The Xyplex X.25 Gateway
Commands Reference Guide

X.25 Gateway Software
Version 1.3

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Caution

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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Preface

This manual describes the Xyplex commands that change the features, characteristics, and parameters on the Xyplex X.25 Gateway. This is a companion guide to the manual *Managing the Xyplex X.25 Gateway*.

Organization

This manual contains the following chapters and appendixes:

Chapter 1	**Describes how to enter commands from the Xyplex command interface.**
Chapter 2	**Describes the X.25 Gateway commands.**
Appendix A	**PAD Profiles and Parameters**
Appendix B	**PAD Commands**

Conventions

Throughout this manual, the word "Enter" means type something and then press the New Line key, Carriage Return key, or Enter key; for example, "Enter the CLEAR PROFILE command" means type the words "CLEAR PROFILE" and then press the New Line, Carriage Return, or Enter key.

This manual also uses the following conventions:

COMMAND KEYWORD *variable*

Where	Means
COMMAND	**You must enter the command, or its accepted abbreviation, as shown.**
KEYWORD	**You must enter a keyword, or its accepted abbreviation, as shown.**
variable	**You must enter a variable such as a host name, file name, or character string.**

Sometimes the manual shows this:

COMMAND [KEYWORD | KEYWORD] or [*variable* | *variable*]

You have the option of entering one of the keywords or variables in the brackets Do not enter the brackets; they simply show the choices. The bar | separates the choices.

Additionally, this manual uses certain symbols in special ways:

Symbol	Means
↵	**Press the New Line, Carriage Return <CR>, or Enter key on your terminal's keyboard.**
`Xyplex>`	**This is the Xyplex prompt at Secure and Nonprivileged ports on the X.25 Gateway.**
`Xyplex>>`	**This is the Xyplex MAXserver prompt at Privileged ports on the X.25 Gateway.**
*****	**This is the default PAD prompt on the Xyplex X.25 Gateway.**

In examples, this manual uses

`This typeface to show your entry and X.25 Gateway responses.`

Related Documentation

Managing the Xyplex X.25 Gateway

This is a companion manual to *The Xyplex X.25 Gateway Commands Reference Guide*. It describes how to define communications server and X.25 characteristics on the X.25 Gateway so that you can send and receive virtual calls. It also describes the PAD commands and parameters that the X.25 Gateway supports.

V1.3 of the X.25 Gateway incorporates V5.1 of TCP/IP-LAT software. If you do not have the V5.1 TCP/IP-LAT documentation set, Xyplex recommends that you obtain a copy of this documentation. It describes the many features in V5.1 that are not described in the V4.0 documentation set, including the Point-to-Point protocol (PPP), Verbose Accounting, the UNIX daemons, the UNIX-Like Interface (ULI), and Nested Menus. To order a copy of the V5.1 TCP/IP-LAT documentation set, call your Xyplex sales representative.

The following manuals provide information about V5.1 Communications Server software:

The *TCP/IP-LAT Software Management Guide*

This manual describes the configuration, setup, and management of TCP/IP LAT Communications Server package, supplied by Xyplex, Inc. This manual is written for network managers, and terminal server, UNIX®, and VAX system managers.

The *TCP/IP-LAT Commands Reference Guide*

This manual includes all of the Xyplex TCP/IP-LAT Communications Server commands.

Xyplex includes the following documentation with X.25 Gateway Hardware. These manuals explain how to unpack, set-up, and load software onto an X.25 Gateway

Getting Started with the MAXserver 6025 X.25 Gateway

Getting Started with the MAXserver 6625 X.25 Gateway

Getting Started with the MAXserver 6800 Remote Router Card

Getting Started with the Network 9000 WAN Processor 6800

If you have questions about this product...

At your convenience, please forward these to Xyplex at the following addresses:

Internet Mail: **support@xyplex.com**

United States Mail: **Xyplex, Inc.**
295 Foster Street
Littleton, MA 01460

Attn: Manager, Customer Support

If you have comments about this guide...

To help us in our effort to improve the quality, usefulness, and technical accuracy of the product documentation you receive, Xyplex is interested in any comments or suggestions that you have about this guide, or any technical corrections that you believe should be made. At your convenience, please forward these to Xyplex at the following addresses:

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Attn: Manager, Technical Documentation

Software Upgrade Information

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In the United States: **(800) 338-5316**
In Europe: **+44 81 759-1633**
In Asia: **+65 336-0431**

End of Preface

Chapter 1

The Xyplex Command Interface

The commands in this manual include X.25 Gateway server management commands, commands that specify Level 2 and level 3 parameters and facilities, and commands that display information about the X.25 Gateway. See the *TCP/IP-LAT Commands Reference Guide* for descriptions of other Xyplex Communications Server commands that you can use on the X.25 Gateway.

Entering Commands

You enter commands at the Xyplex prompt:

`Xyplex>>` **COMMAND KEYWORD *variable* [KEYWORD *variable*. . .]**

Most X.25 Gateway commands allow you to enter two or more keywords and variables on the command line. If you do this, separate each characteristic with a space, a comma, or a combination of both. You can enter a command line that exceeds the line length of the screen as long as you do not press the Return key until the command line is complete. The maximum length of a command line is 132 characters.

Most commands in this manual require that you set the privilege level of the port to Privileged. If you have not already done so, set the privilege level to Privileged:

```
Xyplex> set privilege ↵
Password> xxxxx ↵
```

The command interface requests a password. The default password is `system`, but the password on your X.25 Gateway may be different. When you enter the correct password, the privileged prompt appears:

```
Xyplex>>
```

The *port-list* Variable

Many commands in this chapter require that you enter the number of one or more virtual ports in the *port-list* variable. Valid virtual port numbers on the X.25 Gateway are 2-81. You can specify a sequence of port numbers separated by commas or a range of port numbers with a hyphen. The port list can include a sequence and a range, but no spaces. For example, the port list 2,4-10,20 includes the ports 2,4,5,6,7,8,9,10 and 20.

Abbreviating Commands and Keywords

You can abbreviate many X.25 Gateway commands and keywords to the shortest unambiguous string of characters that the X.25 Gateway can interpret. You can also abbreviate the LEVEL_2 keyword as L2 and the LEVEL_3 keyword as L3.

Editing the Command Line

You can change, correct, or edit the command line before you press the Return key, or recall previous command lines with certain control characters. To use control characters, press the Control key and the second character simultaneously. Table 1-1 lists the default editing control characters.

To ensure that you can use these control characters, check that the Communications Server LINE EDITOR characteristic is set to enabled for you port. Use the DEFINE/SET PORT *port-list* LINE EDITOR ENABLED command to do this.

Table 1-1. Editing Characters

Key Sequence	Function
<CTRL> <A>	Alternates between insert character mode and overstrike character. Overstrike mode is the default. This function does not apply to hardcopy terminals.
<CTRL> <B> or up arrow key ↑	Recalls the previous command.
<CTRL> <D> or left-arrow key ←	Moves the cursor one position to the left. This function does not apply to hardcopy terminals.
<CTRL> <E>	Moves the cursor to the end of the current command line. This function does not apply to hardcopy terminals.
<CTRL> <F> or right-arrow key →	Moves the cursor one position to the right. This function does not apply to hardcopy terminals.
<CTRL> <H>	Moves the cursor to the beginning of the command line. This function does not apply to hardcopy terminals.
<CTRL> <N> or down-arrow key ↓	Recalls the next command in the command history.
<CTRL> <R>	Redisplays the current command line. This command is useful after you have deleted characters on a hardcopy terminal.
<CTRL> <U>	Deletes all characters from the cursor position to the beginning of the command line.
<CTRL> <V>	Quotes the next character, so that the X.25 Gateway interprets it as a variable. (This function is useful if you want to redefine control characters.)
<CTRL> <X>	Deletes the current command line.
<CTRL> <Z>	Cancels an interactive operation, such as changing a password, or deletes the current command line.
<DELETE> or <backspace>	Deletes the character to the left of the cursor. On hardcopy terminals, the X.25 Gateway adds a backslash (\) to previously printed characters to indicate that you have deleted them.

You can change the defaults for the editing characters with Xyplex DEFINE/SET PORT commands. See the *TCP/IP-LAT Commands Reference Guide* for information on how to do this.

Use the SHOW/LIST PORTS ALTERNATE CHARACTERISTICS command to check the control character sequences for the editing functions at your port.

The following example shows how to use the command line recall and editing features. Suppose that you enter the following command, which contains a typographical error:

```
Xyplex> shw port characteristics
```

The X.25 Gateway cannot accept the command because you spelled SHOW incorrectly. Instead of retyping the whole command line, however, you can use the up-arrow key or <CTRL><B> to recall the incorrect command and then edit it:

```
Xyplex> ↑
Xyplex> shw port characteristics
```

The cursor appears at the end of the command line. Next, type <CTRL><H> to move the cursor to the beginning of the command line. Press the right-arrow key (or type <CTRL><F>) so that the cursor is under the letter `w` **in** `shw`**. Type <CTRL><A> to enter insert mode, and then add the letter** `o` **to spell** `show`**. Press the Return key to enter the correct command.**

Viewing and Changing the X.25 Gateway Databases

The X.25 Gateway maintains two databases that contain information you specify in Xyplex commands. One is the *operational* database and other is the *permanent* database. The SET command places information in the operational database and the DEFINE command places information in the permanent database. (Most commands are DEFINE only.)

Information in the operational database is temporary, and remains current only until you reinitialize the X.25 Gateway. While it is current, it overrides the information in the permanent database. Information in the permanent database is constant, and remains constant, but only takes effect after you reinitialize the X.25 Gateway.

Using the SHOW/LIST/MONITOR Commands

The SHOW commands display information in the X.25 Gateway's operational database. The LIST commands display information in the X.25 Gateway's permanent database. Information in the SHOW displays reflect the most current information about your port and the destinations you can reach on the LAN. The MONITOR commands display information in the operational database as it is being updated. Monitor commands are useful when viewing port counters and buffers because the displays reflect their actual use.

End of Chapter

Chapter 2

The X.25 Gateway Commands

The commands in this chapter define or set X.25 Gateway characteristics and display information about these characteristics. Except for the commands that create and display local services, these commands are specific to the X.25 Gateway. They are listed in these categories:

X.25 Gateway Server Management Commands

X.25 Level_2 Commands

X.25 Level_3 Commands

X.25 Port Commands

Show/List/Monitor Commands

These commands assume that the X.25 Gateway Opmode is DTE, unless the command description notes otherwise.

X.25 Gateway Server Management Commands

The commands in this section manage X.25 gateway characteristics that can affect all virtual ports. This section also includes the DEFINE/SET SERVICE commands that create the LAT, Telnet, and X.25 services that manage calls to virtual ports.

The SHOW/LIST X25 PROFILE command and the SHOW/LIST X25 CHARACTERISTICS command display information about the PAD parameter values and profile names that you specify with these commands:

CLEAR X25 PROFILE

DEFINE/SET X25 PROFILE

The SHOW/LIST X25 CHARACTERISTICS display includes the values of the characteristics that you specify with these commands:

DEFINE X25 ADDRESS

DEFINE X25 CALLING ADDRESS

DEFINE/SET X25 PROMPT

DEFINE/SET X25 WELCOME

SET X25

SET X25 EXTERNAL LOOPBACK

The SHOW/LIST SERVICES LOCAL commands and the SHOW/LIST/MONITOR SERVICES CHARACTERISTICS commands display information about the LAT, Telnet, and X.25 services that you create with these commands:

DEFINE/SET SERVICE LAT|TELNET

DEFINE/SET SERVICE X25

The SHOW/MONITOR X25 PORT STATUS, X25 LEVEL_2 STATUS, and X25 LEVEL_3 STATUS displays include the values of the counters that this command can reset to zero:

ZERO X25 COUNTERS PORT *port-list* |LEVEL_2|LEVEL_3|ALL

CLEAR X25 PROFILE

Clear one or more parameters in a PAD profile

This command clears one or more PAD parameters in a PAD profile, including those parameters set to zero (0).

Notes

By clearing the parameters in a profile, you can send profiles to a remote PAD with only those parameters that you want to change. The set of specific parameters requires fewer packets than a complete profile. See the description of the DEFINE/SET X25 PORT REMOTE PROFILE commands for more information about how to send remote profiles.

Privilege Level

Privileged

Syntax

CLEAR [SERVER] X25 PROFILE "*profilename*" |*profilenumber parameter-number*

Where	Means
"*profilename*" *profilenumber*	**The name or number of the PAD profile with a parameter you want to clear. Enclose the profile name in quotes.**
parameter-number	**The number of the parameter you want to clear. Appendix A includes the number and default value of each PAD parameter. You can clear only one parameter in a command line.**

Example

This command clears Parameter 2, Data Forwarding, in the profile XYPLEX20.

```
Xyplex>> clear x25 "xyplex20" 2
Xyplex>>
```

DEFINE/SET X25 PROFILE

Modify an X.25 Gateway PAD profile

These commands change the name of a local PAD profile or a parameter value within a local PAD profile.

Notes

You can change either the profile name or a parameter value in one command, but not both. You can also use PAD commands to modify parameter values. The manual *Managing the Xyplex X.25 Gateway* includes information about how to do this. Appendix A includes the default profiles on the X.25 Gateway and the default parameter values in each profile.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PROFILE "*profilename*" |*profilenumber* "*new-profilename*"

DEFINE/SET [SERVER] X25 PROFILE "*profilename*" |*profilenumber* |*parameter-number parameter-value*

Where	Means
"*profilename*"	**The name of an X.25 Gateway PAD profile. Default profile names are HOST, CC_SSP, CC_TSP, HARDCOPY, CRT_NOE, and XYPLEX7 through XYPLEX40. Enclose the profile name in quotes.**
profilenumber	**The number of an X.25 Gateway PAD profile.**
"*new-profilename*"	**A profile name that can include up to 10 ASCII characters. Enclose the profile name in quotes.**
parameter-number parameter-value	**A parameter number and parameter value, separated by a space. You can change only one parameter value on each command line. Parameter numbers are 1 through 22.**

Examples

1. This command renames the profile XYPLEX35 to the name `lanprinter`**.**

```
Xyplex>> set x25 profile "xyplex35" "lanprinter"
Xyplex>>
```

2. This command resets parameter 2 in the profile XYPLEX20 to the value 0.

```
Xyplex>> set x25 profile "xyplex20" 2 0
Xyplex>>
```

DEFINE X25 ADDRESS

Change the X.25 address of the X.25 Gateway

This command changes the X.25 address of the X.25 Gateway.

Notes

The X.25 address identifies the X.25 Gateway to other devices on the network. Usually, the PSN administration assigns an International Data Number (IDN) to a device in the network at subscription time. This address can include up to 15 ASCII digits. If you are connecting the Gateway to an X.25 host or another remote X.25 Gateway, however, you can use an arbitrary address. The default address is 1.

The X.25 address is the "master address" on the X.25 Gateway. Each virtual port has a two-digit subaddress that corresponds to the port number. The subaddress for virtual port 5, for example, is 05.

The subaddress is also the default listen address for each port, although you can change the listen address. When a user on the network calls the Gateway, the call includes the "master address," and the listen address. The listen address and the master address combined can include up to 15 digits. To call port 5 using the default listen address and a master address of 98765, a user enters CALL 9876505.

The SHOW/LIST SERVER X25 CHARACTERISTICS display includes the X.25 address of the Gateway.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 ADDRESS "*address-string*"

Where	Means
"*address-string*"	**Assign this X.25 address to the Gateway. An X.25 address can consist of 1 to 15 ASCII digits. Enclose the address in quotes. To remove a previously specified X.25 address, enter a quoted null string.**

Example

This command specifies 4443 as the X.25 address.

```
Xyplex>> define x25 address "4443"
Xyplex>>
```

Initialize the X.25 Gateway for the command to take effect.

DEFINE X25 CALLING ADDRESS

Include or remove the X.25 address of the Gateway from call request packets

---

The command specifies whether or not call request packets from the X.25 Gateway include the X.25 address of the Gateway.

Notes

Some hosts on the PSN may require that call request packets include the address of the caller for security reasons. A host can accept or reject the call based on the calling address. The calling address increases the size of the call request packet by up to 15 bytes, however, and if many host implementations require this option, it may affect response times.

You must enable this facility if you want to log information about X.25 sessions in the Verbose account log.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 CALLING ADDRESS ENABLED|DISABLED

Where	Means
ENABLED	**Include the X.25 address in call request packets.**
DISABLED	**Do not include the X.25 address in call request packets. This is the default setting.**

Example

This command enables the X25 CALLING ADDRESS characteristic.

```
Xyplex>> define x25 calling address enabled
Xyplex>>
```

Initialize the Gateway for this command to take effect.

DEFINE/SET X25 PROMPT

Change the PAD prompt

This command changes the PAD prompt on the X.25 Gateway

Notes

The default prompt is an asterisk * .

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 [PAD] PROMPT "*text-string*"

Where	Means
" ***text-string***"	**Up to 20 ASCII characters, which appear as the PAD prompt on the X.25 Gateway. Enclose the character string in quotes.**

Example

This command specifies PAD as the default PAD prompt.

```
Xyplex>> set x25 pad prompt "PAD"
Xyplex>>
```

DEFINE/SET X25 WELCOME

Change the X.25 Gateway welcome message

This command changes the X.25 Gateway logon message.

Notes

The default message is "Welcome to the Xyplex X.25 Gateway."

Syntax

DEFINE/SET [SERVER] X25 WELCOME "*text-string*"

Privilege Level **Privileged**

Where	Means
" ***text-string***"	**A message that can include up to 79 ASCII characters. Enclose the character string in quotes.**

Example

This command changes the welcome message on the Gateway to one that is different from the default.

```
Xyplex>> set x25 welcome "Welcome to the X.25 Gateway/PAD"
Xyplex>>
```

SET X25

Enable or disable X.25 communication through the operational database

---

This command enables or disables X.25 communications through the PAD in the operational database of the X.25 Gateway.

Notes

When you use this command, the X.25 Gateway clears all virtual circuits and terminates all connections from the PAD over the X.25 link. If you use this command while virtual calls are active, the X.25 Gateway can lose data, because the SET command takes effect immediately. When you disable X.25 communication, you cannot establish virtual circuits with devices on the PSN, and callers on the PSN cannot establish connections with the X.25 Gateway. You can use this as an X.25 link shut-down command to prevent access to the PSN without shutting down the Gateway.

To enable X25 communication again, use this command with the ENABLED keyword, or initialize the Gateway.

Privilege Level

Privileged

Syntax

SET [SERVER] X25 ENABLED | DISABLED

Where	Means
ENABLED	**Activate X.25 communication through the operational database on the X.25 Gateway. This is the default setting for this characteristic.**
DISABLED	**Disable X.25 communication through the operational database on the Gateway.**

Examples

This command disables X.25 Communication.

```
Xyplex>> set x25 disabled
Xyplex>>
```

SET X25 EXTERNAL LOOPBACK

Enable or disable external loopback mode

This command specifies whether or not the gateway receives back the data that it transmits. This command changes the setting for this feature in the operational database only.

Notes

Use External Loopback mode to test the line between the Gateway and a modem or another X.25 Gateway that is a DCE. If the device is a modem, the modem must support an internal loopback mode.

Under most conditions, the X.25 Gateway operates with this option disabled.

Privilege Level

Privileged

Syntax

SET [SERVER] X25 EXTERNAL LOOPBACK ENABLED | DISABLED

Where	Means
ENABLED	**Activate External Loopback mode.**
DISABLED	**Deactivate External Loopback mode. This is the default setting for this characteristic.**

Example

This command enables External Loopback mode.

```
Xyplex>> set x25 external loopback enabled
Xyplex>>
```

DEFINE/SET SERVICE LAT|TELNET

Create a local service for calls from the LAN to the X.25 network

---

The DEFINE/SET SERVICE LAT|Telnet commands create LAT or Telnet services which manage virtual ports on the X.25 Gateway for calls from the LAN.

Notes

Users gain access to LAT and Telnet services on the X.25 Gateway from the LAN. These services can establish a session with the X.25 Gateway PAD, or call an X.25 address.

A remote profile in a LAT or Telnet service overrides the default inbound profile in use on the remote PAD.

The manual *Managing the X.25 Gateway* provides more information about creating local services. The *TCP/IP-LAT Commands Reference Guide* includes information about the Communications Server keywords and variables that you can use with the DEFINE/SET SERVICE command.

Privilege Level

Privileged

Syntax

DEFINE/SET SERVICE *service-name* [LAT|TELNET] [ENABLED|DISABLED] [INTERNET ADDRESS *internet-address*] [PORT *port-list*|ALL] [CONNECT ACTION "*action-string*"] [REMOTE CLEAR ENABLED|DISABLED] [X25 PROFILE "*profile-name*"] [X25 REMOTE PROFILE "*profile-name*"]

Where	Means
service-name	**The name of the LAT or Telnet service.**
LAT | TELNET ENABLED | DISABLED	**The protocol used in the service. Because the default protocol is LAT, you must specify TELNET ENABLED to create a Telnet service.**
internet-address	**The Internet address of a host on the LAN which you use to gain access to the X.25 Gateway using the Telnet protocol. (An Internet address applies to Telnet services only.)**
port-list	**One or more virtual ports where this service is available.**

Where	Means
[CONNECT ACTION "*action-string*"]	**The X.25 address of a device on the network where you want to establish a virtual circuit.**
REMOTE CLEAR ENABLED | DISABLED	**Enable or disable the Remote Clear characteristic. When enabled, the X.25 Gateway sends an Invitation to Clear to the remote device on the PSN when the Gateway terminates the virtual call on the local virtual port. The default for this characteristic is disabled.**
X25 PROFILE "*profile-name*"	**The name of an X.25 PAD profile. Local profiles in LAT or Telnet services affect data that arrives at the X.25 Gateway from the LAN bound for the PSN. A profile that you specify in a service overrides the default outbound profile for the virtual port.**
X25 REMOTE PROFILE "*profile-name*"	**The name of an X.25 PAD profile. Remote profiles in LAT or Telnet services affect the way the remote PAD interprets data. A profile that you specify in a service overrides the default inbound profile at the remote PAD.**

Examples

1. This command creates a simple LAT service called `padconnect`**. When a user connects to the service, the X.25 Gateway establishes a session with the PAD interface. When the PAD prompt appears, the user can issue PAD commands, such as the CALL command, to establish a connection to a remote PAD.**

```
Xyplex>> set service padconnect ↵
Xyplex>>
Xyplex>> connect padconnect ↵
*
```

2. This command creates a Telnet service called `accountshost` **that calls a remote X.25 address and enables the Remote Clear characteristic. When a user connects to the service, the X.25 Gateway automatically calls the X.25 address.**

```
Xyplex>> set service accountshost ports 60-65 telnet
enabled connect action "345821" internet address
128.20.2.30 remote clear enabled ↵

Xyplex>>
```

A user can enter either `telnet 128.20.2.30` **or** `connect accountshost` **to connect to the service.**

3. This command creates a Telnet service called `printsrv` **to call a remote printer at listen address 882345 . It associates the service with port 2, defined as a permanent switched virtual circuit. The service includes an X.25 profile and an X.25 remote profile with parameter values set to support data sent to a printer:**

Parameter	Value
1 (PAD Recall)	0 (PAD recall is not possible)
2 (Echo)	0 (Disabled)
3 Data Forwarding	0 (No Data Forwarding Character)
4 Idle Timer	2 (40 milliseconds)
6 PAD Service Signals	1 (send all service signals in the standard format)

See the manual Managing the Xyplex X.25 Gateway for more information about PAD parameters.

The Internet address is the address associated with the service. The Xyplex print filter uses this address as it's destination.

```
Xyplex>> set service printsrv port 2 telnet enabled
internet address 140.179.80.181 connect action "882345"
x25 profile "print prof" x25 remote profile "remoteprnt"

Xyplex>>
```

DEFINE/SET SERVICE X25

Create a local service for calls from the X.25 network to the LAN

The DEFINE/SET SERVICE X25 commands create X.25 services which manage virtual ports on the X.25 Gateway for calls from the PSN.

Notes

Callers gain access to X.25 services from the X.25 network. These services can provide a listen address, a connection to a LAN resource, a local profile, or a remote profile.

The type of X.25 service you create for a virtual port depends on the CONNECT ACTION TYPE of the port. The connect action types are NONE, AUTOCONNECT, and USERDATA. If a port has a connect action type of NONE, you cannot create a service with a connect action to a LAN destination. See the DEFINE SERVER X25 PORT CONNECT ACTION TYPE command for more information.

The manual *Managing the X.25 Gateway* provides more information about creating local services. The *TCP/IP-LAT Commands Reference Guide* includes information about the Communications Server keywords and variables that you can use with the DEFINE/SET SERVICE command.

Privilege Level

Nonprivileged

Syntax

DEFINE/SET SERVICE *service-name* X25 ENABLED | DISABLED [PORT *port-list* | ALL] [CONNECT ACTION "*action-string*"] [X25 ADDRESS "*listen-address*"] [REMOTE CLEAR ENABLED | DISABLED] [X25 PROFILE "*profile-name*"] [X25 REMOTE PROFILE "*profile-name*"]

Where	Means
service-name	**The name of the X.25 service.**
X25 ENABLED | DISABLED	**The protocol used in the service. Because the default protocol is LAT, you must specify X25 ENABLED to create an X.25 service.**
port-list	**One or more virtual ports where this service is available.**
"*action-string*"	**A Xyplex command such as CONNECT or RLOGIN with the name of a LAN resource as the destination name in the command string. Enclose the string in quotes.**
"*listen-address*"	**A nondefault listen address of up to 15 digits. Enclose the listen address in quotes. The default listen address is the number of the virtual port.**

Where	Means
REMOTE CLEAR ENABLED | DISABLED	**Enable or disable the Remote Clear characteristic. When enabled, the X.25 Gateway sends an Invitation to Clear to the remote device on the PSN when the Gateway terminates the virtual call on the local virtual port. The default for this characteristic is disabled.**
X25 PROFILE "*profile-name*"	**The name of an X.25 PAD profile. Local profiles in X.25 services affect data that arrives at the X.25 Gateway from the PSN. A profile that you specify in a service overrides the default profile for the virtual port.**
X25 REMOTE PROFILE "*profile-name*"	**The name of an X.25 PAD profile. Remote profiles in X.25 services affect data that is bound for the PSN from the remote PAD. A profile that you specify in a service overrides the default profile at the remote PAD.**

Examples

1. This command creates a service named node1 which specifies a nondefault listen address, and the remote clear characteristic. The port connect action type for ports 40-45 is NONE.

```
Xyplex>> set service node1 x25 enabled port 40-45 x25
address "30556" remote clear enabled

Xyplex>>
```

2. This command creates a service named `sunconnect` **which specifies a nondefault listen address for ports 20-30 and a connect action to the a UNIX workstation on the LAN. The port Connect Action Type characteristic for ports 20-30 is set to AUTOCONNECT.**

```
Xyplex>> set service sunconnect x25 enabled port 20-30
connect action "connect DevelopmentSun" x25 address "2944"

Xyplex>>
```

ZERO X25 COUNTERS

Reset X.25 Gateway counters to zero

The ZERO X25 COUNTERS command resets to zero the different counters which record information about the volume and speed of network traffic.

Notes

The commands which display the values of these counters are the following: SHOW/MONITOR X25 PORT STATUS, X25 LEVEL_2 STATUS, and X25 LEVEL_3 status.

Privilege Level

Privileged

Syntax

ZERO X25 COUNTERS PORT *port-list* |LEVEL_2|LEVEL_3|ALL

Where	Means
port-list	**Reset the counters at one or more virtual ports you specify.**
LEVEL_2	**Reset the Level 2 counters to zero.**
Level_3	**Reset the Level 3 counters to zero.**
ALL	**Reset the Port counters, and the Level_2 and Level_3 counters to zero.**

Example

This command resets the Level 3 counters to zero.

```
Xyplex>> zero x25 counters Level_3
Xyplex>>
```

DEFINE X25 LEVEL_2 Commands

The commands in this section specify the values and status of X.25 Level 2 characteristics. These characteristics appear in the SHOW/LIST [SERVER] X25 LEVEL_2 CHARACTERISTICS display.

You can abbreviate LEVEL_2 as L2 in these commands.

This section includes the following commands:

DEFINE X25 LEVEL_2 EXTENDED FRAME SEQUENCE NUMBERING

DEFINE X25 LEVEL_2 N2

DEFINE X25 LEVEL_2 T1

DEFINE X25 LEVEL_2 T2

DEFINE X25 LEVEL_2 T3

DEFINE X25 LEVEL_2 WINDOW SIZE

DEFINE X25 LEVEL_2 EXTENDED FRAME SEQUENCE NUMBERING

Enable or disable modulo 128 frame sequence numbering

This command enables or disables modulo 128 frame sequence numbering.

Notes

By default, the X.25 Gateway uses modulo 8 frame sequence numbering to number frames in a repeating sequence from 0 to 7. Enabling modulo 128 frame sequence numbering causes the X.25 Gateway to number frames in a repeating sequence from 0 to 127. Modulo 128 frame sequence numbering can prevent excessive data retransmission on low-speed lines or when there is a large propagation delay on the network. Most PSNs support only modulo 8 frame sequence numbering.

If you enable this facility, you must also enable the Level 3 Extended Packet Sequence Numbering facility.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 EXTENDED FRAME SEQUENCE NUMBERING ENABLED|DISABLED

Where	Means
ENABLED	**Enable modulo 128 frame sequence numbering.**
DISABLED	**Disable modulo 128 frame sequence numbering, and enable modulo 8 frame sequence numbering. This is the default setting for this facility.**

Example

This example enables modulo 128 frame sequence numbering, and assumes that the X.25 Gateway Opmode is DCE.

```
Xyplex>> define x25 level_2 extended frame sequence
numbering enabled

Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_2 N2

Specify the retransmission attempt counter value

This command specifies the maximum number of times that the X.25 Gateway can retransmit an unacknowledged frame before it resets the link.

Notes

The N2 value is part of the Level 2 error-recovery mechanism, which also includes the T1, T2, and T3 timer values, and the Level 2 window size. When a DTE sends a frame to a DCE, the DCE must acknowledge that it has received the frame before the DTE sends another frame. The T1 timer value defines how long the DTE waits for the acknowledgment before it retransmits the frame, and the N2 value defines how many times the DTE retransmits the frame before it resets the link.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 N2 *retransmission-counter*

Where	Means
retransmission-counter	**The number of times the X.25 Gateway can attempt to retransmit the same frame before it resets the link. Valid values are whole numbers from 0 through 255. The default value is 20.**

Example

This command sets the retransmission attempt counter to 40:

```
Xyplex>> define x25 level_2 n2 40
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_2 T1

Specify the T1 timer value

This command specifies how long the X.25 Gateway waits for an acknowledgment of a transmitted frame, before it retransmits the frame.

Notes

This timer requires that the P bit (poll bit) be set to request immediate acknowledgment. You specify this timer value in milliseconds or seconds. Milliseconds are useful for high-speed links, or when the propagation delay of the link is very short. Seconds are useful for low-speed links, or when the propagation delay is very long.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 T1 *timer* [MILLISECONDS | SECONDS]

Where	Means
timer	**A timer value between 0-10000, in units that you specify in milliseconds or seconds. The default value is 3000 milliseconds (3 seconds) ± 10 milliseconds. Setting this value to 0 causes the X.25 Gateway to wait indefinitely for an acknowledgment.**
MILLISECONDS	**The *timer* value is in milliseconds. This is the default.**
SECONDS	**The *timer* value is in seconds.**

Example

This command specifies the T1 timer value as 5000 milliseconds:

```
Xyplex>> define x25 level_2 t1 5000 milliseconds
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect

DEFINE X25 LEVEL_2 T2

Specify the T2 timer value

This command specifies how long the X.25 Gateway waits to acknowledge the receipt of a message.

Notes

The difference between the T1 timer value and the T2 timer value determines how often messages are retransmitted over the link. The T1 timer value must be larger than the T2 timer value, but the T2 value should be as close to the T1 value as possible. This limits the number of messages that the X.25 Gateway retransmits over the link.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 T2 *timer*
[MILLISECONDS | SECONDS]

Where	Means
timer	**A timer value between 1-10000 in units that you specify in milliseconds or seconds. The default value is 2000 milliseconds (2 seconds) ± 10 milliseconds.**
MILLI SECONDS	**The *timer* value is in milliseconds. This is the default.**
SECONDS	**The *timer* value is in seconds.**

Example

This command specifies the T2 value as 4000 milliseconds.

```
Xyplex>> define x25 level_2 t2 4000 milliseconds
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_2 T3

Specify the T3 timer value

This command specifies how long a channel can be idle before the X.25 Gateway resets the link.

Notes

The default value is 0. If you specify 0 or do not change the default, the X.25 Gateway never resets the link if a channel is idle for an excessive period of time.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 T3 *timer* [MILLISECONDS | SECONDS]

Where	Means
timer	**A timer value between 0-10000 in units that you specify in milliseconds or seconds. The default value is 0.**
MILLISECONDS	**The *timer* value is in milliseconds. This is the default.**
SECONDS	**The *timer* value is in seconds.**

Example

This command specifies the T3 timer as 1000 milliseconds.

```
Xyplex>> define x25 level_2 t3 1000 milliseconds
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_2 WINDOW SIZE

Specify a frame layer window size

This command specifies the number of frames that can remain unacknowledged at any time between a DTE and a DCE.

Notes

The possible values for the level 2 window size depend on the status of the X.25 Level_2 Extended Frame Sequence Numbering facility. If this facility is disabled, valid window sizes are 0 through 7. If this facility is enabled, valid window sizes are 0 through 127. The default value is 7, and if you specify 0, the X.25 Gateway uses the default value.

If the Extended Frame Sequence Number facility is enabled, and the X.25 Gateway Opmode is DCE, then 20 is usually an appropriate window size. If this facility is disabled, then 7 is an appropriate window size.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_2 WINDOW SIZE *window-size*

Where	Means
window-size	**A valid window size, from 0 to 12.**

Example

This command sets the level 2 window size to 20. It assumes that level 2 Extended Frame Sequence Numbering is enabled and that the X.25 Gateway Opmode is DCE.

```
Xyplex>> define x25 level_2 window size 20
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 Commands

The commands in this section specify the values and status of X.25 Level 3 characteristics. These characteristics appear in the SHOW/LIST [SERVER] X25 LEVEL_3 CHARACTERISTICS display.

You can abbreviate the keyword LEVEL_3 as L3 in these commands.

This section includes these commands:

DEFINE X25 LEVEL_3 DBIT MODIFICATION

DEFINE X25 LEVEL_3 DEFAULT PACKET SIZE

DEFINE X25 LEVEL_3 DEFAULT THROUGHPUT CLASS

DEFINE X25 LEVEL_3 DEFAULT WINDOW SIZE

DEFINE X25 LEVEL_3 EXTENDED PACKET SEQUENCE NUMBERING

DEFINE X25 LEVEL_3 FAST SELECT ACCEPTANCE

DEFINE X25 LEVEL_3 FLOW CONTROL PARAMETER NEGOTIATION

DEFINE X25 LEVEL_3 HIGHEST/LOWEST INCOMING SVC

DEFINE X25 LEVEL_3 HIGHEST/LOWEST OUTGOING SVC

DEFINE X25 LEVEL_3 HIGHEST/LOWEST SVC

DEFINE X25 LEVEL_3 HIGHEST/LOWEST PVC

DEFINE X25 LEVEL_3 INCOMING CALLS BARRED

DEFINE X25 LEVEL_3 LOCAL CHARGE PREVENTION

DEFINE X25 LEVEL_3 MAX PACKET SIZE

DEFINE X25 LEVEL_3 NUI

DEFINE X25 LEVEL_3 ONE WAY LOGICAL CHANNEL

DEFINE X25 LEVEL_3 OPMODE

DEFINE X25 LEVEL_3 OUTGOING CALLS BARRED

DEFINE X25 LEVEL_3 PACKET RETRANSMISSION

DEFINE X25 LEVEL_3 R20 R22 R23 R28

DEFINE X25 LEVEL_3 REVERSE CHARGING ACCEPTANCE

DEFINE X25 LEVEL_3 RPOA

DEFINE X25 LEVEL_3 T10 T11 T12 T13

DEFINE X25 LEVEL_3 T20 T21 T22 T23 T28

DEFINE X25 LEVEL_3 THROUGHPUT CLASS NEGOTIATION

DEFINE X25 LEVEL_3 DBIT MODIFICATION

Enable or disable the dbit modification facility

This command specifies whether or not the local DTE can request the remote DTE to acknowledge that it has received a call set-up packet or a data packet.

Notes

When the Dbit Modification facility is enabled, the local DTE can set the Dbit in a packet header to 1, which signals the remote DTE to send an acknowledgment. This is called end-to-end acknowledgment. The Dbit is always set to zero for other types of packets. When the Dbit is set to zero, the local DTE receives acknowledgment from the local DCE. This is called local acknowledgment.

DBIT MODIFICATION is a subscription-time facility. It applies to all SVC and PVC channels at the DTE/DCE interface.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 DBIT MODIFICATION ENABLED | DISABLED

Where	Means
ENABLED	**Set the Dbit in a packet header to 1, to request acknowledgment from the remote DTE.**
DISABLED	**Set the Dbit in a packet header to 0. This is the default setting.**

Example

This command enables the DBIT Modification facility.

```
Xyplex>> define x25 level_3 dbit modification enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 DEFAULT PACKET SIZE

Specify the default packet size

This command specifies a default packet size other than the standard default. The standard default is 128 bytes.

Notes

Larger packet sizes improve throughput and performance because they reduce the number of packet headers. However, very large packet sizes can increase the chance of transmission errors, cause transmission delays through the network, and cause host processing delays. Very large packet sizes can also cause X.25 Gateway system initialization to fail because the system does not create enough buffers for the initialization to complete. Xyplex recommends the default packet size of 128 for most implementations.

If you specify a packet size in this facility, it overrides a packet size you specify in the Max Packet Size facility.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 DEFAULT PACKET SIZE *packet-size*

Where	Means
packet-size	**A packet size that the PSN supports. Valid values are 16, 32, 64, 128, 256, and 512 bytes. The default is 128 bytes.**

Example

This command specifies 256 bytes as the default packet size:

```
Xyplex>> define x25 level_3 default packet size 256
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 DEFAULT THROUGHPUT CLASS

Specify a default throughput class

This command specifies the default throughput class for the calling and called DTEs.

Notes

The term "throughput" refers to the maximum amount of data that the X.25 Gateway can pass through the network during a specific period of time on a virtual circuit when the network is saturated. The throughput on a virtual circuit depends on several factors including these: line speed, local window sizes, and the number of active virtual circuits on both the local and remote DTE/DCE interface.

Throughput class is expressed in bits-per-second. On the X.25 Gateway, the default value is 9600. Other possible values are 0, 75, 150, 300 , 600, 1200, 2400, 4800, 19200, and 48000.

You specify the throughput class for both the calling DTE and called DCE. Some networks allow different throughput classes at each end of the virtual circuit, while others require that the throughput class be the same. The best default throughput class is usually the maximum compatible with the access line speed for either direction of transmission.

When you specify a throughput class other than the default, 9600, the throughput class appears in the X.2 Facilities Enabled section of the X25 Level_3 Characteristics display. If you specify 0, the X.25 Gateway resets the throughput class to 9600.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 DEFAULT THROUGHPUT CLASS
calling-DTE-throughput-class called-DCE-throughput-class

Where	Means
calling-DTE-throughput-class	**The throughput class in bits-per-second for the calling DTE. Valid values are 0, 75, 150, 300, 600, 1200, 2400, 4800, 9600, 19200, and 48000. The default is 9600. If you specify 0, the X.25 Gateway resets the value to 9600.**
called-DCE-throughput-class	**The throughput class in bits-per-second for the called DCE. Valid values are 0, 75, 150, 300, 600, 1200, 2400, 4800, 9600, 19200, and 48000. The default value is 9600. If you specify a 0, the X.25 Gateway resets the value to 9600.**

Example

This command specifies 4800 as the default throughput class for the calling DTE and the called DCE.

```
Xyplex>> define x25 level_3 default throughput class 4800 4800
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 DEFAULT WINDOW SIZE

Change the default packet-layer window size

This command changes the default packet-layer window size from the current one to another window size that the PSN supports.

Notes

At level 3, the window size specifies the maximum number of unacknowledged packets between the DTE and the DCE that can remain outstanding. The initial default window size on the X.25 Gateway is 2. If the Level_3 Extended Packet Sequence Numbering facility is enabled, valid window size values are 0-127, provided the PSN supports them. If the Level_3 Extended Packet Sequence Numbering facility is disabled, or not enabled, valid window sizes are 0-7, provided that the PSN supports them. If you specify 0, the X.25 Gateway resets the window size to 2.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 DEFAULT WINDOW SIZE *window-size*

Where	Means
window-size	**A valid window size. If the Level 3 Extended Packet Sequence Numbering facility is disabled, valid values are 0-7. If this facility is enabled, valid values are 0-127. The default value in either case is 2. If you specify 0, the X.25 Gateway uses 2.**

Example

This example specifies 4 as the default window size:

```
Xyplex>> define x25 level_3 default window size 7
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 EXTENDED PACKET SEQUENCE NUMBERING

Enable or disable the Extended Packet Sequence Numbering facility

---

This command specifies whether the X.25 Gateway packet layer uses modulo 8 packet sequence numbering or modulo 128 packet sequence numbering.

Notes

If you enable this facility, you must also enable the Level 2 Extended Frame Sequence Numbering facility. This facility applies to both SVCs and PVCs at the DTE/DCE interface.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 EXTENDED PACKET SEQUENCE NUMBERING ENABLED | DISABLED

Where	Means
ENABLED	**Use modulo 128 packet sequence numbering.**
DISABLED	**Use modulo 8 packet sequence numbering. This is the default setting.**

Example

This command enables the Extended Packet Sequence Numbering facility.

```
Xyplex>> define x25 level_3 extended packet sequence numbering
enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 FAST SELECT ACCEPTANCE

Enable or disable the fast select acceptance facility

This command determines whether the X.25 Gateway accepts or rejects call request packets from remote DTEs that include user data.

Notes

Fast Select Acceptance allows the called DTE to accept a call request packet from a remote DTE with up to 128 bytes of user data. If the called DTE supports the Fast Select facility, it can respond with up to 128 bytes of user data in the call accepted packet. The X.25 Gateway supports both these facilities. Using these facilities can replace the use of data packets if the information being transferred does not exceed 128 bytes. You can enable the Fast Select facility on a per-call basis with the DEFINE X25 PORT FAST SELECT ENABLED command.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 FAST SELECT ACCEPTANCE ENABLED | DISABLED

Where	Means
ENABLED	**Accept call request packets with up to 128 bytes of user data.**
DISABLED	**Do not accept call request packets with user data. This is the default setting.**

Example

This command enables the Fast Select Acceptance facility:

```
Xyplex>> define server x25 level_3 fast select acceptance enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 FLOW CONTROL PARAMETER NEGOTIATION

Enable or disable the flow control parameter negotiation facility

---

This command specifies whether or not the X.25 Gateway can negotiate flow-control parameters for each call.

Notes

The flow control parameters are the packet size and window size at the DTE/DCE interface, for each direction of data transmission. Packet size refers to the maximum number of bytes in the user data field of Data packets. The standard default packet size is 128 bytes. Window size determines the number of packets that a DTE can send before it must receive an acknowledgment from the DCE. The default window size is 2. The X.25 Gateway uses the default packet and window sizes if this facility is disabled, and ignores any negotiation attempts.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 FLOW CONTROL PARAMETER NEGOTIATION ENABLED | DISABLED

Where	Means
ENABLED	**Allow the X.25 Gateway to negotiate flow control parameters for each call.**
DISABLED	**Do not allow the X.25 Gateway to negotiate flow control parameters for each call. This is the default setting.**

Example

This command enables the Flow Control Parameter Negotiation facility:

```
Xyplex>> define x25 level_3 flow control parameter negotiation
enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 HIGHEST/LOWEST INCOMING SVC

Assign a range of LCNs to one-way incoming SVCs

This command assigns logical channel numbers to the highest and lowest one-way incoming SVCs.

Notes

One-way incoming SVCs can receive calls but cannot initiate them. Be sure that the LCN values you specify in this range do not overlap with the ranges you specify for PVCs. Valid LCN numbers are the whole numbers 1 through 4095. Specifying 0 (zero) indicates that no LCNs are allocated to one-way incoming SVCs. You and the PSN administration must agree on the range of LCNs for one-way incoming SVCs.

The difference between the highest and lowest LCN numbers in the range must not exceed 80. If you specify a value in one variable that creates a difference in excess of this range, the X.25 Gateway automatically adjusts the other variable upward or downward to fit within the range. For example, if the lowest incoming SVC is 150 and you specify a highest incoming SVC of 240, the X.25 Gateway adjusts the lowest value to 160.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3
HIGHEST INCOMING SVC *lcn-number*
LOWEST INCOMING SVC *lcn-number*

Where	Means
lcn-number	**A logical channel number between 1 and 4095. You and the PSN administration must agree on the range of LCNs for all types of SVCs and PVCs.**

Example

These commands set the range of one-way incoming SVCs.

```
Xyplex>> define x25 level_3 lowest incoming svc 150
Xyplex>> define x25 level_3 highest incoming svc 170
Xyplex>>
```

Initialize the X.25 Gateway for these commands to take effect.

DEFINE X25 LEVEL_3 HIGHEST/LOWEST OUTGOING SVC

Assign a range of LCNs to one-way outgoing SVCs

This command assigns logical channel numbers to the highest and lowest one-way outgoing SVCs.

Notes

One-way outgoing SVCs can initiate calls but cannot receive them. Be sure that the LCN values you specify in this range do not overlap with the ranges you specify for PVCs. Valid LCN numbers are the whole numbers 1 through 4095. A 0 (zero) value indicates that no LCNs are allocated to one-way outgoing SVCs. You and the PSN administration must agree on the range of LCNs for one-way outgoing SVCs.

The difference between the highest and lowest LCN numbers in the range must not exceed 80. If you specify a value in one variable that creates a difference in excess of this range, the X.25 Gateway automatically adjusts the other variable upward or downward to fit within the range. For example, if the lowest outgoing SVC is 20 and you specify a highest outgoing SVC of 120, the X.25 Gateway adjusts the lowest value to 40.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3
HIGHEST OUTGOING SVC *lcn-number*
LOWEST OUTGOING SVC *lcn-number*

Where	Means
lcn-number	**A logical channel number between 1 and 4095. You and the PSN administration must agree on the range of LCNs for all types of SVCs and PVCs.**

Example

These commands set the range of one-way outgoing SVCs:

```
Xyplex>> define x25 level_3 lowest outgoing svc 100
Xyplex>> define x25 level_3 highest outgoing svc 120
Xyplex>>
```

Initialize the X.25 Gateway for these commands to take effect.

DEFINE X25 LEVEL_3 HIGHEST/LOWEST SVC

Assign a range of LCNs to two-way SVCs

This command assigns logical channel numbers to the range of highest and lowest two-way SVCs.

Notes

Two-way SVCs can initiate and receive calls. All virtual circuits on the X.25 Gateway are two-way SVCs by default, but you still need to specify the range of LCNs for two-way SVCs. Be sure that the LCN values you specify in this range do not overlap with the ranges you specify for PVCs. Valid LCN numbers are the whole numbers 1 through 4095. Specifying 0 (zero) indicates that no LCNs are allocated to two-way SVCs. You and the PSN administration must agree on a range of LCNs for two-way SVCs.

The difference between the highest and lowest LCN numbers in the range must not exceed 80. If you specify a value in one variable that creates a difference in excess of this range, the X.25 Gateway automatically adjusts the other variable upward or downward to fit within the range. For example, if the lowest SVC is 280 and you specify a highest SVC of 380, the X.25 Gateway adjusts the lowest value to 300.

Privilege Level

Privileged

Syntax

DEFINE SERVER X25 LEVEL_3 HIGHEST SVC *lcn-number*
LOWEST SVC *lcn-number*

Where	Means
lcn-number	**A logical channel number between 1 and 4095. You and the PSN administration must agree on the range of LCNs for all types of SVCs and PVCs.**

Example

This command sets the range of two-way SVCs:

```
Xyplex>> define server x25 level_3 lowest svc 500 ↵
Xyplex>> define server x25 level_3 highest svc 550 ↵
Xyplex>>
```

Initialize the X.25 Gateway for these commands to take effect.

DEFINE X25 LEVEL_3 HIGHEST/LOWEST PVC

Assign a range of LCNs to PVCs

This command assigns logical channel numbers to the highest and lowest PVCs.

Notes

PVCs are permanent associations between two DTEs. The LCNs are dedicated to these calls. They do not require call set-up and call clearing procedures. See the DEFINE X25 PORT PVC LCN command for information about how to assign logical channel numbers to virtual ports.

Be sure that the LCN values you specify as the PVC range do not overlap with the ranges you assign to SVCs. Valid LCN numbers are the whole numbers 1 through 4095. A 0 (zero) value indicates that no LCNs are allocated to PVCs. The PSN administration assigns an LCN range.

The difference between the highest and lowest LCN numbers in the range must not exceed 80. If you specify a value in one variable that creates a difference in excess of this range, the X.25 Gateway automatically adjusts the other variable upward or downward to fit within the range. For example, if the lowest PVC is 2 and you specify a highest PVC of 90, the X.25 Gateway adjusts the lowest value to 10.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 HIGHEST PVC *lcn-number*
LOWEST PVC *lcn-number*

Where	Means
lcn-number	**A logical channel number between 1 and 4095.**

Examples

This command sets the range of PVCs:

```
Xyplex>> define x25 level_3 lowest pvc 30 ↵
Xyplex>> define x25 level_3 highest pvc 50 ↵
```

This command assigns LCN 35 to virtual port 10:

```
Xyplex>> define x25 port 10 pvc lcn 35 ↵
Xyplex>>
```

Initialize the X.25 Gateway for these commands to take effect.

DEFINE X25 LEVEL_3 INCOMING CALLS BARRED

Enable or disable the incoming calls barred facility

This command specifies whether or not the X.25 Gateway can accept incoming calls.

Notes

When the Incoming Calls Barred facility is enabled on the X.25 Gateway, and the Gateway is configured as a DTE, the local DCE rejects all incoming call packets and accepts only call request packets. The facility applies to all the logical channels defined on the Gateway.

To reject incoming call packets on specific logical channels, assign those logical channel numbers to outgoing SVCs. See the DEFINE SERVER X25 LEVEL_3 HIGHEST OUTGOING SVC and LOWEST OUTGOING SVC commands for information on how to set these ranges.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 INCOMING CALLS BARRED ENABLED | DISABLED

Where	Means
ENABLED	**Reject incoming call request packets on all logical channels.**
DISABLED	**Do not reject incoming call request packets, based on this facility. This is the default setting.**

Example

This command enables the Incoming Calls Barred facility.

```
Xyplex>> define x25 level_3 incoming calls barred enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 LOCAL CHARGE PREVENTION

Enable or disable the local charge prevention facility

This command specifies whether or not the X.25 Gateway can pay for any calls that it transmits to an address on the PSN.

Notes

When this facility is enabled, the called DTE must accept the charges for all calls originating from the X.25 Gateway.

Privilege Level

Privileged

Syntax

DEFINE SERVER X25 LEVEL_3 LOCAL CHARGE PREVENTION ENABLED | DISABLED

Where	Means
ENABLED	**Do not allow the X.25 Gateway to pay call charges for calls that it sends to the network.**
DISABLED	**Allow the X.25 Gateway to pay call charges for calls that it sends to the network. This is the default setting.**

Example

This command enables the Local Charge Prevention facility.

```
Xyplex>> define x25 level_3 local charge prevention enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 MAX PACKET SIZE

Specify the maximum allowable packet size

This command specifies a maximum packet size other than the default. If the Default Packet Size facility is set to a value other than the Max Packet Size, the Default Packet Size overrides the Max Packet Size.

Notes

Larger packet sizes can improve throughput and performance because they reduce the number of packet headers. However, very large packet sizes can increase the chance of transmission errors, cause transmission delays through the network, and cause host processing delays. Very large packet sizes can also cause X.25 Gateway system initialization to fail because the system does not create enough buffers for the initialization to complete. Xyplex recommends the default size of 128 in most situations.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 MAX PACKET SIZE *packet-size*

Where	Means
packet-size	**A value that specifies the largest packet permitted by the network layer. Valid values are 16, 32, 64, 128, 256, and 512 bytes. The default is 128 bytes.**

Example

This command specifies 256 bytes as the maximum packet size.

```
Xyplex>> define x25 level_3 max packet size 256
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 NUI

Enable or disable the NUI facility

This command specifies whether or not the X.25 Gateway can provide network user identification (NUI) information to the network for each call. The network can use this information for billing, security, and network management.

Notes

Enabling this facility only indicates that you have subscribed to it. The X.25 Gateway implementation does not process facilities in a call request packet, except to check for valid syntax. If you use the NUI facility, you must also send your network user identification with each call through the PAD FACILITIES command, or specify the network user identification with the DEFINE X25 PORT FACILITY NUI command.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 NUI ENABLED | DISABLED

Where	Means
ENABLED	**Provide NUI information to the network for each call.**
DISABLED	**Do not provide NUI information to the network. This is the default setting.**

Example

This example enables the NUI facility.

```
Xyplex>> define x25 level_3 nui enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 ONE WAY LOGICAL CHANNEL

Restrict logical channels to either incoming or outgoing calls

This command specifies whether or not the logical channels associated with the virtual ports on the X.25 Gateway will accept only incoming or only outgoing calls. By default, logical channels accept both incoming and outgoing calls

Notes

This characteristic affects how the X.25 Gateway establishes calls. After a call is established, packets can pass in both directions across the virtual circuit.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 ONE WAY LOGICAL CHANNEL
INCOMING ENABLED | DISABLED
OUTGOING ENABLED | DISABLED

Where	Means
INCOMING ENABLED | DISABLED	**Specify whether or not the X.25 Gateway will accept only incoming calls from the PSN through logical channels. This characteristic is disabled by default.**
OUTGOING ENABLED | DISABLED	**Specify whether or not the X.25 Gateway will accept only outgoing calls from the LAN through logical channels. This characteristic is disabled by default.**

Example

This command enables one way outgoing logical channels.

```
Xyplex>> define x25 level_3 one way logical channel
outgoing enabled

Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 OPMODE

Specify the OPMODE of the X.25 Gateway

This command determines whether the X.25 Gateway emulates a DTE or a DCE.

Notes

In most configurations, the X.25 Gateway emulates a DTE. If the device the X.25 Gateway is attached to is a DTE, however, then the X.25 Gateway must emulate a DCE.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 OPMODE DTE|DCE

Where	Means
DTE	**Emulate a DTE. This is the default setting.**
DCE	**Emulate a DCE.**

Example

This command changes the OPMODE to DCE.

```
Xyplex>> define x25 level_3 opmode dce
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 OUTGOING CALLS BARRED

Enable or disable the outgoing calls barred facility

This command specifies whether or not the X.25 Gateway can send outgoing call request packets.

Notes

When Outgoing Calls Barred is enabled on the X.25 Gateway, and the Gateway is configured as a DTE, the local DCE rejects all outgoing call request packets and accepts only incoming call request packets. The facility applies to all the logical channels defined on the Gateway.

You can reject outgoing call request packets on specific logical channels by assigning those logical channel numbers to incoming only SVCs. See the DEFINE X25 LEVEL_3 HIGHEST INCOMING SVC and LOWEST INCOMING SVC commands for information on how to set these ranges.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 OUTGOING CALLS BARRED ENABLED | DISABLED

Where	Means
ENABLED	**Reject outgoing call request packets on all logical channels.**
DISABLED	**Do not reject outgoing call request packets, based on this facility. This is the default setting.**

Example

This command enables the Outgoing Calls Barred facility.

```
Xyplex>>define x25 level_3 outgoing calls barred enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 PACKET RETRANSMISSION

Enable or disable the Packet Retransmission facility

This command specifies whether or not the X.25 Gateway can issue reject packets to the network.

Notes

When a DTE issues a reject packet, it signals the PSN to retransmit unacknowledged data packets, starting with the packet that has the sequence number contained in the reject packet.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 PACKET RETRANSMISSION ENABLED | DISABLED

Where	Means
ENABLED	**Allow the X.25 Gateway to issue reject packets.**
DISABLED	**Do not allow the X.25 Gateway to issue reject packets. This is the default setting.**

Example

This command enables the Packet Retransmission facility:.

```
Xyplex>> define x25 level_3 packet retransmission enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 R20 R22 R23 R28

Specify packet retry counters

These commands specify the values for the X.25 retry counters. The retry counters determine how many times the X.25 Gateway can send a particular type of packet after the DTE timeout value for that type of packet has expired.

Notes

See the DEFINE X25 LEVEL_3 T20, T21, T22 T23, T28 commands for information about DTE timeout values. Table 2-1 lists the retry counters and their default values.

Table 2-1. Retry Counters

Retry Counter Number	Packet Type	Default
R20	Restart Request packet	255
R22	Reset Request packet	1
R23	Clear Request packet	1
R28	Registration Request packet	1

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 [R20 *retry-counter*]
[R22 *retry-counter*]
[R23 *retry-counter*]
[R28 *retry-counter*]

Where	Means
retry-counter	**A retry-counter value between 0 and 255.**

Example

This command changes the R22 timeout value to 10:

```
Xyplex>> define x25 level_3 R22 10 ↵
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 REVERSE CHARGING ACCEPTANCE

Enable or disable the Reverse Charging Acceptance facility

This command specifies whether or not the X.25 Gateway can accept charges for calls from the PSN with Reverse Charging enabled.

Notes

This facility is disabled by default.

Syntax

DEFINE [SERVER] X25 LEVEL_3 REVERSE CHARGING ACCEPTANCE ENABLED | DISABLED

Where	Means
ENABLED	**Allow the X.25 Gateway to accept charges for calls from the PSN with Reverse Charging enabled.**
DISABLED	**Do not allow the X.25 Gateway to accept charges for calls from the PSN.**

Examples

This command enables the Reverse Charging Acceptance facility.

```
Xyplex>> define x25 level_3 reverse charging acceptance enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 RPOA

Enable or disable the RPOA facility

This command specifies whether or not the X.25 Gateway can use a transit network owned by a Registered Private Operating Agency (RPOA) to route an international call to a destination in another country.

Notes

Use this facility to select an international gateway for international virtual calls when more than one such gateway exists, or when the implementation requires a specific transit network. This facility requires that you specify the RPOA gateway identifier, or transit network identifier, with the PAD FACILITIES command or the Xyplex X25 PORT FACILITY command.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 RPOA ENABLED | DISABLED

Where	Means
ENABLED	**Allow the X.25 Gateway to use a transit network owned by an RPOA to route an international call, on a per-call basis.**
DISABLED	**Do not allow the X.25 Gateway to use a transit network owned by an RPOA. This is the default setting for this characteristic.**

Example

This command enables the RPOA facility.

```
Xyplex>> define x25 level_3 rpoa enabled
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 T10 T11 T12 T13

Specify DCE timeout values

These commands specify DCE timeout values.

Notes

DCE timeouts, along with DTE timeouts, ensure that packet exchanges occur within a certain period of time. Table 2-2 lists the DCE timeouts and their default values.

Table 2-2. DCE Timeouts

Timeout Number	Starts When	Ends When	Default in Seconds
T10	DCE issues a Restart Indication packet	DCE receives a Restart Confirmation packet.	60
T11	DCE issues an Incoming Call packet	DCE receives a Call Accepted or a Clear Request packet	180
T12	DCE issues a Reset Indication packet	DCE receives a Reset Confirmation packet	60
T13	DCE issues a Clear Indication packet	DCE receives a Clear Confirmation packet	60

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 [T10 *timeout-value*]
[T11 *timeout-value*]
[T12 *timeout-value*]
[T13 *timeout-value*]

Where	Means
timeout-value	**A DCE timeout value between 0 through 2550, in increments of 10. All DCE timeout values are in seconds, so you need not specify units.**

Example

This command changes the T12 timeout value to 80 seconds:

```
Xyplex>> define x25 level_3 T12 80
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 T20 T21 T22 T23 T28

Specify DTE timeout values

These commands specify DTE timeout values.

Notes

DTE timeouts, along with DCE timeouts, ensure that packet exchanges occur within a certain period of time. Table 2-3 includes the DTE timeouts and their default values.

Table 2-3. DTE Timeouts

Timeout Number	Starts When	Ends When	Default in Seconds
T20	DTE sends a Restart Request packet	DTE receives a Restart Confirmation packet	180
T21	DTE sends a Call Request packet	DTE receives a Call Connected or an Incoming Call packet	200
T22	DTE sends a Reset Request packet	DTE receives a Reset Confirmation	180
T23	DTE sends a Clear Request packet	DTE receives a Clear Confirmation packet	180
T28	DTE sends a Registration Request packet	DTE receives a Registration Confirmation packet	300

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 [T20 *timeout-value*]
[T21 *timeout-value*]
[T22 *timeout-value*]
[T23 *timeout-value*]
[T28 *timeout-value*]

Where	Means
timeout-value	**A DTE timeout value between 0 through 2550, in increments of 10. All DTE timeout values are in seconds, so you need not specify units.**

Example

This command changes the T22 timeout value to 120 seconds:

```
Xyplex>> define x25 level_3 t22 120
Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE X25 LEVEL_3 THROUGHPUT CLASS NEGOTIATION

Enable or disable the Throughput Class Negotiation facility

This command determines whether the X.25 Gateway can request a particular throughput class, other than the default class, for each call.

Notes

The term "throughput" refers to the maximum amount of data that the Gateway can pass through the network during a specific period of time, when that network is saturated. The maximum possible amount of throughput on a virtual circuit depends on several factors including these: line speed, local window sizes, and the number of active virtual circuits on both the local and remote DTE/DCE interface.

Throughput class is expressed in bits-per-second. The default value, 9600 bps on the X.25 Gateway, is agreed upon between a user and the PSN at subscription time. Other possible valid values are 0, 75, 150, 300 , 600, 1200, 2400, 4800, 19200, and 48000. (See also the DEFINE X25 LEVEL_3 DEFAULT THROUGHPUT CLASS command for information about how to change the default.)

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 LEVEL_3 THROUGHPUT CLASS NEGOTIATION ENABLED | DISABLED

Where	Means
ENABLED	**Allow the X.25 Gateway to negotiate a throughput class other than the default for each call.**
DISABLED	**Do not allow the X.25 Gateway to negotiate a throughput class other than the default. This is the default setting for this facility**

Example

This command enables the Throughput Class Negotiation facility.

```
Xyplex>> define x25 level_3 throughput class negotiation enabled

Xyplex>>
```

Initialize the X.25 Gateway for this command to take effect.

DEFINE/SET X25 PORT Commands

The commands in this section specify X.25 Gateway port characteristics. These characteristics appear in the SHOW/LIST X25 PORT CHARACTERISTICS and the SHOW/LIST X25 PORT ALTERNATE CHARACTERISTICS displays.

The commands in this section include the following:

DEFINE/SET X25 PORT CONNECT ACTION

DEFINE/SET X25 PORT CONNECT ACTION TYPE

DEFINE/SET X25 PORT CR

DEFINE/SET X25 PORT DEFAULT INBOUND PROFILE

DEFINE/SET X25 PORT DEFAULT OUTBOUND PROFILE

DEFINE/SET X25 PORT DISCONNECT

DEFINE/SET X25 PORT FACILITY

DEFINE X25 PORT PERMANENT SVC

DEFINE X25 PORT PVC DIRECTION

DEFINE X25 PORT PVC LCN

DEFINE/SET X25 PORT REMOTE CLEAR

DEFINE/SET X25 PORT REMOTE PROFILE

DEFINE/SET X25 PORT CONNECT ACTION

Assign an X.25 address to one or more of virtual ports

This command assigns an X.25 address to one or more virtual ports. Whenever a user on the LAN makes a connection to that port through LAT or Telnet, the X.25 Gateway automatically calls the X.25 address.

Notes

Using this method to call an X.25 address eliminates the need for a LAT or Telnet service. You can also create a LAT or Telnet service with a connect action to an X.25 address, the address in the service will take precedence over the address in the port connect action when you call the service.

Syntax

DEFINE/SET [SERVER] X25 PORT *port-list* |ALL CONNECT ACTION "*address*"

Where	Means
port-list	**Assign the X.25 address to these virtual ports.**
"***address***"	**An X.25 address that the X.25 Gateway will call when a user makes a connection to one of the virtual ports in the *port-list* variable. Enclose the address in quotes. To remove the association between an X.25 address and one or more virtual ports, enter a quoted null string (" ")**

Examples

1. This command assigns the address 765432 to ports 50-60.

```
Xyplex>> set x25 ports 50-60 connect action "765432"

Xyplex>>
```

2. This command removes the association between an X.25 address and ports 50-60.

```
Xyplex>> set x25 ports 50-60 connect action " "

Xyplex>>
```

DEFINE/SET X25 PORT CONNECT ACTION TYPE

Assign a connect action type to one or more virtual ports

This command assigns an X.25 connect action type to one or more virtual ports for calls from the X.25 network.

Notes

The X.25 Gateway offers three connect action types: NONE, AUTOCONNECT and USERDATA. NONE is the default, and it causes the X.25 Gateway to return the Xyplex command interface when a call arrives at a virtual port. AUTOCONNECT connections execute a Xyplex command such as CONNECT, which exists in an X.25 service. The command can establish a session with a LAN destination. USERDATA connections use the information in the D**userdata*** **field of the incoming call packet as the variable in a CONNECT command. AUTOCONNECT and USERDATA connect actions make network connections more "transparent" to network users, and can enhance Gateway security because you can direct calls to specific destinations.**

Privilege Level

Nonprivileged

Syntax

DEFINE/SET [SERVER] X25 PORT ***port-list*** **|ALL CONNECT ACTION TYPE AUTOCONNECT|USERDATA|NONE**

Where	Means
port-list	**Assign a connect action to these virtual ports.**
AUTO CONNECT	**Assign the AUTOCONNECT connect action type to the ports you specify.**
USERDATA	**Assign the USERDATA connect action type to the ports you specify. (The userdata field is limited to 12 characters.)**
NONE	**This is the default connect action. Use this keyword when you want to remove a previously assigned AUTOCONNECT or USERDATA connect action from virtual ports.**

Examples

1. This example assigns the AUTOCONNECT connect action to virtual ports 40-45.

```
Xyplex>> set x25 port 40-45 connect action type autoconnect
```

After you assign AUTOCONNECT to the virtual ports, you define an X.25 service which includes a MAXserver command to establish a session with a LAN device. This example creates a service to establish a session with the LAN host FinanceVAX, and assigns the listen address 45 to ports 40-45.

```
Xyplex>> set service x25tofinancevax x25 enabled connect action
"connect financevax" x25 address "45" ports 40-45
Xyplex>>
```

Assuming that at least one of the ports is not busy, calls from the PSN bound for ports 40-45 will automatically establish a session with the LAN host FinanceVAX. The call from the network might look like this, assuming that the master address of the X.25 Gateway is 23612:

```
CALL 2361245
Call Connected
Welcome to FinanceVAX
Username:
```

2. This example assigns the USERDATA connect action to virtual ports 20-25:

```
Xyplex>> set x25 port 20-25 connect action type userdata
Xyplex>>
```

Calls from the network bound for virtual ports 20-25 use a LAN destination name as in the CALL request packet. The call from the network might look like this, assuming that the master address of the X.25 Gateway is 23612:

```
CALL 2361220D*DEV.SUN.COM
Call Connected
Welcome to DEV.SUN.COM
Username:
```

DEFINE/SET X25 PORT CR

Enable or disable the carriage return characteristic

This command specifies whether or not the X.25 Gateway sends a carriage return (CR) character to the PAD when a user makes a LAN connection to a virtual port.

Notes

If you make connections directly to the PAD interface through a virtual port, this feature ensures that the PAD prompt appears when you make the connection to the virtual port. If you make automatic connections to devices on the PSN, you may not want to enable this feature.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT *port-list* |ALL CR ENABLED|DISABLED

Where	Means
port-list	**One or more virtual ports.**
ENABLED	**Send a CR character to the PAD when a user makes a LAN connection to a virtual port.**
DISABLED	**Do not send a CR character to the PAD when a user makes a LAN connection to a virtual port. This is the default setting for this characteristic.**

Example

This example enables the carriage return feature at virtual ports 60-70.

```
Xyplex>> set x25 ports 60-70 cr enabled
Xyplex>>
```

DEFINE/SET X25 PORT DEFAULT INBOUND PROFILE

Specify a default inbound profile for one or more virtual ports

---

This command assigns a PAD profile to one or more virtual ports for calls from the PSN bound for a LAN device.

Notes

A PAD profile includes 22 PAD parameters. These parameters define the operating characteristics for an asynchronous device, such as a terminal or printer. The X.25 Gateway PAD can support separate PAD profiles for each virtual port. The default inbound profile for all virtual ports on the X.25 Gateway is HOST, which has parameters set to support a video terminal.

Xyplex supplies forty profiles on the X.25 Gateway, including six that are designed to support specific devices, such as HOST. These support video terminals, printers, and different types of data transfer for both inbound and outbound calls. You can modify any of the forty profiles to suit the needs of your site. See Appendix A for a list of these profiles and the parameter values in each of them.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT *port-list* | ALL DEFAULT INBOUND PROFILE "*profile-name*"

Where	Means
port-list	**Assign the default inbound profile to these ports.**
"***profile-name***"	**Assign this profile to the gateway PAD when calls arrive at the ports you specify. Enclose the profile name in quotes.**

Example

This command specifies the PAD profile CRT_NOE as the default inbound profile on ports 10-15.

```
Xyplex>> set x25 port 10-15 default inbound profile "CRT_NOE"

Xyplex>>
```

DEFINE/SET X25 PORT DEFAULT OUTBOUND PROFILE

Assign a default outbound profile to one or more virtual ports

---

This command assigns a PAD profile to one or more virtual ports for calls from the LAN bound for the PSN.

Notes

A PAD profile includes 22 PAD parameters. These parameters define the operating characteristics for an asynchronous device, such as a terminal or printer. The X.25 Gateway PAD can support different PAD profiles for different virtual ports. The default outbound profile for all virtual ports on the X.25 Gateway is CRT, which has parameters set to support video terminals.

Xyplex supplies forty profiles on the X.25 Gateway, including six that are designed to support specific devices, such as HOST. These support video terminals, printers, and different types of data transfer for both inbound and outbound calls. You can modify any of the forty profiles to suit the needs of your site. See Appendix A for a list of these profiles and the parameter values in each of them.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT *port-list* | ALL DEFAULT OUTBOUND PROFILE "*profile-name*"

Where	Means
port-list	**One or more X.25 Gateway virtual ports where you want to assign a default outbound profile.**
"***profile-name***"	**Assign this profile to the X.25 Gateway PAD when calls arrive at the ports you specify. Enclose the profile name in quotes.**

Example

This command specifies the PAD profile CRT_NOE as the default outbound profile.

```
Xyplex>> set x25 port 10-15 default outbound profile "CRT_NOE"
Xyplex>>
```

DEFINE/SET X25 PORT DISCONNECT

Specify the status of the port Disconnect characteristic

This command specifies whether or not the X.25 Gateway disconnects the LAN session when a user clears a virtual circuit made from the PAD prompt.

Notes

When this feature is disabled, you must disconnect the LAN session from the Xyplex prompt.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT [*port-list* | ALL] DISCONNECT ENABLED | DISABLED

Where	Means
port-list	**One or more virtual ports where you want to enable or disable the DISCONNECT characteristic.**
ALL	**Enable or disable this characteristic at all virtual ports.**
ENABLED	**Disconnect the LAN session when a user terminates a virtual circuit from the PAD prompt.**
DISABLED	**Do not disconnect the LAN session when a user terminates a virtual circuit from the PAD prompt. This is the default setting for this characteristic.**

Example

This command enables the PORT DISCONNECT feature on port 12.

```
Xyplex>> set x25 port 12 disconnect enabled
Xyplex>>
```

DEFINE/SET X25 PORT FACILITY

Specify per-call facilities for individual virtual ports

This command specifies per-call facilities at the virtual ports you specify.

Notes

Per-call facilities enable certain standard X25 user facilities at particular ports, rather than at all ports as you do with the SERVER X25 LEVEL_3 facilities commands. Not all X25 LEVEL_3 facilities are available on a per-call basis. Several of the port facilities specify values for X.25 Server Level_3 facilities. In these cases, the Level_3 facilities must be enabled for the port facilities to take effect.

You can also specify per-call facilities with the PAD FACILITIES command. See the manual *Managing the X25 Gateway* for more information about how to use the PAD FACILITIES command.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT [*port-list* |ALL] *facility value*

DEFINE/SET [SERVER] X25 PORT [*port-list* |ALL] FACILITY NONE

Where	Means
port-list	**One or more virtual ports where you want to specify per-call user facilities.**
ALL	**Enable the specified per-call facilities at all virtual ports on the X.25 Gateway.**
facility value	**One of the per-call facilities in Table 2-4, followed by a value for that facility from Table 2-5.**
FACILITY NONE	**Disable all per-call facilities on the ports you specify starting with the next virtual call. Existing virtual calls are not affected.**

Table 2-4. Per-Call Facilities

Facility	Function
FAST SELECT	Allows the X.25 Gateway to transmit up to 128 bytes of user data in a call request packet.
NUI	Specifies a network user identification (NUI) number to the PSN, which can use it to obtain information from the X.25 Gateway for billing, security, or network management .
PACKET SIZE	Determines the packet size that the X.25 Gateway can attempt to negotiate for calls that originate at the ports you specify. The Level 3 Flow Control Parameter Negotiation facility must be enabled to change the packet size through this facility.
RPOA SELECT	Specifies a transit network owned by a registered private operating agency (RPOA) that the X.25 Gateway can use to route international calls. The X25 LEVEL_3 RPOA characteristic must be set to ENABLED for this per-call facility to take effect.
THROUGHPUT CLASS	Specifies the throughput class for the called DCE and the calling DTE. The LEVEL_3 THROUGHPUT CLASS NEGOTIATION facility must be enabled for this per-call facility to take effect
WINDOW SIZE	Specifies the maximum number of packets that can remain unacknowledged between the calling and called DTE, that the X.25 Gateway can negotiate for calls that originate at the ports you specify. The Level 3 Flow Control Parameter Negotiation facility must be enabled to change the packet size through this facility.
REVERSE CHARGING	Specifies whether or not the X.25 Gateway can request reverse charging for calls that originate at the ports you specify.

Table 2-5. Default Values and Ranges for Per-Call Facilities

Facility	Value	Default	Range
FAST SELECT	ENABLED | DISABLED	DISABLED	
NUI	"*network-user-id*"	none	Up to 38 ASCII characters.
PACKET SIZE	*called-packet-size* *calling-packet-size*	128 128	In Octets: 16, 32, 64, 128, 256, 512 for both values.
RPOA SELECT	"*gateway-identifier*"	none	The PSN administration supplies gateway identifiers
THROUGHPUT CLASS	*called-DCE-class* *calling-DCE-class*	none	75, 150, 300, 600, 1200, 1200, 2400, 4800, 9600, 19200, 48000 for both values.
WINDOW SIZE	*called-window-size* *calling-window-size*	2 2	0-7 for both if the Level 3 Extended Packet Sequence Numbering facility is Disabled. 0-128 if this facility is enabled. To change the default window size, the Level 3 Flow Control Parameter Negotiation facility must be enabled.
REVERSE CHARGING	ENABLED | DISABLED	DISABLED	

Examples

1. This command specifies 256 as the called and calling packet size at ports 20-30.

```
Xyplex>> set x25 ports 20-30 packet size 256 256 ↵
Xyplex>>
```

2. This command enables the Reverse Charging facility at ports 20-30.

```
Xyplex>> set x25 ports 20-30 reverse charging enabled ↵
Xyplex>>
```

3. This command disables all per-call facilities at ports 20-30.

```
Xyplex>> set x25 ports 20-30 facility none ↵
Xyplex>>
```

DEFINE X25 PORT PERMANENT SVC

Specify the status of the PSVC option at one or more virtual ports

---

This command enables or disables permanent switched virtual circuits (PSVCs) at one or more virtual ports.

Notes

PSVCs are a feature on the Xyplex X.25 Gateway; they are not a CCITT standard virtual circuit type. A PSVC transfers data packets just as a CCITT standard SVC, but it does not come down when you terminate the LAN side of the connection. The logical association between the two DTEs remains up after you terminate the session.

The PSVC characteristic is disabled at all virtual ports by default. If you enable PSVC support at a virtual port and then disable it, you can establish standard SVCs at that port. The Show/List Server X25 Port Characteristics display indicates whether PSVCs are enabled or disabled at a virtual port.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 PORT [*port-list* | ALL] PERMANENT SVC ENABLED | DISABLED

Where	Means
port-list	**Enable or disable PSVCs on one or more virtual ports.**
ALL	**Enable or disable PSVCs on all virtual ports.**
ENABLED	**Activate the PSVC option.**
DISABLED	**Deactivate the PSVC option. This is the default setting for this characteristic.**

Example

This command enables the PSVC option at virtual ports 40-50.

```
Xyplex>> define x25 port 40-50 permanent svc enabled
Xyplex>>
```

Initialize the X.25 Gateway for the command to take effect.

DEFINE X25 PORT PVC DIRECTION

Specify the direction of a PVC

This command enables outbound-only PVCs.

Notes

When a PVC is outbound only, the X.25 Gateway ignores data from the PSN bound for the virtual port associated with the PVC. When a user on the LAN makes a connection to the virtual port, the X.25 Gateway establishes the PVC. Communication is then full duplex. When you disable this feature, the X.25 Gateway establishes a PVC when calls arrive at the virtual port from the LAN or the PSN.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 PORT *port-list* PVC DIRECTION OUTBOUND | DISABLED

Where	Means
port-list	**One or more virtual ports associated with PVCs.**
OUTBOUND	**Ignore calls from the PSN at the virtual ports you specify.**
DISABLED	**The ports you specify are not no longer outbound only.**

Example

This command assigns outbound-only PVCs at ports 22-25.

```
Xyplex>> define x25 port 22-25 pvc direction outbound ↵
Xyplex>>
```

This command disables the outbound-only feature for PVCs at ports 22-25.

```
Xyplex>> define x25 port 22-25 pvc direction disabled ↵
Xyplex>>
```

Initialize the X.25 Gateway for these commands to take effect.

DEFINE X25 PORT PVC LCN

Assign a logical channel number to a virtual port for PVC support

---

This command assigns a logical channel number (LCN) to a virtual port to enable a permanent virtual circuit (PVC) at that port. You assign an LCN to each virtual port individually.

Notes

A PVC is a permanent association between two DTEs, such as an X.25 Gateway and a remote PAD. To enable a PVC at a port, assign it an LCN that is within the range of the highest and lowest logical channel numbers specified in the DEFINE SERVER X25 LEVEL_3 HIGHEST PVC and LEVEL_3 LOWEST PVC commands. The PSN administration assigns this range.

If you disable a PVC at a port, the port supports SVCs again. The Show/List Server X25 Port Characteristics display includes the LCN number assigned to a virtual port, if one exists.

Privilege Level

Privileged

Syntax

DEFINE [SERVER] X25 PORT *port* PVC LCN *lcn*

DEFINE [SERVER] X25 PORT *port-list* PVC DISABLED

Where	Means
port	**Enable a PVC at this virtual port. You enable one PVC per port.**
port-list	**Disabled PVCs at one or more virtual ports.**
lcn	**Assign this logical channel number to the virtual port. Be sure that the LCN is within the range of logical channel numbers assigned to PVCs by the PSN administration.**
DISABLED	**Deactivate the PVC at one or more virtual ports. When you deactivate the PVC, the X.25 Gateway frees the LCN, and the port supports standard SVCs. This is the default setting for this characteristic.**

Example

This command assumes that the range of logical channel numbers for PVCs is 30-35.

```
Xyplex>> define server x25 port 10 pvc lcn 30 ↵
Xyplex>>
```

Initialize the Gateway for the this command to take effect.

DEFINE/SET X25 PORT REMOTE CLEAR

Specify the status of the remote clear characteristic

This command enables or disables the Remote Clear characteristic. When enabled, the X.25 Gateway sends an Invitation to Clear to the remote device on the PSN when the Gateway terminates the virtual call on the local virtual port.

Notes

You can enable or disable this characteristic in a local service as well as on a virtual port.

Syntax

DEFINE/SET [SERVER] X25 PORT [*port-list* | ALL] REMOTE CLEAR ENABLED | DISABLED

Where	Means
port-list	**One or more virtual ports where you want to enable or disable the Remote Clear characteristic.**
ALL	**Enable this characteristic at all virtual ports.**
ENABLED	**Enable the Remote Clear characteristic.**
DISABLED	**Disable the Remote Clear characteristic. This is the default setting.**

Example

This command enables the Remote Clear characteristic at ports 30-40.

```
Xyplex> set x25 ports 30-40 remote clear enabled

Xyplex>
```

DEFINE/SET X25 PORT REMOTE PROFILE

Assign a remote profile to one or more virtual ports

This commands assigns a remote profile to one or more virtual ports.

Notes

The X.25 Gateway sends a remote profile to the remote PAD during a virtual call. If the call is from the LAN, the X.25 Gateway sends an inbound profile to the remote PAD. If the call is from the PSN, the X.25 Gateway sends an outbound profile to the remote PAD.

You can include a remote profile in a local service. When you do, the X.25 Gateway sends the remote profile when a call reaches a virtual port through the service, rather than whenever a call reaches the virtual port. A remote profile in a service takes precedence over a remote profile assigned to a virtual port. See the manual *Managing the Xyplex X.25 Gateway* for more information about remote profiles.

The CLEAR X25 PROFILE command clears parameter values in a profile, so that the profile includes only those parameters you want to reset on the remote PAD. Only the specified parameters are sent to the remote PAD. See the description of this command for more information on how to do this.

To de-assign a remote profile from a virtual port, enter "null" as the "*profile-name*" variable.

Privilege Level

Privileged

Syntax

DEFINE/SET [SERVER] X25 PORT [*port-list* | ALL] REMOTE PROFILE "*profile-name*"

Where	Means
port-list	**One or more virtual ports where you want to assign a remote profile.**
"*profile-name*"	**The name of the remote profile. Enclose the profile name in quotes. Use "null" to de-assign a remote profile from a virtual port.**

Example

This command specifies Hardcopy as the remote profile for calls arriving at ports 10-15. This profile overwrites the default outbound profile on the remote PAD.

```
Xyplex>> set x25 port 10-15 remote profile "hardcopy"
Xyplex>>
```

SHOW/LIST/MONITOR Commands

This section describes the SHOW/LIST/MONITOR commands, which create displays.

You can abbreviate LEVEL_3 as L3 and LEVEL_2 as L2 in these commands.

The commands in this section include the following:

SHOW/LIST X25 [CHARACTERISTICS]

SHOW/MONITOR X25 COUNTERS

SHOW/LIST X25 PORT [CHARACTERISTICS]

SHOW/LIST X25 PORT ALTERNATE [CHARACTERISTICS]

SHOW/LIST X25 PORT CONNECT ACTION

SHOW/MONITOR X25 PORT STATUS

SHOW/LIST/MONITOR X25 PORT SUMMARY

SHOW/LIST X25 PROFILE

SHOW/MONITOR X25 STATUS

SHOW/LIST X25 LEVEL_1 [CHARACTERISTICS]

SHOW/MONITOR X25 LEVEL_1 STATUS

SHOW/LIST X25 LEVEL_2 [CHARACTERISTICS]

SHOW/MONITOR X25 LEVEL_2 STATUS

SHOW/LIST X25 LEVEL_3 [CHARACTERISTICS]

SHOW/MONITOR X25 LEVEL_3 STATUS

SHOW/LIST SERVICES X25 LOCAL SUMMARY

SHOW/LIST/MONITOR SERVICES [CHARACTERISTICS | STATUS | SUMMARY]

SHOW/LIST X25 CHARACTERISTICS

Display X.25 Gateway server-level characteristics

This display includes some Communications Server characteristics, the X.25 address for the X.25 Gateway, the PAD prompt, and a list of the PAD profiles. This display shows some characteristics that you cannot define or set.

Privilege Level

Nonprivileged

Syntax

SHOW/LIST [SERVER] X25 [SERVER] [CHARACTERISTICS]

```
Buffer Reserve:        20
Hysteresis:            8
Small Buffer Size:     81
Small Buffer Pool:     566
Large Buffer Size:     128
Large Buffer Pool:     1890
Address:               1
PAD Prompt:            \r*
Welcome:

Available Profiles:

HOST, CRT, CRT_NOE, CC_SSP, CC_TSP, HARDCOPY, XYPLEX7, XYPLEX8
XYPLEX9, XYPLEX10, XYPLEX11, XYPLEX12, XYPLEX13, XYPLEX14, XYPLEX15, XYPLEX16
XYPLEX17, XYPLEX18, XYPLEX19, XYPLEX20, XYPLEX21, XYPLEX22, XYPLEX23, XYPLEX24
XYPLEX25, XYPLEX26, XYPLEX27, XYPLEX28, XYPLEX29, XYPLEX30, XYPLEX31, XYPLEX32
XYPLEX33, XYPLEX34, XYPLEX35, XYPLEX36, XYPLEX37, XYPLEX38, XYPLEX39, XYPLEX40

Enabled Characteristics:
X25
```

Field	Means
Buffer Reserve	**The number of "large buffers" the X.25 Gateway can use before it enters a "buffer emergency" flow control state. You cannot define or set this characteristic.**
Hysteresis	**The number of additional buffers above the buffer reserve count, shown in the "Buffer Reserve" field, which must become available to cancel the "buffer emergency" flow control state. You cannot define or set this characteristic.**
Small Buffer Size	**The size of small buffers used internally by the PAD. You cannot define or set this characteristic.**

Field	Means
Small Buffer Pool	**The number of small buffers in the pool. You cannot define or set this characteristic.**
Large Buffer Size	**The size of a large buffers used for X.25 packets and frames. This characteristic is affected by the value specified for the level_3 Maximum Packet Size characteristic.**
Large Buffer Pool	**The number of large buffers in the pool. This characteristic is not directly user-configurable.**
Address	**The master address for the X.25 Gateway.**
Welcome	**The message that the X.25 Gateway command interface displays when a user first logs in to the X.25 Gateway.**
Available Profiles	**The list of PAD profiles that you can select for inbound or outbound calls. The X.25 Gateway includes forty profiles that you can rename and modify. The profile names shown in this display are those that come predefined with the X.25 Gateway. The profile names on your system may be different. The manual *Managing the X.25 Gateway* describes these profiles and how to modify parameter values within them.**
Enabled Charact.	**When any of the following characteristics appear in this field, they are enabled on the X.25 Gateway:**
X25	**The status of X.25 communication. If this characteristic appears, X.25 communication is enabled. If it does not appear, X.25 communication is disabled.**
Calling Address	**The status of the Calling Address characteristic.**
External Loopback	**The status of the External Loopback Mode characteristic.**

SHOW/MONITOR X25 COUNTERS

Display X.25 Gateway server-level counters

This command displays counters which reflect the accumulated values since the counters were last reset to zero.

Privilege Level **Monitor/Privileged, Show /Nonprivileged**

Syntax

SHOW/MONITOR [SERVER] X25 [SERVER] COUNTERS

```
MAXx25 V1.3  Rom 440000 HW 00.01.00 Lat Protocol V5.1 Uptime:  0 23:33:32

Address:   08-00-87-00-45-EF   Name:   X0045EF               Number:   0

   Level 3 Counters                          Level 2 Counters

Characters Sent:              212844
Characters Received:             320
Packets Sent:                   3915        Transmitted Octet Count:   301096
Packets Received:                320        Transmitter Underruns:          0
Q-Bit Packets Sent:                0        Received Octet Count:      156885
Q-Bit Packets Received:            0        FCS Errors:                     0
Reset Packets Sent:                0        Receive Underrun Count:         0
Reset Packets Received:            0
Interrupt Packets Sent:            0
Interrupt Packets Received:        0
Call Requests Sent:                0
Call Accepts Received:             0
Call Requests Received:           80
Call Accepts Sent:                80
X.29 Errors:                       0
X.28 Errors:                       0
```

Field	Means
Packets Sent	**The total number of packets sent from level 3, the packet layer, to level 2, the frame layer.**
Packets Received	**The total number of packets sent from level 2, the frame layer, to level 3, the packet layer.**
Q-Bit Packets Sent	**The number of Data packets with the qualified bit (Q-bit) set that the X.25 Gateway has sent. Setting the Q-bit indicates that the user data in the packet is a control signal for the remote device, not a message for its user.**
Q-Bit Packets Received	**The number of Data packets with the Q-bit set that the X.25 Gateway has received.**

Field	Means
Reset Packets Sent	**The number of level 3 Reset packets sent by the X.25 Gateway.**
Reset Packets Received	**The number of level 3 Reset packets received by the X.25 Gateway.**
Interrupt Packets Sent	**The number of level 3 Interrupt packets sent by the X.25 Gateway.**
Interrupt Packets Received	**The number of Level 3 Interrupt packets received by the X.25 Gateway.**
Call Requests Sent	**The number of level 3 Call Request packets sent by the X.25 Gateway.**
Call Accepts Received	**The number of Level 3 Call Accepted packets received by the X.25 Gateway.**
Call Requests Received	**The number of Level 3 Call Request packets received by the X.25 Gateway.**
Call Accepts Sent	**The number of Level 3 Call Accepted packets sent by the X.25 Gateway.**
X.29 Errors	**The number of invalid X.29 packets received by the PAD.**
X.28 Errors	**The number of invalid X.28 commands entered at the PAD user interface.**
Transmitted Octet Count	**The number of bytes (octets) transmitted on the X.25 link since the counters were last reset.**
Transmitter Underruns	**The number of times that an incomplete frame was transmitted due to a frame abort or other condition.**
Received Octet Count	**The number of bytes (octets) received on the X.25 link since the counters were last reset.**
FCS Errors	**The number of received frames which contained an invalid CRC (error check) number.**
Receive Underrun Count	**The number of received characters for which there was no storage buffer to receive them.**

SHOW/LIST X25 PORT CHARACTERISTICS

Display the X.25 characteristics of a virtual port

This display lists information about a virtual port. This information includes the port connect action, whether or not the port is a PVC or a PSVC, and the per-call facilities for the port.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST [SERVER] X25 PORT [*port-list* |ALL] [CHARACTERISTICS]

```
Virtual Port:        5                                  28 Jan 1994   21:09:43
Conn. Action Type:   AUTOCONNECT
Permanent SVC:       DISABLED
PVC LCN:             N/A

Packet Size:         128 128
Window Size:         2 2
Throughput Class:    9600 9600
Reverse Charging:    DISABLED
Fast Select:         DISABLED
NUI:
RPOA Select:

Connect Action

Default Inbound Profile:    HOST
Default Outbound Profile:   CRT

Call Facilities enabled:
```

Field	Means
Virtual Port	**The virtual port number.**
Conn. Action Type	**The X.25 connect action type at this virtual port for calls from the PSN to the LAN. Possible connect action types are NONE, AUTOCONNECT, and USERDATA.**
Permanent SVC	**Whether the permanent switched virtual circuit (PSVC) feature is enabled or disabled at this virtual port.**
PVC LCN	**The logical channel number of a permanent virtual circuit (PVC), if one exists, at this virtual port. This field also displays** `PVC Direction Outbound` **if you have enabled the PORT PVC OUTBOUND characteristic. If no PVC exists at this port, the display shows N/A (not applicable) in this field.**
Packet Size	**The default packet size for calls from this port.**
Window Size	**The default level 3 window size for calls from this port.**

Field	Means
Throughput Class	**The default throughput class for calls from this port.**
Reverse Charging	**Whether the reverse charging facility is enabled or disabled at this port.**
Fast Select	**The status of the Fast Select facility: either ENABLED or DISABLED.**
NUI	**The network user identification (NUI) field, if one exists, for this virtual port.**
RPOA Select	**The Registered Private Operating Agency (RPOA) code, if one exists, for this virtual port.**
Connect Action	**The Connect Action, if one exists, for calls from the LAN to the PSN. The Connect Action appears as an X.25 address, if one has been assigned. If one has not been assigned, this field is blank.**
Default Inbound Profile	**The default profile this virtual port will use with an incoming call.**
Default Outbound Profile	**The default profile this virtual port will use with an outgoing call.**
Call Facilities Enabled	**Any Level 3 user facilities enabled on the X.25 Gateway. This field also displays the numeric values of per-call facilities if you have specified a value other than the default.**

SHOW/LIST X25 PORT ALTERNATE CHARACTERISTICS

Display the listen address and parameter values of a virtual port

---

This display includes the listen address, the status of the CR characteristic, and current parameters, if any, that apply to a virtual port.

Privilege Level

Nonprivileged

Syntax

SHOW/LIST [SERVER] X25 PORT [*port-list* |ALL] ALTERNATE [CHARACTERISTICS]

```
Virtual Port:      38                                10 Feb 1994  21:41:16
Listen Address:    3338, 3345

Send Carriage Return:       Disabled
Disconnect:                 Enabled
Remote Clear:               Disabled

Current X.3 Parameters:
1:  0  2:  0  3:  0  4:  1  5:  0  6:  5  7:  0  8:  0  9:  0 10:  0 11: 14
12:  0 13:  0 14:  0 15:  0 16:  0 17:  0 18:  0 19:  0 20:  0 21:  0 22:  0
```

Where	Means
Virtual Port	**The number of the virtual port you specify.**
Listen address	**One or more listen addresses assigned to this virtual port. The default listen address is the virtual port number. If you create one or more services that assign listen addresses to a virtual port these appear in the display rather than the default.**
Send Carriage Return	**The status of the CR characteristic. When this characteristic is enabled, the X.25 Gateway sends a carriage return (CR) character to the PAD when a user makes a LAN connection to the virtual port. When it is disabled, the X.25 Gateway does not send a CR character to the PAD when a user makes a LAN connection to the virtual port.**
Disconnect	**The status of the port Disconnect characteristic. When this characteristic is enabled, the X.25 Gateway disconnects the LAN session when a user clears an X.25 virtual circuit established at the PAD prompt.**
Remote Clear	**The status of the Remote Clear characteristic. When this characteristic is enabled, the X.25 Gateway sends an Invitation-To-Clear to the device on the PSN when the X.25 Gateway terminates the virtual call on the local virtual port.**
Current X.3 Parameters	**The parameters of the profile currently in use, if any, at this port. If no virtual circuit is active, this field is blank.**

SHOW/LIST X25 PORT CONNECT ACTION

Display information about automatic connections

This display includes information about the Connect Action Type, the Connect Action, the inbound, outbound, and remote profiles associated with the port, and any userdata associated with the port.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST [SERVER] X25 PORT [*port-list* |ALL] CONNECT ACTION

Virtual Port	Connect Action	Port Connect Action	Userdata	Inbound Profile	Outbound Profile	Remote Profile
3	None	2345		Host	CRT	

Field	Means
Virtual Port	**The virtual port number**
Connect Action	**The Connect Action Type assigned to the virtual port. Possible Connect Action Types are NONE, AUTOCONNECT, and USERDATA. The Connect Action Type manages calls from the PSN bound for the X.25 Gateway.**
Port Connect Action	**The Port Connect Action, if any, assigned to the virtual port. A Port Connect Action consists of an X.25 address. The X.25 Gateway automatically calls this address when a user on the LAN calls the virtual port.**
Userdata	**Up to 12 characters of userdata assigned to this virtual port.**
Inbound Profile	**The default inbound profile assigned to this virtual port.**
Outbound Profile	**The default outbound profile assigned to this virtual port.**
Remote Profile	**A remote profile, if any, assigned to this virtual port.**

SHOW/MONITOR X25 PORT STATUS

Display the status of an X.25 Gateway virtual port

This display includes information about packets that have been passed to and from a virtual port, as well as the current direction of network traffic through the virtual port.

Privilege Level **Monitor/Privileged, Show/Nonprivileged**

Syntax

SHOW/MONITOR [SERVER] X25 PORT [*port-list* |ALL] STATUS

```
Virtual Port:               5                      28 Jan 1994  21:50:16
Port State:                 X25 TO LAN SESSION
X.25 LCN:                   4
Listen Address              05

Characters Sent:            4962
Characters Received:        31
Packets Sent:               85
Packets Received:           30
Q-Bit Packets Sent:         0
Q-Bit Packets Received:     0
Reset Packets Sent:         0
Reset Packets Received:     0
Interrupt Packets Sent:     0
Interrupt Packets Received: 0
Characters Rejected:        0
```

Field	Means
Virtual Port	**The virtual port number.**
Port State	**The current status of the virtual port. The status messages that can appear in this display are the following: NO SESSION, X25 TO LAN SESSION, LAT/TELNET TO X25 SESSION, AUTOCONNECTING, X25 CALL RECEIVED, LAT/TELNET CONNECT RECEIVED, AUTOCALL IN PROGRESS, CLEARING SESSIONS, LAT/TELNET TO X25 CALL WAITING, PVC ESTABLISHED - NO LAN SESSION, PSVC ESTABLISHED - NO LAN SESSION, PVC NOT ESTABLISHED, PSVC NOT ESTABLISHED, WAITING FOR PASSWORD, SENDING PASSWORD PROMPT.**
X.25 LCN	**The logical channel number (LCN) for a virtual port with an active virtual circuit.**
Listen Address	**One or more listen addresses assigned to this virtual port. The default listen address is the virtual port number. If you create one or more services that assign listen addresses to a virtual port these appear in the display rather than the default.**

Field	Means
Characters Sent	**The number of characters sent by the PAD to level 3.**
Characters Received	**The number of characters received by the PAD from level 3.**
Packets Sent	**The number of packets sent to the PSN.**
Packets Received	**The number of packets received from the PSN.**
Q-Bit Packets Sent	**The number of DATA packets that the X.25 Gateway sent with the qualified bit (Q-bit) set. Setting the Q-bit indicates that the user data in the packet is a control signal for the remote device, not a message for its user.**
Q-Bit Packets Received	**The number of DATA packets that the X.25 Gateway received with the Q-bit set.**
Reset Packets Sent	**The number of level 3 Reset packets the X.25 Gateway has sent.**
Reset Packets Received	**The number of level 3 Reset packets the X.25 Gateway has received.**
Interrupt Packets Sent	**The number of level 3 Interrupt packets the X.25 Gateway has sent.**
Interrupt Packets Received	**The number of level 3 Interrupt packets the X.25 Gateway has received.**
Characters Rejected	**The number of characters rejected by level 3.**

SHOW/LIST/MONITOR X25 PORT SUMMARY

Display summary information about X.25 Gateway virtual ports

This display shows the connect action for the port you specify and indicates whether or not a session is active at that port.

Privilege Level

Monitor/Privileged, Show and List/Nonprivileged

Syntax

SHOW/LIST/MONITOR [SERVER] X25 PORT [*port-list* |ALL] SUMMARY

```
Port   LCN     Connect Action        State        19 Feb 1994  20:34:01

10     0       AUTOCONNECT           NO SESSION
```

Field	Means
Port	**The virtual port number.**
LCN	**The logical channel number for this port during an active session.**
Connect Action	**The connect action type for this virtual port. Possible connect action types are NONE, AUTOCONNECT, and USERDATA.**
State	**The current status of the virtual port. The status messages that can appear in this display are the following: NO SESSION, X25 TO LAN SESSION, LAT/TELNET TO X25 SESSION, AUTOCONNECTING, X25 CALL RECEIVED, LAT/TELNET CONNECT RECEIVED, AUTOCALL IN PROGRESS, CLEARING SESSIONS, LAT/TELNET TO X25 CALL WAITING, PVC ESTABLISHED - NO LAN SESSION, PSVC ESTABLISHED - NO LAN SESSION, PVC NOT ESTABLISHED, PSVC NOT ESTABLISHED, WAITING FOR PASSWORD, SENDING PASSWORD PROMPT.**

SHOW/LIST X25 PROFILE

Display the parameter values of a PAD profile

This display lists all the parameter values of the PAD profile or profiles you specify. The manual *Managing the X.25 Gateway* describes each PAD parameter, and the range of possible values for each PAD parameter.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST [SERVER] X25 PROFILE ["*profile-name*" | *profile-number* |ALL]

```
Profile  1: HOST

PAD Recall(1):                          Echo(2):
Data Forwarding Character(s)(3):        Idle Timer Delay(4):              1
Ancillary Device Control(5):            PAD Service Signals Control(6):   5
Break Signal Operation(7):              Discard Output(8):
Padding after CR(9):                    Line Folding(10):
Binary Speed(11):                 14    Flow Control of the PAD(12):
Linefeed Insertion after CR(13):        Linefeed Padding(14):
Editing(15):                            Character Delete(16):
Line Delete(17):                        Line Display(18):
Editing PAD Service Signals(19):        Echo Mask(20):
Parity Treatment(21):                   Page Wait(22):
```

Field	Means
Profile:	**The name and number of a PAD profile. The display lists the value of each parameter in the display.**

SHOW/MONITOR X25 STATUS

Display X.25 server-level status information

This display shows information about buffers and the state of the X.25 levels: Line (level 1), Frame (level 2), and Packet (level 3).

Privilege Level **Monitor/Privileged, Show/Nonprivileged**

Syntax

SHOW/MONITOR [SERVER] X25 [SERVER] STATUS

```
 MAXx25 V1.3   Rom 4C0000 HW 00.01.00 Lat Protocol V5.1 Uptime:  1 18:59:54

 Address:   08-00-87-00-45-F0   Name:   X0045F0               Number:     0


 Large Buffers Available:           1629
 Large Buffers In Use:              261
 Large Buffers Total:               1890
 Large Buffer Allocation Failures:  0
 Small Buffers Available:           565
 Small Buffers In Use:              1
 Small Buffers Total:               566
 Small Buffer Allocation Failures:  0

State:                             Line Up / Frame Up / Packet Up
```

Field	Means
Large Buffers Available	**The number of large buffers currently available for use by the PAD.**
Large Buffers In Use	**The number of large buffers currently in use by the PAD.**
Large Buffers Total	**The total number of large buffers in the system. This amount is the sum of values in the "Large Buffers Available" field and the value in the "Large Buffers In Use" field.**
Large Buffer Allocation Failures	**The number of times when the X.25 Gateway could not allocate large buffers.**
Small Buffers Available	**The number of small buffers currently in the free pool.**
Small Buffers In Use	**Shows the number of small buffers currently in use by the PAD.**

Field	Means
Small Buffers Total	**Shows the total number of small buffers in the system (sum of "Small Buffers Available" and "Small Buffers In Use" fields).**
Small Buffer Allocation Failures	**Shows the number of occurrences when small buffers could not be allocated by the system.**
State	**Shows the condition, up or down, of the different network levels. The physical layer, layer 1, corresponds to the Line state; the data-link level, layer 2, corresponds to the Frame state; the network level, level 3, corresponds to the Packet state.**

SHOW/LIST X25 LEVEL_1 CHARACTERISTICS

Display level 1 characteristics

This display includes information about level 1, the physical layer, of the X.25 Gateway. You can not change most level 1 characteristics.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST [SERVER] X25 LEVEL_1 [CHARACTERISTICS]

```
Address:   08-00-87-00-45-F0   Name:   X0045F0              Number:     0

Baud Rate:            EXTERNAL
Receive Queue Size:   16
Transmit Queue Size:  20
Frame Retry Limit:    4
Data Encoding:        NRZ
```

Field	Means
Baud Rate	**The speed setting for the link. EXTERNAL indicates that the link speed is set with an external clock. See the X25 Level_1 Status display to see the actual speed.**
Receive Queue Size	**The size of the level 1 receive queue.**
Transmit Queue Size	**The size of the level 1 transmit queue.**
Frame Retry Limit	**The number of retries to be used by the link driver.**
Data Encoding	**The data encoding technique used by the hardware (permanently set to NRZ).**

SHOW/MONITOR X25 LEVEL_1 STATUS

Display level 1 status

This display shows information about the status of signals and link speeds.

Privilege Level

Monitor/Privileged, Show/Nonprivileged

Syntax

SHOW/MONITOR [SERVER] X25 LEVEL_1 STATUS

```
Address:   08-00-87-00-45-F0   Name:   X0045F0              Number:     0

State:                Up

Transmit Link Speed:  66.60 Kbps
Receive Link Speed:   66.70 Kbps
DTR:                  ASSERTED
RTS:                  ASSERTED
DSR:                  OBSERVED
DCD:                  OBSERVED
CTS:                  OBSERVED
```

Field	Means
Transmit Link Speed	**The speed that the X.25 Gateway is transmitting data, in megabits-per-second. The speed is set with an external clocking signal.**
Receive Link Speed	**The speed that the X.25 Gateway is receiving data, in megabits-per-second. The speed is set with an external clocking signal.**
DTR	**Whether or not the X.25 Gateway card has asserted the Data Terminal Ready (DTR) signal.**
RTS	**Whether or not the X.25 Gateway card has asserted the Request to Send (RTS) signal.**
DSR	**Whether or not the X.25 Gateway card has observed the Data Set Ready (DSR) signal.**
DCD	**Whether or not the X.25 Gateway card has observed the Data Carrier Detect (DCD) signal.**
CTS	**Whether or not the X.25 Gateway card has observed the Clear to Send (CTS) signal.**

SHOW/LIST X25 LEVEL_2 CHARACTERISTICS

Display level 2 characteristics

This display includes information about Level 2, the frame layer.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST [SERVER] X25 LEVEL_2 [CHARACTERISTICS]

```
Address:   08-00-87-00-45-F0   Name:   X0045F0              Number:     0

Protocol:                LAPB
Opmode:                  DTE
Window Size:             7
T1:                      3 SECONDS
T2:                      2 SECONDS
T3:                      0 SECONDS
N2 Counter:              20

X.2 Facilities Enabled:
```

Field	Means
Protocol	**The frame layer protocol, which determines the frame exchange procedures that the X.25 Gateway uses. All X.25 Gateways use the link access protocol balanced (LAPB) protocol.**
Opmode	**The frame layer OPMODE, which is either a logical DTE or a logical DCE. The X25 Level_3 OPMODE characteristic determines this setting.**
Window Size	**The frame layer window size, which is the number of previously sent frames that can remain unacknowledged at any time between a DTE and a DCE The X25 Level_2 Window Size characteristic determines this setting.**
T1	**The amount of time that the X.25 Gateway will wait for an acknowledgment of a transmitted frame with a bit set (the P bit) that requests immediate acknowledgment. After this time limit, the gateway retransmits that frame. The X25 Level_2 T1 characteristic determines this setting.**
T2	**How long the X.25 Gateway can wait to acknowledge receipt of a message. The X25 Level_2 T2 characteristic determines this setting.**
T3	**How long a channel can be idle before the X.25 Gateway resets the link. The X25 Level_2 T3 characteristic determines this setting.**
N2	**The maximum number of times that the X.25 Gateway can retransmit an unacknowledged frame before it resets the link.**
X.2 Facilities	**The Level 2 facilities that can appear in this field include Extended Frame Sequence Numbering, if it is enabled.**

SHOW/MONITOR X25 LEVEL_2 STATUS

Display level 2 status

This display shows information about level 2, the frame layer.

Privilege Level

Monitor/Privileged, Show/Nonprivileged

Syntax

SHOW/MONITOR [SERVER] X25 LEVEL_2 STATUS

```
Address:   08-00-87-00-45-F0   Name:   X0045F0              Number:     0

State:                      Up
Transmitted Octet Count:    5851
Transmitter Underruns:      0
Received Octet Count:       953
FCS Errors:                 0
Receive Underrun Count:     0
```

Field	Means
State	**Whether the X.25 Gateway level 2, the frame layer, is up or down.**
Transmitted Octet Count	**The total number of bytes (octets) transmitted on the X.25 link since the counters were last reset.**
Transmitter Underruns	**The number of times that an incomplete frame was transmitted due to a frame abort or other condition.**
Received Octet Count	**The total number of bytes (octets) received on the X.25 link since the counters were last reset.**
FCS Errors	**The number of received frames which contained an invalid CRC (error check) number.**
Receive Underrun Count	**The number of times that the Gateway lost data from the X.25 network because of an insufficient number of storage buffers.**

SHOW/LIST X25 LEVEL_3 CHARACTERISTICS

Display level 3 characteristics

This display shows information about level 3, the packet layer.

Privilege Level **Nonprivileged**

Syntax

SHOW/LIST SERVER X25 LEVEL_3 [CHARACTERISTICS]

```
MAXx25 V1.3   Rom 4C0000 HW 00.01.00 Lat Protocol V5.1 Uptime:  0 02:51:31

Address:   08-00-87-00-45-F0   Name:   X0045F0               Number:     0

Default Throughput Class:  9600/ 9600
Default Packet Size:              128         T10:                  0
Default Window Size:                7         T11:                  0
Max Window Size:                    7         T12:                  0
Max Packet Size:                  128         T13:                  0
Opmode:                           DTE         T20:                180
Lowest PVC:                         0         T21:                200
Highest PVC:                        0         T22:                180
Lowest Incoming SVC:                0         T23:                180
Highest Incoming SVC:               0         T28:                300
Lowest SVC:                         1         R20:                255
Highest SVC:                       80         R22:                  1
Lowest Outgoing SVC:                0         R23:                  1
Highest Outgoing SVC:               0         R28:                  1

X.2 Facilities Enabled:

Nonstandard Default Window Sizes      Flow Control Parameter Negotiation
```

Field	Means
Default Throughput Class	**The default value for the throughput class used by the calling and called DTEs. This characteristic represents the amount of resources that the network allocates to a given virtual circuit. The first value is the throughput for the called DTE. The second value is the throughput for the calling DTE. The Level_3 Default Throughput Class characteristic sets this value**
Default Packet Size	**The default size of the packets that the X.25 Gateway transmits. The Level_3 Default Packet Size characteristic sets this value.**
Default Window Size	**The default level 3 window size for the X.25 Gateway. This value indicates how many previously sent packets can remain unacknowledged at any given time between a DTE and a DCE. The Level_3 Default Window Size characteristic sets this value.**

Field	Means
Max Window Size	**The current maximum value for the window size.**
Max Packet Size	**The current maximum value for the packet size.**
Opmode	**Whether the X.25 Gateway is configured as a logical DTE or a logical DCE.**
Lowest PVC	**The lowest logical channel number in the range of LCNs that are assigned to permanent virtual circuits (PVCs).**
Highest PVC	**The highest logical channel number in the range of LCNs that are assigned to permanent virtual circuits (PVCs).**
Lowest Incoming SVC	**The lowest logical channel number for one-way incoming SVCs.**
Highest Incoming SVC	**The highest logical channel number for one-way incoming SVCs.**
Lowest SVC	**The lowest logical channel number for two-way SVCs.**
Highest SVC	**The highest logical channel number for two-way SVCs.**
Lowest Outgoing SVC	**The lowest logical channel number for one-way outgoing SVCs.**
Highest Outgoing SVC	**The highest logical channel number for one-way outgoing SVCs.**
X.2 Facilities Enabled	**The user facilities enabled on the X.25 Gateway. These facilities can include the following: DBIT Modification, Extended Packet Sequence Numbering, Fast Select Acceptance, Flow Control Parameter Negotiation, Incoming Calls Barred, Local Charge Prevention, NUI, Outgoing Calls Barred, One Way Logical Channel Incoming, One Way Logical Channel Outgoing, Packet Retransmission, RPOA, Reverse Charge Acceptance, Throughput Class Negotiation.**
T10, T11, T12, T13	**The values of the DCE timeouts**
T20, T21, T22, T23, T28	**The values of the DTE timeouts**
R20, R22, R23, R28	**The values of the packet retry counters.**

SHOW/MONITOR X25 LEVEL_3 STATUS

Display level 3 status

This display lists information about level 3, the packet layer.

Privilege Level

Monitor/Privileged, Show/Nonprivileged

Syntax

SHOW/MONITOR [SERVER] X25 LEVEL_3 STATUS

```
Address:   08-00-87-00-45-F0   Name:   X0045F0              Number:     0

State:                        Up
Characters Sent:              82
Characters Received:          1
Packets Sent:                 1
Packets Received:             1
Q-Bit Packets Sent:           0
Q-Bit Packets Received:       0
Reset Packets Sent:           0
Reset Packets Received:       0
Interrupt Packets Sent:       0
Interrupt Packets Received:   0
Call Requests Sent:           2
Call Accepts Received:        0
Call Requests Received:       2
Call Accepts Sent:            2
X.29 Errors:                  0
X.28 Errors:                  0
```

Field	Means
State	**Whether the X.25 Gateway packet layer, level 3, is up or down.**
Packets Sent	**The total number of packets sent from the packet layer, level 3, to the frame layer, layer 2.**
Packets Received	**The total number of packets sent from the frame layer, level 2, to the packet layer, level 3.**
Q-Bit Packets Sent	**The number of Data packets sent that the X.25 Gateway has sent with the Q (qualified) bit set. Setting the Q bit indicates that the user data in the packet is a control signal for the remote device, not a message for its user.**
Q-Bit Packets Received	**The number of Data packets received by the X.25 Gateway, with the Q (qualified) bit set.**
Reset Packets Sent	**The number level 3 Reset packets sent by the X.25 Gateway.**

Field	Means
Reset Packets Received	**The number level 3 Reset packets the X.25 Gateway has received.**
Interrupt Packets Sent	**The number level 3 Interrupt packets that the X.25 Gateway has sent.**
Interrupt Packets Received	**The number level 3 Interrupt packets that the X.25 Gateway has received.**
Call Requests Sent	**The number of level 3 Call Request packets that the X.25 Gateway has sent.**
Call Accepts Received	**The number level 3 Call Accepted packets that the X.25 Gateway has received.**
Call Requests Received	**The number level 3 Call Request packets that the X.25 Gateway has received.**
Call Accepts Sent	**The number level 3 Call Accepted packets that the X.25 Gateway has sent.**
X.29 Errors	**The number of invalid X.29 packets that the PAD has received.**
X.28 Errors	**The number of invalid X.28 commands entered at the PAD user interface.**

SHOW SERVICES LOCAL X25 SUMMARY

Display summary information about X.25 services

This display shows information about X25 services. This information includes the service name and, if they exist in the service, the listen address, the X.25 profile, and the remote profile.

Privilege Level **Nonprivileged**

Syntax

SHOW SERVICE S LOCAL X25 SUMMARY

```
Service Name     Listen Address  Profile         Remote Profile

dev.sun.com           90         Xyplex20
financevax            23                           CRT_NOE
```

Field	Means
Service Name	**The name of this local X25 service.**
Listen Address	**A nondefault listen address assigned to one or more virtual ports associated with this local service.**
Profile	**A local profile which applies to one or more virtual ports while this service is active.**
Remote Profile	**A remote profile which applies to one or more virtual ports while this service is active.**

SHOW/LIST/MONITOR SERVICE CHARACTERISTICS

Display values for service characteristics

This command displays the current values for service characteristics

Privilege Level

Secure and non-privileged users can use the SHOW and LIST SERVICE CHARACTERISTICS command, unless the DEFINE/SET PORT LIMITED VIEW characteristics is ENABLED. Only users at privileged ports can use the MONITOR SERVICE CHARACTERISTICS command.

Syntax

SHOW/MONITOR SERVICE	**[*service-name*|LOCAL|ALL]** **[CHARACTERIISTICS]** **[STATUS]** **[SUMMARY]**
SHOW/LIST SERVICE	**[*service-name*|LOCAL|ALL]** **[CHARACTERISTICS]** **[SUMMARY]**

Where	Means
service-name	**One or more service names.** **You can specify a wildcard character to select a subset of the *service-names* to be displayed. The asterisk symbol (*) is the wildcard character. For example, if one types SHOW SERVICES AB*, the server will display all accessible *service-names* whose names start with AB. SHOW SERVICES A*BC displays accessible *service-names* whose names start with A and end with BC.**
ALL	**Display the information about all services that are available on the network to the user at the port where the request is made.**
LOCAL	**Display the requested information about all local services associated with the virtual port. Local services include LAT, Telnet, and X.25 services which process calls to and from the PSN.**
CHARACT.	**Display a complete list of characteristics describing the services you specify.**
STATUS	**Display status information about the services you specify.**
SUMMARY	**Display a summary of characteristics about the services you specify.**

```
Service: FINANCE VAX                                  08 Jan 1994  17:55:59
Identification:  Corporate MicroVAX II
Service: PRINTER                                      08 Jan 1994  17:55:59
Identification:  Terminal Server Printer Queue
Ports: 2, 7
Rating: 127
Connect Action:
Internet Address:
Listen Address
X25 Profile
X25 Remote Profile:
Enabled Characteristics:
```

Field	Means
Service	**The name of a service available on the network.**
Identification	**A text string which identifies the service, or describes how to use the service.**
Ports	**Shows the numbers of the port(s) on the terminal server where locally offered services are available.**
Rating	**Shows the relative availability of the service. If there are any available ports which offer the service, then the rating shown is proportional to the number of available ports. This field is always 0 for an X.25 service.).**
Connect Action	**The connect action in the service. In LAT and Telnet services, the connect action is an X.25 address. In X.25 services, the connect action is a Xyplex command, such as CONNECT, and a LAN destination name or Internet address.**
Internet Address	**The Internet address of a host on the LAN, if one is defined in a Telnet service.**
X25 Listen Address	**A nondefault listen address in an X.25 service, if one is defined. This field is always blank in a LAT or Telnet Service.**
X25 Profile	**A local profile, if one is defined in the service.**
X25 Remote Profile	**A remote profile, if one is defined in the service.**
Enabled Characteristic	**Shows the characteristics that have been enabled for the local service using DEFINE/SET SERVICE commands. These characteristics include the following:**

End of Chapter

Appendix A

PAD Profiles

Table A-1 lists the default parameter values, if they are set, for the X.25 Gateway profiles. Some parameters do not have a value set by default. If this is the case, the table shows n/v (no value), in place of a parameter value.

Table A-1. Default Parameter Values in PAD Profiles

Parameters	Profiles						
	HOST	CC_SSP	CC_TSP	CRT	HARD COPY	CRT_NOE	XYPLEX 7-40
1 PAD Recall	n/v	1	n/v	64	64	64	n/v
2 Echo	n/v	n/v	n/v	1	1	n/v	n/v
3Data Forwarding	n/v	2	n/v	127	2	127	n/v
4 Idle Timer	1	n/v	2	2	n/v	2	1
5Ancillary Device Code	n/v	n/v	n/v	n/v	2	n/v	n/v
6 Control of PAD Service Signals	5	5	n/v	5	5	5	n/v
7 PAD Operation of Receipt of Break	n/v	21	21	2	21	2	n/v
8 PAD Discard	n/v	n/v	n/v	n/v	n/v	n/v	n/v
9 Padding After <CR>	n/v	n/v	n/v	n/v	5	n/v	n/v
10 Line Folding	n/v	n/v	n/v	n/v	80	n/v	n/v
11 Binary Speed	14	14	14	14	n/v	14	14
12 PAD Flow Control	n/v	n/v	n/v	1	1	1	n/v
13 Linefeed Insert After <CR>	n/v	n/v	n/v	4	4	4	n/v
14 Linefeed Padding	n/v	n/v	n/v	n/v	5	n/v	n/v
15 PAD Editing	n/v	n/v	n/v	n/v	1	n/v	n/v
16 Character Delete	n/v	127	n/v	127	8	127	n/v
17 Line Delete	n/v	24	n/v	24	24	24	n/v
18 Line Display	n/v	18	n/v	18	18	18	n/v
19 Editing PAD Service Signals	n/v	3	3	2	1	2	n/v
20 Echo Mask	n/v	n/v	n/v	n/v	n/v	n/v	n/v
21 Parity Treatment	n/v	n/v	n/v	3	3	3	n/v
22 Page Wait	n/v	n/v	n/v	n/v	n/v	n/v	n/v

Appendix B

PAD Commands

CALL [?] | [[*address*] [*P | *D*user-data*]]

CLR

FACILITIES [* | *facilities*]

FULL

HALF [*] | [[-] *ch*1, *ch*2, . . . *chn*]

HELP

INTERRUPT

LISTEN [ADDR=*address* | DATA=*user-data*]

PAR? [ref1,[*ref*2,...,*refn*]]

PROF [? | profile]

RESET

RICLR

RPAR? [*ref*1[,*ref*2,...,*refn*]]

RPROF [profile | ?]

RSET [*ref*1:*val*1[,*ref*2:*val*2,...,*ref*n :*val*n]]

RSET? [*ref*1:*val*1,[,*ref*2:*val*2,...,*refn*:*valn*]]

SET [*ref*1:*val*1[,*ref*2:*val*2,...,*refn*:*valn*]]

SET? [*ref*1:*val*1[,*ref*2:*val*2,...,*refn*:*valn*]]

STATUS

TABS [LCL *tab-num*] [REM *tab-num*] [EXP *exp - num*]

End of Appendix