If a non-zero IP is specified, any client with a non-matching IP will be rejected.

Session Type can be console, operating system console, or printer.

DHD (Defer Host Disconnect): indicates the amount of time to wait (in seconds) until OSA-ICC tells the host that the client session has disconnected.

RSP (Response Mode): indicates whether response mode is enabled or disabled. If enabled, the host waits for the client to send an acknowledgement on the Telnet level for every packet that is transmitted. This enables the user to check for bad LANs, poor performance, or other issues.

RTO (Response Time Out): specifies how long to wait (in seconds) for a response from the client before performing a client disconnect. The default RTO is 60.

Notes:

1. The phrase Response Time Out and Read Time Out are synonymous for OSA-ICC
2. If no RTO is specified, the Missing Interrupt Handler (MIH) should be disabled. If an RTO value is specified, MIH should be set to at least 50% greater than the RTO value. MIH is set via the operating system.

Display active server configuration

The *Display active server configuration* panel is used to display the active TCP/IP connection configuration information about the OSC channel.

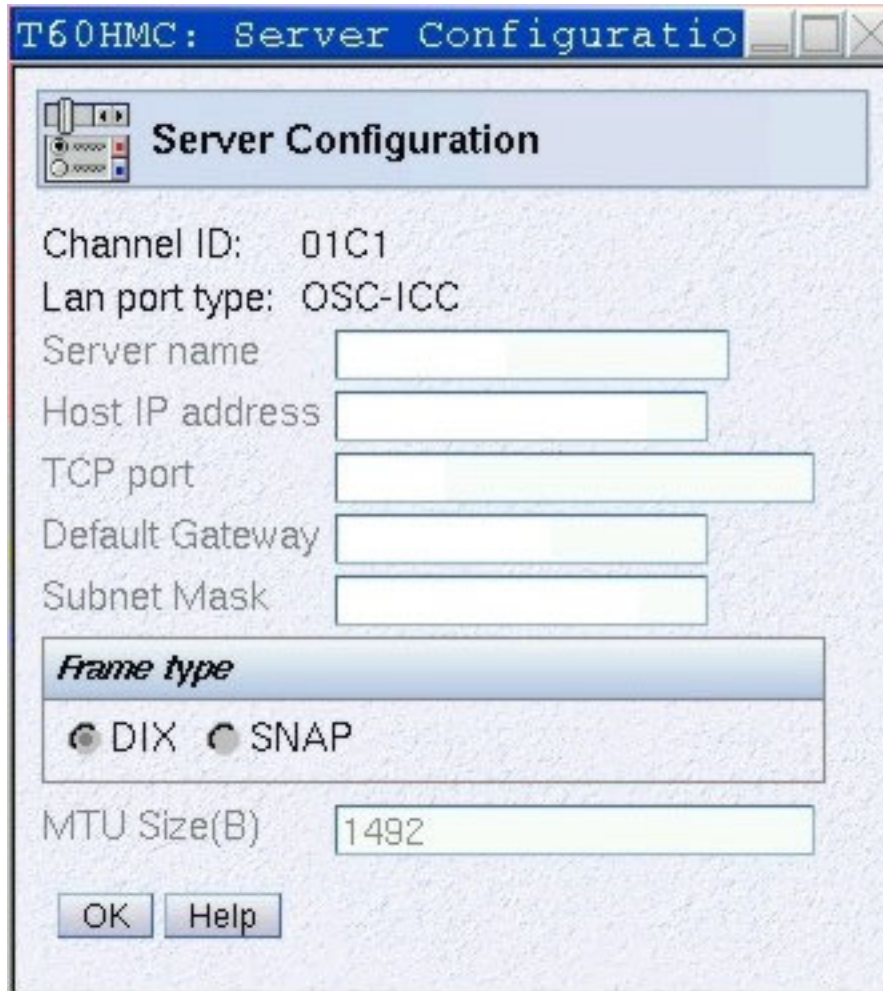


Figure 12. Display active server configuration panel

Server Name specifies the name of the server that a client is connected to.

Host IP Address specifies your IP address.

TCP Port specifies the port that server will use to connect with the client.

Default Gateway specifies IP address gateway to any machines out of network.

Subnet Mask specifies a mask used to determine what subnet an IP address belongs to.

Frame type specifies the Ethernet standards that you want the network to follow. Every host in a network must have the same frame type.

MTU Size(B) specifies the maximum size to be transferred in one frame.

Configuring via panel entry

Configuring your OSA-ICC results in the creation of one file containing session and server configuration information. You can create this by entering data via panel entry or by manually editing the file. Panel entry requires that you move through a

series of data entry panels and enter configuration data on those panels. Panel entry is especially convenient if you want to make a small number of changes to your configuration file.

Once the configuration file is created, regardless of whether it was created via panel or manual entry, either interface can be used to update the file.

Panel configuration options

The **Panel configuration options** panel is the high level selection panel for the configuration options that are used for editing a session or server configuration, validating panel values, and/or viewing validate panel values errors. To choose a panel configuration option, select a utility option and click OK.

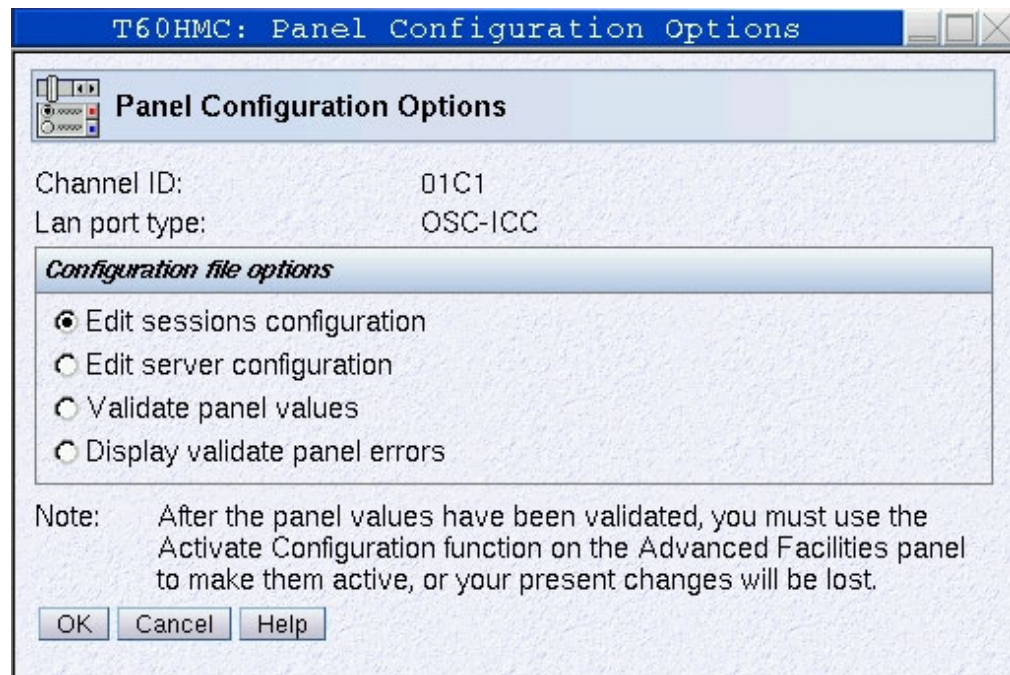


Figure 13. Panel configuration options panel

Edit session configuration

The **Edit session configuration** panel is used to edit the session configuration for a given OSC. This includes a list of the sessions that are configured for the OSC and configuration information about each session. The display is the same as the **Display active session configuration** panel except the fields may be edited.

Note: In order to make your edited session the active configuration, you must validate then activate it. For more information about validating, and activating see "Validate panel values" on page 27 and "Activate configuration" on page 43. In addition, you may want to export your source file as a backup. For more information on exporting, see "Export source file" on page 30.

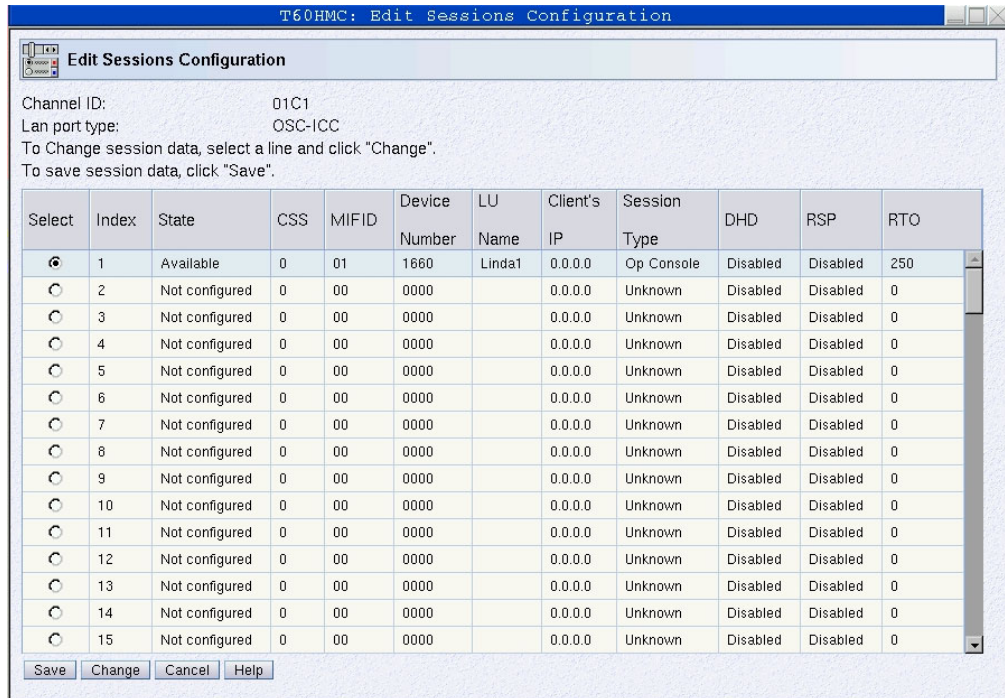


Figure 14. Edit session configuration panel

Index specifies the session number.

State specifies whether the session is not configured, available, or has a definition error:

- Not configured: the session has not yet been configured.
- Available: the session has been configured and the client can connect to it.
- Definition error: the session is not a valid session and the client cannot connect. The session CSS, MIFID, or Device Number does not exist or was dynamically deleted during dynamic I/O.

CSS specifies the logical channel subsystem ID number. The valid range for CSS is 0–3.

MIFID is the logical partition MIF image ID. It specifies the logical partition within the LCSS with which the device will communicate. The valid range for the image ID is 1–F.

Device Number is a number assigned for each device. A valid range for the device number is 1-65535.

LU Name defines a group pool of devices which identifies what session you are going to connect to. This field is not case sensitive.

Client's IP (optional) specifies the IP address that client will use to connect to the session. The client's IP address can remain 0.0.0.0 or empty in order to allow any client to connect to a specific session.

Session Type can be TN3270, operating system console, or printer. The default is the operating system console.

DHD (Defer Host Disconnect): indicates the amount of time to wait (in seconds) until OSA-ICC tells the host that the client session has disconnected. For example, if you wanted to turn your PC off without the host knowing you left, you would click on the radio button for "enable with no timeout for deferment." This option specifies that the host will never be informed that you have logged off. A valid range for DHD is 1-86400 (24 hours in seconds).

RSP (Response Mode): indicates whether response mode is enabled or disabled. If enabled, the host waits for the client to send an acknowledgement on the Telenet level for every read, write, or packet it receives. This enables the user to check for bad LANs, poor performance, or other issues.

RTO (Response Time Out): specifies how long to wait (in seconds) for a response from the client before performing a client disconnect. The default RTO is 60. The valid range for RTO is 1-300.

Notes:

1. The phrase Response Time Out and Read Time Out are synonymous for OSA-ICC
2. If no RTO is specified, Missing Interrupt Handler (MIH) should be disabled. If an RTO value is specified, MIH should be set to at least 50% greater than the RTO value. MIH is set via the operating system.

To edit a field:

1. Highlight the entry you want to edit
2. Double click the change button at the bottom of the screen

Edit Session Configuration

Channel ID: 01C1 LAN port type: OSC for OSA Con Cntrl

Session Index: 1

Session State: Available

CSS Value: 0

MIFID: 1

Device Number: 0160

LU Name: 1B1LP1

Client's IP Address: 0 . 0 . 0 . 0

Session Type TN3270 Operator console printer

Defer Host Disconnect

disable

enable with defaulted deferment of 60 seconds

enable with no timeout for deferment

enable with user specified defaulted deferment of:

Defer Host Disconnect time value (seconds):

Response mode enable disable

Note: If the Response mode is enabled,
then the timeout is specified via the Read Timeout value setting.

Read Timeout

disable

low (1 second)

medium (10 seconds)

high (60 seconds)

user specified timeout of:

Read Timeout value(seconds):

If this session is active, then changing configurations can cause client connection to drop.

OK Delete Session Cancel Help

Figure 15. Edit session configuration panel

3. Make any desired changes. Be sure to scroll down to view all the fields that you can edit. For a description of the fields, see the field descriptions above.
4. Click OK to save the updated session information or the information will be lost.
5. Validate and activate your changes. For more information on validating and activating see, “Validate panel values” on page 27, and “Activate configuration” on page 43. In addition, you may want to export your configuration as backup. For more information on exporting, see “Export source file” on page 30.

Edit server configuration

The **Edit server configuration** panel is used to edit the server configuration for a given OSC.

T60HMC: Edit Server Configuration

Edit Server Configuration

Channel ID: 01C1
Lan port type: OSC-ICC
Server name:
Host IP address:
TCP port: (0-65535)
Default Gateway:
Subnet Mask:

Frame type

DIX SNAP

Note: The recommended frame type for OSA-ICC is DIX. Changing the frame type to another mode without checking with your Network Administrator could cause a loss of connectivity to your sessions.

MTU Size(B): (256-1492)

Changing host IP address or port will cause dropping of any currently connected clients.

OK Cancel Help

Figure 16. Edit server configuration panel

The *Edit server configuration* panel requires the following input:

Server name Used for display only.

Host IP Address specifies your IP address.

TCP Port Port that server will use to connect with the client. A valid range is 1–65536.

Default Gateway specifies IP address gateway to any machines out of network.

Subnet Mask A mask used to determine what subnet an IP address belongs to.

Frame type specifies the Ethernet standards that you want the network to follow. Every host in a network must have the same frame type. It is **strongly recommended** that you use DIX as your frame type. SNAP refers to IEEE 802.3 framing, but most traffic on Ethernet is usually carried on DIX frames. Please contact your network administrator to see what you are using.

MTU Size(B) specifies the maximum size to be transferred in one frame. A valid range is from 256–1492. The default is 576. Speak to your network administrator to see if you need the MTU size to be different from the default.

Validate panel values

The **Validate panel values** panel is used to authenticate any values entered in the configuration panels.

Notes:

1. In order to make your validated session the active configuration, you must activate it. For more information about activating see “Activate configuration” on page 43

page 43. In addition, you may want to export your source file as a backup. For more information on exporting, see “Export source file” on page 30.

2. For a list of errors and warnings that you might receive after validating, see Chapter 7, “Error and warning messages,” on page 57.

If you receive errors during your validation, you must fix them before you can activate the configuration. If you receive warnings during your validation, you may still activate your configuration. However, it is suggested that you address these warnings and re-validate before you activate your configuration.

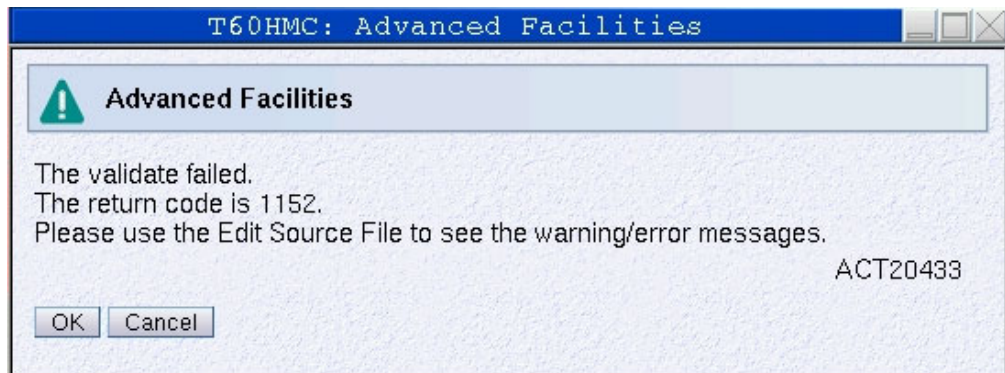


Figure 17. Validate panel values panel

Display validate panel errors

The **Display validate panel errors** panel is used to view any errors you might have received while validating. For a list of errors and warnings that you might receive, see Chapter 7, “Error and warning messages,” on page 57.

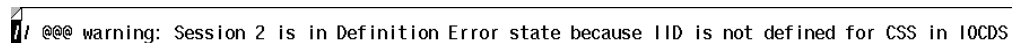


Figure 18. Display validate panel errors panel

Configuring via manual editing

Configuring your OSA-ICC results in the creation of a session and server configuration file. You can create this file by entering data via panel entry or by manually editing the file. Panel entry requires that you move through a series of data entry panels and enter configuration data on those panels. Your other option is to edit your configuration manually using your favorite editor. Manual editing is much faster for multiple data entries because of the powerful editing capabilities of most editors.

You can edit the configuration file on your Hardware Management Console or SE console or you can export the configuration file via FTP or to a diskette, edit it using the editor of your choice, and import back to the SE. You can also edit the configuration file directly on the SE console by selecting the **Edit source file** panel under the **Manual configuration options** panel.

Once the configuration file is created, regardless of whether it was created via panel or manual entry, either interface can be used to update the file.

Manual configuration options

The **Manual configuration options** panel is the high level selection panel for the manual configuration options that are used for importing a source file, exporting a

source file, editing a source file, and validating a source file. Manual configuration is the most efficient way to create a configuration file because it allows you to create and modify a configuration file with the editor of your choice. Many editors allow you to copy and paste sections of the file and to find and replace data items quickly and easily.

To choose a manual configuration option, select an option and click OK.

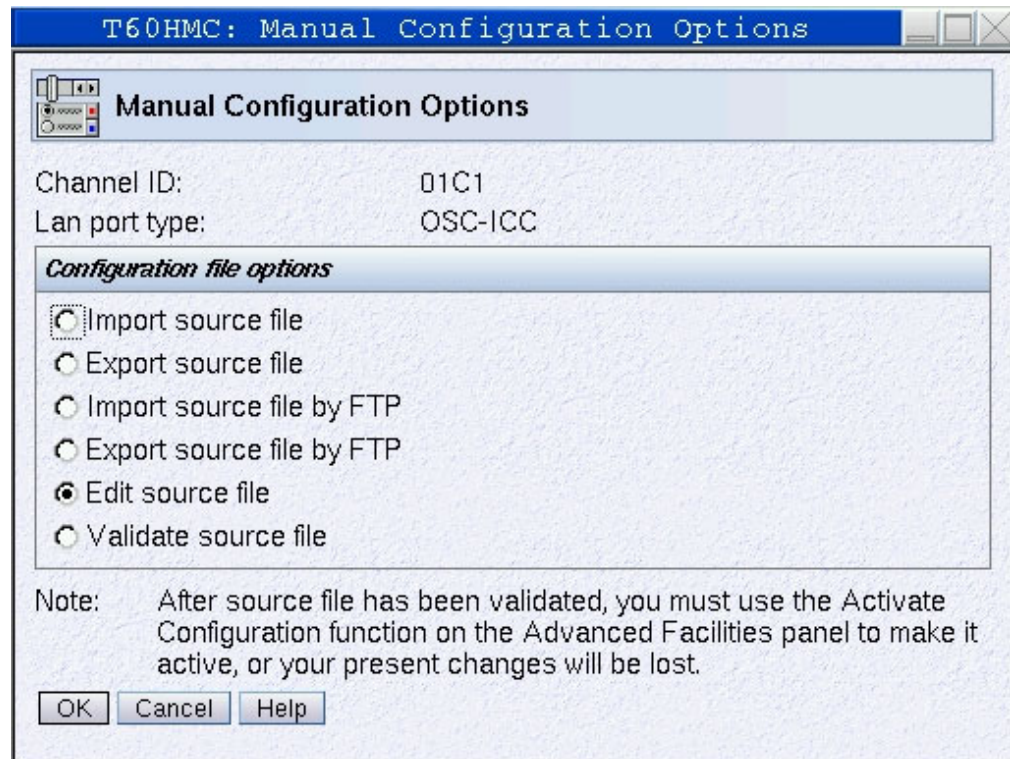


Figure 19. Manual configuration panel

Import source file

If you exported a configuration file for editing you must import it in order to use it. Here are the steps for importing a session configuration file from a diskette.

Note: In order to make the imported source file the active configuration, you must edit the source file (optional), validate the source file and then activate it. For more information about editing, validating, and activating source files see, "Edit source file" on page 33, "Validate source file" on page 42 and "Activate configuration" on page 43. In addition, if you update the file you may want to export your source file as a backup. For more information on exporting, see "Export source file" on page 30.

Steps for importing a configuration file: Before you begin: You must be aware of the naming requirements for a configuration file. These requirements are:

- The filename has a maximum of eight characters. The first four characters should be iqzc.
 - The file extension is .trm.
1. Insert diskette containing the source file into your floppy disk drive. If you are working from the SE, your import will be from the SE. If you are working from the Hardware Management Console, the import will be from the Hardware

Management Console. If your Hardware Management Console is in single object operation, you must insert the diskette in the SE.

- From the **Manual configuration options** panel select **Import source file**. The **Import source file** panel will appear with a list of all the files on the disk.

For example:

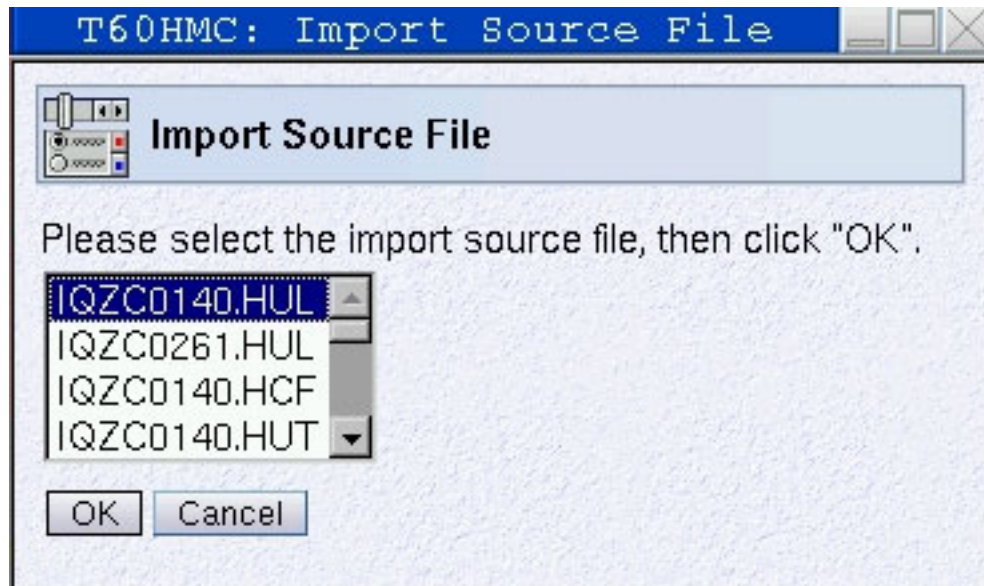


Figure 20. Import source file panel

- Highlight the file you would like to import and click **OK**. The file you specified will be imported.
Warning: Although you can import any file listed, trying to validate and activate a file that is not a configuration file will fail.
- Edit (optional), validate your imported source file, and activate the configuration.

For an example of a source file, see “An example of a correct configuration file” on page 34.

Export source file

The **Export source file** panel is used to export a session configuration file to a diskette so you can edit the configuration file with your editor. You can also use this panel to export your configuration options as a backup. Here are the steps for exporting the session configuration file to a diskette.

Steps for exporting a configuration file: Before you begin: You must be aware of the naming requirements for a configuration file. These requirements are:

- The filename has a maximum of eight characters. The first four characters should be iqzc.
 - The file extension is .trm.
- Insert diskette you wish to save the source file on into your floppy disk drive. If you are working from the SE, your export will be from the SE. If you are working from the Hardware Management Console, the export will be from the Hardware Management Console. If your Hardware Management Console is in single object operation, you must insert the diskette in the SE.
 - From the **Manual configuration options** panel select **Export source file**. The **Export source file** will appear.

For example:

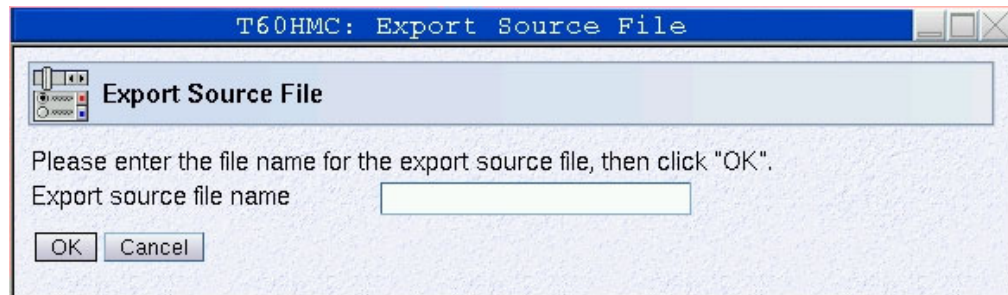


Figure 21. Export source file panel

3. Type in the name to be given to the exported configuration file in the Export source file name field and click OK. The panel is going to export the configuration file for the PCHID selected.

Import source file by FTP

If you exported a configuration file for editing you must import it in order to use it. Here are the steps for importing a session configuration file via FTP.

Note: In order to make the imported source file the active configuration, you must edit the source file (optional), validate the source file and then activate it. For more information about editing, validating, and activating source files see, “Edit source file” on page 33, “Validate source file” on page 42 and “Activate configuration” on page 43. In addition, if you update the file you may want to export your source file as a backup. For more information on exporting, see “Export source file via FTP” on page 32.

Steps for importing a configuration file via FTP: Before you begin: You must be aware of the naming requirements for a configuration file. These requirements are:

- The filename has a maximum of eight characters. The first four characters should be iqzc.
 - The file extension is .trm.
1. From the **Manual configuration options** panel select **Import source file via FTP**. The **Import source file via FTP** panel will appear.

For example:

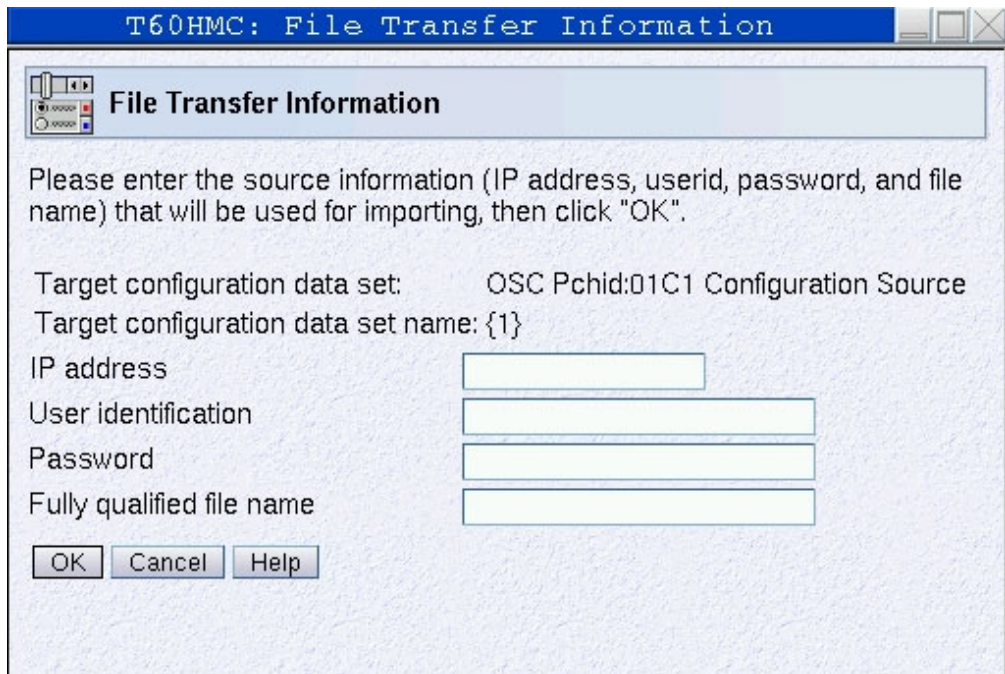


Figure 22. Import source file panel via FTP

2. Enter the IP address, user identification, password, and fully qualified file name and click *OK*. The file you specified will be imported.

Warning: Although you can import any file listed, trying to validate and activate a file that is not a configuration file will fail.
3. Edit (optional), validate your imported source file, and activate the configuration.

For an example of a source file, see “An example of a correct configuration file” on page 34.

Export source file via FTP

The **Export source file via FTP** panel is used to export a session configuration file via FTP so you can edit the configuration file with your editor. You can also use this panel to export your configuration options as a backup. Here are the steps for exporting the session configuration file via FTP and editing it on your workstation of choice.

Steps for exporting a configuration file via FTP: Before you begin: You must be aware of the naming requirements for a configuration file. These requirements are:

- The filename has a maximum of eight characters. The first four characters should be iqzc.
 - The file extension is .trm.
1. From the **Manual configuration options** panel select **Export source file via FTP**. The **Export source file via FTP** panel will appear.

For example:

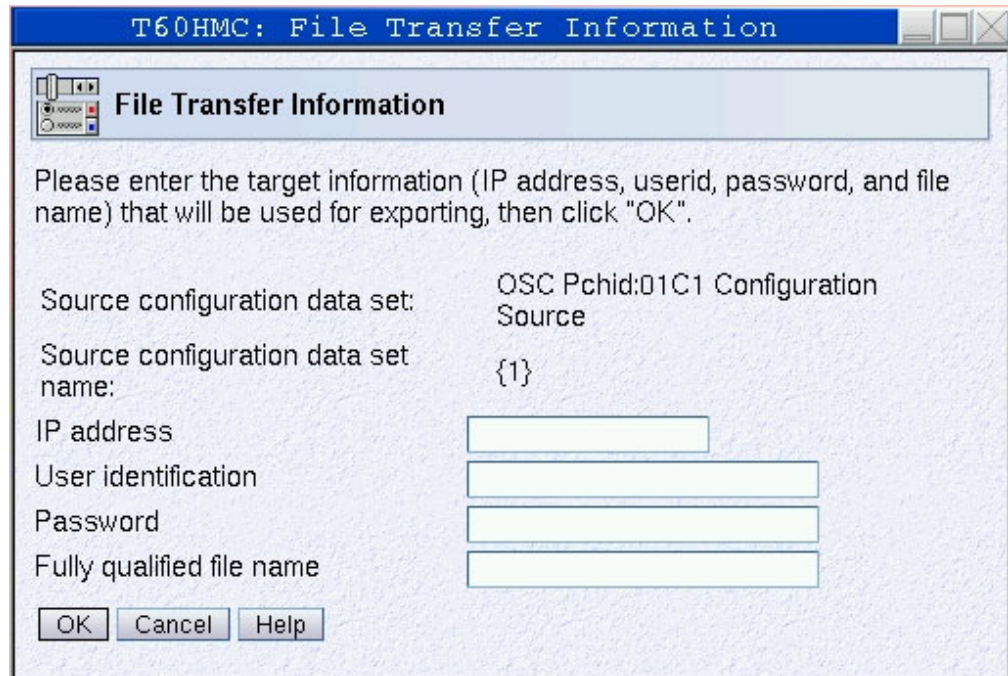


Figure 23. Export source file via FTP panel

2. Type in the IP address, user identification, password, and fully qualified file name to be given to the exported configuration file and click OK. The panel is going to export the configuration file for the PCHID selected.

Edit source file

If you have exported your configuration file, you can use an editor of your choice. Otherwise you can edit the file from the **Edit source file** panel. Here are the steps for editing a configuration file via the **Edit source file** panel.

Note: In order to make the edited source file the active configuration, you must import the source file (only if you are using a workstation editor and not the edit source file panel), validate the source file, and then activate it. In addition, you may want to export your source file as a backup. For more information about exporting, validating, and activating source files see, “Import source file” on page 29, “Validate source file” on page 42 and “Activate configuration” on page 43.

Steps for editing a source file:

1. From the **OSC manual configuration** panel select **Edit source file**. Your source file will be displayed.
2. Make any necessary changes and save. For an example of a source file see, “An example of a correct configuration file” on page 34.
3. Validate your source file to check for any errors. If the file did not validate error free, the errors messages will appear directly in your source file. For an example of a source file with errors in it see, “An example of a configuration file with a warning” on page 35.

Sections of the configuration file: There are 2 sections to the session configuration file:

- The first section is called the session section and includes parameters about the OSC as they relate to the OSA-Express card. In the file, the first line of the

session section is the **<OSC_SERVER>** tag and the last line of the the card parameters is the **</OSC_SERVER>** tag.

- The second section includes parameters about the TN3270E sessions you want to configure for your OSA-ICC. You can configure up to 120 sessions on an OSA-ICC. In the file, the first line of the session parameters is the **<CONFIG_SESSION>** tag and the last line of the card parameters is the **</CONFIG_SESSION>** tag.

Within the **<CONFIG_SESSION>** section of the file are the individual session configuration parameters. Each set of session parameters begins with the **<SESSIONx>** tag and ends with the **</SESSIONx>** tag where x is the index number of the TN3270 session within the configuration.

An example of a correct configuration file: Following is an example of a configuration file. This example matches the IOCP example given in this document.

```
<OSC_SERVER>
HOST_IP= 10.10.10.160
  DEFAULT_GATEWAY= 10.10.10.2
  SUBNET_MASK= 255.255.255.0
  PORT= 9003
  ETHERNET_FRAME= DIX                               MTU= 1492
  NAME= Server1
</OSC_SERVER>

<CONFIG_SESSION>
<SESSION1>
  CLIENT_IP= 10.10.10.15
  CSS= 00 MIFID= 01 DEVICE= 2400
  GROUP= "OSA01"
  CONSOLE_TYPE= 2   RESPONSE= ON   READ_TIMEOUT= 60
</SESSION1>

<SESSION2>
  CLIENT_IP= 10.10.10.15
  CSS= 00 MIFID= 01 DEVICE= 2401
  DEFER_HOST_DISCONNECT= 80
  GROUP= "OSA01"
  CONSOLE_TYPE= 1   RESPONSE= ON   READ_TIMEOUT= 60
</SESSION2>

<SESSION3>
  CLIENT_IP= 10.10.10.15
  CSS= 00 MIFID= 02 DEVICE= 2400
  GROUP= "OSA02"
  CONSOLE_TYPE= 1   RESPONSE= ON   READ_TIMEOUT= 60
</SESSION3>

<SESSION4>
  CLIENT_IP= 10.10.10.16
  CSS= 00 MIFID= 02 DEVICE= 2401
  GROUP= "OSA02"
  CONSOLE_TYPE= 1   RESPONSE= ON   READ_TIMEOUT= 60
</SESSION4>

<SESSION9>
  CLIENT_IP= 10.10.10.17
  CSS= 01 MIFID= 03 DEVICE= 2400
  GROUP= "OSA01"
  CONSOLE_TYPE= 1   RESPONSE= ON   READ_TIMEOUT= 60
</SESSION9>

<SESSION10>
  CLIENT_IP= 10.10.10.18
  CSS= 01 MIFID= 03 DEVICE= 2401
```



```

GROUP= "OSAXX13"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 60
</SESSION10>

<SESSION11>
CLIENT_IP= 10.10.10.18
CSS= 01 MIFID= 03 DEVICE= 2458
GROUP= "OSAXX13"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 60
</SESSION11>
:
:
</CONFIG_SESSION>

```

An example of a configuration file with a warning: The following is another example of a configuration file. This example matches the configuration shown in the panels. The configuration file also includes a sample warning message that you would see after validating a file and receiving a warning.

```

<OSC_SERVER>
HOST_IP= 10.37.69.2
DEFAULT_GATEWAY= 10.37.69.15
SUBNET_MASK= 255.255.255.0
PORT= 9004
ETHERNET_FRAME= DIX
MTU= 1492
NAME= 1C10SC
</OSC_SERVER>

<CONFIG_SESSION>
<SESSION1>
CSS= 00 IID= 01 DEVICE= 0160
GROUP= "1B1LP1"
CONSOLE_TYPE= 2    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION1>

// @@@ warning: This session is in Definition Error state
<SESSION2>
CSS= 01 IID= 01 DEVICE= 0161
GROUP= "1B1LP1"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION2>

<SESSION4>
CSS= 00 IID= 01 DEVICE= 0163
GROUP= "1B1LP1"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION4>

<SESSION5> CSS= 00 IID= 01 DEVICE= 0164
GROUP= "1B1LP1"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION5>

<SESSION6>
CSS= 00 IID= 02 DEVICE= 0160
GROUP= "1B1LP2"
CONSOLE_TYPE= 2    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION6>

<SESSION7>
CSS= 00 IID= 02 DEVICE= 0161
GROUP= "1B1LP2"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION7>

<SESSION8>
CSS= 00 IID= 02 DEVICE= 0162

```

```

GROUP= "1B1LP2"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION8>

<SESSION9>
CSS= 00 IID= 02 DEVICE= 0163
GROUP= "1B1LP2"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION9>

<SESSION10>
CSS= 00 IID= 02 DEVICE= 0164
GROUP= "1B1LP2"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION10>

<SESSION11>
CSS= 01 IID= 03 DEVICE= 0160
GROUP= "1B1LP3"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION11>

<SESSION32>
CSS= 01 IID= 04 DEVICE= 0165
GROUP= "1B1LP4"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION32>

<SESSION37>
CSS= 01 IID= 04 DEVICE= 016A
GROUP= "1B1LP4"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION37>

<SESSION38>
CSS= 01 IID= 04 DEVICE= 016B
GROUP= "1B1LP4"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION38>

<SESSION39>
CSS= 01 IID= 04 DEVICE= 016C
GROUP= "1B1LP4"
CONSOLE_TYPE= 1    RESPONSE= ON    READ_TIMEOUT= 10
</SESSION39>

:

</CONFIG_SESSION>

```

Syntax of a configuration file: Below is a table of tags and their descriptions that you can include in your syntax file.

	Tag	Description
1	//	This indicates that any text to the end of the line is treated as a comment. Note: Any user entered comment will be erased during activation.

2	<OSC_SERVER>	This tag indicates the beginning of the server configuration data. There can be only one such tag in the configuration file. It must be followed by </OSC_SERVER> tag, otherwise a syntax error will be produced.
3	</OSC_SERVER>	This tag is the delimitator for the server configuration section. There can be only one such tag in the configuration file. It must be preceded by the <OSC_SERVER> tag, otherwise a syntax error will be produced.
4	HOST_IP=	This tag is used to label the Host's IP address; a value that follows it should be an IP address in dotted format (for example, 10.10.12.43). This address is assigned to the OSA3270 server, and this is the address that TN3270E clients will be connecting to. The following is an example of using this tag: HOST_IP=10.10.121.44. There is no default.
5	PORT=	The value is the port number on which the OSA3270 server will be listening (accepting) clients. For example, PORT=3271. The default value is PORT=3270.
6	DEFAULT_GATEWAY=	The value is the IP address in dotted decimal format for the default gateway. For example, DEFAULT_GATEWAY=10.10.121.48. There is no default.
7	SUBNET_MASK=	The value is the IP address in dotted decimal format for subnet mask. For example, SUBNET_MASK=225.225.225.0. There is no default.

8	ETHERNET_FRAME=	<p>Specifies the Ethernet standards that you want the network to follow. Every host in a network must have the same frame type. The value can be DIX or SNAP. It is strongly recommended that you use DIX as your frame type. SNAP refers to IEEE 802.3 framing, but most traffic on Ethernet is usually carried on DIX frames. Please contact your network administrator to see what you are using. Below is an example of specifying a frame type:</p> <pre>ETHERNET_FRAME= DIX</pre> <p>or</p> <pre>ETHERNET_FRAME= SNAP</pre> <p>Default value: ETHERNET_FRAME= DIX.</p>
Tags 4-8 can be abbreviated up to first 4 letters		
9	NAME=	The name can be up to 15 characters and is not case sensitive.
10	MTU=	Specifies the maximum size to be transferred in one frame. A valid range is from 256–1492. A user would use an MTU size of less than 1492 when the routing equipment does not support anything above 576.
11	<CONFIG_SESSION>	Marks the beginning of the session configuration.
12	</CONFIG_SESSION>	Marks the end of the session configuration.

13	<SESSION#>	Marks the beginning of the individual session configuration. It must be followed by </SESSION#> tag. Everything between the <SESSION#> and </SESSION#> tags is treated as configuration data for one session. # is replaced by the corresponding index of the session. This number is in the range 1-120. Each number can be used only once, since a session can be configured only once.
14	</SESSION#>	Marks the ending of the individual session configuration. It must be preceded by the <SESSION#> tag.
		Tags 15 -20 can be found in any order. Their valid position is between <SESSION#> and </SESSION#> tags. Each tag (items 15-20) can appear only once for a particular session. They are followed by a number or string, which is assigned to a particular session's parameter.
15	CSS=	This is the channel subsystem number. The valid range is 0-3. This number will be compared with IOCDS to make sure that it is defined.
16	MIFID= or IID=	This is the image ID for the session. The valid range is 1-F. This number will be compared with IOCDS to make sure that it is defined.
17	DEVICE=	This is the device number associated to the session. This hexadecimal number will be compared with IOCDS to make sure that it is defined. The valid range is 1-65535.
Tags 15-17 can be abbreviated up to first 3 letters		

18	GROUP=	Group can be any valid ASCII characters except double quotes. The name must be included in double quotes.
19	CLIENT_IP=	<p>This is the IP address that the client will use to connect to this session. IP address should be in dotted decimal format. For example, 10.10.23.23</p> <p>Specifying a client's IP is optional. Omitting this tag will allow any client to connect to a specific session.</p>
20	CONSOLE_TYPE=	<p>Specifies the session type: 1 (TN3270), 2 (master system operator console) or 3 (printer). The default configuration file should contain number descriptions in the comments next to the line with this tag. The default value is 1.</p>

21	DEFER_HOST_DISCONNECT=	<p>Indicates the amount of time to wait (in seconds) until the session tells the host you have disconnected. For example, if you wanted to turn your PC off without the host knowing you left, you would specify a value of 0. Then, DEFER_HOST_DISCONNECT will be enabled, but timeout for deferment will be infinity. The host will never be informed that you have logged off. For example,</p> <pre>DEFER_HOST_DISCONNECT =0</pre> <p>If this tag is not used, then Defer Host Disconnect will be disabled for particular session.</p> <p>If value is specified, then it will be used as a deferment timeout parameter. For exmaple,</p> <pre>DEFER_HOST_DISCONNECT= 120</pre> <p>The valid range for this parameter is 1-86400. By default there is no DHD.</p>
22	RESPONSE=	<p>Response mode can be ON or OFF, i.e. enabled or disabled. The default value is OFF.</p>

23	READ_TIMEOUT=	<p>Read timeout (RTO) is defaulted to 60 seconds, but if user wishes to customize this parameter, they can do so by assigning number n to read timeout, as in READ_TIMEOUT= n. The valid range for n is 1-300 seconds.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. The phrase Response Time Out and Read Time Out are synonymous for OSA-ICC 2. If no RTO is specified, Missing Interrupt Handler (MIH) should be disabled. If an RTO value is specified, MIH should be set to at least 50% greater than the RTO value. MIH is set via the operating system.
Tags 18-23 can be abbreviated up to first 4 letters		

Validate source file

Once you have edited a configuration file you must validate it in order to ensure that the file is valid before activating it. Here are the steps for validating a configuration file.

Warning: In order to make the validated source file the active configuration, you must activate it. Activating a configuration makes any changes you made effective immediately. This could result in active sessions being dropped. For more information about activating source files see, “Activate configuration” on page 43.

Validating a manual configuration file:

1. From the **OSC manual configuration** panel select **Validate source file**.
2. If the source file you are validating has errors or warnings, they will be included in comments in the source file. Only the first error will be detected. Therefore, you must fix that error and validate the source file again to determine if there are any additional errors. For an example of a source file with warnings in it, see “An example of a configuration file with a warning” on page 35. For a list of errors that you might receive, see Chapter 7, “Error and warning messages,” on page 57. Here is the screen you will see if your source file has errors:

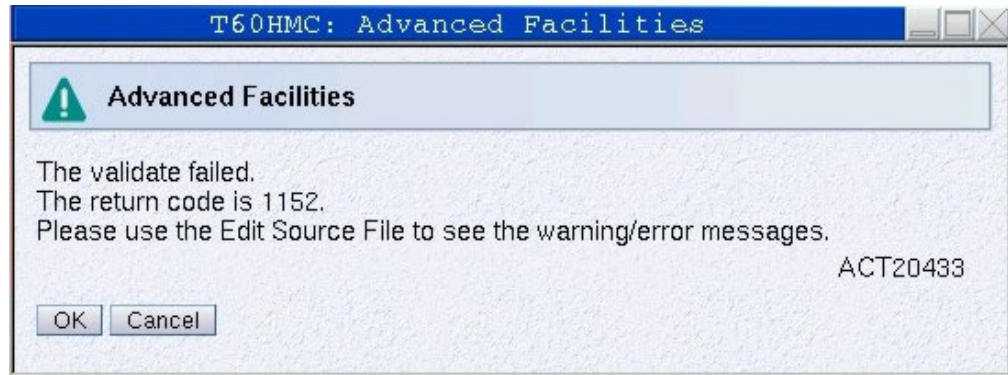


Figure 24. Validate source code error

You must fix all errors before activating your configuration. **If you don't, you will receive the same errors while attempting to activate and your valid source file will be lost.**

3. If the validate was successful, you will receive a message stating that validation of your source file was successful. Click OK.

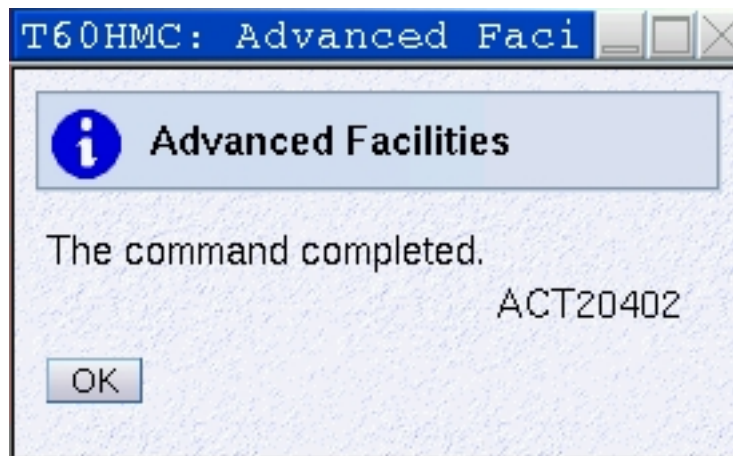


Figure 25. Successful validate source file

Activate configuration

The **Activate configuration** panel is used to activate a valid session and server configuration file. If you choose to activate a configuration file, your sessions will disconnect and then reconnect with the new configuration file option in effect.

Warning: You must validate the source file before you activate the configuration. Activating a configuration makes any changes made effective immediately. This could result in active sessions being dropped.

Note: You may want to export the configuration to save it as backup. For more information on exporting, see “Export source file” on page 30.

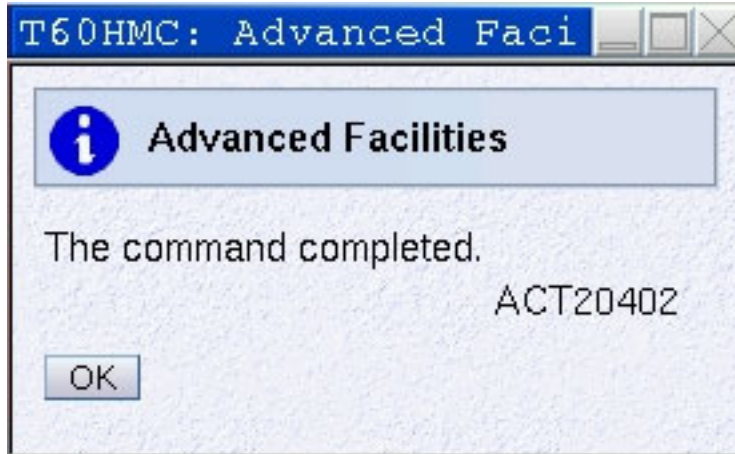


Figure 26. Activate configuration panel

Display activate configuration errors

The **Display activate configuration errors** panel is used to view the file which contains configuration error messages if any exist. If a configuration validated successfully, there will be no activate configuration errors.

```
// @@@ warning: Session 2 is in Definition Error state because IID is not defined for CSS in IOCD5
```

Figure 27. Display activate configuration errors panel

For a list of possible errors and warnings, see Chapter 7, “Error and warning messages,” on page 57.

Debug utilities

The **Debug utilities** panel is the high level selection panel for the debug utilities that are used for debugging a problem with a session on an OSC.

To choose an OSC debug utility option, select a utility option and click OK.

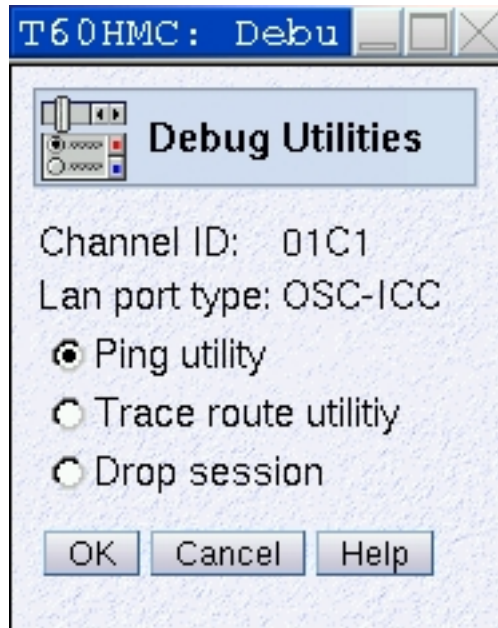


Figure 28. Debug utilities panel

Ping Utility

The **Ping Utility** panel is used to ping a client workstation to verify the status of the connection. A user can also ping the server's own IP address to verify the server's connection.

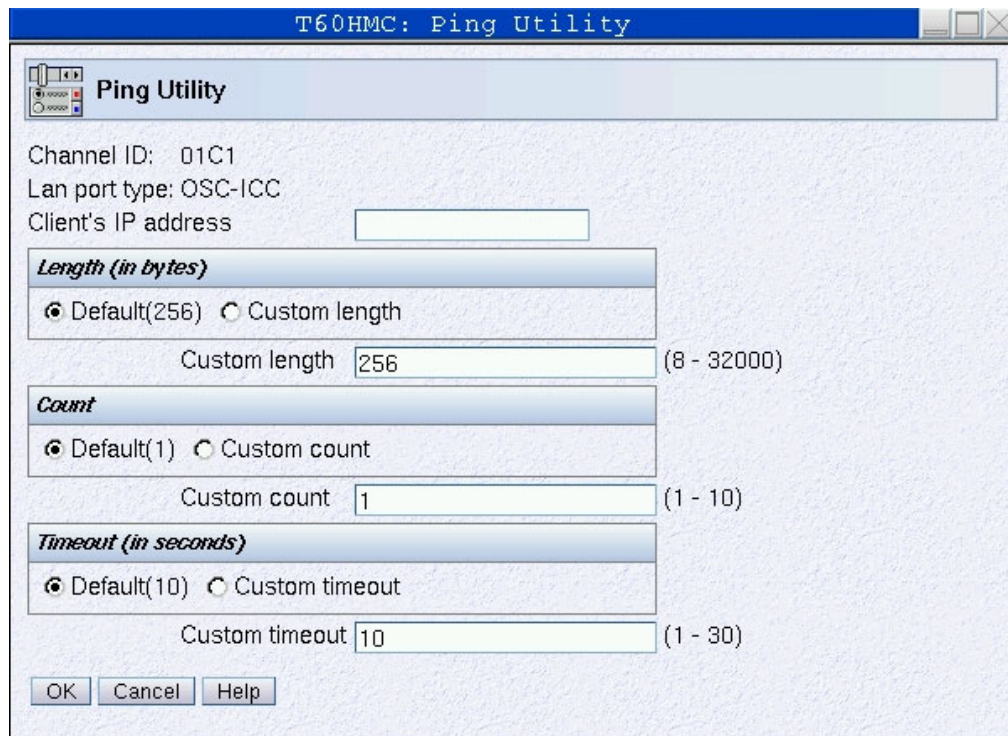


Figure 29. Ping utility

The Ping utility requires the following input:

- Client's IP address: Specifies the IP address of the client you want to ping.
- Length: You can select the default length of 256 bytes or enter a custom length of between 8 and 32000 bytes.
- Count: You can select the default count of 1 or enter a custom count of between 1 and 10.
- Timeout: You can select the default timeout value of 10 seconds or enter a custom timeout value.

Trace route utility

The **Trace route utility** panel is used to trace the route to the client interface specified by the IP address. The results of the trace route will give you every hop from OSA-ICC to the interface specified by the client's IP address.

The screenshot shows a window titled "T60HMC: Trace Route Utility". Inside, there's a "Trace Route Utility" header. Below it, the following information is displayed: Channel ID: 01C1, Lan port type: OSC-ICC, and Client's IP address: [empty field]. There are several sections with radio buttons and input fields: "MAX TTL" with "Default(30)" selected and "Custom MAX TTL" set to 30 (range 1-255); "Attempts" with "Default(3)" selected and "Custom attempts" set to 3 (range 1-20); "Port" with "Default(4096)" selected and "Custom port" set to 4096 (range 2048-60000); "Wait time in seconds" with "Default(5)" selected and "Custom wait time" set to 5 (range 1-255); and "Extra debug messages" with "No" selected. At the bottom are "OK", "Cancel", and "Help" buttons.

Figure 30. Trace route utility

The trace route utility requires the following input:

- Client's IP address: The IP address of the client you want to ping.
- Max TTL: You can select the default maximum of 30 or enter a custom value of between 1 and 255.
- Attempts: You can select the default number of attempts of 3 or enter a custom number of between 1 and 20.
- Port: You can select the default port of 4096 or enter a custom port value of between 2048 and 60000.

- Wait time in seconds: Specifies how long to wait for a trace route operation to complete.
- Extra Debug messages: If you select yes, extra debug messages will be included in the result of the trace route.

Drop session

The **Drop session** panel is used to drop a session from an OSA-ICC. You can use this panel if you need to drop a session because you can't get to a PC or you have a bad connection.

If you selected auto-reconnect during the customization of your session, the option will automatically reconnect your session after you drop it.

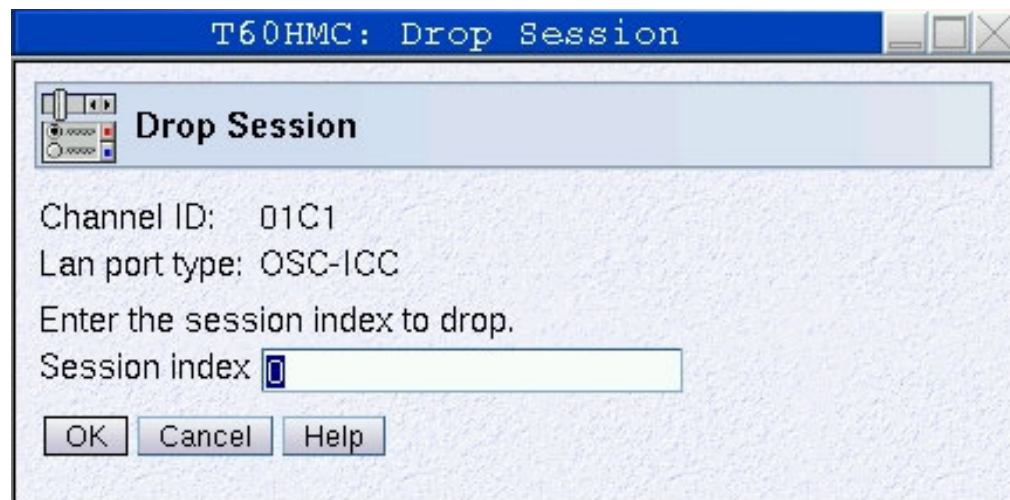


Figure 31. Drop session utility

The drop utility requires a session index from the session table number to identify which session to drop.

The drop session panel requires the following input:

- Session index: The index from the session table.

Cancel

The **Cancel** panel allows you to cancel a command which is executing on an OSC.

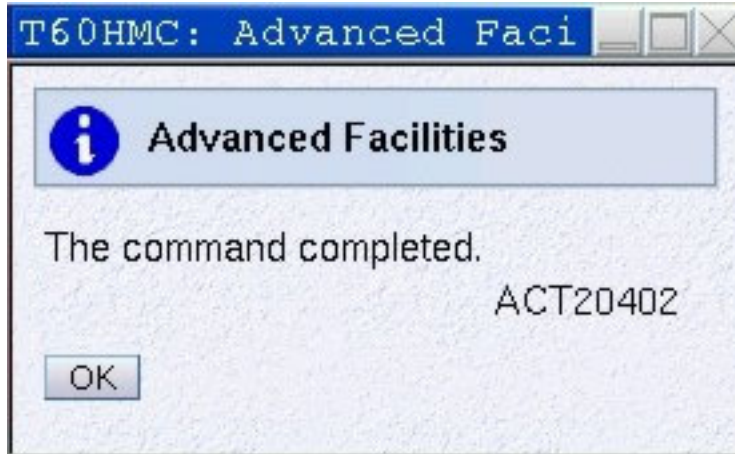


Figure 32. Cancel command panel

Chapter 4. OSA-ICC Programming Considerations

Differences Between 3174 and OSA-ICC

The IBM OSA-ICC is an entirely new implementation of a 3270 terminal control unit. Its purpose is to provide IPL and control consoles for the z/OS Operating System (for example, the System Operator console for VM/ESA[®], or the Master Console for z/OS). An older 3174 control unit, such as the 3174-12L which the OSA-ICC replaces, has more capabilities in some areas, and fewer capabilities in other areas.

3270 Client Support

The **OSA-ICC** only supports TCP/IP RFC 2355 compliant Telnet TN3270E emulator programs, such as *IBM eNetwork Personal Communications*. These clients appear to the z/OS Operating System as non-SNA, DFT terminals. It does **not** support COAX attached clients. The OSA-ICC is essentially a control unit on a port of an OSA 1000BaseT Ethernet cards which controls up to 120 devices. In this document an OSA-ICC is referred to an OSC CHPID and each OSC can provide console support for any logical partition in any CSS on your z890 or z990 processor. The OSA-ICC configuration panels allow you to specify which logical partition on your processor each device is attached to using the CSS ID, MIF image ID, and device number.

The **3174** supports both COAX and LAN-attached, SNA and non-SNA, CUT and DFT mode terminals. It does **not** support TCP/IP attached clients. When configured in non-SNA, DFT mode, the 3174's 32 devices must all be assigned to a single logical partition on one specific S/390 or zSeries processor.

Chapter 5. eNetwork Personal Communications Configuration

Below is an example of defining a PCOMM 3270 session. The example uses PCOMM version 5.6 for Windows. If you are using a different version, your panels may look a little different.

Steps for customizing a PCOMM session

1. To Define an Ethernet attached session to the host, click on 'Link Parameters.'

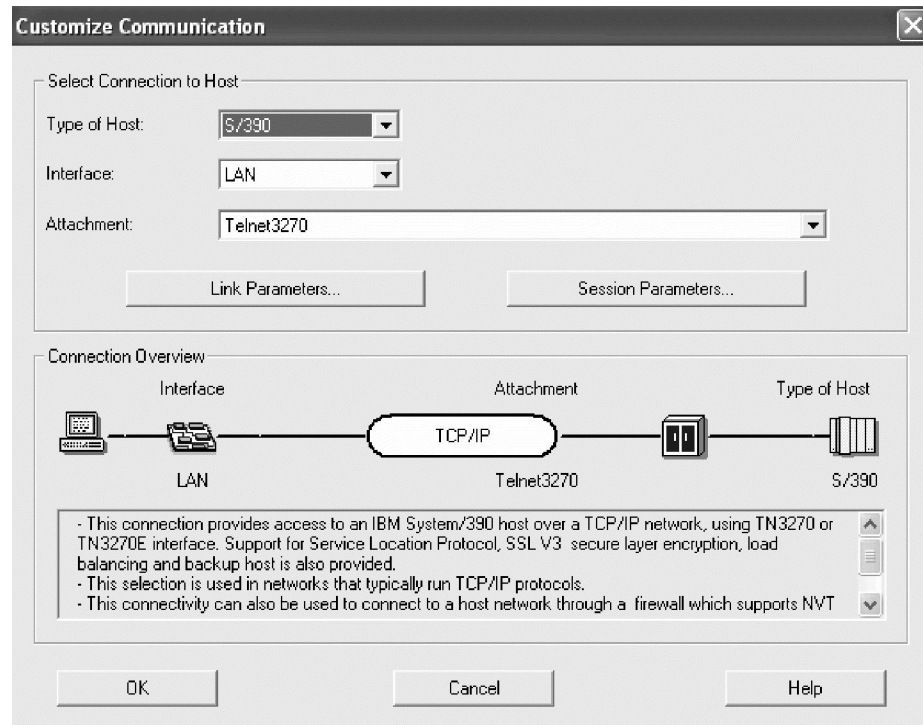


Figure 33. Customize communication screen

2. Define the connection from the workstation to the OSA-ICC server.

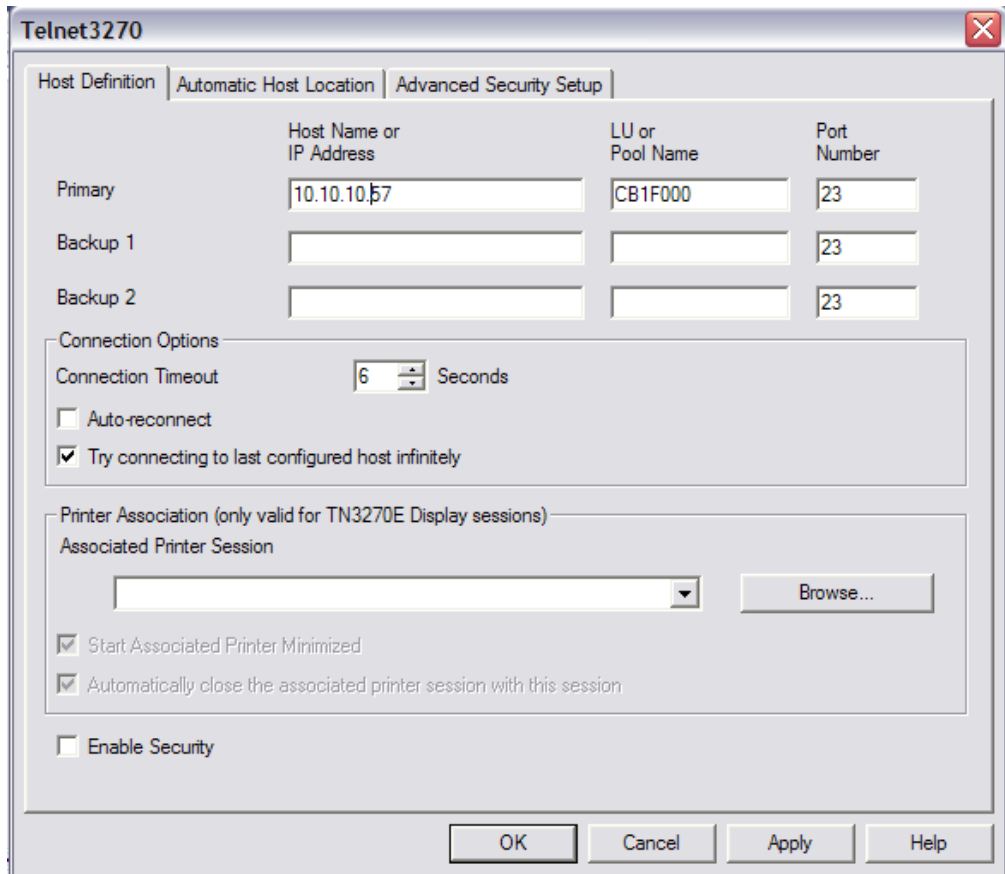


Figure 34. Telnet3270 screen

Enter the Host name or IP Address. The values in Host Name or IP Address and Port Number were specified when defining the OSA-ICC server configuration. For more information on defining your OSA-ICC server Configuration see, “Edit server configuration” on page 27.

3. Enter the LU or Pool Name. The value in LU or Pool Name was specified when defining the group name in the session configuration.
4. Enter the Port Number.
5. Click OK on the Telnet3270 panel.

Note: It is recommended that you select auto-reconnect. However, understand that the drop session option for configuring an OSA-ICC will not work. The auto-reconnect option will automatically reconnect your session after you drop it. For more information on the drop session option, see “Drop session” on page 47.

If you wish, use the Session Parameters option in Customize Communication to set a screen size other than 24 by 80. It is recommended that your screen size matches the operating system screen size.

Clicking OK on the Customize Configuration panel causes PCOMM to initiate the connection to the host.

If the host session is not ready for communication, the screen displayed will show your connection information for this session. For example:

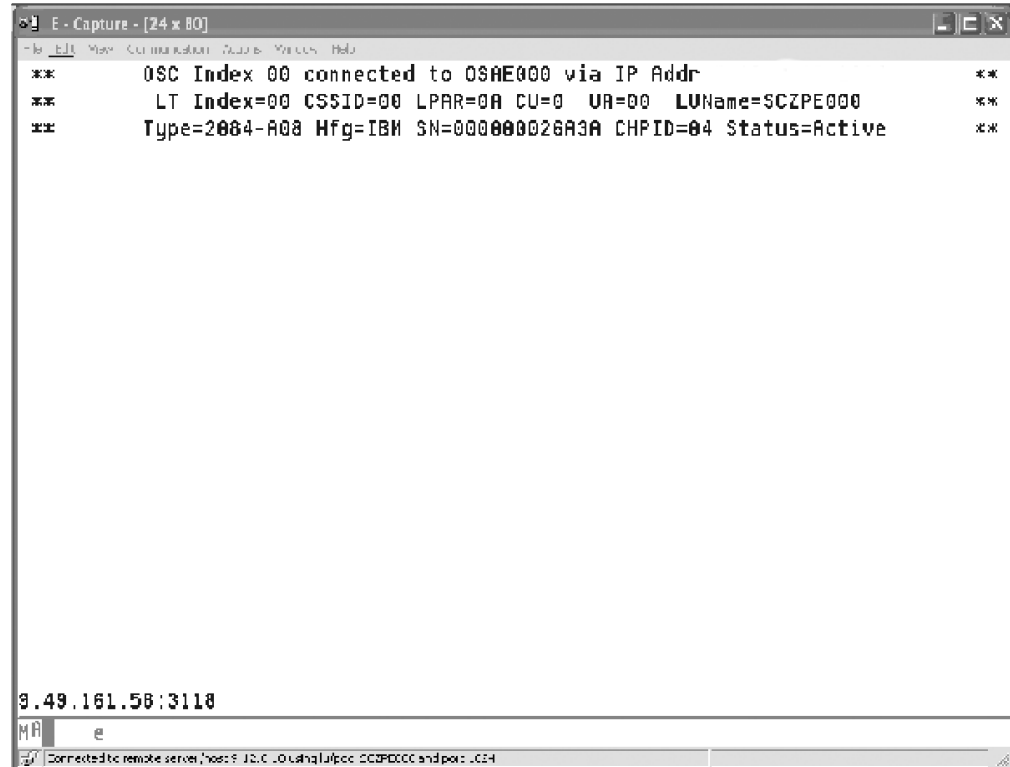


Figure 35. E - Capture — [24x80]

Line 1: OSAE000 is the defined server name; 9.12.6.18:1024 shows the defined server address and port number.

Line 2: session index; LCSS number; LPAR number (this is NOT the MIF image ID we specified for the session, but it is related); logical CU number (always 0); unit address for this device; LU name.

Line 3: information for the connected processor.

When using IBM eNetwork Personal Communications (PCOMM) for client TN3270E display sessions, the following statement must be present in the PCOMM profile files (xxx.WS) to ensure that printer WCC controls are ignored if sent by the host:

```
[LT]
```

```
IgnoreWCCStartPrint=Y
```

If this statement is not present in your PCOMM profile files you will have to edit the xxx.WS files on your client PC with a PC text editor to add the statement lines.

Chapter 6. Connection rules

When the client is connecting to the OSA-ICC, the client will get assigned a session based on what is in the client session table. If the client does not meet the criteria described below, or there are no more free sessions, that client's connection will be refused. Connection rules deal with the criteria that is issued for a client's assignment to sessions.

Connection criteria is based on two rules:

- What can be defined in the session table
- How a client will be assigned to a session

There are 2 elements that rules deal with:

- Client's IP
- LU name (also called group name)

This is what can be defined in the session table (via panels or via source file)

- Each session has to have at least one element; for example, either LU name or an IP address
- A session can have both client's IP and LU name
- A session may have only an LU name or only a client's IP
- The same LU name cannot be specified in multiple images (CSS/IIDs). It may, however, be used multiple times within the same image.
- If a session has the LU name and IP defined, then another session can not have that same LU name without also specifying an IP address. However, it is okay if LU is reused with the same or different IP address. If you attempt to use the LU name by itself, you will get return code 1223 or 1224, depending on what session was defined first (one with both LU name and IP address, or one with just LU name). For example:

```
session1 : CSS= 1 MIFID= 1  GROUP= "LU1"           CLIENT_IP= 10.10.10.1
session2 : CSS= 1 MIFID= 1  GROUP= "LU1"           -
```

These 2 sessions are in conflict - this would be an error.

Example 2:

```
session1 : CSS= 1 MIFID= 1  GROUP= "LU1"           CLIENT_IP= 10.10.10.1
session2 : CSS= 1 MIFID= 1  GROUP= "LU1"           CLIENT_IP= 10.10.10.2
```

These 2 sessions are NOT in conflict.

Example 3:

```
session1 : CSS= 1 MIFID= 1  GROUP= "LU1"           CLIENT_IP= 10.10.10.1
session2 : CSS= 1 MIFID=1   GROUP= "LU2"           -
```

These 2 sessions are NOT in conflict - because session 2 uses different LU.

- IP has to be unique per partition when no LU is specified.

This is how clients are assigned to a session:

- If the client has specified an LU name, then the first available session with that LU name will be considered. Furthermore, if that session entry has a client's IP address specified, the address of the incoming client must also match.

- If the client has specified an LU name, then first available session with that LU name will be considered. Furthermore, if that session entry has NO client's IP address specified, the address of the incoming client does not have to match.
- If the client has not specified an LU name, the first available session without an LU name will be considered. Furthermore, the IP address of the incoming client must match that session's client IP address.

Table 1. Connection rules matrix

Rule	Session configuration	Client's configuration	Effect
1	No LU name, and no IP	not allowed	No Connection
2	Unique LU name specified	Defined LU	OK
		No/mismatch LU	No Connection
3	LU name specified Multiple times and unique to this partition	Defined LU	OK
		No/mismatch LU or defined in multiple CSS/images	No Connection
4	LU name and client's IP specified	Good LU, good IP	OK
		Good LU, bad IP	No Connection
		No LU, good IP	No Connection
		No LU, bad IP	No Connection
		Bad LU, good IP	No Connection
		Bad LU, bad IP	No Connection
5	Unique client IP specified	IP good	OK
		IP bad or defined in multiple CSS/images	No Connection
6	Client IP specified multiple times and unique to this partition	Defined IP	OK
		No/mismatch IP or defined in multiple CSS/images	No Connection

Chapter 7. Error and warning messages

By validating your configuration file, either by the **Validate panel values** panel or the **Validate Source File** panel, you are checking for any errors in your configuration. Any errors or warning you receive can be viewed in either the **Display Validate panel values** panel or in the source file as comments. Bellow is a list of errors and warnings that you could receive:

Table 2. Errors from validate source file

Code	text
1010	// @@@ error: Sessions X and Y are defining same device; i.e. same css/mifid/device
1020	// @@@ error: Can't have multiple <OSC_SERVER> tags
1021	// @@@ error: Can't have <OCS_SERVER> tag within session configuration
1022	// @@@ error: Card configuration already done
1030	// @@@ error: Illegal </OSC_SERVER> position
1031	// @@@ error: Server configuration section has to be closed by </OSC_SERVER>
1032	// @@@ error: Missing HOST_IP tag
1033	// @@@ error: Missing PORT tag
1034	// @@@ error: Missing DEFAULT_GATEWAY tag
1035	// @@@ error: Missing SUBNET_MASK tag
1036	// @@@ error: Missing ETHERNET tag
1037	// @@@ error: Missing NAME tag
1038	// @@@ error: Missing MTU tag
1040	// @@@ error: No host IP value
1041	// @@@ error: Can't have host IP outside of card configuration area
1042	// @@@ error: Host IP value is in bad format
1044	// @@@ error: Host name value is too long - 15 char is Max.
1045	// @@@ error: No host name value
1047	// @@@ error: Can't have name outside of card configuration area
1050	// @@@ error: No host port value
1051	// @@@ error: Can't have host port outside of card configuration area
1052	// @@@ error: Out of range port value
1060	// @@@ error: No gateway router value
1061	// @@@ error: Can't define gateway outside of the card configuration area

Table 2. Errors from validate source file (continued)

1062	// @@@ error: Invalid gateway address value or format
1070	// @@@ error: No subnet mask value
1071	// @@@ error: Can't define subnet mask outside of the card configuration area
1072	// @@@ error: Invalid subnet address value or format
1080	// @@@ error: No value for Ethernet standard
1081	// @@@ error: Can't define Ethernet standard outside of card configuration
1082	// @@@ error: Unknown Ethernet standard value or format
1090	// @@@ error: No value for MTU
1091	// @@@ error: Can't define MTU outside of card configuration
1092	// @@@ error: MTU value outside of 256-1492 range
1093	// @@@ error: MTU value has to be a decimal number
1100	// @@@ error: Can't have <CONFIG_SESSION> tag within card configuration area
1101	// @@@ error: Can't have multiple <CONFIG_SESSION> tags
1102	// @@@ error: Sessions configuration already done
1110	// @@@ error: Illegal </CONFIG_SESSION> position
1120	// @@@ error: <SESSION# needs to end with >, i.e.<SESSION#>
1121	// @@@ error: Trying to configure session outside of session configuration area
1122	// @@@ error: Session # is not between [1 and 120]
1123	// @@@ error: Overlapping configuration for different session
1124	// @@@ error: </SESSION# needs to end with >, i.e.</SESSION#>
1125	// @@@ error: Wrong session # in a </SESSION#> tag
1126	// @@@ error: This Session # has already been configured
1127	// @@@ error: Session # has to be a decimal number
1128	// @@@ error: This session is missing one of the mandatory tags : css, iid or device

Table 2. Errors from validate source file (continued)

1130	// @@@ error: Can't define CSS outside of session configuration area
1131	// @@@ error: Have to define CSS between <SESSION#> and </SESSION#> tags
1132	// @@@ error: Unsupported CSS value
1133	// @@@ error: CSS value is not present
1140	// @@@ error: Can't define MIFID (IID) outside of session configuration area
1141	// @@@ error: Have to define MIFID (IID) between <SESSION#> and </SESSION#> tags
1142	// @@@ error: Unsupported MIFID (IID) value. Range is [01 - 0F].
1143	// @@@ error: MIFID (IID)value not present
1150	// @@@ error: Can't define device outside of session configuration area
1151	// @@@ error: Have to define device between <SESSION#> and </SESSION#> tags
1152	// @@@ error: Unsupported device value
1153	// @@@ error: Device value not present
1160	// @@@ error: Can't define group name outside of session configuration area
1161	// @@@ error: Have to define group name between <SESSION#> and </SESSION#> tags
1162	// @@@ error: Unsupported group length
1163	// @@@ error: Group name value not present
1164	// @@@ error: Group name value not present or no quotes
1170	// @@@ error: Can't define client's IP outside of session configuration area
1171	// @@@ error: Have to define client IP between <SESSION#> and </SESSION#> tags
1172	// @@@ error: Client IP value in bad format
1173	// @@@ error: Client IP value not present
1180	// @@@ error: Can't define type outside of session configuration area
1181	// @@@ error: Have to define console type between <SESSION#> and </SESSION#> tags
1182	// @@@ error: Undefined console type value
1183	// @@@ error: Console type value not present

Table 2. Errors from validate source file (continued)

1190	// @@@ error: Can't define Defer Host Disconnect outside of session configuration area
1191	// @@@ error: Have to define Defer Host Disconnect between <SESSION#> and </SESSION#> tags
1192	// @@@ error: Value for a Defer Host Disconnect has to be a whole decimal number
1193	// @@@ error: Defer Host Disconnect value either too small or too large.
1194	// @@@ error: Defer Host Disconnect value not present
1200	// @@@ error: Can't define Response outside of session configuration area
1201	// @@@ error: Have to define Response between <SESSION#> and </SESSION#> tags
1202	// @@@ error: Unsupported value of Response
1203	// @@@ error: Response value not present
1210	// @@@ error: Can't define Read timeout outside of session configuration area
1211	// @@@ error: Have to define Read timeout between <SESSION#> and </SESSION#> tags
1212	// @@@ error: Read timeout value is too small. Range is (0-300]
1213	// @@@ error: Read timeout value is too large. Range is (0-300]
1214	// @@@ error: Read timeout value is not present
1215	// @@@ error: Read timeout value should be a whole decimal number
1221	// @@@ error:1221 LU (group) name has to be unique per partition (CSS.IID). LU names in sessions X and Y are in conflict.
1222	// @@@ error: 1222: Session IP has to be unique per partition (CSS.IID) when is used without Group (LU) name. IPs in sessions X and Y are in conflict.
1223	// @@@ error: 1223: When used in combination with the IP, LU name can't be used again, if it was already used in other session by it self. Sessions X and Y are in conflict.
1224	// @@@ error: 1224: Same LU name can't be used again, if it was already used in other session together with IP. Sessions X and Y are in conflict.

Table 2. Errors from validate source file (continued)

1225	// @@@ error: 1225: Neither group (LU) name nor IP is specified for session # X. At least one has to be specified
------	---

Table 3. Warnings from validate source file

code	text
505	// @@@ warning: 505 This session is in Definition Error state because CSS is not defined in IOCDS
506	// @@@ warning: 506 This session is in Definition Error state because CSS is not defined in IOCDS
507	// @@@ warning: 507 This session is in Definition Error state because IID is not defined for CSS in IOCDS
508	// @@@ warning: 508 This session is in Definition Error state because Device is not defined for IID in IOCDS
509	// @@@ warning: 509 This session is in Definition Error state because device is not defined in IOCDS

Table 4. Errors from validate panels

1010	// @@@ Error 1010: Session # X and session # Y are defining same device; i.e. same css/mifid/device
1042	// @@@ Error 1042: Invalid server IP value:
1052	// @@@ Error 1052: Invalid server port value: XXXXX
1082	// @@@ Error 1082: Invalid server LAN PARM value: XXXXX
1092	// @@@ Error 1092: Invalid server MTU value: XXXXX
1132	// @@@ Error 1032 :Session # X has out of range CSS value.
1142	// @@@ Error 1042 :Session # X has out of range IID value.
1152	// @@@ Error 1052 :Session # X has out of range deviceNumber value.
1182	// @@@ Error 1082 :Session # X has invalid Type.
1202	// @@@ Error 1202 :Session # X has invalid RSP value.
1212	// @@@ Error 1212 :Session # X has invalid RTO value.
1221	// @@@ Error 1221 : LU (group) name has to be unique per partition (CSS.IID). LU names in sessions X and " Y are in conflict.

Table 4. Errors from validate panels (continued)

1222	// @@@ Error 1222 :Session IP has to be unique per partition (CSS.IID) when is used without Group (LU) name. IPs in sessions X and Y are in conflict.
1223	// @@@ Error 1223 :When used in combination with the IP, LU name can't be used again, if it was already used in other session by it self. Sessions X and Y are in conflict.
1224	// @@@ Error 1224: Same LU name can't be used again, if it was already used in other session together with IP. Sessions X and Y are in conflict.
1225	// @@@ Error 1225: Neither group (LU) name nor IP is specified for session # X. At least one has to be specified.
62	// @@@ Warning 62 :Invalid server gateway value: XXXXX
72	// @@@ Warning 72:Invalid server subnetMask value: XXXXX
505	// @@@ warning: Session X is in Definition Error state because CSS is not defined in IOCDS for this CHPID
506	// @@@ warning: Session X is in Definition Error state because CSS is not defined in IOCDS
507	// @@@ warning: Session X is in Definition Error state because IID is not defined for CSS in IOCDS
508	// @@@ warning: Session X is in Definition Error state because device is not defined for IID in IOCDS
509	// @@@ warning: Session X is in Definition Error state because device is not defined in IOCDS

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