DECnet SNA Gateway for Channel Transport

Guide to IBM Parameters

Part Number: AA-LU36E-TE

November 1993

This manual describes how to define the IBM SNA environment so that it can interact with the DECnet SNA Gateway for Channel Transport and its related products.

Revision/Update Information:	This is a revised manual.
Operating System and Version:	OpenVMS VAX Version 5.4 or later OpenVMS AXP Version 1.5 ULTRIX Version 4.2
Software Version:	DECnet SNA Gateway for Channel Transport V2.1

November 1993

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Preface

Digital Equipment Corporation's DECnet SNA interconnect products enable DECnet™ users to communicate with programs running on International Business Machines Corporation systems. These systems must be part of a network configuration designed according to IBM® Systems Network Architecture (SNA).

Objectives

This manual contains information about configuring your IBM system to communicate with the DECnet SNA Gateway for Channel Transport (Gateway-CT) and the DECnet SNA access routines. Use this manual in conjunction with the appropriate IBM documentation that provides generation information for IBM system programmers. This manual is not a stand-alone guide to the IBM parameters.

Check the documentation of your Digital interconnect product for any system specific or additional information on configuring your IBM system. For information about which IBM systems can communicate with a particular interconnect product, see the software product description (SPD) for the respective product.

Audience

This manual is written for IBM system programmers responsible for defining the IBM SNA components and for Digital specialists who support the Digital interconnect products.

Changes and New Features

This manual provides information about identifying Digital's channel-attached DECnet SNA Gateway-CT to your operating system.

This version of the *DECnet SNA Gateway-CT Guide to IBM Parameters* supersedes supplementary information for previously released Digital interconnect systems and access routines.

Future versions of the DECnet SNA access routines might provide supplements to this version of the manual. Please add the supplementary information to this book.

NOTE

IBM parameters that are not listed in this manual should not disrupt the interconnect system.

The description of each operand and possible values has been changed to make it easier to access the information.

Structure

This manual consists of the following chapters and appendixes. The MVS, VM, and VSE icons indicate the chapters in which you will find IBM parameter information about the operating system you are using.

- Chapter 1 provides introductory information about the IBM SNA environment.
- Chapter 2 provides a checklist of steps that you must complete when generating an IBM host system to recognize the Digital interconnect system. MVS, VM, VSE
- Chapter 3 provides information about identifying Digital's channel-attached DECnet SNA Gateway-CT to your operating system MVS, VM, VSE
- Chapter 4 provides information about defining VTAM initialization parameters. MVS, VM, VSE
- Chapter 5 provides information about defining CICS Version 1.6 and Version 1.7 parameters using macro instructions. MVS, VSE
- Chapter 6 provides information about defining CICS Version 1.7 parameters interactively. MVS, VSE

- Chapter 7 provides information about defining IMS/VS initialization parameters. MVS
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- Chapter 10 provides information about defining JES3 parameters. MVS
- Chapter 11 provides information about defining VSE/POWER parameters. VSE
- Chapter 12 provides information about defining DISOSS parameters. MVS
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- Chapter 16 provides information about using the REMLOC FILE. VM
- Appendix A contains sample VTAM MODEENT macros. MVS, VM, VSE
- Appendix B contains sample I/O configurations for DECnet SNA Gateway-CT. MVS, VM, VSE
- Appendix C provides a table of hexadecimal RU codes and their corresponding decimal RU sizes.

A postpaid Reader's Comments form is located at the back of this manual. If you have any comments about this manual, please complete and return this form.

Associated Digital Documents

Depending upon your product, you should have available for reference the following documents in the DECnet SNA product set:

- *DECnet SNA Gateway for Channel Transport Installation*
- *DECnet SNA Gateway for Channel Transport Problem Solving*
- *DECnet SNA VMS Gateway Management*
- *DECnet SNA Application Programming Interface for OpenVMS Guide*
- *DECnet SNA MVS Data Transfer Facility Installation and Customization Guide*

Graphic Conventions

This manual uses the following conventions to specify the format of the IBM definition statements and macro instructions used to generate IBM software.

IMPORTANT

The conventions presented here match conventions used in the IBM manuals, which are the primary references for this initialization information. These conventions do not always correspond to those used in Digital's manuals.

Convention	Meaning
UPPERCASE LETTERS	Represent constant values or symbols. Code these exactly as they are specified.
lowercase italics	Represent variables for which you must supply a value.
{ }	Braces indicate a choice you must make. Braces enclose values that either are separated by a vertical bar (|) or are listed vertically. Choose either from the values separated by the vertical bar or from the list enclosed by the braces. Do not type the braces in the line of code.

[ ]	Square brackets enclose operands or symbols that are either **optional** or **conditional**. Specify the operand and value if you want the condition to apply. Do not type the brackets in the line of code. Brackets enclose relevant operands that the IBM manuals refer to as optional. Some of these operands are not optional when an interconnect system is part of the SNA network. These operands must have the values specified in this manual. Brackets are included to remind the IBM programmer that the parameter is optional in the IBM manual. The following rules generally apply to operands: • You can code or omit an optional operand. Omitting an optional operand might impact a related operand or might cause a default value to be specified. • You can code or omit a conditional operand, depending on how other operands in the same macro or in different macros are coded.
( )	Parentheses enclose a group of values that you must specify for an operand. Type the values in the line of code in the order indicated. Type parentheses wherever they appear in a line of code.
|	A vertical bar indicates a choice you must make between the values separated by the bar. Do not type the vertical bar in the line of code.
OPERAND=(*value1*,*value2*)	Indicates that you must type commas between values.
,OPERAND=*value*	Indicates that you must type commas between operands. This manual shows these commas in the space before the operand to minimize the possibility of omitting them.
*	An asterisk indicates an operand whose values you must discuss with interconnect system managers. These values must either be determined after discussion with the manager or provided to the manager for use in configuring line and access characteristics.

†	A dagger indicates an operand whose values are determined by the application program running on a Digital Equipment Corporation system and interacting with CICS.
MVS	An icon indicates that the parameter applies to the MVS operating system.
VM	An icon indicates that the parameter applies to the VM operating system.
VSE	An icon indicates that the parameter applies to the VSE/SP operating system.

For more details about the conventions in a particular chapter, refer to the IBM documents listed in that chapter.

Acronyms

The following acronyms appear throughout this manual:

ACF/NCP	Advanced Communications Function for Network Control Program (also referred to as IBM's NCP)
API	DECnet SNA Application Programming Interface for OpenVMS software
APPC/LU6.2	DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS software
CICS/VS	Customer Information Control System/Virtual Storage (also referred to as CICS™)
CMS	Conversational Monitor System
DDXF	DECnet/SNA VMS DISOSS Document Exchange Facility software
DHCF	DECnet/SNA VMS Distributed Host Command Facility software
DISOSS™	Distributed Office Support System/370
DSPRINT	MVS/TSO/VTAM Data Set Print facility
DTF	DECnet SNA Data Transfer Facility software
EDE	External Document Exchange with IBM DISOSS
HCF	Host Command Facility
IMS/VS	Information Management System/Virtual Storage (also referred to as IMS)
IOCP	Input/Output Configuration Program
JES2	Job Entry Subsystem 2
JES3	Job Entry Subsystem 3

LAPB	Link Access Protocol B
LU	Logical unit
LU0	Logical unit type 0
LU1	Logical unit type 1
LU2	Logical unit type 2
LU3	Logical unit type 3
LU6.2	Logical unit type 6.2
MRS	VAX Message Router/S Gateway
MRP	VAX Message Router/P Gateway
MVS	Multiple Virtual Storage operating system
MVS/XA	Multiple Virtual Storage/Extended Architecture operating system
MVS/ESA	Multiple Virtual Storage/Enterprise Systems Architecture
PLU	Primary logical unit
PrE	DECnet SNA Printer Emulator for OpenVMS software
PROFS™	Professional Office System
PU	Physical unit
PU2	Physical unit type 2
RJE	DECnet SNA Remote Job Entry for OpenVMS software
RSCS	Remote Spooling Communications Subsystem
RU	Request/response unit
SCS	SNA character string
SLU	Secondary logical unit
SNA	Systems Network Architecture
SSCP	System services control point
SSP	System Support Programs
3270 DS	DECnet SNA 3270 Data Stream Programming Interface for OpenVMS software
3270 TE	DECnet SNA 3270 Terminal Emulator for OpenVMS software
TSO™	Time Sharing Option
VM	Virtual Machine operating system
VM/ESA	Virtual Machine/Enterprise Systems Architecture
VSE/SP	Virtual Storage Extended/System Package operating system
VTAM	Virtual Telecommunications Access Method

Terminology

Interconnect System	Refers to the DECnet SNA Gateway-CT.
Interconnect Products	Refers to the DECnet SNA Gateway-CT and the DECnet SNA access routines.
Interconnect Manager	Refers to the person responsible for the installation and management of an interconnect product.
DECnet SNA Gateway-CT	The DECnet SNA Gateway-CT is a system of hardware and software that forms a dedicated communications server attached to an IBM channel. The DEC ChannelServer II is the Gateway hardware. The Gateway software is the communications software that runs on the DEC ChannelServer II.

1
Introduction

The DECnet SNA Gateway for Channel Transport (Gateway-CT) allows one or more DECnet™ nodes in a Digital Equipment Corporation network to communicate with one or more IBM® hosts in an IBM SNA network. The interconnect system and the related Digital access routines handle the protocol that allows users to access a number of resources in the IBM environment. As a node in the IBM SNA network, an interconnect system is a type 2 physical unit (PU type 2). This PU type 2 resembles an IBM cluster controller with 3270-type terminals attached to it and remote job entry workstations defined for it.

This manual describes how to define the IBM SNA environment to interact with Digital's interconnect products. Regard this information as only an adjunct to the IBM literature, which remains the authoritative source of information about the concepts and procedures for generating IBM software. When generating IBM software, you should work primarily from IBM documentation; only consult these chapters for information specific to Digital's interconnect systems and related access routines.

For the benefit of Digital users, this chapter briefly explains how the IBM user must prepare IBM components to communicate with Digital's DECnet SNA interconnect products. Chapter 2 provides the IBM user with a checklist of steps that must be completed before the interconnect products can communicate with the IBM SNA environment.

The remaining chapters in this manual discuss the initialization of the following IBM components to communicate with Digital's DECnet SNA interconnect product set:

- MVS, VM, or VSE operating system—Chapter 3
- Virtual Telecommunications Access Method (VTAM)—Chapter 4
- Customer Information Control System/Virtual Storage (CICS/VS) Version 1.6 and Version 1.7 Resource Definition (Macro)—Chapter 5

- Customer Information Control System/Virtual Storage (CICS/VS) Version 1.7 Resource Definition Online (RDO)—Chapter 6
- Information Management System/Virtual Storage (IMS/VS)—Chapter 7
- Time Sharing Option/Virtual Telecommunications Access Method (TSO /VTAM)—Chapter 8
- Job Entry Subsystem 2 (JES2)—Chapter 9
- Job Entry Subsystem 3 (JES3)—Chapter 10
- VSE/POWER—Chapter 11
- Distributed Office Support System/370 (DISOSS)—Chapter 12
- MVS/TSO VTAM Data Set Print (DSPRINT) Facility—Chapter 13
- Host Command Facility (HCF)—Chapter 14
- Remote Spooling Communication Subsystem (RSCS)—Chapter 15
- REMLOC FILE—Chapter 16

Each chapter refers you to the IBM manuals that contain the complete set of initialization parameters for the component discussed. The IBM parameters supplied in this manual are supported by and are necessary for the operation of the interconnect systems. Other parameters available to the IBM system programmer are also supported by the interconnect systems. For additional information, refer to the list of associated IBM documents in the Preface.

The following section is an overview of the IBM SNA components that must be initialized and contains a summary of the relevant parts of the system defined by each component.

1.1 IBM SNA Environment

The IBM SNA components that must be initialized to communicate with Digital's interconnect product set depend on products present in your IBM configuration. (The products discussed in this manual are listed in the preceding section.) This section discusses the parts of the IBM SNA environment that are relevant to interconnect product operations and that are defined by each component at initialization time.

Operating System. The IBM operating systems—MVS, VM, VSE—must be configured to recognize the DECnet SNA Gateway-CT as a channel-attached device.

VTAM. In the IBM host system, the Virtual Telecommunications Access Method (VTAM) software controls communication across an SNA network. The VTAM parameters defined for communication with the interconnect system describe the characteristics of the PUs (circuits) and LUs (terminals and user application programs) owned by VTAM.

Other VTAM parameters define the protocol used to establish communication between the interconnect system software and the IBM components. The VTAM MODEENT macro specifies values used to set up the protocol.

CICS/VS. The Customer Information Control System (CICS™) is an application subsystem that resides in the IBM host system. CICS controls sessions between application programs and devices connected to the application programs. Entries in a terminal control table (TCT) define terminals in the SNA network that need to communicate with CICS. One DFHTCT macro or Resource Definition Online (RDO) instruction must be defined for each terminal or user application program that needs access to CICS. This macro specifies the characteristics of a particular terminal or user application program to CICS.

IMS/VS. The Information Management System (IMS) is also an application subsystem residing in the IBM host system. Like CICS, IMS controls sessions between application programs and devices connected to the application programs. The BUFPOOLS, MSGQUEUE, and TERMINAL macros in IMS and the COMM and TYPE macros in VTAM define communication between IMS and terminals or application programs in the SNA network.

TSO/VTAM. The Time Sharing Option (TSO™) provides IBM users with a time-sharing capability. TSO definition statements define communication between TSO and terminals or application programs in the SNA network. In particular, a TSO statement defines the screen size of a terminal it communicates with. In addition, to communicate with the interconnect system, you must define a specific entry in the VTAM logon mode table.

JES2. The Job Entry Subsystem 2 (JES2) allows IBM users to submit jobs from a remote location to an IBM system and to receive hard-copy output. JES2 initialization parameters define the characteristics of the remote SNA workstations. In addition, these parameters indicate the number of workstations and the number of related devices for each workstation.

JES3. The Job Entry Subsystem 3 (JES3), an extension of JES2, allows IBM users to submit jobs remotely to an IBM system within a multiprocessing group of IBM systems. The designated master system within the group controls job processing for JES3; that is, the master system determines where in the group the processing occurs.

JES3 initialization parameters define the characteristics of the remote SNA workstations. In addition, these parameters define characteristics of the workstation console.

VSE/POWER. POWER is a spooler that operates under VSE/SP. It provides automatic staging of unit record input and output. POWER controls the job-scheduling priority of all programs under its control.

DISOSS™. The Distributed Office Support System/370 (DISOSS) is an application subsystem that resides in the IBM host system. DISOSS gives users access to central library services, host services, and distribution services.

DSPRINT. The MVS/TSO VTAM Data Set Print Facility (DSPRINT) also resides in the IBM host system. DSPRINT allows users to submit datasets to a specified printer.

HCF. The Host Command Facility (HCF) is an IBM application that allows IBM users to log on to IBM distributed processors such as the IBM 8100 Information System.

RSCS. The Remote Spooling Communications Subsystem (RSCS) is software that supports multiple node networking of Virtual Machine (VM) systems. The RSCS parameters enable you to define the network.

PROFS™. The Professional Office Vision runs under the VM/CMS operating system. PROFS provides electronic document preparation, retrieval, and transfer of office correspondence within one or more VM/CMS nodes.

2

IBM Initialization Checklist

This chapter presents a checklist of the major steps to follow when you generate your IBM host system to recognize Digital Equipment Corporation's interconnect system. Use the checklist to prepare your configuration for communication with the interconnect system and its layered products. Also, use the checklist to track your progress through the preparation.

NOTE

You must initialize the relevant IBM software components before you use your interconnect products. Be sure to plan enough time for this initialization.

The information in this chapter applies to the MVS, VM, and VSE operating systems.

1. Read the chapters that pertain to the products in your IBM system. Pay particular attention to references to parameters that relate to interconnect system parameters.
2. Consult the interconnect manager about the interconnect system environment. Use Table 2–1 when you confer with the manager to determine the following information:
   - How many logical units (LUs) for each physical unit (PU) are an LU type 0 — a DECnet SNA Application Programming Interface for OpenVMS session, a DECnet SNA Data Transfer Facility session, or a VAX Message Router/P Gateway session?
   - How many LUs for each PU are an LU type 1 — a DECnet SNA Remote Job Entry for OpenVMS workstation or stream or a DECnet SNA Printer Emulator for OpenVMS session?

- How many LUs for each PU are an LU type 2—a DECnet SNA 3270 Terminal Emulator for OpenVMS session, a DECnet SNA VMS Distributed Host Command Facility session, or a DECnet SNA 3270 Data Stream Programming Interface for OpenVMS session?
- How many LUs for each PU are LU type 3—a DECnet SNA Printer Emulator for OpenVMS session?
- How many LUs for each PU are LU type 6.2—a DECnet SNA VMS DISOSS Document Exchange Facility terminal, a DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS session, or VAX Message Router/S Gateway sessions?

Note

LUs are not permanently allocated for a specific use. At one time an LU might be used for an LU type 2 session; at another time, for an LU type 3 session.

Table 2–1 Required Number of Logical Units for DECnet SNA Sessions

Digital Product	LU Type	Required Number of LUs
DECnet SNA Application Programming Interface for OpenVMS	LU type 0	1 LU per session
DECnet SNA Data Transfer Facility for OpenVMS	LU type 0	1 or 2 LUs per transfer session[1]; 1 LU per control session
VAX Message Router/P Gateway	LU type 0	1 LU per session
DECnet SNA Remote Job Entry for OpenVMS	LU type 1	1 LU per workstation, plus 1 LU for each additional printer, punch, and reader stream
DECnet SNA 3270 Data Stream Programming Interface for OpenVMS	LU type 2	1 LU per session
DECnet SNA Printer Emulator for OpenVMS	LU types 1 and 3	1 LU per session

[1]Check with the interconnect manager for actual number of LUs required per transfer session.

(continued on next page)

Table 2–1 (Cont.) Required Number of Logical Units for DECnet SNA Sessions

Digital Product	LU Type	Required Number of LUs
DECnet SNA 3270 Terminal Emulator for OpenVMS	LU type 2	1 LU per session
DECnet/SNA VMS Distributed Host Command Facility	LU type 2	1 LU per session
DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS	LU type 6.2	1 LU per session
DECnet/SNA VMS DISOSS Document Exchange Facility	LU type 6.2	1 LU per session
VAX Message Router/S Gateway	LU type 6.2	1 LU for a transmit session and 1 LU for a receive session

3. Use the form provided in Figure 2–1 to record the information gathered in step 2 to plan for use of the line. Record the following information:
   - The PU
   - Number of LUs per PU
4. Configure your operating system to include control unit support for channel links. See Chapter 3 for conditions.
5. Add definitions of the PUs and LUs to VTAM. Create the necessary logon mode table entries. See Chapter 4.
6. Generate the terminal control table (using the DFHTCT macro or Resource Definition Online instruction) for CICS. See Chapters 5 and 6.
7. Generate the IMS terminal table for display screens. See Chapter 7.
8. Define the number of additional users to TSO/VTAM by modifying the TSOKEY00 member in SYS1.PARMLIB. If necessary, change the maximum screen size. Also, ensure that there is a proper logon mode entry for 3270 devices using TSO/VTAM. See Chapter 8.
9. Define remote RJE stations to JES2, JES3 or VSE/POWER. See Chapters 9, 10, or 11.
10. Define DDXF users in the DISOSS/370 Host User Profile (HUP). See Chapter 12.
11. Define PrE to the DSPRINT request queue. See Chapter 13.
12. Modify HCF on your IBM system to communicate with the DECnet SNA VMS Distributed Host Command Facility (DHCF). See Chapter 14.

13. Define PrE and MRP to RSCS on your VM system. See Chapter 15.
14. Define Digital nodes using MRP in the REMLOC FILE on your VM system. See Chapter 16.
15. Ensure that the appropriate hardware and communications devices are installed between the interconnect system and the IBM front end.

Figure 2–1 Configuration Information Record

Line	PU	LU	LU Type *n*	LU Type *n*	Other

LKG–8261–93R

3

Defining the Gateway-CT As an I/O Device

The DECnet SNA Gateway-CT appears as a channel-attached physical unit type 2 cluster controller in an SNA network. Because the Gateway is seen as a channel-attached device, you must define it to the channel subsystem of the IBM mainframe to which it is attached.

This chapter explains how to configure your IBM operating system software to recognize the Gateway-CT as a channel-attached device. The way you identify the Gateway depends partly on the IBM processor you have and partly on the operating system that runs on that processor.

Regardless of the type of processor you have, and the operating system you use, defining the Gateway-CT is a two step process. You must do the following:

- Define the Gateway-CT to the channel system firmware using the Input/Output Configuration Program (IOCP).
- Define the Gateway-CT to the particular operating system software that is running on the mainframe and which interacts with the channel subsystem.

The sections in this chapter detail the specific tasks you must perform to define the Gateway-CT to both the operating system and the channel subsystem for a particular processor.

After a preliminary description of the Input/Output Configuration Program and its macros, this chapter describes operating system-specific macros that you must code for each version of all of the major IBM operating systems. The operating system macros are presented in the following order:

- VM/SP systems
- VM/XA systems
- VM/ESA
- MVS/ESA V4.2 and V4.3
- MVS/SP Version 2, Release 2 systems (MVS/XA)
- MVS/SP Version 3, Release 1 systems (MVS/ESA)
- VSE/SP systems

In addition, this chapter provides information about configuring the Gateway-CT as an I/O device to the above operating systems running on IBM 3090, 3083, 3084 or 4381, and 9121 processors. Other processors, particularly processors running in non-XA mode, might use slightly different procedures than described in this chapter. If you have a different processor, see the appropriate IBM documentation for that processor complex. Use the information in this chapter and Appendix B as a guide to configure your system.

The information and parameters in this chapter are marked with the MVS, VM, and VSE icons where a particular macro or operand applies only to that operating system.

3.1 Input/Output Configuration Program

The Input Output Configuration Program (IOCP) is a utility that lets you define and configure the channels, control units and I/O devices that are commonly found on most large-scale IBM processor complexes.

To define the Gateway-CT as a channel-attached device to a VM/XA, VM /ESA, MVS/XA or MVS/ESA system, you must code three card-image macro instructions in the IOCP. These macro instructions define the channel paths, control units, and I/O devices in your configuration. The IOCP builds the configuration and stores the data in the Input/Output Configuration Data Set (IOCDS). The IOCDS describes the I/O configuration to the channel subsystem.

All IOCP macros have the following format:

Macro Format

[*symbol*] *macro* *operand=value,...*

where

symbol	provides the macro with a name.
macro	is the macro instruction.
operand and *value*	are the parameter name(s) and value(s) that you specify.

You must code the three macros in the following order:

1. CHPID
2. CNTLUNIT
3. IODEVICE

If the Gateway-CT is to support more than one PU, repeat the CNTLUNIT and IODEVICE macros for each channel address. Alternatively, you can specify the number of supported PUs by setting the number field of the UNITADD operand of the CNTLUNIT macro and the number field of the ADDRESS operand of the IODEVICE macro to the number of PUs supported. See UNITADD in Section 3.1.2 and ADDRESS in Section 3.1.3 for details.

3.1.1 CHPID Macro

CHPID is a required macro instruction that describes the characteristics of the channel path to which Gateway-CT is connected. You can specify up to eight channel paths in one CHPID instruction.

Specify This Value

You must specify the particular value indicated for this operand.

PATH=*(chpid-number)*

PATH specifies the channel path to which the control unit is attached. Specify 1 to 4 channel path identifiers for the control unit. Each channel path must have an identifier of two hexadecimal digits. See the *IOCP User's Guide* for more information on how to specify channel path numbers on your particular processor.

TYPE={BL|BY}

TYPE specifies the mode of I/O operation for the channel path.

- BL specifies that the channel path is a block multiplexer channel and that it operates in burst mode only. On 3090 processor complexes, all channel paths can be block mode.
- BY specifies a byte multiplexer channel path. If you wish to specify byte channel paths on 3090 processors, you may designate paths 0, 1, 4 or 5 as byte mode channels. On 4381 processor complexes, path 0 must always be byte multiplexer mode. You may optionally specify byte mode for channel 5 on the 4381.

3.1.2 CNTLUNIT Macro

The CNTLUNIT macro describes the following:

- Control unit characteristics
- Channel paths attached to the control unit
- Unit addresses the control unit recognizes

CNTLUNIT is a required macro instruction. A control unit can be attached to a maximum of four channel paths.

Specify These Values

You must specify the particular value indicated for these operands.

CUNUMBR=*(number)*

CUNUMBR specifies the hexadecimal number assigned to the control unit. On 4381 processors, the control unit must have a unique three-digit hexadecimal number between 000 and FFF. On 3090 processors, the control unit must have a unique four-digit hexadecimal number between 0000 and FFFF. The IODEVICE macro uses this number to identify the control unit a device is on. The CUNUMBER can be arbitrarily chosen, although it must coincide with the CUNUMBER value of the IODEVICE macro.

PATH=*(chpid-number)*
PATH specifies the channel path to which the control unit is attached. Specify 1 to 4 channel path identifiers for the control unit. Each channel path must have an identifier of two hexadecimal digits. If you specify only one PATH parameter, you may omit the parentheses.

PROTOCL=D
PROTOCL specifies the interface protocol that the control unit uses to operate with the channel paths identified by the PATH operand. D specifies the direct-coupled interlock (DCI) protocol. This is the default.

SHARED=N
SHARED specifies the number of concurrent levels of I/O requests the channel allows for the control unit. The IOCP program automatically sets the control unit type (1 or 2) based on the parameter you supply. N specifies that the control unit supports one concurrent I/O request for each attached I/O device. This means that all of the I/O requests are not going through the same subchannel. You should specify SHARED=N so that the Gateway-CT is defined as being on a type 2 control unit.

UNIT=3791L MVS **| UNIT=3705** VM
UNIT specifies the machine type of the control unit. For processors running the MVS operating system, you must code the UNIT operand as 3791L. For processors running the VM operating system, you must code the UNIT operand as 3705.

UNITADD=*(unit-address,number)*
UNITADD specifies the control unit address (low-order byte of the channel address) assigned to the Gateway. You must specify two hexadecimal digits ranging from 00 to FF for the unit address.

Number specifies the number of sequential addresses recognized by the control unit.

3.1.3 IODEVICE Macro

IODEVICE is a required macro instruction that specifies the following:

- I/O device number
- Device characteristics
- Control units to which the device is attached

Specify These Values

You must specify the particular values indicated for these operands.

ADDRESS=*(channel-address,number)*
channel-address is the full channel address assigned to the Gateway. For 3090 processor complexes, the channel address must be hexadecimal digits in the range of 0000 through 1FFF. For 4381 processors, you must use three hexadecimal digits between 000 and FFF. For S/370 mode, the first two hexadecimal digits must specify the channel number that corresponds to the lowest-numbered channel path to which the Gateway is assigned. In 370-XA mode or ESA/370 mode, the first two hexadecimal digits do not have to correspond to the S/370 channel number.

Number specifies the number of sequential addresses recognized by the control unit.

CUNUMBR=*(number)*
CUNUMBR specifies the control unit number you assign in the CUNUMBR operand of the CNTLUNIT macro. For 4381 processors, specify three hexadecimal digits between 000 and FFF for each control unit. For 3090 processors, you may specify from one to four hexadecimal numbers ranging from 0000 to FFFF.

UNIT=3791L MVS **| UNIT=3705** VM
UNIT specifies the device type.

DEVNUMBR=*device-number*|UNITADD=*unit-address*

DEVNUMBR specifies the device number. The device number is a four-digit hexadecimal number that logically identifies an I/O device. DEVNUMBER is only available for use on 4381 processors. You cannot use this parameter on 3090 processor models. DEVNUMBER is also not supported by the MVS parameter.

UNITADD also specifies a two digit hexadecimal number from 00 through FF that specifies unit addresses recognized by the control unit. The UNITADD operand physically identifies an I/O device. UNITADD and DEVNUMBER are mutually exclusive.

STADET=N

STADET lets you disable or enable the status verification facility in 370-XA mode or ESA/370 mode. The status verification facility is not supported in S /370 mode. The status verification facility provides the system with a means of checking whether it received bad data from a particular device. If this operand is not specified, the default is Y. You should code this operand as STADET=N.

You should use Table 3–1 as a configuration aid when setting up the Gateway-CT. The table lists the major IBM operating systems and the I/O configuration files that are required for several of the most popular processor complexes. The table also indicates if the I/O configuration program for a particular operating system/processor combination allows you to combine operating system-specific macros and IOCP macros in the same file or deck.

Table 3–1 IBM Hardware Configuration Information

Operating System	Processor Model	I/O Configuration Files	Combined Input Deck Allowed
VM/XA and VM/ESA	4381	HCPRIO+IOCP	NO
	308X	HCPRIO+IOCP	NO
	3090	HCPRIO+IOCP	NO
	9121	HCPRIO+IOCP	NO
VM/SP	4381	DMKRIO+IOCP	NO
	308X	DMKRIO+IOCP	NO
	3090	DMKRIO+IOCP	NO
	9121	DMKRIO+IOCP	NO
MVS/XA (MVS/SP V2 R2)	4381	MVSCP+IOCP	YES
	308X	MVSCP+IOCP	YES
	3090	MVSCP+IOCP	YES
	9121	MVSCP+IOCP	YES
MVS/ESA (MVS/SP V3)	4381	MVSCP+IOCP	YES
	308X	MVSCP+IOCP	YES
	3090	MVSCP+IOCP	YES
	9121	MVSCP+IOCP	YES
MVS/ESA	4381	MVSCP+IOCP	YES
	308X	MVSCP+IOCP	YES
	3090	MVSCP+IOCP	YES
	9121	MVSCP+IOCP	YES

3.2 Configuring the Gateway-CT with VM/SP or VM/HPO Systems

To configure your VM/SP or VM/HPO system to recognize the Gateway-CT as a channel-attached device, you must define the I/O configuration to the operating system by means of macro instructions in the real I/O configuration file (DMKRIO) and IOCP macros.

The real I/O macros must be in a separate configuration file, but the operands they take must correspond to those in the IOCP source file you use for your hardware I/O configuration. Do not mix the IOCP macros and the real I/O macros. Appendix B contains a sample configuration.

For more information see the *Virtual Machine/System Product: Planning Guide and Reference*, and *Input/Output Configuration Program User's Guide*.

The operands of the real I/O macros that you code must correspond to the IOCP macro operands. The real I/O macros must be entered in the configuration file in the following order:

1. the RDEVICE macro corresponds to the IOCP IODEVICE macro
2. the RCTLUNIT macro corresponds to the IOCP CNTLUNIT macro
3. the RCHANNEL macro corresponds to the IOCP CHPID macro

If the Gateway-CT is to support more than one PU, repeat the RDEVICE and RCTLUNIT macros for each channel address.

Real I/O Macro Instructions

All real I/O macros have the following format:

Macro Format

[*symbol*] *macro* *operand=value,...*

where

symbol	provides the macro with a name.
macro	is the macro instruction.
operand and *value*	are the parameter name(s) and value(s) that you specify.

3.2.1 RDEVICE Macro

The RDEVICE macro describes a device attached to your processor.

Specify These Values

You must specify the particular value indicated for these operands.

ADDRESS=*cuu*
cuu is the full 3-digit channel address assigned to the Gateway. The high-order digit is the address of the channel to which the Gateway is attached. The two low-order digits represent the control unit and device address.

,DEVTYPE=3725
3725 is the type of device. Define the Gateway-CT to VM/SP as a 3725 communication controller.

,MODEL=2
2 is the model number for the 3725. This parameter identifies the Gateway-CT to VM/SP as a 3725 communications controller.

,ADAPTER=TYPE5
TYPE5 specifies the channel adapter used by the 3725 communication controller. This parameter continues the process of identifying the Gateway-CT to VM/SP as a 3725 communications controller.

,CPTYPE=NCP
NCP specifies the Network Control Program. NCP is not used with the Gateway-CT. Specifying CPTYPE=NCP tells VM/SP that it is communicating with an SNA controller or, in this case, the Gateway-CT and indicates that VTAM handles the communications controller.

3.2.2 RCTLUNIT Macro

The RCTLUNIT macro describes a control unit.

Specify These Values

You must specify the particular value indicated for these operands.

ADDRESS=*cuu*
cuu is the full 3-digit channel address assigned to the Gateway. The high-order digit is the address of the channel to which the Gateway is attached. The two low-order digits represent the base address of the next four physical units on the control unit.

,CUTYPE=3725
3725 is the type of control unit. Define the Gateway-CT to VM/SP as a 3725 communication controller.

,FEATURE=xxx-DEVICE
If you have a situation in which a control unit supports a range of more than eight device addresses, you must use the FEATURE operand. The RCTLUNIT macro must specify FEATURE=xxx-device, where xxx is the maximum number of addressable devices that you can attach to this control unit. The number you specify must be divisible by 16, and you must round up to the next higher increment of 16 if the number of devices is not divisible by 16. For example, if you have 17 devices on a particular control unit, you must code the RCTLUNIT macro for that unit as FEATURE=32-DEVICE.

The maximum number of devices that you can attach to a control unit is 256.

3.2.3 RCHANNEL Macro

The RCHANNEL macro defines a channel in the I/O configuration.

Specify This Value

You must specify the particular value indicated for this operand.

ADDRESS=*address*
address is the address of the channel to which the Gateway-CT is attached. The channel address must correspond to the address specified in the RCTLUNIT and RDEVICE macros for that particular Gateway. The high order digit of this number is the channel designation for the Gateway.

,CHTYPE={MULTIPLEXOR|BLKMPXR}
CHTYPE specifies the type of channel, either a byte multiplexer or a block multiplexer channel.

- MULTIPLEXOR specifies byte multiplexer.
- BLKMPXR specifies block multiplexer.

If you are running your operating system as a guest under VM/SP and want to define the Gateway-CT to the guest system only, issue the VARY and ATTACH Control Program (CP) commands.

The VARY command allows you to specify if a device is available for use. The VARY command has the following format:

```
VARY ONLine cuu
```

where

ONLine	makes a device that is offline available for use.
cuu	is the real address of the Gateway-CT.

After issuing the VARY command, issue the ATTACH command.

ATTACH connects a real device to a virtual machine for the exclusive use of that virtual machine. The ATTACH command has the following format:

```
ATTach cuu TO user-id AS vcuu
```

where

cuu	is the real address of the Gateway-CT.
user-id	is the user-id of the VTAM virtual machine to which you want to attach the device.
vcuu	is the virtual machine address on the guest operating system to which you want to attach the Gateway-CT.

For more information, see the *Virtual Machine/System Product Operator's Guide*.

3.3 Configuring Gateway-CT with VM/XA and VM/ESA Systems

To configure your VM/XA or VM/ESA system to recognize the Gateway as a channel-attached device, you must define the I/O configuration to the operating system by means of a single macro instruction in the real I/O configuration file (HCPRIO). The RDEVICE real I/O macro must be in a separate configuration file and its operands must correspond to the IOCP IODEVICE macro in the source file you used for your hardware I/O configuration. Do not mix the IOCP macros and the real I/O macro. Appendix B contains a sample configuration.

For more information see *VM/XA System Product Planning and Administration*, *VM/XA CP Planning and Administration*, *VM/ESA CP Planning and Administration* and the *Input/Output Configuration Program User's Guide and Reference*.

If you want the Gateway-CT to support more than one PU, you must repeat the RDEVICE macro for each channel address. Note however, that with Dynamic Configuration introduced in VM/ESA V1R2, the RDEVICE macro may not need to be coded.

Real I/O Macro Instruction

The real I/O macros have the following format:

Macro Format

[*symbol*] *macro* *operand=value,...*

where

symbol	provides the macro with a name.
macro	is the macro instruction.
operand and *value*	are the parameter name(s) and value(s) that you specify.

3.3.1 RDEVICE Macro

The RDEVICE macro describes the device attached to your processor.

Specify These Values

You must specify the particular value indicated for these operands.

DEVNO=*(cuu,nnn)*

cuu is the channel address assigned to a particular Gateway. The real I/O device number must be a 1 to 4-digit hexadecimal number ranging from 0000 to FFFF. nnn is a decimal number that specifies a group of real device control blocks with consecutive device numbers. nnn corresponds to the number of consecutive device control blocks that are created.

,DEVTYPE=3705

DEVTYPE specifies the type of device on the channel. You should define the Gateway-CT to the DEVTYPE macro as 3705, because the Gateway attaches to the channel as a physical unit type 2 3274 cluster controller. 3274 cluster controllers are specified with the value 3705.

,MODEL=1

1 is the model number for 3705 type devices. This parameter identifies the Gateway-CT to VM/XA or VM/ESA as a 3705 type device.

,ADAPTER=TYPE4

TYPE4 specifies the channel adapter used by a 3705 type device. This parameter continues the process of identifying the Gateway-CT to VM/XA (or VM/ESA) and to the channel subsystem.

If you are running an operating system as a guest under VM/XA or VM/ESA, and want to define the Gateway-CT to the guest system only, issue the VARY and ATTACH Control Program (CP) commands.

The VARY command allows you to specify if a device is available for use. The VARY command has the following format:

```
VARY ONLine cuu
```

where

ONLine	makes a device that is offline available for use.
cuu	is the real address of the Gateway-CT.

After issuing the VARY command, issue the ATTACH command.

ATTACH connects a real device to a virtual machine (VM) for the exclusive use of that VM. The ATTACH command has the following format:

```
ATTach cuu TO user-id AS vcuu
```

where

cuu	is the real address of the Gateway-CT.
user-id	is the user-id of the VTAM virtual machine to which you want to attach the device.
vcuu	is the VM address on the guest operating system to which you want to attach the Gateway-CT.

For more information, see the *VM/System Product Operator's Guide*.

3.4 Configuring Gateway-CT with MVS/SP Version 2, Release 2 (MVS/XA)

To generate your MVS/SP Version 2, Release 2 system to recognize the Gateway-CT as a channel-attached device, you must use input statements to describe the I/O configuration to the MVS configuration program (MVSCP). The MVSCP converts these macro statements into the MVS I/O configuration data for the MVS system. In addition to coding these macros, you must also use the IOCP to define the configuration for the channel subsystem. You can code the MVSCP and IOCP macros in the same input stream and then submit them to both the MVSCP or IOCP. Each program uses the macros relevant to it from the input stream. Section 3.1 lists the IOCP macros you need. Appendix B contains a sample configuration.

For more information see the *MVS/Extended Architecture MVS Configuration Program Guide and Reference*.

3.5 Configuring Gateway-CT with MVS/SP Version 3, Release 1 and Later (MVS/ESA)

To generate your MVS/SP Version 3, Release 1 system to recognize the Gateway-CT as a channel-attached device, you must use input statements to describe the I/O configuration to the MVS configuration program (MVSCP). The MVSCP converts these macro statements into the MVS I/O configuration data for the MVS system. In addition to coding these macros, you must also use the IOCP to define the configuration for the channel subsystem. You can code the MVSCP and IOCP macros in the same input stream and then submit them to both the MVSCP or IOCP. Each program uses the macros relevant to it from the input stream. Section 3.1 lists the IOCP macros you need. Appendix B contains a sample configuration.

For more information see the *MVS/Extended Architecture MVS Configuration Program Guide and Reference*.

3.6 Defining the Gateway-CT for Non-XA Systems

If your system runs in non-XA mode (MVS/370, VM/SP, or VSE/SP operating systems), I/O devices attached to certain processor models must have an area of storage set aside in main memory to store the definitions that control those devices. This area of storage is called a Unit Control Word, or UCW. For more information about using UCWs, see the documentation for your particular processor complex. If your processor complex requires UCW definition, you must be sure to define the Gateway-CT as a non-shared I/O device on the UCW screen.

Each processor has a different UCW screen, but the screens share common parameters. From the screen select the *U* (CHANGE UCW) option. Enter the **A** (ADD) UCW command to add a definition for Gateway-CT.

The **A** command for MVS, VM, and VSE has the following format:

```
A cuu
```

where

cuu	is the 3-digit starting address for the channel and unit. The hardware configuration implies the block/byte multiplexer characteristic, so you do not have to code it in the UCWs.

3.7 Configuring the Gateway-CT with VSE/SP

To configure your VSE system to recognize Gateway-CT, use the ADD command in the IPL procedure. The ADD command defines physical I/O devices attached to the system.

The ADD command for VSE has the following format:

```
ADD cuu,3791L
```

where

cuu	is the 3-digit channel address.
3791L	specifies the controller type.

Appendix B contains a sample configuration. For more information see the *IBM Virtual Storage Extended Advanced Functions System Control Statements, Version 2, Release 1*.

4

VTAM Initialization Parameters

IBM's Virtual Telecommunication Access Method (VTAM) software resides in the host IBM system that controls data communication across an IBM SNA network. This chapter discusses the requirements for defining Digital Equipment Corporation's interconnect products to VTAM.

VTAM definition statements define the characteristics of the physical units and logical units owned by VTAM. The DECnet SNA Gateway-CT is a local SNA major node. For information about defining the VBUILD and PUs and LUs for a local SNA major node, see Sections 4.1 and 4.2.

Another VTAM definition statement defines logon mode entries and sets up the BIND image expected by the interconnect products (see Section 4.4). VTAM uses these logon mode entries to specify the SNA protocol that will govern the interactions between applications. A partial sample of VTAM MODEENT macros for interconnect system communications is provided in Appendix A.

NOTE

The parameters in this chapter apply to the MVS, VM, and VSE operating systems. If a parameter or table does not apply to all IBM operating systems, an icon or icons show to which systems it applies.

Use PU and LU definition statements to define the interconnect system to VTAM.

Although this chapter discusses how to apply the IBM concepts and procedures in defining the interconnect system to VTAM, you should refer to the following IBM documents for detailed information:

- *VTAM Network Implementation Guide (SC31-6419)*
- *VTAM Resource and Definition Reference (SC31-6427)*
- *VTAM Customization (LY43-0048)*
- *Planning and Reference for Netview, NCP, and VTAM (SC31-6191)*

- *ACF for VTAM, Version 3, Resource Definition (ACF/VTAM V3R4.1)*
- *ACF for VTAM, Version 3, Resource Definition (ACF/VTAM V4R1)*
- *ACF for VTAM, Version 3, Customization (ACF/VTAM V3R4.1)*
- *Network Program Products: General Information (VTAM V3.4.1, NCP V5.4, Netview 2.2, SSP 3.7)*
- *Network Program Products General Information (ACF/VTAM V3R1.1)*
- *Network Program Products: General Information (VTAM V3R2; NCP V4R3, V5R1&2; SSP V3R3&4; NetView R2)*
- *Network Program Products: Planning (ACF/VTAM V3, ACF/NCP V4, ACF/SSP V3, NCCF V2R2, NLDM R3, NPDA V3R2)*
- *Network Program Products Planning (ACF/VTAM V3R1.1)*
- *Network Program Products: Planning (VTAM V3R2; NCP V4R3, V5R1&2; SSP V3R3&4; NetView R2)*
- *ACF for VTAM Resource Definition (MVS, VSE, and OS/VS)*
- *ACF for VTAM Installation and Resource Definition Version 3, Releases 1, 1.1, 1.2, and 2 (ACF/VTAM V3)*
- *ACF for VTAM Customization Version 3, Releases 1, 1.1, 1.2, and 2 (ACF/VTAM V3)*
- *ACF for VTAM, Version 3, Reference Summary (ACF/VTAM V3R1.1)*
- *ACF for VTAM Planning and Installation Reference Manual*
- *Network Program Products: General Information (VTAM)*
- *Network Program Products: Planning (VTAM)*
- *Network Program Products: General Information (ACF/VTAM V3, ACF/NCP V4, ACF/SSP V3, NCFF V2R2, NLDM R3, NPDA V3R2)*
- *Network Program Products: General Information (ACF/VTAM V3R1.1)*
- *Network Program Products: General Information (VTAM V3R2, NCP V4R3 and V5R1 and R2, SSP V3R3 and R4, NetView R2)*
- *Network Program Products: Planning (ACF/VTAM V3, ACF/NCP V4, ACF/SSP V3, NCCF V2R2, NLDM R3, NPDA V3R2)*
- *Network Program Products: Planning (ACF/VTAM V3R1.1)*
- *Network Program Products: Planning (VTAM V3R2, NCP V4R3 and V5R1 and R2, SSP V3R3 and R4, NetView R2)*

- *VTAM Version 3 Releases 1 and 1.1 Customization*
- *VTAM Version 3 Releases 1 and 1.1 Installation and Resource Definition*
- *VTAM Version 3 Releases 1 and 1.1 Reference Summary*

NOTE

The parameters included in this chapter are valid for VTAM Version 2, Release 2 and Version 3, Releases 1, 1.1, 3.2, 3.2.1, 3.3, 3.4, 3.4.1, 3.4.2, and 4.1.

Definition Statement Format

Each VTAM definition statement has the same format:

symbol *definition statement* *operand=value,...*

where

symbol	is the name of the resource defined by this definition statement. The variable *symbol* can be the name of the PU or LU
definition statement	identifies the definition statement.
operand and *value*	are the parameter names and values that you specify. Operands preceded by an asterisk (*) have values you must discuss with interconnect system managers

The following sections describe the functions performed by the definition statements, identify the operands associated with each definition statement, and specify the values you must enter or consider when defining the interconnect system to VTAM. Explanatory notes follow operands only if defining the interconnect system imposes a specific requirement or constraint on the operands' values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies. The LU addresses range from 1 to 255.

4.1 VBUILD Definition Statement for Local SNA Major Nodes

To define the DECnet SNA Gateway-CT to VTAM as a local SNA major node, use a single VBUILD statement to define the major node. You must use a VBUILD statement for each DECnet SNA Gateway-CT.

Specify These Values

You must specify the particular value indicated for these operands.

TYPE=LOCAL
TYPE defines a local SNA major node to VTAM. This operand is required.

4.2 VTAM Parameters for Local SNA Major Nodes

To define the interconnect system to VTAM as a local SNA major node, you must define or modify parameters for the PU and LU definition statements. As specified in the IBM documentation, these operands can appear in either the PU or LU statement. If you code an operand for the PU statement, the value applies to each LU. If you code an operand with a different value for an associated LU, the value you assign to the LU overrides the value for that LU in the PU statement.

4.2.1 PU Definition Statement for Local SNA Major Nodes

You must code a PU definition statement for each physical unit in the local SNA major node. A PU definition statement defines for this physical unit a set of logical units that have similar characteristics. Operands preceded by an asterisk (*) have values that you must discuss with interconnect system managers.

Specify These Values

You must specify the particular value indicated for these operands.

*** [CUADDR=*channel-device-address*]**
CUADDR is the hexadecimal channel device address for the physical unit (PU). If you omit CUADDR, you must code ISTATUS=INACTIVE and include the address in the VARY command that activates the unit. CUADDR must match the CHANNEL ADDRESS parameter defined for the DECnet SNA Gateway-CT configuration.

[,DISCNT=NO]
DISCNT specifies rules for session termination (disconnect). DISCNT=NO means that VTAM terminates the SSCP-LU and SSCP-PU sessions when certain conditions are met. (See the related IBM documentation.)

[,DLOGMOD=*default-logon-mode-entry*]
DLOGMOD names the logon mode table entry to be used by default when you do not specify a name.

This parameter must refer to a logon mode entry that contains the minimum requirements for the interconnect system.

[,LOGAPPL=*application-program-name*]
LOGAPPL names the application program that the LU automatically logs on to when it is activated.

[,MAXBFRU=*n*]
MAXBFRU is the number of buffer units that receive data from the physical unit. The variable *n* is a decimal number. *n* multiplied by the buffer size should be 9 bytes greater than the maximum RU size you want to use. You can determine the buffer size from the VTAM IOBUF start parameter.

[,MODETAB=*logon-mode-table-name*]
MODETAB names the logon mode table to be used for the LU.

This parameter must refer to a logon mode table that contains an entry with the minimum requirements for the interconnect system.

[,PUTYPE=2]
PUTYPE indicates the physical unit (PU) type. The interconnect system must be defined as a type 2 physical unit.

4.2.2 LU Definition Statement for Local SNA Major Nodes

An LU definition statement defines the characteristics of a logical unit. Here you must define an LU definition statement to reflect parameters that you must specify for an LU for a local node.

Specify These Values

You must specify the values indicated. Operands preceded by an asterisk (*) have values that you must discuss with interconnect system managers.

[,DLOGMOD=*default-logon-mode-entry*
DLOGMOD names the logon mode table entry to be used by default when you do not specify a name.

This parameter must refer to a logon mode entry that contains the minimum requirements for the interconnect system.

[,ENCR={REQD|SEL|OPT|NONE}]
The DECnet SNA API for OpenVMS supports any of the encryption options if they are supported on the IBM side. For other DECnet SNA OpenVMS access routines, set ENCR=NONE.

*** LOCADDR=*n***
LOCADDR gives the LU's address at its PU.

The LU address must be in the range of 1 to 255.

[,LOGAPPL=*application-program-name*]
LOGAPPL names the application program that the LU automatically logs on to when it is activated.

[,MODETAB=*logon-mode-table-name*]
MODETAB names the logon mode table to be used for the LU.

This parameter must refer to a logon mode table that contains an entry with the minimum requirements for the interconnect system.

[,SSCPFM={FSS|USSSCS}]
SSCPFM=FSS indicates that an LU can communicate with the SSCP in formatted messages. SSCPFM=USSSCS indicates that an LU can communicate with the SSCP in character-coded messages.

For the DECnet SNA 3270 Terminal Emulator for OpenVMS, use SSCPFM=USSSCS.

[,USSTAB=*table-name*]
USSTAB is the name of the USS definition table used for the LU.

4.3 VTAM Parameters for Application Program Major Node Definition for MVS/VM/DTF/VTAM

You must define as an application program to VTAM the MVS/VM/DTF/VTAM software. You define an application program major node by filing a VBUILD statement for the major node and an APPL definition statement for the application program in the major node. For more information about defining the MVS/DTF/VTAM software, see the *DECnet SNA Data Transfer Facility for OpenVMS Installation (MVS)*.

4.3.1 The VBUILD Statement

The following operand defines an application program major node:

TYPE=APPL
TYPE=APPL indicates that the VBUILD statement defines an application program major node.

4.3.2 The APPL Definition Statement

Code an APPL definition statement for the MVS/DTF/VTAM software by using the following operands:

ACBNAME=*applid*
specify the same APPLID here as the value specified for the APPLID in the MVS/DTF/VTAM default values table.

[,AUTH=(VPACE)]
AUTH=VPACE indicates the application is subject to VPACING specifications of the secondary logical units with which the program is in session.

[,EAS=*value*]
a value close to the maximum concurrent sessions value used to compute the *commevent* value of the MVS/DTF/VTAM default values table.

[,SONSCIP=YES]
SONSCIP=YES indicates how VTAM notifies DTF of session termination.

[,VPACING=*number*]
the maximum number of RUs that MVS/DTF/VTAM receives from VTAM and places on a session queue. When this limit is reached, MVS/DTF stops issuing VTAM receives until the number of queued RUs drops below the value specified for SSNDPAC.

Because this parameter keeps VTAM from filling the MVS/DTF/VTAM address space with buffers that cannot be processed, a value of zero is not allowed.

4.4 Building Logon Mode Tables

A logon mode table contains one or more sets of BIND RU parameters or session parameters that represent session protocols used when establishing a session. The logon mode table contains entries used to set up BIND values.

A logon mode table is defined by using a MODETAB macro, one or more MODEENT macros, and a MODEEND macro. A MODEENT macro names a set of session parameters associated with a logon mode table. You can define more than one MODEENT macro.

Digital requires that certain parameters are set in a MODEENT macro before communication with the interconnect system and related products can occur. Tables 4–1 through 4–10 (Section 4.5) provide values for the BIND RU parameters that you need to define for communication with the DECnet SNA access routines. Appendix A contains sample MODEENT macro definitions proven valid for the interconnect system when used in field test situations.

Make a copy of the logon mode entry available to Digital application programmers who use the DECnet SNA Application Programming Interface products.

Note

See the tables in Section 4.5 and the example in Appendix C to help determine the values for the following operands.

Operands and Values

You must specify the values indicated. Operands preceded by an asterisk (*) have values you must discuss with interconnect system managers.

[,COMPROT=*value*]
the common LU protocols. The value you supply determines the value specified in bytes 6 and 7 of the BIND RU parameter. Refer to Tables 4–1 through 4–10 for the values allowed for communication with the DECnet SNA access routines.

[,ENCR=*value*|0]
encryption options. The DECnet SNA Application Programming Interface for OpenVMS supports any of the encryption options if supported on the IBM side. For the other DECnet SNA OpenVMS access routines, set ENCR=0.

[,FMPROF={X'03'|X'04'|X'07'|X'12'|X'13'}]
the function management profile. The value you supply determines the value of byte 2 of the BIND parameter. FMPROF must be X'03' for the 3270 TE, DHCF, and 3270 DS (LU2); RJE (LU1); MRP (LU0); and PrE (LU1 and LU3). It can be X'03', X'04', X'07' or X'12' for the API. For DTF, FMPROF should be X'12'. For APPC/LU6.2, DDXF, and MRS, FMPROF should be X'13'.

*** [,LOGMODE=*name*]**
the logon mode table entry name used as a pointer to the session parameters in this table entry. The value corresponds to the DECnet SNA Gateway-CT SET ACCESS NAME LOGON MODE entry in the SNAGATEWAY_*gateway-node-name*_SNA.COM file. (Refer to the OpenVMS and ULTRIX versions of *DECnet SNA Gateway-CT and Gateway-ST Management*).

[,PRIPROT=*value*]
the primary LU protocol. The value you supply determines the value specified in byte 4 of the BIND RU parameter. Refer to Tables 4–1 through 4–10 for the values allowed for communication with the DECnet SNA access routines.

[,PSERVIC=*value*]
the LU unit presentation services profile. The value you enter determines the value specified in bytes 14 through 25 of the BIND RU parameter. Refer to Tables 4–1 through 4–10 for the values allowed for communication with the DECnet SNA access routines.

[,PSNDPAC={*value*|0}]
the primary-send pacing count. MVS/DTF/VTAM requires a nonzero value.

[,RUSIZES=*value*]
the largest number of bytes of data that you can send between the primary and secondary logical units (PLUs and SLUs). Specify RUSIZES as four hexadecimal digits. The leftmost two digits are used to specify the SLU-to-PLU RU size. The rightmost two digits are used to specify the PLU-to-SLU RU size. This value determines the value specified in bytes 10 and 11 of the BIND RU parameter. Refer to Appendix C for information on converting the encoded value to a decimal value.

For DECnet SNA access routines, specify a value from X'85' to X'8A' for inbound sizes and a value from X'85' to X'8A' for outbound RU sizes. See Tables 4–1 through 4–10 for specific product information. Refer to the IBM *Systems Network Architecture Formats* for additional information about determining the correct value for this parameter.

[,SECPROT=*value*]
the secondary logical unit protocol. The value you supply determines the value specified in byte 5 of the BIND RU parameter. Refer to Tables 4–1 through 4–10 for the values allowed for communication with the DECnet SNA access routines.

[,SRCVPAC={X'01'|...|X'10'}]
SRCVPAC indicates the secondary-receive pacing count. You can code any hexadecimal number in the range X'01' through X'10'. This value determines the value specified in byte 9 of the BIND RU parameter.

[,SSNDPAC=*value*|0]
the secondary-send pacing count. You can code any hexadecimal number in the range of X'00' through X'3F'. The value you supply determines the value specified in byte 8 of the BIND RU parameter. Consult your IBM network planner for a recommended value. MVS/DTF/VTAM requires a nonzero value.

[,TSPROF={X'03'|X'04'|X'07'}]
the transmission services profile. The value you supply determines the value specified in byte 3 of the BIND RU parameter.

TSPROF must be X'03' for the 3270 TE, DHCF, and 3270 DS (LU2); RJE (LU1); MRP (LU0); and PrE (LU1 and LU3). It can be X'03', X'04', or X'07' for the API. For DTF, TSPROF should be X'07'.

[,TYPE=X'00'|X'01']
the type of BIND command. Set TYPE=X'00' (negotiable) or TYPE=X'01' (not negotiable) for the API. Set TYPE=X'00' (negotiable) for the APPC/LU6.2. Set TYPE=X'01' (not negotiable) for all other DECnet SNA OpenVMS access routines. The value you enter determines the value specified in byte 1 of the BIND RU. Refer to Tables 4–1 through 4–10 for the values allowed for communication with the DECnet SNA access routines.

4.5 BIND RU Parameter Values

The following tables provide acceptable BIND RU values for the SNA network to establish a session with the interconnect system and associated access routines:

- Table 4–1 provides the acceptable values for a BIND request to communicate through the interconnect system to an application used with the DECnet SNA Application Programming Interface for OpenVMS (API). Table 4–1 specifies only the BIND values required by the interconnect system. The BIND values for bytes 14 through 25 are user defined; other BIND byte values depend on the LU type you select. See the *DECnet SNA Application Programming Interface for OpenVMS Guide* for additional information.
- Table 4–2 provides the acceptable values for a BIND request to communicate through the interconnect system to an application used with the DECnet SNA Data Transfer Facility (DTF). Table 4–2 specifies only the BIND values required by the interconnect system. DTF will override unacceptable bind parameters with a preferred value. Table 4–2 shows acceptable values for the MODEENT operands. For information about the MODEENT operands that do not have a preferred value, see the *DECnet SNA Data Transfer Facility Installation (MVS)*. MVS
- Table 4–3 provides the minimum set of BIND RU parameters for LU0 communication with VAX Message Router/P Gateway (MRP) when communicating with IBM's PROFS product. Table 4–3 specifies only the BIND values required by the interconnect system. VM

- Table 4–4 provides the minimum set of BIND RU parameters for LU1 communication with DECnet SNA Remote Job Entry for OpenVSM (RJE). In Table 4–4, the term LU1 refers to logical unit type 1 or to RJE. JES2 and JES3 override some of the parameters set in the MODEENT macro. MVS

  Note

  To ensure proper parameter settings, check your remote definitions against the descriptions in Chapters 9, 10, and 11.

- Table 4–5 provides the minimum set of BIND RU parameters for LU1 communication with DECnet SNA Remote Job Entry for OpenVSM (RJE) when communicating with IBM's VSE/POWER. In Table 4–5, the term LU1 refers to logical unit type 1 or to RJE. VSE
- Table 4–6 provides the minimum set of BIND RU parameters for LU1 communication with the DECnet SNA Printer Emulator for OpenVMS (PrE). In Table 4–6, LU1 refers to logical unit type 1 or to PrE.
- Table 4–7 provides the minimum set of BIND RU parameters for LU2 communication with the DECnet SNA 3270 Terminal Emulator (3270 TE) and the DECnet SNA 3270 Data Stream Programming Interface (3270 DS for OpenVMS). In Table 4–7, LU2 refers to logical unit type 2, to 3270 TE, or to 3270 DS.
- Table 4–8 provides the minimum set of BIND RU parameters for LU2 communication with the DECnet SNA VMS Distributed Host Command Facility (DHCF). MVS
- Table 4–9 provides the minimum set of BIND RU parameters for LU3 communication with the DECnet SNA Printer Emulator for OpenVMS(PrE).
- Table 4–10 provides the minimum set of BIND RU parameters for LU6.2 communication with the DECnet SNA VMS DISOSS Document Exchange Facility (DDXF) MVS, External Document Exchange (EDE) with IBM DISOSS MVS, VAX Message Router/S Gateway (MRS) MVS, and the DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS (APPC /LU6.2). MVS VSE)

NOTE

BIND RU byte numbers enable you to determine the requirements for a BIND request. Bits are numbered according to IBM convention: low-order bits are the leftmost bits.

Table 4–1 BIND RU Parameters for LU0 (API) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Can be B'0000' or B'0001'	BIND type—negotiable (B'0000') or nonnegotiable (B'0001')
2	FMPROF	Can be X'03', X'04', X'07', or X'12'	FM profiles
3	TSPROF	Can be X'03', X'04', or X'07'	TS profiles
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from PLU half-session
bit 1		Can be B'0' or B'1'	Request control mode selection—immediate (B'0') or delayed (B'1') request mode
bits 2-3		Must be B'00', B'01', B'10', or B'11'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for no response (B'00'), exception response (B'01'), definite response (B'10'), or both definite or exception responses (B'11')
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Can be B'0' or B'1'	Send EB indicator—PLU will not send (B'0') or can send (B'1') EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from SLU half-session
bit 1		Can be B'0' or B'1'	Request control mode selection—immediate (B'0') or delayed (B'1') request mode

[1]See the note on byte numbers preceding this table.

(continued on next page)

Table 4–1 (Cont.) BIND RU Parameters for LU0 (API) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-3		Can be B'00', B'01', B'10', or B'11'	Chain response protocol used by SLU half-session for FMD requests; chains from SLU ask for no response (B'00'), exception response (B'01'), definite response (B'10'), or both definite or exception responses (B'11')
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Can be B'0' or B'1'	Send EB indicator—SLU will not send (B'0') or can send (B'1') EB
6	COMPROT		FM usage—common LU protocols
bit 0		Can be B'0' or B'1'	Session segmenting support—this LU supports (B'0') or does not support (B'1') reception of segments on this session
bit 1		Can be B'0' or B'1'	FM header usage—FM headers not allowed (B'0') or allowed (B'1')
bit 2		Can be B'0' or B'1'	Brackets usage and reset state—brackets used and bracket state managers' reset states are INB (B'0') or BETB (B'1')
bit 3		Can be B'0' or B'1'	Bracket termination rule—if B'0', Rule 2 (unconditional termination); if B'1', Rule 1 (conditional termination) used
bit 4		Can be B'0' or B'1'	Alternate code set allowed indicator—alternate code set not allowed (B'0') or allowed (B'1')
bits 5-6		Not restricted	
bit 7		Can be B'0' or B'1'	BIND response queue capability—BIND response cannot be held/queued (B'0') or can be held/queued (B'1')
7			FM usage—common LU protocols
bits 0-1		Must be B'00', B'01', or B'10'	Normal-flow send/receive mode selection—full duplex (B'00'), half-duplex contention (B'01'), or half-duplex flip-flop (B'10')
bit 2		Can be B'0' or B'1'	Recovery responsibility—contention loser responsible for recovery (B'0') or symmetric responsibility for recovery (B'1')

[1]See the note on byte numbers preceding this table.

(continued on next page)

Table 4–1 (Cont.) BIND RU Parameters for LU0 (API) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 3		Can be B'0' or B'1'	Contention winner/loser—SLU is contention winner and PLU is contention loser (B'0'), or PLU is contention winner and SLU is contention loser (B'1')
bits 4-5		Not restricted	
bit 6		Not restricted	
bit 7		Can be B'0' or B'1'	Half-duplex flip-flop reset states—HDX-FF reset state is RECEIVE for PLU and SEND for SLU (B'0'), or SEND for PLU and RECEIVE for SLU (B'1')
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'); one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero

[1]See the note on byte numbers preceding this table.

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Table 4–1 (Cont.) BIND RU Parameters for LU0 (API) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14-25	PSERVIC	Not restricted	PS profile
26	ENCR MVS	Not restricted	Cryptography options

[1]See the note on byte numbers preceding this table.

NOTES

BIND values for use with the DECnet SNA API (bytes 14 through 25) are user defined.

Other BIND byte values are determined by the type of LU you communicate with.

Table 4–2 BIND RU Parameters for LU0 (DTF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0000' or B'0001'	BIND type—negotiable (B'0000') or nonnegotiable (B'0001')
2	FMPROF	Preferred value is X'12'	FM Profile
3	TSPROF	Preferred value is X'07'	TS Profile
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Preferred value is B'1'	Chaining use selection—multi-RU chains allowed from PLU half-session
bit 1		Preferred value is B'0'	Request control mode selection—immediate request mode
bits 2-3		Preferred value is B'01'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception response
bit 4		Preferred value is B'0'	Reserved
bits 5-6		Preferred value is B'00'	Reserved
bit 7		Preferred value is B'0'	Send EB indicator—PLU will not send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Preferred value is B'1'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Preferred value is B'0'	Request control mode selection—immediate request mode
bits 2-3		Preferred value is B'01'	Chain response protocol used by SLU half-session for FMD requests; chains from SLU ask for exception response
bit 4		Preferred value is B'0'	Reserved
bits 5-6		Preferred value is B'00'	Reserved
bit 7		Preferred value is B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–2 (Cont.) BIND RU Parameters for LU0 (DTF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 0		Preferred value is B'0'	Session segmenting support—this LU supports reception of segments on this session
bit 1		Preferred value is B'0'	FM header usage—FM headers not allowed
bit 2		Preferred value is B'0'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are INB
bit 3		Preferred value is B'0'	Bracket termination rule—Rule 2 (unconditional termination)
bit 4		Preferred value is B'0'	Alternate code set allowed indicator—alternate code set will not be allowed
bits 5-6		Preferred value is B'00'	Reserved
bit 7		Preferred value is B'0'	BIND response queue capability—BIND response cannot be held/queued
7			FM usage—common LU protocols
bits 0-1		Preferred value is B'00'	Normal-flow send/receive mode selection—full duplex
bit 2		Preferred value is B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Preferred value is B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-5		Preferred value is B'00'	Reserved
bit 6		Preferred value is B'0'	Reserved
bit 7		Preferred value is B'0'	Half-duplex flip-flop reset states—HDX-FF reset state is RECEIVE for PLU and SEND for SLU
8	SSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–2 (Cont.) BIND RU Parameters for LU0 (DTF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-7		Must be B'000001' to B'111111'	Secondary TCs send window size—any value allowed other than zero
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'8A' for transfer sessions or between X'87' and X'8A' for server sessions	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'8A' for transfer sessions or between X'87' and X'8A' for server sessions	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'), one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'111111'	Primary TCs send window size—any value other than zero
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'111111'	Primary TCs receive window size
14-25	PSERVIC	Preferred value is all zeros	PS profile
26	ENCR	Must be X'00'	Cryptography options

[1]See the note on byte numbers preceding Table 4–1.

Table 4–3 BIND RU Parameters for LU0 (MRP) Communication VM

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Must be B'0'	Chaining use selection—single-RU chains allowed from PLU half-session
bit 1		Must be B'1'	Request control mode selection—delayed request mode
bits 2-3		Must be B'11'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for definite or exception response
bits 4-5		Must be B'00'	Reserved
bit 6		Can be B'1'	Compression indicator—compression can be used
bit 7		Must be B'0'	Send EB indicator—PLU will not send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'0'	Chaining use selection—single-RU chains allowed from SLU half-session
bit 1		Must be B'1'	Request control mode selection—delayed request mode
bits 2-3		Must be B'11'	Chain response protocol used by SLU half-session for FMD requests; chains from SLU ask for definite or exception response
bits 4-5		Must be B'00'	Reserved
bit 6		Can be B'1'	Compression indicator—compression can be used
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–3 (Cont.) BIND RU Parameters for LU0 (MRP) Communication VM

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 0		Must be B'0'	Session segmenting support—this LU supports reception of segments on this session
bit 1		Must be B'1'	FM header usage—FM headers allowed
bit 2		Must be B'0'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are INB
bit 3		Must be B'0'	Bracket termination rule—Rule 2 (unconditional termination)
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-6		Must be B'00'	Reserved
bit 7		Must be B'0'	BIND response queue capability—BIND response cannot be held/queued
7			FM usage—common LU protocols
bits 0-1		Must be B'00'	Normal-flow send/receive mode selection—full duplex
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-5		Must be B'00'	Reserved because byte 6, bit 4 is zero—must be zero
bit 6		Must be B'0'	Reserved
bit 7		Must be B'0'	Half-duplex flip-flop reset states—HDX-FF reset state is RECEIVE for PLU and SEND for SLU
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

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Table 4–3 (Cont.) BIND RU Parameters for LU0 (MRP) Communication VM

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-7		Must be B'000000' to B'111111'	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be X'00'	Maximum RU size sent on the normal flow by SLU half-session
11		Outbound RU size must be X'00'	Maximum RU size sent on the normal flow by PLU half-session
12	PSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'), one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14-26	PSERVIC	Must be all zeros	PS profile

[1]See the note on byte numbers preceding Table 4–1.

Table 4–4 BIND RU Parameters for LU1 (RJE) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Ignored	
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Can be B'0' or B'1'	Compression indicator—compression not used (B'0'), or compression can be used (B'1')
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'1'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Can be B'0' or B'1'	Compression indicator—compression not used (B'0'), or compression can be used (B'1')

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–4 (Cont.) BIND RU Parameters for LU1 (RJE) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 7		Must be B'1'	Send EB indicator—SLU can send EB
6	COMPROT		FM usage—common LU protocols
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'1'	FM header usage—FM headers allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Ignored	
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111' for the interconnect system	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–4 (Cont.) BIND RU Parameters for LU1 (RJE) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
10	RUSIZES	Inbound RU size must be between X'85' and X'F8'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'F8'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'), one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000001'	LU type—LU type 1
15			PS usage characteristics
bits 0-3		Must be X'0', X'1' or X'2'	FM header sets
bits 4-7		Must be X'0'	Data stream profile 0
16			PS usage
bit 0		Must be B'0'	Two destinations can be outstanding—PLU half-session can interrupt itself one time
bit 1		Must be B'0'	Do not send compacted data
bit 2		Must be B'1'	PDIR can be sent by PLU half-session
bits 3-7		Must be B'00000'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–4 (Cont.) BIND RU Parameters for LU1 (RJE) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
17		Must be B'00000000'	Reserved—must be zero
18			PS usage
bit 0		Ignored	
bit 1		Must be B'0'	Do not use horizontal format
bit 2		Must be B'0'	Do not use vertical format
bit 3		Must be B'1'	Vertical channel can be used
bit 4		Must be B'0'	Do not use SLD (set line density)
bit 5		Must be B'0'	Reserved—must be zero
bit 6		Ignored	
bit 7		Must be B'1'	TRN (transparent) and IRS (interchange record separator) can be used
19		Ignored	
20			PS usage
bit 0		Must be B'1'	Document format allowed
bit 1		Must be B'1'	Card format allowed
bit 2		Must be B'0'	Exchange media format not allowed
bit 3		Must be B'0'	Disk data management format not allowed
bit 4		Can be B'0' or B'1'	Extended card format
bit 5		Can be B'0' or B'1'	Extended document format
bit 6		Must be B'0'	SLU half-session can send CD at EDS (end of destination selection)
bit 7		Must be B'0'	Reserved—must be zero
21		Must be X'20' for RJE	PS usage
22		Must be X'00'	Reserved—must be zero
23			PS usage
bit 0		Must be B'0'	Base support for console devices
bits 1-6		Ignored	
bit 7		Must be B'1'	TRN (transparent) and IRS (interchange record separator) can be used

[1]See the note on byte numbers preceding Table 4–1.

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Table 4–4 (Cont.) BIND RU Parameters for LU1 (RJE) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
24		Must be X'00'	Reserved—must be zero
25			Media flags
bit 0		Ignored	
bit 1		Must be B'1'	Card format allowed
bits 2-7		Ignored	
26	ENCR	Must be X'00'	Cryptography options—not supported

[1]See the note on byte numbers preceding Table 4–1.

Table 4–5 BIND RU Parameters for LU1 (RJE) Communication VSE

BIND RU Byte No.*	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Ignored	
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Must be B'10'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU will ask for definite response
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'1'	Compression indicator—compression can be used
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'1'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Must be B'10'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for definite response
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression will not be used
bit 7		Must be B'1'	Send EB indicator—SLU can send EB
6	COMPROT		FM usage—common LU protocols

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–5 (Cont.) BIND RU Parameters for LU1 (RJE) Communication VSE

BIND RU Byte No.*	MODEENT Operand	Value	Description
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'1'	FM header usage—FM headers allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Ignored	
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111' for interconnect systems	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–5 (Cont.) BIND RU Parameters for LU1 (RJE) Communication VSE

BIND RU Byte No.*	MODEENT Operand	Value	Description
10	RUSIZES	Inbound RU size must be between X'85' and X'F8'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'F8'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Must be B'0'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000001'	LU type—LU type 1
15			PS usage characteristics
bits 0-3		Must be X'1'	FM header sets
bits 4-7		Must be X'0'	Data stream profile 0
16			PS usage
bit 0		Must be B'0'	Two destinations can be outstanding—PLU half-session can interrupt itself one time
bit 1		Must be B'0'	Do not send compacted data
bit 2		Must be B'1'	PDIR can be sent by PLU half-session
bits 3-7		Must be B'00000'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–5 (Cont.) BIND RU Parameters for LU1 (RJE) Communication VSE

BIND RU Byte No.*	MODEENT Operand	Value	Description
17		Must be X'00'	Reserved—must be zero
18			PS usage
bit 0		Ignored	
bit 1		Must be B'1'	Horizontal format can be used
bit 2		Must be B'1'	Vertical format can be used
bit 3		Must be B'1'	Vertical channel can be used
bit 4		Must be B'0'	Do not use SLD (set line density)
bit 5		Must be B'0'	Reserved—must be zero
bit 6		Ignored	
bit 7		Must be B'1'	TRN (transparent) and IRS (interchange record separator) can be used
19		Ignored	
20			PS usage
bit 0		Must be B'1'	Document format allowed
bit 1		Must be B'1'	Card format allowed
bit 2		Must be B'0'	Exchange media format not allowed
bit 3		Must be B'0'	Disk data management format not allowed
bit 4		Must be B'0'	Extended card format
bit 5		Can be B'0'	Extended document format
bit 6		Must be B'0'	SLU half-session can send CD at EDS (end of destination selection)
bit 7		Must be B'0'	Reserved—must be zero
21		Must be X'00' for RJE	PS usage
22		Must be X'00'	Reserved—must be zero
23			PS usage
bit 0		Must be B'0'	Base support for console device
bits 1-6		Ignored	
bit 7		Must be B'1'	TRN (transparent) and IRS (interchange record separator) can be used

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–5 (Cont.) BIND RU Parameters for LU1 (RJE) Communication VSE

BIND RU Byte No.*	MODEENT Operand	Value	Description
24		Must be X'00'	Reserved—must be zero
25			Media flags
bit 0		Ignored	
bit 1		Must be B'1'	Card format allowed
bits 2-7		Ignored	

[1]See the note on byte numbers preceding Table 4–1.

Table 4–6 BIND RU Parameters for LU1 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—Single-RU (B'0') or multi-RU (B'1') chains allowed from PLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—Single-RU (B'0') or multi-RU (B'1') chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection–immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–6 (Cont.) BIND RU Parameters for LU1 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 6		Must be B'0'	Compression indicator—compression will not be used
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'0'	FM header usage—FM headers not allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111' for the interconnect system	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–6 (Cont.) BIND RU Parameters for LU1 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'89'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'89'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'), one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000001'	LU type—LU type 1
15			PS usage characteristics
bits 0-3		Must be X'0'	FM header sets
bits 4-7		Must be X'0'	Data stream profile 0
16		Must be X'00'	Reserved—must be zero
17		Must be X'00'	Reserved—must be zero
18			PS usage

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–6 (Cont.) BIND RU Parameters for LU1 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 0		BS, CR, INP, ENP, LF, HT, and VT must be B'1'	Full-base data stream
bit 1		Must be B'1'	SHF (set horizontal format)
bit 2		Must be B'1'	SVF (set vertical format)
bit 3		Must be B'1'	VCS (vertical channel select)
bit 4		Must be B'0'	SLD (set line density)
bit 5		Must be B'1'	Reserved
bit 6		Must be B'1'	BEL (bell)
bit 7		Must be B'1'	TRN (transparent)
19		Ignored	
20		Must be X'80'	PS usage
21-25		Ignored	
26	ENCR MVS	Must be X'00'	Cryptography options—not supported

[1]See the note on byte numbers preceding Table 4–1.

Table 4–7 BIND RU Parameters for LU2 Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from PLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'1'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–7 (Cont.) BIND RU Parameters for LU2 Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'0'	FM header usage—FM headers not allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111' for the interconnect system	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–7 (Cont.) BIND RU Parameters for LU2 Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'); one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000010'	LU type—LU type 2
15			PS usage
bit 0		Must be B'0'	Query not supported
bits 1-7		Must be B'0000000'	Reserved—must be zero
16-19		Must be all zeros	PS usage—reserved
20		Must be between 1 and 255 in binary form	PS usage
21		Must be between 1 and 255 in binary form	PS usage

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–7 (Cont.) BIND RU Parameters for LU2 Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
22		Must be between 1 and 255 in binary form	PS usage
23		Must be between 1 and 255 in binary form	PS usage
24			PS usage
bit 0		Must be B'0'	Reserved
bits 1-7		Can be B'1111111'	Screen size—default and alternate size
25		Must be X'00'	PS usage—reserved
26	ENCR MVS	Must be X'00'	Cryptography options—not supported

[1]See the note on byte numbers preceding Table 4–1.

Table 4–8 BIND RU Parameters for LU2 (DHCF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from PLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'1' Do not use B'10100000'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–8 (Cont.) BIND RU Parameters for LU2 (DHCF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'0'	FM header usage—FM headers not allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111' for the interconnect system	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–8 (Cont.) BIND RU Parameters for LU2 (DHCF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'); one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000010'	LU type—LU type 2
15			PS usage
bit 0		Must be B'0'	Query not supported
bits 1-7		Must be B'0000000'	Reserved—must be zero
16-19		Must be all zeros	PS usage—reserved
20		Must be between 0 and 24 in binary form for DHCF	PS usage
21		Must be between 0 and 80 in binary form for DHCF	PS usage

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–8 (Cont.) BIND RU Parameters for LU2 (DHCF) Communication MVS

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
22		Must be between 0 and 24 in binary form for DHCF	PS usage
23		Must be between 0 and 80 in binary form for DHCF	PS usage
24			PS usage
bit 0		Must be B'0'	Reserved
bits 1-7		Can be B'1111110'	Static size—specified by bytes 20 to 21
25		Must be X'00'	PS usage—reserved

[1]See the note on byte numbers preceding Table 4–1.

Table 4–9 BIND RU Parameters for LU3 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0001'	BIND type—nonnegotiable
2	FMPROF	Must be X'03'	FM Profile 3
3	TSPROF	Must be X'03'	TS Profile 3
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from PLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0'	Compression indicator—compression not used
bit 7		Must be B'1'	Send EB indicator—PLU can send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Can be B'0' or B'1'	Chaining use selection—single-RU (B'0') or multi-RU (B'1') chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Cannot be B'00'	Chain response protocol used by SLU half-session for FMD requests; chains from PLU ask for exception, definite, or definite or exception responses
bits 4-5		Must be B'00'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–9 (Cont.) BIND RU Parameters for LU3 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 6		Must be B'0'	Compression indicator—compression not used
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols
bit 0		Must be B'0'	Reserved—must be zero
bit 1		Must be B'0'	FM header usage—FM headers not allowed
bit 2		Must be B'1'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are BETB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-7		Must be B'000'	Reserved—must be zero
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'0'	Recovery responsibility—contention loser responsible for recovery
bit 3		Must be B'0'	Contention winner/loser—SLU is contention winner, and PLU is contention loser
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Reserved—must be zero
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–9 (Cont.) BIND RU Parameters for LU3 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be X'85' Use Appendix C to convert hexadecimal values to decimal	Maximum RU size sent on the normal flow by SLU half-session
11		Outbound RU size must be between X'85' and X'89' Use Appendix C to convert hexadecimal values to decimal	Maximum RU size sent on the normal flow by PLU half-session
12	PSNDPAC		TS usage—see your IBM network planner
bit 0		Can be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow—two-stage pacing (B'0'); one-stage pacing (B'1')
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed; see your IBM network planner
13		Must be X'00'	TS usage—reserved
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000011'	LU type—LU type 3
15			PS usage
bit 0		Must be B'0'	Query not supported
bits 1-7		Must be B'0000000'	Reserved—must be zero
16-19		Must be all zeros	PS usage—reserved
20		Can be between X'01' and X'FF'	PS usage—default buffer size for rows
21		Can be between X'01' and X'FF'	PS usage—default buffer size for columns
22		Can be between X'01' and X'FF'	PS usage—alternate buffer size for rows
23		Can be between X'01' and X'FF'	PS usage—alternate buffer size for columns

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–9 (Cont.) BIND RU Parameters for LU3 (PrE) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
24			PS usage
bit 0		Must be B'0'	Reserved—must be zero
bits 1-7		Determines use of bytes 20-23 (see the related IBM documentation) must be B'1111111'	PS usage—buffer size
25		Must be X'00'	PS usage—reserved
26	ENCR [MVS]	Must be X'00'	Cryptography options—not supported

[1]See the note on byte numbers preceding Table 4–1.

Table 4–10 BIND RU Parameters for LU6.2 (DDXF, EDE with IBM DISOSS, and MRS [MVS] and APPC/LU6.2 [MVS] [VSE]) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
0		Must be X'31'	BIND RU request code
1	TYPE		
bits 0-3		Must be B'0000'	BIND RU format
bits 4-7		Must be B'0000'	BIND type—negotiable
2	FMPROF	Must be X'13'	FM Profile 19
3	TSPROF	Must be X'07'	TS Profile 7
4	PRIPROT		FM usage—PLU protocols for FM data
bit 0		Must be B'1'	Chaining use selection—multi-RU chains allowed from PLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Must be B'11'	Chain response protocol used by PLU half-session for FMD requests; chains from PLU ask for definite or exception responses
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Send EB indicator—PLU will not send EB
5	SECPROT		FM usage—SLU protocols for FM data
bit 0		Must be B'1'	Chaining use selection—multi-RU chains allowed from SLU half-session
bit 1		Must be B'0'	Request control mode selection—immediate request mode
bits 2-3		Must be B'11'	Chain response protocol used by SLU half-session for FMD requests; chains from SLU ask for definite or exception responses
bits 4-6		Must be B'000'	Reserved—must be zero
bit 7		Must be B'0'	Send EB indicator—SLU will not send EB
6	COMPROT		FM usage—common LU protocols

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–10 (Cont.) BIND RU Parameters for LU6.2 (DDXF, EDE with IBM DISOSS, and MRS [MVS] and APPC/LU6.2 [MVS] [VSE]) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 0		Must be B'0'	Session segmenting support—this LU supports reception of segments on this session
bit 1		Must be B'1'	FM header usage—FM headers allowed
bit 2		Must be B'0'	Brackets usage and reset state—brackets used, and bracket state managers' reset states are INB
bit 3		Must be B'1'	Bracket termination rule—Rule 1 (conditional termination) used
bit 4		Must be B'0'	Alternate code set allowed indicator—alternate code set not allowed
bits 5-6		Must be B'00'	Reserved—must be zero
bit 7		Must be B'0'	BIND response queue capability—BIND response cannot be held/queued
7			FM usage—common LU protocols
bits 0-1		Must be B'10'	Normal-flow send/receive mode selection—half-duplex flip-flop
bit 2		Must be B'1'	Recovery responsibility—symmetric responsibility for recovery
bit 3		Can be B'0' or B'1'	Contention winner/loser—NOTE: APPC /LU6.2 negotiates this so the SLU is the contention winner, and the PLU is the contention loser
bits 4-5		Must be B'00'	Reserved because byte 6, bit 4 is zero—must be zero
bit 6		Must be B'0'	Reserved—must be zero
bit 7		Must be B'1'	Half-duplex flip-flop reset states—HDX-FF reset state is SEND for PLU and RECEIVE for SLU
8	SSNDPAC		TS usage
bit 0		Can be B'0' or B'1'	Staging indicator for secondary TC to primary TC normal flow

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–10 (Cont.) BIND RU Parameters for LU6.2 (DDXF, EDE with IBM DISOSS, and MRS [MVS] and APPC/LU6.2 [MVS] [VSE]) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Secondary TCs send window size—any value allowed
9	SRCVPAC		TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000001' to B'010000'	Secondary TCs receive window size—1 through 16
10	RUSIZES	Inbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by SLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
11		Outbound RU size must be between X'85' and X'8A'	Maximum RU size sent on the normal flow by PLU half-session
		Use Appendix C to convert hexadecimal values to decimal	
12	PSNDPAC		TS usage
bit 0		Must be B'0' or B'1'	Staging indicator for primary TC to primary TC normal flow
bit 1		Must be B'0'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs send window size—any value allowed
13			TS usage
bits 0-1		Must be B'00'	Reserved—must be zero
bits 2-7		Must be B'000000' to B'111111'	Primary TCs receive window size
14	PSERVIC		PS profile
bit 0		Must be B'0'	PS usage field format—basic format
bits 1-7		Must be B'0000110'	LU type—LU type 6
15			PS usage characteristics
bits 0-7		Must be B'00000010'	LU-6 level—level 2 (i.e., LU 6.2)
16-22		Must be X'00'	Reserved—must be zero

[1]See the note on byte numbers preceding Table 4–1.

(continued on next page)

Table 4–10 (Cont.) BIND RU Parameters for LU6.2 (DDXF, EDE with IBM DISOSS, and MRS [MVS] and APPC/LU6.2 [MVS] [VSE]) Communication

BIND RU Byte No.[1]	MODEENT Operand	Value	Description
23			PS usage characteristics
bits 0-2		Must be B'000'	Reserved—must be zero
bit 3		Must be B'0' or B'1'	Conversation-level security support
bits 4-5		Must be B'00'	Reserved—must be zero
bit 6		Must be B'0' or B'1'	Already-verified function support
bit 7		Must be B'0'	Reserved—must be zero
24			PS usage characteristics
bit 0		Must be B'0'	Reserved—must be zero
bits 1-2		Must be B'01'	Synchronization level—confirm supported
bit 3		Must be B'0'	Reserved—must be zero
bits 4-5		Must be B'00' to B'11'	Responsibility for session reinitiation
bit 6		Must be B'0'	Parallel session support—not supported
bit 7		Must be B'0'	CNOS GDS variable flow support—not supported
25		X'00'	Reserved—must be zero
26	ENCR	Must be X'00'	Cryptography options not supported

[1]See the note on byte numbers preceding Table 4–1.

NOTE

The rest of the BIND is generated by the appropriate LUs, both requests (RQs) and responses (RSPs), and cannot be specified in the MODEENT. Their values are not checked by the APPC/LU6.2.

5

CICS Resource Definitions (Macro)

IBM's Customer Information Control System/Virtual System (CICS/VS) is an application subsystem residing in the IBM host system. CICS provides a high-level programming interface for terminal-oriented applications programs.

This chapter describes the resource definition (macro) instructions used to define non-VTAM terminals and the interconnect products to CICS/VS. Resource definition is the method you use to tell CICS which resources to use, what their properties are, and how to use them.

NOTE

The resource definitions included in this chapter are valid for CICS V1.7 and V2.1.2.

Parameters applying to the MVS operating system are marked with a MVS icon. Parameters applying to the VSE operating system are marked with a VSE icon. Parameters applying to both MVS and VSE are marked with both icons.

For information about the BIND RU values needed to establish a session with the interconnect system, see Section 4.4 and Section 4.5.

A network configuration is defined to CICS/VS by means of tables. The terminal control table (TCT) defines terminal characteristics to CICS. Entries are made to this table with one or more DFHTCT macros. You must code one DFHTCT macro for each logical unit (LU) associated with the interconnect system and the following related software products:

- DECnet SNA Application Programming Interface for OpenVMS
- DECnet SNA 3270 Terminal Emulator for OpenVMS
- DECnet SNA 3270 Data Stream Programming Interface for OpenVMS
- DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS
- DECnet/SNA VMS DISOSS Document Exchange Facility

- External Document Exchange with IBM DISOSS
- DECnet SNA Printer Emulator for OpenVMS
- VAX Message Router/S Gateway

The following sections identify all the operands associated with the DFHTCT macro. They specify the values you must enter or consider when defining an LU to CICS.

- **API.** Section 5.1 specifies values for the DFHTCT macro for communication with the DECnet SNA Application Programming Interface for OpenVMS.
- **3270 TE and 3270 DS.** Section 5.2 specifies values for the DFHTCT macro for communication with the DECnet SNA 3270 Terminal Emulator and the DECnet SNA 3270 Data Stream Programming Interface (for OpenVMS).
- **APPC/LU6.2, DDXF, EDE, and MRS.** Section 5.3 specifies values for the DFHTCT macro for communication with the DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS, the DECnet/SNA VMS DISOSS Document Exchange Facility, the External Document Exchange with IBM DISOSS, and VAX Message Router/S Gateway.
- **PrE.** Section 5.4 specifies values for the CICS DFHTCT macro for communication with the DECnet SNA Printer Emulator for OpenVMS.

Explanatory notes follow operands only if defining the interconnect systems' LUs imposes a specific requirement or constraint on the operands' values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

Refer to the following IBM manuals for more information on the DFHTCT macro and other related information:

- *CICS/OS/VS, Library Guide (V1R7)*
- *CICS/MVS General Information (V2R1)*
- *CICS/MVS Customization Guide (V2R1)*
- *CICS/MVS Resource Definition (Macro) (V2R1)*
- *CICS/MVS Intercommunication Guide (V2R1)*
- *CICS/OS/VS Intercommunication Facilities Guide (V1R7)*
- *CICS/OS/VS, IBM 3270 IDS Data Stream Programmer's Reference*
- *CICS/OS/VS Version 1.7 General Information*
- *CICS/OS/VS Library Guide Version 1.7*
- *CICS/OS/VS Intercommunication Facilities Guide Version 1.7*

- *CICS/MVS General Information*
- *CICS/MVS Customization Guide*
- *CICS/MVS Resource Definition (Macro)*
- *CICS/MVS Intercommunication Guide*
- *CICS/OS/VS Resource Definition Guide (Macro)*
- *CICS/MVS Resource Definition Guide*
- *IBM 3270 Data Stream Device Guide*
- *IBM VSE/Interactive Computing and Control Facility: Installation and Operations Reference*

For information on LU type 6.2, refer to the following manuals:

- *CICS Advanced Program-to-Program Communication Support*
- *CICS/VS Intercommunications Facilities Guide*
- *CICS/MVS Intercommunications Facilities Guide*
- *An Introduction to Advanced Program-to-Program Communication (APPC)*
- *Systems Network Architecture Format and Protocol Reference Manual: Architecture Logic for LU Type 6.2*

Macro Format

The format of the CICS DFHTCT macro is as follows:

[*label*] DFHTCT TYPE=TERMINAL[,*operand*= *value*,...]

where

label	is a name for the DFHTCT macro.
operand and *value*	can be chosen from the list of CICS DFHTCT operands.

5.1 CICS Resource Definitions for API Communication

This section contains three groups of parameters (operands) needed for the CICS DFHTCT macro for communication with the DECnet SNA Application Programming Interface for OpenVMS:

- Operands with values that you must plan and set according to the specified conditions. Operands preceded by a dagger (†) have parameters that are determined by the application program being run.
- Operands with values that you must not specify at all.

- Other operands for the DFHTCT macro.

Specify These Values

These operands for the CICS DFHTCT macro must take the specified values. Both the IBM system programmer and the Digital application programmer need to consider these values when designing an application that communicates through an interconnect system.

[,ACCMETH=VTAM] MVS VSE
the access method. VTAM is the only access method the interconnect system uses.

† **,BUFFER=*transmit-buffer-size*** MVS VSE
the size of the largest message transmitted from CICS to the API. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,CONNECT=AUTO] MVS VSE
AUTO means that the LU is logged on to CICS at initialization. CONNECT=AUTO provides connection if you choose a passive connection in the connection type field of the SNALU0$REQUEST_CONNECT command in the API.

† **[,LOGMODE=*name*]** MVS VSE
the name of the logon mode table entry for use by this LU. This name is the same as the one chosen by the logon field of the SNALU0$REQUEST_ CONNECT command in the API.

[,NETNAME=*network-name*] MVS VSE
the name for this LU in the network. The value for NETNAME must be the same as the name of the VTAM SNA local major node definition statement that describes the LU.

† **[,RUSIZE=*receive-buffer-size*]** MVS VSE
the largest message that API can send to CICS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,SESTYPE=*session-type*] MVS VSE
the type of session for this LU. This value must be USERPROG.

,TRMIDNT=*name* MVS VSE
a name for this terminal.

Do Not Specify These Operands

Do not specify the following operands; they are not supported by the interconnect system's software.

CONSLID

NETNAMQ

PIPELN

Other Operands for DFHTCT Macro

Other operands apply for the DFHTCT macro. Consult the current IBM documentation for default values. Code other operands to override the defaults only.

5.2 CICS Resource Definitions for 3270 TE and 3270 DS Communication

For communications with the DECnet SNA 3270 Terminal Emulator for OpenVMS (3270 TE) and the DECnet SNA 3270 Data Stream Programming Interface (3270 DSPI) for OpenVMS, the following operands for the DFHTCT macro must take the values specified. The parameters are divided into three groups:

- Operands whose values you must plan and set according to the specified conditions
- Operands whose values you must not specify at all
- Other operands for the DFHTCT macro

NOTE

To run your CICS system under VSE/SP using the Interactive Computing and Control Facility (ICCF) so you can communicate with the DECnet SNA 3270 Terminal Emulator, specify the CICS parameters flagged with the VSE icon only. The screen and page parameters when used with VSE/ICCF have only four valid values. For more information, see the *IBM VSE/Interactive Computing and Control Facility: Installation and Operations Reference*.

Specify These Values

For communication with the 3270 TE and the 3270 DS, specify:

[,ACCMETH=VTAM] MVS VSE
the access method. VTAM is the only access method the 3270 DS and 3270 TE use.

[,ALTPGE={(12,40)|(12,80)|(24,80)|(24,132)|(32,80)|(43,80)|(27,132)}] MVS

[,ALTPGE={(24,80)|(32,80)|(43,80) |(27,132)}] VSE
the page size for this terminal when ALTSCRN indicates screen size.

[,ALTSCRN={(12,40)|(12,80)|(24,80)|(24,132)|(32,80)|(43,80)|(27,132)}] MVS

[,ALTSCRN={(24,80)|(32,80)|(43,80) |(27,132)}] VSE
the alternate 3270 screen size.

[,BRACKET=YES] MVS VSE
YES means that this LU uses the bracket protocol. This value must be YES.

,BUFFER=*transmit-buffer-size* MVS VSE
the size of the largest message transmitted from CICS to the 3270 TE and the 3270 DS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,CHNASSY=YES] MVS VSE
chains are completely assembled before they are passed to the CICS application program.

[,CONNECT=AUTO] MVS VSE
AUTO means that the LU is logged on to CICS at initialization. Some user applications, for example, the 3270 TE, wait for sessions from CICS and should be coded CONNECT=AUTO.

[,DEFSCRN={(12,40)|(12,80)|(24,80)|(24,132)|(32,80)|(43,80)|(27,132)}] MVS

[,DEFSCRN={(24,80)|(32,80)|(43,80) |(27,132)}] VSE
the 3270 screen size for this LU.

[,ERRATT={NO|([LASTLINE][,INTENSIFY][,{BLUE|RED|PINK|GREEN|TURQUOISE|YELLOW|NEUTRAL}][,{BLINK|REVERSE|UNDERLINE}])} MVS VSE
how error messages will be displayed on the screen. Specify any value for the 3270 DS. Specify ERRATT=NO, LASTLINE, or INTENSIFY for the 3270 TE only.

[,FEATURE=(PTRADAPT[,UCTRAN][,AUDALARM][,3270E])] for 3270 TE MVS VSE

[,FEATURE=(COLOR[,EXTDS][,HILIGHT][,KATAKANA][,PS]
[,QUERYALL][,QUERYCOLD][,VALIDATION])] for 3270 DS MVS VSE

You can select printer adapter, uppercase translation, audible alarm, and 3270E, the only features allowed for an interconnect system terminal.

PTRADAPT specifies that, for printer requests initiated by the PRINT key or by the DFHTCT TYPE=PRINT macro, printer allocations will be handled by the 3270 TE.

UCTRAN specifies the translation of lowercase data to uppercase in 3270 input data streams.

AUDALARM specifies that the terminal is a 3270 device with an audible alarm.

3270E specifies that the terminal is a 3270 device that has the alternate screen-size facility.

COLOR specifies that the 3270 device has the extended color feature.

EXTDS indicates that the 3270 device supports extensions to the 3270 data stream.

The 3270 device has the HILIGHT, which enables fields or characters to be displayed in reverse video, underline mode, or blinking.

KATAKANA translates lowercase characters into uppercase characters for the following transactions: CEDA, CEDB, CEDC, CEBR, CECI, CEDF, and CEMT.

PARTNS means a device uses partitions.

The programmed symbol facility (PS) enables up to six 191-character sets with fonts and codes to be stored and accessed.

QUERYALL means that CICS can determine the features of the terminal each time the terminal is connected.

QUERYCOLD means that CICS can determine the features of the terminal each time the terminal is connected after a cold start.

An extended validation feature defines fields as TRIGGER, MANDATORY FILL, or MANDATORY ENTER.

[,NETNAME=*network-name*] MVS VSE
the name for this LU in the network. The value for NETNAME must be the same as the name of the VTAM SNA local major node definition statement that describes the LU.

[,PGESIZE={(12,40)|(12,80)| (24,80)|(24,132)|(32,80)|(43,80)|(27,132)}] MVS

[,PGESIZE={(24,80)|(32,80)|(43,80) |(27,132)}] VSE
the default page size for this terminal. Either omit this value (to take the default), or specify the same value that you specified for DEFSCRN.

[,PGESTAT=PAGE] MVS VSE
the type of paging at the terminal. PAGE indicates that the first page from the paging supervisor is written to the terminal when the terminal becomes available. Subsequent pages in a series are written to the terminal at the operator's request.

[,RUSIZE=*receive-buffer-size*] MVS VSE
the largest message that the 3270 TE and the 3270 DS can send to CICS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,TCTUAL=*n + TCTOFS-value*] VSE
requires at least 20 bytes of user area plus the value of TCTOFS in the DTSOPTNS macro for VSE/ICCF for each terminal entry used with VSE /ICCF. For distributed VSE/ICCF systems, TCTOFS is initially 8. Specify TCTUAL=28 if you do not plan to change the TCTOFS value.

[,TIOAL={*value|(value1), (value2)*}] MVS VSE
an input-output area length for chain size (see the related IBM documentation).

,TRMIDNT=*name* MVS VSE
a name for this terminal.

[,TRMMODL={1|2}] MVS VSE
the model number of this terminal. The 3270 TE emulates a model 1 or model 2 terminal.

[,TRMSTAT=(TRANSCEIVE,NOINTLOG)] MVS VSE
the type of activity that might occur at this terminal. NOINTLOG indicates that users of this terminal must initiate a session with CICS.

,TRMTYPE=LUTYPE2 MVS VSE
the type of terminal. The 3270 TE is an LU type 2 terminal.

Do Not Specify These Operands

Do not specify the following operands; they are not supported by either the interconnect system or the 3270 TE software.

```
(BMSFEAT=FMHPARM
         ,NOROUTE
         ,NOROUTEALL
         ,OBFMT
         ,OBOPID)

CONSLID

FF

HF

NETNAMQ

PIPELN

SESTYPE

VF
```

Other Operands for DFHTCT Macro

Other operands apply for the DFHTCT macro. Consult the current IBM documentation for default values. Code parameters to override the defaults only.

5.3 CICS Resource Definitions for APPC/LU6.2 [MVS] [VSE], and DDXF, EDE and MRS [MVS]

The CICS DFHTCT parameters for communication with APPC/LU6.2, DDXF, and EDE are divided into three groups:

- Operands whose values you must plan and set according to the specified conditions
- Operands whose values you must not specify at all
- Other operands for the DFHTCT macro

NOTE

DDXF is a prerequisite for EDE with IBM DISOSS. Satisfying the IBM software requirements for DDXF will satisfy the requirements for EDE with IBM DISOSS.

Specify These Values

For communication with APPC/LU 6.2, MRS, or with DDXF, the operands for the CICS DFHTCT TYPE=SYSTEM macro must take the following values. See Example 5–1 for an example of how to define CICS operands for APPC/LU6.2, MRS, and DDXF.

NOTE

For communication with MRS, you must code two CICS DFHTCT TYPE=SYSTEM macros: one for the transmit LU and one for the receive LU.

[,ACCMETH=VTAM] [MVS] [VSE]
the access method between CICS and the remote LU type 6.2 terminal. VTAM is the only access method the interconnect system uses.

,BUFFER=*transmit-buffer-size* [MVS] [VSE]
the size of the largest message transmitted from CICS to APPC/LU6.2, MRS, or DDXF. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,FEATURE=SINGLE] MVS VSE
the type of session support required for the LU type 6.2 session with the system specified in the SYSIDNT operand. Specify FEATURE=SINGLE for the LU type 6.2 session. Then you can use the MODENAM operand to supply a mode name for this session.

[,NETNAME=*network-name*] MVS VSE
the name for this LU in the network. The value for NETNAME must be the same as the name of the VTAM SNA local major node definition statement that describes the LU. The default is the name specified in the SYSIDNT operand.

[,RUSIZE={*receive-buffer-size*}] MVS VSE
the largest message that either APPC/LU6.2 or DDXF can send to CICS. For LU6.2, you must specify a buffer size of at least 256. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,SYSIDNT=*name*] MVS VSE
a unique name to identify the APPC/LU6.2, MRS, or DDXF LU. If the NETNAME is omitted, SYSIDNT must be the same as the name of the VTAM SNA local major node definition statement that describes the LU. For the MRS receive LU, the value of the SYSIDNT operand must be identical to the value of the QUEUE parameter in the routing data set. See Section 12.4 for additional information.

[,TRMSTAT=TRANSCEIVE] MVS VSE
the type of activity that might occur on the LU session at this terminal. TRANSCEIVE indicates a session that can send and automatically receive messages from CICS.

,TRMTYPE=LUTYPE62 MVS VSE

the type of LU session. APPC/LU6.2, MRS, and DDXF are LU type 6.2 sessions. For information on LU type 6.2, refer to *An Introduction to Advanced Program-to-Program Communication (APPC); Systems Network Architecture Format and Protocol Reference Manual: Architecture Logic for LU Type 6.2; CICS Advanced Program-to-Program Communication Support; CICS/VS Version 1.6 Intercommunications Facilities Guide*; and *CICS/VS Version 1.7 Intercommunications Facilities Guide*.

Do Not Specify This Operand

The interconnect system and APPC/LU6.2, MRS, and DDXF software do not support the CONNECT operand.

Other Operands for DFHTCT Macro

Other operands apply for the DFHTCT TYPE=SYSTEM macro. Consult the current IBM documentation for their default values. Code the operands to override the defaults only.

Example 5–1 Sample Definition of CICS Operands for APPC/LU6.2, MRS, and DDXF

```
DFHTCT    TYPE=SYSTEM,
          ACCMETH=VTAM,
          BUFFER=256,
          FEATURE=SINGLE,
          NETNAME=L022A04,
          RUSIZE=256,
          SYSIDNT=S2A4,
          TRMTYPE=LUTYPE62,
          TRMSTAT=TRANSCEIVE
```

5.4 CICS Resource Definitions for PrE Communications

The CICS DFHTCT parameters for communication with the DECnet SNA Printer Emulator (PrE) software are divided into three groups:

- Operands whose values you plan and set according to the specified conditions
- Operands whose values you must not specify at all
- Other operands for the DFHTCT TYPE=TERMINAL macro

Specify These Values

For communication with PrE software, these operands for the DFHTCT TYPE=TERMINAL macro must take the following values:

[,ACCMETH=VTAM] MVS VSE
the access method. VTAM is the only access method PrE uses.

[,ALTPGE={(12,80)|(24,80)|(24,132)}] MVS VSE
the page size for this terminal when ALTSCRN indicates screen size. ALTPGE is limited by the buffer size of the device.

[,ALTSCRN={(12,80)|(24,80)|(24,132)}] MVS VSE
the screen size.

[,BRACKET=YES] MVS VSE
YES indicates that this LU uses the bracket protocol. This value must be YES.

,BUFFER=*transmit-buffer-size* MVS VSE
the size of the largest message transmitted from CICS to PrE. You must code a value; the default is 0. PrE allows a maximum value of 4096.

[,CONNECT=AUTO] MVS VSE
CICS, when initialized, issues a VTAM SIMLOGON macro instruction automatically for this LU. PrE must be active before you start CICS.

[,DEFSCRN={(12,40)|(24,80)|(24,132)}] MVS VSE
the default page size for this LU.

[,ERRATT=NO] MVS VSE
how error messages are displayed on the screen. You cannot determine how error messages are displayed for PrE. Set ERRATT to NO.

[,NETNAME=*network-name*] MVS VSE
the name for this LU in the network. The value for NETNAME must be the same as the name of the VTAM SNA local major node definition statement that describes the LU. The default is the terminal name (see TRMIDNT=*name*).

[,PGESIZE={(12,40)|(24,80)|(24,132)}] MVS VSE
the default page size as a number of lines by a number of columns. The product of lines times columns must not be greater than the buffer size.

[,RUSIZE=*receive-buffer-size*] MVS VSE
the largest RU that PrE can send to CICS. PrE allows a maximum value of 4096.

[,TIOAL={*value*|(*value1*),(*value2*)}] MVS VSE
an input-output area length for chain size (see the related IBM documentation).

[,TRMIDNT=*name*] MVS VSE
a name for this terminal. If you use this name as the default for the network name, it must be the same as the name of the VTAM SNA local major node definition statement that describes the LU (see NETNAME=*network-name*).

[,TRMMODL=2] MVS VSE
the model number of this terminal. PrE emulates a model 2 terminal.

[,TRMSTAT=(TRANSCEIVE,INTLOG)] MVS VSE
the type of activity at this terminal. TRANSCEIVE and INTLOG specify that transactions can be started automatically.

,TRMTYPE={LUTYPE3|SCSPRT} MVS VSE
the kind of terminal you use. Setting TRMTYPE to LUTYPE3 indicates that the application establishes a session using a 3270 data stream. Setting TRMTYPE to SCSPRT indicates that the application establishes a session using SCS print.

Do Not Specify These Operands

Do not specify the following operands; they are not supported by either the interconnect system or the DECnet SNA Printer Emulator software.

CNSLID

HF

NETNAMQ

PIPELN

TASKNO

VF

Other Operands for DFHTCT TYPE=TERMINAL Macro

Other operands apply for the DFHTCT TYPE=TERMINAL macro. Consult the current IBM documentation for their default values. Code the operands to override the defaults only.

6

CICS Resource Definitions (RDO)

IBM's Customer Information Control System/Virtual System (CICS/VS) is an application subsystem residing in the IBM host system. CICS provides a high-level programming interface for terminal-oriented applications programs.

This chapter describes the resource definition (online) instructions, referred to hereafter as RDO, used to interactively define non-VTAM terminals and the interconnect products to CICS/VS.

NOTE

The resource definitions in this chapter are valid for CICS/VS Release 1.7, CICS/MVS V2.1.2, and CICS/ESA V3.3. The parameters in this chapter apply to the MVS operating system only.

For information about the BIND RU values needed to establish a session with the interconnect system, see Section 4.4 and Section 4.5.

The RDO language is a set of keywords that represent resource definitions and their properties. The RDO language permits the IBM systems programmer to interactively and dynamically define and maintain CICS. RDO provides a single record for each resource and autoinstall for terminals. Use the following resource types:

1. For terminals:
   - **TYPETERM.** A partial terminal definition that identifies a set of common terminal properties or attributes.
   - **TERMINAL.** You must define each terminal that communicates with CICS. Terminal devices include visual display units, printers, and system consoles.

     Each TERMINAL definition refers to a TYPETERM definition. Together, the TERMINAL and TYPETERM definitions make up a terminal entry in the terminal control table (TCT).

2. For systems:

   - **CONNECTION.** Defines the remote system with which your system will be communicating and specifies its attributes.
   - **SESSION.** Two systems can communicate only after they have been logically linked through one or more sessions.

A resource definition is a specific instance of one of the above resource types. You specify the values for the resource using the USERDEFINE command.

The following sections identify the CONNECTION, SESSIONS, TERMINAL and TYPETERM resource definitions and values for defining an LU to CICS:

- **API.** Section 6.1 specifies the resource definitions and their values for communication with the DECnet SNA Application Programming Interface.
- **3270 TE and 3270 DS.** Section 6.2 specifies the resource definitions and their values for communication with the DECnet SNA 3270 Terminal Emulator and the DECnet SNA 3270 Data Stream Programming Interface (for OpenVMS).
- **APPC/LU6.2, DDXF, EDE, and MRS.** Section 6.3 specifies the resource definitions and their values for communication with the DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS, the DECnet/SNA VMS DISOSS Document Exchange Facility, the External Document Exchange with IBM DISOSS, and VAX Message Router/S Gateway.
- **PrE.** Section 6.4 specifies the resource definitions and their values for communication with the DECnet SNA Printer Emulator for OpenVMS.

Refer to the following IBM manuals for additional information:

- *CICS/OS/VS Intercommunications Facilities Guide*
- *CICS/OS/VS Version 1.7 General Information*
- *CICS/OS/VS Version 1.7 Resource Definition Guide* (Online)
- *CICS/VS Version 1.7 Customization Guide*
- *IBM VSE/Interactive Computing and Control Facility: Installation and Operations Reference*
- *CICS/MVS V2.1.2 Intercommunications Facilities Guide*
- *CICS/MVS V2.1.2 General Information*
- *CICS/MVS V2.1.2 Resource Definition Guide* (Online)
- *CICS/MVS V2.1.2 Customization Guide*

- *CICS/ESA V3.3 Intercommunications Facilities Guide*
- *CICS/ESA V3.3 General Information*
- *CICS/ESA V3.3 Resource Definition Guide* (Online)
- *CICS/ESA V3.3 Customization Guide*

Resource Definition (Online) Command Syntax and Rules

This chapter lists the resource definitions for each product and the purpose of each definition. Uppercase characters specify minimum abbreviations for parameters.

Explanatory notes follow resource definitions only if defining the interconnect systems' LUs imposes a specific requirement or constraint on their values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

6.1 CICS Resource Definitions for API Communication

This section contains the TERMINAL and TYPETERM resource definitions for communication with the DECnet SNA Application Programming Interface for OpenVMS. Operands preceded by a dagger (†) have parameters that are determined by the application program being run.

Specify These Values

The following resource definitions must take the specified values. Both the IBM system programmer and the Digital application programmer must consider these values when designing an application that communicates through Digital interconnect products.

6.1.1 TERMINAL Resource Definitions

[Netname(*network-name*)]
the name for this LU in the network. The value for Netname must be the same as the name of the VTAM SNA local major node definition statement that describes the LU.

TErminal(*name*)
a name for this terminal.

6.1.2 TYPETERM Resource Definitions

[AUTOConnect({NO|YES})]
sessions are established during CICS initialization.

[CReatesess({NO|YES})]
a session is created. NO prevents the automatic transaction initiation (ATI) requests for this terminal from causing a session to be established. YES allows internally generated session requests to create a session.

† **[LOGMode({0|*name*})]**
the name of the logon mode table entry for this LU. This name is the same as the one chosen by the logon field of the SNALU0$REQUEST_CONNECT command in the API.

† **[RECeivesize({*receive-buffer-size*})]**
the largest message that API can send to CICS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

† **[SENdsize(*transmit-buffer-size*)]**
the size of the largest message transmitted from CICS to API. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[SESsiontype(*type*)]
the type of session for this LU. This value must be USERPROG.

Do Not Specify These Resource Definitions

Do not specify the following resource definitions; they are not supported by the interconnect system.

CONSOLE
NETNAMEQ
POOL

Other Resource Definitions

For information about RDO keywords and their macro operand equivalents, see the *CICS Definition Guide (Online)*. Code other resource definitions to override a default only.

6.2 CICS Resource Definitions for 3270 TE and 3270 DS Communications

This section contains the TERMINAL and TYPETERM resource definitions for communications with the DECnet SNA 3270 Terminal Emulator for OpenVMS and the DECnet SNA 3270 Data Stream Programming Interface for OpenVMS.

Specify These Values

For communication with the 3270 TE and the 3270 DS, specify the following resource definitions.

6.2.1 TERMINAL Resource Definitions

[Netname(*network-name*)]
the name for this LU in the network. The value for Netname must be the same as the name of the VTAM SNA local major node definition statement that describes the LU.

TErminal(*name*)
a name for this terminal.

6.2.2 TYPETERM Resource Definitions

[ALTPage{(12,40)|(12,80)|(24,80)|(24,132)|(32,80)|(43,80)|(27,132)}]
the page size for this terminal when ALTSCreen indicates screen size.

[ALTSCreen{(12,40)|(12,80)|(24,80)|(24,132)| (32,80)|(43,80)|(27,132)}]

the alternate 3270 screen size.

[ATi({NO|YES})]
transactions are started at the terminal by automatic transaction initiation.

[AUDiblealarm({NO|YES})]
the terminal is a 3270 device with an audible alarm.

[AUTOConnect({NO|YES})]
sessions are established during CICS initialization. YES means a 3270 TE user can use the SET HOST/SNA/WAIT command. Specify YES when a 3270 DS application is written to wait for a connection.

[AUTOPage({NO|YES})]
autopaging is used. Specify YES for printer TYPETERMS; specify NO for display device TYPETERMS.

[BUildchain({NO|YES})]
chains are completely assembled before they are passed to the CICS application program.

[COLor(NO)]
the 3270 device has the extended color feature.

[CReatesess({NO|YES})]
a session is created. NO prevents the automatic transaction initiation (ATI) requests for this terminal from causing a session to be established. YES allows internally generated session requests to create a session.

[DEFscreen{(12,40)| (12,80)|(24,80)| (24,132)|(32,80)|(43,80)|(27,132)}]
the 3270 screen size for this LU.

DEVice(*name*)
the kind of terminal. *name* is the device type. The 3270 TE and 3270 DS are LU type 2 terminals.

[ERRColor({NO|*color*})]
the message is displayed in color. Coding this RDO implies that you are coding ERRLastline. Code ERRColor for the 3270 DS only.

You can specify any of the following colors:

Blue
Red
Pink
Green
Turquoise
Yellow
Neutral

[ERRHilight({NO|BLINK|REVERSE|UNDERLINE})]
error messages are displayed with highlighting. Use ERRHilight for the 3270 DS only.

[ERRIntensify({NO|YES})]
error messages are displayed in an intensified field on the screen.

[ERRLastline({NO|YES})]
where on the screen error messages are displayed.

[EXtendedds({NO|YES})]
the 3270 device supports extensions to the 3270 DS.

[HIlight({NO | YES})]
the 3270 device supports the extended highlight facility. Fields or characters can be displayed in reverse video, underline mode, or blinking.

[IOarealen({0 | *value1*},{0 | *value2*})]
the terminal input-output area length (in bytes) to be passed to a transaction (see the related IBM documentation).

[Katakana({NO | YES})]
translates lowercase characters into uppercase characters for the following transactions: CEDA, CEBR, CECI, CEDF, and CEMT.

[PAGesize{(12,40) | (12,80) | (24,80) | (24,132) | (32,80) | (43,80) | (27,132)}]
the default page size for this terminal. Either omit this value to take the default, or specify the same value that you specified for DEFscreen.

[PARtitions({NO | YES})]
a device is to use partitions.

[PRINTAdapter({NO | YES})]
for printer requests initiated by the PRINT key or by the DFHTCT TYPE=PRINT macro, the 3270 TE will handle printer allocations.

[PROgsymbols({NO | YES})]
YES enables storing and accessing up to six 191-character sets with fonts and codes. This resource definition applies to the 3270 DS only.

[Query({NO | COLD | ALL})]
the Query structured field determines the characteristics of the device.

NO	the Query field is not used.
COLD	permits CICS to determine the features of the terminal each time the terminal is connected for the first time after a cold start.
ALL	permits CICS to determine the features of the terminal every time the terminal is connected.

[RECeivesize(*receive-buffer-size*)]
the largest message that the 3270 TE and the 3270 DS can send to CICS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[SENdsize(*transmit-buffer-size*)]
the size of the largest message transmitted from CICS to the 3270 TE and 3270 DS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[TTi({YES|NO})]
YES means the user can initiate transactions at the terminal.

[UCtran({NO|YES})]
the translation of lowercase data to uppercase in 3270 input data streams.

[VAlidation({NO|YES})]
an extended validation feature that defines fields as TRIGGER, MANDATORY FILL, or MANDATORY ENTER.

Do Not Specify These Resource Definitions

Do not specify the following resource definitions; they are not supported either by the interconnect system or by the 3270 TE and 3270 DS software.

CONNECTION
CONSOLE
FORMFEED
FMHPARM(YES)
HORIZFORM
NETNAMEQ
OBFORMAT(YES)
OBOPERID(YES)
POOL
VERTICALFORM

Other Resource Definitions

For information about RDO keywords and their macro operand equivalents, see the *CICS Resource Definition Guide (Online)*. Code other resource definitions to override a default only.

6.3 CICS Resource Definitions for APPC/LU6.2, DDXF, EDE, and MRS

This section contains the CONNECTION and SESSIONS resource definitions for communication with the DECnet SNA APPC/LU6.2 Programming Interface for OpenVMS, the DECnet/SNA VMS DDXF, the External Document Exchange with IBM DISOSS, and VAX Message Router/S (MRS) Gateway software. These same resource definitions can also define Terminal/Typeterm for LU6.2 sessions.

NOTE

DDXF is a prerequisite for EDE with IBM DISOSS. Satisfying the IBM software requirements for DDXF will satisfy the requirements for EDE

with IBM DISOSS.

Specify These Values

The following resource definitions must take the specified values. Both the IBM system programmer and the Digital application programmer must consider these values when designing an application that communicates through Digital interconnect products.

NOTE

For communication with MRS, you must code two CICS resource definition (online) instructions—one for the transmit LU and one for the receive LU.

6.3.1 CONNECTION Resource Definitions

[ACcessmethod(VTAM)]
the access method. VTAM is the only access method the interconnect system uses.

[AUtoconnect({NO | YES})]
sessions are established during CICS initialization. For communication with MRS, specify AUtoconnect(NO).

Connection(*name*)
the name of the connection definition, which must be four characters in length. For communication with MRS receive LU, specify the name of the DISOSS routing table QUEUE parameter. See Section 12.4 for additional information.

[Netname(*network-name*)]
the name for this logical unit in the network. The value for Netname must be the same as the name of the VTAM SNA local major node definition statement that describes the LU.

[Protocol(APPC)]
the type of protocol for an ISC link. See the *CICS Intercommunications Facilities Guide* for additional information.

[SInglesess({NO | YES})]
the type of session support required for the LU type 6.2 session with the system specified in the Connection operand. Specify YES for the LU type 6.2

session. If you specify SInglesess=YES, you can use the MOdename operand to supply a mode name for this session.

6.3.2 SESSIONS Resource Definitions

[Autoconnect({NO|YES})]
sessions are established during CICS initialization.

Connection(*name*)
the name of the connection definition, which must be four characters in length. For the MRS receive LU, the value of the connection name must be identical to the value of the QUEUE parameter in the routing data set. See Section 12.4 for additional information.

[MOdename(*name*)]
a group of related sessions. It is a unique name for each group of sessions related to one Connection definition. MOdename is passed to VTAM as the LOGMODE name. Specify a name that follows assembler language rules; the name can be defaulted to blanks.

[Protocol(APPC)]
the type of protocol for an ISC link. See the *CICS Intercommunications Facilities Guide* for additional information.

[RECEIVESize(*receive-buffer-size*)]
the largest message that APPC/LU6.2, MRS, or DDXF can send to CICS. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[SENDSize(*transmit-buffer-size*)]
the size of the largest message transmitted from CICS to APPC/LU6.2, MRS, or DDXF. The DECnet SNA Gateway-CT allows a maximum value of 8192.

Other Resource Definitions

For information about RDO keywords and their macro operand equivalents, see the *CICS Resource Definition Guide (Online)*. Code other resource definitions to override a default only.

Following are examples of the CONNECTION and SESSIONS resource definitions for APPC/LU6.2, DDXF, and MRS.

Example 6–1 CONNECTION RDO

```
     DEFine
     Connection(name)
     [Group(groupname)]

Connection identifiers
     [Netname(name)]

Connection properties
     [ACcessmethod(Vtam)]
     [SInglesess(Yes)]

Operational properties
     [Autoconnect(Yes)]
```

Example 6–2 SESSIONS RDO

```
     DEFine
     Sessions(name)
     [Group(groupname)]

Session identifiers
     Connection(name)

Session properties
     [SENDSize(256)]
     [RECEIVESize(256)]

Operational properties
     [Autoconnect(Yes)]
```

6.4 CICS Resource Definitions for PrE Communications

This section contains the TERMINAL and TYPETERM resource definitions for communication with the DECnet SNA PrE for OpenVMS software.

Specify These Values

The following resource definitions must take the specified values. Both the IBM system programmer and the Digital application programmer must consider these values when designing an application that communicates through Digital interconnect products.

6.4.1 TERMINAL Resource Definitions

[Netname(*network-name*)]
a remote CICS system name that identifies it to VTAM. Netname is name of the Logical Unit in the network.

TErminal(*name*)
a name for this terminal. If you use this name as the default for the network name, it must be the same as the name of the VTAM SNA local major node definition statement that describes the LU (see Netname).

6.4.2 TYPETERM Resource Definitions

[ALTPage{(12,40)|(12,80)|(24,80)|(24,132)}]
the page size for this terminal when ALTSCreen indicates screen size. ALTPage is limited by the buffer size of the device.

[ALTSCreen{(12,40)|(12,80)|(24,80)|(24,132)}]
the screen size.

[ATi({NO|YES})]
transactions are started at the terminal by automatic transaction initiation. ATi must be YES for PrE.

[AUTOConnect(YES)]
CICS, when initialized, issues a VTAMSIMLOGON macro instruction automatically for this LU.

[BRacket({NO|YES})]
bracket protocol is used for this LU. This value must be YES.

[CReatesess({NO|YES})]
a session is created. NO prevents the automatic transaction initiation (ATi) requests for this terminal from causing a session to be established. YES allows internally generated session requests to create a session.

[DEFscreen{(12,40)|(24,80)|(24,132)}]
the default page size for this LU.

DEVice(*name*)
the kind of terminal. LUTYPE3 indicates that the application establishes a session using a 3270 data stream. SCSPRINT indicates that the application establishes a session using SCS print.

[ERRLastline({NO|YES})]
where error messages are displayed on the screen. You cannot determine how error messages are displayed for PrE; set ERRLastline to NO.

[IOarealen({0|*value1*,{0|*value2*})]
the terminal input-output area length (in bytes) passed to a transaction (see the related IBM documentation).

[PAGesize={(12,40)|(24,80)|(24,132)}]
the default page size as a number of lines by a number of columns. The product of lines times columns must be less than or equal to the buffer size.

[RECeivesize(*receive-buffer-size*)]
the largest message that PrE can send to CICS. PrE allows a maximum value of 4096.

[SENdsize(*transmit-buffer-size*)]
the size of the largest message transmitted from CICS to PrE. PrE allows a maximum value of 4096.

[TERmmodel(2)]
the model number of this terminal. PrE emulates a model 2 terminal.

[TTi({YES|NO})]
the user can initiate transactions at the terminal. TTi must be NO for PrE.

Do Not Specify These Resource Definitions

Do not specify these resource definitions; they are not supported either by the interconnect system or by the DECnet SNA PrE for OpenVMS software.

CONSOLE
HORIZFORM
NETNAMQ
POOL
ASKLIMIT
VERTICALFORM

Other Resource Definitions

For information about RDO keywords and their macro operand equivalents, see the *CICS Resource Definition Guide (Online)*. Code other resource definitions to override a default only.

7

IMS/VS Initialization Parameters

IBM's Information Management System/Virtual System (IMS/VS or IMS) is an application subsystem running on the IBM host system.

NOTE

The parameters in this chapter are valid for IMS/VS Versions 1.3, 2.1, and 2.2 and apply only to the MVS operating system.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5.

To initialize IMS for communication with Digital Equipment Corporation's interconnect products, you must define the following IMS macros and VTAM macros according to the additional requirements specified in this chapter.

IMS macros to be modified:

- BUFPOOLS
- MSGQUEUE
- TERMINAL

VTAM macros to be modified:

- COMM
- TYPE

Although this chapter discusses how to define IMS and VTAM macros, you should refer to the following IBM documents for detailed information:

- *IMS/VS Version 1 System Programming Reference Manual (IMS V1R3)*
- *IMS/VS Message Format Service User's Guide (IMS V1R3)*
- *IMS/VS Version 1 Programming Guide for Remote SNA Systems (IMS V1R3)*
- *IMS/VS Version 1 Installation Guide (IMS V1R3)*
- *IMS/VS Version 1 Installation Guide*
- *IMS/VS Version 1 Programming Guide for Remote SNA Systems*
- *IMS/VS–VTAM Interface Guide*
- *IMS/VS Version 1 System Programming Reference Manual*
- *IMS/VS Message Format Service User's Guide*

Macro Format

Each macro instruction has the same format:

[*symbol*] *macro* *operand=value,...*

where

symbol	provides the macro with a name.
macro	is the macro instruction.
operand and *value*	are the parameter name(s) and value(s) that you specify.

The following sections describe the functions performed by the macro instructions listed here, identify all the operands associated with each macro, and specify the values you must enter or consider when you define the interconnect products' LUs to IMS. Explanatory notes follow operands only if defining the interconnect products' LU imposes a specific requirement or constraint on the operands' values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

7.1 IMS Macro Statements

Check the specified operands for the following IMS/VS macro statements. You must enter the values shown or carefully consider the choices you make for the values.

7.1.1 BUFPOOLS Macro

The BUFPOOLS macro specifies the default main buffer pool sizes.

Specify This Value

You must carefully consider the value you specify.

[,COMM=*size*]
how much additional space to allow the communication-line buffer pool. Adjust COMM to accommodate the additional LUs (LU type 2 and LU type P) that are defined because of the DECnet SNA requirements.

You must check the value for *size* for both the 3270 TE and the API.

7.1.2 MSGQUEUE Macro

The MSGQUEUE macro defines characteristics of the three message queue datasets in IMS.

Specify This Value

You must carefully consider the value you specify.

[,RECLNG=([*size1*][,*size2*])]
the logical record lengths for the short and long record queue datasets. Be sure the *size2* value is large enough to accommodate the largest logical message. The value is determined by the screen size chosen with the IMS TERMINAL macro: for SLU type 2 by the SIZE operand; for SLU type P by the OUTBUF operand.

7.1.3 TERMINAL Macro

An IMS TERMINAL macro defines the LU or terminal characteristics to IMS. For communication with LUs in the DECnet SNA environment, you must identify each LU to IMS with the TERMINAL macro, and you must code operands on each TERMINAL macro as specified.

VTAM Terminals

The TERMINAL macro has operands that are common to all types of VTAM LUs.

Specify This Value

You must specify the value indicated.

NAME=*name*
must be the same value specified on the VTAM SNA local major node definition statement for the LU.

SLU 1 Terminals

The IMS TERMINAL macro operands apply specifically to communication with the DECnet SNA Printer Emulator for OpenVMS (PrE) software. Use these operands in addition to in others described in this chapter.

Specify These Values

The operands for the IMS/VS TERMINAL macro must take the specified values as follows:

[,COMPT1=PRINTER1]
PRINTER1 defines a 328*x* printer as using SCS1 data streams.

[,SEGSIZE=256]
the maximum input segment size.

[,OUTBUF=*size*]
the size of the output buffer transmitted by IMS to VTAM. Be sure the *size* value is adequate for other PrE connections in the DECnet SNA environment. PrE allows a maximum value of 4096.

[,OPTIONS=([,TRANSRESP | FORCESP | NORESP]
[,OPNDST]
[,NBSELM]
[,NODISCON]
[,NOSHARE]
[,RELRQ | NORELRQ])

the options for PrE communication.

TRANSRESP specifies that IMS should refer to the transaction code definition for each PrE transaction. Transaction code definition is defined by the IMS TRANSACT macro and determines whether you should use response mode. FORCESP specifies that you should use the response mode for all PrE transactions; NORESP specifies that you should not use the response mode.

OPNDST allows you to start a session between IMS/VS and PrE by the OPNDST command.

NBSELM specifies that backspace characters are not eliminated.

NODISCON indicates that IMS/VS cannot terminate a session when PrE is operating in unattended mode.

NOSHARE indicates that PrE cannot be shared between VTAM subsystems.

RELRQ specifies that IMS/VS releases PrE upon request for other VTAM subsystems. NORELRQ specifies that IMS/VS does not release PrE upon request.

SLU 2 Terminals

The TERMINAL macro has certain operands that you must set for SLU 2 terminals. This section contains information about those operands.

Specify These Values

You must specify the value indicated.

[,FEAT=IGNORE]
the physical characteristics of the terminal. Specify FEAT=IGNORE for terminals in the DECnet SNA environment.

[,FPBUF={0 | *size*}]
the fast path terminal buffer size for this terminal. Be sure the *size* value is adequate for the additional terminals from the DECnet SNA environment.

[,MODEL=2]
support for a 1920-character screen.

[,OPTIONS=NOCOPY]
the terminal options. Specify NOCOPY for terminals in the DECnet SNA environment; the copy function cannot be implemented for this terminal.

[,OUTBUF={1500|*size*}]
the size of the output buffer transmitted by IMS to VTAM. Be sure the *size* value is adequate for the additional terminals from the DECnet SNA environment. The DECnet SNA Gateway-CT allows a maximum value of 8192.

[,SIZE={(12,40)|(12,80)|(24,80)|(32,80)|(43,80)|(27,132)}]
the screen size of this terminal. The 3270 TE and 3270 DS support the specified values.

[,TYPE=3270-A*xx*]
a device name for this terminal. The value chosen for A*xx* depends on the value chosen for the SIZE operand (see the related IBM documentation).

SLU P Terminals

The TERMINAL macro has operands that you must set for SLU P terminals. This section contains information about those operands that must have special consideration for DECnet SNA Application Programming Interface for OpenVMS (API) communication.

Specify This Value

You must specify the value indicated.

[,OUTBUF=*size*]
the size of the output buffer transmitted by IMS to VTAM. The DECnet SNA Gateway-CT allows a maximum value of 8192.

7.2 VTAM Macro Set

You must prepare some macros in the VTAM macro set to allow IMS to communicate with VTAM. For interconnect products, you must define the COMM macro and the TYPE macro.

7.2.1 COMM Macro

The COMM macro defines the general requirements for communication between IMS and VTAM.

Specify These Values

You must specify the values indicated.

[,APPLID=*application-name*]
the name of an application. The value you specify is used with the application parameter for interconnect system access names. Refer to *DECnet SNA VMS Gateway Management* for additional information. The 3270 TE and PrE software specify this value as the /APPLICATION_NAME qualifier.

[,RECANY=(*number*,*size*)]
The value for *number* indicates the number of VTAM receive buffers present in the IMS system. You must adjust the value for *number* to create enough buffers for the additional LUs defined for the interconnect system. The value for *size* must be large enough to handle input from any additional LUs defined by the interconnect system.

7.2.2 TYPE Macro

The TYPE macro describes a group of terminals of the same type. If the interconnect environment has terminals of a different type from the ones you have described, you must define a new TYPE macro.

Specify This Value

You must specify one of the values indicated.

[,UNITYPE={SLUTYPE1|SLUTYPE2|SLUTYPEP}]
the type of terminal device. The DECnet SNA environment can have terminals of all three types:

- SLUTYPE1—API and PrE products
- SLUTYPE2—API, 3270 TE and 3270 DS products
- SLUTYPEP—API product

Check your configuration for applicable types.

8

TSO/VTAM Parameters

IBM's Time Sharing Option (TSO) provides users of an IBM system with the added capability of time sharing. Because TSO interacts with VTAM, it must be defined to VTAM.

NOTE

The parameters in this chapter are valid for TSO/VTAM only and apply only to the MVS operating system.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5.

This chapter discusses the requirements for communication between Digital Equipment Corporation's interconnect products and TSO. The discussion is divided into two sections:

- Section 8.1 shows the required parameter for defining the TSOKEY00 member in SYS1.PARMLIB.

  Refer to your*Initialization and Tuning Guide*.

- Section 8.2 describes the required values for the VTAM MODEENT macro instruction that allow you to define an appropriate logon mode entry for use with 3270 devices.

  For additional information, refer to *ACF for VTAM Planning and Installation Reference Manual*; *ACF for VTAM Installation and Resource Definition (MVS, VSE, and OS/VS)*; or *VTAM Installation and Resource Definition*.

For information to determine the correct values for parameters, refer to the IBM *Systems Network Architecture Formats*.

8.1 TSOKEY00 Member Definition

You must define the following macro as shown:

SCRSIZE=1920

8.2 Logon Mode Entry Definition

Use a MODEENT macro instruction to create a logon mode entry for SNA 3270 devices that will use TSO/VTAM (see Appendix A for a sample).

The format for the MODEENT macro is:

name MODEENT [*operands*]

where

name	is a name for the logon mode table entry that is represented by this macro definition.
operands	can be chosen from the list of MODEENT operands.

Specify These Values

For communication between TSO and the interconnect products, you must specify the values indicated. Some values are required by TSO; some operands have values that are restricted by the interconnect products' requirements.

TSO Requirements

TSO requires the following values:

,COMPROT=X'3080'
the common LU protocols This value must be X'3080' for the 3270 TE (LU2) and the 3270 DS (LU2).

FMPROF=X'03'
the function management profile. This value must be X'03' for the 3270 TE (LU2) and the 3270 DS (LU2).

,PRIPROT=X'B1'
the primary LU protocol. This value must be X'B1' for the 3270 TE (LU2) and the 3270 DS (LU2).

,PSERVIC=*name*
the LU unit presentation services profile. PSERVIC permits you to set screen sizes to values other than the default. For 3270 TE devices that use TSO /VTAM, specify one of the following values appropriate to your application:

Value	Default Screen Size	Alternate Screen Size
,PSERVIC={X'020000000000185018847F00' |	24 x 80	24 x 132
X'020000000000185018507F00' |	24 x 80	24 x 80
X'02000000000018501B847F00' |	24 x 80	27 x 132
X'02000000000018502B507F00' |	24 x 80	43 x 80
X'020000000000185020507F00'}	24 x 80	32 x 80

For example, if you are emulating a 24 x 132 screen, use:

,PSERVIC=X'020000000000185018847F00'

,RUSIZES=X'*xxyy*'
the largest number of bytes of data that you can send between the PLUs and SLUs. The DECnet SNA Gateway-CT allows a maximum value of X'8A' for the variables *xx* and *yy*, which corresponds to a value of 8192 decimal. Refer to Appendix C for a table of hexadecimal values and corresponding decimal RU sizes.

,SECPROT=X'90'
the SLU protocol. The value must be X'90' for the 3270 TE and the 3270 DS.

,TSPROF=X'03'
the transmission services profile. The value must be X'03' for the 3270 TE (LU2) and the 3270 DS (LU2).

Interconnect Product Requirements:

,ENCR=0
0 indicates that encryption is not available.

,LOGMODE=*name*
the logon mode name used as a pointer to the session parameters in this table entry. The logmode name is used in the DECnet SNA Gateway-CT SET ACCESS NAME command.

,SSNDPAC=*value*|0
the secondary-send pacing count in the range X'00' to X'3F'.

,SRCVPAC={X'01'|...|X'10'}
the secondary-receive pacing count. For interconnect communications, the value must range from 1 to 16.

,TYPE=X'01'
the type of BIND command. TYPE=X'01' means that the BIND sent is not negotiable.

9

JES2 Resource Definitions

IBM's job entry subsystem (JES2) allows users to submit jobs remotely to an IBM system and to receive hard-copy output.

This chapter defines the required initialization parameters for JES2 to operate with the DECnet/SNA VMS Remote Job Entry (RJE) software. However, the chapter contains only those parameters that you must specify or modify to add remote DECnet/SNA VMS RJE workstations to the IBM configuration.

Refer to your JES2 documentation for information about the definition statement this chapter describes.

Note

The parameters in this chapter are valid for JES2 Version 1, Release 3.6; Version 2, Release 1.5 (marked as V1.R3.6 and V2.R1.5; and Version 3, Release 1.3 (marked as V3.R1.3. The definition statements apply to the MVS operating system only.

The following sections describe the functions performed by the initialization parameters, identify the subparameters associated with each parameter, and specify the values you must enter or consider when you define Digital's interconnect products to JES2. Explanatory notes follow parameters only if defining the interconnect product imposes a specific requirement or constraint on their values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

9.1 JES2 Parameters for Version 1, Release 3.6 and Version 2, Release 1.5

You must specify the parameters indicated. They have values that are related to RJE and the Gateway; you must discuss these with those who manage the gateways.

LOGON1 APPLID={JES2 | *vtam-application-name*} [,PASSWORD=*name*]
Defines JES2 to VTAM as an application program. APPLID names JES2. PASSWORD provides a password to be passed to VTAM.

The workstation operator must know the value for APPLID. The value is the name of the application that is requested in the SET WORKSTATION /APPLICATION command. It is also specified in the configuration file used to define the Gateway. This is described in the management documentation.

TPDEF,BUFSIZE=*size*
Specifies the size (256 through 3840 bytes) of the JES2 teleprocessing buffers. The value must be greater than or equal to the value specified for MBUFSIZE.

,MBUFSIZE=*number*
Specifies the size (256 through 3840 bytes) of the JES2 multileaving buffers.

RMT*nnnn* LUTYPE1
Specifies the characteristics of one SNA remote terminal. Remote terminals are numbered consecutively from RMT1 through RMT4000.

Specify LUTYPE1 for the type of terminal, indicating that this is an SNA remote terminal definition.

,BUFSIZE=*size*
Specifies the size of the largest RU that you can send from or receive at this terminal. The *size* can range from 256 to 3976 for the gateway.

,CONSOLE V1.R3.6,V2.R1.5
,CONS=YES V3.R1.3
Specifies that this remote terminal has an operator console.

,NOCMPCT V1.R3.6,V2.R1.5
,COMPACT=NO V3.R1.3
Specifies that the interconnect system RJE remote terminals do not support compaction.

,NUMPR=*number* V1.R3.6,V2.R1.5
,NUMPRT=*number* V3.R1.3
Specifies the number of logical printers defined for this terminal.

,NUMPU=*number* V1.R3.6,V2.R1.5
,NUMPUN=*number* V3.R1.3
Specifies the number of logical card punches defined for this terminal.

,NUMRD=*number* V1.R3.6,V2.R1.5
,NUMRDR=*number* V3.R1.3
Specifies the number of logical card readers defined for this terminal.

[,PASSWORD=*name*]
Specifies the workstation password specified in the DATA field of the DECnet /SNA RJE command SET WORKSTATION CHARACTERISTICS.

,SETUPHDR V1.R3.6,V2.R1.5
,SETUP V3.R1.3
Specifies how setup information is sent to the remote terminal (see the IBM documentation). The DECnet/SNA VMS RJE products cannot work if SETUPMSG is defined for a workstation.

,SETUPINF | ,SETUPACT V1.R3.6,V2.R1.5
,LOCAL 190 V3.R1.3
Specifies how operator setup messages are resolved. Action messages require positive operator action to delete them from a display console, but information messages do not (see the related IBM documentation).

,WAITIME=*nn*
Specifies the length of time in seconds (1 to 30) that JES2 waits after completing input processing or output stream (printed or punched) to allow the operator to enter input at the remote terminal.

R*xxx*.PR*y* CCTL
Specifies the characteristics of one printer at a remote terminal. To define a remote printer, code one R*xxx*.PR*y*. CCTL indicates that carriage control characters are sent to this printer.

,CKPTLINE=*number*
Specifies the number of lines contained in a logical page.

,CKPTPAGE=*number*
Specifies the number of pages printed before a checkpoint is taken.

Note

Error recovery is performed for a session up to the boundary of the last successful chain, and chains are delimited every CKPTPAGE page.

,COMP V1.R3.6,V2.R1.5
,COMPRESSION=YES V3.R1.3
Specifies that the interconnect system RJE printer supports compression.

,LRECL=*number*
Specifies the length of the logical records sent to this printer. The maximum value you can specify is 254.

,NOCMPCT V1.R3.6,V2.R1.5
,COMPACT=NO V3.R1.3
Specifies that the interconnect system RJE printer cannot support compaction.

,SELECT=PRINT*z*
Specifies that the output queued for this remote device is sent to a printer. To use all printers simultaneously, set *z* in this parameter equal to *y* in the R*xxx*.PR*y* CCTL parameter.

R*xxx*.PU*y* CCTL
Specifies the characteristics of one card punch at a remote terminal. To define a remote card punch, code one R*xxx*.PU*y*. CCTL indicates that carriage control characters are sent to this card punch.

,CKPTLINE=*number*
Specifies the number of lines contained in a logical page.

,CKPTPAGE=*number*
Specifies the number of pages printed before a checkpoint is taken.

Note

Error recovery is performed for a session up to the boundary of the last successful chain, and chains are delimited every CKPTPAGE page.

,COMP V1.R3.6,V2.R1.5
,COMPRESSION=YES V3.R1.3
Specifies that the interconnect system RJE card punch supports compression.

,LRECL=*number*
Specifies the length of the logical records sent to this SNA remote punch. The maximum value you can specify is 254.

,NOCMPCT V1.R3.6,V2.R1.5
,COMPACT=NO V3.R1.3
Specifies that the interconnect system RJE card punch does not support compaction.

,NOSEP
Specifies that separator pages are not provided initially between data set groups.

,SELECT=PUNCH*z*
Specifies that output queued for this remote device is sent to a punch. To use all punches simultaneously, set *z* in this parameter equal to *y* in the R*xxx*.PU*y* CCTL parameter.

R*xxxx*.RD*y*
Specifies the characteristics of one card reader at a remote terminal. To define a remote card reader, code one R*xxxx*.RD*y*.

Other JES2 Parameters
There are additional JES2 initialization parameters for remote SNA terminals. Consult the current IBM documentation for their default values. Code the parameters to override a default only.

Following is a complete RJE workstation example for MVS.

Example 9–1 RJE Workstation Example (MVS)

(continued on next page)

Example 9–1 (Cont.) RJE Workstation Example (MVS)

```
* REMOTE 30 DEFINITION

RMT30       LUTYPE1,BUFSIZE=512,CONSOLE,COMP,NUMPR=2,NUMPU=2,NUMRD=1,
            DISCINTV=8160,PASSWORD=RMT30,SETUPHDR,SETUPINF,WAITIME=30

R30.PR1     CCTL,CLASS=A,NOCMPCT,COMP,DRAIN,SUSPEND,PRWIDTH=132,
            NOFCBLOD,CKPTPAGE=100,SELECT=PRINT1
R30.PR2     CCTL,CLASS=C,NOCMPCT,COMP,DRAIN,SUSPEND,PRWIDTH=121,
            FCBLOAD,CKPTPAGE=100,SELECT=PRINT2

R30.PU1     CCTL,CLASS=B,NOCMPCT,COMP,DRAIN,SUSPEND,
            LRECL=81,NOSEP,CKPTPAGE=100,SELECT=PUNCH1

R30.PU2     CCTL,CLASS=D,NOCMPCT,COMP,DRAIN,SUSPEND,
            LRECL=81,SEP,CKPTPAGE=100,SELECT=PUNCH2

R30.RD1     CLASS=A,NOHOLD,MSGCLASS=A,START

* REMOTE 31 DEFINITION

RMT31       LUTYPE1,BUFSIZE=512,CONSOLE,NOCOMP,NUMPR=3,NUMPU=3,NUMRD=1,
            DISCINTV=8160,PASSWORD=RMT31,SETUPHDR,SETUPINF,WAITIME=30

R31.PR1     CCTL,CLASS=A,NOCMPCT,NOCOMP,START,SUSPEND,LRECL=250,
            CKPTPAGE=100,SELECT=PRINT1

R31.PR2     CCTL,CLASS=A,NOCMPCT,NOCOMP,START,SUSPEND,LRECL=250,
            CKPTPAGE=100,SELECT=PRINT2

R31.PR3     CCTL,CLASS=A,NOCMPCT,NOCOMP,START,SUSPEND,LRECL=250,
            CKPTPAGE=100,SELECT=PRINT3

R31.PU1     CCTL,CLASS=B,NOCMPCT,NOCOMP,START,SUSPEND,
            LRECL=250,NOSEP,CKPTPAGE=100,SELECT=PUNCH1

R31.PU2     CCTL,CLASS=B,NOCMPCT,NOCOMP,START,SUSPEND,
            LRECL=250,NOSEP,CKPTPAGE=100,SELECT=PUNCH2

R31.PU3     CCTL,CLASS=B,NOCMPCT,NOCOMP,START,SUSPEND,
            LRECL=250,NOSEP,CKPTPAGE=100,SELECT=PUNCH3

R31.RD1     CLASS=A,NOHOLD,MSGCLASS=A,START

* REMOTE 32 DEFINITION

RMT32       LUTYPE1,BUFSIZE=256,CONSOLE,COMP,NUMPR=2,NUMPU=1,NUMRD=1,
            DISCINTV=8160,PASSWORD=RMT32,SETUPHDR,SETUPINF,WAITIME=30

R32.PR1     CCTL,CLASS=A,NOCMPCT,COMP,DRAIN,SUSPEND,PRWIDTH=132,
            FCBLOAD,CKPTPAGE=100,SELECT=PRINT1
```

(continued on next page)

Example 9–1 (Cont.) RJE Workstation Example (MVS)

```
R32.PR2     CCTL,CLASS=A,NOCMPCT,COMP,DRAIN,SUSPEND,PRWIDTH=132,
            FCBLOAD,CKPTPAGE=100,SELECT=PRINT2

R32.PU1     CCTL,CLASS=B,NOCMPCT,COMP,DRAIN,SUSPEND,
            LRECL=81,NOSEP,CKPTPAGE=100,SELECT=PUNCH1

R32.RD1     CLASS=A,NOHOLD,MSGCLASS=A,START
```

10

JES3 Parameters

IBM's job entry subsystem (JES3) allows users to submit jobs remotely to an IBM system and to receive hard-copy output.

This chapter defines the required initialization parameters for JES3 to operate with the RJE access routine software and gives information about parameters that you must specify or modify to add remote RJE workstations to the IBM configuration.

For additional information, refer to the following IBM documentation:

- *Introduction to JES3*
- *JES3 Overview*
- *JES3 System Programming Library: Installation Planning and Tuning*
- *OS/VS2 MVS System Programming Library: JES3*
- *OS/VS/VS2 MVS/System Product - JES3 Release 2*

NOTE

The parameters in this chapter are valid for MVS/SP JES3 V3.1.3 and V4.2. The parameters apply only to the MVS operating system.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5.

The following sections describe the functions performed by the initialization parameters, identify all the subparameters associated with each parameter, and specify the values you must enter or consider when you define Digital's interconnect products to JES3. Explanatory notes follow parameters only if defining the interconnect product imposes a specific requirement or constraint on their values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

10.1 CONSOLE Macro

The CONSOLE macro defines the characteristics of each SNA RJP operator console and assigns message classes to it.

Specify These Parameters

You must specify the parameters indicated.

,JNAME=*name*
the name of the SNA RJP workstation. The *name* value must match the name specified by the N parameter on an RJPWS statement.

,TYPE=RJP
the console you are defining is an RJP console.

Other Parameters for the CONSOLE Macro

Additional parameters apply for the JES3 CONSOLE macro. Consult the current IBM documentation for their default values. Code the parameters to override a default only.

10.2 RJPWS Macro

The RJPWS macro defines the characteristics of a single remote SNA workstation to the JES3 system.

Specify These Parameters

You must specify the parameters indicated. Parameters preceded by an asterisk (*) have values related to RJE and the interconnect system. Discuss these with interconnect system managers.

,AUTO=N
automatic LOGON is supported for the workstation.

,C=R
the printer and console are separate real devices.

,COMPACT=NO
the default compaction table to use if you do not want to include the name specified on the COMPACT initialization statement. NO indicates no default compaction table.

,N=*name*
the name of the workstation. This value must match the name specified by the JNAME statement on the CONSOLE macro.

*** ,P=*password***
the password used by the workstation operator. The password must be included in the user data specified on the LOGON command passed by VTAM to JES3. DECnet SNA RJE users must specify this value in the second field of the DATA qualifier on the SET WORKSTATION command when connecting to JES3.

*** ,PR=*number***
the maximum number of workstation printer units. With the DECnet SNA RJE software, the total number of printers, punches, and readers must not exceed 7.

*** ,PU=*number***
the maximum number of workstation punch units. With the DECnet SNA RJE software, the total number of printers, punches, and readers must not exceed 7.

*** ,RD=*number***
the maximum number of workstation reader units. With the DECnet SNA RJE software, the total number of printers, punches, and readers must not exceed 7.

Other Parameters for the RJPWS Macro

Additional parameters apply for the JES3 RJPWS macro. Consult the current IBM documentation for their default values. Code the parameters only if you need to override a default.

11

VSE/POWER Parameters

VSE/POWER is a spooler that operates under VSE/SP. It provides automatic staging of unit record input and output. VSE/POWER controls the job-scheduling priority of all programs under its control.

NOTE

The parameters in this chapter apply only to the VSE operating system.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5.

The following manuals provide more information about VSE/POWER parameters.

- *VSE/POWER Remote Job Entry User's Guide*
- *VSE/POWER Installation and Operation Guide*

The format for the VSE/POWER generation macros is:

[*symbol*] *macro* *operand*=value,...

where

symbol	names the macro. It is from 1 to 8 alphanumeric characters long. The first character must be alphabetic.
macro	is the macro instruction.
operand and *value*	are the parameter name(s) and value(s) you specify.

The following sections discuss the generation macros you need to build the control tables to tune VSE/POWER.

11.1 POWER Generation Macro

The POWER generation macro defines support for the VSE/POWER option for remote job entry.

Specify This Value

You must specify the values indicated. To omit a specification, use a comma as a delimiter unless the omission occurs at the end of the list.

[,SNA={YES|([*wscount*|*prmtno*],[*password*], [*applid*|POWER])}]
control values for RJE SNA support.

YES means you require RJE SNA support but do not require any of the other optional operands.

wscount specifies the number of workstations that can be logged on concurrently. Specify any value from 0 to 250. If you do not specify *wscount* the default, *prmtno*, is the number of PRMT macros that specify TYPE=LUT1.

password must be the same as the password you specified in the PRTCT operand of the ACF/VTAM APPL statement. If you did not specify a password in the APPL statement, VSE/POWER ignores the password you specify here.

applid specifies the VTAM application name you defined for VSE/POWER. If you do not specify *applid*, the default is POWER.

11.2 PRMT Macro

The PRMT macro defines the hardware characteristics of a remote job entry workstation. The PRMT macro also identifies the user and specifies where to route job output.

Specify These Values

You must specify the value indicated.

REMOTE=*nnn*
the remote identifier for a remote job entry workstation. Specify a number from 1 to 250.

TYPE=LUT1
the type of workstation. LUT1 indicates an SNA workstation.

[,CONSOLE=YES]
YES indicates that the workstation has a line printer and a normal workstation console.

[,PSWRD=*password*]
the password that a user at a remote workstation must specify as part of the LOGON command. Password length can be from 1 to 8 characters.

[,SESSLIM={*n*|1}]
the number of sessions logged at the workstation you are defining. Specify up to six sessions for each workstation.

Following is a complete RJE workstation example for VSE/SP.

Example 11–1 RJE Workstation Example (VSE)

```
*  SNA/RJE *

            PRMT  REMOTE=21,
                  TYPE=LUT1,
                  CONSOLE=YES,
                  SESSLIM=5

            PRMT  REMOTE=22,
                  TYPE=LUT1,
                  CONSOLE=YES,
                  SESSLIM=4

            PRMT  REMOTE=23,
                  TYPE=LUT1,
                  CONSOLE=NO,
                  SESSLIM=5
```

12

DISOSS/370 Parameters

IBM's Distributed Office Support System/370 (DISOSS/370) allows users on an IBM DISOSS subsystem to use central library services, host services, and distribution services. To access DISOSS, each user must be defined in the IBM DISOSS Host User Profile (HUP).

NOTE

The information in this chapter is valid only for DISOSS/370 Version 3, Release 4. The parameters apply to the MVS operating systems only.

For information about the BIND RU values needed to establish a session with the interconnect system, see Section 4.4 and Section 4.5.

This chapter provides the information you need for DISOSS to operate with DECnet/SNA VMS DISOSS Document Exchange Facility (DDXF) or External Document Exchange with IBM DISOSS (EDE), or VAX Message Router/S (MRS) software. DDXF is a prerequisite for EDE with IBM DISOSS. Satisfying the IBM software requirements for DDXF will satisfy the requirements for EDE with IBM DISOSS. Refer to the following IBM documents for more information:

- *Distributed Offce Support System/370 Installation (MVS) (DISOSS V3R4)*
- *Distributed Offce Support System/370 Administration Guide (DISOSS V3R4)*
- *Distributed Offce Support System/370 Planning Guide (DISOSS V3R4)*
- *Distributed Offce Support System/370 Host Utilities Reference*
- *Distributed Office Support System/370 Administration*

12.1 Installing DISOSS on the Host System

You must install DISOSS by following the DISOSS Installation Assist. The *DISOSS/370 Installation and Administration Reference* explains how to install or migrate to the latest version of DISOSS/370. Code the CICS parameters; use the values that DISOSS recommends. These values prevent your DISOSS users from having problems in accessing the CICS resources (for example, with response time). Refer to the *CICS Resource Definition Guide* for help in assigning the appropriate values to the CICS parameters.

When you install DISOSS/370 by using the DISOSS Installation Assist, DISOSS creates several datasets. One of the datasets created is a sample Host User Profile (HUP).

12.2 Defining DDXF Users to the HUP

DISOSS is required on the host for DDXF. You must define DDXF users to the HUP by running the HUP Create and Maintenance utility. The *DISOSS/370 Installation and Administration Reference* provides information about this utility.

12.2.1 User Definition

You must register each DDXF user in the HUP with a series of ADD control statements. These ADD control statements make up a user definition. If the OpenVMS system manager wants a mail daemon (collector) on the DDXF system, you must define it with a user definition. Figure 12–1 shows a worksheet with sample ADD control statements for each user description.

IMPORTANT

Define DDXF users as Displaywriter™ users.

Figure 12–1 Worksheet for Sample User Definition

	DDXF/DISOSS USER		
	SNADDXF MAIL	**J. SMITH**	**N. PETERS**
KEYWORD			
USERTYPE	DISP	DISP	DISP
SA	MAILSERV	SMITH	PETERS
REQPWD	AC40	67329	DOUGAL
ACCESS	12T020	12, 13	14, 15
NODISTR			

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12.2.2 Working Relationship Definition

To permit a user to work in the name of another user, you must define this working relationship with a series of ADD control statements. These ADD control statements make up a working-relationship definition. For example, to use a mail daemon on the DDXF system, you must define working-relationship definitions for all the users for whom the daemon will collect mail. Figure 12–2 shows a sample working-relationship definition worksheet.

Figure 12–2 Worksheet for Sample Working-Relationship Definition

	DDXF/DISOSS USER		
	SNADDXF MAIL FOR SMITH	**SNADDXF MAIL FOR PETERS**	**FOR**
KEYWORD			
USERTYPE	DISP	DISP	DISP
SA	MAILSERV	MAILSERV	
ACCESS			
FORUSER	(OSNUSER,SMITH)	(OSNHOST,PETERS)	

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In the figure, the working-relationship definitions enable the mail daemon to collect mail for users SMITH and PETERS. The source address (SA) named MAILSERV is only an example; the SA can be any name you choose up to 8 alphanumeric characters long.

12.2.3 ADD Control Statement Keywords

This section describes keywords and their values for the ADD control statement. See Section 12.2.4 for sample ADD control statements using these keywords.

Specify These Values

For communication between DISOSS and DDXF users, you must specify the following keywords:

FORUSER=(*office-system-node-name,userSA*)
the qualified name of the primary user when that name is part of a working-relationship definition. Specify the qualified two-part name in parentheses, separating the two names by a comma. The first part of a qualified name is the office-system node name; the second part is the user's SA. Each part can be up to 8 alphanumeric characters long. Specify the FORUSER keyword in a working-relationship definition only.

SA=*source-address*
required in both user and working-relationship definitions. The SA forms the second part of the DDXF user's qualified name—a name that must be unique in the HUP. The SA keyword can be up to 8 alphanumeric characters long.

USERTYPE=DISP
required in both user and working-relationship definitions. USERTYPE identifies the type of device to which the user normally signs on. For DDXF users, USERTYPE is always DISP.

Optional Keywords

ACCESS
a user access code. An access code can range from 1 to 2048. A user can access a document in the DISOSS library if the user's access code matches the access code of the document. Document access codes can be assigned to a document when it is filed.

You can specify access codes in the HUP as follows:

- A single number (for example, 14)
- A series of numbers in ascending order, separated by commas (for example, 1,12,20)
- A range of numbers separated by the word TO (for example, 12TO18)

If you specify a single access code or a series of access codes with a range, the codes must not overlap.

NODISTR=(YES|NO)
a local user receives distributed documents. YES means the user does NOT want to receive distributed documents. Do not specify for a working-relationship definition. NO is the default.

When the HUP definition for a recipient specifies NODISTR=YES, DISOSS files a document in the DISOSS library as the result of the distribution. The user can then search the host document library and retrieve the document.

REQPWD
for a user definition to increase security protection. Do not specify this keyword for a working-relationship definition.

REQPWD can be up to 8 alphanumeric characters long. To use the NCINAME keyword or for the user to obtain documents at a Scanmaster, the REQPWD must be from 1 to 7 characters long.

Other Keywords for the ADD Control Statements

EXTERNAL
(a keyword for an individual's real name) identifies the recipient of an image printed at a Scanmaster. EXTERNAL causes information to be printed automatically as part of a header that precedes the document. The EXTERNAL keyword can be up to 48 alphanumeric characters long. Code special characters in quotation marks.

TEXTPDT
a 1- to 6-character printer-descriptor-table entry name (the destination name). Specify this keyword for final-form-test documents to be printed automatically when distributed to a user.

12.2.4 Sample ADD Control Statements

The ADD control statements in Example 12–1 define users and working relationships in the HUP. The statements use values shown in Figure 12–1 and Figure 12–2.

Example 12–1 ADD Control Statements

```
ADD USERTYPE=DISP,SA=MAILSERV,REQPWD=AC40,
    ACCESS=(12TO20)

ADD USERTYPE=DISP,SA=SMITH,REQPWD=67329,
    ACCESS=(12,13)

ADD USERTYPE=DISP,SA=PETERS,REQPWD=DOUGAL
    ACCESS=(14,15)

ADD USERTYPE=DISP,SA=MAILSERV,
    FORUSER=(OSNHOST,SMITH)

ADD USERTYPE=DISP,SA=MAILSERV,
    FORUSER=(OSNHOST,PETERS)
```

12.3 Defining MRS to HUP

DISOSS is required on the host for MRS. You must define MRS to the HUP by running the HUP Create and Maintenance utility. The *DISOSS/370 Installation and Administration Reference* provides information about this utility.

12.3.1 User Definition

You must register MRS in the HUP with an ADD control statement. This ADD control statement makes up a user definition.

12.3.2 ADD Control Statement Keywords

This section describes keywords and their values for the ADD control statement.

Specify These Values

For communication between DISOSS and MRS, you must specify the following keywords:

SA=*
the source address. SA=* matches any source address.

USERTYPE=REMOTE
the type of device to which the user normally signs on. For MRS, USERTYPE is always REMOTE.

DDN=*host-name*
the DISOSS host name. DDN consists of 1 to 8 characters from the SNADS character set. See the GCID 00930-00256 Table in the *Distributed Office Support System/370 Installation and Administration Reference (MVS and VSE)* for information about the SNADS character set.

RGN=*routing-group-name*
the network identification for a group of SNADS nodes. RGN consists of 1 to 8 characters from the SNADS character set. See the GCID 00930-00256 Table in the *Distributed Office Support System/370 Installation and Administration Reference (MVS and VSE)* for information about the SNADS character set.

REN=*mail-destination*
the network name for the MRS destination node. RGN consists of 1 to 8 characters from the SNADS character set. See the GCID 00930-00256 Table in the *Distributed Office Support System/370 Installation and Administration Reference (MVS and VSE)* for information about the SNADS character set.

12.4 Defining MRS in the Routing Data Set

You must define MRS in the routing data set by running the Routing Create and Maintenance utility. The *DISOSS/370 Installation and Administration Reference* provides information about this utility.

You define the MRS in the routing data set with an ADD control statement. This ADD control statement identifies the queue for MRS distribution.

12.4.1 ADD Control Statement Keywords

This section describes keywords and their values for the ADD control statement.

Specify These Values

For communication between DISOSS and MRS, you must specify the following keywords:

RGN=*routing-group-name*
the network identification for a group of SNADS nodes. RGN consists of 1 to 8 characters from the SNADS character set. See the GCID 00930-00256 table in the *Distributed Office Support System/370 Installation and Administration Reference (MVS and VSE)* for information about the SNADS character set.

REN=*mail-destination*
the network name for the MRS destination node. RGN consists of 1 to 8 characters from the SNADS character set. See the GCID 00930-00256 table in the *Distributed Office Support System/370 Installation and Administration Reference (MVS and VSE)* for information about the SNADS character set.

SSL=*
the distribution priority. SSL=* matches any distribution priority.

QUEUE=*name*
the path or session to the next node along the route to the destination node. Queue is an alphanumeric or special-character name of 1 to 4 characters.

For MRS, the name must be the same as the SYSIDNT in the CICS DFHTCT macro for the MRS receive LU and the same as the CONNECTION parameter in the Resource Definition (Online).

TRANSID=*transaction-program*
the transaction program that starts when a distribution is received. TRANSID consists of 1 to 8 alphanumeric characters.

13

DSPRINT Parameters

IBM's MVS/TSO VTAM Data Set Print (DSPRINT) facility allows users to submit datasets to be printed on a specified VTAM-controlled printer. This chapter defines the initialization parameters required for DSPRINT to communicate with the DECnet SNA Printer Emulator for OpenVMS (PrE) software.

The PrE supports both LU type 1 and LU type 3 sessions (SNA character string and 3270 data stream, respectively). Refer to the *MVS/TSO/VTAM Data Set Print Program Description/Operations Manual* for more information on DSPRINT parameters.

NOTE

The parameters in this chapter are valid only for DSPRINT Release 2.0 and apply to the MVS operating system only.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5.

13.1 Defining the Printer to DSPRINT

Before you can define the parameters, you must determine the maximum page size for PrE: page width, page length, margin size, and columns per page.

To support any device on DSPRINT, you must define the device using specific queue anchor block (QAB) entries on the DSPRINT request queue. This request queue defines the physical characteristics of the printer and the name of the logical unit as defined in VTAM's tables. You must define QAB entries using the MVS utility IEBDG. See *MVS Utilities* for more information on IEBDG.

The Job Control Language (JCL) member INITQUE (supplied with the IBM distribution tape for DSPRINT) contains sample entries for creating a DSPRINT request queue. This chapter provides a partial example of the INITQUE member.

Specify These Values

You must define the PrE to DSPRINT by setting the following values for the specified items in INITQUE's QAB.

QABPTRNM=*name*
the logical unit name (as defined to VTAM) for the printer.

QABPOQA=0
the queue address of the oldest request element for this printer. QABPOQA must be zero.

QABPLQA=0
the address of the latest request element. QABPLQA must be zero.

QABPBFSZ=*size*
the largest RU size DSPRINT sends to the printer. This value must be equal to or less than the RU size indicated in the VTAM logon mode table by the RUSIZES parameter.

For LU type 3 printers, this value must not be greater than 1024. For LU type 1 printers, a maximum value of 4096 is allowed. Use Appendix C to convert decimal values to hexadecimal.

QABPWIDE=(1-132)
the maximum (and default) page width. Width can range from 1 to 132.

QABPPLEN=(0-256)
the number of lines on a page. This value must be less than 256.

QABTMARG=<QABPLEN
the default number of blank lines for the top margin of each page. QABTMARG must be less than the total page length.

QABBMARG=<(QABPLEN-QABTMARG)
the default number of lines for the bottom margin of each page. This value must be less than the difference between the total page length and the length specified for the top margin.

QABHPP={80|120|126|132}
the number of print positions, or columns, in a line.

QABTYPE={1|4|6}
the type of printer you are defining. PrE emulates a 3287 printer and supports vertical forms control for page ejection.

Set 1 for 3270 DS mode (DSC—LU type 3).

Set 4 for SNA character-string mode (SCS—LU type 1 without vertical forms control).

Set 6 for SNA character-string mode (SCS—LU type 1 with vertical forms control).

13.2 Sample INITQUE Modifications for DSPRINT

Example 13–1 and Example 13–2 provide sample QAB modifications to the JCL member INITQUE, which allows DSPRINT to support PrE. While these samples have proved valid for use with PrE, coding requirements for INITQUE might differ at your site. The inclusion of these samples does not guarantee that they will be valid at a particular installation; use them only as a guide.

IMPORTANT

Parameter names must be different for each printer you wish to define. In the following examples, QABPTRNM (printer name) is coded as QABP1NAM for the first printer and as QABP2NAM for the second printer.

Example 13–1 Sample INITQUE Definition for PrE Supporting SCS

```
FD NAME=QABP1NAM,LENGTH=8,STARTLOC=9,PICTURE=8,'L0224B5'
FD NAME=QABP1OQA,LENGTH=4,STARTLOC=17,PICTURE=1,B'0'
FD NAME=QABP1LQA,LENGTH=4,STARTLOC=21,PICTURE=1,B'0'
FD NAME=QABP1BFS,LENGTH=2,STARTLOC=25,PICTURE=4,B'0256'
FD NAME=QABP1WID,LENGTH=1,STARTLOC=27,PICTURE=3,B'132'
FD NAME=QABP1PLN,LENGTH=1,STARTLOC=28,PICTURE=2,B'66'
FD NAME=QABP1TMG,LENGTH=1,STARTLOC=29,PICTURE=1,B'2'
FD NAME=QABP1BMG,LENGTH=1,STARTLOC=30,PICTURE=1,B'2'
FD NAME=QABP1HPP,LENGTH=1,STARTLOC=31,PICTURE=3,B'132'
FD NAME=QABP1TYP,LENGTH=1,STARTLOC=32,PICTURE=1,B'6'
```

Example 13–2 Sample INITQUE Definition for PrE Supporting 3270 Data Stream

```
FD NAME=QABP2NAM,LENGTH=8,STARTLOC=33,PICTURE=8,'PRINTER8'
FD NAME=QABP2OQA,LENGTH=4,STARTLOC=41,PICTURE=1,B'0'
FD NAME=QABP2LQA,LENGTH=4,STARTLOC=45,PICTURE=1,B'0'
FD NAME=QABP2BFS,LENGTH=2,STARTLOC=49,PICTURE=4,B'1024'
FD NAME=QABP2WID,LENGTH=1,STARTLOC=51,PICTURE=3,B'132'
FD NAME=QABP2PLN,LENGTH=1,STARTLOC=52,PICTURE=2,B'66'
FD NAME=QABP2TMG,LENGTH=1,STARTLOC=53,PICTURE=1,B'2'
FD NAME=QABP2BMG,LENGTH=1,STARTLOC=54,PICTURE=1,B'2'
FD NAME=QABP2HPP,LENGTH=1,STARTLOC=55,PICTURE=3,B'132'
FD NAME=QABP2TYP,LENGTH=1,STARTLOC=56,PICTURE=1,B'1'
```

14

HCF Parameters

IBM's Host Command Facility (HCF) is a VTAM application that allows IBM users to access 8100 application programs and functions from a System/370 terminal. Digital's DECnet/SNA VMS Distributed Host Command Facility (DHCF) expands this functionality by allowing IBM users to log on to OpenVMS systems as well, through the DECnet SNA Gateway-CT.

NOTE

The parameters in this chapter apply only to the MVS operating system.

For information about the BIND RU values needed to establish a session with the interconnect system, see Sections 4.4 and 4.5 in this manual.

This chapter provides you with the information you need when generating your IBM host to recognize DHCF software. Refer to the following IBM manuals for more information on HCF parameters:

- *Host Command Facility General Information*
- *Host Command Facility Guide and Reference*
- *Host Command Facility Version 2 Diagnosis Reference, VTAM, Advanced Communications Function for VTAM and Advanced Communications Function for TCAM*

14.1 Installing HCF

Use the following list as a guide when you install or modify HCF on your IBM system to communicate with DHCF software:

1. Allocate the appropriate number of LU2s for DHCF. Remember: LUs allocated to DHCF cannot be shared with other interconnect products.
2. Create a logon mode table entry for VTAM. See Sections 4.4 and 4.5 for the logon mode table entry required.

   You should also refer to the section about logon mode tables in IBM's *Host Command Facility Guide and Reference* for special considerations when you create and use logon mode table entries for HCF users.

   IMPORTANT

   This logon mode entry is used when the IBM terminal user logs on to HCF from an IBM terminal. This mode entry is the source of all BIND parameters used in sessions between HCF and DHCF software.

3. Install HCF on your IBM host system by following the instructions in IBM's *Host Command Facility Guide and Reference*.

14.2 Customizing HCF

In view of the possible increase in the number of concurrent HCF users on your IBM host system, you might need to customize HCF to meet your specific needs. Refer to the section on customizing HCF in IBM's *Host Command Facility Guide and Reference* for more information.

15
RSCS Parameters

The Remote Spooling Communications Subsystem (RSCS) is software that supports multiple node networking of Virtual Machine (VM) systems. RSCS enables you to transmit and receive files from remote workstations or nodes in an RSCS communications network. The RSCS parameters enable you to define the network, by specifying them in the RSCS CONFIG file.

NOTE

The parameters in this chapter apply to the VM operating system only.

For information about the BIND RU values needed to establish a session with the interconnect system, see Section 4.4 and Section 4.5.

Refer to the following manuals for more information about RSCS parameters:

- *Virtual Machine Remote Spooling Communications Subsystem Networking Version 2, Planning and Installation, Release 3*
- *Virtual Machine Remote Spooling Communications Subsystem Networking Version 2, Operation and Use, Release 3*
- *RSCS V3 Planning and Installation Manual*

Definition Statement Format

definition statement *linkid* [*operand*]

where

definition statement	identifies the definition statement.
linkid	identifies the link.
[*operand*]	is the parameter that you specify.

NOTE

Parameters in this chapter are valid for VM/SP Release 4 or later.

The following sections describe the functions performed by the RSCS parameters, identify all the subparameters associated with each parameter, and specify the values you must enter or consider when you define Digital Equipment Corporation's interconnect products to RSCS. Explanatory notes follow parameters only if defining the interconnect product imposes a specific requirement or constraint on the operands' values. Where neither an explanatory note nor a specific value appears, the information specified in the related IBM documentation applies.

VAX Message Router/P Gateway (MRP) Considerations

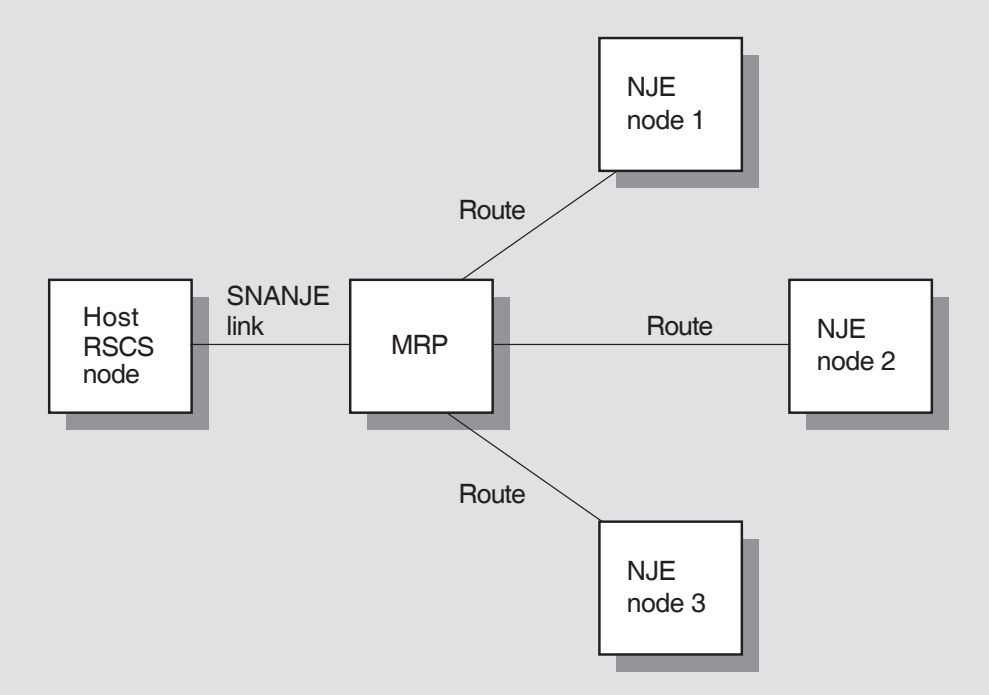
MRP implements IBM's Network Job Entry (NJE) protocols. This means that MRP appears to RSCS as a single RSCS node or multiple RSCS nodes. One of the emulated RSCS nodes corresponds with the node name you configured for MRP. You can define the link to this MRP node with the SNANJE link in the LINK statement. If you have multiple NJE nodes, you can define them by using the ROUTE statements (see Figure 15–1).

Do not use the autostart parameter when defining the link statement for MRP. The RSCS operator must not issue a start link command because MRP starts the link. MRP activates a link to RSCS by sending an INIT-SELF RU.

Note

Supply the applid for RSCS to the interconnect manager so that the manager can use it in the access name. For more information about access names, see the *DECnet SNA VMS Gateway Management Guide*.

Figure 15–1 MRP-RSCS Communications



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15.1 LINK Definition Statement

The following section contains information about the LINK statement, which defines the name and default attributes of a link.

Except for the link ID, you can replace an operand with an asterisk (*) or omit the operand to indicate the default. Since the position of an operand has meaning, you must use an asterisk in place of an operand if other operands follow.

RSCS V3 has alternate LINK definitions called LINKDEFINE. Refer to the *RSCS V3 Planning and Installation* mannual for more information. The following config statements are however, upwardly compatible.

Specify These Parameters

You must specify the parameters indicated.

LINK

linkid
identifies the link. It is 1 to 8 characters long.

[*type*]
a symbolic name that corresponds to the following RSCS protocol being used to communicate with a specified link:

SNA3270P
connection to a 3270 Information Display System printer by means of VTAM.

SNANJE
connection to a peer NJE system by means of VTAM.

[*cuu*]
the virtual device address of the telecommunications adapter or printer for the link. This parameter does not apply to SNA, but it functions as a placeholder. Use an asterisk (*) to replace the *cuu* parameter.

[*class*]
a 1- to 4-character word that indicates the classes transmitted to the link.

[*keep*]
a decimal number from 0 to 16 that reserves the specified number of tag slots for use by the link.

[*queue*]
how RSCS queues files for transmission to the link. Files can be queued by:

- Priority—priority with smallest files first
- Size—smallest files first
- FIFO—first in first out

[*dp*]
dispatching priority, a decimal number from 1 to 9 (1 is the highest; 9 is the lowest).

[*luname*]
the logical unit (LU) name. It is 1 to 8 characters long.

[*logmode*]
the logon mode table entry that defines the SNA session parameters used with the specified LUname. It is a 1- to 8-character name.

[*autostart*]
start the link automatically. Do not use the autostart parameter when defining the link statement for MRP.

ASTart
automatic startup.

NOASTart
no automatic startup.

15.2 RSCS Parameters for PrE Communications

The following parameters are needed for communication with the DECnet SNA Printer Emulator for OpenVMS (PrE).

Specify These Parameters to Start an SNA3270P Link

Use the following parameters to start a session with the DECnet SNA Printer Emulator for OpenVSM product by means of an SNA3270P link. If you specified the autostart parameter (see Section 15.1), you do not need to use the following parameters.

linkid
the location of the remote 3270 printer.

[TYPE SNA3270P]
the type of link.

Parm
one or more operation parameters follow. Any parameters you specify after the Parm operand override parameters previously specified with the Parm operand or the DEFINE command. Parameters you do not specify after Parm assume the default values of the following parameters.

[Ppos=*number*]
the maximum number of print positions provided on a 3270 printer, ranging from 100 to 220.

[LLine=*number*]
the maximum number of characters per line on the form being used in the printer, ranging from 1 to 220. If the number specified for LLine is greater than that for Ppos, the LLine defaults to the number specified for Ppos.

[Lpage=*number*]
the number of lines on a page for the type of form in the 3270 printer.

[VFC=YES]
the printer has the vertical forms control feature. If you specify YES, you must manually set the page length on the printer. The Lpage parameter value must equal this manual setting.

[SEP]
a separator page before each printed file.

Other RSCS Parameters

For information about additional RSCS parameters for remote SNA terminals and their default values, see the current IBM documentation. Code the parameters to override a default only.

15.3 ROUTE Definition Statement

The ROUTE definition statement specifies a path to a remote system or device to which RSCS communicates indirectly by means of an intermediate node. Files can be stored and forwarded on intermediate systems before reaching the remote destination.

Use as many ROUTE definition statements as you need; they are optional. A ROUTE statement must follow the LINK statement that it refers to.

Specify These Parameters

You must specify the parameters indicated.

ROUTE

nodeid
a 1-to-8 character identification of the destination node.

linkid
a 1-to-8 character link ID from a previous LINK definition statement. The link is the next node to which RSCS forwards files destined for the specified node ID.

15.4 RSCS Parameters for NJE Communications

The following section contains parameters needed for communication with IBM's RSCS product by using NJE protocol by means of an SNANJE-type link.

Specify These Parameters

You must specify the parameters indicated.

linkid
the location of the remote workstation.

[TYPE SNANJE]
the name of the type of link.

Parm
one or more operation parameters follow. Any parameters you specify after the Parm operand override parameters you previously specified with the Parm operand or the DEFINE command. Parameters that you do not specify after Parm assume the default values of the following parameters.

RLPass=*password*
a line password 1 to 8 characters long. The remote system must supply the line password before data transmission is started.

The MRP configuration file uses the line password. Because passwords use case-sensitive format, passwords in the MRP configuration file and passwords used on your IBM system must be consistent. Digital recommends uppercase.

RNPass=*password*
a node password 1 to 8 characters long. The remote system must supply the node password before data transmission is started.

The MRP configuration file uses the node password. Because passwords use case-sensitive format, passwords in the MRP configuration file and passwords used on your IBM system must be consistent. Digital recommends uppercase.

BUFF=*nnnnn*
maximum size RU that this link can accept from VTAM. The value can range from 300 to 32765 bytes. The default is 1024 bytes. For the optimum interconnect system performance, use a value of 2048 bytes.

Example 15–1 is an example of MRP RSCS LINK parameters required to define Network Job Entry (NJE) nodes for MRP. Digital recommends a buffer size of 2048 bytes.

Note

Do not use the autostart parameter when defining the link statement for MRP.

Example 15–1 shows a portion of an RSCS V3 configuration file.

Example 15–1 Sample RSCS LINK Parameters for MRP

```
*             LINK   VIRT TIME SPOOL KEEP  QUEUE DISP  LU-   LOGMODE
*     LINKID  TYPE   ADDR ZONE CLASS SLOTS  TYPE PRI   NAME    NAME
*     ------- ------ ---- ---- ----- ----- ----- ----  ------  -----
 LINK NJEN3    SNANJE  *   5    *     *    PRI    *   T122001A XNJE0
 PARM NJEN3   BUFF=2048
 LINK NJEN4    SNANJE  *   5    *     *    PRI    *   T122001B XNJE1
 PARM NJEN4   BUFF=2048
 LINK NJEN5    SNANJE  *   5    *     *    PRI    *   T122001C XNJE2
 PARM NJEN5   BUFF=2048
 LINK NJEN6    SNANJE  *   5    *     *    PRI    *   T122001D XNJE2
 PARM NJEN6   BUFF=2048
 LINK NJEN7    SNANJE  *   5    *     *    PRI    *   T122001E XNJE2
 PARM NJEN7   BUFF=2048
 LINK NJEN11   SNANJE  *   5    *     *    PRI    *   T122401A XNJE0
 PARM NJEN11  BUFF=2048
 LINK NJEN12   SNANJE  *   5    *     *    PRI    *   T122401B XNJE1
 PARM NJEN12  RNP=NJE12 RLP=NJE12L BUFF=2048 STREAMS=7
 LINK NJEN13   SNANJE  *   5    *     *    PRI    *   T111401A XNJE2
 PARM NJEN13  BUFF=2048
 LINK NJEN14   SNANJE  *   5    *     *    PRI    *   T110801A XNJE2
 PARM NJEN14  BUFF=2048
 LINK NJEN21   SNANJE  *   5    *     *    PRI    *   T030C006 XNJE0
 PARM NJEN21  BUFF=2048
 LINK NJEN22   SNANJE  *   5    *     *    PRI    *   T030C007 XNJE1
 PARM NJEN22  BUFF=2048
 LINK NJEN23   SNANJE  *   5    *     *    PRI    *   T030C008 XNJE2
 PARM NJEN23  BUFF=2048
 LINK NJEN24   SNANJE  *   5    *     *    PRI    *   T030C009 XNJE0
 PARM NJEN24  BUFF=2048
 LINK NJEN31   SNANJE  *   5    *     *    PRI    *   T110601A XNJE0
 PARM NJEN31  BUFF=2048
 LINK NJEN32   SNANJE  *   5    *     *    PRI    *   T110601B XNJE1
 PARM NJEN32  BUFF=2048
 LINK NJEN33   SNANJE  *   5    *     *    PRI    *   T110601C XNJE2
 PARM NJEN33  BUFF=2048
 LINK NJEN34   SNANJE  *   5    *     *    PRI    *   T1206035 XNJE0
 PARM NJEN34  BUFF=2048
 LINK NJEN35   SNANJE  *   5    *     *    PRI    *   T1206036 XNJE0
 PARM NJEN35  BUFF=2048
 LINK NJEN36   SNANJE  *   5    *     *    PRI    *   T1210035 XNJE0
 PARM NJEN36  BUFF=2048
 LINK NJEN37   SNANJE  *   5    *     *    PRI    *   T1210036 XNJE0
 PARM NJEN37  BUFF=2048
 LINK NJEN38   SNANJE  *   5    *     *    PRI    *   T1216035 XNJE0
 PARM NJEN38  BUFF=2048
```

16

Defining Digital Nodes to PROFS

Each node in the IBM PROFS system needs to know certain details about each Digital node with which it wants to exchange mail. These details are held in the IBM PROFS node's REMLOC FILE. This chapter describes these details and how to add them to the REMLOC FILE.

For more information about the REMLOC FILE and its role in an RSCS network, see IBM's *Managing the Professional Office System Version 2 Release 2*.

Note

The information in this chapter applies to the VM operating system.

To add details of a Digital Equipment Corporation node to the REMLOC FILE, follow the procedure below. You must type your entries exactly as shown.

1. Log on to SYSADMIN
2. Enter: ACcess 399 B
3. Copy REMLOC FILE B to a temporary file on another disk. Rename the original REMLOC file.
4. Enter: Set CASE Up
5. Add the following details to the REMLOC FILE (you must enter the details in uppercase and left justify them)

Column	Description
1-8	The node ID of the Digital node. The node ID is assigned by the IBM PROFS manager. The RSCS system must also be aware of the node ID.
9-16	The Distribution Manager user ID of the Digital node. The user ID is assigned by the IBM PROFS manager.
17-19	The 3-character location code of the Digital node. The IBM PROFS manager assigns the location code.
20	The code level at the remote location S Version 2 Release 2 is currently valid for this field
21-80	Blank

6. Enter: FILE
7. Copy the edited REMLOC back to your original disk (399 B)
8. Log off SYSADMIN

A

Sample VTAM MODEENT Macros

This appendix provides a partial definition of the VTAM MODEENT macros used for the interconnect system. The mode entries defined by these sample macros can help you develop a macro definition that meets your communications requirements. Inclusion of these macros in this manual does not guarantee their validity at your installation.

NOTE

The MODEENT macros in this appendix provide macro definitions for the MVS, VM, and VSE operating systems.

Example A–1 is a sample macro for 3270 TE communication.

Example A–2 is a sample macro for 3270 TE communication with a 32 X 80 screen.

Example A–3 is a sample macro for 3270 TE communication with a 43 X 80 screen.

Example A–4 is a sample macro for 3270 TE communication with a 27 X 132 screen.

Example A–5 is a sample macro for RJE communication.

Example A–6 is a sample macro for RJE communication VSE/POWER.

Example A–7 is a sample macro for PrE communication.

Example A–8 is a sample macro for PrE LU3 communication .

Example A–9 is a sample macro for DTF communication.

Example A–10 is a sample macro for APPC/LU6.2 communication.

Example A–11 is a sample macro for MRP communication.

Example A–12 is a sample macro for DHCF communication.

Example A–1 Sample Macro for 3270 TE Communication

```
XT3278M2 MODEENT  LOGMODE=XT3278M2,                                    X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'8686',                                        X
               PSNDPAC=X'04',                                          X
               SRCVPAC=X'04',                                          X
               SSNDPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'020000000000185018507F00'
*                        1 1 1 1 1 1 2 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–2 Sample Macro for 3270 TE Communication (32 x 80 Screen)

```
XT3180M3 MODEENT LOGMODE=XT3180M3,                                     X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'8787',                                        X
               PSNDPAC=X'04',                                          X
               SRCVPAC=X'04',                                          X
               SSNDPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'020000000000185020507F00'
*                        1 1 1 1 1 1 2 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–3 Sample Macro for 3270 TE Communication (43 x 80 Screen)

```
XT3180M4 MODEENT LOGMODE=XT3180M4,                                     X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'8787',                                        X
               PSNDPAC=X'04',                                          X
               SRCVPAC=X'04',                                          X
               SSNDPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'02000000000018502B507F00'
*                        1 1 1 1 1 1 2 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–4 Sample Macro for 3270 TE Communication (27 x 132 Screen)

```
XNEWTEM5 MODEENT LOGMODE=XNEWTEM5,                                     X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'C7C7',                                        X
               PSNDPAC=X'08',                                          X
               SRCVPAC=X'04',                                          X
               SSNDPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'02000000000018501B847F00'
*                        1 1 1 1 1 1 2 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–5 Sample Macro for RJE Communication with JES2

```
RJEF2    MODEENT  LOGMODE=RJEF2,                                    X
               FMPROF=X'03',                                        X
               TSPROF=X'03',                                        X
               PRIPROT=X'A3',                                       X
               SECPROT=X'B1',                                       X
               COMPROT=X'7080',                                     X
               RUSIZES=X'8586',                                     X
               PSNDPAC=X'08',                                       X
               SRCVPAC=X'04',                                       X
               SSNDPAC=X'04',                                       X
               PSERVIC=X'01106000F100808000010040'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–6 Sample Macro for RJE Communication with VSE/POWER

```
VSERJE   MODEENT  LOGMODE=VSERJE,                                   X
               FMPROF=X'03',                                        X
               TSPROF=X'03',                                        X
               PRIPROT=X'A3',                                       X
               SECPROT=X'A1',                                       X
               COMPROT=X'7080',                                     X
               RUSIZES=X'8585',                                     X
               PSNDPAC=X'08',                                       X
               SRCVPAC=X'04',                                       X
               SSNDPAC=X'04',                                       X
               PSERVIC=X'01102000F100C00000010040'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–7 Sample Macro for PrE Communication (LU1 Sessions)

```
XSDS0768 MODEENT  LOGMODE=XSDS0768,                                    X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'85C6',                                        X
               PSNDPAC=X'08',                                          X
               SRCVPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'01000000E100000000000000'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–8 Sample Macro for PrE Communication (LU3 Sessions)

```
XSDS8192 MODEENT  LOGMODE=XSDS8192,                                    X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'8585',                                        X
               PSNDPAC=X'08',                                          X
               SRCVPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'030000000000000000000200'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–9 Sample Macro for DTF Communication

```
FT890804 MODEENT  LOGMODE=FT890804,                                   X
               RUSIZES=X'8A8A',                                       X
               PSNDPAC=X'08',                                         X
               SRCVPAC=X'04',                                         X
               SSNDPAC=X'04'
```

Example A–10 Sample Macro for APPC/LU6.2, DDXF, EDE/DISOSS, and MRS Communication

```
XL620256 MODEENT  LOGMODE=XL620256,                                   X
               TYPE=0,                                                X
               FMPROF=X'13',                                          X
               TSPROF=X'07',                                          X
               PRIPROT=X'B0',                                         X
               SECPROT=X'B0',                                         X
               RUSIZES=X'8A8A',                                       X
               PSNDPAC=X'08',                                         X
               SRCVPAC=X'04',                                         X
               SSNDPAC=X'00',                                         X
               COMPROT=X'50B1',                                       X
               PSERVIC=X'060200000000000000002C00'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–11 Sample Macro for MRP Communication

```
XNJE0 MODEENT  LOGMODE=XNJE0,                                          X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'72',                                          X
               SECPROT=X'72',                                          X
               COMPROT=X'4020',                                        X
               SSNDPAC=X'04',                                          X
               SRCVPAC=X'04',                                          X
               RUSIZES=X'00',                                          X
               PSNDPAC=X'08',                                          X
               PSERVIC=X'000000000000000000000000'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

Example A–12 Sample Macro for DHCF Communication

```
XHPS1920 MODEENT LOGMODE=XHPS1920,                                     X
               FMPROF=X'03',                                           X
               TSPROF=X'03',                                           X
               PRIPROT=X'B1',                                          X
               SECPROT=X'90',                                          X
               RUSIZES=X'8787',                                        X
               PSNDPAC=X'04',                                          X
               SRCVPAC=X'04',                                          X
               SSNDPAC=X'04',                                          X
               COMPROT=X'3080',                                        X
               PSERVIC=X'020000000000185000007E00'
*                        1 1 1 1 1 1 1 2 2 2 2 2
*                        4 5 6 7 8 9 0 1 2 3 4 5
```

B

Sample I/O Configurations

This appendix provides sample I/O definitions for configuring your operating system to recognize the DECnet SNA Gateway-CT as a channel-attached device.

- B–1 contains an example for MVS systems.
- B–2 contains an example for VM/SP systems.
- B–3 contains an example for VM/XA and VM/ESA systems.
- B–4 contains an example for VSE systems.
- B–5 contains an example for VTAM subsystems.

Example B–1 Sample I/O Configuration Macro for MVS

```
*********************************************************************
* IOCP SYSGEN MACROS                                                *
*                                                                   *
*********************************************************************
CHANL0   CHPID PATH=(00),TYPE=BY
CHANL1   CHPID PATH=(01),TYPE=BL
CHANL2   CHPID PATH=(02),TYPE=BL
CHANL3   CHPID PATH=(03),TYPE=BL
CHANL4   CHPID PATH=(04),TYPE=BL
CHANL5   CHPID PATH=(05),TYPE=BL
*
*********************************************************************
*  GATEWAY -- CHANNEL ATTACHED ON CHANNEL 0                         *
*********************************************************************
CU015    CNTLUNIT CUNUMBR=015,PATH=(00),SHARED=N,                  X
               PROTOCL=D,UNIT=3791L,UNITADD=((90,1))
DEV090   IODEVICE CUNUMBR=015,ADDRESS=(090,4),UNIT=3791L
*********************************************************************
*  GATEWAY -- CHANNEL ATTACHED ON CHANNEL 5                         *
*********************************************************************
CU018    CNTLUNIT CUNUMBR=018,PATH=(05),SHARED=N,                  X
               PROTOCL=D,UNIT=3791L,UNITADD=((90,4))
DEV590   IODEVICE CUNUMBR=018,ADDRESS=(590,4),UNIT=3791L,UNITAD=90, X
     STADET=N
```

Example B–2 Sample I/O Configuration for VM/SP

```
00088 ************************************************************************
00089 *                                                                      *
00090 *   CHANNEL ATTACHED GATEWAY                          *
00091 *                                                                      *
00092 ************************************************************************
00093 DEVE10   RDEVICE ADDRESS=E10,DEVTYPE=3725,MODEL=2,ADAPTER=TYPE5,       X
00094               CPTYPE=NCP
00095          SPACE
00170 ************************************************************************
00171 *                                                                      *
00172 *                    C O N T R O L   U N I T S                         *
00173 *                                                                      *
00174 ************************************************************************
00176 RCTLUE   RCTLUNIT ADDRESS=E10,CUTYPE=3725,FEATURE=64-DEVICE
00194          SPACE
00195 ************************************************************************
00196 *                                                                      *
00197 *                        C H A N N E L S                               *
00198 *                                                                      *
00199 ************************************************************************
00201          RCHANNEL ADDRESS=E,CHTYPE=BLKMPXR
00207          SPACE
```

Example B–3 Sample I/O Configuration for VM/XA and VM/ESA

```
00088 ************************************************************************
00089 *                                                                      *
00090 *     CHANNEL ATTACHED GATEWAY         *
00091 *                                                                      *
00092 ************************************************************************
00093     RDEVICE DEVNO=(AA0,4),DEVTYPE=3705,MODEL=1,ADAPTER=TYPE4
00094
```

Example B–4 Sample I/O Configuration Command for VSE

```
ADD 5A0,3791L      LOCAL SNA 3274-1A DEF FOR CHANNEL-ATTACHED GATEWAY
```

Example B–5 Sample VTAM Resource Definitions for Channel-Attached Gateway

```
CATALOG H05LI.B                          REPLACE=YES
H05LI    VBUILD TYPE=LOCAL
H055A00  PU    CUADDR=5A0,                                      D
               DLOGMOD=XT3278M2,                                D
               ISTATUS=ACTIVE,                                  D
               MAXBFRU=49,                                      D
               MODETAB=MODESNA,                                 D
               PUTYPE=2,                                        D
               SSCPFM=USSSCS,                                   D
               USSTAB=USSR2
H055A001 LU    LOCADDR=1
H055A002 LU    LOCADDR=2
H055A003 LU    LOCADDR=3
H055A004 LU    LOCADDR=4
H055A005 LU    LOCADDR=5
H055A006 LU    LOCADDR=6
H055A007 LU    LOCADDR=7
H055A008 LU    LOCADDR=8
H055A009 LU    LOCADDR=9
H055A00A LU    LOCADDR=10
H055A00B LU    LOCADDR=11
H055A00C LU    LOCADDR=12
H055A00D LU    LOCADDR=13
H055A00E LU    LOCADDR=14
H055A00F LU    LOCADDR=15
H055A010 LU    LOCADDR=16
H055A011 LU    LOCADDR=17
H055A012 LU    LOCADDR=18
H055A013 LU    LOCADDR=19
H055A014 LU    LOCADDR=20
H055A015 LU    LOCADDR=21
H055A016 LU    LOCADDR=22
H055A017 LU    LOCADDR=23
H055A018 LU    LOCADDR=24
H055A019 LU    LOCADDR=25
H055A01A LU    LOCADDR=26
H055A01B LU    LOCADDR=27
H055A01C LU    LOCADDR=28
```

(continued on next page)

Example B–5 (Cont.) Sample VTAM Resource Definitions for Channel-Attached Gateway

```
H055A01D LU    LOCADDR=29,DLOGMOD=XSDS0256                LU 1
H055A01E LU    LOCADDR=30,DLOGMOD=XSDS0512                LU 1
H055A01F LU    LOCADDR=31,DLOGMOD=XSDS0768                LU 1
H055A020 LU    LOCADDR=32,DLOGMOD=XSDS1024                LU 1
H055A021 LU    LOCADDR=33,DLOGMOD=XDDS0256                LU 3
H055A022 LU    LOCADDR=34,DLOGMOD=XDDS0512                LU 3
H055A023 LU    LOCADDR=35,DLOGMOD=XDDS0768                LU 3
H055A024 LU    LOCADDR=36,DLOGMOD=XDDS1024                LU 3
/+
```

C

Interpreting RU Sizes in Bind Commands

Figure C–1 provides a table of hexadecimal values and their corresponding decimal RU sizes. X'*xy*' is the maximum RU size sent on the normal flow by either the primary or secondary half-session. The X'*xy*' value represents the largest RU that you can send.

A value of X'*xy*' in byte 10 or 11 of a BIND represents *x* times 2 to the *y* power. For example, if the mantissa is 8 and the exponent is 5, X'85' represents (in decimal) $8(2^5)=256$.

Figure C–1 RU Sizes

	Mantissa(x),							
Exponent (y)	**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	1024	1152	1280	1408	1536	1664	1792	1920
8	2048	2304	2560	2816	3072	3328	3584	3840
9	4096	4608	5120	5632	6144	6656	7168	7680
A(10)	8192	9216	10240	11264	12288	13312	14336	15360
B(11)	16384	18432	20480	22528	24576	26624	28672	30720
C(12)	32768	36864	40960	45056	49152	53248	57344	61440
D(13)	65536	73728	81920	90112	98304	106496	114688	122880
E(14)	131072	147436	163840	180224	196608	212992	229376	245760
F(15)	262144	294912	327680	360448	393216	425984	458732	491520

LKG–5193–93R

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