



NetGate Administration Guide

Release 3.6.0

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UNICOM Systems, Inc.
UNICOM Plaza - Suite 310
15535 San Fernando Mission Blvd.
Mission Hills, California 91345

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About This Manual

This manual describes NetGate, an optional component of PIE/CICS. NetGate is a VTAM session manager that works with MultiCICS to provide users with access to independent sessions running VTAM applications.

Both PIE/CICS and MultiCICS must be installed before completing the NetGate customization procedures described in this manual.

Audience

This book is intended for system administrators responsible for maintaining PIE/CICS at their site. Readers are expected to understand MVS and VTAM concepts.

How This Manual is Organized

This manual consists of five chapters and an appendix. Listed below are the titles and a description of their contents.

- Chapter 1 Introduction
Explains how NetGate establishes communication between a physical terminal and a VTAM application with virtual terminals.
- Chapter 2 Basic Customization
Describes procedures to customize NetGate for a standard CICS environment without any additional customization considerations.
- Chapter 3 Special Customization
Explains how to customize NetGate to work in a CICS environment with special requirements.
- Chapter 4 Using NetGate
Describes how to manage NetGate sessions with scripts or the ACCESS command.
- Chapter 5 Operation and Maintenance
Lists issues that must be considered to maintain NetGate in a site environment.
- Appendix A Customer Service
Describes procedures to report problems with PIE/CICS to UNICOM Systems, Inc. Customer Service.

Recommended Reading

The title and a brief description of all PIE/CICS manuals are shown in the following lists. Some manuals provide common information that applies to both the common and components of PIE/CICS. Other manuals pertain only to optional PIE/CICS components. These manuals need to be read only if these products are part of the PIE/CICS system installed at your site.

Common Manuals

These manuals provide common information that applies to both the shared and optional components of the PIE/CICS family.

- *PIE/CICS Installation Guide*
Includes a series of procedures to install PIE/CICS.
- *PIE/CICS Release Notes*
Describes new features or enhancements to PIE/CICS that are part of Release 3.6.0
- *PIE/CICS Command Reference*
Describes PIE/CICS Application and Environment commands.
- *PIE/CICS Customization Guide*
Describes common procedures to adapt PIE/CICS to your site's requirements.
- *PIE/CICS Operation and Administration Guide*
Describes common features or facilities that are available to all PIE/CICS products. Performance tuning techniques and implementing security also are described.
- *REXX for PIE/CICS User Guide*
Describes how to write, compile, and execute SAA-compliant REXX programs that operate within a PIE/CICS external environment.
- *PIE/CICS Custom Menus Administration Guide*
Describes how to create custom MultiCICS and Dynamic Menu screens that provide alternate language support.

Optional Manuals

These manuals describe optional PIE/CICS components.

- *PIE/CICS MultiCICS Administration Guide*
Provides customization procedures and usage information to support multiple PIE/CICS sessions with MultiCICS.
- *PIE/CICS Dynamic Menus Administration Guide*
Describes how to create custom PIE/CICS menus that provide extended security and enhanced transaction processing.
- *PIE/CICS NetGate Administration Guide*
Explains how to access multiple VTAM applications through a PIE/CICS session with NetGate.
- *PIE/CICS NetMizer Administration Guide*
Describes how to use NetMizer to optimize 3270-based data streams.
- *PIE/CICS Availability Plus Administration Guide*
Explains how to use Availability Plus to distribute and balance work across multiple CICS regions.
- *PIE/CICS NonStop CICS Administration Guide*
Describes how to use NonStop CICS to route work across CICS regions to balance the workload and minimize down time in the event of a region failure.

Related Reading

Refer to the following IBM manuals for VTAM information:

- *VTAM for MVS/ESA Messages and Codes*, SC31-6546
- *VTAM for MVS/ESA Network Implementation Guide*, SC31-6548
- *VTAM for MVS/ESA Resource Definition Reference*, SC31-6548

Syntax Conventions

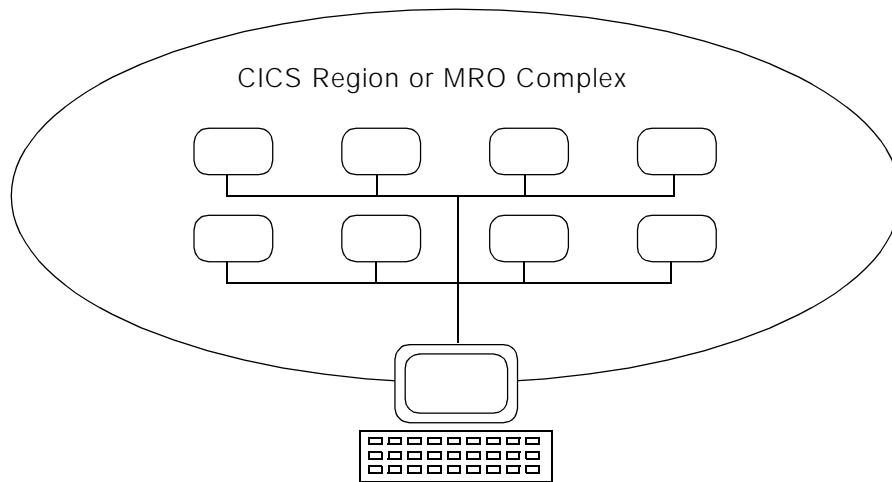
A syntax diagram is included with each PIE/CICS command described in this manual. A syntax diagram shows the possible parameters, values, and variables associated with a command.

Syntax diagrams adhere to common conventions. The physical appearance of a diagram's elements indicates whether a command parameter, variable, or other values are required, optional, or included by default.

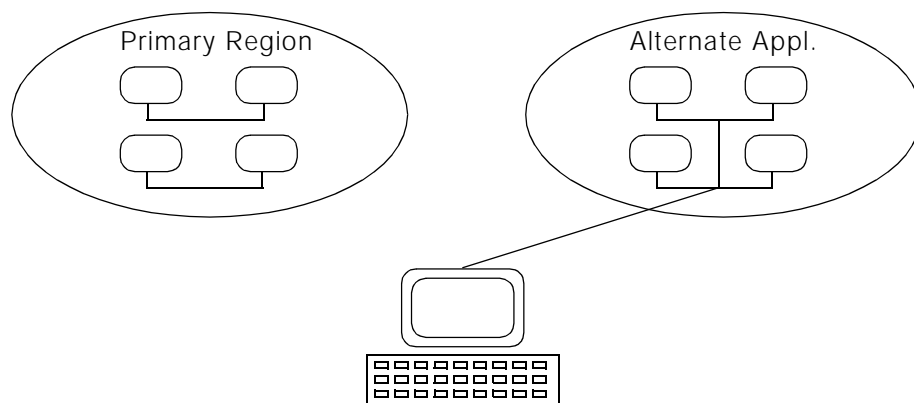
- An underlined parameter is the default assigned to the command.
- Command names are presented in MIXed case. The uppercase portion of a command name is the requisite abbreviated form. Lowercase letters represent the optional remainder of the command name that need not be specified to execute the command.
- An *italicized lowercase* parameter represents a value assigned by the user.
- A vertical bar (|) separates two or more mutually exclusive parameter values. Only one value can be specified for each parameter.
- Parameters enclosed within brackets [] are optional. Only one value can be specified to a parameter.
- Parameters values enclosed within braces { } are required. If unspecified, the parameter default is assigned to the command.
- Monospace type indicates a screen field or an example of a PIE/CICS command entered on the screen.

Chapter 1 Introduction

NetGate is an optional PIE/CICS component that allows users to access multiple VTAM applications from MultiCICS sessions. With PIE/CICS MultiCICS and NetGate working together, users can access up to a maximum of 99 simultaneous applications. Sessions support any applications running within a CICS region or MRO complex.

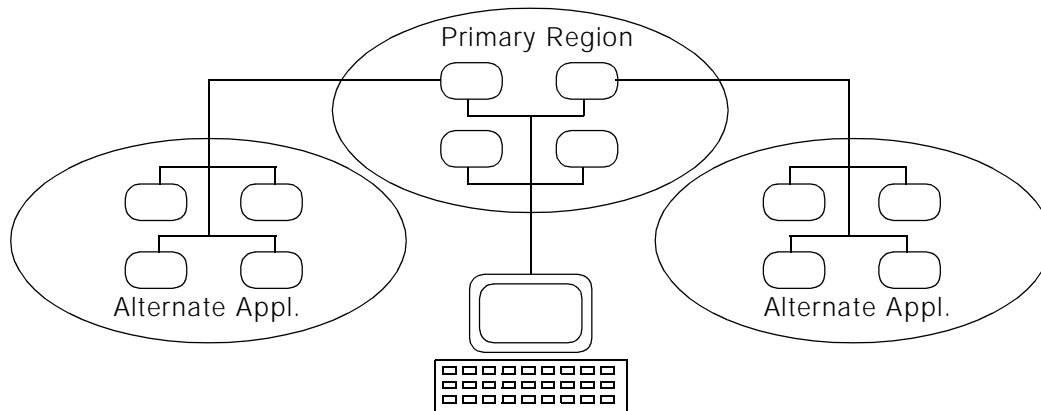


With the PIE PASS and TSWITCH commands, users can transfer to another VTAM APPLID and run applications from that APPLID. However, with PASS and TSWITCH, users cannot switch between their PASS/TSWITCH session and other MultiCICS sessions.



With NetGate, users can access applications that run as separate VTAM APPLIDs, yet still remain connected to other sessions. Users can switch back and forth between NetGate sessions and cut and paste data between applications.

All of PIE/CICS functions are simultaneously available to all VTAM applications running in separate sessions.



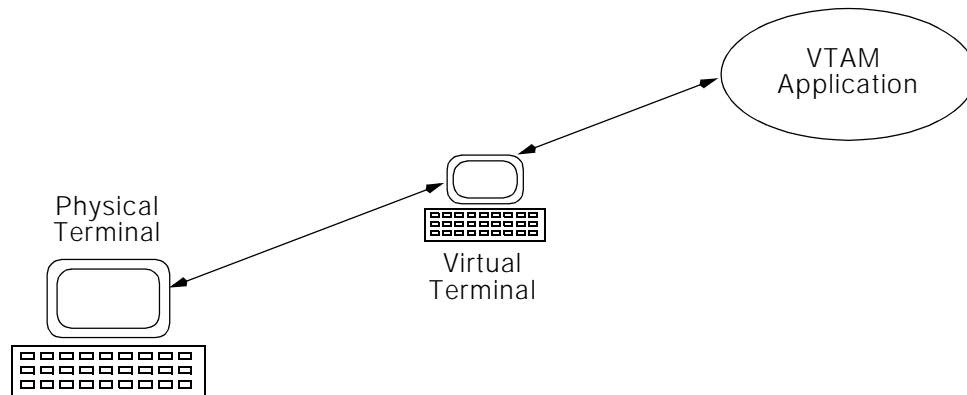
➡ For a complete discussion of the relative advantages and disadvantages of using NetGate or the PASS and TSWITCH commands, see ["VTAM Applications"](#), beginning on [page 109](#) of the *Customization Guide*.

NetGate Performance Overhead

NetGate provides VTAM access with significantly less performance overhead than a traditional VTAM session manager. Some savings are a result of NetGate's more efficient VTAM connections. However, the greatest reduction in overhead comes from the partnership of MultiCICS and NetGate. Using both products together, VTAM resources are used only when a user is in a NetGate session; not continuously. If users spend 90% of their time in their standard MultiCICS sessions and only 10% in NetGate sessions, they incur only a 10% VTAM overhead.

Virtual Terminals

NetGate uses VTAM services to communicate between sessions. NetGate emulates a virtual terminal to communicate with a target region or application. The virtual terminal acts a conduit, sending information back and forth between the physical terminal that requested the NetGate session and the VTAM application.



A virtual terminal has standard VTAM definitions and appears as a 3270 physical terminal to the application running in the target region. The virtual terminal acts as a secondary logic unit (SLU), communicating with target regions acting as primary logic units (PLUs).

NetGate requires a set of virtual terminals that are defined to VTAM before they can be used. If your site uses a VTAM session manager or similar product, virtual terminals may have already been defined. However, you cannot share terminals between NetGate and other products. Also, some VTAM applications such as IMS or CICS without Autoinstall must have virtual terminals defined to them before they will honor a logon request from a virtual terminal.

Because a virtual terminal is logically connected to the physical terminal that requested the NetGate session, the connection protocols between the virtual terminal and the application must agree with the characteristics of the physical terminal. For example, if a physical terminal is a MOD-3, you cannot logon to a VTAM application as a MOD-5 virtual terminal.

Assigning Virtual Terminals

A virtual terminal and a logmode table must be defined when a user starts a NetGate session. The logmode table defines terminal characteristics to a VTAM application. For example, it tells the VTAM applid whether the terminal is color or not, and the number of columns and rows displayed on a screen.

Logmodes are assigned indirectly through logmode tables. You can specify which logmode table to use and NetGate selects the proper logmode based upon the physical terminal in use. For example, suppose the user is working from a Model 2 extended terminal. You have assigned the MODETAB logmode table. NetGate looks for the Model 2 extended logmode in the MODETAB table and assigns it to the virtual terminal.

The logmode description of a virtual terminal must match the physical terminal. When you start a session, NetGate selects the proper logmode based upon the terminal currently in use. However, PIE/CICS allows users to disconnect and log on to a different terminal. Users cannot reconnect with a different terminal type. Users must log off and back on to change terminal types.

There are two ways to assign a virtual terminal and a logmode table in NetGate:

- You can assign defaults to groups of applids and an individual applid with the Network Monitor and PNAM file (also called the Applications Directory).
- You can override default values with ACCESS command parameters when starting a NetGate session.

You can use NetGate wildcards when you assign the virtual terminal. See "[Naming Virtual Terminal Pools](#)" on page 5, for more information.

Virtual Terminal Pools

Usually, a single logmode table is assigned to each network. In the simplest case, each virtual terminal is used only once, connecting one originating region to one target region. There are ways to share virtual terminals, but it can be difficult to manage them when they can be potentially assigned to several NetGate sessions.

NetGate uses the concept of *virtual terminal pools* to share virtual terminals between multiple VTAM applications. A virtual terminal pool allows greater flexibility on the part of an installation in setting naming conventions and assigning resources to a security system. The virtual terminals that belong to a pool can be shared among multiple CICS systems running NetGate.

When you assign a virtual terminal pool to a session, NetGate selects an available terminal from the pool when a session is started. Instead of assigning an individual terminal to the session, you assign a terminal pool and NetGate chooses the specific terminal.

A virtual terminal pool is simply a set of terminals with names consisting of an identical alphanumeric prefix and an individual numeric suffix. For example, a pool can consist of terminals named PIE10001, PIE10002, and PIE10003. Together, these terminals form the PIE1 pool.

Typically, you create several virtual terminal pools for specific site requirements. You may need to define separate pools for:

- Specific VTAM applications
For example, IMS may have its own pool because virtual terminals must be separately defined to IMS.
- Multiple VTAM domains
For example, virtual terminal pools are defined to each separate VTAM domain that runs production, test, or system test applications.
- Multiple originating regions in the same domain.

NetGate attempts to logon to an application with each virtual terminal in sequence. If it receives 16 consecutive bad return codes, NetGate rejects the request and notifies the user. A failed logon can be caused by a problem connection or attempting to use

a virtual terminal that is being used by a NetGate session on another originating region. For this reason, it is recommended that you use a separate set of virtual terminal pools for each originating region.

☞ If a terminal is merely busy with a connection from this region to another, it will not receive a bad return code. NetGate will simply bypass it.

Naming Virtual Terminal Pools

Virtual terminals are identified by name consisting of a prefix and a suffix. Terminals within a pool must use the same prefix. A prefix can be an alphanumeric string from 1 to 7-characters long.

The suffix is the remaining portion of the terminal pool name. The suffixes for the terminals in the pool run in numerical sequence, beginning with 1 and going to 0. If the suffix is a 3-digit number, it will be 001 to 999. If the suffix is a 6-digit number, the sequence is 000001 to 999999. You do not have to define all the terminals made possible by your suffix length, but you do have to start with 1 and define terminals in numerical order.

Before creating virtual terminal definitions, you should estimate the maximum number of terminals required by your site. If you will need about a 1000 concurrent terminals, you should define virtual terminal names with a suffix at least 3 characters long; 001 to 999. If you need 50,000 terminals, the suffix of a terminal name must be at least 5 characters long.

When you create multiple pools, we recommend a prefix of PIE plus a different letter or number for each pool—PIEA, PIEB, PIEC, etc.

NetGate Wildcards and the Length of the Terminal ID

You can use wildcard characters to assign NetGate virtual terminals or virtual terminal pools with either the ACCESS command or the PNAM file. NetGate wildcards are: question mark (?) for any number in that position or an exclamation point (!) for any alphabetic character in that position.

NetGate virtual terminal wildcard characters are different than standard PIE wildcards. For example, the virtual terminal wildcard ? refers to any number, but the PIE ? "wildcard" refers to any character.

If you do not use NetGate wildcards, PIE/CICS extends a pool name to eight characters. For example, if you assign the pool PIE1, PIE/CICS assumes the terminals in the pool are named PIE10001 to PIE19999.

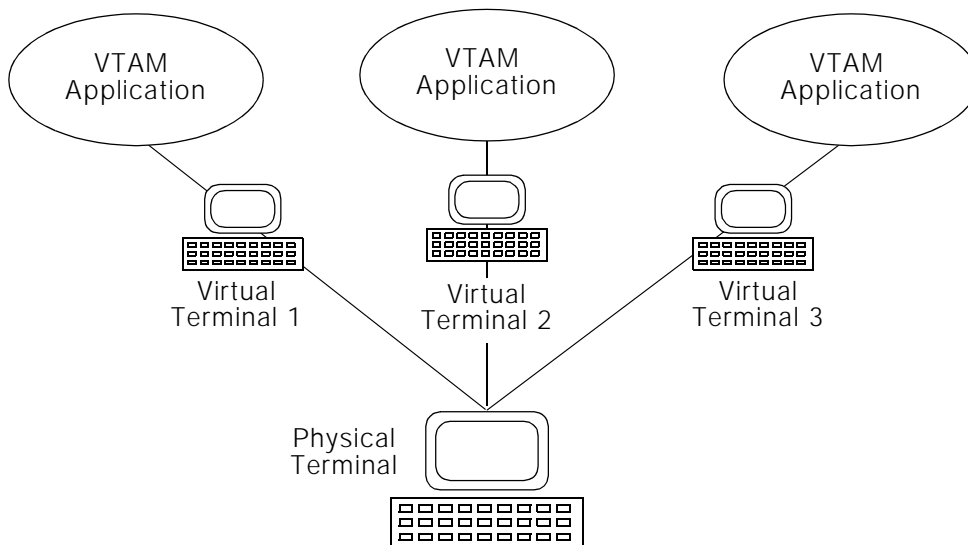
If you use NetGate wildcards, PIE/CICS does not extend the pool name to eight characters. Instead, it replaces each NetGate wildcard with a number or character. When you assign the pool name, you must code a character or NetGate wildcard for each position in the name. This allows you to explicitly set the number of characters in a terminal name.

For example, suppose your terminal IDs are seven characters long, not eight—"PIE" plus a four digit suffix. You cannot have PIE/CICS look for a match on a five digit suffix. You must use the ? wildcard and assign the terminal or terminal pool names as PIE?????. PIE/CICS looks for terminals with names in the range of PIE0001 to PIE9999. The pool name PN!!! defines all possible virtual terminal names between PNAAA through PN999.

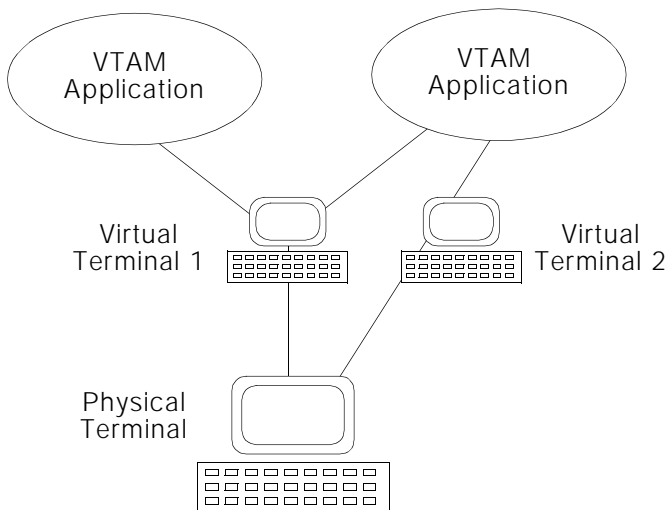
Virtual Terminal Sharing and Parallel Sessions

Virtual terminals can be shared. VTAM is restricted to 32,768 node definitions and each terminal definition is a node. Sharing terminal IDs can be important with large sites of 20,000 users or more.

If terminals are not shared, each NetGate session must have a unique virtual terminal.



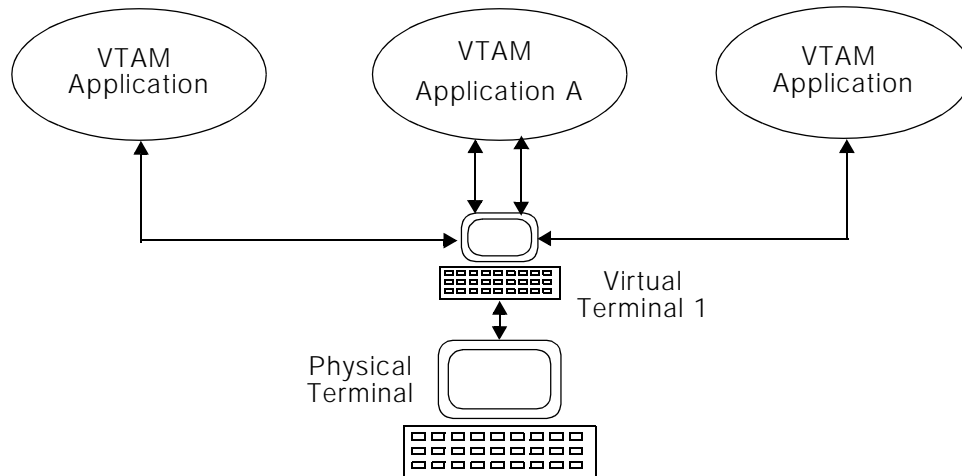
With terminal sharing, the same terminal can be used from a single originating region to any number of different target applications. The only limitation is that the virtual terminal is used only once per target application. In NetGate, this type of sharing is on by default.



Terminal sharing can cause problems when the target application uses CLSDST PASS to pass the user to another application (for example, to an AOR).



Some VTAM applids accept multiple sessions using the same terminal ID. They operate as *parallel sessions*. With parallel sessions, the limitation of using the terminal ID only once per target region is removed. You can use the same terminal ID to connect as many times as needed between an originating region and a single target region. For example, if region A accepts parallel sessions, you can use terminal 1 to connect multiple times from originating region to region A.



For information on setting up or turning off virtual terminal sharing and parallel sessions, see "[Virtual Terminal Sharing and Parallel Sessions](#)" on page 22.

☞ One terminal cannot connect from two originating regions at once. You should use separate virtual terminal pools for multiple PIE/CICS regions.

Network Monitor

The Network Monitor is a base feature of PIE/CICS that provides some capability to monitor and manage SNA network activity. Network Monitor is used by NetGate, Availability Plus, and NonStop CICS.

NetGate uses the Network Monitor to:

- Determine if a target applid is available before transferring control to the target session. PIE/CICS uses the Network Monitor to assess the current state of a target application before transferring control with the PASS or TSWITCH commands.
- Determine the virtual terminal pool and the logmode to use for each target region.
- Remove a region from service temporarily.
- Substitute a logical name for a physical name. For example, you can use Network Monitor to change an access request for IMS to an access request for PRODIMS or DEVIMS.
- Balance loads among applications. When a user requests one of a group of applications, the Network Monitor can route the request to the applid with the fewest users.

Most Network Monitor operations are controlled by the PNAM command. You can use PNAM commands to turn the Network Monitor off and on; to change the status of a region; and—most importantly—to define which target regions users can access with NetGate and which virtual terminal pools and logmode tables each region can use.

The Network Monitor consists of two major components: the Options Table and the Applications Directory. The Options Table stores parameters that regulate the performance of the Network Monitor. Some Network Monitor operations are controlled through the Options table. The defaults shipped with the Options table are adequate for most sites.

The Applications Directory records which VTAM applications are being monitored. Commands that define target regions and their terminal pools and logmode tables go into Applications Directory, which is also called the PNAM file. You can use wildcards to select multiple applids with a single definition.

The Network Monitor runs as a separate MVS subtask. The Network Monitor issues the VTAM INQUIRE command to solicit the status of applids. If this were done under the main CICS TCB, the entire CICS system would be forced to wait for the response to the INQUIRE request. Since the Network Monitor runs as a separate task, only the Network Monitor waits. You can set the length of the Network Monitor wait time using the PNAM TIMEOUT parameter.

Chapter 2 Basic NetGate Customization

This chapter describes procedures to customize NetGate for a standard CICS environment. ["Chapter 3 Special Customization"](#) describes optional customization procedures to implement NetGate with specific site requirements. After completing the procedures in this chapter, proceed to Chapter 3 and review these optional customization procedures to determine if they are required at your site.

The following tasks must be completed as part of basic NetGate customization:

- Adding VTAM definitions for NetGate virtual terminals and the Network Monitor address control block (ACB).
- Creating a PNAM file to define target VTAM applications and assign virtual terminal pools and logmode tables to them.
- Adding DCT entries for the PNAM file and the Network Monitor log file.

This chapter describes each of these tasks in a separate section.

NetGate Customization Requirements

Prerequisite products must be installed to support NetGate. Before completing the procedures in this chapter, verify that your site has installed the following required products:

- PIE/CICS MultiCICS Release 2.4.0 and above must be installed and operational.
- ACF/VTAM or ACF/TC AM Release 2.4 and above with RAPI support must be installed and operational.

Defining Virtual Terminals to VTAM

This step prepares virtual terminal definitions. It adds VTAM definitions for NetGate virtual terminals and the Network Monitor ACB.

Adding NetGate Virtual Terminals

If you use parallel sessions, you must change these definitions. Initially, add only one pool and a small number of virtual terminals. Add the remaining virtual terminals and pools needed at your site after initial customization and testing.

1. Add virtual terminal definitions to VTAMLST.

Copy sample definitions from the PIEVTERM member of the PIE SAMPLIB dataset to VTAMLST. PIEVTERM contains 20 virtual terminal definitions belonging to pool PIE1. The following example is an excerpt from PIEVTERM that shows how NetGate virtual terminals are defined to VTAM.

```
PIEVTERM VBUILD TYPE=APPL
PIE10001 APPL ACBNAME=PIE10001,          *
          MODETAB=M3278X,                *
          EAS=1, PARSESS=NO
PIE10002 APPL ACBNAME=PIE10002,          *
          MODETAB=M3278X,                *
          EAS=1, PARSESS=NO
PIE10003 APPL ACBNAME=PIE10003,          *
          MODETAB=M3278X,                *
          EAS=1, PARSESS=NO
```

☞ Do not add a DLOGMOD operand to the APPL statement.

If necessary, increase your current MAXAPPL parameter in your VTAMLST ATCSTRxx member to accommodate the number of virtual terminal definitions added by this step.

2. Change the MODETAB parameter to specify your own mode table.

3. Copy the definitions when you are ready to add more terminals or more pools.

We recommend that you create a separate major node for each pool (though this is optional).

4. Edit the ATCCONxx member of VTAMLST to add the new major node names.

This is a recommended step that specifies that a major node becomes active at VTAM initialization.

5. Activate the new node by entering:

```
V NET,ACT,ID=PIEVTERM
```

Defining Network Monitor ACBs

The Network Monitor is recognized by VTAM by updating VTAMLST with the names of the Network Monitor ACBs. The Network Monitor needs a unique ACB to communicate with VTAM in each CICS region. You can create a pool of ACBs that are accessible to all monitors, or assign a specific name to each Network monitor ACB. In either case, all ACBs used by all monitors must be defined to VTAM.

Like a terminal pool, an ACB pool is a set of ACBs with eight character names consisting of a common prefix and a numeric suffix. The prefix is any alphanumeric value. The suffix is a sequential number from 0 to 9. For example, PIENM001 or PIEMNC01.

Every ACB name in a pool must be defined. A Network Monitor ACB name is a minor node and the pool itself is a major node. The name of the major node is the member name in SYS1.VTAMLST, where the ACB definitions reside.

You can define multiple pools. Each pool should have a major node name.

- Edit member APPLNETM of the SAMPLIB dataset.**

APPLNETM contains a pool of four Network Monitor ACBs. The pool name is PIENM. Copy as many ACB definitions within APPLNETM as you need for your ACB pool.

If necessary, increase your current MAXAPPL= value in VTAMLST member ATCSTRxx to accommodate the number of ACBs added by this step.

- Copy APPLNETM to VTAMLST.**

- Edit member PNDMTOPT of the SAMPLIB dataset if you use a pool name other than PIENM.**

Change the APPLPOL parameter to the new pool name.

- Edit member ATCCONxx of VTAMLST and add the new major node name member placed in VTAMLST.**

Do this only if you want the new major node to always be active at VTAM initialization. (We recommend this.)

- Activate the new major node by entering the following:**

```
V NET,ACT,ID=APPLNETM
```

Example Network Monitor ACB Definition

The following example is from member APPLNETM. This example shows two ACB definitions in ACB pool PIENM.

```
APPLNETM VBUILD TYPE=APPL
PIENM001 APPL ACBNAME=PIENM001, APPLID FOR ACB *
          AUTH=(SPO),          AUTHORITY FOR OPERATOR COMMANDS *
          EAS=1                  ESTIMATED CONCURRENT SESSIONS
PIENM002 APPL ACBNAME=PIENM002, APPLID FOR ACB *
          AUTH=(SPO),          AUTHORITY FOR OPERATOR COMMANDS *
          EAS=1                  ESTIMATED CONCURRENT SESSIONS
```

Prepare a PNAM File

PNAM commands specify the operational characteristics of the Network Monitor. PNAM commands that are used on a regular basis should be placed in the PNAM file.

NonStop CICS and Availability Plus also use a PNAM file. NetGate and Availability Plus can share a PNAM file. NonStop CICS must have its own PNAM file.

A PNAM file can be shared by CICS regions, or assigned to a single region. The PNAM file is read by the originating region. Each originating region should use its own virtual terminal pools (see "[Virtual Terminal Pools](#)" on page 4). To accomplish this, you must specify different terminal pool names in the PNAM files for each region.

The following procedure assumes that you will be editing a sample PNAM file. You may create your own, if you like. The PNAM file should be a member of a PDS. That way, you can edit the file under TSO while the Network Monitor is running. Changes to the PNAM file become effective after the Network Monitor is recycled.

Complete the following steps to prepare a PNAM file:

1. Edit the NETGEXPL member of the CNTL dataset.

NETGEXPL contains a MODEL PNAM statement for a basic NetGate configuration. It does not, however, define any VTAM applications.

2. Edit the PNAM statements, using information from "[PNAM Command](#)" on page 13.

Edit the global MODEL statement. If a subsequent statement does not specify a particular parameter, the default value is specified from the MODEL statement.

3. Create a PNAM ADD APPLID statement for each VTAM application that you want users to be able to access. You can use wildcards.

The simplest possible statement is:

```
PNAM ADD APPLID=*
```

This statement gives users access to all VTAM applications with parameter values specified in the MODEL statement. At first, you may want to define a single application only, for example:

```
PNAM ADD APPLID=CICSTEST
```

After testing NetGate is completed, add additional statements, or make your existing statement more general by using wildcards.

PNAM Command

The PNAM command manages the operation of NetGate and the Network Monitor. Using the PNAM command is optional. The alternative is to specify the logmode table and the virtual terminal or virtual terminal pool with the ACCESS command each time you start a NetGate session. Using PNAM commands makes it easier to manage a NetGate system and is the most common method for the majority of users.

PNAM commands can be entered by the following methods:

- CICS 3270-type terminal
- MVS console (F cicsjob,PNAM . . .)
- PNAM file

For information about submitting PNAM statements online, see ["Chapter 9 Network Monitor" on page 103](#) of the *Operation and Administration Guide*.

Basic PNAM Command Syntax

The syntax of the PNAM command and its keywords is similar for NetGate, Availability Plus, and NonStop CICS.:

```
PNAM [REQUEST=] function [parameters]
```

PNAM must be the first word in the statement, followed by at least one blank. The statement can contain only valid PNAM keywords.

After the PNAM keyword, specify a function keyword (for example, ADD, CHANGE, or CLOSE. If you specify the function immediately following the PNAM keyword, you can omit the REQUEST= portion and type the function keyword alone. If you put the function keyword later in the statement, you must use the entire REQUEST=*function* parameter.

Comments can be added by placing an asterisk (*) in column 1. Insert blank lines to improve readability.

Separate parameters with commas or spaces. Separate values associated with parameters with equal signs. For example:

```
ADD=CICS1 ,MOD2=(PIE10 ,M32782S)
```

If you are creating statements for the PNAM file, you can continue the statement on multiple lines. Do not include the PNAM keyword on your continued statements; code only additional parameters. The continuation ends when the next line begins with PNAM, an asterisk *, or is blank.

Incorrect statements are skipped. Errors are logged to the PIELOG file, which can be browsed with your JES output display utility (SDSF, IOF). After start-up is complete, NonStop CICS issues the PCNM046 message that indicates how many errors were encountered processing the PNAM command.

PNAM Example

```
PNAM TIMEOUT=60
PNAM ADD APPLID=CICS1,
      MOD2=(PIE10,M32782S),...
* THIS IS A COMMENT STATEMENT.
```

Note that the first PNAM ADD statement ends at the blank line.

PNAM Keywords

Most functions of the PNAM command are intended for online use. These functions and their related parameters are documented in “[PNAM Online Functions](#)” on page 105 of the *Operation and Administration Guide*.

Usually, the ADD keyword is included in the PNAM file. The following sections show the format of the PNAM ADD keyword and its parameters. On rare occasions, you may want to place CHANGE or DELETE commands at the end of the PNAM file and process the changes with the PNAM SEQIN keyword. For information on these functions, refer to “[Changing the Status of the Network Monitor](#)” on page 106 of the *Operation and Administration Guide*.

Defining a Target Application

Create one ADD APPLID statement for each target VTAM application using the following parameters. You can use wildcards. If the application is identified by more than one name (actual APPLID and aliases), create a separate ADD APPLID statement for each name.

```
PNAM [REQUEST=ADD APPLID=applid
      [,PHYAPPL=applid]
      [,MODn=(vpool,logmode)]
      [,MODnX=(vpool,logmode)]
      [,BEHAVE=ab]
      [,STUB=explicit-stub]
      [,MAXUSER=max-user-number]
      [,MODELARG=]
      [,BLANKARG=]
      [,NULLARG=]
      [,DESC=comment]
```

REQUEST	Type of request being processed. If ADD is the first parameter, REQUEST is optional. For example, PNAM REQUEST=ADD can also be entered as PNAM ADD.
ADD	Adds the application defined with the following parameters to the NetGate environment.
APPLID	APPLID of the VTAM application being defined, either the actual APPLID or alias. If the application is identified by more than one name (actual APPLID and aliases), create a separate ADD APPLID statement for each name. You may use the PIE wildcards: * for any character that position and forward; ? for any character in that position; and % for any number in that position.
PHYAPPL	Associates a region's alias to its actual name. Use this keyword only if the region has an alias. Specify the region's APPLID.
MOD2-MOD5	Specifies the virtual terminal and logmode table to use for standard terminal models.

MOD2X-MOD9X	<p>Specifies the virtual terminal pool and logmode table to use for extended terminal models.</p> <p>Specify the virtual terminal pool name first, followed by a comma, and finally the logmode table.</p> <p>MOD2=(PIE1,M32782S)</p> <p>You can use NetGate wildcards ! and ? to specify multiple virtual terminal pool names. Refer to "NetGate Wildcards and the Length of the Terminal ID" on page 5, for an explanation NetGate wildcard usage.</p> <p>Separate virtual terminal pools are required in certain circumstances. See "Virtual Terminal Pools" on page 4, for details.</p> <p>If you omit a terminal model or leave some of the operands blank, the corresponding value from the MODEL statement is substituted.</p>
BEHAVE	<p>Normally you may omit this parameter. For its uses, see "Virtual Terminal Sharing and Parallel Sessions" on page 22. A BEHAVE parameter coded on the ACCESS command overrides this value.</p>
STUB	<p>Default explicit stub for applications that do CLSDST=PASS. In most cases, this is unnecessary. See "NetGate Stub" on page 27 for more information.</p>
MAXUSER	<p>Maximum number of concurrent users for an applid. When the limit is exceeded, NetGate prohibits any further users from transferring to this applid. NetGate resumes transferring users to the affected applid when the number of concurrent users falls below the maximum threshold.</p> <p>To inactivate MAXUSER, specify 0. This option can be helpful if your site experiences persistent short on storage conditions. Since every user takes up virtual storage space, limiting the number of users on a region can help minimize SOS conditions.</p>
MODELARG	<p>Indicate which statement is used as the model. Specify the value on the APPLID parameter in the statement you want to use. The default is MODEL.</p>
BLANK	<p>When you omit a parameter or value, NetGate uses the value in the MODEL statement. However you may want to specify a blank value. To do so, you can type BLANK as the parameter or operand value. You can change the BLANK string to other values with the BLANKARG parameter.</p>
NULL	<p>When you omit a parameter or value, NetGate uses the corresponding value from the MODEL statement. You may want to specify a null value instead. To do so, you can type NULL as the parameter or operand value. You can change the NULL strings to other values with the NULLARG parameter.</p>
DESC	<p>Describes the region being defined. You can specify a description or status message. If you include a description, place it last in the region's definition. You can display this description with the PIE/CICS &ZAPPL(applid) variable. (For information on this variable,</p>

see the PIE/CICS Command Reference.)

PNAM ADD APPLID Parameters

Parameter	Valid Values	Default
APPLID	1 to 8-character application ID or alias	None
PHYAPPL	1 to 8-character application ID	APPLID value
MODn, MODnX	1 to 8-character virtual terminal pool name or a 1 to 8-character mode table name	None
BEHAVE	For a: Y or N; For b: Y, C, D, P	NY
STUB	1 to 7 -characters	None
MAXUSER	0 to 99999	0
MODELARG	1 to 8 -character APPLID	MODEL
BLANKARG	1 to 8 -characters	BLANK
NULLARG	1 to 8 -characters	NULL
DESC	1 to 32 -characters	None

INQUIRE Time-out

Network Monitor uses the VTAM INQUIRE command to poll the status of APPLIDs. INQUIRE requests are asynchronous to prevent the Network Monitor from being placed in a wait state if an APPLID in another VTAM domain does not respond.

The Network Monitor waits for an INQUIRE response for a specified period of time. If no response is received within that period, the following actions occur:

- A message is written to the console:


```
#PNDM038.MON034 VTAM INQUIRE pending for 'APPLID' for
over'nnnn' seconds, APPLID now disabled for INQUIRES
```
- The status of the APPLID is designated *inquire pending*. No additional INQUIRE requests are issued to the APPLID. You must reset the APPLID for further inquires after correcting the problem in the region. See "[Managing Region Outages](#)" on page 104 of the *Operation and Administration Guide*, for instructions.

Use the PNAM TIMEOUT parameter to specify the length of the INQUIRE response time-out period.

```
PNAM SET, TIMEOUT=nnnn
```

TIMEOUT Waiting period for a response from the INQUIRE command in *nnnn* seconds. The minimum value is 10. The default is 60. If there is no response within the time-out period, the Network Monitor is placed in a wait state for the time period you specify here.

Balancing Groups

You can set up NetGate to balance users among similar VTAM applids. To do so, perform the following:

1. **Create an ADD GROUP statement for each group of applids. Assign applids to each group. The statement format is:**

```
PNAM [REQUEST=]ADD GROUP=groupname,
      LIST=(applid,applid,...,applid),
      BALMETH=USER
```

REQUEST	Type of function being processed. If ADD is the first parameter, REQUEST is optional. For example, PNAM REQUEST=ADD could also be entered as PNAM ADD.
ADD	Adds the group defined with the following parameters to the NetGate environment.
GROUP	Defines a group of target applids. Specify the name of the group.
LIST	Defines which target regions belong to a group. Specify the APPLIDs of all target applications in the group. You may specify up to 100 applids, in any order. If you are using more than one balancing group, you may use the same target applid in any number of groups. If you want to set one objective an applid in one group and another objective for the same applid in another group, you must assign the applid a different alias for each group. In this case, specify the applid's alias, rather than its APPLID, in this list.
BALMETH	Defines which balancing method applies to the group. Only USER is acceptable.

2. **Edit the ADD APPLID statement for each applid specified with the LIST keyword and add the OBJUSER parameter.**

The OBJUSER parameter defines what portion of users are assigned to each applid. The numbers work like "parts" in a mixture. For instance, if you have two applids in a group, you could assign 1 (one part) to one applid and 1 to the other. Then each applid would handle half the users. If you assigned 3 parts to the first and 1 part to the second, the first would handle three quarters of the total users. The second would handle only one quarter. It doesn't matter how large the numbers you assign are. Only the ratio between the numbers matters.

+ To make an applid passive—that is to take it out of NetGate service—specify 0. Any value greater than zero makes the applid active.

```
PNAM ADD APPLID=CICS1,OBJUSER=1
```

```
PNAM ADD APPLID=CICS2,OBJUSER=2
```

Balancing Group Parameters

Parameter	Valid Values	Default
GROUP	1 to 8 -characters	None
LIST	1 to 8-characters for each alias	None
BALMETH	USER	None
OBJUSER	0 to 999999	1

Sample PNAME Commands

```

PNAM REQUEST= ADD
    APPLID= MODEL
    MOD2= (PIEN2,M32782S)
    MOD3= (PIEN2,M32783S)
    MOD4= (PIEN2,M32784S)
    MOD5= (PIEN2,M32785S)
    MOD2X= (PIEN2,M32782SX)
    MOD3X= (PIEN2,M32783SX)
    MOD4X= (PIEN2,M32784SX)
    MOD5X= (PIEN2,M32785SX)

```

```

PNAM REQUEST= ADD
    APPLID= LITEVPOC
    MOD2= (PIEN2,M32782S)
    MOD3= (PIEN2,M32783S)
    MOD4= (PIEN2,M32784S)
    MOD5= (PIEN2,M32785S)
    MOD2X= (PIEN2,M32782SX)
    MOD3X= (PIEN2,M32783SX)
    MOD4X= (PIEN2,M32784SX)
    MOD5X= (PIEN2,M32785SX)

```

```

PNAM REQUEST= ADD
    APPLID= CICSTEST
    MOD2= (PIEN2,M32782S)
    MOD3= (PIEN2,M32783S)
    MOD4= (PIEN2,M32784S)
    MOD5= (PIEN2,M32785S)
    MOD2X= (PIEN2,M32782SX)
    MOD3X= (PIEN2,M32783SX)
    MOD4X= (PIEN2,M32784SX)
    MOD5X= (PIEN2,M32785SX)

```

CICS Table and JCL Changes

The NetGate transaction and the Network Monitor should be stopped before CICS shutdown to prevent an SA03 abend. This abend does not harm your system.

WARNING

Never cancel the NetGate P#NT transaction while users are still running applications within NetGate sessions. Cancelling the P#NT transaction can cause unpredictable results. See [“Ending NetGate Sessions” on page 35](#) for more information about stopping NetGate sessions.

In addition, the PNAM file needs to be defined in the DCT and CICS start-up JCL. These requirements are covered in the *Installation Guide*. This step directs you to the appropriate procedures.

1. **Add the PCKMPSHT and PCNMPINIT programs to add the NetGate transaction and the Network Monitor to your PLTSD.**

See [“Update the PLT” on page 6](#) of the *Installation Guide*.

2. **Copy member PIEDCTMN of the CNTL dataset into your DCT to create the Network Monitor DCTs.**

See [“Update the DCT” on page 10](#) of the *Installation Guide* for more information.

3. **Add the PNAM file to your CICS start-up JCL, using the PIENAM DD statement.**

```
//PIENAM DD DSN=PIE.PC@310.CNTL(NETGEXPL),DISP=SHR
```

See [“Step 5: Update CICS Start-Up Procedure” on page 11](#) of the *Installation Guide* for more information.

Security—Specifying NetGate Users

The NetGate P#NT transaction should be authorized to your external security system. You can also use your external security system to protect individual VTAM applications.

See [“Chapter 6 Security”](#) of the *Customization Guide* for more information about PIE/CICS security.

Starting NetGate and the Network Monitor

NetGate starts automatically the first time an ACCESS command is processed. However, the Network Monitor must be manually started.

When you are testing, you can start the Network Monitor manually by entering the command PNAM START from the CICS blank screen, or the PIE/CICS Sessions menu.

When you have completed customization and testing, you can have PIE/CICS start the Network Monitor automatically at PIE/CICS start-up. To do so, edit the Customization Options screen and specify YES for the Auto-start Network Monitor field. See [“Customization Options” on page 65](#) of the *Customization Guide* for more information.

Before Placing NetGate into Production

There are usually more concurrent users and transactions in a typical production environment than in a test system. In a production environment, NetGate may experience performance and tuning issues that were not apparent during testing.

Before placing NetGate into production, you should do the following:

- Review the chapter titled ["Performance and Tuning" on page 153](#) of the *Customization Guide*. Follow the recommendations given in the section titled ["Conserving DSA" on page 154](#) regarding the CICS Class Max class feature with the PSGM and PCDP transactions.
- Contact UNICOM Systems, Inc. Customer Service to verify if any HIPER PTFs need to be applied to PIE/CICS before placing NetGate into production

Chapter 3 Special Customization

This chapter describes optional procedures to customize NetGate that may not be necessary at all sites. Review this chapter to determine if any of the following procedures need to be completed at your site.

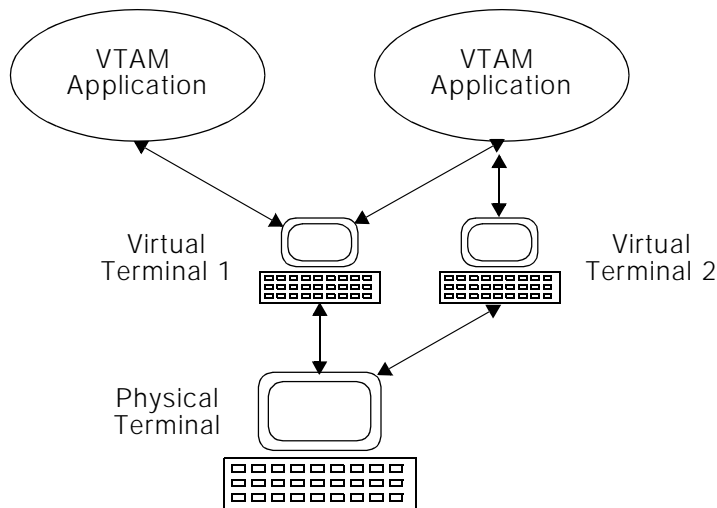
- End-to-end monitor support
- Virtual terminal sharing and parallel sessions
- CICS without Auto-Install
- Defining IMS terminals
- Network Monitor Customization

Virtual Terminal Sharing and Parallel Sessions

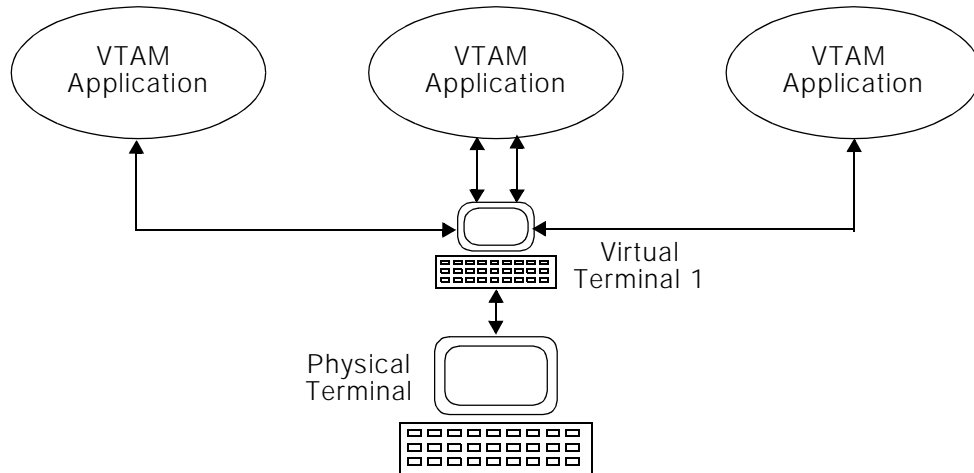
The maximum number of VTAM nodes is limited to 32768 due to VTAM's network addressing scheme. Each node has an internal address. VTAM uses this address to locate a network application or device. Together, the node and its address are called a network addressable unit (NAU).

As networks grow larger, network administrators and system programmers face a potential problem of reaching the maximum node limit within their network. Every time NetGate creates a session to another VTAM application, it uses a virtual terminal to make the connection. Since each virtual terminal is an NAU, using NetGate can raise the number of NAUs to the VTAM limit.

NetGate uses two techniques to reduce the number of required NAUs in a network; virtual terminal sharing and parallel sessions. Virtual terminal sharing allows the same virtual terminal to be used for multiple VTAM sessions as long as each session connects to a different VTAM application.



Parallel session support goes one step farther and allows the same virtual terminal to connect to the same VTAM application in multiple sessions. The VTAM application must support parallel sessions: otherwise the VTAM application rejects a request to start a second session on the same virtual terminal.



With both virtual terminal sharing and parallel sessions, NetGate can use the same virtual terminal to create multiple sessions. Fewer virtual terminals are required, reducing the number of virtual terminals that have to be defined to VTAM.

Preparing Parallel Sessions

NetGate shares virtual terminals by default. You must preempt virtual terminal sharing for applications that require a dedicated virtual terminal. For applications that use CLSDST PASS, you can either turn off terminal sharing or use the NetGate stub; see "[NetGate Stub](#)" on page 27.

Complete the following procedure if you want to use parallel NetGate sessions with a VTAM application.

1. Edit the PNAM file.
2. Code the BEHAVE parameter of the PNAM ADD APPLID statement for each application.

If you use wildcards, you may need to add a specific ADD APPLID statement for the application.

You may also code the BEHAVE parameter on the ACCESS command. The ACCESS command overrides the PNAM value.

The format of the BEHAVE parameter is:

BEHAVE=*ab*

The first positional variable, *a*, enables or disables support for the NetSpy product from Computer Associates. Specify Y if you use NetSpy. Specify N if you do not. You must specify Y or N in this position to use the *b* variable.

The second positional variable, *b*, specifies whether NetGate uses virtual terminal sharing or parallel sessions for this application.

- Specify Y or leave a blank for shared virtual terminal support.
- Specify D (dedicated terminal) to turn off shared virtual terminal support.
- Specify P to enable parallel session support.
- Specify C to provide limited CLSDST PASS support. C dedicates an unused virtual terminal until the session is passed to another application.

The following example disables NetSpy support and enables parallel sessions.

BEHAVE=NP

This example turns off virtual terminal sharing, while enabling NetSpy support.

BEHAVE=YD

3. Add PARSESS=YES to the APPL definition of the first virtual terminal in the virtual terminal pool used by the application.

Only the first terminal definition in the pool needs the parameter, because only the first definition is used to allocate parallel sessions. The following example shows how the PARSESS=YES parameter should be added to the first virtual terminal definition.

```
PIEN2      VBUILD TYPE=APPL
PIEN2001  APPL  ACBNAME=PIEN2001,MODETAB=MTABSL2,           X
           DLOGMOD=M32782S, PARSESS=YES
PIEN2002  APPL  ACBNAME=PIEN2002,MODETAB=MTABSL2,DLOGMOD=M32782S
PIEN2003  APPL  ACBNAME=PIEN2003,MODETAB=MTABSL2,DLOGMOD=M32782S
PIEN2004  APPL  ACBNAME=PIEN2004,MODETAB=MTABSL2,DLOGMOD=M32782S
PIEN2005  APPL  ACBNAME=PIEN2005,MODETAB=MTABSL2,DLOGMOD=M32782S
```

☞ If all VTAM applications supported parallel sessions, there would be no need to define more than this one virtual terminal. All sessions could share the same terminal. In general, not many applications support parallel sessions. The other virtual terminals defined in this pool will be used by those applications that do not support parallel sessions.

4. Check for the presence of the SESSLIM=YES parameter in your virtual terminal definitions.

In the past, UNICOM Systems, Inc. recommended the SESSLIM=YES parameter to reduce resource usage in the VTAM address space. However, SESSLIM=YES prevents both virtual terminal sharing and parallel session support. You must remove this parameter from your definitions.

End-to-End Monitor Support

If you have an end-to-end monitor (such as Netspy), the `BEHAVE=Y` parameter must be specified for all relevant applications in the PNAM file. The default is `BEHAVE=N`. The following example explicitly enables NetSpy support for all applications.

```
PNAM APPLID=*,BEHAVE=Y, ...
```

The "b" position of the `BEHAVE` keyword is blank, allowing virtual terminal sharing by default. See "[Virtual Terminal Sharing and Parallel Sessions](#)" on page 22.

If you do not have an end-to-end monitor, you can turn off support by coding `BEHAVE=N` for all applications. However, having `BEHAVE=Y` does no harm—it simply sends an extra data stream when the NetGate session is initially opened.

NetGate Stub

VTAM applications that pass a virtual terminal to another VTAM application pose a potential problem for NetGate. The CLSDST TYPE=PASS VTAM service sends two requests to NetGate. First, a request to terminate a session with a "HOLD", and a second request to start a new session for a different VTAM application. A problem arises because there is no association between the session being terminated with a "HOLD" and the new session start request. If there is more than one session on a virtual terminal (virtual terminal sharing), the new session start request can be for any one of them. If NetGate cannot determine the association between the two requests, it rejects the request to start the new session with a sense code 080A.

NetGate solves the CLSDST TYPE=PASS problem by using implied and explicit stub names. A stub name is a portion of the application name that can be used when a virtual terminal is passed to another VTAM application. An implied stub name is calculated using the original VTAM application name. For example, when logging onto TSO using NetGate, TSO may cause the virtual terminal to be passed to another VTAM application, such as TSO0006, that will be used by the TSO users' address space. NetGate calculates an implied stub name of "TSO" and matches TSO0006 with the stub name since the new name starts with the same characters as the stub name.

By trial and error, you may find certain cases where an explicit stub name must be given. By using the STUB parameter in the PNAM file or on the ACCESS command, a specific stub name can be associated with a VTAM application. If the VTAM application tries to pass the virtual terminal, NetGate will assume that the VTAM application is passing the virtual terminal to another VTAM application whose name matches the stub name. As an example of the use of an explicit stub name, consider the following PNAM control statements:

```
PNAM REQUEST=  ADD
      APPLID=   NETVIEW
      MOD2=     (PIEN2,M32782S)
      ...
      STUB=     CNM
```

In the example above, the NETVIEW application passes the virtual terminal to another VTAM application that starts with the characters CNM (such as CNM00001, CNM00002, etc.). Using CNM as the stub name allows NetGate to assume that the next request to start a session is related to the previous session to NETVIEW. A stub name would not have been necessary if the application name were CNM instead of NETVIEW since NetGate assumes that when the STUB parameter is not used, the stub name is the same as the application name.

CICS Without Auto-Install

If your CICS regions are using auto-install and support local or remote LU-2 (SNA) terminals, your auto-install process accepts NetGate virtual terminals. You may skip this section.

If you will use Netgate to access a CICS region that does not use auto-install, you must define the NetGate virtual terminals to the CICS region. You may define them using either RDO or the TCT.

1. To update the TCT, copy and modify the definition from member CICSTERM of the SAMPLIB dataset. Note that the value coded for RUSIZE must match the RUSIZE coded in the mode table for each terminal.

To update RDO, refer to the following examples. The first example shows what is required for the Terminal definition. The second shows the requirements for the Typeterm definition.

RDO Terminal Definition

```

CEDA DEfine
  TErmina1    ==> 1001
  GrOup       ==> PIETERM
  AUTINSTModel ==> No           No | Yes | Only
  AUTINSTName ==>
TERMINAL IDENTIFIERS
  TYpeterm    ==> LUTYPE2
  Netname     ==> PIE1001
  Console     ==> No           No | 0-99
  REMOTESystem ==>
  REMOTENAME  ==>
  Modename    ==>
ASSOCIATED PRINTERS
  PRINTER     ==>
  PRINTERCopy ==> No           No | Yes
  ALTPRINTER  ==>
  ALTPRINTCopy ==> No           No | Yes
PIPELINE PROPERTIES
  P0o1        ==> No           No | 1-32767
  TAsklimit   ==> No           No | 1-32767
OPERATOR DEFAULTS
  OPERId      ==>
  OPERPriority ==> 0           000-255
  OPERRs1     ==>             00-24,
  OPERSecurity ==>             11-64,
  Userid      ==>
TERMINAL USAGES
  TRansaction ==>
  TErmpriority ==> 0           000-255
  Inservice   ==> Yes         Yes | No
PRINTER DATA
SESSION SECURITY
  Securityname ==>
  ATTachsec    ==> Local      Local | Identify | Verify
  Bindpassword ==>             PASSWORD NOT SPECIFIED

```

RDO Typeterm Definition

```

CEDA DEFINE
  TYpeterm    ==> LUTYPE2
  Group       ==> PIETERM
RESOURCE TYPE
  DEvIce      ==> LUTYPE2
  TERmmodel   ==> 2
  SEssiontype ==>
  LDclst      :
  SHippable   ==> Yes           No | Yes
MAPPING PROPERTIES
  PAGesize    ==> 024 , 080     0-999
  ALTPage     ==> 000 , 000     0-999
  ALTSuffix   ==>
  FMhparm     ==> No           No | Yes
  OBOperid    ==> No           No | Yes
PAGING PROPERTIES
  AUTOPage    ==> No           No | Yes
DEVICE PROPERTIES
  DEFscreen   ==> 000 , 000     0-999
  ALTScreen   ==> 000 , 000     0-999
  APLKybd     ==> No           No | Yes
  APLText     ==> No           No | Yes
  AUDiblealarm ==> No           No | Yes
  COLor       ==> No           No | Yes
  COPy        : No           No | Yes
  DUAlcasekybd ==> No           No | Yes
  EXTendedds  ==> Yes           No | Yes
  HILight     ==> No           No | Yes
  Katakana    ==> No           No | Yes
  LIghtpen    ==> No           No | Yes
  Msrcontrol  ==> No           No | Yes
  OBFormat    ==> No           No | Yes
  PARTitions  ==> No           No | Yes
  PRIntadapter ==> Yes         No | Yes
  PROGsymbols ==> No           No | Yes
  VALidation  ==> No           No | Yes
  FORmfeed    ==> No           No | Yes
  HORizform   ==> No           No | Yes
  VERticalform ==> No           No | Yes
  TEXTKybd    ==> No           No | Yes
  TEXTPrint   ==> No           No | Yes
  Query       ==> All         No | Cold | All
  OUTline     ==> No           No | Yes
  SOsi        ==> No           No | Yes
  BAcKtrans   ==> No           No | Yes
  CGcsgid     ==> 00000 , 00000 0-65535

```

Defining IMS Terminals

You must add NetGate virtual terminals to IMS applids. You do not have to add the physical terminal that invokes NetGate to access IMS. There may be other VTAM applids on your network that require terminal definitions. These applications will become apparent to you as you expand and test your NetGate system.

1. Update the IMS terminal table using member IMSSAMP of the SAMPLIB dataset as a guide.

Network Monitor Customization

Refer to "[Network Monitor](#)" on [page 122](#) of the *Customization Guide*. This section describes the Options Table that contains start-up options for the Network Monitor and the Applications Directory. Normally, you do not need to change the Options Table. The Applications Directory needs to be changed only if you have more than 200 applications on your NetGate system.

Chapter 4 Using NetGate

This chapter describes how to start NetGate sessions and use shared PIE/CICS features and facilities as part of a typical multi-session CICS environment.

Starting NetGate Sessions

NetGate sessions are started with the ACCESS command. ACCESS is a PIE Application command that requires a MultiCICS session. ACCESS can be invoked by the following methods:

- As a pre-defined session
See "[Step 5: Accessing Other VTAM Applications](#)" on page 11 of the *MultiCICS Administration Guide*.
- From a Dynamic Menu
See "[Running an Application in Another VTAM APPLID](#)" on page 60 of the *Dynamic Menus Administration Guide*.
- With the PIE Exec API
See *Command Reference*.
- Manually, from the command line of the Sessions menu, with the escape string from a session, or from the blank screen prefixed with PEEXE

Automating Logons and Using Scripts

There is more to starting a NetGate session than simply accessing the program by entering the ACCESS command. Users must log on to the application and then start the program they want to use. A program can be five levels deep in a menu system or started with the type of command string users find hard to remember.

You can automate the entire logon process using scripts. With scripts, users simply select a session or menu line and are presented with the program they wanted. Instead of specifying the name of the VTAM region they are connecting to, you can specify the name of the program to use. For example, instead of naming a menu line "Access CICS1", you can name it "Accounts Payable." This approach provides the user with a seamless, easy-to-understand environment.

There are two types of scripts; play-back and PIE/REXX. Both are relatively easy to create. The benefits of both methods of creating scripts are discussed in "[Scripts](#)" of the *Operation and Administration Guide*. Creating and executing play-back scripts is also discussed.

Writing and executing REXX scripts is discussed in the *PIE/CICS REXX User Guide*. Examples of NetGate scripts are described in both manuals. Examples of executing scripts are found in "[Executing Scripts and PIE/REXX Programs](#)" on page 29 of the *MultiCICS Administration Guide* and "[Executing Scripts and PIE/REXX Programs](#)" on page 57 of the *Dynamic Menus Administration Guide*.

Some target applications accept the VTAM Logon Message. With these applications, you can logon automatically and specify the initial program or transaction with scripts. For procedures, see "[VTAM Applications](#)", beginning on page 109 of the *Customization Guide*.

ACCESS Command

The ACCESS command is discussed in detail in the *Command Reference*. In addition, the *Customization Guide* provides a tutorial for using the ACCESS command in "[Coding the Execution String](#)" on page 117. This section includes several examples that show the basic principles of the command. You should refer to the *Customization Guide* and the *Command Reference* for further information.

If you are entering the ACCESS command from the Sessions menu, the simplest form of the command is:

```
ACCESS vtamapplid
```

For example, if you want to access CICS1, you enter:

```
ACCESS CICS1
```

To execute the command from the blank screen, you enter:

```
PEXE ACCESS CICS1
```


If the target application accepts the VTAM Logon Message, you can specify your user ID and password with the DATA parameter.

```
ACCESS CICS1 DATA=JSMITH/APPLES
```

In this example, the user ID is followed by a slash and the password. How you code the DATA parameter depends on how your PIE/CICS system is customized. See [" PCTSPDCX—Logon Message Exit" on page 140](#) of the *Customization Guide* for details.

If you do not use the Network Monitor, you must supply the virtual terminal and logmode table to use for the connection. Or, if you do use Network Monitor, you can override the virtual terminal and logmode table specified in the PNAM file for this application. The virtual terminal and logmode table are supplied with the VPOOL/VTERM and LOGMODE parameters.

```
ACCESS CICS1 VPOOL=PIE1 LOGMODE=M3278X
```

To execute ACCESS using the PIEEXEC API, simply XCTL to program PEXEC with a COMMAREA containing the ACCESS command and its parameters. For example:

```
ACCESS TSO DATA=&ZUSER/&ZPSWD
```

In this example, the &ZUSER and &ZPSWD variables identify the user ID and password.

Multiple MultiCICS Sessions

With NetGate, users can run up to 99 simultaneous sessions. Each NetGate session is independent of other sessions. You can switch from a NetGate session to any other session using any of the usual switching methods. See "[Switching Between Sessions](#)" on page 51 of the *MultiCICS Administration Guide*. You can also cut and paste between other MultiCICS sessions and your NetGate session. In fact, all normal MultiCICS functions remain available to NetGate sessions.

Switching Long Running Tasks

You can switch out of a NetGate session at any time, even when the target application is actively executing. Switching out is useful when an application is hung or processing a long running task. When you switch out, the application continues processing. Switching out enables you to start a long running task, switch to another session, and return to the NetGate session after the task is finished.

If an application is currently executing within a NetGate session, you must use a special procedure to switch out. The procedure varies by whether you are using an SNA or non-SNA terminal.

1. Look at the lower left corner of the screen (below the solid line) to determine the type of terminal being used.
 - 4A indicates a non-SNA terminal.
 - 4B indicates an SNA terminal.
2. Switch out of the active NetGate session:
 - From an SNA terminal: Press ATTN (Attention).
 - From a non-SNA terminal: Press RESET and then ENTER.
3. A pop-up window appears with the following message:

```
Press any PA key to reflect ATTN to PLU
Press Enter to Continue
```

At this point, you have several options:
 - With the window up, you can use any switching method to go to another MultiCICS session: a PIE global key, your switch string (enter it with the cursor in the message window), etc.
 - To return to the NetGate session, press ENTER.
 - To send the ATTN to the applid running in the NetGate session, press any PA key.

Ending NetGate Sessions

A NetGate session ends by halting the current program and logging off the target application.

A NetGate session can be cancelled by the following methods.

- Go to the Sessions menu and enter **CANCEL session** or **CLOSE session** for the NetGate session.
- Go to the List of NetGate Sessions menu (**LIST N**) and enter the C, E, or F line command against the session.
 - ☞ Use this method only for hung terminals. Some applications (IMS and CICS) do not sign off users from a cancelled session. Unpredictable results may occur. Cancelling a session is similar to powering off a real terminal.

An alert box appears on the screen when an attempt is made to switch back to a NetGate session that has ended.

```

STATUS:  RESULTS - OVERTYPE TO MODIFY
Tas(0000243) Tra(P#NT)          Sus Tas Pri(001)
Tas(0000389) Tra(P#NT) Fac(C665) Sus Tas Pri(001)
Tas(0000389) Tra(CEMT) Fac(P001) Sus Tas Pri(255)

      PIE Alert

      Cannot resume Session # 11, Name: CICSPRD1
      because it is no longer active

      Press any key to resume previous session

RESPONSE: NORMAL          SYSID=TSCD APPLID=CICSPRD1
PF1 HELP   PF3 END       TIME: 14.14.07   DATE: 11.22.1997
PF7 SBH   PF8 MSG
  
```

Users can press any key to return to the session they were in before attempting to switch back to the session that has been ended.

Never cancel the NetGate P#NT transaction. See ["Chapter 5 Operation and Maintenance" on page 37](#) for instructions to cancel the P#NT transaction.



Chapter 5 Operation and Maintenance

NetGate requires minimal maintenance after customization is complete. Please keep the following considerations about NetGate in mind as you perform ongoing maintenance at your site.

- The Network Monitor can be dynamically started, stopped, and modified. For a description of these procedures, refer to [“Network Monitor”](#) of the *Operation and Administration Guide*.
- NetGate runs background tasks in the originating region. There are a number of ongoing P#NT transactions. Do not cancel these transactions when users are logged on to NetGate sessions. Unpredictable results can occur if P#NT transactions are cancelled with users still logged on to NetGate sessions.
- Use the C line command from the List of NetGate Sessions menu to cancel a session experiencing problems. There will be a number of P#NT transactions running. One of them is a non-terminal, background task. It will be the first P#NT started task and has the lowest task number. Never cancel this transaction.



Appendix A Customer Support

This appendix describes how to get help from Customer Service when you experience a problem with a UNICOM Systems, Inc. product. This appendix includes separate sections that describe several diagnostic suggestions to rule out user errors and the information you should have ready before reporting the problem.

Contacting Customer Service

UNICOM Systems, Inc. Customer Service can be reached by the following methods:

Voice	818-838-0606
Fax	818-838-0776
E-mail	support@unicomsi.com

A Support and Services web page provides Customer Service information about all of UNICOM Systems, Inc. products. Use the following URL to browse the Support and Services web page:

<http://www.unicomsi.com/support>

The Support and Services web page provides an online form to report a problem with a UNICOM Systems, Inc. product. Use the following URL to complete and submit a Technical Support Request form:

<http://www.unicomsi.com/support>

Normal business hours are from 6:00 a.m. to 4:30 p.m. Pacific Standard Time, Monday through Friday. Emergency customer service is available 24 hours a day, 7 days a week.

An answering service receives customer service calls beyond normal business hours. You may leave a message if it is not an urgent problem. A customer service representative will return your call at the start of the next business day.

Requests for urgent support outside of normal business hours are answered immediately. A customer service representative will be summoned to return your call. Leave a phone number where you can be reached. If you have not received a return call from a Customer Service representative within an hour of reporting the problem, please call back. Our customer service representative may be experiencing difficulties returning your call.

International customers should contact their local distributor to report any problems with a UNICOM Systems, Inc. product.

Troubleshooting Suggestions

This section describes several troubleshooting suggestions to diagnose common errors that can cause PIE/CICS problems. Before calling Customer Service, follow these suggestions to rule out the possibility these errors are causing your PIE/CICS problem.

- Run the Installation Verification Program with the **P#IV** transaction. Browse the PIECIVP temporary storage queue to see if it contains error messages that suggest problems with the allocation of CICS programs, transactions, maps, or files.
- Verify any recent changes to your site's operating system, CICS, or other products are fully compatible with PIE/CICS.
- Verify all load modules are at the same release level if a new release of PIE/CICS was installed over a previous release.
- Check that all modules were reassembled after upgrading PIE/CICS or applying maintenance to CICS.
- Verify all PIE/CICS system tables were reassembled after applying maintenance to CICS or upgrading to another release.
- Verify all users have current PIE/CICS passwords and entered them correctly.
- Examine your CICS logs, MVS console, and PIE/CICS logs for error messages from not only PIE/CICS, but any other product that runs concurrently with PIE/CICS.

Describing the Problem

Gather the following information about your system environment before reporting a problem to UNICOM Systems, Inc. Customer Service:

Operating system release and PUT Level _____

VTAM system release and PUT Level _____

PIE/CICS release _____

Date of PIE/CICS distribution tape _____

Gather the following information about your CICS system before reporting a problem to UNICOM Systems, Inc. Customer Service:

CICS release and PUT Level _____

CICS configuration MRO/ISC etc. _____

Real or virtual terminal _____

Before calling UNICOM Systems, Inc. Customer Service, get answers to the following questions.

What PIE/CICS products were active when the problem occurred?

Availability Plus

Dynamic Menus

MultiCICS

NetGate

NetMizer

NonStop CICS

Is the problem occurring in the TOR or AOR? _____

Is the problem occurring in a production or test region? _____

What is the severity of the problem? _____

What are the major symptoms of the problem? _____

Is the problem re-creatable under specific conditions? _____

Has the problem occurred more than once? _____

Were changes made to CICS or PIE/CICS immediately prior to the occurrence of the problem? _____

What other software products were running when the problem occurred? _____

Is a diagnostic message produced when the problem occurs? If so, what is the ID and text of the messages? _____

Does an abend occur? If so, what are the abend and return codes? _____

Is a dump produced when the problem occurs? If so, what kind of dump is it? _____

Please try to be as accurate and complete as possible in answering these questions. Your problem can be resolved more quickly if a customer service representative has all of the pertinent information needed to find a solution.



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