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Product Information Announcement

o New Release   o Revision   • Update   o New Mail Code

Title

System 80 OS/3 Distributed Communications Processor (DCP) Transition Guide

This announces the release of Update 1 to the document.

This guide helps you convert existing system software to accommodate the addition of a DCP in your communications environment.

Update 1 provides:

- Revised information on defining and operating binary synchronous (BSC) batch terminals.
- Addition of a remote concentrator to the conversion examples in Section 3.
- Miscellaneous technical corrections and changes.

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System 80
OS/3
Distributed Communications Processor (DCP)

Transition
Guide

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ISSUE: 7005 1677-010

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Unisys uses an 11-digit document numbering system. The suffix of the document number (1234 5678-xyz) indicates the document level. The first digit of the suffix (x) designates a revision level; the second digit (y) designates an update level. For example, the first release of a document has a suffix of -000. A suffix of -130 designates the third update to revision 1. The third digit (z) is used to indicate errata for a particular level and is not reflected in the page status summary.

Section 1
Introduction

Unisys offers a wide range of distributed communications processor (DCP) hardware and software products that are compatible with your OS/3 communications network. These DCPs can be used as front-end processors (connected directly to the System 80) or as remote concentrators (connected to the System 80 via a front-end processor). Current DCP models include DCP/5, DCP/15, DCP/25, DCP/30, DCP/35, DCP/40, DCP/50, and DCP/55. In general, all models are functionally equivalent and differ only in their physical size, line capacity, and processing speed. However, the DCP/5 does not offer the Host Block Multiplexer Channel Line Module Feature F1947-XX that is available on the other DCP models; therefore, the DCP/5 may only be connected to a System 80 via a UDLC link (it cannot be used as a front-end processor on a System 80 model 50).

This guide provides information to help you incorporate a DCP into your existing OS/3 communications network. It includes information on:

- Supervisor and I/O generation conversion (SUPGEN and I/OGEN)

- ICAM symbiont conversion (COMMCT and MCP)

- DCP load module generation

- Communications user program (CUP) conversion

- Differences in terminal operation

1.1. Transition Process Overview

A certain amount of planning, system generation, and software conversion is required to add a DCP to your existing OS/3 communications network. This subsection briefly describes each step in the process. The remaining sections of this guide provide more detailed information on key steps in the transition process.

The DCP transition process consists of the following steps:

1. Ensure that your existing OS/3 software supports the distributed communications architecture (DCA) necessary for communication between the System 80 and the DCP. The following program products are required:

    - DCA Termination Systems (models 7E and 8-20 only)

    - ICAM Terminal Support Facility (TSF) (models 8-20 only)

System platform software (SPS) for the model 50 includes the required DCA functionality.

2. If you want to use the the DDP file transfer capability provided with OS/3, ensure that you have the following OS/3 program products:

    •   Distributed Data Processing (DDP) Transfer Facility

    •   DDP File Access

3. Prepare a diagram of your proposed DCP communications network, including all DCPs (front-end processors and remote concentrators), terminal multiplexers, terminals, and remote hosts. Allow plenty of room for both ICAM and Telcon labels.

    •   Include physical addressing information for the host-system hardware (SLCA, COMMDLP, or selector channel) used for the DCP connection.

    •   Include the physical address of each DCP line module.

    •   Assign a unique four-character *node-name* to each host system and DCP in the network. These names will also be used in your ICAM and Telcon network definitions.

    •   Assign names to the SLCA, COMMDLP, or selector channel connection between the host and the DCP front-end processor. You can use a common name for both ICAM and Telcon network definitions or you can use a unique name for each:

        -   In the ICAM network definition, a 1- to 4-character name becomes the VLINE macro label (for SLCA or COMMDLP connection) or the DCPCHNL macro label (for selector channel connection).

        -   In the Telcon network definition, a 1- to 8-character name becomes the LINE statement name applicable to the host to DCP connection.

    •   Assign a 1- to 8-character Telcon name for each additional line that connects to the DCP. These labels are required only for the Telcon network definition. It may be helpful to assign line names that agree with the DCP port that the line connects to. For example, line LBD1D could connect to port number 1D. However, for convenience you may want to retain the line names that were previously used.

    •   Indicate speed and protocol information beside each communications line. This information is required in appropriate Telcon LCLASS statements.

    •   Assign a 1- to 8-character Telcon GROUP name to each terminal group or cluster and to each switched UDLC line. Do not assign a GROUP name to dedicated UDLC lines. For a binary synchronous (BSC) batch terminal, this name (not the Telcon TERM statement name) will be used with the $$SON command to connect to the network.

- Assign a 1- to 8-character name for each terminal connected to a DCP:

  - If a name is restricted to 4 characters or less, it can be used in both the ICAM and Telcon network definitions.

  - If a 5- to 8-character name is selected, it can only be used in the Telcon network definition. A second terminal name (1 to 4 characters) must be assigned for the ICAM network definition. In this case, you must match the two names by adding the PSEUDO keyword to the corresponding ICAM TERM macro.

  - The PSEUDO keyword cannot be used in the ICAM TERM macro defining a BSC terminal console. Therefore, the Telcon TERM statement name for a BSC terminal console cannot exceed four characters.

- Assign a 1- to 8-character Telcon name for each auxiliary device connected to a terminal.

- You can't connect existing local workstations to the DCP. However, your local workstations may be retained as previously defined in your models 8-20 configuration.

- You can use existing remote workstation hardware. However, you must redefine these devices as UNISCOPE® terminals. Note that certain operations must be performed differently. Refer to Section 6 or to the *Interactive Services Operating Guide,* UP-9972, for details on operating differences between remote workstations and terminals.

- Telcon requires additional network definition statements not directly related to the network diagram discussed here. Processors, user programs, trunks, UDLC stations, and channels are examples of network elements that require further definition. Refer to the *OS1100 DCP Series Communications Delivery Software Configuration Reference Manual,* 7831 5686, for details.

Here is a simple network configuration plan. While only DCP-connected network components are included, the plan could also include lines and terminals retained from your existing configuration.

UNISCOPE is a registered trademark of Unisys Corporation.
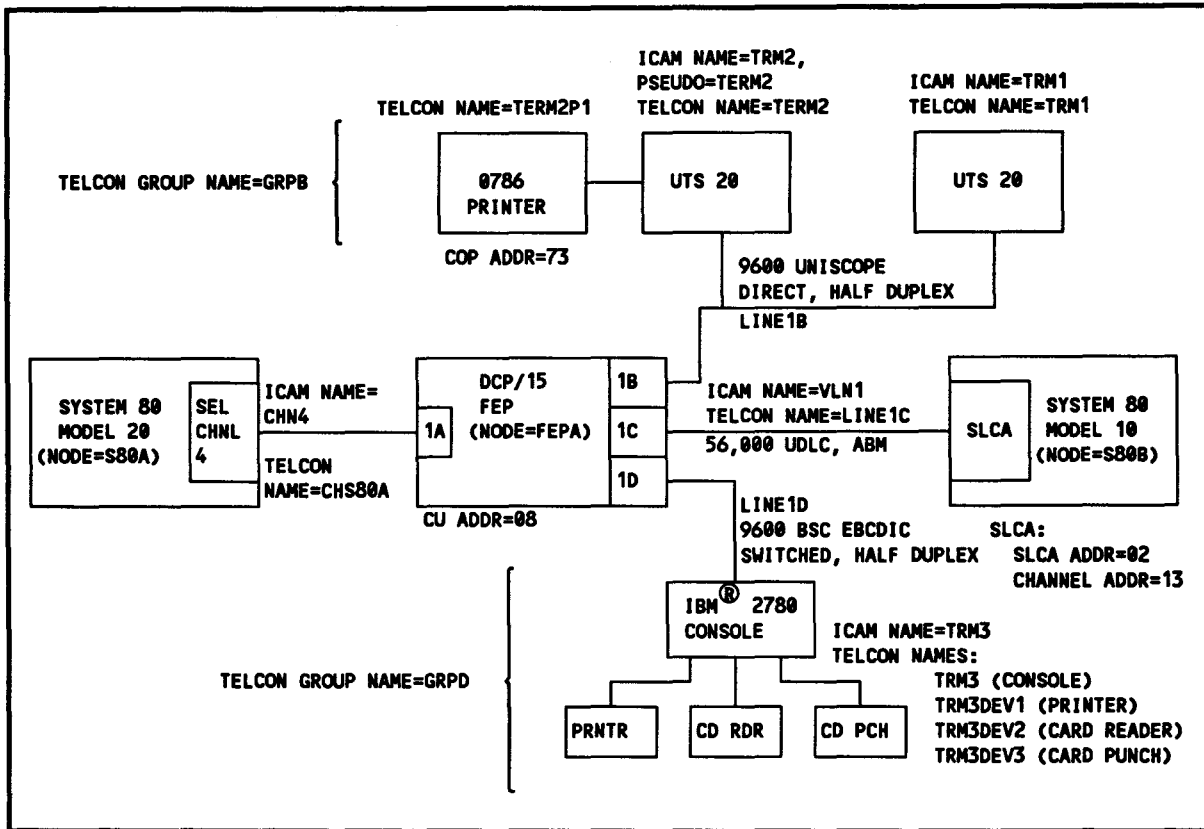
4. Review the completed configuration diagram with your Unisys representative. He or she will help you determine the appropriate DCP model, DCP features, line modules, and Telcon program products (if any) that must be ordered.

5. Generate an OS/3 supervisor to support your DCP communications environment. (See Section 2.)

6. Generate an ICAM symbiont to support your DCP communications environment. This symbiont must contain a global DCA network. In most cases, conversion of existing ICAM network definitions is a relatively simple process. (See Section 3.)

7. Prepare a DCP load file (or load files) on your System 80 disk storage. Each load file will include a Telcon network definition and other software necessary for a specific DCP. Load modules can be created for both front-end processors and remote concentrators. A particular load module is accessed when a downline or cross-channel load operation is initiated from the control panel of the applicable DCP. (See Section 4.)

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8. Convert any existing CUPs that ran in a dedicated network or a global/static network environment. These CUPs must run in the global/dynamic network environment required by a DCA network. (See Section 5.)

K=n

Specifies the number of frames (K window value) that can be sent across
this communications line before an acknowledgment is required. Valid
values are 1 through 7.

TYPE=([line-speed])
        [▓▓▓▓]

Specifies the baud rate at which data is transferred across this line. Line
speed is a function of the modems used. Acceptable values are 2400, 4800,
9600, 19200, and 56000 (56000 is not supported on model 7E).

CMDADDR= { n }
         { 1 }

Specifies the UDLC frame level address used to transmit commands and
receive responses. Acceptable values are 1 to 255. This value must match
the *lsa* field in the Telcon STATION statement.

RSPADDR= { n }
         { 3 }

Specifies the UDLC frame level address used to transmit responses and
receive commands. Acceptable values are 1 to 255. This value must match
the *rsa* field in the Telcon STATION statement.

- DCPCHNL

A DCPCHNL macroinstruction is required to define the physical link between a
System 80 host and the DCP when a selector channel connection is used (models
8-50 only). Three keyword operands must be defined:

CNID=channel-number

Specifies the selector channel address. Valid values are:

Model 8   1, 2, 3, 6, and 7

Models 10-50   1 through 6

ID=subchannel-address

Specifies the DCP's control unit address on the selector channel. Valid
values are 8 through 15 (decimal).

REMOTE=dcp-node

Specifies the 1- to 4-character node name of the DCP front-end processor.
This name must match the label on a Telcon DCPTS statement.

- LPORT

The LPORT macroinstruction defines logical paths between the System 80 host
and DCP end users. Three keyword operands must be defined:

LINE=name

Specifies the 1- to 4-character label on the VLINE or DCPCHNL macro.

PORT=number

Specifies a 1- to 4-digit port number. Acceptable values are 1 through 4096. This value must match the *lsch* field of the associated Telcon SESSN statement.

REMOTE=destination-node

Specifies the 1- to 4-character name of this logical path's destination node. This name can identify the DCP or a remote node (another computer). If a DCP is the destination, *destination-node* must match the label on the Telcon DCPTS statement for the DCP. If another processor is the destination, *destination-name* must match the label on the Telcon DCATS statement for that processor.

- **TERM**

A TERM macroinstruction is required to define each Telcon terminal that will be in session with System 80 host applications. Not all terminals defined in your model's *ICAM Operations Guide* are supported for DCP connectivity. Existing local workstations are not supported. Additionally, existing remote workstations must be redefined as UNISCOPE devices if they are connected to the DCP.

Three types of devices are supported: UNISCOPE; asynchronous (TTY); and binary synchronous (BSC).

Each TERM macro label must match the label on a corresponding Telcon TERM statement. Since Telcon allows labels of up to 8 characters, a direct match may not be possible. For 5- to 8-character Telcon labels, the PSEUDO keyword must be used in the ICAM TERM macro. However, the PSEUDO keyword cannot be used when defining a BSC batch terminal.

The following keyword operands are required:

```
FEATURES=[([BSC    ])]  ]
             [2780    ]   ]
             {2780EM}      } For BSC batch terminals
             [3780    ]   ]
             [3780EM]     ]

          (TTY)          } For asynchronous terminals

          ([U20 ])       ]
          [U40 ]          } For UNISCOPE terminals (or similar devices)
          [U200]          ]
          [U400]          ]
```

Identifies the terminal and specifies certain features. See your model's *ICAM Operations Guide* for details on additional FEATURES subparameters (such as PRIMARY/SECONDARY for terminal spooling) that are supported. The FEATURES parameter must agree with (although not directly match) the TYPE operand in the corresponding Telcon TERM statement.

```
PROTYP=[INT-1]
       [RB-2 ]
```

Specifies how data is presented to the terminal. Use INT-1 for interactive terminals or RB-2 for batch terminals.

DVCGID=
```
[ INT33   ]
| INT101  |
| RB512780 |
[ RB513780 ]
```

Specifies the name of the Telcon remote terminal group. Use these keyword parameters as follows:

INT33   UNISCOPE terminals (or similar devices)

INT101   Asynchronous devices

RB512780 Real or emulated IBM 2780 terminals (BSC)

RB513780 Real or emulated IBM 3780 terminals (BSC)

REMOTE=(node-id)

Specifies the intermediate node (DCP) or remote node (another computer) to which this terminal is connected. This is a 1- to 4-character name. It must match the *destination-node* specified in the REMOTE keyword of an LPORT macro.

In addition, the following keyword operands may be required.

```
[ AUX1=(aux-dev-id)[,...,AUX4=aux-dev-id)] ] } For UNISCOPE terminals
[ AUX1=(PCH)                               ] } For BSC terminals
```

For auxiliary devices connected to a UNISCOPE terminal, the AUX*n* operands specify device addresses (*dids*). For IS terminal spooling, an AUX must be defined for both the primary and secondary TERM definitions of the dual-screen terminal. See your model's *ICAM Operations Guide* for additional information on AUX *dids*. Each AUXn operand corresponds with information provided in a Telcon DEVICE statement for that device.

For a BSC batch terminal, AUX1=(PCH) is the only operand that can be specified. This operand is required only if output is to be sent to a card punch. It is not necessary to specify printer or card reader devices since ICAM generates these device sessions automatically.

PSEUDO=telcon-term-name

Matches this terminal to a terminal specified in the Telcon definition. This keyword is used only if the Telcon terminal name is between 5 and 8 characters long (ICAM terminal names can't exceed 4 characters). The PSEUDO keyword cannot be used when defining a BSC batch terminal; therefore, Telcon terminal names for BSC devices cannot exceed 4 characters.

RBATCH=YES

Indicates that this terminal is used for remote batch jobs. Use it only when defining BSC batch terminals.

XLATE=(NO,NO)

Indicates that no input or output translation is required for this terminal. This parameter is required when defining a BSC batch terminal.

- **ENDCCA**

  An ENDCCA macroinstruction is required to terminate the global network
  definition. No parameters are associated with this macro.

MCP Generation Considerations

Coding of the MCP section is simple and straightforward. You use an MCP statement
and one or more CACH statements:

```
MCP MCPNAME=nm [MCPBUF=(n,s,t)[,EXPFACT=p]]
CACH=([udlc-line-format    ]),CHAN=channel-number
     [selector-channel-format]
```

where:

MCPNAME=nm

Defines the name of the ICAM symbiont (valid names are C1 through C9
and M1 through M9).

MCPBUF=(n,s,t)

Is required for model 7E systems only. This parameter defines the number
(n), size (s), and threshold value (t) of the required buffer pool. See the
Model 7E Installation Guide, 7002 3858, for more specific information.

EXPFACT=p

Is an optional parameter for model 7E systems only. This parameter
indicates the percentage (p) by which the buffer pool is expanded if a
threshold condition occurs. See the *Model 7E Installation Guide*, 7002 3858,
for more specific information.

CACH=

Defines physical aspects of each host to DCP front-end processor connection
path. A CACH statement is required for each connection. Two statement
formats support DCP connectivity.

For a UDLC (VLINE) connection, use this format:

```
CACH=([slca],line-speed,FULL,ILA),CHAN=channel-number
     [mn  ]
```

The *slca* or *mn, line-speed,* and *channel-number* must match the values
provided in the VLINE macro within the global network definition.

For a selector channel connection, use this format:

```
CACH=(subchannel-address,,DCPCHNL),CHAN=channel-number
```

The *subchannel-address* and *channel-number* must match the values
provided in the DCPCHNL macro within the global network definition.

Here are two MCP coding examples.

Example 1


```
COMMCT
SYSA     CCA   ....
          .                    ⎫
          .                    ⎬  Global network containing VLINE and synchronous line
          .                    ⎭  for UNISCOPE terminals.
         ENDCCA
         MCP MCPNAME=C5 MCPBUF=(10,1044)  <—— ICAM name assignment (C5) and buffer pool assignment.
         CACH=(20,19200,FULL,ILA),CHAN=8  <—— CACH statement for VLINE
         CACH=(21,9600,SYNC),CHAN=8       <—— CACH statement for synchronous line
END
```

Example 2


```
COMMCT
SYSB     CCA   ....
          .                    ⎫
          .                    ⎬  Global network with two DCP connections (VLINE and
          .                    ⎬  selector channel).  All terminals are connected to
         ENDCCA                ⎭  the DCP.
         MCP MCPNAME=C6                      <—— ICAM symbiont name assignment (C6)
         CACH=(4,56000,FULL,ILA),CHAN=13     <—— CACH statement for VLINE
         CACH=(8,,DCPCHNL),CHAN=4            <—— CACH statement for selector channel
END
```

3.2. Conversion Examples

The rest of this section contains ICAM network definition conversion examples for various System 80 models. Each conversion example includes:

- A diagram and ICAM definition of an existing non-DCP network

- A diagram and ICAM definition of a resultant DCP-based network

- An explanation of significant items in the DCP-based ICAM network

Each example illustrates several points regarding conversion to a DCP-based network. For convenience, specific items affected by the conversion are listed in Table 3-1 along with a reference to examples where they are illustrated.

Table 3-1. Index of Items Affected by Conversion

Item	Conversion Example
Batch terminal (BSC)	4
Dedicated network	1, 4
Distributed data processing (DDP)	5, 6
Front-end processor (FEP)	1 through 8
Interactive services	2, 3, 4
Interactive terminal:	
Asynchronous (TTY)	1
Inverted 3270	7
UNISCOPE-like	1 through 4, 6, 7
Local workstation	3
Multinode	5, 6
Public data network (PDN)	8
Remote batch processing (RBP)	4
Remote concentrator	4
Remote workstation	3

continued

DCP-Based Network

When a DCP/15 front-end processor is added (node-name DBBD), the previous network might be reconfigured as follows:
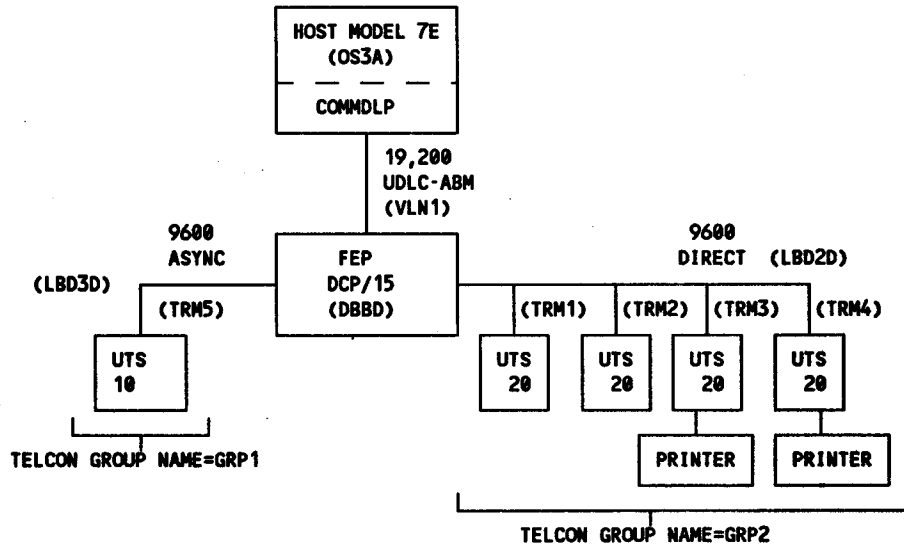
This network could be defined as indicated below. Line numbers are provided to correlate the network definition with the explanation that follows:

```
Line
Number
 1      COMMCT
 2      MOD7    CCA     TYPE=(GBL,,A),DCA=YES,GAWAKE=YES
 3              BUFFERS 200,128,5,ARP=150,                              X
 4                      UDUCT=(20,32,2),RTIMER=10
 5      STD1    LOCAP   TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
 6      STD2    LOCAP   TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
 7      VLN1    VLINE   DEVICE=ABM,TYPE=(19200),K=7,ID=32,             X
 8                      CMDADDR=3,RSPADDR=1,CHAN=8
 9              LPORT   LINE=VLN1,PORT=55,REMOTE=DBBD
10      TRM1    TERM    FEATURES=(U20),DVCGID=INT33,LOW=MAIN,          X
11                      MEDIUM=MAIN,HIGH=MAIN,REMOTE=(DBBD),INPUT=YES, X
12                      PROTYP=INT-1
13      TRM2    TERM    FEATURES=(U20),DVCGID=INT33,LOW=MAIN,          X
14                      MEDIUM=MAIN,HIGH=MAIN,REMOTE=(DBBD),INPUT=YES, X
15                      PROTYP=INT-1
16      TRM3    TERM    FEATURES=(U20),DVCGID=INT33,LOW=MAIN,          X
17                      MEDIUM=MAIN,HIGH=MAIN,REMOTE=(DBBD),INPUT=YES, X
18                      PROTYP=INT-1,AUX1=(COP 73)
19      TRM4    TERM    FEATURES=(U20),DVCGID=INT33,LOW=MAIN,          X
20                      MEDIUM=MAIN,HIGH=MAIN,REMOTE=(DBBD),INPUT=YES, X
21                      PROTYP=INT-1,AUX1=(COP 73)
22      TRM5    TERM    FEATURES=(TTY),DVCGID=INT101,LOW=MAIN,         X
23                      MEDIUM=MAIN,HIGH=MAIN,REMOTE=(DBBD),INPUT=YES, X
24                      PROTYP=INT-1
25              ENDCCA
26              MCP MCPNAME=C2 MCPBUF=(20,1044,2)
27              CACH=(32,19200,FULL,ILA),CHAN=8
28      END
```

Explanation

Significant features of the DCP-based ICAM network are described by line number.

**Line
Numbers**

2   The CCA macro defines a standard global DCA network that is required to support any DCP. The
            DCA=YES and GAWAKE=YES operands are required.

3, 4   The BUFFERS macro defines the expanded network resources necessary to support the DCA environment.

5, 6   Two LOCAP macros are specified since it is expected that two STDMCP communications programs may
            run simultaneously. Note that these CUPs previously ran with the DDI interface. Therefore, they must be
            modified to run with the STDMCP interface.

7, 8   A VLINE macro is provided to define the host-to-DCP connection. In this case, a 19,200 baud UDLC
            interface is defined. In effect, the single VLINE macro replaces the LINE macros that were previously
            used for the UNISCOPE and asynchronous (TTY) lines.

9   An LPORT macro defines a logical path between the host system and the DCP.

10 - 24   Five TERM macros define the terminals that are connected to the DCP front-end processor. Although the
            same terminals are being used, the previous TERM statement definitions are modified as follows:

            -     The ADDR= parameter is removed (terminal addressing is controlled by Telcon).

            -     The REMOTE=(DBBD) parameter is added. It logically specifies that the terminal is connected to
                  front-end processor DBBD.

            -     The DVCGID= parameter is added for each terminal definition. DVCGID=INT33 is required for the
                  four UTS 20 terminals. DVCGID=INT101 is required for the UTS 10 (asynchronous) terminal.

            -     The PROTYP=INT-1 parameter is added. It indicates that the terminal is interactive.

Example 2 - Model 10 Network with Interactive Terminals and Static Sessions

This example shows the conversion of a global communications network on a model 10. The network includes a pair of SVT 1120 terminals and four UTS 20 terminals. A permanent (static) session is defined between a local terminal (TRM1) and one of the communications programs (via a locap file). In addition to standard communications programs, this network also supports transaction processing (TPS). Interactive services is also supported.

Existing Network
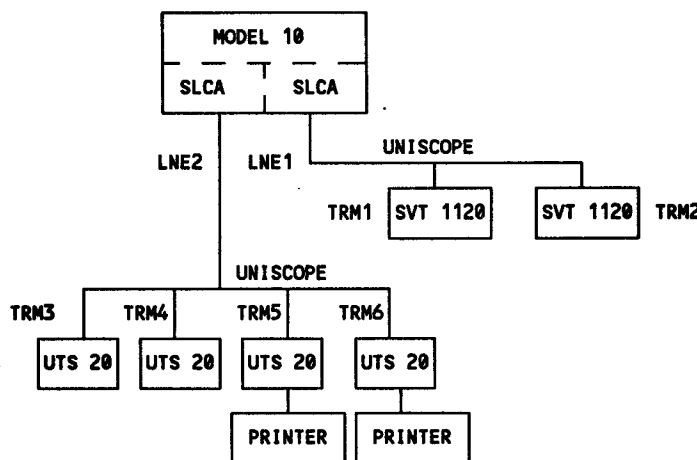
This network was previously defined as follows:

```
COMMCT
MOD1       CCA    TYPE=(GBL,,A),GAWAKE=YES,FEATURES=(OPCOM,SEGMENTS)
           BUFFERS ARP=20
STD1       LOCAP  TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
STD2       LOCAP  TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
DMI1       LOCAP  TYPE=(DMI),IAS=(YES,OFF),LOW=MAIN
TCI1       LOCAP  TYPE=(TCI),LOW=MAIN
LNE1       LINE   DEVICE=(UNISCOPE),TYPE=(19200),ID=01,CHAN=15
TRM1       TERM   FEATURES=(U40),ADDR=(34,55),LOW=MAIN,MEDIUM=MAIN,          X
                  HIGH=MAIN,TCTUPD=YES
TRM2       TERM   FEATURES=(U40),ADDR=(34,56),LOW=MAIN,MEDIUM=MAIN,          X
                  HIGH=MAIN,TCTUPD=YES
LNE2       LINE   DEVICE=(UNISCOPE),TYPE=(9600),ID=02,CHAN=15
TRM3       TERM   FEATURES=(U20),ADDR=(24,55),LOW=MAIN,MEDIUM=MAIN,          X
                  HIGH=MAIN,TCTUPD=YES
TRM4       TERM   FEATURES=(U20),ADDR=(24,56),LOW=MAIN,MEDIUM=MAIN,          X
                  HIGH=MAIN,TCTUPD=YES
TRM5       TERM   FEATURES=(U20),ADDR=(24,57),LOW=MAIN,                      X
                  MEDIUM=MAIN,HIGH=MAIN,AUX1=(COP,73),TCTUPD=YES
TRM6       TERM   FEATURES=(U20),ADDR=(24,58),LOW=MAIN,                      X
                  MEDIUM=MAIN,HIGH=MAIN,AUX1=(COP,73),TCTUPD=YES
           SESSION EU1=(TRM1),EU2=(STD2)
           ENDCCA
           MCP MCPNAME=M5
           CACH=(01,19200,SYNC),CHAN=15
           CACH=(02,9600,SYNC),CHAN=15
END
```

DCP-Based Network

With the addition of a DCP/15 (front-end processor), the network might be reconfigured as indicated below. In this example, the host is connected to the DCP/15 via a selector channel.
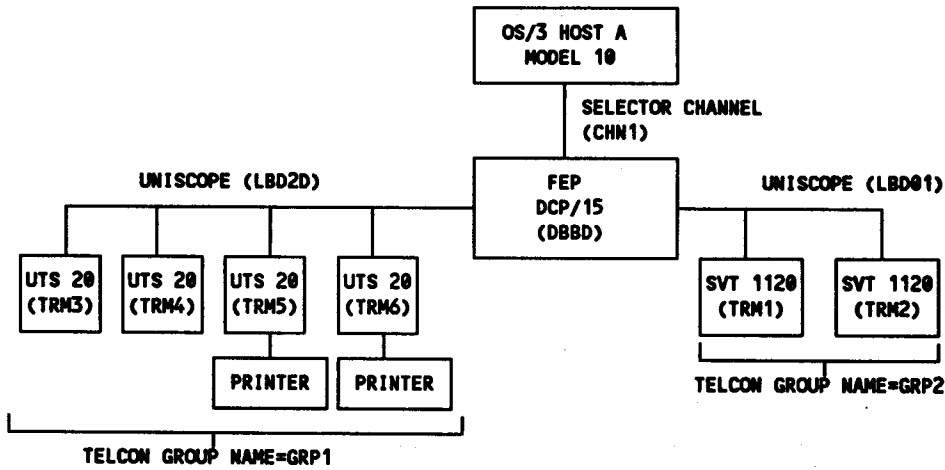
This network can be defined as indicated below. Line numbers are provided to correlate the network definition with the explanation that follows.

```
Line
Number
  1   COMMCT
  2   MOD1      CCA    TYPE=(GBL,,A),DCA=YES,GAWAKE=YES
  3             BUFFERS 25,200,5,ARP=150,UDUCT=(20,32,2),RTIMER=15,        X
  4                 LINKPAK=(24,80,3)
  5   ▓▓▓▓      LOCAP TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
  6   ▓▓▓▓      LOCAP TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
  7   ▓▓▓▓      LOCAP TYPE=(DMI),LOW=MAIN
  8   ▓▓▓▓      LOCAP TYPE=(TCI),LOW=MAIN
  9   CHN1      DCPCHNL CNID=4,ID=08,REMOTE=DBBD
 10             LPORT LINE=CHN1,▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓
 11   ▓▓▓▓      TERM  FEATURES=(U20,1920),DVCGID=INT33,LOW=MAIN,            X
 12                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 13                   PROTYP=INT-1
 14   ▓▓▓▓      TERM  FEATURES=(U20,1920),DVCGID=INT33,LOW=MAIN,            X
 15                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 16                   PROTYP=INT-1
 17   ▓▓▓▓      TERM  FEATURES=(U40),DVCGID=INT33,LOW=MAIN,                 X
 18                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 19                   PROTYP=INT-1
 20   ▓▓▓▓      TERM  FEATURES=(U40),DVCGID=INT33,LOW=MAIN,                 X
 21                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 22                   PROTYP=INT-1
 23   ▓▓▓▓      TERM  FEATURES=(U20),DVCGID=INT33,LOW=MAIN,                 X
 24                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 25                   PROTYP=INT-I,▓▓▓▓▓▓▓▓▓▓▓
 26   ▓▓▓▓      TERM  FEATURES=(U20),DVCGID=INT33,LOW=MAIN,                 X
 27                   MEDIUM=MAIN,HIGH=MAIN,▓▓▓▓▓▓▓▓▓▓▓,INPUT=YES,          X
 28                   PROTYP=INT-1,▓▓▓▓▓▓▓▓▓▓▓
 29             ENDCCA
 30             MCP MCPNAME=M5
 31             CACH=(8,,DCPCHNL),CHAN=4
 32   END
```

DCP-Based Network

With the addition of a DCP/15 front-end processor, the network might be reconfigured as indicated below. While the local workstation is retained, it is not included in the DCP network.
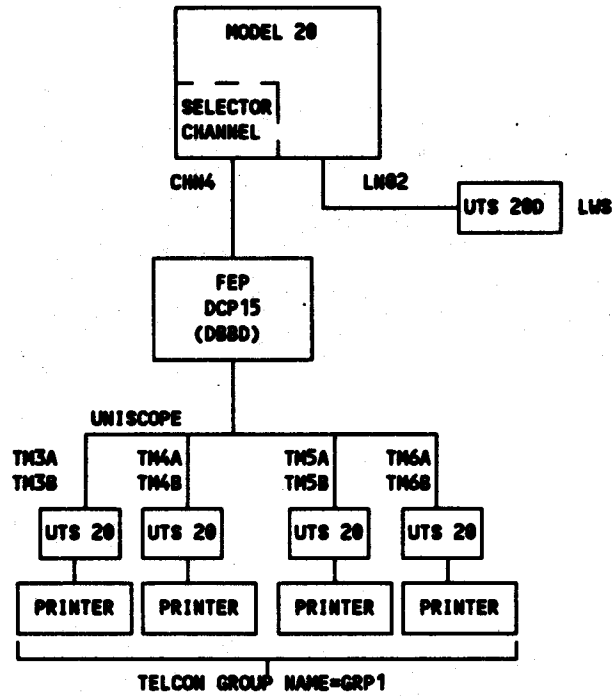
This network could be defined as indicated below. Line numbers are provided to correlate the network definition with the explanation that follows:

```
Line
Number
  1   COMMCT
  2   MOD2     CCA    TYPE=(GBL,,A),GAWAKE=YES,DCA=YES
  3            BUFFERS 200,64,0,ARP=50,STAT=YES,                         X
  4                UDUCT=(16,32,2),LINKPAK=(10,768,1),RTIMER=15
  5   IAS1     LOCAP TYPE=(DMI),LOW=MAIN
  6   CUP1     LOCAP TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
  7   LN02     LINE  DEVICE=(LWS)
  8   LWS1     TERM  FEATURES=(U20),ADDR=(C11),HIGH=MAIN,               X
  9                MEDIUM=MAIN,LOW=MAIN
 10   CHN4     DCPCHNL CNID=4,ID=08,REMOTE=DBBD
 11            LPORT LINE=CHN4,PORT=60,REMOTE=DBBD
 12   TM3A     TERM  FEATURES=(U20,,,,PRIMARY),DVCGID=INT33,LOW=MAIN,   X
 13                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 14                REMOTE=(DBBD),AUX1=(COP,73)
 15   TM3B     TERM  FEATURES=(U20,,,,SECONDARY),DVCGID=INT33,LOW=MAIN, X
 16                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 17                REMOTE=(DBBD),AUX1=(COP,73)
 18   TM4A     TERM  FEATURES=(U20,,,,PRIMARY),DVCGID=INT33,LOW=MAIN,   X
 19                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 20                REMOTE=(DBBD),AUX1=(COP,73)
 21   TM4B     TERM  FEATURES=(U20,,,,SECONDARY),DVCGID=INT33,LOW=MAIN, X
 22                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 23                REMOTE=(DBBD),AUX1=(COP,73)
 24   TM5A     TERM  FEATURES=(U20,,,,PRIMARY),DVCGID=INT33,LOW=MAIN,   X
 25                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 26                REMOTE=(DBBD),AUX1=(COP,73)
 27   TM5B     TERM  FEATURES=(U20,,,,SECONDARY),DVCGID=INT33,LOW=MAIN, X
 28                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 29                REMOTE=(DBBD),AUX1=(COP,73)
 30   TM6A     TERM  FEATURES=(U20,,,,PRIMARY),DVCGID=INT33,LOW=MAIN,   X
 31                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 32                REMOTE=(DBBD),AUX1=(COP,73)
 33   TM6B     TERM  FEATURES=(U20,,,,SECONDARY),DVCGID=INT33,LOW=MAIN, X
 34                MEDIUM=MAIN,HIGH=MAIN,INPUT=YES,PROTYP=INT-1,        X
 35                REMOTE=(DBBD),AUX1=(COP,73)
 36            ENDCCA
 37            MCP MCPNAME=M5
 38            CACH=(8,,DCPCHNL),CHAN=4
 39   END
```

Explanation

Significant features of the DCP-based ICAM network are described by line number.

**Line
Numbers**

2   No changes are required on the CCA macro because DCA and GAWAKE were already specified (DCA was required for remote workstation support). However, the FEATURES keyword is removed because OPCOM is now a default value.

3, 4   The BUFFERS macro defines the expanded network resources necessary to support the DCA environment. Note the increased size of the link buffers.

5, 6   LOCAP macros are specified as they were for the non-DCP network. However, note that the IAS=(YES,OFF) parameter is removed from the DMI interface LOCAP. This parameter is no longer required (effective with OS/3 Release 14).

7 - 9   The local workstation line and terminal definitions are retained (these definitions must be made before any DCPCHNL or VLINE macro). Note, however, that the local workstation remains connected to the model 20; the DCP does not support local workstations.

10   A DCPCHNL macro defines the selector channel connection between the host system and the DCP front-end processor. A UDLC line connection (VLINE) is not in this network.

11   A single LPORT macro defines a logical path between the DCP and the host system.

12 - 35   The eight terminal screens previously defined as remote workstations (TM3x, TM4x, TM5x, and TM6x) are simply defined as UNISCOPE terminals connected to the DCP. Although the same terminals are being used, the previous TERM macro definitions are modified as follows:

- The ADDR= parameter is removed (terminal addressing is controlled by Telcon).

- The REMOTE= parameter is added. It logically specifies the DCP to which the terminal is connected. In this example, all terminals are connected to front-end processor DBBD.

- The DVCGID=INT33 parameter is added. It indicates a UNISCOPE type terminal.

- The PROTYP=INT-1 parameter is added. It indicates that the terminal is interactive.

Note that terminal operating procedures are different from remote workstation operating procedures. For example, to enter emulated SYSTEM mode, you now press the MESSAGE WAITING key. Refer to Section 6 or to the *Interactive Services Operating Guide*, UP-9972, for a description of other operational differences.

-          PGROUP macros are removed since the DCP does not support remote workstations.

Example 4 - Model 20 Network with Multiple CCAs Including Remote Batch Processing and RPG Telecommunications

This example shows the conversion of a system that includes RPG II telecommunications programs, interactive services, and remote batch processing (RBP). The existing ICAM symbiont includes two dedicated CCAs (one is needed for RBP and another is needed for RPG II telecommunications) and a global CCA (for interactive services and other CUPs). In the new ICAM symbiont, all of these resources are supported in a single global CCA.

In the existing network, terminals TRM2 and TRM3 are located several miles from the host system and are connected through a dial-up line. In the DCP-based network, these terminals are connected through a remote concentrator.

Existing Network
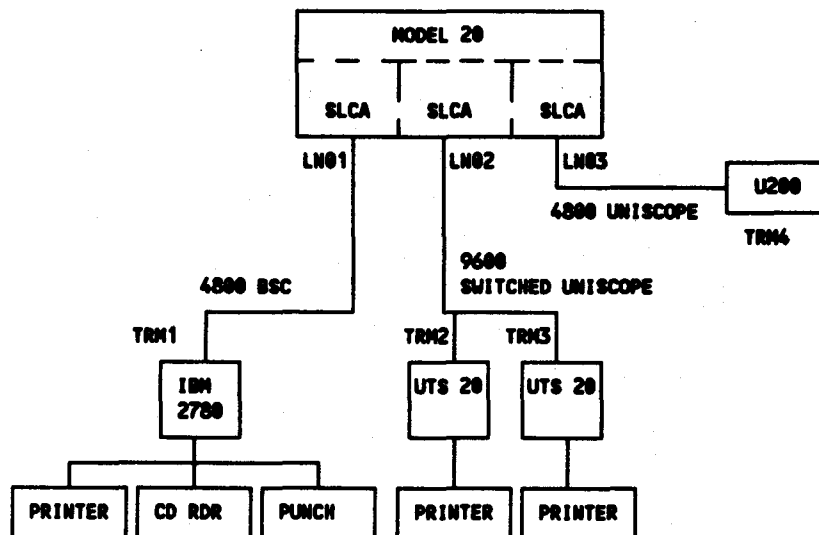
This network was previously defined as follows:

```
COMMCT
RBP1     CCA    TYPE=(RBP1),FEATURES=(OPCOM)
         BUFFERS ARP=12
LN01     LINE   DEVICE=(BSC),TYPE=(4800,SYNC),STATS=YES,ID=1,CHAN=15
TRM1     TERM   FEATURES=(2780,MODEL1),AUX1=(PCH)
         RBEGIN
         RNAME WLR000,1234
         REND
         ENDCCA
RPG1     CCA    TYPE=(DDI,3),FEATURES=(OPCOM)
         BUFFERS ARP=12
LN03     LINE   DEVICE=(UNISCOPE),TYPE=(4800,SYNC),STATS=YES,ID=3,
                CHAN=15
TRM4     TERM   FEATURES=(U200),ADDR=(21,61)
         ENDCCA
GBL1     CCA    TYPE=(GBL,,A),FEATURES=(OPCOM),GAWAKE=YES,DCA=YES
         BUFFERS 200,64,0,ARP=50,STAT=YES,                         X
                UDUCT=(16,,2),LINKPAK=(24,80,3)
IAS1     LOCAP  TYPE=(DMI),IAS=(YES,OFF)
CUP1     LOCAP  TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
LN02     LINE   DEVICE=(UNISCOPE),TYPE=(9600,SYNC,SWCH),STATS=YES,ID=5, X
                CHAN=15,CALL=9-7256800
TRM2     TERM   FEATURES=(U20),ADDR=(29,51),HIGH=MAIN,               X
                MEDIUM=MAIN,LOW=MAIN,AUX1=(COP,73),TCTUPD=YES
TRM3     TERM   FEATURES=(U20,960),ADDR=(29,52),HIGH=MAIN,           X
                MEDIUM=MAIN,LOW=MAIN,AUX1=(COP,73),TCTUPD=YES
         ENDCCA
         MCP MCPNAME=M5
         CACH=(01,4800,SYNC),CHAN=15
         CACH=(03,4800,SYNC),CHAN=15
         CACH=(05,9600,SYNC),CHAN=15
END
```

DCP-Based Network

With the addition of a DCP/15 front-end processor and a DCP/5 remote concentrator, the network might be reconfigured as follows:
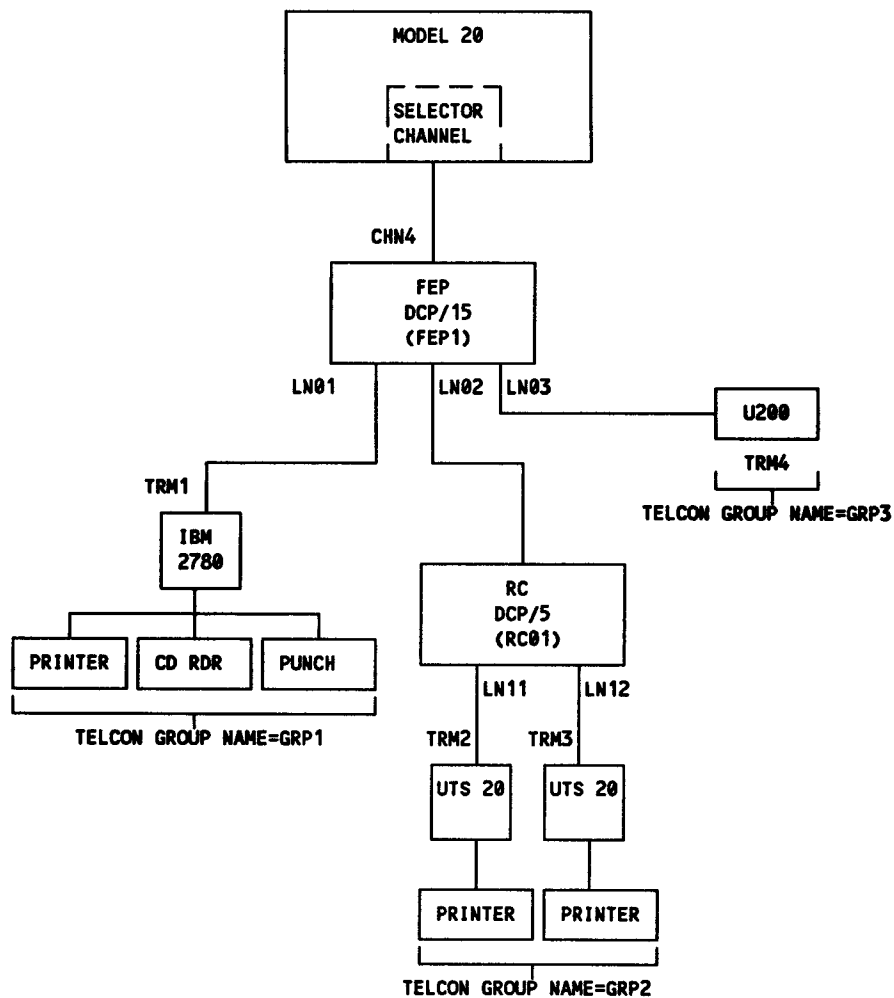
```
                         ┌─────────────────────┐
                         │      MODEL 20        │
                         │    ┌─ ─ ─ ─ ─ ┐      │
                         │    │SELECTOR  │      │
                         │    │CHANNEL   │      │
                         │    └──────────┘      │
                         └──────────┬───────────┘
                                    │ CHN4
                         ┌──────────┴───────────┐
                         │         FEP          │
                         │       DCP/15         │
                         │       (FEP1)         │
                         └──┬────────┬──────┬───┘
                        LN01│    LN02│  LN03│
                            │        │      └────────────┐   ┌────────┐
                            │        │                   └───│  U200  │
                     TRM1   │        │                       └────┬───┘
                      ┌─────┘        │                         TRM4
                  ┌───┴───┐          │                    └────────────┘
                  │  IBM  │          │                 TELCON GROUP NAME=GRP3
                  │ 2780  │          │
                  └───┬───┘    ┌─────┴─────┐
          ┌───────┬───┴───┬────│    RC     │
          │       │       │    │  DCP/5    │
     ┌────┴───┐┌──┴───┐┌──┴──┐ │  (RC01)   │
     │PRINTER ││CD RDR││PUNCH│ └──┬─────┬──┘
     └────────┘└──────┘└─────┘ LN11│ LN12│
    └──────────────────────┘   ┌───┴──┐┌─┴────┐
   TELCON GROUP NAME=GRP1    TRM2│   TRM3│
                               ┌─┴────┐┌┴─────┐
                               │UTS 20││UTS 20│
                               └──┬───┘└──┬───┘
                               ┌──┴────┐┌─┴─────┐
                               │PRINTER││PRINTER│
                               └───────┘└───────┘
                              └──────────────────┘
                              TELCON GROUP NAME=GRP2
```

This network could be defined as indicated below. Line numbers are provided to correlate the network definition with the explanation that follows:

```
Line
Number
   1   CONNCT
   2   NET1      CCA    TYPE=(GBL,,A),GAWAKE=YES,DCA=YES
   3             BUFFERS 200,64,0,ARP=50,STAT=YES,                              X
   4                    UDUCT=(16,,2),LINKPAK=(24,768,2),RTIMER=20
   5   TA01      LOCAP TYPE=(DMI),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
   6   CUP1      LOCAP TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
   7   RPG1      LOCAP TYPE=(STDMCP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
   8   XBP1      LOCAP TYPE=(RBP),LOW=MAIN,MEDIUM=MAIN,HIGH=MAIN
   9   CHN4      DCPCHNL CNID=4,ID=08,REMOTE=FEP1,STATS=YES
  10             LPORT LINE=CHN4,PORT=60,REMOTE=FEP1
  10A            LPORT LINE=CHN4,PORT=61,REMOTE=RC01
  11   TRM1      TERM   FEATURES=(2780),DVCGID=RB512780,LOW=MAIN,MEDIUM=MAIN,  X
  12                    HIGH=MAIN,INPUT=YES,PROTYP=RB-2,REMOTE=(FEP1),         X
  13                    RBATCH=YES,XLATE=(NO,NO),AUX1=(PCH
  14   TRM2      TERM   FEATURES=(U20),DVCGID=INT33,LOW=MAIN,MEDIUM=MAIN,      X
  15                    HIGH=MAIN,INPUT=YES,PROTYP=INT-1,REMOTE=(RC01),        X
  16                    AUX1=(COP,73)
  17   TRM3      TERM   FEATURES=(U20),DVCGID=INT33,LOW=MAIN,MEDIUM=MAIN,      X
  18                    HIGH=MAIN,INPUT=YES,PROTYP=INT-1,REMOTE=(RC01),        X
  19                    AUX1=(COP,73)
  20   TRM4      TERM   FEATURES=(U200),DVCGID=INT33,LOW=MAIN,MEDIUM=MAIN,     X
  21                    HIGH=MAIN,INPUT=RPG1,PROTYP=INT-1,REMOTE=(FEP1)
  22             RBEGIN
  23             RNAME WLR000,1234
  24             REND
  25             ENDCCA
  26             MCP MCPNAME=M5
  27             CACH=(8,,DCPCHNL),CHAN=4
  28   END
```

Explanation

Significant features of the DCP-based ICAM network are described by line number.

Line
Numbers

2   With a DCP, RPG telecommunications and the RBP utility can run in a global CCA. Therefore, a single CCA replaces the three CCAs that were previously required. The CCA macro includes the standard parameters needed to support the DCP (DCA=YES and GAWAKE=YES). Note that the FEATURES keyword is removed because OPCOM is now a default value.

3, 4   The BUFFERS macro defines the expanded network resources necessary to support the DCA environment.

5, 6   LOCAP macros are specified as they were in the global network portion of the non-DCP ICAM symbiont. However, note that the IAS=(YES,OFF) parameter is removed from the DMI interface LOCAP. This parameter is no longer required (effective with OS/3 Release 14).

7   A STDMCP LOCAP macro is added to support RPG II telecommunications CUPs via the ICAM standard interface. Previously, RPG II telecommunications CUPs required the DDI interface in a dedicated CCA.

8   An RBP LOCAP macro is added to support the remote batch processing utility via the ICAM standard interface (TYPE=RBP). Previously, RBP required the DDI interface in a dedicated CCA.

9   A DCPCHNL macro defines the selector channel connection between the host system and the DCP front-end processor. Note that the STATS=YES parameter is specified. Effective with OS/3 Release 14, the DCPCHNL macro STATS=YES parameter is available. This parameter allows ICAM to accumulate statistics for each terminal connected to the DCP.

10, 10A Two LPORT macros are required. One LPORT defines a logical path between the host system and front-end processor FEP1. The second LPORT defines a logical path between the host system and remote concentrator RC01.

11 - 13 The batch terminal definition (TRM1) is modified as follows:

-       The REMOTE= parameter is added. It logically specifies that the terminal is connected to FEP1.

-       The DVCGID=RB512780 parameter is added. It indicates a 2780 batch terminal.

-       The PROTYP=RB-2 parameter is added. It indicates that the terminal performs batch processing.

-       The RBATCH=YES parameter is added. It indicates that this batch terminal is not directly connected to the host system.

-       The XLATE=(NO,NO) parameter is added. It indicates that code translation is not required, since this terminal sends and receives EBCDIC characters.

14 - 21   The three interactive terminal definitions (TRM2, TRM3, and TRM4) are modified as follows:

- The ADDR= parameter is removed (terminal addressing is controlled by Telcon).

- The REMOTE= parameter is added. It logically specifies the DCP to which the terminal is connected. In this example, terminals TRM2 and TRM3 are connected to remote concentrator RCO1 while terminal TRM4 is connected to front-end processor FEP1.

- The DVCGID=INT33 parameter is added to indicate a UNISCOPE terminal.

- The PROTYP=INT-1 is parameter is added. It indicates that the terminal it interactive.

- The TCTUPD=YES parameter is no longer required (effective with OS/3 Release 14) to indicate that the terminal can access interactive services.

22 - 24   Special RBP macros are repeated without modification.

Example 5 - Multinode Network with Distributed Data Processing

This example illustrates the conversion of a model 20 system within a multinode network that supports DDP between the two OS/3 systems.

Existing Network
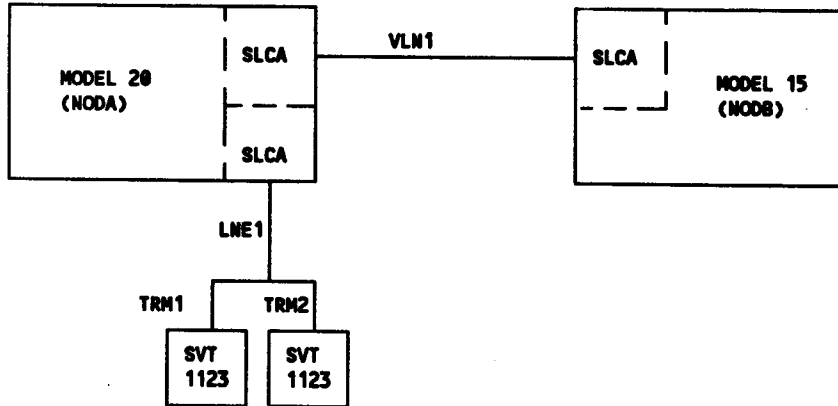
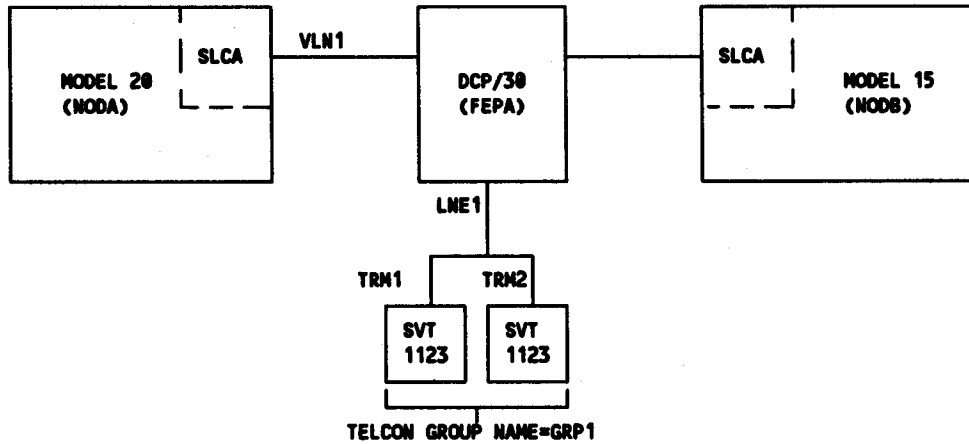This network was previously defined as follows:

```
COMMCT
MOD2      CCA    TYPE=(GBL,,A),DCA=YES,GAWAKE=YES,FEATURES=(OPCOM)
                 BUFFERS 24,64,2,ARP=36,                                      X
                 UDUCT=(12,,3),LINKPAK=(25,768,2),RTIMER=20
CUP1      LOCAP  TYPE=(DMI),LOW=MAIN
LNE1      LINE   DEVICE=(UNISCOPE),TYPE=(19200,SYNC),STATS=YES,ID=8
TRM1      TERM   FEATURES=(U20),ADDR=(29,51),HIGH=MAIN,                       X
                 MEDIUM=MAIN,LOW=MAIN,TCTUPD=YES
TRM2      TERM   FEATURES=(U20),ADDR=(29,53),HIGH=MAIN,                       X
                 MEDIUM=MAIN,LOW=MAIN,TCTUPD=YES
VLN1      VLINE  DEVICE=ABM,TYPE=(9600),ID=9,CMDADDR=3,RSPADDR=1
          LPORT  LINE=VLN1,REMOTE=NODB,PORT=1,EU1=CUP1,EU2=CUP2,             X
                 USERTP=DMI
CUP2      LOCAP  TYPE=(DMI),REMOTE=(NODB),LOW=MAIN
          ENDCCA
          MCP  MCPNAME=C1
          CACH=(08,19200,SYNC)
          CACH=(09,9600,SYNC,ILA)
END
```

DCP-Based Network

With the addition of a DCP/30 front-end processor as an intermediate node, the network could be reconfigured as indicated below.

This network is defined below. Line numbers are provided to correlate the network definition with the explanation that follows:

Line
Number

```
 1   CONNCT
 2   NOD2     CCA    TYPE=(GBL,,A),DCA=YES,GAWAKE=YES,FEATURES=(OPCOM)
 3            BUFFERS 24,64,2,ARP=36,                                       X
 4            UDUCT=(12,,3),LINKPAK=(25,768,2),RTIMER=20
 5   CUP1     LOCAP TYPE=(DMI),LOW=MAIN
 6   VLN1     VLINE DEVICE=ABM,TYPE=(56000),ID=9,ENDADDR=5,RSPADDR=1        X
 7            STATS=YES
 8            LPORT LINE=VLN1,REMOTE=NODB,PORT=1
 9            LPORT LINE=VLN1,REMOTE=FEPA,PORT=2
10   TRM1     TERM  FEATURES=(U20),HIGH=MAIN,MEDIUM=MAIN,LOW=MAIN,          X
11            DVCGID=INT33,PROTYP=INT-1,REMOTE=FEPA
12   TRM2     TERM  FEATURES=(U20),HIGH=MAIN,MEDIUM=MAIN,LOW=MAIN,          X
13            DVCGID=INT33,PROTYP=INT-1,REMOTE=FEPA
14   CUP2     LOCAP TYPE=(DMI),REMOTE=(NODB),LOW=MAIN
15            ENDCCA
16            MCP MCPNAME=C1
17            CACH=(09,56000,FULL,ILA)
18   END
```

Explanation

Significant features of the DCP-based ICAM network are described by line number.

**Line
Numbers**

2 - 4   The CCA and BUFFERS macros are unchanged.

5   The original local DMI LOCAP macro (supporting host-to-host DDP) is unchanged.

6, 7   A VLINE macro defines the UDLC communications line connection between the host system and the DCP front-end processor. Note that the STATS=YES parameter is specified. The VLINE macro STATS=YES parameter is effective with OS/3 Release 14. It allows ICAM to accumulate statistics for each terminal connected to the DCP.

8   This LPORT macro defines a logical path between the two OS/3 systems, through the DCP. Note that the EU1, EU2, and USERTP keywords have been removed. They are no longer required (effective with OS/3 Release 14).

9   This LPORT macro defines a logical path between model 20 host and the two terminals connected to the DCP. Again, note the absence of the EU1, EU2, and USERTP keywords.

10 - 13   The two interactive terminal definitions (TRM1 and TRM2) are modified as follows:

-    The ADDR= parameter is removed (terminal addressing is controlled by Telcon).

-    The REMOTE= parameter is added. It logically specifies the DCP to which the terminal is connected. In this example, all terminals are connected to front-end processor FEPA.

-    The DVCGID=INT33 parameter is added to indicate a UNISCOPE type terminal.

-    The PROTYP=INT-1 parameter is added. It indicates that the terminal is interactive.

-    The TCTUPD=YES parameter is no longer required (effective with OS/3 Release 14) to indicate that the terminal can access Interactive Services.

14   The original remote DMI LOCAP macro (supporting the DDP program in the remote host) is unchanged.

Example 7 - Emulated IBM 3270 Terminal

This example shows the conversion of a network where a UTS 20 terminal (TRM2) serves as an emulated 3270 terminal on an IBM system. TRM2 can establish dynamic sessions with "pseudo" terminal TRM1 (only TRM1 is defined in the IBM host).

Existing Network
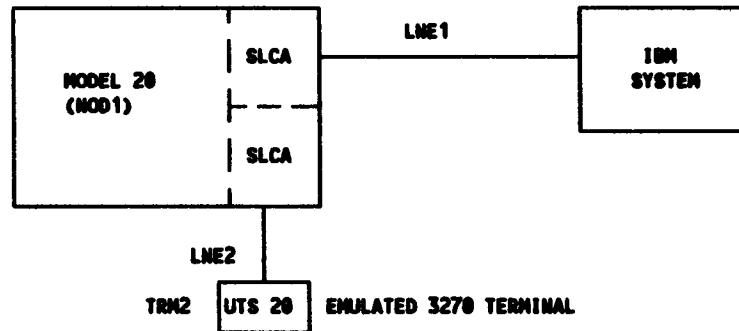
This network was previously defined as follows:

```
CONNCT
IBM1       CCA    TYPE=(GBL,,A)
           BUFFERS 200,64,0,ARP=50
CUP1       LOCAP TYPE=(STDNCP),LOW=MAIN
LNE1       LINE  DEVICE=(INV3271),TYPE=(2400,SYNC),ID=11,XLATE=(NO,NO)
TRM1       TERM  FEATURES=(3277),ADDR=(C1,C1),LOW=MAIN,INPUT=(YES),      X
                 DICE=(OFF)
LNE2       LINE  DEVICE=(UNISCOPE),TYPE=(2400,SYNC),ID=12
TRM2       TERM  FEATURES=(U200),ADDR=(29,51),INPUT=YES
           ENDCCA
           NCP NCPNAME=N1
           CACH=(11,2400,SYNC),CHAN=13
           CACH=(12,2400,SYNC),CHAN=13
END
```

DCP-Based Network

When a DCP is added, IBM terminal emulation can be handled completely by Telcon and no ICAM network definition is required to support it. The network appears as follows:
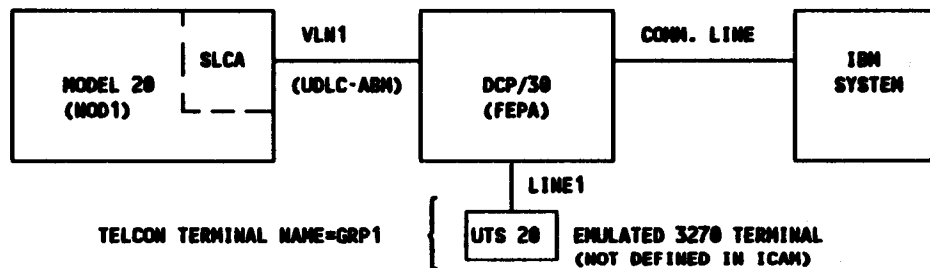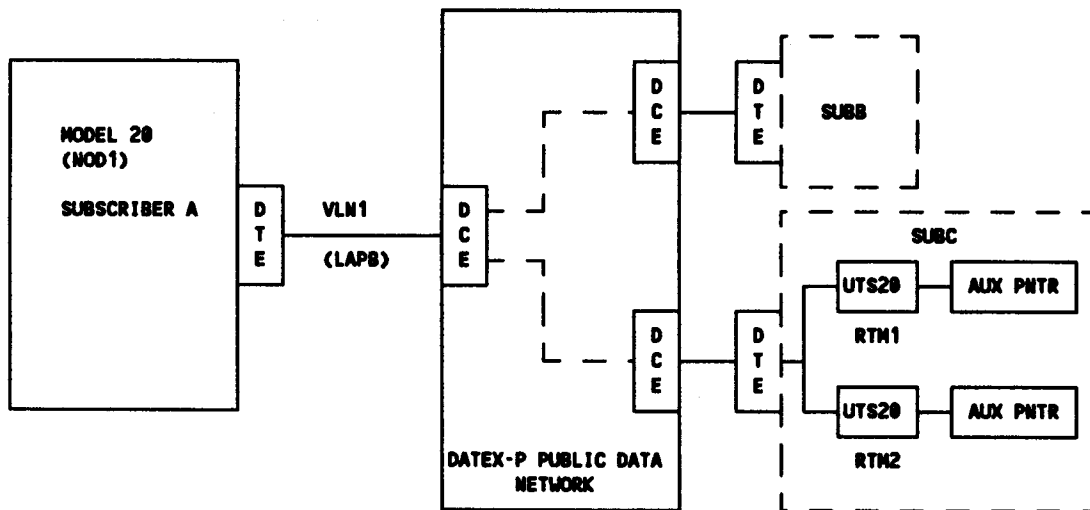
Example 8 - Public Data Network Connection

Telcon program products are available to support X.21 and X.25 public data networks (PDN). All PDN functionality must be defined in Telcon.

This example shows ICAM conversion for a model 20 system (subscriber A) included in a 3-node DATEX-P packeted-switched PDN.

Existing Network

```
                                                                      ┌───────────────┐
                                                            ┌───┐ ┌───┐│               │
                                                            │ D │ │ D ││    SUBB       │
                                                            │ C │ │ T ││               │
                                                            │ E │ │ E ││               │
                                                            └───┘ └───┘└───────────────┘
┌────────────────────┐                  ┌──────────────┐
│                    │                  │              │         ┌───────────────────────────┐
│  MODEL 20          │                  │              │         │            SUBC           │
│  (NOD1)            │                  │    ┌─┐       │         │  ┌──────┐    ┌──────────┐  │
│                    │┌───┐  VLN1  ┌───┐│    └─┘       │         │  │UTS20 │────│ AUX PNTR │  │
│  SUBSCRIBER A      ││ D │────────│ D ││              │         │  └──────┘    └──────────┘  │
│                    ││ T │        │ C ││    ┌─┐       │         │       RTM1                 │
│                    ││ E │ (LAPB) │ E ││    └─┘       │  ┌───┐  │                            │
│                    │└───┘        └───┘│              │  │ D │  │  ┌──────┐    ┌──────────┐  │
│                    │                  │      ┌───┐   │  │ T │  │  │UTS20 │────│ AUX PNTR │  │
│                    │                  │      │ D │───│──│ E │  │  └──────┘    └──────────┘  │
│                    │                  │      │ C │   │  └───┘  │       RTM2                 │
│                    │                  │      │ E │   │         └───────────────────────────┘
└────────────────────┘                  │      └───┘   │
                                         │ DATEX-P PUBLIC DATA │
                                         │    NETWORK   │
                                         └──────────────┘
```

Section 4
Preparing DCP Load Files

This section provides an overview of the steps necessary to create a DCP load file for each front-end processor and remote concentrator in your communications network. These load files contain Telcon network definitions (generated on a Unisys 1100 or 2200 system) and other loadable software required for each DCP.

Perform the following steps to create required DCP load files:

Note: *Support service is available to generate your Telcon network and provide input media for your OS/3 system. Contact your Unisys representative for further details.*

1. Generate a Telcon network that supports your DCP front-end processor and matches your new ICAM symbiont. Telcon must be generated under OS1100 on a Unisys 1100/2200 series host. Refer to the *DCP Series Communications Delivery Software Configuration Guide,* 7831 5678, and to the *DCP Series Communications Delivery Software Configuration Reference Manual,* 7831 5686, for details on Telcon network generation. Refer to Section 3 or to your *ICAM Operations Guide* for information on "matching up" ICAM macroinstructions and Telcon network definition statements.

2. If necessary, generate Telcon network definitions for additional front-end processors and for any remote concentrators in your network.

Note: *If your network includes more than one path to the DCP front-end processor, a separate DCP load file must be created for each path.*

3. At the Unisys 1100/2200 system, copy each Telcon generation to magnetic tape. A file mark must separate each Telcon generation on the tape. See the *ICAM Utilities Programming Guide,* 7004 4565, for details on this operation.

4. Using the magnetic tape generated in step 3 as your input medium, transcribe each Telcon generation to a load file on your System 80 disk. See the *ICAM Utilities Programming Guide,* 7004 4565, for details on this operation.

System resident DCP load files are accessed when a downline or cross-channel load operation is initiated from a DCP. The DCP is not functional until a successful load operation is performed. Front-end processor and remote concentrator load procedures are described in the *ICAM Utilities Programming Guide,* 7004 4565.

Section 5
Converting Your Programs

This section describes the actions required to convert existing communications user programs (CUPs) so that they can run in the DCP-based network. Refer to the *Standard MCP Interface Programming Guide*, UP-8550, for detailed information on the indicated CUP macroinstructions.

Note: *COBOL '74 communications programs are not supported by the DCP. If you use these programs, they must run in the non-DCP segment of a mixed-mode communications network.*

5.1. Existing Dedicated Network CUPs

All dedicated network programs (for both STDMCP and DDI interfaces) must be modified and then recompiled to run with the DCP-based network. The following changes are required in the source code:

- Add a pair of DSECT macroinstructions at the beginning of the program. A CONTDTG MF=(D,xxx) macroinstruction describes the input datagram format. A SESCON MF=(D,xxx) describes the SESCON packet format.

- Replace NETREQ macroinstructions with NATTACH macroinstructions and replace NETREL macroinstructions with NDETACH macroinstructions.

- Remove all LNEREQ and LNEREL macroinstructions.

- Add a GAWAKE macroinstruction to define an input datagram buffer address and an entry point for a datagram handling routine.

- Add a datagram handling routine. This routine must assume control when a $$OPEN or $$CLOSE is received from a terminal or when a session abort is received from a DCP. It must save registers, analyze the contents of the datagram, and then take appropriate action for the type of datagram that is received. Depending on the datagram type, several actions should be taken:

  - Non-control datagrams should be ignored.

  - Open datagrams should be accepted or rejected with an appropriately formatted SESCON macroinstruction.

- Close datagrams should be confirmed with a SESCON macroinstruction.

- Abort datagrams should be accepted (no acton required).

When the required action is performed, all registers must be restored and a CYIELD macroinstruction must be executed to return control to ICAM.

Figure 5-1 is a simple CUP that includes the previously indicated coding. Shading is used to indicate the points that were mentioned.

5.2. Existing Global Network CUPs

Programs that were written to run in a global network can usually be used without modification. However, if a program previously ran in a network that defined *static* terminal sessions, refer to 5.3.

5.3. Dynamic Terminal Session Considerations

CUPs that previously operated with static terminal sessions (as defined by SESSION macros in a global network definition) may require one or more open terminal sessions when they become active. Since DCA structures do not support these static sessions, dynamic terminal sessions must be established for these programs. You can do this in two ways:

• By using Telcon TERM statement ALLOC, DEST, and RECEIVE keywords to allocate a dynamic terminal session within Telcon. Refer to the *DCP Series Communications Delivery Software Configuration Guide*, 7831 5678, for details.

• By opening a dynamic terminal session from within the CUP (not valid for BSC batch terminals). This can be accomplished by adding a SESCON macroinstruction with an OPEN function code to the program.

Section 6
Terminal Operations

This section briefly describes sign-on, sign-off, and session establishment procedures for terminals connected on a DCP. These terminals communicate with ICAM (or any other host) through the DCP's Telcon software.

Since Telcon does not provide workstation connectivity, information is also provided on communicating with interactive services from a UNISCOPE terminal (or similar device).

6.1. Telcon Terminal Sign-on, Sign-off, and Session Establishment Commands

Table 6-1 defines sign-on, sign-off, and session establishment commands for both ICAM-controlled terminals (in a non-DCP environment) and Telcon-controlled terminals (in a DCP environment). Note that additional commands are used in the Telcon environment and that the $$SON command provides a unique function for each environment.

Note: *For details about Telcon terminal sign-on and session establishment options, see the* DCP Series Communications Delivery Software Configuration Guide, *7831 5678. For details on operating Telcon terminals, see the* DCP Series Communications Delivery Software Operations Guide, *7831 5777.*

Table 6-1. ICAM and Telcon Terminal Commands

Command	Function	
	ICAM Terminal	Telcon Terminal
$$SON xxxxyyyy	Establishes a session between terminal xxxx and locap, process file, or terminal yyyy. This command is used only if SIGNON=YES is specified in the network's CCA macro.	
$$OPEN yyyy	Establishes a session between the issuing terminal and locap, process file, or terminal yyyy. This command is used only if SIGNON=NO is specified in the network's CCA macro.	

Table 6-1. ICAM and Telcon Terminal Commands (cont)

Command	Function	
	ICAM Terminal	**Telcon Terminal**
SSSON name		Connects a terminal to the Telcon network. The 1- to 8- character name is either:
		- the Telcon GROUP name (for BSC terminals)
		- the Telcon TERM name (for async or UNISCOPE terminals)
		This command is needed only if ALOC=NO (the default value is specified in the terminal's Telcon TERM statement.
		If ALOC=YES or ALOC=IMMED is specified for the terminal, the SSSON command is not needed. The terminal signs on automatically when the line is established; it it also signs on with any input transmission following a SSSOFF command.
		IF ALOC=INPUT is specified for this terminal, the SSSON command is not needed. The terminal signs on with any input message after the terminal is powered on.
SSOPEN yyyyyyyy		Establishes a session with application yyyyyyyy. If another session is currently active, it is terminated automatically.
		Initially, the SSOPEN command is not needed if a session is automatically allocated in the Telcon TERM definition (that is, if an end-user is specified with the DEST= keyword).
SSCLOSE		Terminates current session from this terminal (Telcon resources still exist).
SSSOFF	Terminates current session from this terminal.	Terminates connection from this terminal. Both Telcon and ICAM resources are released.

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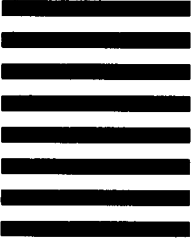P.O. Box 203
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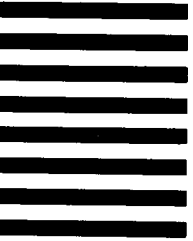2476 Swedesford Road
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