Connect:Direct®
for VSE/ESA

Installation Guide

Version 3.2

Sterling Commerce
An IBM Company

Connect:Direct for VSE/ESA Installation Guide
Version 3.2

Second Edition

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Contents

Chapter 1

About Connect:Direct for VSE/ESA

The Connect:Direct product links technologies and moves all types of information between networked systems/computers. It manages high-performance transfers by providing such features as: automation, reliability, efficient use of resources, application integration, and ease of use. Connect:Direct software offers choices in communications protocols, hardware platforms, and operating systems. It provides the flexibility to move information among mainframes, midrange systems, desktop systems, and LAN-based workstations.

Connect:Direct for VSE/ESA Internal Components

Connect:Direct for VSE/ESA has three internal components:

- Application Program Interface (API)
- Data Transmission Facility (DTF)
- Various user interfaces to Connect:Direct for VSE/ESA

Connect:Direct for VSE/ESA runs as an application on the Virtual Storage Extended/Enterprise Systems Architecture (VSE/ESA) operating system. Within Connect:Direct for VSE/ESA, the system components interact to execute the statements and commands submitted through the Connect:Direct interfaces. All statements and commands pass through the API, regardless of the interface from which they are submitted.

Chapter 2

Planning the Installation

Connect:Direct for VSE/ESA installation will be easier and more effective if you complete your planning before beginning your installation. This chapter provides information you need to plan your installation of Connect:Direct for VSE/ESA and Connect:Direct CICS Interface.

Before You Begin

Before you plan your installation, verify that you have the latest product information and that you have the proper resources available.

Read the Release Notes

Before you begin the installation, read the *Connect:Direct for VSE/ESA Release Notes* for the latest product information:

- Additional installation requirements
- Product enhancements
- Maintenance updates
- Documentation changes
- Product compatibility

Determine Your High-Level Qualifier

The installation procedure prefixes the installed Connect:Direct libraries with a high-level qualifier (referred to as *$HILQ*) that you specify during installation.

Planning DASD Requirements

This section presents DASD requirements for Connect:Direct VSAM files, a description of the VSAM files, and the virtual storage requirements for the Data Transmission Facility (DTF).

VSAM Files Space Requirements

Connect:Direct uses VSAM files to control and monitor execution. The following table describes these files and their space requirements. The installation process creates the files using these minimum space requirement values for each VSAM file. You can determine the necessary number of tracks/cylinders or blocks by examining the values shown in the following table:

		Approximate Tracks Per Device					
DLBL Name	**Type**	**3330**	**3340**	**3350**	**3390**	**FBA Blocks**	**LIBR Blocks**
NDMLIB	LIB						21,000
MSGDSN	KSDS	380	765	245	120	11,300	
AUTHDSN	KSDS	20	34	14	7	644	
CKPTDSN	KSDS	48	82	34	17	1,564	
TCQDSN	RRDS	104	179	73	37	3,500	
TCXDSN	RRDS	1	2	1	1	100	
DMTEMPF	SAM	120	120	60	30	2,850	
NETDSN	KSDS	38	75	30	15	1,250	
NDMCICS.CONFIG	KSDS	6	9	3	1	92	
NDMCICS.USRPROF	KSDS	6	9	3	1	100	
NDMCICS.CSD	KSDS	120	180	60	20	1,840	

Description of VSAM Files

The following paragraphs describe each of the Connect:Direct VSAM files listed in the previous table. These VSAM files are located in DEFVSAM.PROC.

Connect:Direct Libraries (NDMLIB)

These files contain the base libraries for Connect:Direct for VSE/ESA and Connect:Direct CICS Interface.

Connect:Direct Message File (MSGDSN)

The message file, a VSAM key-sequenced data set (KSDS), holds all messages used by Connect:Direct. Each message record contains the issuing module name, the short message text, and the message explanation.

Authorization File (AUTHDSN)

The authorization file, a VSAM KSDS, can contain a record for each authorized Connect:Direct user. If you use the Connect:Direct authorization facility, calculate the size of your authorization file requirements using the following formula. If you are *not* using the Connect:Direct authorization facility, you still *must* define an authorization file.

```
Number of Connect:Direct Users  X  100 Bytes = Size of Authorization File
```

Checkpoint File (CKPTDSN)

The checkpoint file is a VSAM KSDS file that contains checkpoint information generated by the DTF during execution of a COPY. The checkpoint file is variable length records–one per Process that has checkpointing specified. The average record length is 256 bytes. For more information, see the Managing Processes chapter in the *Connect:Direct for VSE/ESA User's Guide*.

The size of the checkpoint file can be influenced by the number of days you retain checkpoint information as detailed in the initialization parameter CKPT.DAYS.

Type File (TYPEDSN)

The type file is a VSAM KSDS that contains records of file attribute defaults for the source and destination file allocations specified in the CONNECT:Direct COPY statement.

For more information on the type file contents, see the Using Type Key File Commands chapter in the CONNECT:Direct for VSE/ESA Administration Guide.

Statistics Log

The following table lists the contents of the statistics data set:

Data Set	DSORG	Approx. Install Supplied Size	Number of Entries	Approx. Minimum Size	Minimum Primary Entries	BLK SIZE (CI)
STATS log1	ESDS	2.2 MB	6750	295 KB	1000	4096
STATS index1	KSDS	197 KB	5000	49 KB	750	4096
STATS log2[a]	ESDS	2.2 MB	6750	295 KB	1000	4096
STATS index2[a]	KSDS	197 KB	5000	49 KB	750	4096

a. The default configuration for the statistics facility uses two statistics file pairs, which requires four VSAM files. See the following *Statistics Files* section for details about the VSAM files.

b. Optional

Data Set	DSORG	Approx. Install Supplied Size	Number of Entries	Approx. Minimum Size	Minimum Primary Entries	BLK SIZE (CI)
STATS directory[b]	ESDS	98 KB	500	98 KB	500	4096

a. The default configuration for the statistics facility uses two statistics file pairs, which requires four VSAM files. See the following *Statistics Files* section for details about the VSAM files.

b. Optional

Statistics Files

The CONNECT:Direct statistics facility logs statistics to VSAM file pairs. Each file pair consists of a VSAM entry-sequenced cluster and a VSAM key-sequenced cluster. The default and minimum configuration uses two such file pairs, or four VSAM files. The maximum number of file pairs is twenty. You specify the number of file pairs and the VSAM cluster names with the STAT.DSN.BASE and STAT.FILE.PAIRS initialization parameters.

For more detailed information on the statistics files, see the Using Statistics Administration chapter in the CONNECT:Direct for VSE/ESA Administration Guide.

Statistics Directory of Archive Files

The STATS ARCHIVE DIRECTORY file can be allocated optionally by sites that plan to archive statistics records and maintain a directory of the archive files. Archiving is the process of copying statistics records from the CONNECT:Direct statistics files to other data sets for long-term storage. Refer to the *Archiving Statistics* section of the *Using Statistics Administration* chapter in the CONNECT:Direct for VSE/ESA Administration Guide for details about archiving statistics.

Use the directory file to track the data set names of the archive files, as well as the date and time range of the statistics records in the archive files. Each record in the directory contains information about a single archive file. Therefore, the value of the RECORDS parameter that defines the directory determines how many archive files can be represented in the directory.

Connect:Direct for VSE/ESA provides facilities for maintaining and displaying the directory through the INQUIRE STATDIR command.

Transmission Control Queue (TCQDSN)

The transmission control queue file (TCQDSN) is a VSAM RRDS file that CONNECT:Direct uses to store Processes that are executing, queued for execution, held for retries, or held for future execution.

CONNECT:Direct accesses the TCQ in control interval (CI) mode. The CI size of the TCQ must be 1,536 bytes. Each Process that is defined in the TCQ occupies one or more CIs, depending on the number of statements within the Process. Because TCQ access characteristics prevent secondary allocation, allow enough room for the maximum number of potential Processes when you define the TCQ. See the following *Transmission Control Queue Index* section to determine the size of the TCQ.

Transmission Control Queue Index (TCXDSN)

The transmission control queue index (TCXDSN) is a VSAM RRDS that controls space use and access to the TCQ. CONNECT:Direct uses the maximum record length of the TCX to determine the number of CIs that can be controlled in the TCQ, thus dictating the size of the TCQ. The following formula determines the number of CIs that can be controlled:

```
Number of CIs in TCQ=((MAXLRECL of TCX - 12) / 2) X 8
```

The CISIZE of the TCQ determines the number of records. Thus with a CISIZE of 1024, you can define the TCQ with up to 4,020 records, thereby allowing it to hold 1,000-4,000 Processes, depending on the number of statements in each. *Do not modify the CI size of the TCQ.*

The following examples show how to determine the number of records that can be controlled.

```
TCX is defined with CISIZE = 1,024
MAXLRECL of TCX: 1,024 - 7 = 1,017
                 (7 bytes of VSAM control information)
Therefore:Number of records controlled = ((1,017 - 12)/2) X 8 = 4,020
```

In the following example, you can define the TCQ with up to 32,692 records, thereby allowing it to hold 8,000-32,000 Processes, depending on the number of statements in each.

```
TCX is defined with CISIZE = 8,192
MAXLRECL of TCX: 8,192 - 7 = 8,185
                (7 bytes of VSAM control information)
Therefore:Number of records controlled =((8,185 - 12)/2) X 8 = 32,692
```

Note: Once you allocate the TCQ and TCX, they are immovable. If you must redefine the TCQ and TCX, you must also cold-start the CONNECT:Direct DTF to reformat these files.

Permanent Sequential File (NDMX001)

The CONNECT:Direct software requires this permanent sequential file. This file (NDMX001) is used as a working storage area when the user requests displays online. This file must be a sequential file. This file cannot be a CA-DYNAM, CA-EPIC, or BIM-EPIC-controlled file.

CONNECT:Direct Network Map (NETDSN)

The network map is a VSAM KSDS that contains network definition information including the network names for the local node, for the other (adjacent) nodes in the network, VTAM application identifiers (applids) for use by the API, and various control information used by CONNECT:Direct.

Note: If you are using a VSAM cache program, you must remove the CONNECT:Direct network map from its control. Otherwise, it will rewrite the date/time stamp, and signons will fail with SAFA013I.

To estimate the size of the network map, you will need the number of nodes in your network, including the local node, and the number of applids defined for each node.

For example, if a network map contains 25 nodes with API applids in each of the 25 nodes, it requires approximately the space shown in the following figure.

```
Network Map Header      176 bytes (1 record)
CONNECT:Direct Control  52 bytes (1 record)
Node records=           1,200 bytes (25 records)
                        25 nodes x 48 bytes per node record
API  APPLIDs=           4,800 bytes (25 records)
                        25 nodes x (32-byte control
                        record size+(8-byte maximum
                        length APPLID name x 20 API
                        APPLID records per node))
Total                   6,228 bytes (52 records)
```

The network map should be defined with the RECORDS (52) parameter.

Define the network map with sufficient space to allow for this amount of data. The amounts are approximate as space requirements can vary.

Configuration File (NDMCICS.CONFIG)

The configuration data set is a VSAM key-sequenced data set (KSDS) that contains parameters that define processing characteristics of the

Connect:Direct CICS Interface software, the DTF nodes that the software can access, and how the software can access defined nodes.

User Profile (NDMCICS.USRPROF)

The user profile data set is a VSAM key-sequenced data set (KSDS) that contains user default definitions.

Consolidated System Definition File (NDMCICS.CSD)

The CICS definition file is loaded with the PPT and PCT definitions needed to run the Connect:Direct CICS Interface software. The installation CSD is merged with this file to create a new installation CSD.

Chapter 3

Installing Connect:Direct for VSE/ESA

This chapter describes how to install Connect:Direct for VSE/ESA. You can install the software by using interactive interface panels or using MSHP.

This chapter describe the following types of installations:

- Installing Connect:Direct for VSE/ESA for the first time
- Installing a Connect:Direct for VSE/ESA update over an existing version

Before Installing

Before installing Connect:Direct for VSE/ESA, perform the following steps:

- Review the *Connect:Direct for VSE/ESA Release Notes.* This document details any changes in the product or installation process.
- Complete the worksheets listed in Appendix A, *Installation Worksheets*. These worksheets collect the information required during installation.

Installing Connect:Direct for VSE/ESA for the First Time

The steps in a new Connect:Direct for VSE/ESA installation are:

- Allocating and defining libraries for Connect:Direct for VSE/ESA
- Loading the installation libraries
- Cataloging and link-edit DMGRATX
- Customizing the CICS interface

Step 1–Allocate/Define Libraries

Installation begins with allocating the Connect:Direct libraries. After allocation, these definitions must be cataloged to the system procedure library.

VSE/ESA Installation Libraries

You can define and allocate the Connect:Direct installation library as a VSAM- or non-VSAM-managed file. If you select VSAM management, refer to the JCL in the VSAM-managed NDMLIBR job stream shown on page 17. If you select non-VSAM management, refer to the JCL in the figure on page 18, the non-VSAM managed NDMLIBR job stream.

The job NDMLIBR allocates and defines libraries required to install and run Connect:Direct for VSE/ESA software. Key in the appropriate JCL, editing it as follows to reflect your installation, and then execute it.

- Change *$SLIB* to the appropriate sublibrary name where the Connect:Direct base product will reside.
- Change *$HILQ* to the appropriate high-level qualifier.
- Change *$VSVOL* to the appropriate volume serial number.
- Change *$RTRK* to the appropriate starting relative track/block number. (Each instance of *$RTRK* requires a different value.)
- Change *$NTRKS* to the appropriate number of tracks/blocks. (Each instance of *$NTRKS* requires a different value.)
- Change *$CAT* to the appropriate VSAM catalog name where the Connect:Direct libraries and VSAM files are defined.
- Change *$CLIB* to the appropriate sublibrary name where the Connect:Direct CICS Interface will reside.

You can determine the number of tracks/cylinders or blocks needed by examining the DASD requirements table found in the *Planning DASD Requirements* on page 10.

Labels

Connect:Direct for VSE/ESA uses *only* partition labels. All labels that you will use must be placed in the start-up JCL so that the label can be written to the partition label area by Connect:Direct for VSE/ESA.

Connect:Direct for VSE/ESA does not process labels that are located in system standard labels. For example, the label for IJSYSUC would be placed in the start-up JCL if IJSYSUC is in your installation standard labels.

Note: If you are installing Connect:Direct for VSE/ESA in a partition that has either CA-DYNAM, CA-EPIC or BIM-EPIC active, you might receive an informational message indicating that the tape file has been opened off of load point. This is normal and does not indicate an error in your installation process.

The following figure is NDMLIBR job stream for a VSAM-managed library for VSE.

```
* $$ JOB JNM=NDMLIBR,CLASS=A,DISP=D,USER='USERID'
* $$ LST CLASS=Q,DISP=L,JSEP=1,LST=SYSLST
// JOB NDMLIBR
*****************************************************************
*  THIS JOB ALLOCATES AND DEFINES THE VSAM MANAGED LIBRARY AND  *
*  SUB-LIBRARY.  IT ALSO CATALOGS THE                           *
*  DLBL, EXTENT, AND LIBDEF INFORMATION TO ACCESS IT.           *
*****************************************************************
// DLBL IJSYSUC,'$CAT',,VSAM
// DLBL NDMLIB,'$HILQ.LIB',,VSAM
// EXEC IDCAMS,SIZE=AUTO
   DELETE ($HILQ.LIB) CLUSTER CATALOG ($CAT)
   DEFINE CLUSTER                  -
       (NAME  ($HILQ.LIB)          -
        VOLUME ($VSVOL)            -
        TRACKS ($NTRKS 100)        -
        NONINDEXED                 -
        SHAREOPTIONS (3)           -
        RECORDFORMAT (NOCIFORMAT)) -
        CATALOG ($CAT)
/*
*****************************************************************
*  DEFINE THE MAIN Connect:Direct for VSE LIBRARY
*
*****************************************************************
// EXEC LIBR,PARM='DEFINE LIB=NDMLIB'
/*
*****************************************************************
*   DEFINE THE Connect:Direct for VSE SUBLIBRARY
*
*****************************************************************
// EXEC LIBR,PARM='DEFINE SUBLIB=NDMLIB.$SLIB'
/*
// EXEC LIBR,PARM='DEFINE SUBLIB=NDMLIB.$CLIB'
/*
*****************************************************************
*   CATALOG THE LIBDEFS FOR Connect:Direct for VSE
*
*****************************************************************
// EXEC LIBR,PARM='MSHP'
 A S=IJSYSRS.SYSLIB
 CATALOG NDMLIBS.PROC DATA=YES R=Y
/*
// DLBL IJSYSUC,'$CAT',,VSAM
// DLBL NDMLIB,'$HILQ.LIB',,VSAM
/*
// LIBDEF PROC,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF PHASE,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF SOURCE,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF OBJ,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
/+
/*
/&
* $$ EOJ
```

The following figure is NDMLIBR job stream for a non-VSAM-managed library for VSE.

```
* $$ JOB JNM=NDMLIBR,CLASS=A,DISP=D,USER='USERID'
* $$ LST CLASS=Q,DISP=L,JSEP=1,LST=SYSLST
// JOB NDMLIBR
*****************************************************************
*  THIS JOB ALLOCATES AND DEFINES THE NON-VSAM MANAGED LIBRARY  *
*  AND SUB-LIBRARY.  IT ALSO CATALOGS                           *
*  DLBL, EXTENT, AND LIBDEF INFORMATION TO ACCESS IT.           *
*****************************************************************
*
*
// DLBL NDMLIB,'$HILQ.LIB',99/365,SD
// EXTENT  ,$VSVOL,1,0,$RTRK,$NTRKS
*
*****************************************************************
*  DEFINE THE MAIN Connect:Direct for VSE LIBRARY                     *
*****************************************************************
*
// EXEC PGM=LIBR,PARM='DEFINE LIB=NDMLIB'
/*
*
*****************************************************************
*  DEFINE THE Connect:Direct for VSE SUBLIBRARY                       *
*****************************************************************
*
// EXEC PGM=LIBR,PARM='DEFINE SUBLIB=NDMLIB.$SLIB'
/*
// EXEC PGM=LIBR,PARM='DEFINE SUBLIB=NDMLIB.$CLIB'
/*
*
*****************************************************************
* CATALOG THE LIBDEF FOR Connect:Direct for VSE LIBRARY              *
*****************************************************************
*
// EXEC LIBR,PARM='MSHP'
 A S=IJSYSRS.SYSLIB
 CATALOG NDMLIBS.PROC DATA=YES R=Y
// DLBL IJSYSUC,'$CAT',,VSAM
// DLBL NDMLIB,'$HILQ.LIB',99/365,SD
// EXTENT  ,$VSVOL,1,0,$RTRK,$NTRKS
/*
// LIBDEF PROC,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF OBJ,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF SOURCE,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
// LIBDEF PHASE,SEARCH=(NDMLIB.$CLIB,NDMLIB.$SLIB)
/+
/*
/&
* $$ EOJ
```

Step 2–Load Installation Libraries to Disk

The Connect:Direct for VSE/ESA distribution tape contains files and data necessary to install and run the software. See Appendix B, *Tape Contents* for descriptions of the tape contents.

You can install the files and data in either of the following ways:

- ✦ Through the VSE/ESA Interactive Interface panels (Step 2a)
- ✦ Through MSHP (Step 2b)

Step 2a–MSHP Installation Using VSE/ESA Interactive Interface Panels

Note: To use this step, your target library must be in your system standard labels. To install these labels, see *JCL to Add Standard Labels* on page 26.

You must have IESEADM authority on the VSE/ESA interactive user interface to install Connect:Direct.

Use the following steps to install Connect:Direct for VSE/ESA through the VSE/ESA Interactive Interface panels.

Note: The panels shown in this document have been reprinted from the IBM VSE/ESA product with permission of IBM. © Copyright International Business Machines Corporation 1995.

1. From the VSE/ESA FUNCTION SELECTION menu, select **Option 1 Installation** and press **ENTER.**

```
IESADMSL.IESEADM          VSE/ESA FUNCTION SELECTION
                                                        APPLID: DBDCCICS
   Enter the number of your selection and press the ENTER key:

         1  Installation
         2  Resource Definition
         3  Operations
         4  Problem Handling
         5  Program Development
         6  Command Mode
         7  CICS-Supplied Transactions

 PF1=HELP                  3=SIGN OFF                          6=ESCAPE(U)
                             9=Escape(m)

 ==> 1                                                Path: 1
```

The INSTALLATION menu is displayed.

```
IESADMSL.IESEINST             INSTALLATION
                                                          APPLID: DBDCCICS
   Enter the number of your selection and press the ENTER key:

         1  Install Programs - V2 Format
         2  Install Programs - V1 Format
         3  Install Generation Feature
         4  IBM Service
         5  Install Network Tape



 PF1=HELP                   3=END        4=RETURN           6=ESCAPE(U)
                            9=Escape(m)

 ==> 1                                                Path: 1
```

2. Select **Option 1 Install Programs - V2 Format** and press **ENTER**.
   The INSTALL PROGRAMS - V2 FORMAT screen is displayed.

```
IESADMSL.IESEPROV        INSTALL PROGRAMS - V2 FORMAT
                                                          APPLID: DBDCCICS
   Enter the number of your selection and press the ENTER key:

         1  Prepare for Installation
         2  Install Program(s) from Tape



 PF1=HELP                   3=END        4=RETURN              6=ESCAPE(U)
                            9=Escape(m)

 ==> 1                                               Path: 11
```

3. Select **Option 1 Prepare for Installation** and press **ENTER**.
   The PREPARE FOR INSTALLATION screen is displayed.

```
INS$PRI2                 PREPARE FOR INSTALLATION

 Enter the required data and press ENTER.


TAPE ADDRESS.................. 5b0   Address of input tape unit (cuu). For
                                     valid addresses enter a "?".


              PF2=REDISPLAY  3=END
```

4. Enter the tape address for your input tape unit. For a list of valid addresses, enter **?**.
   When you have entered the tape address, press **ENTER**.

The JOB DISPOSITION screen is displayed.

```
SUB$PRO5                        JOB DISPOSITION

 Enter the required data and press ENTER.


JOB DESTINATION.............. 1          Enter 1 to submit the job to batch.
                                         Enter 2 to file in library.
                                        Enter 3 to do both.
JOB NAME..................... INSPRE     The name under which the job will be
                                        saved in VSE/ICCF.
PRIORITY..................... 9          Priority 0-9 for this job.
CLASS........................ 0          Changing * has no effect.
DISPOSITION.................. D          D,H,K or L. Changing * has no effect.
 JOB ACCOUNTING.............. ________        ________
HOLD LIST IN QUEUE........... 2          Enter 1 to hold output in list queue.
                                        Enter 2 to print output immediately
TIME EVENT SCHEDULING........ 2          Enter 1 if TIME EVENT SCHEDULING
                                        required, otherwise enter 2.
OTHER PARAMETERS............. 2          Enter 1 to change any other POWEr JOB
                                        parameters, otherwise enter 2.
 PF1=HELP       2=REDISPLAY  3=END
```

5. Type **1** for the job destination, and press **ENTER**.
6. This selection submits a job to VSE/ESA that displayed two prompts requiring operator input.
   - Mount the tape ("VSE OPTIONAL TAPE NUMBER 1") on the tape drive you specified previously. Type **0**, and press **ENTER**.
   - Indicate whether you have other program tapes. Enter **0 NO** and press **ENTER**.

```
SYSTEM:  VSE/ESA                  VSE/ESA 2.1                    USER:  SYS
                                                                TIME:  11:40:52
BG 0001 1Q47I   BG INSPRE 10055 FROM CSDVSE21(TOPP) , TIME=11:39:36
BG 0000 // JOB INSPRE  SCAN OPTIONAL PRODUCT TAPE
        DATE 05/29/97,CLOCK 11/39/38
BG 0000 * *
BG 0000 * *     PREPARE ADDITIONAL PROGRAM INSTALLATION
BG 0000 * *     -  SCAN PROGRAM TAPE
BG 0000 * *
BG 0000 IESI0091I PLEASE MOUNT TAPE LABELLED "VSE OPTIONAL TAPE NUMBER 1 "
BG 0000 IESI0092A MOUNT ON TAPE DRIVE 5B0 . WHEN READY, REPLY "END/ENTER"
BG-0000
0
BG 0000 IESI0090A ARE THERE ANY MORE OPTIONAL PROGRAM TAPES? YES/NO
BG-0000
0 no
BG 0000 EOJ INSPRE    MAX.RETURN CODE=0000
       DATE 05/29/97,CLOCK 11/40/52,DURATION   00/01/13
BG 0001 1Q34I   BG WAITING FOR WORK
F1 0001 1Q34I  LST WAITING FOR WORK ON 00E

 ==>
1=HLP 2=CPY 3=END 4=RTN 5=DEL 6=DELS 7=RED 8=CONT 9=EXPL 10=HLD   12=RTRV

 ACT_MSG: NOHOLD            PAUSE: 00  SCROLL: 1           MODE:  CONSOLE
```

After the prepare for installation job stream is submitted, the INSTALL PROGRAMS - V2 FORMAT screen is displayed again.

```
IESADMSL.IESEPROV         INSTALL PROGRAMS - V2 FORMAT
                                                          APPLID: DBDCCICS
   Enter the number of your selection and press the ENTER key:

         1  Prepare for Installation
         2  Install Program(s) from Tape


 PF1=HELP                    3=END        4=RETURN              6=ESCAPE(U)
                             9=Escape(m)
 JOB HAS BEEN SUBMITTED AS INSPRE.
 ==> 2                                                Path: 11
```

7. When the job completes, select **Option 2 Install Program(s) from Tape**, and press **ENTER**.

   The INSTALL ADDITIONAL PROGRAM(S) FROM TAPE screen is displayed.

```
INS$OPI1           INSTALL ADDITIONAL PROGRAM(S) FROM TAPE

 LIST OF PROGRAMS TO BE INSTALLED

 OPTIONS:  1 = INSTALL    2 = SKIP INSTALLATION

                                 LIBRARY   SUBLIBR.
     OPT        IDENTIFIER       NAME      NAME      SEQ.NO.  TAPE NO.

      1         C:D_3.2.00..BASE PRD2      PROD        1        1
      1         C:D_3.2.00..CICS PRD2      PROD        2        1
      _                          ________  ________
      _                          ________  ________
      _                          ________  ________
      _                          ________  ________
      _                          ________  ________
      _                          ________  ________
      _                          ________  ________


 PF1=HELP       2=REDISPLAY  3=END                    5=PROCESS

 ALL SCANNED PRODUCTS NEED A MINIMUM OF 19899 LIBRARY-BLOCKS.
```

8. To install the base Connect:Direct for VSE/ESA:
   a. Enter **1** in the Option column next to the C:D_3.2.00 . . BASE identifier.
   b. Change the library and sublibrary specifications to identify the library and sublibrary where Connect:Direct for VSE/ESA will reside.

      This library must be defined in your system standard labels. If it is not, refer to *JCL to Add Standard Labels* on page 26.
9. If you want to also install the Connect:Direct CICS Interface:
   a. Enter **1** in the Option column next to C:D_3.2.00..CICS. identifier.

      The status line identifies the number of library blocks required for the installation.
   b. Change the library and sublibrary specifications to identify the library and sublibrary where the Connect:Direct CICS Interface will reside.

      This library must be defined in your system standard labels. If it is not, refer to *JCL to Add Standard Labels* on page 26.
10. Press **PF5** to continue.

    You are prompted to save or erase the list of programs.

```
INS$OPI2           INSTALL ADDITIONAL PROGRAM(S) FROM TAPE

 Enter the required data and press ENTER.


KEEP LIST OF PROGRAMS..... 2          In the previous panel, you identified
                                      those programs in the list of pro-
                                      grams which you want to install at
                                      this time.  You may save this list
                                      and use it for programs which you
                                      plan to install later.

                                       1 Save the list
                                       2 Erase the list

 PF1=HELP       2=REDISPLAY  3=END
  ALL SELECTED PRODUCTS NEED A MINIMUM OF 19899 LIBRARY-BLOCKS
```

11. Type **2** to erase the list and press **ENTER**.

    The INSTALL ADDITIONAL PROGRAM(S) FROM TAPE screen prompts you with the tape address entered previously.

```
INS$ODI2           INSTALL ADDITIONAL PROGRAM(S) FROM TAPE

 Enter the required data and press ENTER.


TAPE ADDRESS.................. 5B0       Address of the input tape unit (cuu).
                                        Enter a "?" to get all valid tape
                                        addresses.


              PF2=REDISPLAY  3=END
```

12. Press **ENTER** if this information is accurate.

    The JOB DISPOSITION screen displays the information that you used previously on this screen.

```
SUB$PRO5                        JOB DISPOSITION

 Enter the required data and press ENTER.

JOB DESTINATION.............. 1       Enter 1 to submit the job to batch.
                                     Enter 2 to file in library.
                                     Enter 3 to do both.
JOB NAME..................... OPI     The name under which the job will be
                                     saved in VSE/ICCF.
PRIORITY..................... 9       Priority 0-9 for this job.
CLASS........................ 0       Changing * has no effect.
DISPOSITION.................. *       D,H,K or L. Changing * has no effect.
JOB ACCOUNTING............... ________      ________
HOLD LIST IN QUEUE........... 2       Enter 1 to hold output in list queue.
                                     Enter 2 to print output immediately
TIME EVENT SCHEDULING........ 2       Enter 1 if TIME EVENT SCHEDULING
                                     required, otherwise enter 2.
OTHER PARAMETERS............. 2       Enter 1 to change any other POWER JOB
                                     parameters, otherwise enter 2.
 PF1=HELP       2=REDISPLAY  3=END

 A  JOB MANAGED SEQUENCE IS GENERATED => JOBNAME-PREFIX "DTR" IS USED
```

13. Change the job disposition to Option **1**.

    When the installation jobstream is submitted, the INSTALL PROGRAMS - V2 FORMAT screen is displayed.

```
IESADMSL.IESEPROV         INSTALL PROGRAMS - V2 FORMAT
                                                          APPLID: DBDCCICS
   Enter the number of your selection and press the ENTER key:

         1  Prepare for Installation
         2  Install Program(s) from Tape

 There is at least one message waiting for you to retrieve it.


PF1=HELP                   3=END        4=RETURN                6=ESCAPE(U)
                             9=Escape(m)
 JOB HAS BEEN SUBMITTED AS OPI.
 ==>                                                 Path: 11
```

    After the submitted jobstream executes, Connect:Direct is installed.

14. Continue with *Step 3–Catalog and Link-Edit DMGRATX* on page 27.

JCL to Add Standard Labels

If you are installing Connect:Direct for VSE/ESA through the VSE/ESA Interactive Interface panels, your target library must be in your system standard labels. Do one of the following to add or delete standard labels to the VSE system standard label area:

- Punch the job CDSTDLBL.S from the Connect:Direct sample library
- Submit the following JCL

```
* $$ JOB JNM=CDSTDLBL,CLASS=0,DISP=D,NTFY=YES,USER='Update C:D Libs '
* $$ LST CLASS=Q,DISP=L,PRI=9,LST=SYSLST
// JOB CDSTDLBL Update VSE System Standard Label Area
* +---------------------------------------------------------------+
* + CDSTDLBL - JOB - 10/06/97 - Connect:Direct Version 3.2.00     +
* +---------------------------------------------------------------+
* | Use this job to add or delete user defined library to your VSE |
* | System Standard Label area.  Update this job with your data set |
* | name, volume name, and VSAM catalog where required.           |
* |                                                               |
* | Note: This job can only be executed in BG.                    |
* +---------------------------------------------------------------+
/. DELLBL ........................... Delete Standard Label
// OPTION STDLABEL=DEL
   NDMLIB
/*
/. ADDLBLB ........................... Add BSAM Standard Label
// OPTION STDLABEL=ADD
// DLBL NDMLIB,'$hilq.LIB',2099/365,SD
// EXTENT ,$vsvol,1,0,$rtrt,$ntrks
/*
/. ADDLBLV ........................... Add VSAM Standard Label
// OPTION STDLABEL=ADD
// DLBL NDMLIB,'$hilq.LIB',,VSAM,CAT=$catname
/*
/&
* $$ EOJ
```

After creating the labels, return to *Step 2a–MSHP Installation Using VSE/ESA Interactive Interface Panels* on page 19 to resume installing Connect:Direct for VSE/ESA.

Step 2b–MSHP Installation Using a User-Tailored Jobstream

Note: Only perform this step if you did not perform Step 2a.

Use the following JCL for your installation. Type the appropriate JCL, editing it as follows to reflect your installation, and execute it.

- Change *$SLIB* to the sublibrary name selected.
- Change *$CLIB* to the sublibrary name selected.
- Change *$CUU* to the address of the tape drive on which the distribution tape will be mounted.

When this job is submitted, MSHP loads all of the distribution libraries from tape and repositions the tape at the load point.

```
// ASSGN SYS006,$CUU
// MTC REW,SYS006
// EXEC PROC=NDMLIBS
// EXEC MSHP,PARM='PIDSTACKED'
         INST PRODUCT FROMTAPE                  -
         ID='C:D_3.1.00..BASE'                  -
         PRODUCTION INTO=NDMLIB.$SLIB
         INST PRODUCT FROMTAPE                  -
         ID='C:D_3.1.00..CICS'                  -
         PRODUCTION INTO=NDMLIB.$CLIB
/*
/&
```

Step 3–Catalog and Link-Edit DMGRATX

The DMGRATX module verifies Connect:Direct software key information. Only perform this step if:

- You are installing Connect:Direct for VSE/ESA for the first time, or
- Your DMGRATX module processing date has expired and you received a new DMGRATX module from Sterling Commerce.

Omit this step for upgrades.

To catalog and link-edit this module, perform the following steps:

1. Extract the library member CATLRATX.PROC that was cataloged into the Connect:Direct distribution library during *Step 2–Load Installation Libraries to Disk.*
2. Edit the job stream as indicated in the comments at the beginning of the job stream.
3. Add appropriate VSE/POWER JECL and VSE/ESA JCL according to your data center standards and submit the job.
4. Replace *$CUU* with the address of the tape drive on which the distribution tape is mounted.
5. Replace *$SLIB* with your Connect:Direct sublibrary name. This job is in CATLRATX.PROC.

```
// EXEC PROC=NDMLIBS
/*
// ASSGN SYS004,$CUU
// MTC REW,SYS004
// MTC FSF,SYS004,23
// ASSGN SYS019,SYSIPT
// ASSGN SYSIPT,SYS004
// EXEC LIBR,PARM='MSHP; A S=NDMLIB.$SLIB'
/*
 ASSGN SYSIPT,SYS019
// LIBDEF PHASE,CATALOG=library.sublibrary
// OPTION CATAL
 PHASE DMGRATX,*
 INCLUDE DMGRATX
/*
// EXEC LNKEDT,PARM='MSHP'
```

Step 4–Customize the Connect:Direct for VSE/ESA CICS Interface

Continue with the procedures in Chapter 4, *Customizing the Connect:Direct CICS Interface* to customize the Connect:Direct for VSE/ESA interface.

Installing an Updated Version of Connect:Direct for VSE/ESA

The following steps describe how to install an updated version of Connect:Direct for VSE/ESA over an existing one. The steps in a update installation are:

- ✦ Backing up existing files
- ✦ Removing the Connect:Direct CICS/VSE component from the VSE MSHP system history file
- ✦ Loading the installation libraries
- ✦ Customizing the CICS interface

Step 1–Back Up the Existing Connect:Direct CICS Library and VSE System History File

Backup your existing Connect:Direct for VSE/ESA installation before installing an updated version. To perform this:

1. Create the following CDBKPDFH.JCL file or download it from the Sterling Commerce Support on Demand Web site:

```
* $$ JOB JNM=MSHPBKP1,CLASS=0,DISP=D,PRI=3,USER=‘BKUP V00VTB PROD’
* $$ LST CLASS=A,LST=SYSLST,DISP=D,PRI=3,USER='BKUP V00VTB PROD'
* $$ PUN CLASS=A,PUN=SYSPCH,DISP=D,PRI=3,USER='BKUP V00VTB PROD'
// JOB MSHPBKP1 CDLEVEL3 BACK-UP CONNECT:DIRECT FOR CICS/VSE PRODUCT
* +-----------------------------------------------------------------+
* | MSHPBKP1 - JOB - 01/10/2006 - GGREG1 - STERLING COMMERCE VSE    |
* +-----------------------------------------------------------------+
* | CREATED NEW JOB FOR CICS/VSE BACKOUT/CHECKPOINT.                |
* +-----------------------------------------------------------------+
* | 01/10/2006 - GGREG1 - UPDATED JOB FOR CICS/TS BACKOUT/RESTORE.  |
* | 09/15/2005 - GGREG1 - CREATED NEW JOB FOR CICS/TS SUPPORT.      |
* +-----------------------------------------------------------------+
/. MSHP0001 ......................... BACK-UP CICS/VSE PRODUCT
// DLBL IJSYSHF,'VSE.SYSTEM.HISTORY.FILE',2099/366,SD
// EXTENT SYSCAT,$VOLSER,1,000,$START,$END
// TLBL CDBKUP,'BACKUP.V00VTB.X'
// ASSGN SYS006,3490E
*        +-----------------------------------------------------------+
*        | MOUNT A NON-CONTROLLED STANDARD LABEL SCRATCH TAPE ON     |
*        | THE ASSGN FOR SYS006.                                     |
*        +-----------------------------------------------------------+
// PAUSE GGGDEL000D EOB PAUSE OR ENTER CANCEL, SEE MESSAGES ABOVE
// MTC REW,SYS006
// EXEC PGM=MSHP,SIZE=2M
   BACKUP PRODUCT=(V00VTB) TLABEL=CDBKUP ID='BACKUP.V00VTB' PROD
/*
// MTC RUN,SYS006
/&
* $$ EOJ
```

2. Update the DLBL and EXTENT information for your VSE system or user history file (IJSYSHF).
3. Verify the correct generic device name in the ASSGN for SYS006.
4. Submit the JCL

Step 2–Remove the Connect:Direct CICS/VSE Component

To remove the Connect:Direct component from the VSE MSHP system history file:

1. Create the following CDDELDFH.JCL file or download it from the Sterling Commerce Support on Demand Web site:

```
* $$ JOB JNM=CDDELDFH,CLASS=0,DISP=H,PRI=3,USER='DEL C:D CICS"
* $$ LST CLASS=Q,DISP=L,PRI=3,LST=SYSLST
// JOB CDDELDFH CDLEVEL3 REMOVE CONNECT:DIRECT/VSE CICS/VSE COMPONENT
* +-----------------------------------------------------------------+
* | CDDELDFH - JOB  - 09/15/2005 - GGREG1 - CONNECT:DIRECT VSE 3.2.0 |
* +-----------------------------------------------------------------+
* | THIS JOB WILL REMOVE THE CONNECT:DIRECT FOR VSE CICS/VSE MSHP    |
* | COMPONENT FROM THE SYSTEM HISTORY FILE.  THIS IS TO PREPARE FOR  |
* | THE INSTALLATION OF CONNECT:DIRECT FOR VSE CICS/TS SUPPORT.      |
* +-----------------------------------------------------------------+
* | NOTE: UPDATE THE DLBL AND EXTENT CARDS FOR IJSYSHF TO POINT TO   |
* |       YOUR VSE SYSTEM/USER HISTORY FILE.                         |
* +-----------------------------------------------------------------+
// DLBL IJSYSHF,'VSE.SYSTEM.HISTORY.FILE',2099/366,SD
// EXTENT SYSCAT,DOSRES,1,000,$start,$end
* +--- THIS JOB WILL DELETE THE CONNECT:DIRECT FOR VSE CICS/VSE ---+
* +--- COMPONENT FROM MSHP, ENTER CANCEL OR EOB THE PAUSE BELOW ---+
* +--- EOB PAUSE AFTER DLBL/EXTENT FOR IJSYSHF UPDATED         ---+
// PAUSE GGGDEL000D EOB PAUSE OR ENTER CANCEL, SEE MESSAGES ABOVE
// EXEC PGM=MSHP,SIZE=1M
   REMOVE V00VTB
/*
/&
* $$ EOJ
```

2. Update the DLBL and EXTENT information for your VSE system or user history file (IJSYSHF).
3. Submit the JCL

Step 3–Load Installation Libraries to Disk

The Connect:Direct for VSE/ESA distribution tape contains files and data necessary to install and run the software.

This step is identical whether you are installing Connect:Direct for VSE/ESA for the first time or installing an update. See page 19 for the procedures to load the installation libraries.

Step 4–Customize the Connect:Direct for VSE/ESA CICS Interface

Continue with the procedures in Chapter 4, *Customizing the Connect:Direct CICS Interface* to customize the Connect:Direct for VSE/ESA interface.

Chapter 4

Customizing the Connect:Direct CICS Interface

Customizing the Connect:Direct CICS Interface for VSE/ESA software requires the following steps:

- Step 1–Load the Connect:Direct CICS Interface Configuration File
- Step 2–Catalog COPYNC
- Step 3–Modify CDCSDUP.PROC member
- Step 4–Edit the CICS tables
- Step 5–Start CICS
- Step 6–Activate Connect:Direct CICS Interface
- Step 7–Sign on to Connect:Direct CICS Interface
- Step 8–Verify successful Connect:Direct CICS Interface installation

Step 1–Load Connect:Direct CICS Interface Configuration File

1. Retrieve member CONFGLD.PROC from the Connect:Direct library and edit it as shown in the comment section of CONFGLD.PROC.

   CONFGLD loads the configuration file. For more information on the keywords and parameters used, see *Configuration File Definitions* on page 35.

2. Submit CONFGLD to VSE/ESA for execution.

Step 2–Catalog COPYNC

1. Retrieve member CATCOPY.PROC from the Connect:Direct sublibrary and edit as shown in the comment section of CATCOPY.PROC. CATCOPY catalogs the Process COPYNC to the Connect:Direct sublibrary where Processes are stored.
2. Submit CATCOPY to VSE/ESA for execution.

Step 3–Define CICS/TS RDO Groups

During installation the sample library member CDCSDUP.PROC is cataloged to the Connect:Direct library.

```
* ++ JOB JNM=CDCSDUP,CLASS=0,DISP=D,PRI=3,SYSID=N
* ++ LST CLASS=Q,DISP=L,PRI=3,LST=SYSLST,USER='C:D 3200 CICS/TS'
** JOB CDCSDUP  ADD C:D 3.2.00 CICS/TS DEFINITIONS TO CICS
/. DFHCSDUP ......................... CICS/TS CSD UTILITY PROGRAM
* +---------------------------------------------------------------+
* | CDCSDUP  - JOB - 08/23/2005 - GGREG1 - STERLING COMMERCE VSE  |
* +---------------------------------------------------------------+
* | MM/DD/YYYY - USERID - X                                       |
* | 08/23/2005 - GGREG1 - CREATED JOB FOR CICS/TS SUPPORT C:D 3.2.00|
* +---------------------------------------------------------------+
* | This job can be executed to load the Connect:Direct for VSE/ESA |
* | CICS/TS FCT, PCT and PPT definitions into the DFHCSD (CICS    |
* | System Definition) dataset.  If you perform this step, it's not |
* | necessary to generate and load the old macro tables with the  |
* | exception of the DCT, PLT and SIT overrides as necessary.     |
* |                                                               |
* | Update the POWER JECL above and the VSE datasets named below  |
* | to match your installation's standards.  Edit the VSE/POWER   |
* | JECL and VSE JCL to remove the comments & replace with correct |
* | statements (e.g. "* $$", "/*", "/&", etc.                     |
* +---------------------------------------------------------------+
/. DFHCSDUP ......................... CICS/TS CSD MAINTENANCE
** DLBL DFHCSD,'CICS.CSD',,VSAM,CAT=VSESPUC
** EXEC DFHCSDUP,SIZE=1M
* ++ SLI MEM=CDFCT.S,S=CD1.VSEC3200
* ++ SLI MEM=CDPPT.S,S=CD1.VSEC3200
* ++ SLI MEM=CDPCT.S,S=CD1.VSEC3200
ADD GROUP(CDFCT) LIST(CDLIST)
ADD GROUP(CDPCT) LIST(CDLIST)
ADD GROUP(CDPPT) LIST(CDLIST)
**
*&
* ++ EOJ
```

1. Make the following modifications to the job stream:

   - Change *** ++** to *** $$** on the VSE/POWER JECL statements.
   - Change ****** to // on the VSE JCL statements.
   - Change the VSE sublibrary name on the SLI statements to point to the Connect:Direct CICS library.
   - Change the VSE JECL/JCL job names to conform with your shop standards.
   - Change the VSE JOB card to include your accounting or user information, if required.
   - Change the data set (file-id) name of the CICS system definition (DFHCSD) file.

2. Submit CDCSDUP.PROC to VSE/ESA for execution.

   This job creates the required program, transaction and file definitions, and Resource Definition Groups (RDO) entries for the Connect:Direct for VSE/ESA CICS Interface.

Step 4–Edit the CICS Tables

You must update two CICS tables to include new entries for the Connect:Direct for VSE/ESA CICS Interface:

1. Extract the DCT and PLT table entries from the Connect:Direct source library.
2. Edit the following tables to your site requirements:

Table	Description
NDCDCT.A (Destination Control Table)	This table contains the definition of extra-partition command log destination (CDL), which is written as output to a data set or the SYSOUT queue with the DLBL name CDCLOG. You must create a destination control table to use the CICS interface print log table. Also, add the appropriate print DLBL and EXTENT job control statements to your CICS address space initialization deck.
NDCPLT.A (Program Load Table)	This table contains a program that starts the Connect:Direct CICS Interface software at CICS initialization. Include this program in your PLTPI table to start Connect:Direct automatically. If you do not use this program, perform the following steps to start Connect:Direct manually: ◆ Access the ADMINISTRATION INTERFACE screen. ◆ Select option **A**.

3. Submit the updated tables to the assembler.

Step 4–Start CICS

To start CICS, use the CICSJCL.S member as an example, and complete the following steps:

1. Add the RDO groups to your startup resource definition list.
2. Copy the necessary DLBL statements from CICSJCL to your designated CICS startup JCL file.
3. Edit your CICS startup JCL file to change the high-level qualifiers and data-set names in accordance with your site requirements.
4. Submit the CICS startup JCL job stream for execution.

Note: If you use the RDO groups to define the programs and transactions, you must perform a cold start of CICS to bring the new definitions into the system, or install the group by using the CEDA command.

Step 5–Activate the Connect:Direct CICS Interface

Note: Perform this step only if Connect:Direct is not in the startup program load table (PLT).

After starting CICS, start the interface as follows:

1. Type in the Connect:Direct administration transaction code (CDA), and press **ENTER**.
2. Select option **I** from the PRIMARY MENU, and press **ENTER** to go to the INTERFACE screen.
3. From the INTERFACE screen, select option **A**, and press **ENTER**. When the message INTERFACE HAS BEEN STARTED appears, press **ENTER** to refresh the status information and wait until ACTIVE appears in the INTERFACE STATUS field and a transaction number appears in the MONITOR TASK NUMBER field.
4. Press **PF3** to return to the PRIMARY MENU, select option **N** on the PRIMARY MENU, and press **ENTER** to go to the NODE STATUS screen.
5. On the NODE STATUS screen, for each node you wish to activate, select the line command **A** in the field to the far left of each NODE STATUS line. When a date and time appear under the SESSION DATE/TIME heading, the node is activated.

Note: The node may already be active if the message SUPPRESS ConnectION AT STARTUP=N appears on the DTF NODE screen during the installation procedures.

At this point, you can press **PF3** several times to exit the CDA transaction and then sign on to Connect:Direct.

Step 6–Sign On to Connect:Direct CICS Interface

The procedure for signing on to Connect:Direct CICS Interface is as follows:

1. Type the Connect:Direct transaction code (CD), and press **ENTER**.
2. Type your Connect:Direct CICS Interface USERID, PASSWORD, and the name of an active node in the fields provided, and press **ENTER**.

Step 7–Verify Successful Connect:Direct CICS Interface Installation

The procedure for verifying the success of your installation is:

1. At the PRIMARY MENU, select the CF option, and press **ENTER** to perform a COPYFILE operation.
2. On the COPY FILE BETWEEN NODES screen, a list of nodes appears in the top center of the screen. The highlighted node in the list should be the one you specified at SIGNON time. In the SENDING NODE field, type in the number of your node from the node list, and press **ENTER**. The NODE NAME and ENV fields will contain your NODE NAME and environment. Press **ENTER** to continue.
3. When you go to the COPYFILE - SENDING FILE screen, type in the name of an existing file on your disk in the SENDING DSNAME field, and press **ENTER**.
4. On the COPYFILE - RECEIVING FILE screen, type in a valid file name in the RECEIVING DSNAME field, and press **ENTER**.
5. When you return to the COPY FILE BETWEEN NODES screen, you should see a PROCESS NUMBER *XXXXXX* message in the lower right portion of the screen. At this point, you have just submitted a Process to copy a file from one data set to another through your local Connect:Direct node.
6. To check on the Process that you just submitted, press **PF3** to return to the PRIMARY MENU, select option SP for SELECT PROCESS, and press **ENTER**.
7. On the SELECT PROCESS screen, select option **O** to go to the OPERATOR TABLE screen. Type in your Process number in the first PROCESS NUMBER field, and press **ENTER**. You should get a screen containing summary information about your Process.

Configuration File Definitions

The following parameters are used in conjunction with procedure CONFGLD to load the Configuration File.

CONTROL.PARMS

The control parameters define Connect:Direct CICS Interface operational characteristics. If you intend to use different CICS transaction codes for Connect:Direct, indicate these changes by coding a new CICS.TRANSACTION.CODE parameter. Code the parameter at this time. If these codes are changed, the supplied transaction definitions must also be changed.

The following is an example of CONTROL.PARMS.

```
CONTROL.PARMS =(AUTO.SIGNON = YES                  -
         SIGNON.REENTRY = NO                       -
         CONNECT:Direct.EQ.CICSID = YES            -
         SKIP.SIGNON.PANEL = NO                    -
         CICS.TRANSACTION.CODE = (CDM,CDI,CDP)     -
         CST.RETRY.INTERVAL = 000500               -
         SESSION.RETRY.INTERVAL = 000100           -
         ESF.RETRY.INTERVAL = 001500               -
         WORK.RETRY.INTERVAL = 000015              -
         MONITOR.INTERVAL = 000030                 -
         INACTIVE.INTERVAL = 003000                -
         MAX.SIGNON = 0100                         -
         MAX.TASKS = 02                            -
         MENU.ENTRIES = (CF,SB,SS,SP,SD,SN,MD))
```

Entry Fields

The entry fields in the control parameters definitions in the previous figure are defined in the following paragraphs.

Field	Description
AUTO.SIGNON	specifies whether Connect:Direct CICS Interface is to sign a user on automatically if a signon defaults record is defined with a CICS user ID matching the user ID specified by the user at CICS signon. The signon defaults record for that CICS user must specify a valid Connect:Direct user ID, password, and DTF node name. If Y is specified, auto-signon is used if the required information is available; if N is specified, auto-signon is not used. If you do not specify the AUTO.SIGNON parameter during installation, it defaults to Y.
SIGNON.REENTRY	specifies whether Connect:Direct is to remember that a CICS user has previously signed on to the IUI. If this feature is enabled, a user can exit Connect:Direct to perform some other CICS function and reenter without having to sign on to Connect:Direct again. Signon reentry is not performed for a user that signs off of CICS and signs back on again between Connect:Direct sessions and is only in effect for that user after the first signon to Connect:Direct. If Y is specified, signon reentry will be performed when appropriate; if N is specified, signon reentry will not be available. If you do not specify the SIGNON.REENTRY parameter during installation, it defaults to N.
Connect:Direct.EQ.CICSID	specifies whether Connect:Direct will deny a signon attempt if the Connect:Direct user ID does not match the CICS user ID specified at CICS signon. If Y is specified, a signon will be rejected if the IDs do not match; if N is specified, no check will take place. If you do not specify the Connect:Direct.EQ.CICSID parameter during installation, it will default to Y.

Field	Description
SKIP.SIGNON.PANEL	specifies an optional signon interface that does not require users to reenter a user ID and password. Validity of this approach depends upon a secure environment existing prior to the user's selecting Connect:Direct; for example, user ID/password validation by a security subsystem upon original signon to the system. You can enable this option by setting SKIP.SIGNON.PANEL=YES in the control record. To enable this option, you enter **Y** for this parameter on the control record parameter record creation screen. You can set the control record also by making the SKIP.SIGNON.PANEL=Y entry on the CONTROL RECORD UPDATE screen. Defaults to **N**.
CICS.TRANSACTION.CODE	contains three entries which specify 1-4-character transaction codes to be used for the Connect:Direct monitor transactions. **First Entry:** The monitor transaction scans for pending requests from users and for work completed by the Connect:Direct software. If you do not specify the MONITOR TRANSACTION CODE during installation, it defaults to CDM. If you change this parameter, you must also change the supplied transaction definition. **Second Entry:** If you use the startup PLT to activate the Connect:Direct software at CICS initialization, this transaction is submitted to run immediately following the CICS initialization processing. If you do not specify the STARTUP TRANSACTION CODE parameter during installation, it will default to CDI. If you change this parameter, you must also change the supplied transaction definition. **Third Entry:** This transaction is attached to the CICS printer in response to Connect:Direct print requests. If you do not specify the PRINTER TRANSACTION CODE parameter during installation, it will default to CDP. If you change this parameter, you must also change the supplied transaction definition.
CST.RETRY.INTERVAL	specifies the time interval (in hours, minutes and seconds) allowed to pass between attempts to restart an abended CST (controller subtask). The controller subtask is an operating system subtask that monitors the worker subtasks responsible for interaction with the active DTF defined in DTF NODE records, such as DTFs to which users can sign on. If you do not specify the CST.RETRY.INTERVAL during installation, it defaults to 5 minutes (000500 or 00:05:00)
SESSION.RETRY.INTERVAL	specifies the time interval (in hours, minutes and seconds) that can pass between attempts to establish a VTAM session with a DTF defined in a DTF NODE record, such as a DTF to which users can sign on directly. If you do not specify the SESSION.RETRY.INTERVAL parameter during installation, it defaults to 1 minute (100 or 00:01:00).
ESF.RETRY.INTERVAL	defines the time interval (in hours, minutes and seconds) between attempts to establish a primary session with a DTF when, during a prior attempt, the DTF was not active and the node was activated in extended submit facility (ESF) mode. A node activates in ESF mode only if the DTF it defines supports ESF. If you do not specify the ESF.RETRY.INTERVAL parameter during installation, it defaults to 15 minutes (001500 or 00:15:00)

Field	Description
WORK.RETRY.INTERVAL	specifies the time interval (in minutes and seconds) between the time a unit of work is submitted but cannot be placed in the work queue for a particular node and the time that unit of work is cancelled. The size of the work queue for a particular node is governed by the ENTRIES IN WORK QUEUE parameter in the DTF NODE record. If you do not specify the WORK.RETRY.INTERVAL parameter during installation, it defaults to 15 seconds (0015 or 00:00:15) Default: 15 minutes (001500 or 00:15:00)
MONITOR.INTERVAL	contains the time interval, expressed as seconds (SS), between scans for pending work by the Connect:Direct CICS Interface monitor transaction. The monitor watches all Processes, queues, tasks, and task lengths and regulates the flow of tasks in the system to ensure that any particular task does not monopolize the computer resources. When all Processes and tasks are completed, the monitor waits (sleeps) for the specified interval before rescanning the queues. If you do not specify the MONITOR. INTERVAL parameter during installation, it defaults to 30 seconds (00:00:30).
INACTIVE.INTERVAL	specifies the amount of time (in hours, minutes and seconds) that a worker subtask (WST) can be inactive before it is detached by the controller subtask (CST). If you do not specify the INACTIVE.INTERVAL parameter during installation, it defaults to 30 minutes (003000 or 00:30:00). Default: 30 seconds (000030 or 00:00:30)
MAX.SIGNON	contains the maximum number of users for Connect:Direct and reflects the relative size of the signon table. If you do not specify the MAX SIGNON parameter during installation, it defaults to 100 entries.
MAX.TASKS	contains the maximum number of simultaneous worker subtasks that can be attached in the CICS address space. This field should be specified as the total of the worker subtask counts for all DTF NODE records defined to Connect:Direct. The MAX.TASKS parameter must be specified during installation; the default is 2.
MENU.ENTRIES	defines which options are available on the PRIMARY MENU for all users. You can make these options available by including them in the list. **CF** - COPY FILE **SB** - SUBMIT PROCESS **SS** - SELECT STATISTICS **SP** - SELECT PROCESS **SD** - SIGNON DEFAULTS **SN** - CHANGE SIGNON **MD** - MESSAGE DISPLAY

IUI.NODE (DTF Node Records)

The IUI.NODE defines the characteristics of how Connect:Direct CICS Interface accesses a Connect:Direct transfer facility node. The following is an example of IUI.NODE.

```
IUI.NODE =    (AUTOSTART = NO              -
          CICSID = CICSID                  -
          ESF = YES                        -
          MAX.WORK.QUEUE = 008             -
          NETDD = DMNETMP                  -
          NODE = DEFAULT.NDM.NODE          -
          TDLIMIT = 00800                  -
          VTAM.SESSIONS = 02               -
          WORRY.TIME = 000200)
```

Entry Fields

The entry fields used in the IUI.NODE example are defined in the following paragraphs.

Field	Description
AUTOSTART	This 1-character field contains the Y or N toggle for startup connections at the time of CICS initialization. If the field contains Y, the connection between the specified DTF node and the Connect:Direct system is suppressed when CICS is started. If the field contains N, then the connection is made. The default is N.
CICSID	This 8-character field contains the dummy USERID for establishing the initial session between Connect:Direct and the DTF name entered in the DTF NODE NAME field. The default is CICSID.
ESF	This 1-character field contains the toggle for ESF signon allowance. If the field contains Y, you are authorized to signon to the Connect:Direct extended submit facility (ESF) for this node. If the field contains N, you are not authorized. Individual ESF signon allowances are set in the SIGNON DEFAULTS screen. The default is Y.
MAX.WORK.QUEUE	This 3-character field contains any positive number between 000 and 999, inclusive, to specify the limit of entries in the work queue. The default is a value two times the MAXIMUM WORKER SUBTASKS specification (Maximum Worker Subtasks x 2). The default is 2.
NETDD	This 7-character field contains the DLBL name of the network map for the local node. The default is DMNETMP. The NETMAP DLBL appears in the file control table and in the CICS startup JCL. You must have a NETMAP file for each DTF node, and you must have a DTF node record defined for each node that you want to sign on to. Default is DMNETMP.
NODE	This 16-character field contains the name of the local Connect:Direct data transmission facility.
TDLIMIT	This 5-character field contains any positive number between 00001 and 99999, inclusive, to specify the byte limit of user-generated output records, in response to SELECT PROCESS and SELECT STATISTICS requests. See the *Select Process* and *Select Statistics* chapters in the *Connect:Direct for VSE/ESA User's Guide* for CICS. The default is a limit of 800 80-byte records.

Field	Description
VTAM.SESSIONS	This 2-character field contains any positive number between 00 and 99, inclusive, to specify the limit of subtasks generated to service Connect:Direct requests. The default is 2.
WORRY.TIME	This 4-character field contains time interval, expressed as minutes and seconds (MMSS), between system initiation of a task and the display of a SLOW RESPONSE NOTIFICATION alert message. The default is two minutes (0200 or 00:02:00).

NETWORK.NODE

NETWORK.NODE provides a description of the DTF node displayed during COPYFILE functions. The following is an example of NETWORK.NODE.

```
NETWORK.NODE = (DESC = `VSE/ESA DATAMOVER'                              -
                ENVIRONMENT = VSE/ESA                                   -
                NODE = DEFAULT.NDM.NODE)
```

Entry Fields

Field	Description
DESC	This 36-character field contains the user-defined node description of the name entered in the NODE NAME field.
ENVIRONMENT	This two-character field contains the node type number. Currently, the following node type numbers are valid: 1 for z/OS 2 for VM 3 for VSE 4 for VMS 5 for HP Nonstop 6 for Windows 95 7 for OS/2 8 for OS/400 9 for UNIX 10 for NetWare 11 for Windows 12 for MSP 13 for MVS
NODE	This 16-character field contains a valid node name.

Chapter 5

Preparing VTAM Definitions

Before you bring up Connect:Direct, the VTAM application definitions must be active, the mode table entries must be completed, and the cross-domain resources must be active. This step explains how to set up VTAM definitions for Connect:Direct.

The VTAM definitions which may be required for each node follow. The member name of each sample is listed in parentheses. The sample definitions are in the Connect:Direct base product sublibrary as source members of type **V**.

- VTAM definitions for Connect:Direct DTF (NDMAPPL)
- VTAM definitions for IUI or batch interface (NDMIAPPL)
- VTAM definition for PNODE=SNODE, also known as loop-back, processing (NDMAPPL)
- VTAM definition for program operator application interface
- Mode table used with Connect:Direct (NDMMODET)
- Network map (NDMMAP01)
- Cross-domain resource manager node (NDMCDRM)
- Cross-domain resource definition for other nodes (NDMCDRSC)

Refer to *Sample VTAM Definitions* on page 53 for sample VTAM APPLID definitions.

If you are setting up VTAM definitions for mainframe-to-PC-only connections, disregard the discussions of multiple MVS, VM, MSP, or VSE/ESA sites within the Connect:Direct network and VTAM cross-domain definitions, except as applicable to Connect:Direct for MS-DOS.

Procedure

Defining local and remote Connect:Direct nodes is a four-part procedure:

1. Define the APPLID of the local Connect:Direct and multiple APPLIDs for the interactive and batch users on the same node. The NDMAPPL and NDMIAPPL example definitions can be found as a source member of type **V**.
2. Define the mode table entries to be used with each APPLID. The NDMMODET example definition can be found as a source member of type **V**.

3. Define the cross-domain resource manager minor nodes. The NDMCDRM example definition can be found as a source member of type **V**.
4. Define the cross-domain resources. The NDMCDRSC example definition can be found as a source member of type **V**.

Note: Refer to the appropriate non-370 platform documentation for their correct logmodes or to *Sample VTAM Definitions* on page 53.

Define APPLID of Local DTF

Define the APPLID of the local Connect:Direct DTF. An example APPLID definition of the local DTF follows. The example is located in the member NDMAPPL.

The following figure shows a VTAM application definition for the Connect:Direct DTF.

```
CDAPPL1  APPL  ACBNAME=CDAPPL1, VTAM APPLICATION ID             *
          APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS       *
          AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                  *
          EAS=n,            APPROXIMATE # OF CONCURRENT SESS   *
          MODETAB=NDMTAB,   MODE TABLE NAME                    *
          SONSCIP=NO,       NO UNBIND IN SCIP EXIT             *
          VPACING=n,        RECEIVE PACING                     *
          DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                   *
          PARSESS=YES,      PARALLEL SESSIONS CAN BE USED      *
          DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS     *
          DMINWNL=n,        # OF LOCAL CONTENTION WINNERS      *
          DMINWNR=n,        # OF REMOTE CONTENTION WINNERS     *
          AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS      *
          DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS       *
          DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS  *
          LMDENT=n          SIZE OF HASH TABLE
```

Recommended settings are as follows:

- The PARSESS=YES parameter is required.
- APPC=YES allows LU6.2 support and is required.
- Set AUTOSES to **1** if you will use this DTF in a mixed environment of sending and receiving files. Set AUTOSES to **0** if you will use this DTF primarily to receive files.

Note: You can still use this DTF to send files if you have AUTOSES set to **0**.

- DDRAINL=ALLOW allows change number of sessions (CNOS) to drain sessions.
- Set DMINWNL to a value that is no larger than one-half the value of DSESLIM.
- Set DMINWNR to a value that is no larger than one-half the value of DSESLIM.
- DRESPL=ALLOW allows the application program to accept responsibility for deactivating sessions.

- Set DSESLIM to the sum of the values specified in DMINWNL and DMINWNR. That is, DSESLIM should be equal to or greater than the largest PARSESS max value in the network map.
- DLOGMOD (the default log mode) must refer to an LU0 logmode entry to ensure compatibility with prior releases of Connect:Direct. The LU6.2 logmode name will be extracted from the network map.
- EAS represents the approximate number of concurrent sessions that this APPL will have with all other APPLs (Connect:Direct adjacent nodes and interactive users). The default value is 509. Change the value to one which is realistic for your environment.
- LMDENT specifies the number of entries to be used for this application program's hash table of remote LUs. The default value is 19.
- MODETAB must point to mode table that contains entries for LU0, LU6.2, and SNA Service Manager mode (SNASVCMG). See *Define Logmode Table Entries* on page 45 for the definition of the mode table.
- Set VPACING to the number of RUs that this DTF will receive before being obligated to send a pacing response. A minimum value of **7** is recommended. Larger values will increase throughput when receiving data from another DTF.

  Do not specify **0** or omit this parameter. Omitting the parameter or specifying **0** results in no pacing, which could lead to a VTAM buffer shortage.

Define APPLID for IUI and Batch Sessions

Define APPLID for IUI and batch session definition.

The following example shows three VTAM application definitions for the Connect:Direct IUI. These application IDs must match those specified in the Connect:Direct network map. The examples are located in member NDMIAPPL of NDM.MSHP.SOURCE.

```
NAI01    APPL  ACBNAME=NAI01,                                          *
DLOGMOD=NDMLOGM,                    *          MODETAB=NDMTAB,
*
               VPACING=6
*
NAI02    APPL  ACBNAME=NAI02,                                           *
               DLOGMOD=NDMLOGM,                                         *
               MODETAB=NDMTAB,                                          *
               VPACING=6
*
NAI03    APPL  ACBNAME=NAI03,                                           *
               DLOGMOD=NDMLOGM,                                         *
               MODETAB=NDMTAB,                                          *
               VPACING=6
```

Define APPLID for Loop-Back Processing

If you will use PNODE=SNODE (loop-back) processing, define the APPLID to be used for the processing. See the *Defining and Maintaining the Network Map* chapter of the *Connect:Direct for VSE/ESA Administration Guide* for a discussion of the network map requirements.

The following figure shows an additional Connect:Direct DTF APPL (CDAPPL1A) being defined to VTAM which allows you to perform loop-back processing. This multiple definition is required because with PNODE=SNODE processing the communications name (APPLID) for the adjacent node defined in the network map must be different from the communications name (APPLID) for the local node in the network map. This example is located in member NDMAPPL in the source library.

```
CDAPPL1A   APPL  ACBNAME=CDAPPL1A,   VTAM APPLICATION ID        *
               AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),              *
               EAS=n,             APPROXIMATE # CONCURRENT SESS *
               MODETAB=NDMTAB,    MODE TABLE NAME               *
               SONSCIP=NO,        NO UNBIND IN SCIP EXIT        *
               VPACING=7,         RECEIVE PACING OF 7           *
               DLOGMOD=NDMLOGM,   MODE TABLE ENTRY              *
               PARSESS=YES        PARALLEL SESSIONS CAN BE USED
```

See the *Defining and Maintaining the Network Map* chapter of the *Connect:Direct for VSE/ESA Administration Guide* for examples and content of the Connect:Direct network map.

Define APPLID for MS-DOS

If you will use Connect:Direct for VSE/ESA to send data to and receive data from a Connect:Direct for MS-DOS node, you need to define a unique APPLID with AUTH=SPO through which Connect:Direct can terminate the connection to the Connect:Direct for MS-DOS node if it is unable to establish a session after a certain length of time. This step is required if you will communicate with a node defined to VTAM as a PU TYPE 4 node. The following figure is an example of such an APPL definition.

```
NDMPOA01 APPL  ACBNAME=NDMPOA01,                                *
         AUTH=(ACQ,NOCNM,NOPASS,SPO),                           *
         EAS=10,                                                *
         MODETAB=NDMTAB,                                        *
         SONSCIP=NO,                                            *
         VPACING=7,                                             *
         DLOGMOD=NDMLOGM,                                       *
         PARSESS=YES
```

The initialization parameters POA.APPL and Connect.WAIT define the APPLID and establish the length of time Connect:Direct waits before terminating the session initiation request.

Define Logmode Table Entries

Define the logmode table entries used with each APPLID. This step is required if you will communicate with a node defined to VTAM as a PU TYPE 4 node.

The following sections provide examples from the mode table used with Connect:Direct. The examples are located in member NDMMODET.

The optional name (NDMTAB) can be used as an assembler CSECT name for the mode table. The table can be assembled separately from other mode tables or the Connect:Direct entry can be inserted into an existing mode table.

Note: Users should modify COS, PACING, and RUSIZE values *only*.

VSE/ESA, MVS, VM, and MSP Nodes

Use the following entry with other Connect:Direct for VSE/ESA, Connect:Direct for MVS, Connect:Direct for MSP, and Connect:Direct for VM nodes.

```
NDMLOGM  MODEENT LOGMODE=NDMLOGM,  ENTRY NAME                        *
               TYPE=1,             NON-NEGOTIABLE BIND              *
               FMPROF=X'04',       FUNCTION MGMT. PROFILE 4         *
               TSPROF=X'04',       TRANS SERVICE  PROFILE 4         *
               PRIPROT=X'B3',      PRIMARY PROTOCOL                 *
               SECPROT=X'B3',      SECONDARY PROTOCOL               *
               COMPROT=X'6080',    COMMON PROTOCOL                  *
               PSNDPAC=X'06',      PRIMARY SEND PACING              *
               SRCVPAC=X'06',      SECONDARY RECEIVE PACING         *
               SSNDPAC=X'06',      SECONDARY SEND PACING            *
               RUSIZES=X'8989',    4K MAX RU SIZE FOR PRI AND SEC   *
               PSERVIC=X'000000000000000000000000'
```

MS-DOS/IRMA

Use the following entry with MS-DOS/IRMA nodes.

```
D4A32782 MODEENT LOGMODE=D4A32782, ENTRY NAME                        *
              FMPROF=X'03',       FUNCTION MGMT. PROFILE 3          *
TSPROF=X'03',       TRANS SERVICE  PROFILE 3          *
               PRIPROT=X'B1',      PRIMARY PROTOCOL                 *
               SECPROT=X'90',      SECONDARY PROTOCOL               *
               COMPROT=X'3080',    COMMON PROTOCOL                  *
               RUSIZES=X'87C7',    1K SEND RU, 1.5K RECEIVE RU      *
               PSERVIC=X'020000000000185000007E00'
```

MS-DOS Nodes with Structured Field Support

Use the following entry with MS-DOS nodes with structured field support.

```
NDMPCSF  MODEENT LOGMODE=NDMPCSF,  ENTRY NAME                        *
               FMPROF=X'03',       FUNCTION MGMT. PROFILE 3          *
               TSPROF=X'03',       TRANS SERVICE  PROFILE 3          *
               PRIPROT=X'B1',      PRIMARY PROTOCOL                  *
               SECPROT=X'90',      SECONDARY PROTOCOL                *
               COMPROT=X'3080',    COMMON PROTOCOL                   *
               RUSIZES=X'8758',    1K SEND RU, 3.75K RECEIVE RU      *
               PSERVIC=X'028000000000185000007E00'
```

MS-DOS COAX Attached to a Non-SNA Controller

Use the following entry with MS-DOS COAX nodes attached to a non-SNA local controller.

```
NDMPCLC  MODEENT LOGMODE=NDMPCLC,  ENTRY NAME                        *
               FMPROF=X'02',       FUNCTION MGMT. PROFILE 3          *
               TSPROF=X'02',       TRANS SERVICE  PROFILE 3          *
               PRIPROT=X'71',      PRIMARY PROTOCOL                  *
               SECPROT=X'40',      SECONDARY PROTOCOL                *
               COMPROT=X'2000',    COMMON PROTOCOL                   *
               RUSIZES=X'87C7',    1K SEND RU, 1.5K RECEIVE RU       *
               PSERVIC=X'020000000000185000007E00'
```

OpenVMS Nodes

Use the following entry with OpenVMS nodes.

```
NDMVMSLM   MODEENT LOGMODE=NDMVMSLM,                                  *
               TYPE=1,                                               *
                COS=NJE,                                             *
                FMPROF=X'04',                                        *
               TSPROF=X'04',                                         *
                PRIPROT=X'B1',                                       *
               SECPROT=X'B1',                                        *
                COMPROT=X'7080',                                     *
                RUSIZES=X'8989',                                     *
               SSNDPAC=X'02',                                        *
                SRCVPAC=X'02',                                       *
                PSERVIC=X'000000000000000000000000'                  *
*                       0 1 2 3 4 5 6 7 8 9 1011
```

Tandem Nodes

Use the following entry with Tandem nodes.

```
TANMODE    MODEENT LOGMODE=TANMODE,                                *
                   TYPE=1,                                         *
                   COS=NJE,           CLASS OF SERVICE ENTRY       *
                   FMPROF=X'04',      FM PROFILE                   *
                   TSPROF=X'04',      TS PROFILE                   *
                   PRIPROT=X'B3',     PRIMARY PROTOCOL             *
                   SECPROT=X'B3',     SECONDARY PROTOCOL           *
                   COMPROT=X'7080',   COMMON PROTOCOL              *
                   RUSIZES=X'8787',   RU=1K                        *
                   PSNDPAC=X'04',     PRIMARY SEND PACING          *
                   SRCVPAC=X'04',     SECONDARY RECEIVE PACING     *
                   SSNDPAC=X'04',     SECONDARY SEND PACING        *
                   PSERVIC=X'000000000000000000000000000'
*                            0 1 2 3 4 5 6 7 8 9 101112
```

OS/400 SNUF (LU0) Nodes

Use the following entry with OS/400 SNUF (LU0) nodes.

```
SNUF4K   MODEENT LOGMODE=SNUF2K,                                   *
                 COS=NJE,                                          *
                 FMPROF=X'04',                                     *
                 TSPROF=X'04',                                     *
                 PRIPROT=X'B1',                                    *
                 SECPROT=X'B1',                                    *
                 COMPROT=X'7080',                                  *
                 SRCVPAC=X'07',      SRCVPAC,SSNDPAC, AND PSNDPAC  *
                 SSNDPAC=X'07',      VALUES CAN BE TUNED           *
                 PSNDPAC=X'07',                                    *
                 RUSIZES=X'8888',    2K SEND AND RECV RUSIZE       *
                 PSERVIC=X'000000000000000000000000'
```

LU6.2 Nodes

Only the RUSIZES parameter in the LOGMODE can be changed. The minimum allowed RU size is 256 (RUSIZES=x'8585'). Use the following entry with LU6.2 independent nodes.

```
CD624K  MODEENT LOGMODE=CD624K,                                    *
                TYPE=1,                                            *
                COS=NJE,                                           *
                FMPROF=X'13',                                      *
                TSPROF=X'07',                                      *
                PRIPROT=X'B0',                                     *
                SECPROT=X'B0',                                     *
                COMPROT=X'D0B1',                                   *
                PSNDPACE=X'04',                                    *
                SRVCPAC=X'04',                                     *
                SSNDPAC=X'04',                                     *
                RUSIZES=X'8989',    4K SEND AND RECV RUSIZE        *
                PSERVIC=X'060200000000000000000300'
```

Use the following entry with LU6.2 dependent nodes.

```
CD624K MODEENT LOGMODE=CD624K,                                          *
               TYPE=1,                                                  *
               COS=NJE,                                                 *
               FMPROF=X'13',                                            *
               TSPROF=X'07',                                            *
               PRIPROT=X'B0',                                           *
               SECPROT=X'B0',                                           *
               COMPROT=X'50B1',                                         *
               RUSIZES=X'8989',                                         *
               PSERVIC=X'060200000000000000002C00'
```

The following figure is a VTAM LOGMODE table entry for LU6.2 dependent (non-peer) connections with Connect:Direct for MS-DOS. Connect:Direct for MS-DOS uses the LOGMODE entry in the file NETMAP.CFG when logging on to the 370 node. The corresponding VTAM LOGMODE table entry specifies the session parameters to be used for this session.

```
*
CD62512 MODEENT LOGMODE=CD62512, Logmode Table Entry Name               *
               FMPROF=X'13',     Function Manager Profile               *
               TSPROF=X'07',     Transmission Services Profile          *
               PRIPROT=X'B0',    Primary Logical Unit Protocol          *
               SECPROT=X'B0',    Secondary Logical Unit Protocol        *
               COMPROT=X'50B1',  Common Logical Unit Protocol           *
               RUSIZES=X'8686',  Rusizes Sec/Pri 512/512                *
               PSNDPAC=7,       Primary Send Pacing Count        ,      *
               SRCVPAC=7,       Secondary Receive Pacing Count         *
               SSNDPAC=7,       Secondary Send Pacing Count            *
               PSERVIC=X'060200000000000000000000' Presentation Srvcs  *
```

LU6.2 SNA Services Manager

LU6.2 requires the following SNA Services Manager mode table entry definition. This LOGMODE is for VTAM use. You must make this definition in the mode table, but do not specify it as the LOGMODE in the network map.

```
SNASVCMG MODEENT LOGMODE=SNASVCMG,                                      *
                 TYPE=1,                                                *
                 FMPROF=X'13',                                          *
                 TSPROF=X'07',                                          *
                 PRIPROT=X'B0',                                         *
                 SECPROT=X'B0',                                         *
                 COMPROT=X'D0B1',                                       *
                 RUSIZES=X'8585',   256 SEND AND RECV RUSIZE            *
                 PSERVIC=X'060200000000000000000300'
```

MS-DOS LU0

Use the following entry for MS-DOS LU0.

```
NDMPCLU0 MODEENT LOGMODE=NDMPCLU0,TYPE=1,                              *
               COS=NJE,                                                *
               FMPROF=X'04',                                           *
               TSPROF=X'04',                                           *
               PRIPROT=X'B1',                                          *
               SECPROT=X'B1',                                          *
               COMPROT=X'7080',                                        *
               RUSIZES=X'8686',                                        *
               SSNDPAC=X'07',                                          *
               SRCVPAC=X'07',                                          *
               PSERVIC=X'000000000000000000000000'
```

OS/2 LU0

Use the following entry for OS/2 LU0.

```
CDLM2K MODEENT LOGMODE=CDLM2K,                                         *
            COS=CDCOS1,                                                *
            FMPROF=X'04',                                              *
            TSPROF=X'04',                                              *
            PSNDPAC=X'10',                                             *
            SRCVPAC=X'10',                                             *
            SSNDPAC=X'10',                                             *
            PRIPROT=X'B3',                                             *
            SECPROT=X'B3',                                             *
            COMPROT=X'70A0',                                           *
            RUSIZES=X'8888',                                           *
            PSERVIC=X'000000000000000000000000'
```

LU2 Nodes

Use the following entries for LU2 transfers.

```
*********************************************************************
*    3278 MODEL 2 DEFAULT PRESENTATION SPACE SIZE
D4C32782 MODEENT LOGMODE=D4C32782,                                   *
               FMPROF=X'03',                                         *
               TSPROF=X'03',                                         *
               PRIPROT=X'B1',                                        *
               SECPROT=X'90',                                        *
               COMPROT=X'3080',                                      *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'020000000000185000007E00'
*********************************************************************
*    3278 MODEL 3 DEFAULT PRESENTATION SPACE SIZE
D4C32783 MODEENT LOGMODE=D4C32783,                                   *
               FMPROF=X'03',                                         *
               TSPROF=X'03',                                         *
               PRIPROT=X'B1',                                        *
               SECPROT=X'90',                                        *
               COMPROT=X'3080',                                      *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'020000000000205020507F00'
*********************************************************************
*    3278 MODEL 4 DEFAULT PRESENTATION SPACE SIZE
D4C32784 MODEENT LOGMODE=D4C32784,                                   *
               FMPROF=X'03',                                         *
               TSPROF=X'03',                                         *
               PRIPROT=X'B1',                                        *
               SECPROT=X'90',                                        *
               COMPROT=X'3080',                                      *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'0200000000002B502B507F00'

*********************************************************************
*    3278 MODEL 5 DEFAULT PRESENTATION SPACE SIZE
D4C32785 MODEENT LOGMODE=D4C32785,                                   *
               FMPROF=X'03',                                         *
               TSPROF=X'03',                                         *
               PRIPROT=X'B1',                                        *
               SECPROT=X'90',                                        *
               COMPROT=X'3080',                                      *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'02000000000018501B847F00'
```

Structured Fields

Use the following entry for structured fields.

```
PC3270M2 MODEENT LOGMODE=PC3270M2,                                   *
               FMPROF=X'03',                                         *
               TSPROF=X'03',                                         *
               PRIPROT=X'B1',                                        *
               SECPROT=X'90',                                        *
               COMPROT=X'3080',                                      *
               RUSIZES=X'87F8',                                      *
               PSERVIC=X'028000000000185000007E00'
```

Non-SNA Cluster Controller

Use the following entry for non-SNA Cluster controller.

```
NONSNALC MODEENT LOGMODE=NONSNALC,                                    *
                FMPROF=X'02',                                         *
                TSPROF=X'02',                                         *
                PRIPROT=X'71',                                        *
                SECPROT=X'40',                                        *
                COMPROT=X'2000',                                      *
                RUSIZES=X'87C7',                                      *
                PSERVIC=X'020000000000185000007E00'
```

Remote X.25/ASYNC SDLC Modem

Use the following entry for remote X.25/ASYNC SDLC modem.

```
X25NDMPC MODEENT LOGMODE=X25NDMPC,                                    *
                FMPROF=X'03',                                         *
                TSPROF=X'03',                                         *
                PRIPROT=X'B1',                                        *
                SECPROT=X'90',                                        *
                COMPROT=X'3040',                                      *
                RUSIZES=X'8989',                                      *
                PSERVIC=X'01000000000000000000000000'
```

LU6.2 MS-DOS

Use the following entry for LU6.2 for MS-DOS.

```
NDM62PC  MODEENT LOGMODE=NDM62PC,                                     *
                TYPE=1,                                               *
                COS=NDMCOS1,                                          *
                FMPROF=X'13',                                         *
                TSPROF=X'07',                                         *
                PRIPROT=X'B0',                                        *
                SECPROT=X'B0',                                        *
                COMPROT=X'50B1',                                      *
                PSNDPAC=X'05',                                        *
                SRCVPAC=X'05',                                        *
                SSNDPAC=X'05',                                        *
                RUSIZES=X'8686',                                      *
                PSERVIC=X'060200000000000000000000'
```

Define Cross-Domain Resource Manager Minor Nodes

Define the cross-domain resource manager nodes. The following figure shows Connect:Direct cross-domain resource manager node definitions. The sample is located in member NDMCDRM.

Each NDMCDRM entry defines another VTAM domain or equivalent with which this domain will communicate. These entries will be defined in the domain in which this Connect:Direct is being defined.

```
CDRMA    VBUILD TYPE=CDRM
AAAA     CDRM  SUBAREA=20,ELEMENT=1,ISTATUS=ACTIVE
BBBB     CDRM  SUBAREA=30,ELEMENT=1,ISTATUS=ACTIVE
CCCC     CDRM  SUBAREA=40,ELEMENT=1,ISTATUS=ACTIVE
```

Define Cross-Domain Resources

Define the cross-domain resources. The following figure shows a Connect:Direct cross-domain resource definition. The example is located in member NDMCDRSC. Each CDRSC entry defines an applications (another Connect:Direct) in another domain.

```
CDRSCNA  VBUILD TYPE=CDRSC
NDMAPP2  CDRSC CDRM=BBBB
NDMAPP3  CDRSC CDRM=CCCC
```

Note: The Unformatted Systems Services table (USSTAB) is not used by Connect:Direct; however, if you define a USS table for the LUs to be used with AS/400 communication devices, or with OpenVMS or Tandem logical units, you cannot include a MSG10 definition in the table.

Multiple DTFs on Same Machine or VTAM

You can define multiple DTFs to run on the same machine or in the same VTAM. There is only one VTAM APPL per Connect:Direct DTF, plus an optional APPL for PNODE=SNODE processing, and normally only one VTAM application per site. If two DTFs are to run on the same machine or under the same VTAM, then define two VTAM APPLs.

When defining APPLs for multiple copies of Connect:Direct, they can all reside in the same application major node (VBUILD TYPE=APPL) in PRD2.CONFIG if desired.

Network or Domain Name

The VTAM APPL definitions for Connect:Direct nodes are shown with the name field value (column 1) equal to the ACBNAME value. However, these names can be different. See *Network or Domain Name in Cross-Domain Network* on page 56 for an example of VTAM and network map Cross Domain definitions and the rules which govern the definitions.

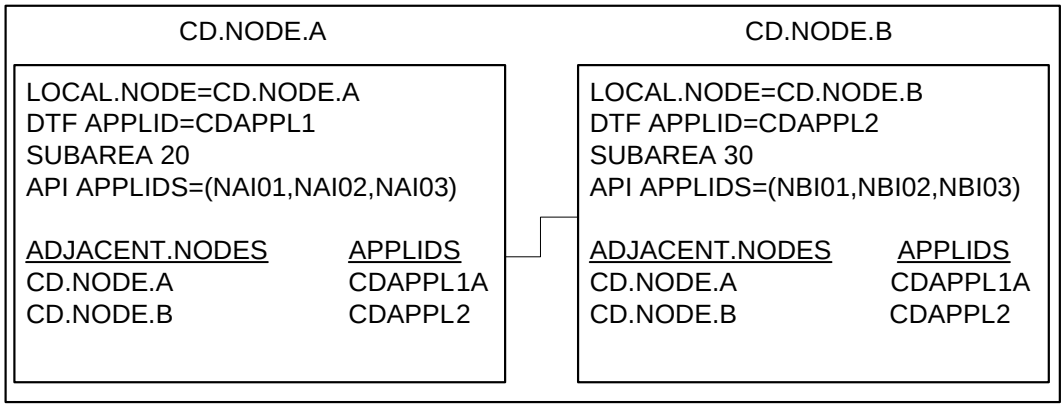
Sample VTAM Definitions

This section includes sample VTAM definitions to assist you in planning for the installation:

- ✦ VTAM definitions for a full networking Connect:Direct
- ✦ VTAM definitions for cross-domain network
- ✦ VTAM definitions for a mainframe-to-microcomputer connection

VTAM Definitions for Full Networking Connect:Direct

The section shows a sample Connect:Direct network with SNA connections.



The previous example corresponds to the VTAM definitions presented in the following sections. If you will use PNODE-SNODE (loop-back) processing, you must define your local node as an adjacent node. In these examples, CDAPPL1A and CDAPPL2A are defined for loop-back processing. Additional information on PNODE-SNODE processing is in the *Defining and Maintaining the Network Map* chapter of the *Connect:Direct for VSE/ESA Administration Guide*.

Node A Definitions

The following is the DTF APPL definition for CD.NODE.A.

```
*
CDAPPL1 APPL   ACBNAME=CDAPPL1,                                  X
               AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),               X
               EAS=n,              APPROXIMATE # CONCURRENT SESS X
               MODETAB=NDMTAB,     MODE TABLE NAME               X
               SONSCIP=NO,         NO UNBIND IN SCIP EXIT        X
               VPACING=7,          RECEIVE PACING OF 7           X
               DLOGMOD=NDMLOGM     MODE TABLE ENTRY              X
               PARSESS=YES         PARALLEL SESSIONS CAN BE USED
*
CDAPPL1A APPL  ACBNAME=CDAPPL1A,                                 X
               AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),               X
               EAS=n,              APPROXIMATE # CONCURRENT SESS X
               MODETAB=NDMTAB,     MODE TABLE NAME               X
               SONSCIP=NO,         NO UNBIND IN SCIP EXIT        X
               VPACING=7,          RECEIVE PACING OF 7           X
               DLOGMOD=NDMLOGM,    MODE TABLE ENTRY              X
               PARSESS=YES         PARALLEL SESSIONS CAN BE USED
```

The following are the APPL definitions for the API for CD.NODE.A.

```
NAI01    APPL  ACBNAME=NAI01,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
*
NAI02    APPL  ACBNAME=NAI02,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
*
NAI03    APPL  ACBNAME=NAI03,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
```

The following is the cross-domain manager definition for CD.NODE.A.

```
CDRMA    VBUILD TYPE=CDRM
SA30     CDRM   SUBAREA=30,ELEMENT=1,ISTATUS=ACTIVE
SA20     CDRM   SUBAREA=20,ELEMENT=1,ISTATUS=ACTIVE
```

The following is the cross-domain definition for CD.NODE.A.

```
CDRSCA   VBUILD TYPE=CDRSC
CDAPPL2 CDRSC  CDRM=SA30
```

The following is the network map definition for CD.NODE.A.

```
LOCAL.NODE=((CD.NODE.A   CDAPPL1 ,, $PW)   -
         TCQ=(TCX.FILE   TCQ.FILE))
* PNODE=SNODE DEFINITION
ADJACENT.NODE=((CD.NODE.A   CDAPPL1A)      -
         APPLIDS=(NAI01,NAI02,NAI03)
* SNA CONNECTIONS
ADJACENT.NODE=((CD.NODE.B   CDAPPL2)       -
         APPLIDS=(NAI01,NAI02,NAI03)
```

Node B Definitions

The following is the DTF APPL definition for CD.NODE.B.

```
 CDAPPL2  APPL  ACBNAME=CDAPPL2, VTAM APPLICATION ID             *
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS        *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                   *
           EAS=N,            APPROXIMATE # OF CONCURRENT SESS    *
           MODETAB=NDMTAB,   MODE TABLE NAME                     *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT              *
           VPACING=n,        RECEIVE PACING                      *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                    *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED       *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS      *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS       *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS      *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS       *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS        *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS   *
           LMDENT=N          SIZE OF HASH TABLE
*
 CDAPPL2A APPL  ACBNAME=CDAPPL2A, VTAM APPLICATION ID            *
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS        *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                   *
           EAS=N,            APPROXIMATE # OF CONCURRENT SESS    *
           MODETAB=NDMTAB,   MODE TABLE NAME                     *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT              *
           VPACING=n,        RECEIVE PACING                      *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                    *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED       *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS      *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS       *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS      *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS       *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS        *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS   *
           LMDENT=N          SIZE OF HASH TABLE
```

The following are the APPL definitions for the API for CD.NODE.B.

```
NBI01    APPL  ACBNAME=NBI01,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
*
NBI02    APPL  ACBNAME=NBI02,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
*
NBI03    APPL  ACBNAME=NBI02,                                    X
               DLOGMOD=NDMLOGM,                                  X
               MODETAB=NDMTAB,                                   X
               VPACING=6
```

The following is the cross-domain manager definition for CD.NODE.B.

```
CDRMB    VBUILD TYPE=CDRM
SA30     CDRM   SUBAREA=30,ELEMENT=1,ISTATUS=ACTIVE
SA20     CDRM   SUBAREA=20,ELEMENT=1,ISTATUS=ACTIVE
```

The following is the cross-domain definition for CD.NODE.B.

```
CDRSCA   VBUILD TYPE=CDRSC
CDAPPL1 CDRSC  CDRM=SA20
```

The following is the network map definition for CD.NODE.B.

```
LOCAL.NODE=((CD.NODE.B   CDAPPL2 ,, $PW)   -
         TCQ=(TCX.FILE   TCQ.FILE))
* PNODE=SNODE DEFINTION                              *
ADJACENT.NODE=((CD.NODE.B   CDAPPL2B)      -
         APPLIDS=(NBI01,NBI02,NBI03)
* SNA CONNECTIONS                                    *
ADJACENT.NODE=((CD.NODE.B   CDAPPL2)       -
         APPLIDS=(NBI01,NBI02,NBI03)                 *
```

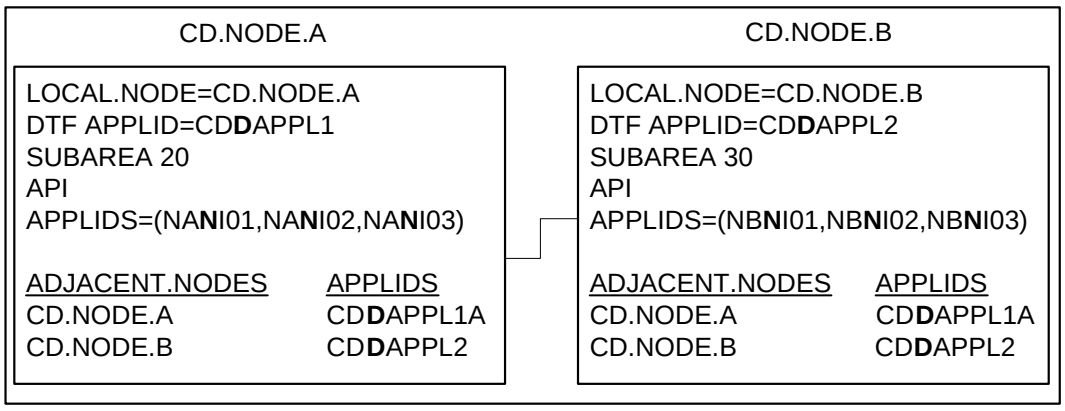
Network or Domain Name in Cross-Domain Network

The VTAM APPL definitions for Connect:Direct nodes are shown in the supplied examples in the source library with the name field value (column 1) equal to the ACBNAME value. However, these names can be different. If they are different, the network name value contained in the name field must be unique within the network, and the value in the ACBNAME field must be unique within the domain.

If the names are different, follow these rules when defining the network map:

- The name specified for the local and adjacent nodes DTF APPLIDs must be the **network** name.
- The names specified in the APPLIDS keyword of the adjacent node must be the **domain** names.

The following sample shows definitions for two nodes with unique network and domain names.



The previous example corresponds to the VTAM definitions presented in the following figures. If you will use PNODE-SNODE (loop-back) processing, you must define your local node as an adjacent node. In these examples, CDAPPL1A and CDAPPL2A are defined for loop-back processing. Additional information on PNODE-SNODE processing is in the *Defining and Maintaining the Network Map* chapter of the *Connect:Direct for VSE/ESA Administration Guide*.

In the examples which follow, domain names contain a **D** as part of their name and network names contain an **N**.

SNA Node A

The following is the DTF APPL definition for CD.NODE.A.

```
CDNAPP1 APPL   ACBNAME=CDDAPP1,                                    *
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS          *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                     *
           EAS=n,            APPROXIMATE # OF CONCURRENT SESS      *
           MODETAB=NDMTAB,   MODE TABLE NAME                       *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT                *
           VPACING=n,        RECEIVE PACING                        *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                      *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED         *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS        *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS         *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS        *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS         *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS          *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS     *
           LMDENT=n          SIZE OF HASH TABLE
*
CDNAPP1A APPL   ACBNAME=CDDAPP1A,                                  *
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS          *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                     *
           EAS=n,            APPROXIMATE # OF CONCURRENT SESS      *
           MODETAB=NDMTAB,   MODE TABLE NAME                       *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT                *
           VPACING=n,        RECEIVE PACING                        *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                      *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED         *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS        *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS         *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS        *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS         *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS          *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS     *
           LMDENT=n          SIZE OF HASH TABLE
```

The following are the APPL definitions for the API for CD.NODE.A.

```
NAN01    APPL  ACBNAME=NAID01,                                     X
               DLOGMOD=NDMLOGM,                                    X
               MODETAB=NDMTAB,                                     X
               VPACING=6
*
NAN02    APPL  ACBNAME=NAID02,                                     X
               DLOGMOD=NDMLOGM,                                    X
               MODETAB=NDMTAB,                                     X
               VPACING=6
```

The following is the cross-domain manager definition for CD.NODE.A.

```
CDRMA    VBUILD TYPE=CDRM
SA30     CDRM   SUBAREA=30,ELEMENT=1,ISTATUS=ACTIVE
SA40     CDRM   SUBAREA=40,ELEMENT=1,ISTATUS=ACTIVE
```

The following is the cross-domain definition for CD.NODE.A.

```
CDRSCA   VBUILD TYPE=CDRSC
CDNAPPL2 CDRSC  CDRM=SA30
```

The following is the network map definition for CD.NODE.A.

```
LOCAL.NODE=((CD.NODE.A   CDNAPP1 ,, $PW)       -
         TCQ=(CD.NODEA.TCX CD.NODEA.TCQ))
*
ADJACENT.NODE=((CD.NODE.A   CDNAPP1A)          -
         APPLIDS=(NAID01,NAID02)
*
ADJACENT.NODE=((CD.NODE.B   CDNAPP2)           -
         APPLIDS=(NAID01,NAID02,NAID03)
```

SNA Node B

The following is the DTF APPL definition for CD.NODE.B.

```
CDNAPP2 APPL   ACBNAME=CDDAPP2,
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS         *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                    *
           EAS=n,            APPROXIMATE # OF CONCURRENT SESS     *
           MODETAB=NDMTAB,   MODE TABLE NAME                      *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT               *
           VPACING=n,        RECEIVE PACING                       *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                     *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED        *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS       *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS        *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS       *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS        *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS         *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS    *
           LMDENT=n          SIZE OF HASH TABLE
*
CDNAPP2A APPL  ACBNAME=CDDAPP2A,
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS         *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                    *
           EAS=n,            APPROXIMATE # OF CONCURRENT SESS     *
           MODETAB=NDMTAB,   MODE TABLE NAME                      *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT               *
           VPACING=n,        RECEIVE PACING                       *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                     *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED        *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS       *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS        *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS       *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS        *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS         *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS    *
           LMDENT=n          SIZE OF HASH TABLE
```

The following are the APPL definitions for the API for CD.NODE.B.

```
NBN01    APPL  ACBNAME=NBID01,                                  X
               DLOGMOD=NDMLOGM,                                 X
               MODETAB=NDMTAB,                                  X
               VPACING=6
*
NBN02    APPL  ACBNAME=NBID02,                                  X
               DLOGMOD=NDMLOGM,                                 X
               MODETAB=NDMTAB,                                  X
               VPACING=6
```

The following is the cross-domain manager definition for CD.NODE.B.

```
CDRMB    VBUILD TYPE=CDRM
SA30     CDRM   SUBAREA=30,ELEMENT=1,ISTATUS=ACTIVE
SA20     CDRM   SUBAREA=20,ELEMENT=1,ISTATUS=ACTIVE
```

The following is the cross-domain definition for CD.NODE.B.

```
CDRSCA   VBUILD TYPE=CDRSC
CDNAPPL1 CDRSC  CDRM=SA20
```

The following is the network map definition for CD.NODE.B.

```
LOCAL.NODE=((CD.NODE.B   CDNAPP2 ,, $PW)     -
         TCQ=(CD.NODEB.TCX CD.NODEB.TCQ))
*
ADJACENT.NODE=((CD.NODE.B   CDNAPP2A)        -
         APPLIDS=(NBID01,NBID02)
*
ADJACENT.NODE=((CD.NODE.A   CDNAPP1)         -
         APPLIDS=(NAID01,NAID02)
```

VTAM Definitions for Mainframe-to-Microcomputer Connection

If you use Connect:Direct exclusively for mainframe-to-microcomputer communication, please note that instructions in this manual generally apply to the communication between two or more mainframe Connect:Direct nodes, not mainframe-to-PC connections.

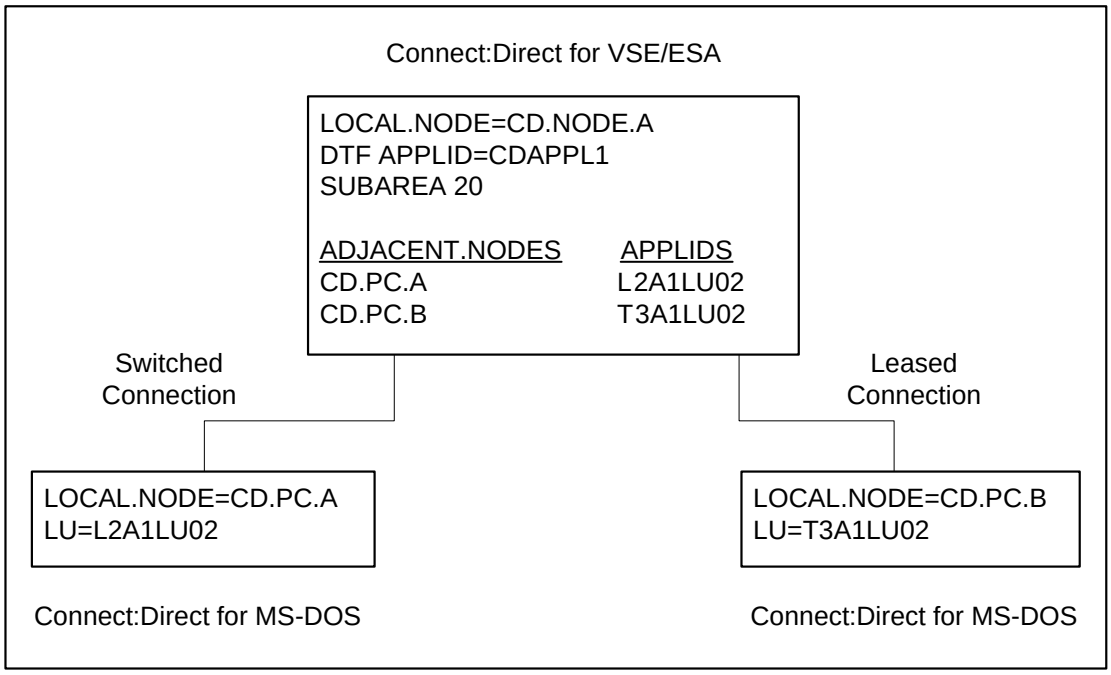
Users setting up VTAM definitions for mainframe-to-microcomputer only connections should disregard the discussions of:

- Multiple VSE/ESA sites within the Connect:Direct network
- VTAM cross-domain definitions, except as applicable to Connect:Direct for MS-DOS, OpenVMS, TANDEM, and OS/400.

Examples on the following pages pertain to the use of Connect:Direct for VSE/ESA and Connect:Direct for MS-DOS in a mainframe-to-microcomputer network only.

Note: The following examples apply only to Connect:Direct for MS-DOS Version 1.6.00 and later.

The following figure shows a sample Connect:Direct network. This sample network corresponds to the VTAM definitions presented in the sections that follow. Note that the APPLIDS defined in the host network map must be the PC's VTAM LU.



For each Connect:Direct for MS-DOS node that communicates with Connect:Direct for VSE/ESA, a network map must exist on the Connect:Direct for MS-DOS node. Entries in the Connect:Direct for MS-DOS NETMAP.NDM file correspond to entries in the Connect:Direct for VSE/ESA network map. A sample Connect:Direct for MS-DOS network map is also included in the examples that follow.

Example Definitions for CD.NODE.A

The following shows VTAM APPL definition for the DTF.

```
CDAPP1 APPL  ACBNAME=CDAPP1,      VTAM APPLICATION ID            *
           APPC=YES,         ENABLE TO RUN LU6.2 SESSIONS        *
           AUTH=(ACQ,NOCNM,NOPASS,NOPO,VPACE),                   *
           EAS=n,            APPROXIMATE # OF CONCURRENT SESS    *
           MODETAB=NDMTAB,   MODE TABLE NAME                     *
           SONSCIP=NO,       NO UNBIND IN SCIP EXIT              *
           VPACING=n,        RECEIVE PACING                      *
           DLOGMOD=NDMLOGM,  MODE TABLE ENTRY                    *
           PARSESS=YES,      PARALLEL SESSIONS CAN BE USED       *
           DSESLIM=n,        # OF CONCURRENT LU6.2 SESSIONS      *
           DMINWNL=n,        # OF LOCAL CONTENTION WINNERS       *
           DMINWNR=n,        # OF REMOTE CONTENTION WINNERS      *
           AUTOSES=n,        # OF AUTOMATIC LU6.2 SESSIONS       *
           DDRAINL=ALLOW,    ALLOW CNOS TO DRAIN SESSIONS        *
           DRESPL=ALLOW,     DEF RESPONSIBILITY FOR LOCAL CNOS   *
           LMDENT=n          SIZE OF HASH TABLE
```

The following shows VTAM APPL definitions for the API and the DTF.

```
NAI01    APPL  ACBNAME=NAI01,        VTAM APPLICATION ID            X
               MODETAB=NDMTAB,       LOGON MODE TABLE               X
               DLOGMODE=NDMLOGM,     LOGON MODE ENTRY FOR LU0       X
               VPACING=6             PACE COUNT
```

The following shows a mode table entry used with 3270-type connections, non structured fields.

```
D4C32782 MODEENT LOGMODE=D4C32782,    ENTRY NAME                     X
               FMPROF=X'03',          FUNCTION MGMT PROF.  3         X
               TSPROF=X'03',          TRANSMISSION SERVICES PROTOCOL X
               PRIPROT=X'B1',         PRIMARY PROTOCOL               X
               SECPROT=X'90',         SECONDARY PROTOCOL             X
               COMPROT=X'3080',       COMMON PROTOCOL                X
               RUSIZES=X'87F8',       1K MAX.  SEC 3.8K MAX.  PRI    X
               PSERVIC=X'020000000000185000007E00'
*                      0 1 2 3 4 5 6 7 8 9 1011
         MODEEND
         END
```

The following shows a leased network connection for a 3270-type connection.

```
L3APU1   PU    ADDR=05,              (3274-51C) SNA POLLING ADDRESS  X
               PUTYPE=2,              PHYSICAL UNIT TYPE 2           X
               ISTATUS=ACTIVE,                                       X
               PASSLIM=7,             CONTIG SDLC FRAMES             X
               DLOGMOD=D4C32782,      DEFAULT BIND IMAGE             X
               MODETAB=NDMTAB,        LOG-ON MODE TABLE              X
               SSCPFM=USSSCS,         SUPPORT LOGON AND INITSELF     X
               USSTAB=USSTABS,        UNFORMATTED SYS SERV TAB       X
               PACING=1,              PACE COUNT                     X
               VPACING=1,             PACE COUNT                     X
               MAXDATA=265,           MAX SDLC FRAME SIZE            X
               MAXOUT=7               FRAMES BEFORE LINK RESP
*****************************************************************
T3A1LU02 LU    LOCADDR=2,ISTATUS=ACTIVE
```

The following shows a sample NCP definition for an autodial line.

```
L2AGRP1  GROUP LNCTL=SDLC,            SDLC LINE                     X
               DIAL=YES,              AUTODIAL                      X
               RETRIES=(4,5,2),       RE-DIAL OPTIONS               X
               REPLYTO=3.0            TIMEOUT VALUE
*
L2ALNE1  LINE  ADDRESS=(071,HALF),    LINE 71                       X
               CALL=OUT,              OUT CALL ONLY                 X
               AUTO=70                AUTODIAL UNIT
*
L2APU1   PU    MAXLU=8                MAXIMUM NUMBER OF LUs
```

The following shows a VTAM major node switched definition for Connect:Direct for MS-DOS with autodial.

```
SWNDMPC  VBUILD TYPE=SWNET,MAXGRP=1,MAXNO=3
L2APU1   PU     ADDR=C1,               SNA POLLING ADDRESS           X
                IDBLK=017,             XID BLOCK                     X
                IDNUM=000E7,           XID NUMBER                    X
                MAXDATA=265,           MAX SDLC FRAME SIZE           X
                MAXOUT=7,              FRAMES BEFORE LINK RESP       X
                MODETAB=NDMTAB,        MODE TABLE NAME               X
                DLOGMODE=D4C32782,     MODE TABLE ENTRY              X
                PACING=6,              PACE COUNT                    X
                PASSLIM=7,             CONTIG SDLC FRAMES            X
                SSCPFM=USSSCS,         SUPPORT LOGON AND INITSELF    X
                VPACING=6,             PACE COUNT                    X
                MAXPATH=1,             MAXIMUM PATHS                 X
                DISCNT=(YES,F)         DISCONNECT OPTION
*
L2APTH1  PATH   DIALNO=2920104,        TELEPHONE NUMBER              X
                GID=1,                 GROUP OF PATHS ACROSS ALL PUs X
                GRPNM=L2AGRP1,         AUTODIAL LINE GROUP NAME      X
                PID=1,                 IDENTIFIER FOR PATH DEFINED   X
                REDIAL=1               NUMBER OF DIALING RETRIES
*
L2A1LU02 LU     LOCADDR=2
```

The following shows the network map definition.

```
LOCAL.NODE = ((CD.NODE.A CDAPP1,, XYZZ1) -
       TCQ = (CD.NODEA.TCX CD.NODEA.TCQ))
ADJACENT.NODE = (CD.NODE.A CDAPP1) -
       APPLIDS = (NAI01)
ADJACENT.NODE = (CD.PC.A L2A1LU02)
ADJACENT.NODE = (CD.PC.B T3A1LU02)
```

Example Definitions for Connect:Direct for MS-DOS Node Location

For each Connect:Direct for MS-DOS node that communicates with Connect:Direct for VSE/ESA, a configuration file must exist on the Connect:Direct for MS-DOS node. Entries in the Connect:Direct for MS-DOS configuration file correspond to entries in the Connect:Direct for VSE/ESA network map. The following is a sample Connect:Direct for MS-DOS configuration file.

```
LOCAL.NODE = CD.PC.A
USERID=PCUSER
ADJACENT.NODE=CD.NODE.A,APPLID=CDAPP1,LOGMODE=D4C32782,LOGSEQ=BAL
LOGSEQ=BAL,"LOGON APPLID=%APPLID,LOGMODE=%LOGMODE,DATA=%DATA"
VARIABLE.LU=3-
```

Preparing VTAM and NCP Parameters

This section explains how to set up VTAM and NCP parameters that you may need to define for Connect:Direct operation. Perform the following evaluations to prepare for Connect:Direct operation:

- Determine correct RU size for SNA sessions.

  The VTAM RUSIZES parameter is located in the VTAM MODEENT macro. It specifies the transmission buffer size and can affect Connect:Direct operation. See *Select RU Size for SNA Sessions* section which follows.

- Determine the effect of NCP parameters.

  Several parameters that are located in the NCP macros used during NCP generation (GEN) can also affect Connect:Direct operation. See *Determine Effects of NCP Parameters* on page 67.

Select RU Size for SNA Sessions

The request/response unit (RU) size for Connect:Direct is specified in the VTAM RUSIZES parameter in the VTAM log mode table. The following example shows a mode table entry with a secondary and primary logical unit RU size of 1,024 bytes.

```
NDMLOGM MODEENT LOGMODE=NDMLOGM,                                *
           RUSIZES=X`8787'
```

In selecting an RU size for Connect:Direct, you should know how RU size relates to the NCP MAXDATA parameter.

- The NCP MAXDATA value is specified in the NCP physical unit (PU) macro definition. It specifies, in bytes, the maximum amount of data that the NCP can receive from the PU at one time. This amount includes the transmission header and the request/response header, which totals 29 bytes for Connect:Direct.

  For example, if the Connect:Direct VTAM log mode table entry specifies 4,096 bytes, the NCP MAXDATA value must be at least 4,125 bytes for Connect:Direct to function correctly. In other words, the NCP MAXDATA value must be at least 29 bytes larger than the RU size specified in the Connect:Direct VTAM log mode table.

- The minimum RU size value for Connect:Direct DTF-to-DTF transmissions is 256 bytes and the maximum is 64K bytes.

  The RU size range differs for LU6.2 protocol, where the minimum is 512 bytes and the maximum is 30720 bytes.

- The minimum RU size value for Connect:Direct API-to-DTF transmissions is 512 bytes and the maximum is 64K bytes. A value of 7K is recommended.

For node connections between Connect:Direct for VSE/ESA and MS-DOS, RUSIZE depends on the protocol that MS-DOS chooses and whether or not the connection is SNA. For VSE/ESA to MS-DOS connection, RUSIZES=X`87F8' is recommended. For more information refer to the *Understanding RU Sizing* section that follows.

Note: For locally attached non-SNA 3270 connections, specify RUSIZES =X`87C7'.

Understanding RU Sizing

The following table shows how to find the appropriate value to specify for the RUSIZES parameter. For the formula RUSIZES=X`**abab**', the first **ab** pair applies to the secondary logical unit (SLU). The second **ab** pair applies to the primary logical unit (PLU). The table shows the values for **a** and **b**. The number of bytes is found where the **a** column and the **b** column intersect in the table.

For example, the **a** and **b** numbers in bold in the table indicate how it was used to determine the RUSIZES=**87F8** for VSE/ESA to MS-DOS connections. Because the primary LU can receive 3,840 bytes, the secondary LU can send **3,840** bytes at a time (the intersection of **F** and **8**). The primary LU can send 1,024 bytes at a time because the secondary LU is able to receive **1,024** bytes (the intersection of **8** and **7**).

	a							
b	8	9	A(10)	B(11)	C(12)	D(13)	E(14)	F(15)
0	8	9	10	11	12	13	14	15
1	16	18	20	22	24	26	28	30
2	32	36	40	44	48	52	56	60
3	64	72	80	88	96	104	112	120
4	128	144	160	176	192	208	224	240
5	256	288	320	352	384	416	448	480
6	512	576	640	704	768	832	896	960
7	**1,024**	1,152	1,280	1,408	1,536	1,664	1,792	1,920
8	2,048	2,304	2,560	2,816	3,072	3,328	3,584	**3,840**
9	4,096	4,608	5,120	5,632	6,144	6,656	7,168	7,680
A(10)	8,192	9,216	10,240	11,264	12,288	13,312	14,336	15,360
B(11)	16,384	18,432	20,480	22,528	24,576	26,624	28,672	30,720
C(12)	32,768	36,864	40,960	45,056	49,152	53,248	57,344	61,440
D(13)	65,536	73,728	81,920	90,112	98,304	106,496	114,688	122,880
E(14)	131,072	147,456	163,840	180,224	196,608	212,992	229,376	245,760
F(15)	262,144	294,912	327,680	360,448	393,216	425,984	458,752	491,520

RU Sizes Calculation

The table is derived from the following calculations:

The RUSIZE of **ab** means RUSIZE equals ***a* X 2 **b**. The **b** of each **ab** pair is used as an exponent of base two. The resulting value is multiplied by **a** to get the RUSIZE for that logical unit.

Using the same example, **RUSIZES=87F8**, the SLU and PLU values are evaluated as follows:

```
If     RUSIZES=X`87F8' then
       the SLU RUSIZE is 87 which indicates
       8  X  2**7  = 8 X 128 = 1024
       (8 times 2 to the 7th power)
       the PLU RUSIZE is F8 which  indicates
       F  X  2**8 = 15 X 2**8 = 15 X 256 = 3840
       15 times 2 to the 8th power)
```

Determine Effects of NCP Parameters

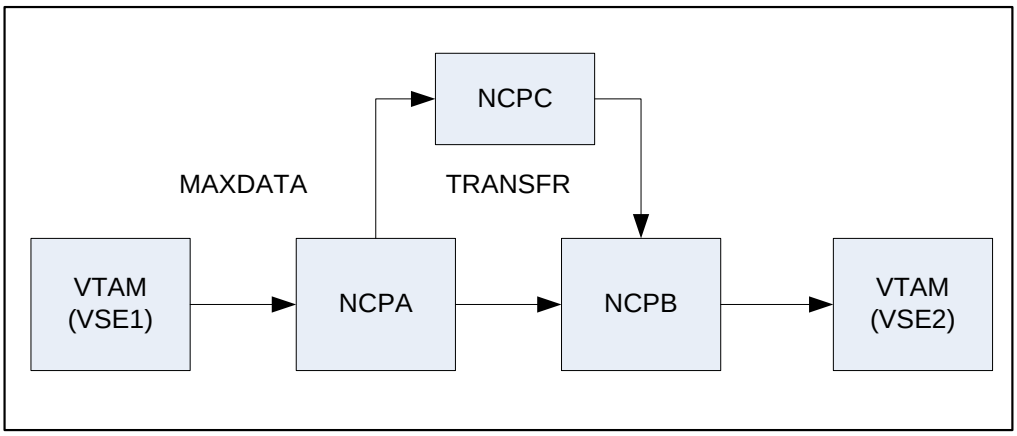
Review the following NCP parameters carefully during the Connect:Direct installation.

NCP GEN Macro	NCP Parameter	Meaning
BUILD	BFRS	Size of NCP buffers
HOST	BFRPAD	Number of pad characters inserted by NCP
HOST	MAXBUFRU	Number of buffers the access method allocates to receive data from the NCP
HOST	UNITSZ	Size of access method buffers used for data transfer from NCP to Connect:Direct
LINE	TRANSFR	Number of NCP buffers corresponding to maximum amount of data NCP can receive from another NCP
PU	MAXDATA	Maximum path information unit (PIU) size

The following figure illustrates the relationship between these VTAM and NCP parameters. When data is passed from VSE1 to NCPA, the MAXDATA parameter determines the amount of data that NCPA can receive in one segment of a path information unit (PIU).

Between NCPA, NCPB, and NCPC, if you do not specify the TRANSFR parameter on the LINE statement, VTAM will search the BUILD statement. If you do not define TRANSFR on either statement, the default will be taken. See IBM's *VTAM Resource Definition Reference Manual*.

When NCPB passes data to VSE2, the MAXBUFRU times the UNITSZ determines the amount of data that can be passed to VSE2. The data cannot exceed the size in bytes of the VTAM IOBUF buffer pool allocation parameters.



Calculating Minimum Value of NCP TRANSFR

To calculate the minimum value of an NCP TRANSFR, each NCP-to-NCP connection is defined to accommodate the maximum RU size defined for a Connect:Direct DTF-to-DTF session. This value is controlled by the NCP TRANSFR parameter of each NCP LINE macro defining an NCP-to-NCP link. The following calculations are required to determine the NCP TRANSFR value:

1. Determine the maximum amount of data to be received on this line definition. For Connect:Direct, this value is the RU size plus 29 bytes for the request/response headers.
2. Add 24 bytes to this value for required NCP overhead (BFRPAD).
3. Divide the sum by the NCP buffer size (BFRS).
4. Round the result to the next highest integer. This value is the minimum value that you can specify for TRANSFR which corresponds to the specified RU size.

Changing the TRANSFR Parameter

If you change the TRANSFR parameter in one NCP in a network, all other NCPs in that network require the same change. If you can not easily change the NCP TRANSFR parameter, use the following reverse process to calculate the maximum RU size for use by Connect:Direct.

1. Multiply the NCP TRANSFR parameter by the NCP BFRS value. This value is the maximum amount of data which NCP can receive.
2. Subtract 24 bytes for required NCP overhead (BFRPAD).
3. Subtract 29 bytes for the request/response header.
4. Find the next lowest RU size value in the table on page 66. This value is the largest RU that can be specified for use by Connect:Direct.

The amount of data VTAM can receive from the NCP is determined by the product of MAXBUFRU times UNITSZ. This value must be less than or equal to the amount specified on the IOBUF buffer pool allocation parameters in the ATCSTRxx start options list of VTAMLST.

Chapter 6

Defining Initialization Parameters

Initialization parameters specify alternate values for various parameters. The initialization module processes the file that contains these parameters. This section presents initialization parameters, explanations, and default values for Connect:Direct start-up.

Parameter	Description
ALLOC.CODES= (allocation errors)	specifies allocation errors for which Connect:Direct software retries the Process step as specified in the ALLOC.RETRIES and ALLOC.WAIT initialization parameters. These allocation errors are the Dynamic Allocation Interface Routine (DAIR) codes. The following list provides the default allocation error codes and their meanings: **020C** - Exclusive use of shared file **0210** - Allocated to another job **0218** - Volume not mounted **0220** - Volume not available **0234** - One device required **0068** - Already linked read only **0069** - Already linked read and write **006A** - Already linked read and write and read only
ALLOC.RETRIES=number of retries	specifies the number of allocation failure retries. Default: 20
ALLOC.STORAGE= ABOVE | BELOW	specifies whether storage allocated by Connect:Direct for control blocks and data areas are allocated above or below the 16 MB line. This parameter allows you to keep storage areas that can be referenced by user exits below the 16 MB line . Because many of the Connect:Direct for VSE/ESA modules and control blocks are in extended memory, any user exits must be able to perform the following activities in the extended area: receive control, address control blocks, and return control. Always reassemble any user exits against the new release. Default: BELOW
ALLOC.WAIT= hh:mm:ss	specifies the amount of time between retries if a failure occurs. The default is three minutes. Default: 00:03:00

Parameter	Description
ALLOCATION.EXIT=modname	specifies the name of the user-written program to interface with Connect:Direct for VSE/ESA software. You can invoke the allocation exit prior to any allocation activity. This step allows the exit program to examine and modify information used during allocation, such as the data set name (DSN) and the destination name. In addition, you can set parameters to terminate a copy step before allocation. The supplied sample exit, DMGALOEX, is in the source library as a member-type S. Default: No allocation exit
API.SYSTEMS= (CPUID1,....)	defines each CPU ID (up to four CPUs) that can share this copy of the DTF. This number includes the CPU running the DTF.
BUFND= number of data buffers	indicates the default number of data buffers to allocate for each VSAM file copied. This value overrides any buffer space defined in the VSAM catalog for this data set. However, you can override this parameter at the Process level by coding BUFND as part of the COPY statement. Default: **6**
CKPT= nK | nM	allows automatic checkpointing of files if the COPY statement does not specify the CKPT keyword. See CKPT.MODE definition for further details of automatic checkpointing. This value can be from 1-999,999,999. K means thousands of bytes, and M means millions of bytes. The software uses the value specified, rounded to the nearest block boundary, to determine when a checkpoint should be taken. The CKPT specification on the COPY statement always overrides the CKPT initialization parameter value. If you do not specify CKPT, no automatic checkpointing occurs. If a remote platform does not support the checkpointing feature, Connect:Direct for VSE/ESA ignores this parameter. Default: None
CKPT.DAYS= number of days	specifies the number of days that checkpoint records stay in the checkpoint file before automatic deletion during initialization. The records can remain in the checkpoint file if transmission is interrupted and the Process is deleted without being restarted. After successful transfers, the checkpoint records are immediately deleted. Default: **4**
CKPT.MODE= (RECORD | BLOCK BLOCK | RECORD PDS | NOPDS PDS | NOPDS VSAM | NOVSAM VSAM | NOVSAM)	transmits a sequential file in record mode or block mode. If the block size, logical record length, and record format of the receiving file are the same as those of the sending file, transmission will be performed in block mode. If reblocking is required because the receiving file block size differs from the sending file block size, record mode is used. **RECORD | BLOCK** - The first parameter specifies whether record mode checkpointing is allowed when the CKPT parameter is specified on the COPY statement. RECORD allows record mode checkpointing. Use BLOCK to limit checkpointing to block mode transfers. Default: RECORD **BLOCK | RECORD** - The second parameter specifies which mode(s) can be checkpointed when automatic checkpointing is requested (see page 70). BLOCK prevents automatic checkpointing if the transmission is in record mode. Specifying RECORD allows both record and block transmissions to be checkpointed automatically. Default: BLOCK

Parameter	Description
	For example, a specification of CKPT.MODE=(RECORD RECORD) results in the following: Checkpointing is allowed if a sequential file is sent in record or block mode. Checkpointing will be performed automatically, regardless of mode. **PDS|NOPDS** - The third positional parameter specifies whether checkpointing is allowed with partition data sets (PDS) transmission if a request is coded on the COPY statement. **Note:** In Connect:Direct for VSE/ESA, PDS applies to LIBR access. NOPDS prevents checkpointing on the PDS, even if you request it on the COPY statement. For large PDSs with many members, the overhead could be significant; therefore, NOPDS might be a desirable selection. PDS allows PDS transmissions to be checkpointed. PDS is the default for the third positional subparameter. Default: PDS **PDS|NOPDS** - The fourth positional parameter specifies whether checkpointing is allowed with partition data sets (PDS) transmission if a request is coded on the COPY statement. **Note:** In Connect:Direct for VSE/ESA, PDS applies to LIBR access. NOPDS prevents checkpointing on the PDS, even if you request it on the COPY statement. For large PDSs with many members, the overhead could be significant; therefore, NOPDS might be a desirable selection. PDS allows PDS transmissions to be checkpointed. PDS is the default for the third positional subparameter. Default: NOPDS **VSAM|NOVSAM** - The fifth parameter specifies whether checkpointing takes place for VSAM files when the checkpoint parameter is specified in the COPY statement. Default: VSAM **VSAM|NOVSAM** - The sixth parameter specifies whether automatic checkpointing takes place for VSAM files. Default: VSAM
Connect.WAIT= number of minutes	specifies the number of minutes Connect:Direct waits for a timeout during session establishment to a PC before assuming the connection is down and terminating the Process. This timeout control is only for connection time–session establishment through Process negotiation–and does not pertain to sends and receives. This parameter is necessary for connections to PCs only. The value must be a number from 0-60. If you code **0**, the default of three minutes is assumed. Default: **3**

Parameter	Description
DATEFORM=(MDY | DMY | YMD | YDM)	specifies how Gregorian dates are displayed on screens and how Gregorian dates should be input. *All* displayed dates will present the year in 4-digit format. **Note:** Connect:Direct for VSE/ESA interprets 2-digit years as twentieth century if the value is 80 or greater. If the value is less than 80, the year is interpreted as twenty-first century. The symbolic choices for this parameter indicate the order in which the year (Y), month (M), and day (D) are displayed or accepted.
	MDY indicates that Gregorian dates will be accepted in one of the following formats: MMDDYYYY MM/DD/YYYY MM.DD.YYYY MMDDYY MM/DD/YY MM.DD.YY **DMY** indicates that Gregorian dates will be accepted in one of the following formats: DDMMYYYY DD/MM/YYYY DD.MM.YYYY DDMMYY DD/MM/YY DD.MM.YY **YMD** indicates that Gregorian dates will be accepted in one of the following formats: YYYYMMDD YYYY/MM/DD YYYY.MM.DD YYMMDD YY/MM/DD YY.MM.DD **YDM** indicates that Gregorian dates will be accepted in any one of the following formats: YYYYDDMM YYYY/DD/MM YYYY.DD.MM YYDDMM YY/DD/MM YY.DD.MM Default: VSE/ESA Operating System Default, STDOPT DATE=MDY|DMY

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>DEBUG=xxxxxxxx</td><td>turns on a specific trace option or any combination of options, where xxxxxxxx represents a debug setting in hexidecimal. The following table lists trace types and the associated file name and debug setting. See the Connect:Direct Traces chapter in the Connect:Direct Problem Isolation Guide for additional information.
Default: 00000000.
<table>
<tr><th>DEBUG Setting</th><th>Trace Type</th><th>Output DLB Name</th></tr>
<tr><td>80000000</td><td>COPY Routine and RUN TASK trace.</td><td>RADBD01</td></tr>
<tr><td>20000000</td><td>Display of final TCQE from DMCBSUBM.</td><td>TCQE</td></tr>
<tr><td>10000000</td><td>Full TPCB/SYMBOLICS from DMCBSUB.</td><td>DMCBSUB</td></tr>
<tr><td>08000000</td><td>Session manager trace.</td><td>RADBD05</td></tr>
<tr><td>04000000</td><td>Separate trace per task.
Example: "R0000005" to trace TASK 5.</td><td>Rnnnnnn</td></tr>
<tr><td>02000000</td><td>API session trace.</td><td>RADBD07</td></tr>
<tr><td>01000000</td><td>DMGCBSUB trace</td><td>RADBD08</td></tr>
<tr><td>00400000</td><td>TCQSH from DMCBCOPY</td><td>DMCBCOP</td></tr>
<tr><td>00040000</td><td>GETMAIN/FREEMAIN trace</td><td>RADBD16</td></tr>
<tr><td>00008000</td><td>I/O buffer trace</td><td>RADBD21</td></tr>
<tr><td>00004000</td><td>Write to operator (WTO) all dynamic allocation parameters</td><td>RADBD22</td></tr>
<tr><td>00000080</td><td>RPL trace - long</td><td>RPLOUT</td></tr>
<tr><td>00000040</td><td>RPL trace - short</td><td>RPLOUT</td></tr>
<tr><td>00000020</td><td>Version 2 Session Trace</td><td>RADBD33</td></tr>
<tr><td>00000008</td><td>Logon exit trace</td><td>RADBD35</td></tr>
<tr><td>00000004</td><td>Logon processor trace</td><td>RADBD36</td></tr>
<tr><td>00000002</td><td>SCIP exit trace</td><td>RADBD37</td></tr>
</table>
Note: Do not use any other bit settings unless your Sterling Commerce Customer Service Representative instructs you to use them.
For a jobstream example that contains the necessary trace DLBLs, punch job CDVSE32.S from your installation library.</td></tr>
<tr><td>DYNT.AUTOCAT= YES | NO .</td><td>indicates whether the automatic cataloging feature of CA-DYNAM/T, CA-EPIC, or BIM-EPIC tape management product is implemented
YES indicates that CA-DYNAM/T, CA-EPIC, or BIM-EPIC automatic cataloging feature is implemented.
NO indicates that CA-DYNAM/T, CA-EPIC, or BIM-EPIC automatic cataloging feature is not implemented.
Default: NO
Note: For DYNT.AUTOCAT=YES, you must also specify DYNT.DYNAMT=YES.</td></tr>
</table>

Parameter	Description
DYNT.DYNAMT= YES | NO	indicates whether support is generated for the CA-DYNAM/T, EPIC, or BIM-EPIC tape management product from Computer Associates International, Inc. **YES** indicates that CA-DYNAM/T, EPIC, or BIM-EPIC will be supported. **NO** indicates that CA-DYNAM/T, EPIC, or BIM-EPIC will not be supported. Default: NO
ECZ.COMPRESSION.LEVEL =n	determines the compression level of the ECZ extended compression. The valid value range is 1-9. Level 1 is the fastest compression, but it offers the lowest degree of compression. A higher compression level produces a higher quality of compression, but the higher level has the slowest rate of compression. Default: **1**
ECZ.MEMORY.LEVEL= n	identifies how much virtual memory is allocated to the internal compression routine. The valid value range is 1-9. Level 1 requires the least memory (1K), but it reduces the degree of compression. Level 9 provides the highest degree of compression, but it uses the most memory (256K) Default: **4**
ECZ.WINDOWSIZE=n	determines the size of the compression window or history buffer. The valid values are 8-15. Higher WINDOWSIZE specifications increase the degree of compression and use more virtual memory. Size 8 uses 1 KB of memory where Size 15 requires 128 KB of memory. Default: **13**
ESF.WAIT = hh:mm:ss (Connect:Direct ESF option only)	specifies the maximum amount of time the Connect:Direct software remains idle before checking for ESF-submitted Processes. The software retrieves any Processes submitted by means of the ESF when that time expires. The default is three minutes. Default: 00:03:00
ESTAE=YES | NO	allows Connect:Direct for VSE/ESA to handle abends in a subtask with error recovery, such as No Format 1 Label found during COPY routine. If No is specified and an error occurs, then it is possible that Connect:Direct for VSE/ESA will abend and go to End of Job. Default: YES
LOG.PRINTER= luname	specifies the name of the LU1 printer dedicated to collecting log data. There is not a default for log printer support. For more information about log printer support, see the *Connect:Direct Console Operator's Guide*. Default: None
LU2.WAIT=xx	specifies the amount of time to wait after a VTAM SEND or RECEIVE has been issued to an LU2 PC connection. The value *xx* ranges from 1 to 60 and specifies the number of minutes to wait before the connection is considered lost. At this time, the VSE/ESA to MS-DOS session is disconnected. This parameter is valid only for LU2 PC connections. If this value is omitted or 0 is specified, the default is three minutes. A typical use of this parameter is to prevent Processes from hanging in the Connect:Direct for VSE/ESA EX queue if the PC is booted while the transmission is in process. The default is three minutes. Default: 00:03:00

Parameter	Description
MAXBATCH= number of users	specifies the maximum number of batch users that can sign on to Connect:Direct at any one time. No other users are allowed to sign on when this limit is reached. The range is from 0 to 512. If 0 is used, this parameter is not used and the signon limit is set by MAXUSERS. Default: **0**
MAXPRIMARY= number of primary sessions	specifies maximum number of primary node-to-node sessions allowed to start on a node. A primary node represents the node-to-node half-session that was started as the result of one or more Processes being ready to run. The primary node is the session initiator. Valid values for VSE/ESA MAXPRIMARY range from **2** to 31. Default: **6**
MAXPROCESS= number of executing PNODE and SNODE processes	specifies the maximum number of executing PNODE and SNODE processes allowed at one time. The value allowed is between 2 and 1024, inclusive. Default: Value of MAXPRIMARY plus MAXSECONDARY.
MAXRETRIES= number of retries	specifies the maximum number of retries attempted to start a node-to-node session. If the session cannot be started, any Processes destined for the secondary node are placed in the hold queue with the Held for Call (HC) status. HC status means the Processes are being held because an error occurred during Process initiation. For more information about Process status, see the Managing Processes chapter in the C*onnect:Direct for VSE/ESA User's Guide*. Valid values for MAXRETRIES range from **0** to 99. Default: **7** For related information, see the WTRETRIES initialization parameter on page 88.
MAXSECONDARY= number of secondary sessions	specifies the maximum number of secondary node-to-node sessions that are allowed to start on a node. A secondary node represents the node-to-node half-session that was started because of a primary node initiation. Valid values for MAXSECONDARY range from **2** to 31. Default: **6**
MAXUSERS= number of users	specifies the maximum number of interactive users and batch programs that can be signed on to the software at any one time. When this limit is reached, no other users will be allowed to sign on. Valid values for MAXUSERS range from 2 to 512. Default: **6**
MCS.SIGNON= [SIGNON USERID= (userid,password) NETMAP= network map]	specifies the console operator's SIGNON command for the Operator Interface. You must specify the SIGNON, USERID, and NETMAP keywords. Default: None
NDM.KEY= a required parameter	obtain the key from the documentation shipped with the installation tape. You must enter the key in uppercase letters. Default: None

Parameter	Description
NDM.NODE= a required parameter	obtain the node parameter from the documentation shipped with the installation tape. You must enter the key in uppercase letters. Default: None

Parameter	Description

NETMAP.CHECK= YES | NO | (ALL | TCP | LU1, ALL | BOTH | NODENAME, FAIL | WARN | PASS)	defines the communication types that will perform NETMAP checking, the verification to perform, and the action to take if the node does not exist.
	NETMAP.CHECK=NO indicates that the Connect:Direct node attempting to establish a session with this Connect:Direct node need not be defined in the network map at this node. This is convenient when another Connect:Direct node initiates contact the majority of the time.
	If you want to require that the Connect:Direct node attempting to establish a session with this Connect:Direct node must be defined in the network map at this node under certain conditions, you need to define three parameters as follows:
	The first parameter (ALL or TCP or LU1) defines what communication types will perform NETMAP checking. ALL enables NETMAP checking for all communication types except for TCP/IP and LU1. TCP enables NETMAP checking for TCP/IP communication. LU1 enables NETMAP checking for LU1 communication.
	Note: If you code NETMAP.CHECK=TCP, you must provide a network map entry for each TCP/IP node. The adjacent node entry must specify the logical node name, port number, TCP/IP address, and a session type of TCP. An example follows:
	`ADJACENT.NODE=((UNIX.DALLAS,5555,199.5.5.5,TCP) ENVIRONMENT=UNIX)`
	The second parameter (ALL or BOTH or NODENAME) defines what verification is performed. ALL or BOTH for SNA enables verification on both the logical nodename and APPLID/LUNAME. For TCP, ALL or BOTH enables verification on both the logical nodename and IP Port number. For LU1 ALL or BOTH enables verification on both the logical nodename and LUNAME. NODENAME enables verification on the logical nodename only.
	The third parameter (FAIL or WARM or PASS) defines what action should be taken if the node does not exist in the NETMAP. FAIL indicates that access to the system is denied. WARN indicates that access is allowed, but a warning message is issued. PASS indicates that access is allowed without any warning message being issued.
	Default: (ALL, ALL, FAIL)
	If you want to enable NETMAP checking for all communication types, you must code the NETMAP.CHECK parameter for each. An example follows.
	`NETMAP.CHECK=(ALL,ALL,FAIL)`
	`NETMAP.CHECK=(TCP,NODENAME,WARN)`
	`NETMAP.CHECK=(LU1,NODENAME,FAIL)`
	In the example:
	◆ The first entry for NETMAP.CHECK causes Connect:Direct to check all LU types, except for LU1 and TCP, for both NODENAME and APPLID/LUNAME.
	◆ The second NETMAP.CHECK entry causes Connect:Direct to check TCP nodes for NODENAME only. If the node does not exist, Connect:Direct issues a warning message but allows access.
	◆ The third NETMAP.CHECK entry causes Connect:Direct to check LU1 nodes for NODENAME only. If the node does not exist, Connect:Direct does not allow access.

Parameter	Description
POWER.LST.CLASS = cccc	specifies the default classes to be used by the device driver (DMGPOWER) when monitoring VSE/POWER for LST output. You may specify 1-4 classes. Valid values are 0-9 or A-Z. Default: **A**.
POWER.LST.NETMAP = data set name	specifies the default network map data set to be passed on the signon statement used with an automatically submitted Process.
POWER.LST.PROC = procedure name	specifies the default procedure to be submitted for LST output directed to the VSE/POWER device driver (DMGPOWER). For additional information about using VSE/POWER (DMGPOWER), refer to the Connect:Direct for VSE/ESA User's Guide. Connect:Direct for VSE/ESA completes the following steps to derive the actual procedure name: 1. Checks the POWER.LST.USERIDx parameter for a procedure name. If you did not specify this parameter, the next step is used. 2.Checks the POWER.LST.PROC parameter for a procedure name. If you did not specify this parameter, the next step is used. 3. Uses the POWER.LST.USERIDx userid if neither step 1 nor step 2 applies. 4. If the derived procedure name is less than 8 characters and the SNODE is not overridden, the class of the VSE/POWER queue member will be appended to the procedure name.
POWER.LST.SNODE=remote node name	specifies the default SNODE to be specified when the process is submitted.
POWER.LST.USERID1= (userid, procedure_name, snode, netmap) POWER.LST.USERID2= (userid, procedure_name, snode, netmap) POWER.LST.USERID3= (userid, procedure_name, snode, netmap) POWER.LST.USERID4= (userid,p rocedure_name, snode, netmap) POWER.LST.USERID5= (userid, procedure_name, snode, netmap) POWER.LST.USERID6= (userid, procedure_name, snode, netmap) POWER.LST.USERID7= (userid, procedure_name ,snode, netmap) POWER.LST.USERID8= (userid, procedure_name ,snode, netmap)	specifies the userid (destination id) that the device driver (DMGPOWER) uses when monitoring VSE/POWER for LST output. You can specify 1-8 userids. At least one userid must be specified for the device driver to monitor for LST output. If you specify procedure_name, snode or netmap, the specifications override the general defaults specified by the POWER.LST.PROC, POWER.LST.SNODE, and POWER.LST.NETMAP parameters.

Parameter	Description
POWER.MPWD= password	specifies the master password used in your installation. If you do not specify the password, Connect:Direct for VSE/ESA uses binary zeros for the password as it accesses queue entries. If you want to force individual passwords for access to queue entries, specify POWER.MPWD to some value that is not your master password and is not used as a password for your queue entries. This action forces all your Processes to specify the correct password before queue entries can be accessed. However, queue entries which have binary zeros as a password (the default for jobs submitted from a local card reader or RJE) cannot be accessed by Connect:Direct.
POWER.PUN.CLASS= cccc	specifies the default classes to be used by the device driver (DMGPOWER) when monitoring VSE/POWER for PUN output. You may specify four classes. Valid values are 0-9 or A-Z. Default: **A**
POWER.PUN.NETMAP= dataset name	specifies the default network map data set to be passed on the signon statement used with an automatically submitted a Process.
POWER.PUN.PROC= procedure name	specifies the default procedure to be submitted for PUN output directed to the VSE/POWER device driver (DMGPOWER). For additional information about using VSE/POWER (DMGPOWER), refer to the Connect:Direct for VSE/ESA User's Guide. Checks the POWER.PUN.USERIDx parameter for a procedure name. If you did not specify this parameter, the next step is used. Connect:Direct for VSE/ESA completes the following steps to derive the actual procedure name: 1. Checks the POWER.PUN.PROC parameter for a procedure name. If you did not specify this parameter, the next step is used. 2. Uses the POWER.PUN.USERIDx userid if neither step 1 nor step 2 applies. 3. If the derived procedure name is less than 8 characters and the SNODE is not overridden, the class of the VSE/POWER queue member will be appended to the procedure name.
POWER.PUN.SNODE=remote node name	specifies the default SNODE to be specified when the Process is submitted.

Parameter	Description
POWER.PUN.USERID1= (userid, procedure_name, snode, netmap) POWER.PUN.USERID2= (userid, procedure_name, snode, netmap) POWER.PUN.USERID3= (userid, procedure_name, snode, netmap) POWER.PUN.USERID4= (userid, procedure_name, snode, netmap) POWER.PUN.USERID5= (userid, procedure_name, snode, netmap) POWER.PUN.USERID6= (userid, procedure_name, snode, netmap) POWER.PUN.USERID7= (userid, procedure_name, snode, netmap) POWER.PUN.USERID8= (userid, procedure_name, snode, netmap)	specifies the userid (destination id) that the device driver (DMGPOWER) uses when monitoring VSE/POWER for PUN output. You may specify 1-8 userids. You must specify at least one userid for the device driver to monitor for PUN output. If procedure_name, snode or netmap is specified, the specifications override the general defaults specified by the POWER.PUN.PROC, POWER.PUN.SNODE, and POWER.PUN.NETMAP parameters. Default: None
PRTYDEF= Process priority default	specifies the default priority for Processes submitted to the software. If you do not specify a priority on the Process statement, the default priority (10) will be used when placing the Process on the TCQ. Valid values for PRTYDEF range from 0 to 15.. Default: 10
QUIESCE= YES | NO	specifies whether DTF-to-DTF sessions will be started. If you specify YES, DTF-to-DTF sessions will not be started, but interactive sessions may be established. Connect:Direct for VSE/ESA places any Process that would normally be executed into the WAIT queue. The Using Process Control Commands chapter in the *Connect:Direct for VSE/ESA User's Guide explains how to resume normal operations by setting SESSIONS to* **R** *(Resume).* Default: NO
REUSE.SESSIONS=YES | NO	restricts PNODE sessions from using SNODE sessions of a different class that become available. If YES is specified when a Process is submitted and you cannot get a session, the Process runs on the next session that becomes available. This parameter saves the overhead involved for session establishment and termination. If NO is specified, the software does not allow the Process to run if an SNODE session becomes available. Default: YES

Parameter	Description
RUN.JOB.EXIT= modulename	specifies the name of the Connect:Direct module responsible for user read/write control of job streams. The Run Job exit calls this module. **modulename** can be 1-8 alphanumeric characters, with the first character alphabetic. A sample exit, DMCXRJ.S, is in the source library. **Note:** You must define a user on all nodes involved in Process execution. For additional information on specifying this value, see the Using Optional Connect:Direct for VSE/ESA Exits chapter in the Connect:Direct for VSE/ESA Administration Guide. Default: None
RUN.TASK.EXIT=modulename	specifies the name of the Connect:Direct module responsible for verifying that a user is authorized to run a specified program in the DTF address space. The modname can be 1-8 alphanumeric characters, with the first character alphabetic. A sample exit, DMCXRT.S can be found in the Connect:Direct source library. **Note:** A user must be defined on all nodes involved in Process execution. For additional information on specifying this value, see the Using Optional Connect:Direct for VSE/ESA Exits chapter of the Connect:Direct for VSE/ESA Administration Guide. Default: None
RUNTASK.RESTART= YES | NO	determines whether a RUN TASK program executes at restart if Connect:Direct for VSE/ESA is unable to determine whether the program has run. See the Managing Processes chapter in the *Connect:Direct for VSE/ESA User's Guide* for more details on RUN TASK Process recovery. This initialization parameter corresponds to the node where the RUN TASK step executes. For example, if the RUN TASK step is executing on the SNODE, then the coding of the RUNTASK.RESTART parameter on the SNODE determines whether the RUN TASK program executes at restart. Default: NO
SECURITY.EXIT= (modulename, DATASET | ALL) | OFF	specifies the name of the Connect:Direct exit to perform security checking. The modulename can be 1-8 alphanumeric characters, with the first character alphabetic. A sample exit, DMCXSEC.S, is in the source library. **Note:** If you specify DATASET or ALL, you must define a user on all nodes involved in Process execution. **DATASET** specifies that the exit is invoked only for file security. **ALL** specifies that the exit is invoked for file and access security. **OFF** specifies that the security feature is disabled; all requests are valid. For the first installation of Connect:Direct for VSE/ESA software, specify SECURITY=OFF until a security system is installed. **Note:** If this parameter is not specified, Connect:Direct does not perform customized security and uses the authorization facility instead. Default: Authorization Facility

Parameter	Description
SECURITY.NOTIFY = NO | HOLD	specifies whether Connect:Direct should send a message to users informing them of security failures on Processes they have submitted. **NO** specifies that Connect:Direct should not send a message to users informing them of security failures on Processes they have submitted. **HOLD** specifies that Connect:Direct should place Processes in the Hold queue with a status of HE if the other node returns an error during performance of security checking. The following scenario could occur with this parameter. SECURITY.NOTIFY=NO and a Process has NOTIFY=*userid* specified. If a stage 2 security error occurs on the SNODE, the userid is not notified. The userid is notified of all other errors or normal completion. All messages and return codes are in the Statistics File. Default: NO
STAT.ARCH.CONFIRM = YES | NO	indicates whether or not Connect:Direct is to have confirmation that the contents of a statistics file pair have been archived before erasing them and reusing the file pair to record new information. **YES** specifies that Connect:Direct require confirmation before reusing the file. The Connect:Direct for VSE/ESA utilities, DMSTARRT and DMSTARBT provide archive confirmation. You can invoke these utilities from an archive process and an archive batch job, respectively. If archive confirmation has not occurred at the time a file is to switch and be erased, Connect:Direct issues a WTOR requesting operator permission to overwrite the file. DTF activity effectively halts until you enter a response to the WTOR. An affirmative response causes an immediate file pair switch. A negative response disables the statistics logging function, but the DTF remains active. **NO** specifies that Connect erase the file contents at the time of a pair switch regardless of whether the file was archived or not. **Note:** If you code the STAT.ARCH.CONFIRM parameter as YES, then you should specify the STAT.SWITCH.SUBMIT parameter also. See the information about statistics archiving and the implications of requiring archive notification in the *Using Statistics Administration* chapter of the *Connect:Direct for VSE/ESA Administration Guide*. Default: NO
STAT.ARCH.DIR = archive directory file name	specifies the data set name of the directory of statistics archive files. Use the directory to maintain information about the files containing archived statistics records. This information includes the date/time range covered by the records in each file, and it is useful in locating the archive file containing records for a specific date/time. When this parameter is omitted, the archive directory functions are unavailable. Default: None

Parameter	Description
STAT.BUFFER.ESDSDATA = number of ESDS data buffers STAT.BUFFER.KSDSINDX = number of KSDS index buffers STAT.BUFFER.KSDSDATA = number of KSDS data buffers	specify the number of buffers VSAM allocates for the statistics clusters. Connect:Direct uses the values when generating VSAM access method control blocks (ACBs) for the statistics files. This allocation provides a means of tuning VSAM performance for statistics file access in the DTF. Connect:Direct specifies separate buffers for the index and data components for the key-sequenced clusters. Each buffer is the size of the control interval of the specified component. Defaults: STAT.BUFFER.ESDSDATA = 6 STAT.BUFFER.KSDSINDX = 6 STAT.BUFFER.KSDSDATA = 6
STAT.DSN.BASE=dsname base	specifies the high-level qualifier(s) for the statistics files cluster names. Use any valid VSE/ESA data set name qualifiers for this parameter. The high-level qualifier can range from 1-37 characters. Default: $NDMSTATS
STAT.ERROR= ABEND|DISABLE	specifies the action of the DTF for certain types of errors that can occur in the Statistics Facility, such as VSAM errors or repeated abends. ABEND specifies that the DTF will abend with U3400. DISABLE specifies that the Statistics Facility will be disabled, but the DTF will remain active. The DTF will operate normally; however, no statistics records will be written. When an abend occurs within the Statistics Facility, a dump is written to the dump library and recovery is attempted. After five recovery attempts, the DTF abends with U3400 or the Statistics Facility is disabled, depending on the value specified for the STAT.ERROR parameter. Default: ABEND

Parameter	Description
STAT.EXCLUDE = (record type list)	specifies what record types to exclude from the statistics log. The system does not pass excluded records to the statistics exit. The two-character identifiers specify the record types in the list. See the Using Optional Connect:Direct for VSE/ESA Exits chapter in the Connect:Direct for VSE/ESA Administration Guide for a complete list of record type identifiers. Default: None **Note:** You can also exclude records *selectively* by the Statistics exit. See the Using Optional Connect:Direct for VSE/ESA Exits chapter of the Connect:Direct for VSE/ESA Administration Guide for information on the statistics exit. The recording of specific record types can also be turned on and off during DTF execution using the STATISTICS ON/OFF API command. See the *Using Administration Commands* chapter in the Connect:Direct for VSE/ESA Administration Guide for an explanation on the STATISTICS ON/OFF command. The following example will exclude member records from the statistics log. `STAT.EXCLUDE = (MC)` **WARNING:** Statistics records are often useful or indispensable in debugging problems with Connect:Direct for VSE/ESA. The exclusion of records from the statistics log can make problem determination by the Sterling Commerce Customer Services staff difficult or impossible in some cases. Do not exclude the following record types: CT Copy Termination PS Process Submit PT Process Termination RJ Run Job RT Run Task SW Submit within Process WO WTO

Parameter	Description

STAT.FILE.PAIRS=number	indicates the number of file pairs to use. You must specify at least two file pairs. The number of file pairs ranges from 2 to 20.
	The STAT.DSN.BASE parameter together with the STAT.FILE.PAIRS parameter specify the statistics file pair list. During DTF initialization, Connect:Direct uses these two values to develop the data set names for the statistics files. The low-level qualifier, ESDS*nn*, is added to the base data set name to form the names of the ESDS clusters. In ESDS*nn*, *nn* is the number that identifies the position of the file pair in the list. Connect:Direct uses KSDS*nn* as the qualifier to form the names of the KSDS clusters.
	The following example uses both STAT.DSN.BASE and STAT.FILE.PAIRS to specify the statistics file pair list.
	`STAT.DSN.BASE=CD.STATS /* STATISTICS DSNAME BASE */`
	`STAT.FILE.PAIRS=3 /* NUMBER OF PAIRS */`
	This generates the following file pair list:
	`CD.STATS.ESDS01 /* FIRST FILE PAIR ... ESDS */`
	`CD.STATS.KSDS01 /* FIRST FILE PAIR ... KSDS */`
	`CD.STATS.ESDS02 /* SECOND FILE PAIR ... ESDS */`
	`CD.STATS.KSDS02 /* SECOND FILE PAIR ... KSDS */`
	`CD.STATS.ESDS03 /* THIRD FILE PAIR ... ESDS */`
	`CD.STATS.KSDS03 /* THIRD FILE PAIR ... KSDS */`
	Default: **2**

STAT.INIT = WARM | COLD	specifies whether to erase the contents of the statistics files defined to the DTF at initialization time. **WARM** specifies that the system will not erase the contents at DTF initialization. In this case, statistics from prior DTF executions are available in the new execution. **COLD** specifies that the system will erase all preexisting records. Only records generated during the current execution are available. Default: WARM
STAT.QUEUE.ELEMENTS = queue size of statistic records to be written	specifies the size of the queue that holds statistic records to be written. When a Connect:Direct task needs to write a statistic record, it queues the record to be written to the statistics facility asynchronously. The statistics facility then processes the queue and writes the statistics record. This parameter controls the size of this queue. When the queue becomes full, tasks that need to write a statistics record must wait until a slot in the queue becomes available. You can use this parameter as a statistics tuning device and as a method of controlling the number of waiting tasks. The maximum size of the queue is 99 records. Default: 99

Parameter	Description
STAT.SWITCH.SUBMIT= dsn [member]	allows a site to name a sequential data set that contains a Process to be submitted at statistics file pair switch time. Use this feature to submit a Process that archives the statistics file pair that has just filled. Alternatively, the Process can submit a batch job which will in turn archive the statistics records. **Note:** The STAT.SWITCH.SUBMIT parameter is identical in format to the DSN parameter of the Connect:Direct SUBMIT statement. If you code the STAT.ARCH.CONFIRM parameter as YES, then you should specify the STAT.SWITCH.SUBMIT parameter also. The Process submitted is associated with the security ID named in the STAT.USER parameter. Connect:Direct internally generates a SUBMIT command to submit the Process and specifies a single symbolic parameter, &EDSN. The symbolic parameter &EDSN specifies the data set name of the entry sequenced cluster just filled. Therefore, the DTF supplies the archive Process with the name of the ESDS cluster to archive. You can make archived statistics records available to the SELECT STATISTICS command by copying them to a VSAM entry-sequenced cluster and using the DMSTBKEY utility to recreate the associated index information in a VSAM key-sequenced cluster. Refer to the *Using Environment Commands* chapter in the Connect:Direct for VSE/ESA User's Guide for information on the SELECT STATISTICS command. See the Using Statistics Administration chapter in the Connect:Direct for VSE/ESA Administration Guide for a discussion of archiving statistics. Default: None
STAT.SWITCH.TIME = (hh:mm:ss , ...)	specifies times of day to perform a statistics file switch. The STAT.SWITCH.TIME is in twenty-four hour clock format. You can specify up to four times in this parameter. The system initiates a switch whenever one of the named times occurs regardless of whether the currently active files are full. If you do not specify the STAT.SWITCH.TIME parameter, switching occurs whenever a file pair becomes full or in response to the API command STATISTICS SWITCH. Default: None If you do not specify this parameter or if you do not implement the stage 2 security exit, the statistics logging task runs with the security ID of the DTF job and with the user ID of NDM. In this case, the TP and S2 records are written with NDM in their user ID fields.
STATISTICS.EXIT=module name	specifies the name of the Connect:Direct statistics exit module the user can invoke to complement the statistics- gathering functions. This program can be used to log Connect:Direct information and to log custom information. A sample exit, DMCXSTAT.S, is in the source library. Default: None

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>STRNO.xxxxxx=n</td><td>specifies the VSAM string number. The VSAM string number is the maximum number of concurrent requests allowed for each Connect:Direct VSAM file. The string xxxxxx represents the abbreviated name for a Connect:Direct VSAM file as shown in the following table. The default value for n is also shown.

If the number of requests for a particular file exceeds the STRNO value, those requests will be queued for processing.

If delays in Connect:Direct processing are observed, the default values for the Connect:Direct files should be increased, particularly the TCQ and NETMAP files.

<table>
<tr><th>File ID</th><th>String Value</th><th>Description</th></tr>
<tr><td>AUTH</td><td>2*</td><td>Authorization file</td></tr>
<tr><td>CKPT</td><td>2*</td><td>Checkpoint/restart file</td></tr>
<tr><td>DEFAULT</td><td>1</td><td>Default value for VSAM files other than the ones listed</td></tr>
<tr><td>MSG</td><td>4*</td><td>Message file</td></tr>
<tr><td>NETMAP</td><td>4</td><td>Network Map file</td></tr>
<tr><td>STAT</td><td>2</td><td>Statistics file</td></tr>
<tr><td>TCQ</td><td>6*</td><td>TCQ file</td></tr>
<tr><td>TCX</td><td>3*</td><td>TCX file</td></tr>
<tr><td>TYPE</td><td>2*</td><td>Type defaults file</td></tr>
</table>
* The value shown for this file ID is the minimum value. The default value is maximum Processes +1.

Each increment of STRNO value uses approximately 5K of virtual storage.

Default: None</td></tr>
<tr><td>SUBMIT.EXIT= modulename</td><td>specifies the name of the module responsible for controlling changes to parameters, such as Process name, priority, class, and secondary node. The module name can be 1-8 alphanumeric characters, with the first character alphabetic.

The supplied Connect:Direct sample exits, DMCXSUB and DMCXSUBM, are in sublibrary S of the source statement library.

Default: None</td></tr>
<tr><td>TCP= OCS | CSI | NO</td><td>specifies whether the TCP/IP connection modules are loaded during initialization, and if so, what kind.

OCS specifies the OpenConnect Systems TCP/IP support.

CSI specifies the Connectivity Systems TCP/IP support.

NO causes no modules for the TCP/IP connection to be loaded during initialization.

Default: NO</td></tr>
<tr><td>TCP.NAME=nn</td><td>specifies the Connectivity Systems, Inc. subsystem identification number. Valid value range is 00-99.

Default: 00</td></tr>
<tr><td>TCP.PORTNUM= port#</td><td>specifies the TCP/IP server port number. The number ranges from 1 to 65000.

Default: 1364</td></tr>
</table>

Parameter	Description
TCQ= WARM | COLD	specifies how the TCQ will be initialized. If you specify WARM, Connect:Direct will use the TCQ as it exists. **Note:** If you specify **COLD**, the Connect:Direct software reinitializes the TCQ and any Processes left on the TCQ will be lost.
V2.BUFSIZE= maximum buffer size for LU6.2	specifies the maximum buffer size that Connect:Direct uses for LU6.2 data transmission. The valid number range is 3712-65536. Default: 4096
WTRETRIES= hh:mm:ss	specifies the amount of time in hours, minutes, and seconds between attempts to reestablish a node-to-node session. This parameter is used in conjunction with the MAXRETRIES initialization parameter when attempting to establish a lost session. The default is three minutes. For related information, see the MAXRETRIES initialization parameter on page 75. Default: 00:03:00

Initialization Parameters for VSAM Files and Catalogs

The following initialization parameters are for Connect:Direct VSAM files and (optional) VSAM catalogs. You must specify each DSN parameter. The catalog parameter needs to be specified only if it is different from the catalog specified by IJSYSUC.

Parameter	Description
AUTHDSN=dsn	specifies the file name of the VSAM authorization file.
CKPTDSN=dsn	specifies the file name of the VSAM checkpoint/restart file.
MSGDSN=dsn	specifies the file name of the VSAM message file.
NETDSN=dsn	specifies the file name of the VSAM network map file.
TCQDSN=dsn	specifies the file name of the VSAM TCQ.
TCXDSN=dsn	specifies the file name of the VSAM TCX.
TYPEDSN=dsn	specifies the file name of the VSAM type defaults file.

Optional Initialization Parameters for VSAM Files and Catalogs

The following parameters are necessary only when a Connect:Direct file has been defined on a VSAM catalog other than that specified by IJSYSUC. There is no default for these parameters. If you do not specify these parameters, the job catalog (IJSYSUC) or the VSAM main catalog is used.

Parameter	Description
AUTHCAT=dsn	specifies the catalog name of the VSAM authorization file.
CKPTCAT=dsn	specifies the catalog name of the VSAM checkpoint/restart file.
MSGCAT=dsn	specifies the catalog name of the VSAM message file.
NETCAT=dsn	specifies the catalog name of the VSAM network map file.
STATCAT=dsn	specifies the catalog name of the VSAM statistics file. Default: None
TCQCAT=dsn	specifies the catalog name of the VSAM TCQ file.
TCXCAT=dsn	specifies the catalog name of the VSAM TCX file.
TYPECAT=dsn	specifies the catalog name of the VSAM type defaults file.

Chapter 7

Starting Connect:Direct

After you complete your installation, you can start Connect:Direct and run sample Processes to verify your installation. You can also customize your Connect:Direct. This chapter explains how to perform these activities.

Start Connect:Direct

Start Connect:Direct by using the start-up job stream called NDM.PROC in the distribution library.

Complete the following instructions for the appropriate VSE/ESA operating system before starting Connect:Direct.

1. Prepare the Connect:Direct job stream as shown in the following figure. This is done by identifying where the initialization parameters are located on the EXEC parameter of the member and the optional sublibrary.

   If you do not specify a PARM= on the EXEC parameter, initialization parameters will be read from SYSIPT.

   Note: This job stream is loaded to the procedure library as NDM.PROC during installation.

   If your VTAM definitions are in nonsystem VTAM libraries, such as PRD2.CONFIG, you will need to add a LIBDEF card to reference your VTAM mode tables to all job streams to run the DTF.

```
// JOB   NDMINIT
*
* THIS JOB STREAM STARTS UP C:D for VSE. THE INITIALIZATION PARAMETERS
* ARE INCLUDED FROM THE  LIBRARY MEMBER INDICATED IN THE "PARM="
* KEYWORD ON THE "EXEC DMINIT" STATEMENT.  IF YOU WANT THE
* INITIALIZATION PARAMETERS TO BE IN-STREAM, REMOVE THE "PARM= ..."
* KEYWORD FROM THE "EXEC DMINIT" STATEMENT AND INSERT THE
* INITIALIZATION PARAMETERS IMMEDIATELY FOLLOWING THE
* "EXEC DMINIT" STATEMENT.
*
* CHANGE "$HILQ" TO THE HIGH-LEVEL QUALIFIER.
* CHANGE "$VSVOL" TO THE APPROPRIATE VOLUME SERIAL NUMBERS.
* CHANGE "$RTRK" TO THE STARTING RELATIVE TRACK/BLOCK NUMBER.
* CHANGE "$NTRKS" TO THE NUMBER OF TRACKS/BLOCKS.
* CHANGE "$MEMBER" TO THE MEMBER THAT CONTAINS THE INITIALIZATION
*     PARAMETERS.
* CHANGE "$TYPE" TO THE $MEMBER TYPE.
*
// OPTION  LOG,NODUMP
*
// EXEC PROC=NDMLIBS
*  NDM TEMPORARY FILE
// DLBL  NDMX001,'$HILQ.DMTEMPF',0000
// EXTENT  SYS003,$VSVOL,1,0,$RTRK,$NTRKS
// ASSGN SYS003,DISK,VOL=$VSVOL,SHR
*
// EXEC  PGM=DMINIT,SIZE=(DMINIT,512K),PARM='N($MEMBER)',DSPACE=6M
/&
/*
```

Note: If you are using VSE/ESA Version 1, do not use the DSPACE parameter.

2. Submit the start-up job stream to batch processing. The following messages may be issued for Connect:Direct for VSE/ESA.

```
SITA001I
Connect:Direct for VSE/ESA INITIALIZATION BEGUN.
SITA002I CONNECT:Direct PARAMETER FILE ALLOCATED AND OPEN.
SITA022I LOADING CONNECT:Direct MODULES.
SITA023I INITIALIZING CONNECT:Direct STORAGE.
SITA024I BUILDING THE TCA CHAIN.
SITA025I BUILDING THE ECB ADDRESS LIST.
SITA026I CREATING THE SYSTEM TASKS (MASTER and TIMER).
SITA027I BUILDING THE DDN TABLE.
SITA067I MESSAGE FILE IS OPEN.
SITA068I AUTHORIZATION FILE IS OPEN.
SITA134I TYPE DEFAULTS FILE IS OPEN.
SITA069I NETWORK MAP FILE IS OPEN.
SITA129I OPENING CHECKPOINT DATASET.
SITA074I CHECK POINT FILE IS OPEN.
SITA030I PCQ/TCQ BEING BUILT.
SITA029I STATISTICS FACILITY BEING INITIATED.
SSTL019I Statistics Facility successfully initiated.
SSTL026I
SITA137I XPCC DMINITF4 INTERFACE ESTABLISHED TO POWER.
SITA034I VTAM SERVICES BEING INITIATED. APPLID=V1CDD701.
SITA036I
Connect:Direct for VSE/ESA 3.01.00 PUF 0 INITIALIZATION COMPLETE.
CONNECT:Direct PUF0 - READY FOR COMMAND:
```

3. An alternate jobstream in member CDVSE32.S in the installation library has all the system DLBLs required for Connect:Direct product/system traces. Place the trace DLBLs into your Connect:Direct batch job so that you can create system traces dynamically.

Note: These DLBLs will not be opened unless you specify DEBUG.BITS in your initialization parameters or enter the Connect:Direct for VSE/ESA console command: MODIFY BITS.ON. This job sample assumes that you are using CA-DYNAM/D for your disk management system.

```
* $$ JOB JNM=CDVSE32,CLASS=C,DISP=D,NTFY=YES,USER='CONNECT:Direct'
* $$ LST CLASS=Q,DISP=L,PRI=9,LST=SYSLST,DEST=(,USER01)
// JOB CDVSE32 CONNECT:Direct for VSE/ESA Version 3.2.00
* +---------------------------------------------------------------+
* | CDVSE32 - JOB - 10/20/97 - Sterling Commerce CONNECT:Direct   |
* +---------------------------------------------------------------+
* | This job is used to initialize the CONNECT:Direct for VSE/ESA |
* | system.  Be sure that you have reviewed all of the DLBL's in  |
* | this sample job and make sure they contain the correct data set |
* | names, extent cards are correct, etc.                         |
* +---------------------------------------------------------------+
* | NOTE: The initialization Parameters (INITPARMs) are located in |
* |       the VSE CONNECT:Direct sample sublibrary under member:  |
* |       INITPARM.S                                              |
* +---------------------------------------------------------------+
/. VERIFY ........................... VERIFY VSAM FILES
// DLBL IJSYSUC,'VSE.COMMON.CATALOG',,VSAM
// EXEC IDCAMS,SIZE=AUTO
 VERIFY DATASET(USER01.CSD2100.STATS.ESDS01)
 VERIFY DATASET(USER01.CSD2100.STATS.KSDS01)
 VERIFY DATASET(USER01.CSD2100.AUTH)
/*
/. LOADLABL ......................... LOAD CONNECT:Direct LABELS
// OPTION PARTDUMP
// EXEC PROC=NDMLIBS
// DLBL IJSYSUC,'VSE.COMMON.CATALOG',,VSAM   VSAM Catalog Name
// DLBL SYSOUT,'SYSOUT.SYS002'  General SYSOUT Messages
// ASSGN SYS002,SYSLST
// DLBL NDMX001,'USER01.TEST.DMTEMPF'  CONNECT:Direct Dynam Workfile
// EXTENT SYS003,WORK00,1,0,1,25
// DLBL ESTAE,'SYSOUT.SYS004'  STXIT/ABEND Information
// ASSGN SYS004,SYSLST
// DLBL NDMCMDS,'SYSOUT.SYS006'        CONNECT:Direct Commands Issued
// ASSGN SYS006,SYSLST
// DLBL RADBD01,'SYSOUT.SYS001'  Copy Routine/Run Task Traces
// ASSGN SYS001,SYSLST
// DLBL RADBD05,'SYSOUT.SYS005'       Session Manager Traces
// ASSGN SYS005,SYSLST
// DLBL RADBD07,'SYSOUT.SYS007'  API Session Trace
// ASSGN SYS007,SYSLST
// DLBL RADBD08,'SYSOUT.SYS008'        DMGCBSUB Trace
// ASSGN SYS008,SYSLST
// DLBL RADBD16,'SYSOUT.SYS016'        GETMAIN/FREEMAIN Trace
// ASSGN SYS016,SYSLST
// DLBL RADBD21,'SYSOUT.SYS021'        I/O Buffer Trace
// ASSGN SYS021,SYSLST
// DLBL RADBD22,'SYSOUT.SYS022'        WTO Allocation Parameters
// ASSGN SYS022,SYSLST
// DLBL RADBD35,'SYSOUT.SYS035'  Logon Exit Trace
// ASSGN SYS035,SYSLST
// DLBL RADBD36,'SYSOUT.SYS036'        Logon Processor Trace
// ASSGN SYS036,SYSLST
// DLBL RADBD37,'SYSOUT.SYS037'        SCIP Exit Trace
// ASSGN SYS037,SYSLST
// DLBL DYNDIAG,'SYSOUT.SYS040'        Dynamic Allocation Trace
// ASSGN SYS040,SYSLST
// DLBL NDMLOG,'SYSOUT.SYS041'         CONNECT:Direct Log
// ASSGN SYS041,SYSLST
// DLBL RPLOUT,'SYSOUT.SYS042'         RPL List Trace
// ASSGN SYS042,SYSLST
```

(continued)

```
/. TRACE2 ........................... SEPERATE PER TASK DIAGS
// DLBL R000005,'SYSOUT.SYS050'        TRACE FOR PROCESS # 0005
// ASSGN SYS050,SYSLST
// DLBL R000006,'SYSOUT.SYS051'        TRACE FOR PROCESS # 0006
// ASSGN SYS051,SYSLST
// DLBL R000007,'SYSOUT.SYS052'        TRACE FOR PROCESS # 0007
// ASSGN SYS052,SYSLST
// DLBL R000008,'SYSOUT.SYS053'        TRACE FOR PROCESS # 0008
// ASSGN SYS053,SYSLST
// DLBL NETLOG,'SYSOUT.SYS058'         CONNECT:Direct Network Log
// ASSGN SYS058,SYSLST
// DLBL APITRAC,'SYSOUT.SYS059'        CONNECT:Direct API Trace
// ASSGN SYS059,SYSLST
// ASSGN SYS060,SYSLST                 SYSLST Assignment
// ASSGN SYS200,DISK,VOL=USER05,SHR    CA-DYNAM Catalog Assignment
/. DMINIT ........................... CONNECT:Direct INITIALIZATION
// EXEC PGM=DMINIT,SIZE=(DMINIT,512K),PARM='N(INITPARM)',DSPACE=6M
/*
/&
* $$ EOJ
```

Note: If you are using VSE/ESA Version 1, do not use the DSPACE parameter.

Sign On to Connect:Direct and Run Sample Processes

The software should now be correctly installed. To gain experience with Connect:Direct operation, you can now sign on to Connect:Direct and run the sample Processes provided.

You can sign on to the Connect:Direct software using the following methods:

- ✦ Operator Interface
- ✦ CICS Interface
- ✦ Batch Interface

Operator Interface

You are automatically signed on to Connect:Direct when the first command or CLIST is issued. The MCS.SIGNON initialization parameter must be specified in the appropriate initialization parameter file. For instructions on using the operator interface, see the *Connect:Direct Console Operator's Guide*.

CICS Interface

For instructions on use of the CICS interface, refer to the *Using Connect:Direct CICS Interface Signon Defaults* chapter in the *Connect:Direct for VSE/ESA Administration Guide*.

Batch Interface

For instructions on using the batch interface, see the *Connect:Direct for VSE/*ESA *User's Guide.*

The following table describes the sample Processes distributed as Type N members of the Connect:Direct source library. These Processes require some customization before they can be submitted. The comments section of each Process provides instructions.

You must also define a VSAM file, with attributes identical to the Connect:Direct message file, prior to running some of the Processes.

Process	Purpose
PROC01	VSAM to SAM example
PROC02	SAM to SAM example
PROC03	SAM to NL TAPE example
PROC04	SAM to VSAM example
PROC05	RUN TASK and DMNOTIFY example
PROC06	SUBMIT within a Process example
PROC07	VSAM to VSAM example

Extended Submit Facility (ESF)

The extended submit facility (ESF) allows Processes to be submitted even if the Connect:Direct DTF or VTAM connection between nodes is not active. As a result, users can sign on and submit requests that will execute when the DTF becomes active. When a Process is submitted and the DTF is not active, the request is stored in a file. When the DTF resumes operation, Connect:Direct completes the submission procedure.

The ESF is only available for jobs being submitted to the local node. For information about the local and adjacent nodes, see the *Maintaining Connect:Direct for VSE/ESA* chapter in the *Connect:Direct for VSE/ESA Administration Guide*.

You must be unable to establish a session with the DTF before the ESF can become active. If this condition is met, the Process will be submitted and the user will be notified.

Only the SIGNON, SUBMIT, and SIGNOFF commands can be issued using the ESF. All other commands will be rejected.

The SUBMIT.EXIT initialization parameter will not be used if Processes are submitted by means of the ESF. At submit time, only the Stage 1 signon and submit exits will be used.

Perform Verification

Perform the following steps for verification:

1. Customize the test Processes.

   Customize the node names, data set names, unit, and VOLSER as required in each test Process before submitting it. The comments section of each Process provides instructions.

   Consult your *Connect:Direct for VSE/ESA User's Guide* for how to modify and submit Processes.

2. Run the test Processes using the IUI, batch, or operator interface.

Customize After Installation

After the installation is complete and you have verified its success, you might want to customize files, screens, and Processes. Consult the pages mentioned below for instructions.

The following steps are optional:

1. Modify the network map file. For additional information, refer to the Mai*ntaining Connect:Direct for VSE/ES*A chapter in the *Connect:Direct for VSE/ESA Administration Guide*.
2. Modify the user authorization file. Further information on the user authorization file is in *Maintaining User Authorization File* in the *Connect:Direct for VSE/ESA Administration Guide*.
3. Modify the type file. For detailed information about commands you can use to modify the type file, refer to the *Using Type Key File Commands* chapter in the *Connect:Direct for VSE/ESA Administration Guide*.
4. Modify the Messages file. Refer to the *Maintaining Connect:Direct for VSE/ESA* chapter in the *Connect:Direct for VSE/ESA Administration Guide*.
5. Modify the sample Processes. Information on modifying the sample Processes is on the Connect:Direct Processes Web site at www.sterlingcommerce.com/Documentation/processes/processhome.html and the *Using Environment Commands* chapter in the *Connect:Direct for VSE/ESA User's Guide*.

Optional Disk Management Post-Installation Customization

If you will use either CA-DYNAM, CA-EPIC, or BIM-EPIC Tape/Disk Management Systems with Connect:Direct, you should perform the following steps after your installation:

1. Add new sequential files (disk or tape) that will be controlled by either CA-DYNAM, CA-EPIC, or BIM-EPIC. Ensure that you specify a default allocation amount and type in the catalog records.

2. Establish a new storage pool if you want to create Connect:Direct disk files outside your other production files.
3. Update your vault rotation list if the Connect:Direct files need to be archived off site.

Refer to the CA-DYNAM, CA-EPIC, or BIM-EPIC administration guides for product assistance.

Chapter 8

Tuning the Connect:Direct CICS Interface for Performance

Once you have Connect:Direct CICS Interface installed and functional, you can tune it to enhance performance and usage of resources.

Actual resource usage by Connect:Direct varies widely, depending on the implemented configuration, including the number of DTF nodes that can be signed on to by Connect:Direct CICS Interface, the number of subtasks defined per node, and other considerations, such as the types of commands executed.

You can tune your Connect:Direct CICS Interface system based upon guidelines provided to assist you in estimating the impact of Connect:Direct on your CICS online environment for the following:

- File I/O Buffers
- Auxiliary or Main Temporary Storage
- Transaction Priorities and Class Assignments

Auxiliary or Main Temporary Storage

You can choose main or auxiliary temporary storage as a trade-off between using more real storage (main) and increasing disk I/O activity (auxiliary). Connect:Direct makes heavy usage of temporary storage, especially during SELECT PROCESS and SELECT STATISTICS operations.

CICS Dynamic Storage Area Usage

The Connect:Direct CICS Interface product uses the CICS dynamic storage area as follows:

- CICS task control global exit uses approximately 1K.
- CD and CDA transactions use approximately 10-20K for transaction-related storage and temporary storage records.

In addition, the SELECT PROCESS (SP) and SELECT STATISTICS (SS) functions are heavy users of CICS temporary storage. Results returned by these functions are written to temporary

storage as a series of 300-byte records. The amount of available CICS dynamic storage area could be seriously diminished.

Parameters are provided on the DTF NODE configuration screen, as shown in the *Using Connect:Direct CICS Interface DTF Node Records* chapter, of the CDA transaction (OUTPUT RECORD LIMIT) and on the IUI.NODE statement of the Connect:Direct CICS Interface configuration load program (TDLIMIT) to limit the amount of data returned by these commands. TDLIMIT is a parameter on the IUI.NODE statement.

Storage Requirements

Non-CICS storage used by Connect:Direct CICS Interface follows:

- Connect:Direct API programs use approximately 340K.
- Connect:Direct CICS Interface signon table, node table, and subtask table(s) are allocated above the line, with the total amount required calculated as follows:

```
36 + (18*(T+W)) + (304*S) + (224*N) + (144*T)
```

  In the previous example, **T** is the sum of the maximum subtask per node values or all nodes eligible for sign on by Connect:Direct (MAXIMUM WORKER SUBTASKS on the DTF NODE configuration screen or VTAM.SESSIONS on the IUI.NODE parameter of the Connect:Direct Configuration Load program).

  W is the total number of entries in the WORK QUEUE for all DTF nodes.

  S is the value of the MAX.SIGNON parameter of the Configuration Parameters screen or CONTROL.PARMS statement of the Configuration Load program.

  N is the number of nodes eligible to be signed on to by Connect:Direct (the number of DTF.NODE records defined in the Connect:Direct configuration file).

- Work queues for each DTF node are allocated from storage. The size of these can be calculated as 64 * W, where W is the total number of work queue entries for all DTF nodes as defined in the ENTRIES IN WORK QUEUE parameter on the CONFIGURATION - DTF RECORDS screen for each node.
- Activation of the Connect:Direct interface requires approximately 400K of storage.
- Activation of each DTF node subtask requires approximately 18K.
- Storage required for command submission varies depending on the command, with the range being from 18K (for the SELECT STATISTICS function) to almost 200K (for the SUBMIT PROCESS function). You can limit the number of simultaneous command submissions by limiting the total number of subtasks for all nodes (using the MAX.TASKS configuration parameter), or by implementing CICS transaction class (TCLASS) limitations on the Connect:Direct transaction to limit the maximum number of concurrent users of the transaction.

Transaction Priorities and Class Assignments

If you find that heavy usage of Connect:Direct CICS Interface causes resource shortages in CICS, you can impose transaction class limits on the Connect:Direct transaction. You can impose class limits by first assigning a transaction class to the transaction, and then placing a limit on the number of transactions in that class. You can assign the Connect:Direct transaction to a lower priority than those of other tasks in your system to increase system throughput.

Appendix A

Installation Worksheets

The worksheets included in this appendix are to help you plan and complete your installation and set up your Connect:Direct for VSE/ESA node.

Planning Your Installation

Read your *Connect:Direct for VSE/ESA Release Notes* and complete the following information.

Verify Your Hardware and Software Requirements:

	Available	Required
DASD		
MSHP		
Tape Drive		
VSE/ESA Operating System		
VSE/ESA		
VTAM Release		
Static Partition		
Dynamic Partition		
Connect:Direct for CICS		
SNA Network Requirements (LU6.2)		
VTAM		
IBM Advanced Communications Functions for Network Control Program (NCP)		
SNA Network Requirements (Non-LU6.2)		
VTAM		
IBM Advanced Communications Functions for Network Control Program (NCP)		

Plan Your DASD Requirements

	Available	Required
VSAM Files Space Requirements		
Data Transmission Facility (DTF) Virtual Storage Requirements		

Prepare Your VTAM Definitions

APPLID of Local DTF	
APPLID for IUI and Batch Sessions	
APPLID for Loop-Back Processing	
APPLID for MS-DOS	
Logmode Table Entries	
Cross-Domain Resource Manager Minor Nodes	
Cross-Domain Resources	
Multiple DTFs on Same Machine or VTAM	
Network or Domain Name	

Prepare VTAM and NCP Parameters

Select RU Size for SNA Sessions	
Determine Effects of NCP Parameters	

Information Required During Installation

Compile the following information on this worksheet before you begin your installation. This information will be required during the installation:

Logical node name for local Connect:Direct node	
VTAM DTF APPLID for local Connect:Direct node	
SUPERUSR password for local Connect:Direct node (optional)	
Logical node names for adjacent nodes (remote nodes)	
VTAM DTF APPLIDS for adjacent nodes (remote nodes)	
Interactive APPLIDS (for all nodes)	
High-level qualifier for Connect:Direct files ($HLQ)	
High-level qualifier for Connect:Direct VSAM files ($HILQ)	
High-level qualifier for Connect:Direct VSAM files ($HILQ)	
Device address for Connect:Direct distribution tape for MSHP ($CUU)	
Volume serial number for Connect:Direct VSAM files ($VSVOL)	
Appropriate starting relative track/block number ($RTRK) (One for each)	
Appropriate number of tracks/blocks ($NTRKS) (One for each)	
VSAM catalog name for Connect:Direct VSAM files ($CAT)	
Sublibrary name for installation library ($SLIB) for MSHP	
Sublibrary name for CICS installation library for MSHP ($CLIB optional) (Can be same sublibrary as $SLIB)	

Installation Steps Worksheet

This worksheet follows the installation process as explained in *Installing Connect:Direct for VSE/ESA for the First Time* on page 15.

Step 1-Allocate/Define Libraries

Use the information you gathered for the *Information Required During Installation* worksheet to complete this step of the installation.

Step 2-Load Installation Libraries to Disk

Which installation procedure will you use? (Choose one)		
Step 2a-Installation Using VSE/ESA Interactive Interface Panels		
Step 2b-Installation Using MSHP		
If you selected to use Step 2a, you will be asked to provide the following information:		
Tape Drive Address		
Job Destination		
Will you install CICS now?	Yes	No
If you selected to use Step 2b, you will be required to provide the following information:		
Sublibrary name ($SLIB)		
Sublibrary name ($CLIB)		
Tape Drive Address ($CUU)		

Edit one of the JCL samples shown on page 17 or page 18 to supply the information you just recorded.

Step 3--Catalog and Link-edit DMGRATX (New Installations Only)

- Retrieve CATLRATX.PROC from the Connect:Direct distribution library.
- Edit the job stream as instructed in the comments at the beginning of the job stream.
- Add POWER JECL
- Replace $CUU and $SLIB with the values you defined in Step 2.

Post Installation Worksheet

Prepare VTAM Definitions

Prepare the following definitions:

APPLID (local node)	
APPLID (PNODE=SNODE processing)	
Example definitions (NDMAPPL and NDMIAPPL) are source members of type V.	
APPLIDs (interactive and batch users on the same node)	
Mode table entry (local node)	
Example definitions (NDMMODET) are source members of type V.	
Mode table entries (one for each type of connection)	

Create and Load the Network Map

Use the Network Map Definitions Worksheets in this appendix to prepare your adjacent node definitions.

Select Initialization Parameters

The NDM.NODE and NDM.KEY parameters are required for proper initialization of the Connect:Direct for VSE/ESA software.

NDM.NODE	
NDM.KEY	

Initialization parameter for VSAM files are also required. Refer to DEFVSAM.PROC which you loaded in Step 2.

For initial installation and testing, specify SECURITY=OFF until you install a security system.

Start Connect:Direct

Use the start-up job stream NDM.PROC in the distribution library.

Sign On to Connect:Direct and Run Sample Processes

Which method will you use to sign on to Connect:Direct?

	Operator Interface
	CICS Interface
	Batch Interface

Customize After Installation (optional)

You can customize your Connect:Direct for VSE/ESA after installation by modifying the following:

	Network Map File
	User Authorization File
	Type File
	Messages File
	Sample Processes

Instructions for making these modifications are in the *Connect:Direct for VSE/ESA Administration Guide* and the *Connect:Direct for VSE/ESA User's Guide*.

Worksheet for Local Node and Generated Adjacent Node Definitions

Local Node:

The following entries define the local Connect:Direct node in the Network Map. Reference the Connect:Direct for VSE/ESA Administration Guide for information about the syntax, valid parameters and an example.

Local Node logical node name _____

Communications Name (VTAM APPLID or NETEX PNAME) _____

SUPERUSR password (optional)

VTAM APPLIDS for IUI and Batch Sessions (adjacent node definition):

The following entry defines the VTAM APPLIDS for the local Connect:Direct to be used for IUI and batch sessions. See page 43 for more information.

Interactive VTAM APPLIDS _____

_____

_____

PNODE=SNODE Definitions (adjacent node definition):

The following entries define the adjacent node definition for PNODE=SNODE processing. Reference the Connect:Direct for VSE/ESA Administration Guide for a discussion of PNODE=SNODE processing.

Communications Name (VTAM APPLID) for the Adjacent Node _____

Parallel Sessions Parameter: PARSESS=(max, default)

Network Map Adjacent Node Definitions for 370 SNA LU0 Nodes

Use this worksheet for adjacent node definitions for 370 SNA LU0 nodes. See the *Connect:Direct for VSE/ESA Administration Guide* for information about the syntax, valid parameters and an example. **See the worksheet on page 114 for Tandem SNA nodes.**

Adjacent Node Name	
Communications Name (VTAM APPLID)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Session Type	**SNA**
Adjacent Node Name	
Communications Name (VTAM APPLID)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Session Type	**SNA**
Adjacent Node Name	
Communications Name (VTAM APPLID)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Session Type	**SNA**
Adjacent Node Name	
Communications Name (VTAM APPLID)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Session Type	**SNA**

Network Map Adjacent Node Definitions for MS-DOS LU0 Nodes (and OS/2)

Use this worksheet for adjacent node definitions for MS-DOS and OS/2 LU0 nodes. See the *Connect:Direct for VSE/ESA Administration Guide* for information about the syntax, valid parameters and an example.

Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	

Network Map Adjacent Node Definitions for OpenVMS Nodes

Connect:Direct for OpenVMS Node Names and associated Logical Unit Pools. See the *Connect:Direct for VSE/ESA Administration Guide* for information about the syntax, valid parameters and an example.

The following entries define the local Connect:Direct node in the Network Map.

Adjacent Node Name _____

Parallel Sessions (PARSESS) Default Class _____

PNODE LU Pool (PNODE.LUS) _____

SNODE LU Pool (SNODE.LUS) _____

Adjacent Node Name _____

Parallel Sessions (PARSESS) Default Class _____

PNODE LU Pool (PNODE.LUS) _____

SNODE LU Pool (SNODE.LUS) _____

Adjacent Node Name _____

Parallel Sessions (PARSESS) Default Class _____

PNODE LU Pool (PNODE.LUS) _____

SNODE LU Pool (SNODE.LUS) _____

Network Map Adjacent Node Definitions for Tandem SNA Nodes

Connect:Direct for Tandem Node Names and associated Logical Unit Pools. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide*.

Adjacent Node Name	
Parallel Sessions (PARSESS) Default Class	
LU Pool (SNODE.LUS)	
Adjacent Node Name	
LU Pool (SNODE.LUS)	
Adjacent Node Name	
LU Pool (SNODE.LUS)	

Network Map Adjacent Node Definitions for OS/400 SNUF Nodes (LU0)

Enter Connect:Direct for OS/400 Node Names and associated Logical Unit Pools. Refer to the description of adjacent node definitions and examples in the Connect:Direct for VSE/ESA Administration Guide

Adjacent Node Name	
Remote Library Name	
Session Type	**SNUF**
Parallel Sessions Parameter: PARSESS=(max, default)	
LU Pool (SNODE.LUS)	

Adjacent Node Name	
Remote Library Name	
Session Type	**SNUF**
Parallel Sessions Parameter: PARSESS=(max, default)	
LU Pool (SNODE.LUS)	

Adjacent Node Name	
Remote Library Name	
Session Type	**SNUF**
Parallel Sessions Parameter: PARSESS=(max, default)	
LU Pool (SNODE.LUS)	

Network Map Adjacent Node Definitions for OS/400 LU6.2 Nodes

Enter Connect:Direct for OS/400 Node Names and associated Logical Unit Pools. Refer to the description of adjacent node definitions and examples in the Connect:Direct for VSE/ESA Administration Guide

Adjacent Node Name	
Communications Name (not on installation panel)	
Remote Library Name	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE) **- Required**	
Operating Environment (ENVIRONMENT) **- Required**	**AS400**
LU Pool (SNODE.LUS)	

Adjacent Node Name	
Communications Name (not on installation panel)	
Remote Library Name	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE) **- Required**	
Operating Environment (ENVIRONMENT) **- Required**	**AS400**
LU Pool (SNODE.LUS)	

Worksheet for Updating Network Map Adjacent Node Definitions: 370 SNA LU6.2 Nodes

Use this worksheet for adjacent node definitions for 370 SNA LU6.2 nodes. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide.*

Adjacent Node Name	
Communications Name (VTAM APPLID)	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE	
Operating Environment (ENVIRONMENT)	
APPLIDS	
Adjacent Node Name	
Communications Name (VTAM APPLID)	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE	
Operating Environment (ENVIRONMENT)	
APPLIDS	

Network Map Adjacent Node Definitions for MVS TCP/IP Nodes

Use this worksheet for adjacent node definitions for MVS TCP/IP nodes. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide.*

Adjacent Node Name	
Communications Name (TCP/IP Port Number)	
Session Type	**TCP**
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment (ENVIRONMENT)	**MVS**
Pacing Parameter: NDMPACE= (#sends, time)	
APPLIDS	
Adjacent Node Name	
Communications Name (TCP/IP Port Number)	
Session Type	**TCP**
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment (ENVIRONMENT)	**MVS**
Pacing Parameter: NDMPACE= (#sends, time)	
APPLIDS	

Network Map Adjacent Node Definitions for MS-DOS and OS/2 LU6.2 Nodes

Use this worksheet for the definition of MS-DOS and OS/2 LU6.2 Adjacent Node parameters. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide*.

Adjacent Node Name	
Communications Name (Logical Unit Name)	
Remote Library Name **(for OS/2 only)**	**CDOS2**
Session Type	**LU62**
Logmode Entry Name (LOGMODE) - **Required**	
Operating Environment (ENVIRONMENT)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Remote Library Name **(for OS/2 only)**	**CDOS2**
Session Type	**LU62**
Logmode Entry Name (LOGMODE) - **Required**	
Operating Environment (ENVIRONMENT)	
Adjacent Node Name	
Communications Name (Logical Unit Name)	
Remote Library Name **(for OS/2 only)**	**CDOS2**
Session Type	**LU62**
Logmode Entry Name (LOGMODE) - **Required**	
Operating Environment (ENVIRONMENT)	

Network Map Adjacent Node Definitions for UNIX LU6.2 Nodes

Use this worksheet for UNIX LU6.2 Adjacent Node information. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide*.

Adjacent Node Name	
Communications Name	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE) **- Required**	
Operating Environment (ENVIRONMENT)	**UNIX**
Adjacent Node Name	
Communications Name	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE) **- Required**	
Operating Environment (ENVIRONMENT)	**UNIX**
Adjacent Node Name	
Communications Name	
Session Type	**LU62**
Parallel Sessions Parameter: PARSESS=(max, default)	
Logmode Entry Name (LOGMODE) **- Required**	
Operating Environment (ENVIRONMENT)	**UNIX**

Network Map Adjacent Node Definitions for NetWare LU6.2 Nodes

Use this worksheet for NetWare LU6.2 Adjacent Node information. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide.*

Adjacent Node Name	
Communications Name (when specifying a single LU name)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment Parameter: ENVIRONMENT	**NW**
Session Type	**LU62**
Logmode Entry Name (LOGMODE) **- Required**	
PNODE LU Pool (PNODE.LUS)	
SNODE LU Pool (SNODE.LUS)	

Adjacent Node Name	
Communications Name (when specifying a single LU name)	
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment Parameter: ENVIRONMENT	**NW**
Session Type	**LU62**
Logmode Entry Name (LOGMODE) **- Required**	
PNODE LU Pool (PNODE.LUS)	
SNODE LU Pool (SNODE.LUS)	

Network Map Adjacent Node Definitions for UNIX, NetWare, or Windows NT TCP/IP Nodes

Use this worksheet for UNIX, NetWare, or Windows NT TCP/IP Adjacent Node information. There is no installation panel for this type of adjacent node definition. You can define these nodes after your installation is complete. Refer to the description of adjacent node definitions and examples in the *Connect:Direct for VSE/ESA Administration Guide*.

Adjacent Node Name	
Communications Name	
Session Type	**TCP**
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment Parameter: ENVIRONMENT	**UNIX / NW / NT** (circle one)
Adjacent Node Name	
Communications Name	
Session Type	**TCP**
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment Parameter: ENVIRONMENT	**UNIX / NW / NT** (circle one)
Adjacent Node Name	
Communications Name	
Session Type	**TCP**
Parallel Sessions Parameter: PARSESS=(max, default)	
Operating Environment Parameter: ENVIRONMENT	**UNIX / NW / NT** (circle one)

Appendix B

Tape Contents

This appendix contains descriptions of the tape contents, the sample source, and the procedures that are provided with the Connect:Direct for VSE/ESA base product and the CICS interface.

Connect:Direct for VSE/ESA Data Sets

The format of the first 18 data sets on the tape is compatible with MSHP. Following the 18th data set, several files contain the data necessary to load the Connect:Direct message, authorization, and type default files. For new installations, the asset protection module, DMGRATX, provided in unlinked, card-image format, is cataloged into the Connect:Direct object library and then link-edited. See *Step 3–Catalog and Link-Edit DMGRATX* on page 27 for details.

Number	Data Set	Description
1	Null File	Supplies a null file required by MSHP
2	Stacked Tape Record	Supplies the Stacked Tape Record required by MSHP
3	Null File	Supplies a null file required by MSHP
4	Copyright information	Supplies the copyright information for Connect:Direct for VSE/ESA base
5	MSHP History File	Consists of the MSHP History File information for Connect:Direct for VSE/ESA base
6	Connect:Direct Base Sublibrary	Provides product backup created by MSHP containing sample source members, object modules, link-edited phases and procedures for Connect:Direct for VSE/ESA in MSHP format. See the Tape Contents for Connect:Direct Base Product appendix for a complete list of the source members and procedures that are included.
7	Null File	Supplies a null file required by MSHP

Number	Data Set	Description
8	End of Backup File	Contains the end-of-backup file required by MSHP
9	Null File	Supplies a null file required by MSHP
10	Copyright information	Supplies the copyright information for Connect:Direct CICS Interface
11	MSHP History File	Consists of the MSHP History File information for Connect:Direct CICS Interface
12	Connect:Direct CICS Interface Sublibrary	Provides product backup created by MSHP containing sample source members, object modules, link-edited phases and procedures for Connect:Direct CICS Interface in MSHP format. See the Tape Contents for Connect:Direct CICS Interface Product Appendix for a complete list of the source members and procedures that are included.
13	Null File	Supplies a null file required by MSHP
14	End of Backup File	Contains the end-of-backup file required by MSHP
15	Null File	Supplies a null file required by MSHP
16	Null File	Supplies a null file required by MSHP
17	End of Stacked Tape File	Supplies the end of stacked tape record required by MSHP
18	Null File	Supplies a null file required by MSHP
19	Message REPRO	Contains all of the data necessary to load the Connect:Direct message file. The data is in a format that can be used directly by the REPRO function of IDCAMS.
20	Authorization REPRO	Contains the data necessary to load the Connect:Direct Authorization File.
21	Type-Defaults REPRO	Supplies all data necessary to load the Connect:Direct type defaults file, provided in a format that can be used directly by the REPRO function of IDCAMS.
22	CICS CSD Definitions	Provides all the combined PPT and PCT definitions for the Connect:Direct CICS Interface software in a format that can be used directly by the REPRO function of IDCAMS
23	CICS USER PROFILE	Contains the default CICS USER PROFILE record. Connect:Direct provides the data in a format that enables the REPRO function of IDCAMS to use it directly.
24	DMGRATX Object Module	Contains the asset protection module DMGRATX in unblocked, card-image format. The DMGRATX is only for new installations. For maintenance and upgrades, the DMGRATX you are currently using should be carried forward to the new install libraries. See the *Connect:Direct for VSE/ESA Administration Guide* for more details

Source

This library contains source members of several types as defined in the following tables.

Connect:Direct for VSE/ESA

Type	Source Members
A	Connect:Direct macros and DBCS Tables
N	Sample Processes
S	Sample exit routines, JCL, and user programs that interface with the Connect:Direct system
V	Sample VTAM definitions, mode table entries and sample control statements for creating a Network Map
O	Connect:Direct Operator Processes

Connect:Direct CICS Interface

Type	Source Members
A	Connect:Direct macros and CICS copy books
C	Connect:Direct CICS Interface for COBOL copy book
N	Sample Connect:Direct Processes
S	Sample Connect:Direct exit routines and user programs that interface with Connect:Direct, initialization parameters, and sample JCL

A - Connect:Direct Macros and CICS Table Entries

Use the following assembly language macros when you code user programs and exits that interface with the Connect:Direct for VSE/ESA system and CICS table entries.

Connect:Direct Macros

Entry	Description
BG5XNHC	Chinese Big5 to new host code translation
BOOLEAN	Macro Subroutine
CLEAR	Macro Subroutine

Entry	Description
C55XNHC	Chinese 5550 to new host code translation
DATALEN	Macro Subroutine
DCL	Macro Subroutine
DCLREG	Macro Subroutine
DEBUG	Macro Subroutine
DISPBASE	Macro Subroutine
DISPLAY	Macro Subroutine
DMABMEQU	Authorization file bit mask function code equated values
DMABMFLG	Connect:Direct authorization bit mask (User Profile Control Block)
DMAER	Authorization event statistics record
DMCPTR	CHANGE PROCESS statistics record
DMCTR	COPY termination statistics record
DMDDESCR	TCQ COPY destination data set description mapping macro (DSECT)
DMDDN	Data Definition Name Variable Section
DMDPTR	DELETE PROCESS statistics record
DMDTR	SELECT PROCESS statistics record
DMDYNCB	Dynamic allocation control block
DMEVEXCB	ESO Exit Control Block
DMEVR	ESO Statistics Record
DMEXITCB	Control block for I/O exit communications
DMFIUPQ	Process queue element mapping macro (DSECT)
DMFMCR	Statistics record for PDS member copy
DMFPTR	Flush Process statistics record
DMFREPT	Report Line Statistics Record
DMFRJXCB	RUN JOB exit control block (RJXCB)
DMFSCMD	Map the "CS" statistics record
DMFSCR	Map the NDM Statistics file ESDS control record
DMFSQCB	Connect:Direct security interface control block (SQCB)
DMFS2R	Map the "S2" statistics record
DMFS2S	Map accumulators in the STCB

Entry	Description
DMFTCQRJ	TCQ RUN JOB statement mapping macro (DSECT)
DMFTCQRT	TCQ RUN TASK statement mapping macro (DSECT)
DMFTCQSB	TCQ SUBMIT statement mapping macro (DSECT)
DMFWTOST	Statistics record for WTO
DMGFTR	General function termination record
DMGSAFWA	Map the common security workarea
DMGSECUR	Connect:Direct Security Interface
DMINFO	Information record for dynamic allocation
DMLSR	Log swap statistics record
DMMF	Message data set constants
DMMSGCB	Message data set control block
DMMNHDR	Map of an event record
DMMODAL	Statistics Records for Modal Statements after Statement Processed
DMOS	Operating system name
DMPIR	ESO Statistics records for process initiation
DMPSSR	Submit Process statistics record
DMPSTCMP	Macro subroutine
DMPTR	Process termination record
DMQCR	Queue change statistics record
DMRJTR	Statistics record for run job
DMRTTR	Statistics record for run task
DMSDCR	Start Connect:Direct statistics record
DMSDESCR	TCQ copy source data set description mapping macro (DSECT)
DMSFR	Signon statistics record
DMSTDCR	Stop Connect:Direct statistics record
DMTCA	Task control block
DMTCQE	TCQ entry mapping macro (DSECT)
DMTCQGT	TCQ GOTO statement mapping macro (DSECT)
DMTCQIF	TCQ IF statement mapping macro (DSECT)
DMTCQNUL	TCQ NULL statement mapping macro (DSECT)

Entry	Description
DMTCQSH	TCQ section header mapping macro (DSECT)
DMTPCB	Text parser control block
DMTSMQ	Task storage management queue
DMTSMQE	Task storage management queue element
DMUICB	User Interface Control Block (UICB) (DSECT)
DMUSECMP	Macro subroutine
DMVSAMPL	VSAM parameter list
DMWKAREA	Trace work areas
DMWRPST	Statistics record for stats file wrap
DMXOR	TRACE ON/OFF statistics record
DROPBASE	Macro subroutine
EBCXJIS	Japanese host EBCDIC to Japanese ASCII
EBCXKPC	Host EBCDIC to PC-DBCS Korean translation
EBCXKSC	Host EBCDIC to KS5601 ASCII translation
EDCL	Macro subroutine
FINDREG	Macro subroutine
GENCALL	Macro subroutine
JISXEBC	Japanese ASCII to Japanese host EBCDIC
KPCXEBC	PC-DBCS Korean to host EBCDIC translation
KSCXEBC	KS5601 ASCII to host EBCDIC translation
NHCXBG5	New host code to Chinese Big5 translation
NHCXC55	New host code to Chinese 5550 translation
POPBASE	Macro subroutine
PUSHBASE	Macro subroutine
REGS	Macro subroutine
SCJFHCB	AP file handler interface
SCSTART	Macro subroutine
SETTYPE	Macro subroutine
TRACELA	Macro subroutine
USEBASE	Macro subroutine

Entry	Description
USREPORT	Macro subroutine

CICS Table Entries

Entry	Description
DMQBMSTB	Required for assembly of sample program
DMQCA012	Sample Assembler DSECT for API COMMAREA
NDCDCT	CICS Destination Control Table
NDCFCT	CICS File Control Table
NDCPCT	CICS Program Control Table
NDCPLT	CICS Program Load Table
NDCPPT	CICS Program Processing Table
NDCSIT	CICS System Initialization Table

S - Sample JCL, Programs, and Exit Routines

The members described in the following table contain sample JCL, programs, and exit routines.

Member	Description
ARCHJOB	IDCAMS sample job to archive the statistics ESDS data set
ASMSAMP	Sample assembler interface to DMCHLAPI
ASMTASK	Sample task for use with the RUN TASK statement
CDREMOVE	Delete Connect:Direct product history from system history file
CDSTDLBL	Job to add/delete Connect:Direct VSE Librarian standard labels
CDTYPKEY	Job to maintain the Connect:Direct TYPE file
CDVSE32	Connect:Direct for VSE/ESA initialization job with trace DLBLs
COBSAMP	Sample COBOL interface to DMCHLAPI, DMCSRJ RUN JOB exit skeleton
DMCXRJ	RUN JOB exit skeleton
DMBATCH	DMBATCH job example with trace DLBLs
DMCXRT	RUN TASK exit skeleton
DMCXSEC	Security exit skeleton

Member	Description
DMCXSIGN	Sign-on exit skeleton
DMCXSUB	Nucleus Submit Process exit skeleton
DMCXSUBM	API Submit Process exit skeleton
DMGACF32	DMSECUR security interface to CA-ACF/2
DMGALOEX	Allocation exit skeleton
DMNOTIFY	Sample program to display information messages on console
DMRTSUB	RTSUB example job to archive statistics
NDMINT01	All initialization parameters are allowed to default. Used for Connect:Direct for VSE/ESA nucleus
NDMINT02	All parameters are specified with all options used, including data set passwords. Used for Connect:Direct for VSE/ESA nucleus.
NDMIOX01	Sample I/O exit skeleton
PLISAMP	Sample PL/I interface to DMCHLAPI, DMCSRJ RUN JOB exit skeleton
RESETAPE	Utility program to reset VSE PUB ownership flags for tapes
SCCSTAT	Display statistics index information
SCVCLSHK	Sample close exit used in conjunction with CA-DYNAM/D, CA-EPIC, CA-DYNAM/T, or BIM-EPIC to communicate data set disposition at close time
STATEXIT	Sample Connect:Direct statistics exit
STATEXMC	Sample statistics exit with record type `MC' exclusion

S - Sample CICS JCL and Programs

These sample Connect:Direct exits and user programs interface with DMCHLAPI, the Connect:Direct for VSE/ESA high-level API program. DMCHLAPI handles communications with the Connect:Direct for VSE/ESA nucleus.

Entry	Description
CICSJCL	Sample CICS JCL that needs to be added for the CICS interface
DFHTABLE	Sample JCL to assemble and link-edit a CICS/VSE table
DMQM98	API Screen Drive (CICS BMS map)
DMQ247	Connect:Direct - CICS/VSE API driver
DMQ249	Connect:Direct - CICS/VSE sample assembler program

S - Sample Exits and UTILITY Programs

The following sample Connect:Direct exits and user programs interface with DMCHLAPI, the Connect:Direct for VSE/ESA high-level API program. DMCHLAPI handles communications with the Connect:Direct for VSE/ESA nucleus.

Entry	Description
ASMSAMP	Sample Assembler Interface to DMCHLAPI
ASMTASK	Sample task for use with the RUN TASK statement
COBLSAMP	Sample COBOL interface to DMCHLAPI DMCXRJ RUN JOB exit skeleton
DMCXRT	RUN TASK exit skeleton
DMCXSEC	Security exit skeleton
DMCXSIGN	Signon exit skeleton
DMCXSUB	Nucleus Submit Process exit skeleton
DMCXSUBM	API Submit Process exit skeleton
DMGALOEX	Allocation exit skeleton
DMNOTIFY	Sample program to display information messages on console
NDMIOX01	Sample I/O exit skeleton
PLISAMP	Sample PL/I interface to DMCHLAPI commands
RESETAPE	Utility program to reset PUB ownership flags for tapes
SCVCLSHK	Sample close exit used with CA-DYNAM/D, CA-DYNAM/T, or BIM-EPIC to communicate data set disposition at CLOSE time
STATEXIT STATEXMC	Sample statistics exit to process copy termination record to exclude specific records from the logging process

V - VTAM Sample Definitions

The following entries are sample VTAM definition statements, a sample Connect:Direct mode table entry, and sample control statements for creating a Connect:Direct Network Map.

Entry	Description
NDMAPPL	Sample VTAM application definition for Connect:Direct
NDMCDRM	Sample Connect:Direct cross-domain resource manager definition
NDMCDRSC	Sample Connect:Direct cross-domain resources definition
NDMIAPPL	Sample VTAM application definition for interactive Connect:Direct users
NDMMAP01	Control statements for creating a Network Map
NDMMODET	Sample Connect:Direct mode table

Procedures

The procedure library contains all of the jobstreams used for the following procedures:

- Connect:Direct for VSE/ESA installation
- Running the Connect:Direct for VSE/ESA nucleus
- Operator and batch interface
- Procedures to perform VSAM data set allocation and loading
- Link-editing of Connect:Direct processing phases

Connect:Direct Procedures

Entry	Description
DEFVSAM	Procedure to allocate and define the VSAM files necessary for Connect:Direct for VSE/ESA operation
DMBATCH	Jobstream that executes the batch interface program should be run to initialize the Connect:Direct authorization and type defaults data set
DMCAUTH	Authorization file sample conversion job
DMCNVTYP	Type file sample conversion
DMDBCSPR	Control statements used to create 'DBCSTBL'
LDNETMAP	Jobstream that executes the network load program
LINKNDM	Relink-edit Connect:Direct modules

Entry	Description
MSGLOAD	Jobstream that executes the message load program
NDM	Jobstream that executes the Connect:Direct for VSE/ESA nucleus
OI	Jobstream that executes the operator interface
CATLRATX	Jobstream that link edits DMGRATX into Connect:Direct sublibrary

CICS Procedures

The Procedure Library contains the following jobstreams for:

Entry	Description
CATCOPY	Procedure to catalog COPYNC.PROC to the Process Library
CONFGLD	Procedure to initialize the configuration data set
CSDBUILD	Procedure to define and load the CSD file, update the site CSD and delete the CSD file
DEFCVSAM	Procedure to define the configuration data set and user profile data set.
LINKNDMC	Procedure used during the installation process to link the CICS object modules from the Connect:Direct for VSE/ESA core-image library or the Connect:Direct CICS Interface core-image
USRPROF	Procedure to REPRO user entry data to the user profile data set

C - COBOL Copybook

The following is a sample Connect:Direct CICS Interface COBOL copybook.

Entry	Description
DMQAPIC	Copybook for Connect:Direct CICS Interface API

N -CICS Process Sample

The following sample Process is for use with the Connect:Direct CICS Interface system. You can use this Process as a basis for building new Processes and for testing the functionality of the software.

Entry	Description
COPYNC	COPYFILE skeleton Process
1	2

N - Process Samples

The sample Connect:Direct Processes are to be used with the Connect:Direct for VSE/ESA product. They can be used as a basis for building new Processes and for testing the functionality of the Connect:Direct software. These processes are located in the installation library with the suffix **N**.

Glossary

A

ADJACENT.NODE

Adjacent node entries in the network map define nodes in the network with which the local Connect:Direct may communicate. Each entry specifies a locally used Connect:Direct name, its associated network communications name, and session control parameters for these nodes.

API (Application Program Interface)

This Connect:Direct component accepts commands from the Interactive User Interface (IUI), Connect:Direct Batch Interface, the console operator interface, or user-written program and places the commands in a format so that the user's request can be executed by the DTF. If there are errors, the API returns a message to the user. If there are no errors, the API sends the command to the DTF using a VTAM session.

APPLID

The APPLID is the name specified in the ACB macro that identifies the application program to VTAM. For Connect:Direct, these APPLIDS correspond to a DTF node name or an interactive or batch API APPLID.

APPLID POOL

The pool identifies the APPLIDS to be used for interactive or batch communication with the DTF.

APPLID POOL Segregation

APPLID POOL segregation separates the pools of APPLIDs for use bythe individual API types (BATCH and CICS).

API System ID(s)

This ID is the system identifier (SYSIDs or SMF IDs) of the CPUs (up to 16) that will be sharing a copy of the Connect:Direct for VSE/ESA DTF utilizing the Shared DASD Facility (SDF) option of Connect:Direct.

Authorization Facility

Connect:Direct authorization facility grants access to Connect:Direct commands.

Authorization File

Connect:Direct for VSE/ESA authorization file controls access to Connect:Direct for VSE/ESA and identifies commands that can be executed by the userid. This file can also be used in conjunction with security exit interfaces with the secure point-of-entry feature.

B

Batch Interface

This Connect:Direct interface allows users to request Connect:Direct services from a batch jobstream through control statements passed to a Connect:Direct-supplied program, DMBATCH.

C

Checkpoint/Restart

For the COPY statement, checkpoint/restart eliminates the need to retransmit an entire file in the event of a transmission failure. A value on the COPY statement or in the initialization parameters, CKPT.MODE and CKPT, specifies the checkpoint interval. If a copy procedure is interrupted, Connect:Direct will restart that copy at the last checkpoint.

For the RUN TASK Statement, checkpoint/restart determines whether the RUN TASK program is to be executed again at Process restart if Connect:Direct is unable to determine whether the program has executed. RESTART in the RUN TASK statement or the RUNTASK.RESTART initialization parameter specifies whether to restart the program at the last checkpoint.

Connect:Direct Commands

These commands initiate and monitor activity within the Connect:Direct system. You can issue commands from the IUI, the operator console, a batch job or a user application program.

Connect:Direct Process

The Connect:Direct Process is a series of statements submitted through the API to initiate Connect:Direct for VSE/ESA activity, such as copying files and running jobs. The Processes can be predefined and stored in a library.

Cross Domain

Cross domain pertains to controlling resources that involve more than one domain. A domain consists of one SSCP (System Services Control Point) and all the SNA resources under its control. This term applies when you perform a multiple-session signon to another Connect:Direct DTF and when you establish a connection to another Connect:Direct DTF to copy files.

D

DTF (Data Transmission Facility)

The DTF is the nucleus component of Connect:Direct. The DTF controls information distribution to other Connect:Direct nodes in the network. Start-up parameters that govern the overall activity of the DTF are defined within the initialization parameters.

E

ESF (Extended Submit Facility)

The ESF allows users to queue data transfer requests to a Connect:Direct node that is not active. This allows users to submit work to Connect:Direct, even when the Connect:Direct DTF is down.

I

IUI (Interactive User Interface)

The IUI is a screen and dialog component that allows users to define and submit Connect:Direct Processes and issue Connect:Direct commands that monitor and control administrative and operations activity. An IUI is available for a CICS environment with the CICS interface provided with the Connect:Direct for VSE/ESA product.

L

LOCAL.NODE

The local node entry defines the logical Connect:Direct name of the local Connect:Direct DTF and its associated communications name. The local node entry also contains the name of the transmission queue and the SUPERUSR ID password, if specified. The local node entry is in the network map.

M

Modal Statements

Connect:Direct modal statements (IF THEN, EIF, ELSE, EXIT, and GOTO) allow you to alter the sequence of Connect:Direct Process execution based on the completion of a previous Process step.

N

Network Map

VSAM file identifying all valid Connect:Direct nodes and applids in the network. Each Connect:Direct for VSE/ESA node has a network map. There is one entry within that network map for each of the other Connect:Direct nodes to which the local Connect:Direct for VSE/ESA node can initiate a session. The entries also contain the rules or protocol the nodes use when communicating.

Node

Any site within a network from which information distribution is initiated.

O

Online Messages

Completion and error messages that are displayed online.

Operator Interface

Allows Connect:Direct commands to be issued from the VSE operator console. This interface also allows tailoring of Connect:Direct commands through a command list (CLIST) facility.

P

Parallel Sessions

Parallel sessions allow you to have two or more concurrently active sessions between the same set of two LUs. With parallel session support, Connect:Direct allows multiple, concurrent file transfers between two Connect:Direct nodes.

PNODE (Primary Node)

The PNODE is the Connect:Direct node on which the Process is being submitted. The primary node may also be referred to as the controlling or source node, but should not necessarily be interpreted as the sending node since PNODE can be the receiver. In every Process, there is one PNODE and one SNODE specified. The submitter of a Process is always the PNODE. The PNODE name can be expressed in 1-16 alphanumeric and national characters (@ # $), with imbedded periods. The first character must be alphabetic.

Process

A Process is a series of statements (which can be predefined and stored in a library) submitted through the API to initiate Connect:Direct for VSE/ESA activity, such as copying files and running jobs.

Process Statements

Process statements are used to build a Connect:Direct Process. They contain instructions for transferring files, running operating system jobs, executing programs, or submitting other Connect:Direct Processes. Process statements include COPY, RUN JOB, RUN TASK, SUBMIT, SYMBOL, and Modals (conditional logic).

R

Retry Interval

This initialization parameter specifies the interval, in minutes, that the retries mentioned in the MAX RETRIES parameter will be performed.

RUN JOB Statement

This statement, executed as a Connect:Direct Process statement, allows a JCL job to be submitted to the POWER reader queue.

RUN TASK Statement

The RUN TASK statement allows an external program to be executed under the control of Connect:Direct

S

SNA (Systems Network Architecture)

SNA is a network architecture designed to provide compatibility among a wide variety of hardware and software products so that they can be used to build complex networks. It defines protocols, standards, and message formats to which different hardware and software products must conform.

SNODE (Secondary Node)

The SNODE is a Connect:Direct node that interacts with the primary node (PNODE) during process execution. The secondary node (SNODE) may also be referred to as the participating, target or destination node. In every Process, there is one PNODE and one SNODE.

Statistics File

This file is a VSAM relative record data set that holds Connect:Direct statistics records to document the history of a Process. This file is a wrap-around file.

Statistics Facility

The Connect:Direct statistics facility records all Connect:Direct activities

SUPERUSR Password

This password is reserved for the SUPERUSR userid. The password can be 1--8 characters. Also see SUPERUSR ID.

SUPERUSR ID

Special ID that is not required to pass through normal security checking when signing on to Connect:Direct. This ID allows you to perform Connect:Direct administrative functions.

SYMBOL Statement

This Connect:Direct Process statement allows you to build symbolic substitution values.

Symbolics

Connect:Direct Processes support symbolic parameters. The parameters allow one predefined Process to be used for multiple applications. For example, the file names for a COPY could be passed to the Process by the user submitting the Process.

T

TCQ (Transmission Control Queue)

The TCQ is a VSAM relative record data set (RRDS) used to hold all Processes that have been submitted to Connect:Direct for VSE/ESA. Itcontains four logical queues:

- HOLD
- WAIT
- TIMER
- EXECUTION

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP/IP is a set of network standards that specify the details of how computers communicate, as well as a set of conventions for interconnecting networks and routing traffic.

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