

# Configuring CICS Universal Client for $OS/2^{\mathbb{R}}$ for Communications Server



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## Chapter 1. Overview

The sample configuration shown in Figure 1 consists of a CICS Universal Client for OS/2 Version 3.1 connecting to CICS Transaction Server for OS/390 Version 1.3 across two networks.

The client workstation is on a different network from the server. This configuration describes how to configure IBM eNetwork Communications Server for OS/2 Version 5.0 for a cross network connection to CICS Transaction Server for OS/390 Version 1.3.

Communication is through SNA LU6.2 (APPC) communication, provided by IBM eNetwork Communications Server for OS/2 Warp Version 5.0 (hereafter referred to as Communications Server for OS/2) on the client workstation and VTAM on the mainframe server.

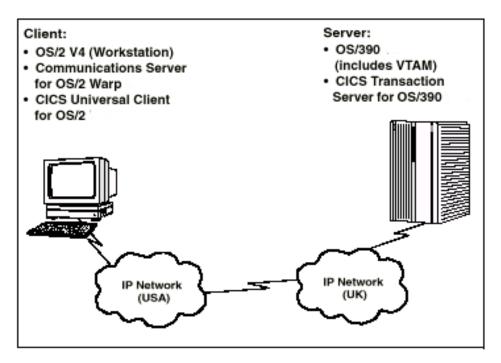


Figure 1. CICS Universal Client for OS/2 - Cross Network - CICS TS Version 1.3

Although we used the CICS Transaction Server for OS/390 Version 1.3 for the sample configuration, you could use earlier versions of the CICS Transaction Server for OS/390, or CICS/ESA Version 4.1.

#### Overview

We used a token-ring network for this configuration, but you can use other physical links, for example, synchronous data link control (SDLC) or coaxial connections.

In this document we cover the following topics:

- "Chapter 2. Software checklist" on page 3
- "Chapter 3. Definitions checklist" on page 5
- "Chapter 4. Matching definitions" on page 7
- "Chapter 5. Sample configuration" on page 9
- "Chapter 6. Testing your configuration" on page 23
- "Chapter 7. Security implementation" on page 25
- "Chapter 8. Useful commands and utilities" on page 29

## **Chapter 2. Software checklist**

The levels of software we used in the sample configuration are not necessarily the latest levels available. Check the relevant products for levels of compatible software.

We used the following software on the CICS server:

- OS/390 Version 2.6
  - Includes VTAM Version 4.5
- CICS Transaction Server for OS/390 Version 1.3

We used the following software on the client workstation:

- OS/2 Version 4 (workstation version FixPak 6)
- Communications Server for OS/2 + APAR JR11589 within FixPak CSA5018
- CICS Universal Client for OS/2 Version 3.1
- Java Runtime Environment (JRE) Version 1.1.8 for OS/2 (necessary for running the configuration tool and other tools.)

### Software checklist

## **Chapter 3. Definitions checklist**

Before you configure the products, we recommend that you acquire definitions for the parameters listed below. Reference keys, for example, are assigned to definitions that must contain the same value in more than one product.

- VTAM (Network-USA)
  - XID 1 for workstation
  - PU for workstation
  - LU 2 for workstation
- VTAM (Network-UK)
  - NETID 3
  - APPL 4
  - LogMode 5
- CICS Transaction Server for OS/390
  - ISC SIT override
  - Applid 4
  - DFHISC group
  - Netname in the LU6.2 connection definition 2
  - Modename in the LU6.2 sessions definition 5
- Communications Server for OS/2
  - Network ID
  - Local node ID 1
  - Local LU 2
  - Partner network ID 3
  - Partner LU 4
  - LAN destination address of network control program (NCP) (Network-USA)
  - Mode Name 5
- CICS Universal Client for OS/2 Version 3.1
  - Partner LU Name 3.4
  - Local LU name
  - Mode name 5

### **Definitions checklist**

## **Chapter 4. Matching definitions**

In the sample configuration a number of definitions must match. Table 1 shows the definitions that must be the same. The Example column shows the values we used in our configuration (see "Chapter 5. Sample configuration" on page 9).

Table 1. Matching Definitions

Ref: Key	VTAM (USA)	VTAM (UK)	CICS Transaction Server	Communications Server for OS/2	Client configuration	Example
1	XID	_	_	Local node ID	_	05DO2130
2	LU	_	NetName	Local LU	Local LU name	SC02130I
3	_	NETID	_	Partner network ID	Partner LU name	GBIBMIYA
4	_	APPL	Applid	Partner LU	Partner LU name	IYCQCTS5
5	_	LogMode	Modename	Mode Name	Mode name	LU62PS

## **Matching definitions**

## **Chapter 5. Sample configuration**

In this section we present examples of each of the definitions mentioned in "Chapter 3. Definitions checklist" on page 5. The values highlighted in the figures refer to the Example column of Table 1 on page 7.

#### VTAM (Network-USA)

Figure 2 shows the PU, VTAM XID **1**, and LU **2** definitions for the client workstation we used in the sample configuration. The XID consists of two parts. The block number, IDBLK, is the first three digits, and the node number, IDNUM, is the last five digits. The LU SC02130I is an independent LU6.2 definition.

```
SC02234 PU ADDR=01,
    IDBLK=05D,IDNUM=02130, 1
    ANS=CONT,DISCNT=NO,
    IRETRY=NO,ISTATUS=ACTIVE,
    MAXDATA=265,MAXOUT=1,
    MAXPATH=1,
    PUTYPE=2,SECNET=NO,
    MODETAB=POKMODE,DLOGMOD=DYNRMT,
    USSTAB=USSRDYN,LOGAPPL=SCGVAMP,
    PACING=1,VPACING=2

*
SC021301 2 LU LOCADDR=0,DLOGMOD=LU62PS
::
```

Figure 2. VTAM: PU, XID, and LU definitions

## VTAM (Network-UK)

In this section we present the VTAM definitions for Network-UK.

#### **NETID**

You specify the NETID **3** for VTAM in your VTAM start procedure. For the sample configuration, specify NETID=GBIBMIYA.

#### **APPL**

Figure 3 on page 10 shows the VTAM APPL 4 definition required for the sample configuration.

#### Sample configuration

```
AP26CICS VBUILD TYPE=APPL

*
IYCQCTS5 APPL AUTH=(ACQ,PASS,VPACE),VPACING=0,EAS=29,PARSESS=YES, X
SONSCIP=YES,MODETAB=MTCICS

*
:::
```

Figure 3. VTAM: APPL definition

#### LogMode

Figure 4 shows the LogMode **5** required for the LU6.2 parallel sessions.

```
LU62PS MODEENT LOGMODE=LU62PS for LU6.2 Parallel Sessions,
TYPE=0.
                 ONLY TYPE RECOGNISED
FMPROF=X'13',
                 SNA
TSPROF=X'07',
                 SNA
PRIPROT=X'B0',
                 PRIMARY PROTOCOL
SECPROT=X'B0',
                 SECONDARY PROTOCOL
COMPROT=X'79A5', COMMON PROTOCOL
SSNDPAC=X'00',
SRCVPAC=X'00',
RUSIZES=X'8989', RUSIZES IN-4096 OUT-4096
PSNDPAC=X'00',
PSERVIC=X'060200000000000000122F00'
```

Figure 4. VTAM: LogMode definition

#### CICS Transaction Server for OS/390 Version 1.3

In this section we present the definitions required for the CICS Transaction Server for OS/390 Version 1.3.

### System Initialization Table parameters

Figure 5 shows the SIT parameters required to enable ISC and to define the CICS Transaction Server for OS/390 APPLID 4.

```
::
ISC=YES
APPLID=IYCQCTS5
::
```

Figure 5. CICS Transaction Server for OS/390 APPLID definition

### **DFHISC** group

To enable ISC on CICS Transaction Server for OS/390, you must install the DFHISC group. You can use resource definition online (RDO) to install the group, or add the group to your startup list (GRPLIST).

#### LU6.2 connection

Figure 6 shows the independent LU6.2 connection definitions that we installed on the CICS Transaction Server for OS/390.

```
OBJECT CHARACTERISTICS
                                                                                                                                                                                                                                                                                                     CICS RELEASE = 0530
       CEDA View Connection (C130)
         Connection : C130
         Group : C130
DEscription :
         CONNECTION IDENTIFIERS
         Netname : SC02130I 2
        INDsys
       REMOTE ATTRIBUTES
          REMOTESYSTem :
             REMOTEName
          REMOTESYSNet :
        CONNECTION PROPERTIES
        | No. 
                                                                                                                                                                                            Vtam | IRc | INdirect | Xm
    + RECordformat : U
                                                                                                                                                                                                                                                                                SYSID=YCQ5 APPLID=IYCQCTS5
                                                                                                                                                                                6 CRSR 7 SBH 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
PF 1 HELP 2 COM 3 END
```

Figure 6. CICS Transaction Server for OS/390: SNA Connection definition

Figure 7 on page 12 shows the sessions definition required for the sample configuration. The LU6.2 connection definition and LU6.2 sessions definition must reside in the same group and be installed simultaneously. We used Group(C130) in our sample configuration.

#### Sample configuration

```
OBJECT CHARACTERISTICS
                                                 CICS RELEASE = 0530
 CEDA View Sessions (LU62PS)
  Sessions : LU62PS
            : C130
  DEscription :
 SESSION IDENTIFIERS
  Connection : C130
  SESSName
  NETnameg
  MOdename : LU62PS 5
 SESSION PROPERTIES
                                 Appc | Lu61 | Exci
  Protocol : Appc
  RECEIVEPfx :
                                 0-999
  RECEIVECount :
                                 1-999
  SENDPfx
  1-999
                                1-30720
+ RECEIVESize : 00256
                                 1-30720
                                             SYSID=YCQ5 APPLID=IYCQCTS5
PF 1 HELP 2 COM 3 END
                             6 CRSR 7 SBH 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

Figure 7. CICS Transaction Server for OS/390: SNA Sessions definition

#### Communications Server for OS/2

In this section we describe in detail how to define your values to Communications Server for OS/2 for our sample configuration. We recommend that you use a new configuration file because adding values to an existing configuration file may cause conflicts with existing values. To configure Communications Server for OS/2 as in our example:

- Run Communications Manager Setup from the IBM eNetwork Communications Server folder.
- 2. Click on **Setup** ... to get to the Open Configuration panel and then enter a name for your new configuration file. We used the name XNETWORK.
- 3. On the Communications Manager Configuration Definition XNETWORK panel select the **Additional definitions** radio button.
- 4. Highlight in the Workstation Connection Type box **Token-ring or other LAN types** (this may already be highlighted). See Figure 8 on page 13.
- 5. Highlight in the Feature or Application box **APPC APIs** (and 3270 support). See Figure 8 on page 13.

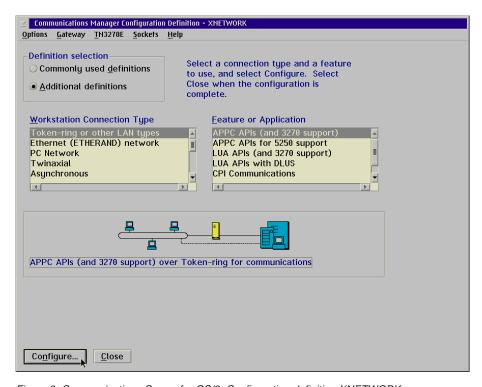


Figure 8. Communications Server for OS/2: Configuration definition XNETWORK

6. Select **Configure...** to get to the APPC APIs over Token-ring panel (see Figure 9).

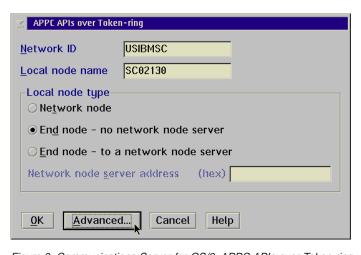


Figure 9. Communications Server for OS/2: APPC APIs over Token-ring

#### Sample configuration

On the APPC APIs over Token-ring panel:

- 1. Enter the name of the Network ID that your local workstation resides upon.
- 2. Specify a Local node name that is unique to your network. We specified the PU of the workstation.
- In our configuration the workstation does not have access to a network node server. Therefore, we selected the Local node type radio button End node - no network node server.
- 4. Select the **Advanced...** button to display the Communications Manager Profile List (see Figure 10).

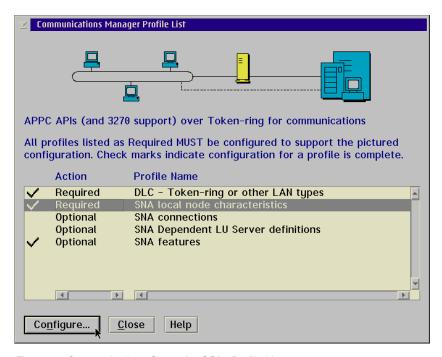


Figure 10. Communications Server for OS/2: Profile List

On the Communications Manager Profile List highlight **SNA local node characteristics** and select the **Configure...** button to display the Local Node Characteristics panel (see Figure 11 on page 15).

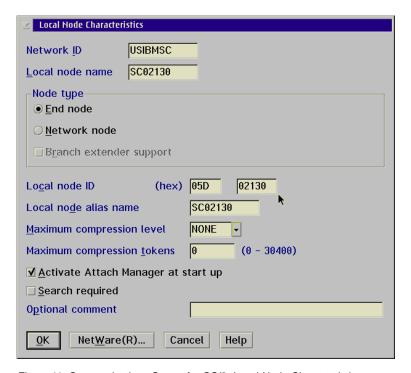


Figure 11. Communications Server for OS/2: Local Node Characteristics

#### On the Local Node Characteristics panel:

- 1. Enter the Local node ID **1** (also known as the XID of your workstation).
- 2. Other fields will have been automatically completed for you. You can leave them to default to the values set.
- 3. Select the **OK** button to return to the Communications Manager Profile List (see Figure 10 on page 14).
- On the Communications Manager Profile List highlight SNA connections and select the Configure... button to display the Connections List panel (not shown).
- 5. On the Connections List panel select the **To host** radio button and then the **Create...** button to display the Adapter List panel (not shown).
- 6. On the Adapter List panel highlight **Token-ring or other LAN types** (if it is not already highlighted), and then the **Continue.**. button to display the Connection to a Host panel (see Figure 12 on page 16).

#### Sample configuration

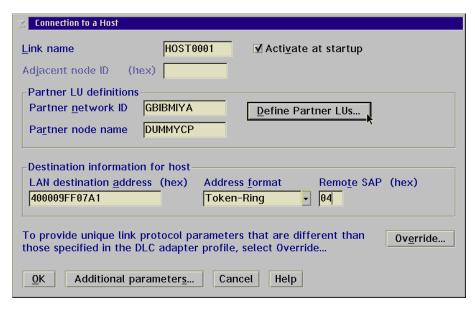


Figure 12. Communications Server for OS/2: Connection to a Host

#### On the Connection to a Host panel:

- 1. Enter the name of the Partner network ID **3** where the CICS server resides.
- The Partner node name field must contain a value, but this is not important for this configuration. You can enter a value meaningful to the end user.
- 3. Enter the LAN destination address assigned to the controller's network adapter within the network of your PU.
- 4. Select the **Define Partner LUs...** button to display the Partner LUs panel (see Figure 13 on page 17).

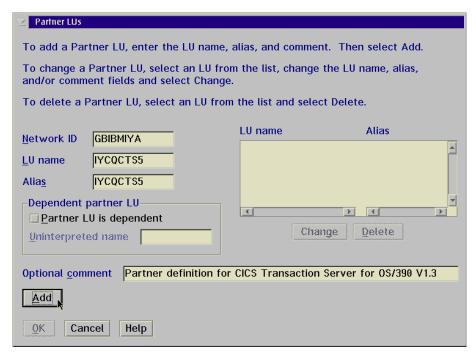


Figure 13. Communications Server for OS/2: Partner LUs

#### On the Partner LUs panel:

- 1. Enter the Network ID **3** where CICS Transaction Server for OS/390 is running.
- 2. Enter the LU name 4 of the CICS region. This is the CICS applid.
- 3. Enter an Alias for the LU name. For simplicity, we have specified the same name as the LU name.
- 4. Select the **Add** button, then the **OK** button to return to the Connection to a Host panel.
- 5. On the Connection to a Host panel select the **Close** button to return to the Communications Manager Profile List (see Figure 11 on page 15).
- 6. On the Communications Manager Profile List highlight **SNA features** and select the **Configure...** button to display the SNA Features List (not shown).
- 7. On the SNA Features List highlight **Local LUs** from the Features box to display the Local LU panel (see Figure 14 on page 18).

#### Sample configuration

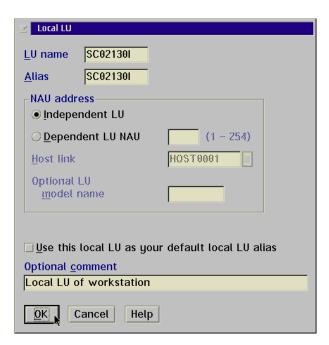


Figure 14. Communications Server for OS/2: Local LU

#### On the Local LU panel:

- 1. Enter the LU name 2 assigned to your local workstation where the CICS Universal Client for OS/2 is to be installed.
- 2. Enter an Alias name for the LU name. For simplicity, we have specified the same name as the LU name.
- 3. Select **OK** to return to the SNA Features List.
- 4. Select **Modes** from the Features box to display the Mode Definition panel (see Figure 15 on page 19).

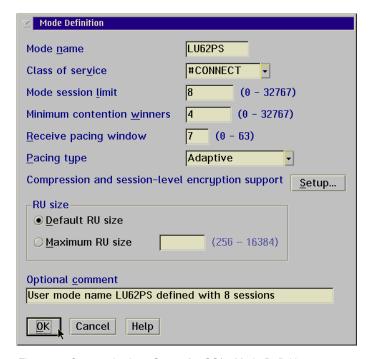


Figure 15. Communications Server for OS/2: Mode Definition

#### On the Mode Definition panel:

- 1. Enter your mode name **5** and session values. Ideally the mode session limit should match the number of sessions defined on your CICS Transaction Server for OS/390 connection definition.
- 2. Select **OK** and then **Close** on each window to exit Communications Server for OS/2 Communications Server for OS/2 will verify your values and report any errors in your configuration in a pop-up window.

#### CICS Universal Client for OS/2

You use the CICS Universal Client's configuration tool to define the settings for SNA communication. The configuration tool generates the CTG.INI file, which is located in the \bin subdirectory. The CICS Universal Client uses the CTG.INI file to establish a connection to a CICS server.

For information on using the configuration tool, refer to your CICS Universal Client Administration book.

You need to define the following **Server** configuration settings (see Figure 16 on page 21):

#### Sample configuration

#### Server name

An arbitrary name for a particular CICS server.

#### **Description**

An arbitrary description for the CICS server.

#### Network protocol

The protocol for communication with the CICS server, in this case, SNA.

#### Partner LU name 3.4

The LU Name of the server as it is known to the APPC configuration at the CICS Universal Client. This can be a qualified 17-character name as in our example, GBIBMIYA.IYCQCTS5, or an alias name (as long as **Use LU Alias names** is selected).

#### Local LU name 2

The name of a local LU to be used when connecting to the server. The same LU can be used for all server connections.

### Mode name 5

The mode name to be used when connecting to the server.

#### Use LU alias names

This setting enables the Partner LU name and Local LU name to be specified as alias names instead of real LU names. This means, for example, that it is possible to switch between servers without stopping the CICS Universal Client. The default is that LU alias names are not used.

The *CICS Universal Client Administration* book and the configuration tool's online help provide descriptions of the configuration settings for CICS Universal Client.

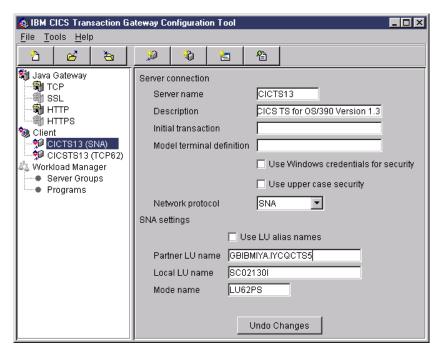


Figure 16. Configuration tool settings for Communications Server for OS/2

Figure 17 shows an excerpt from the resultant CTG.INI file.

```
SECTION CLIENT = *
    :::
ENDSECTION
   :::
SECTION SERVER = CICSTS13
   DESCRIPTION=SNA Server
   UPPERCASESECURITY=N
   PROTOCOL=SNA
   LOCALLUNAME=SC02130I
   MODENAME=LU62PS
   NETNAME=GBIBMIYA.IYCQCTS5
   LUALIASNAMES=N
ENDSECTION
SECTION DRIVER = SNA
   DRIVERNAME=CCLIBMSN
ENDSECTION
```

Figure 17. CICS Universal Client: CTG.INI file definitions

## Chapter 6. Testing your configuration

After you have installed and configured all relevant products for the sample configuration, we recommend that you:

- 1. Start the CICS Transaction Server for OS/390.
- 2. Start the Communications Server for OS/2.
- 3. Establish an LU6.2 connection between Communications Server for OS/2 and CICS Transaction Server for OS/390 Version 1.3. You may find see "Chapter 8. Useful commands and utilities" on page 29 useful when establishing your LU6.2 connection.
- 4. Start the CICS Universal Client for OS/2 Version 3.1, using the CICSCLI /S=CICSTS13 command. (CICSTS13 is the name we gave to the server in the client configuration.
- Check the status of the CICS Universal Client, using the CICSCLI /L command. The connection status to the CICS server should show "Available."
- 6. Issue the CICSTERM /S=CICSTS13 command to install a terminal on the CICS Transaction Server for OS/390.
- 7. Run a CICS server transaction, for example, CEMT or CECI.

## **Testing your configuration**

## **Chapter 7. Security implementation**

To provide the necessary security for your CICS regions, CICS Transaction Server for OS/390 uses the MVS SAF to route authorization requests to an External Security Manager, such as RACF, at appropriate points within CICS transaction processing. There are many types of security available, from transaction security to CICS resource security. The CICS Transaction Server for OS/390 provides the following security mechanisms for the APPC environment:

- Bind-time (or session) security prevents an unauthorized connection between CICS regions.
- Link security defines the authority of the remote system to access transactions or resources to which the connection itself is not authorized.
- User security checks that a user is authorized both to attach a transaction and to access all resources the transaction requires.

For CICS Universal Clients connecting to the CICS Transaction Server for OS/390, you may want to consider configuring link security.

#### Preparing link security for our sample configuration

For link security on incoming ECI, EPI, and CICSTERM requests, CICS Transaction Server for OS/390 needs the following settings in the SECURITY section of the connection definition for the client:

**SEcurityname** = HOLLING (RACF-authorized TSO ID)

**ATtachsec** = Verify

**Usedfltuser** = Yes for signon incapable terminals;

= No for signon incapable terminals, see

"Signon capable terminals".

In addition, you must specify SEC=YES as a SIT override.

## Signon capable terminals

Security checking done in the server for transactions started at a signon capable terminal installed by a Client application does not depend on what is specified by the **ATtachsec** option for the connection representing the Client. Instead security checking depends on whether the user signs on while using the terminal.

#### Security implementation

If the user does not sign on, the Client installed terminal is associated with the default user defined for the server in the SIT. When a transaction is run, the security checks are carried out against this default user. A check is also done against the userid associated with the connection to see whether the Client itself has authority to access the resource.

When a user does sign on, the terminal is associated with the userid just authenticated. For transactions attempting to access reosurces, security checking is done against the userid associated with the connection and the signed-on user's userid.

It is recommended that the **Usedfltuser** parameter on the server connection definition is set to Yes if using signon capable terminals and to No if using signon incapable terminals.

#### Running CICS Universal Client applications with link security

To establish a connection between the CICS Universal Client and CICS Transaction Server for OS/390 issue the CICSCLI /S=server command as described in see "Chapter 6. Testing your configuration" on page 23. Link security is initiated when the first ECI, EPI, or CICSTERM request is made on a newly established connection.

If you have not provided a userid and password, CICS Universal Client may request that you enter a valid userid and password in a security pop-up window (see Figure 18).



Figure 18. Example of CICS Universal Client security pop-up window

For more information about the circumstances under which security pop-ups are displayed, see the CICS Universal Client Administration book.

To prevent the security pop-up window from appearing you can:

- Specify the CICSCLI /C /U /P options to assign a userid and password to each request sent to the server specified by the /C option.
- Pass the userid and password in the ECI parameter block.

### Security implementation

- Specify the CICSCLI /N option to suppress all pop-ups. In this case a security error is returned to the ECI, EPI, or CICSTERM request.
- Ensure that **Enable popups** is not selected in the client configuration.
- Set a default userid and password using the ESI function CICS\_SetDefaultSecurity.

## Security implementation

## Chapter 8. Useful commands and utilities

You will find the commands discussed in this section useful during installation and configuration.

#### Establish a connection from Communications Server for OS/2

To establish an LU6.2 connection from Communications Server for OS/2, follow these steps:

- 1. From the IBM Communications Server for OS/2 Version 5.0 folder, select **Administration**, then **Subsystem Management**.
- 2. From the Subsystem Management panel, activate the APPC attach manager, Communications Manager kernel, and SNA subsystem services, to show a "Started" status.
- 3. From the **Details** pull-down, select **SNA subsystem**, then **LU6.2 sessions** to display the LU6.2 Sessions panel.
- 4. On the LU6.2 Sessions panel, select the **Session** pull-down, and then **Establish...** .
- 5. On the Establish LU6.2 Session panel, enter the Local LU alias 2, Partner LU alias 4, Mode 5, and session limits (see Figure 19.

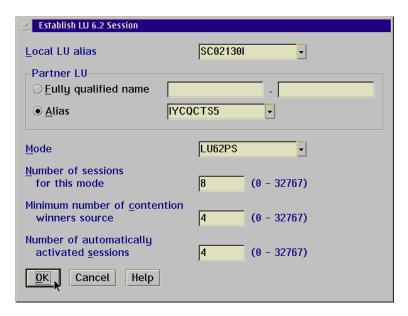


Figure 19. Communications Server for OS/2: Establish LU6.2 Connection

#### Useful commands and utilities

#### 6. Select **OK** to establish the connection.

Figure 20 shows the status of the LU6.2 sessions following a successful connection to the CICS Transaction Server for OS/390 region, IYCQCTS5.



Figure 20. Communications Server for OS/2: LU6.2 Sessions Status

To view the logical link status, from the SNA subsystem select **Logical links**. Figure 21 shows the status of our active link.



Figure 21. Communications Server for OS/2: Logical Links Status

To view the details of the logical link, highlight the Link Name, and from the **Link** pulldown, select **Details...** . (Alternatively, double-click on the logical link entry.) Figure 22 on page 31 shows the details of our logical link.

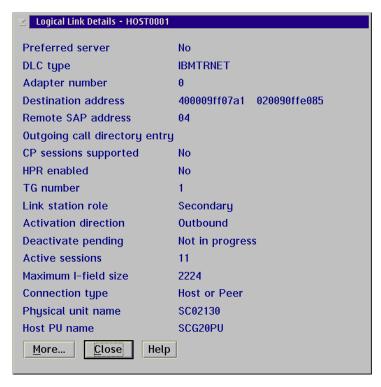


Figure 22. Communications Server for OS/2: Logical Link Details

Figure 23 shows the details of an active transaction program (TP) CICSTERM request to the CICS Transaction Server for OS/390. Double-click on the TP to display the TP details. This information is useful for locating the client workstation issuing the CICS Universal Client request.

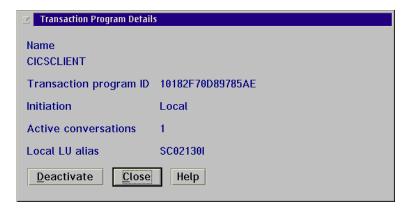


Figure 23. Communications Server for OS/2: Transaction Program Details

#### Establish a connection from the CICS Transaction Server for OS/390

To establish an LU6.2 connection from CICS Transaction Server for OS/390 Version 1.3:

- 1. From a 3270 terminal emulator connected to your CICS region, enter the CEMT INQ CONN command and locate your connection name.
- 2. If the connection status shows Rel (for Released), overtype the R with A (for Acquire).
- 3. Press the Enter key to refresh the connection status. Figure 24 shows the connection acquired for the sample configuration.

```
CEMT INQ CONN(C130)
STATUS: RESULTS - OVERTYPE TO MODIFY
Con(C130) Net(SC02130I) Ins Acq Vta Appc
```

Figure 24. CICS TS Version 1.3: Connection status

4. The CEMT INQ MODE CONN(C130) command displays the LU6.2 session status for the sample configuration (see Figure 25).

```
CEMT INQ MODE CONN(C130)
STATUS: RESULTS - OVERTYPE TO MODIFY
Mod(SNASVCMG) Con(C130) Max(002) Ava( 002 ) Act(002)
Mod(LU62PS ) Con(C130) Max(008) Ava( 008 ) Act(008)
```

Figure 25. CICS TS Version 1.3: LU6.2 Session status

## **User Profile Management**

In Communications Server for OS/2 you can create a **Conversational Security** entry to request the OS/2 UPM validation function to provide security checks on incoming allocation requests. If the Utilize UPM box is not selected, incoming client requests require the user to enter a user ID and password.

## Appendix. Trademarks

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Anynet CICS IBM OS/390 VTAM

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