

Printer Server
Command Reference Guide
Revision 5.0

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Conventions

This guide provides the correct syntax for commands used with Emulex printer servers containing software release 5.0. This section describes both general and command conventions used in this document and in other printer server documentation.

***NOTE:** The user must login to the printer server to perform an Emulex printer server command.*

Formatting

You will notice text boxes labeled **NOTE** or **CAUTION**.

- Notes provide additional information.
- Caution statements provide warnings to prevent harm to people or equipment.

***CAUTION:** Observe electrostatic discharge (ESD) procedures during installation.*

What is a Command?

A prompt, followed by a keyword and one or more variables, options or quotation marks make up a command. The following explanation will demonstrate the structure and formatting of 5.0 printer server commands.

Command Lines

A command line begins with the symbol ▷, contains the word “Server” and a prompt.

Prompts

A prompt consists of the word Server followed by one or two greater than symbols (>). One (>) indicates nonprivileged status and two (>>) signify privileged or supervisor status. The two prompts are shown below:

Server > (nonprivileged users)

Server >> (privileged users)

Nonprivileged users have read only privileges. Privileged or supervisor users have all read and write privileges.

Keywords

Keywords are enclosed in brackets and separated by vertical lines. The user must enter a keyword to perform an action.

▷ Server>> [set |define |change]

Variables

Variables are used as in mathematics: they represent a quantity, device name, address or other entity. They are shown in bold italic type.

▷ Server>> [set |define |change] server dhcp ***n m***

n a variable

m a variable

Options

Options are used to customize a command. When available, the user should always use options. They are italicized and enclosed in brackets.

- ▷ Server>> [set |define |change] server dhcp **n m**
[*temp*] [*default*]
- temp* an optional entry
- default* an optional entry

Quotation Marks

When case-sensitive information is required, it must begin and end with quotation marks. Font names are case-sensitive and must appear in quotes within command lines. The example below illustrates the use of a font name within a command line.

- ▷ Server>> change port 1 fonts add "Courier-Bold
Helvetica-Italics"

Keyword Functions

Keywords either modify data (set, define or change), remove data (clear, purge, or delete), or display requests (show, monitor, or list).

Set, Define And Change

set	Modifications are immediate and temporary (stored in volatile memory). Old port values will return when the port is logged out. Old node, server and service values return when the printer server is reinitialized.
define	Modifications are not immediate but once they take effect, become permanent (stored in non-volatile memory). Modifications to ports take effect when port is logged out. Modifications to nodes, servers and services take effect when the printer server is reinitialized.
change	Modifications are immediate and permanent.

NOTE: *Commands which affect non-volatile memory will cause a 30 second delay before non-volatile memory is updated. If printer server power is removed prior to this, the change will be lost.*

Show, Monitor And List

show	Displays current information stored in volatile memory.
monitor	Similar to show, except the display is updated every second for privileged users or every 10 seconds for nonprivileged users.
list	Displays information stored in non-volatile memory.

Clear, Purge And Delete

clear	Data is removed temporarily, but returns at next reinitialization.
purge	Data is not removed until reinitialization, but then is removed permanently from non-volatile memory.
delete	Data is removed immediately and permanently.

Command Summary

In the summary below, all commands are presented alphabetically. If the keywords are either set, define or change, only change is listed. Page numbers are provided as a quick directory to find an explanation of the command.

arp [-a] [-b] [-d] [-f] [-l] [-s] [-t]	10
change node node_name ip ip_address [tcpip] [gateway [default]] [syslog facility]	14
change port port_num [input output] speed baud_rate	20
change port port_num access [dynamic local remote virtual slprt none]	18
change port port_num authorized groups group_list [enabled disabled]	31
change port port_num fonts add " font_list "	28
change port port_num fonts remove " font_list " [all]	28
change port port_num mapcrLf [enabled disabled]	19
change port port_num type [ansi hardcopy softcopy]	19
change server console port_num	23
change server domain domain_name	26
change server dump [enabled disabled]	42
change server groups group_list [enabled disabled]	30
change server login password " pass_txt "	13
change server maintenance password " pass_txt "	13
change server name prnsvr_name	21
change server netware context " con_txt "	35
change server netware fast printserver [enabled disabled]	34
change server options option_list [enabled disabled]	24
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change server snmp com_name access acc_right [trap IP]	25

ip_addr] [set] [enabled disabled]	
change service " servc_name " [port port_num] [TCPport_num] [password " pass_txt "] [protocol] [enabled disabled]	44
crash 300	10
define node node_name [nfs server npserver]	16
define port port_num appletalk backspool [enabled disabled]	27
define port port_num appletalk tbcip [enabled disabled]	27
define server authorize protocol [all none specific] [enabled disabled]	26
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define server dhcp n m [temp]	39
define server gateway [load_dump] ip [ip_address none]	41
define server load [selfload TFTP [put] decnet]	40
define server netware [default 802.2 snap 802.3 ethernet_II ether_type]	34
define server netware forms [enabled disabled]	35
define server netware nds " tree_name "	36
define server netware password " pass_txt "	31
define server netware pserver [auto disabled 3.x 4.x]	35
define server netware rediscover minutes	34
define server netware required [enabled disabled]	33
define server netware rprinter [enabled disabled]	34
define server preferred dump ip ip_address	42
define server preferred load ip ip_address	40
define server software file_name	41
define service " servc_name " appletalk type " prn_type "	45
delete node node_name [all ip ip_address tcpip gateway nfs server npserver syslog]	16
delete service " servc_name "	45

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In the remaining portion of this guide, commands are grouped by their effect.

- General Commands
- Passwords
- Node Commands
- Port Commands
- Server Configuration
- Protocols
- Load/Dump Configuration
- Service Commands

General Commands

Display Internal ARP Table

Display or control the printer server's internal address resolution protocol (ARP) table.

```
▷ Server>> arp [-a] [-b] [-d] [-f] [-l] [-s] [-t]
  -a           Displays the ARP table.
  -b           Caches all ARP entries broadcast on the
               network.
  -d           Deletes specified IP address entry.
  -f           Fixes all entries in the table (turns off timer).
  -l           Caches only locally addressed mappings.
  -s           Allows addition of the server IP and MAC
               addresses.
  -t           Turns on timer.
```

At least one option must be entered, but only one option can be specified in a single arp command.

Halt Printer Server

Stop printer server causing memory dump to the dump host and printer server reinitialization. All users are logged off and all sessions are disconnected without any warning.

```
▷ Server>> crash 300
```

The entire command “crash 300” must be entered to be effective.

Help

Refers the user to the *User Guide for Emulex Printer Servers*.

```
▷ help
```

Initialize

Initialize NETQue printer servers and NETJet printer servers installed in Hewlett-Packard printers with MIO version 6.0 or above.

- ▷ Server>> initialize [*server*] [*delay* **delay_min**] [*cancel*] [*flash*] [*default*] [*disabled*]
- | | |
|------------------|--|
| <i>server</i> | Reinitializes the printer server. |
| <i>delay</i> | Indicates reinitialization will not take place until after a specified period of time. |
| delay_min | A number specifying the amount of delay in minutes. The default is 1 minute. |
| <i>cancel</i> | Cancels a previously entered initialize command if entered within the delay time specified in the initial command. |
| <i>flash</i> | Causes printer server software to download from the host to flash memory if the printer server is configured for a network load. |
| <i>default</i> | Resets the printer server to factory defaults. IP address and subnet mask are reset to none. |
| <i>disabled</i> | Prevents any connections after initialization. To enable connections, enter the initialize command through a remote console without this option. |

When the initialize printer server command is issued with a delay, a warning message is sent every 30 minutes to all logged in ports. Five minutes before initialization, the warning is broadcast every minute. When the printer server is reinitialized, all options modified by Set commands are reset to their permanent values, and all options modified by Change and Define commands take effect.

Below MIO Version 6.0

The initialize command will not reset NETJet printer servers in Hewlett Packard printers that do not have MIO version 6.0 or above. To reset these printer servers, recycle power on the printer.

Logout

Logout of a printer server port, disconnecting associated local or remote sessions.

- ▷ Server>> `logout [port port_num]`
 - port* Enter this option along with the *port_num* to log out of a port other than the one you are currently using. Leaving this option out will logout of your current port.
 - port_num* The number of the port to be logged out.

Check IP Address - Ping

Test whether a local or remote IP address exists and is responding.

- ▷ Server>> `ping ip_address`
 - ip_address* Enter the IP address of the designated node in decimal dot notation. For example, 123.234.345.490.

Update Memory - Sync

Immediately update non-volatile memory.

- ▷ Server>> `sync`

This command ensures changes are written to non-volatile memory. Use this command prior to initializing a NETJet printer server. MIO versions 6.0 and above do not require a sync command with initialization.

Passwords

Privileged Access

Designate user as a “super user” with privileged access.

- ▷ Server> `su`

A super user is authorized to perform all functions on the printer server.

Set Privilege Password

Change the password a user must enter in order to use privileged commands.

- ▷ Server>> set server privilege password **"password"**
"password" Enter from 1 to 16 characters, enclosed in quotes. Default is System. This produces the same result as using the SU (super user) command.

Change Login Password

Specify the password users must enter at login to the printer server.

- ▷ Server>> [set |define |change] server login password **"pass_txt"**
"pass_txt" Enter a password containing 1 to 16 characters, starting with an alphabetic character and enclosed in quotation marks. The default is Access.

Remote Console Password

Specify the password that must be entered by remote console operators to gain access to the printer server's remote port.

- ▷ Server>> [set |define |change] server maintenance password **"pass_txt"**
"pass_txt" Enter a password containing 0 to 16 hexadecimal characters (0-9 and A-F) enclosed in quotes. A password of "0" means that no password is required. Default is no password.
-

Node Commands

The length of node names is dependent on the protocol. Any alphanumeric character may be used, along with: '\$', '-', '_', '.'.

- NetWare node names can have a maximum of 47 characters
- LAT node names can have a maximum of 16 characters
- TCP/IP node names can have a maximum of 63 characters

TCP/IP node names consist of a 1-16 character local node name and a domain name of 1-47 characters. This TCP/IP full node name always ends with a period (.).

A remote node must be specified by the full node name. A name on the local network may be specified by the local node name alone if the domain name for the local network has been set by the [Set |Define |Change] Server Domain Name command.

Show Node

Show which nodes are known to the printer server.

```
▷ Server>> [show |list] node [node_name] [gateway  
|syslog |nfserver |npserver]
```

node_name	Optional variable. Shows only the node whose name you enter here.
<i>gateway</i>	Shows all nodes designated as TCP/IP gateway nodes. Gateway nodes allow communication between segments on a network.
<i>syslog</i>	Shows all nodes designated as TCP/IP syslog nodes. Syslog nodes are designated to receive events or errors.
<i>nfserver</i>	Shows all the nodes designated as NetWare Preferred File Server nodes.
<i>npserver</i>	Shows all the nodes designated as NetWare Remote Printer nodes.

Establish or Change TCP/IP Nodes

Establish or change a TCP/IP node.

- ▷ Server>> [set |define |change] node **node_name**
ip **ip_address** [*tcpip*] [*gateway* [*default*]]
[*syslog* **facility**]
- node_name** Enter either the TCP/IP full node name or the IP address of the node. See naming conventions in beginning of this section.
- ip_address** The IP address of the designated node in decimal dot notation. For example, 123.234.345.490
- tcpip* Establishes the node as a TCP/IP node in the server's internal node table.
- gateway* Establishes the node as a TCP/IP gateway, which allows communication between segments on a network.
- default* If entered along with the gateway option, defines the TCP/IP gateway to be the first gateway seen after the routing table is checked.
- syslog* Establishes the node as a TCP/IP syslog node, which is designated to receive events or errors.
- facility** Entered with syslog, this option defines what type of facility reporting is done (LPR, local0 to local7). Default is LPR.

IMPORTANT: *Since only 10 entries are allowed in the permanent table, a Set command may succeed when Define or Change generates a node table full error.*

Define NetWare Node

Define NetWare nodes as a Remote Printer or Preferred File Server.

- ▷ Server>> define node **node_name** [nfserver |npserver]
 - node_name** The name of the node to be affected.
 - nfserver Defines the node as the Novell Preferred File Server. Only one nfserver node may be defined.
 - npserver Defines the node to act as a Novell Remote Printer. More than one npserver node may be defined.

Delete Node

Remove nodes from the printer server's internal node table.

- ▷ Server>> [clear |purge |delete] node [**node_name**]
[all |ip **ip_address** |tcpip |gateway |nfserver
|npserver |syslog]
 - node_name** Enter the name of the node to be deleted. This is an optional entry.
 - all Enter this to delete all nodes except the one you are on. All is the default.
 - ip_address** Enter the IP address of the node to be deleted in decimal dot notation. For example, 123.234.345.490
 - tcpip Removes the flag that designates the node as a TCP/IP node in the printer server's internal node table.
 - gateway Removes the flag that designates the node as a TCP/IP gateway, which allows communication between network segments.
 - nfserver Removes the flag that designates the node as a NetWare Preferred File Server.
 - npserver Removes the flag that designates the node as a NetWare Remote Printer.
 - syslog Removes the flag that designates the node as a TCP/IP syslog node; a node designated to receive events or errors.
-

Port Commands

Show Port Characteristics

Display the characteristics of a specified port.

```
> Server>> [show |list] port port_num ch
port_num    The printer server port number.
```

This command will display a detailed listing of all port options such as: local group, hardware group, network group, LAT_compatible group, and TCP/IP group.

Test Port

Verify the operation of a port by sending a test pattern of characters to the port. Terminate the test by pressing any key.

```
> Server>> test port_num count count_num
port_num    The number of the port to be tested.
count_num   Enter the number of times the test pattern will be
              sent to the port. The default is 23.
```

Deviations observed in the pattern indicate problems with either the device connected to the port or its cable connection to the printer server. If using the test command on a port connected to a PostScript printer, the printer will display an error condition.

Change Port Access

Specify the type of connections (access) the port can make.

```
▷ Server>> [set |define |change] port port_num  
access [dynamic |local |remote |virtual |slprt  
|none]
```

port_num	Enter the port number whose access is being modified.
dynamic	Allows the port to originate and accept remotely-originated connections. This is a combination of remote and local access.
local	Allows a device connected to the port to originate connections and use the printer server's local-mode command set.
remote	Restricts the port to receiving connections; it cannot originate connections or use any of the printer server's local-mode commands. This type of port is typically defined as a service.
virtual	Restricts the port to usage as a transparent gateway.
slprt	Allows the serial port to be used as a parallel port on the printer server. This parallel port continues to accept remote LAN connections when the serial port is quiet.
none	Disables all access to the port.

Change Port Type

Specify the type of terminal or printer connected to a port.

- ▷ Server>> [set |define |change] port **port_num**
type [ansi |hardcopy |softcopy]
- port_num** Enter the port number.
- ansi Specifies an ANSI-compatible terminal.
- hardcopy Specifies hardcopy serial terminal like a
teleprinter with a keyboard.
- softcopy Specifies a generic video display terminal.

Change Line Feed Character

Control the line feed character.

- ▷ Server>> [set |define |change] port **port_num**
mapcrlf [enabled |disabled]
- port_num** List of ports to be affected by the command
separated by commas.
- enabled Removes the line-feed (LF) character from the
carriage-return (CR) sequence.
- disabled Allows the line feed character to remain with the
carriage return sequence.

This command is used in some Telnet session environments to strip the LF character. The printer server terminates its commands with CR. The LF character will inhibit the privileged password on the printer server, making it invalid.

Change Port Speed

Set the serial communication speed (baud rate) in bits per second.

- ▷ Server>> [set |define |change] port **port_num**
[*input* |*output*] speed **baud_rate**
 - port_num** The port affected by speed change.
 - input* Enter the speed at which data is received. If input speed is not chosen, the command sets the speed in both directions.
 - output* Enter the speed at which data is transmitted. If output speed is not chosen, the command sets the speed in both directions.
 - baud_rate** Enter a speed: 75, 110, 134, 150, 300, 600, 1200, 2400, 1800, 2000, 2400, 4800, 9600, 19200, 38400.

Show Port Status - NETJet

Display port status for NETJet printer servers and MIO interfaces.

- ▷ Server>> [show |monitor] port **port_num** status
[netjet |device]
 - port_num** Enter the port number for which status is desired.
 - netjet Gives the status for NETJet connected to MIO interface (port 1).
 - device Gives the status of a Hewlett-Packard MIO printer interface.

Server Commands

Define Server Name

Define the printer server's node name.

- ▷ Server>> define server name *prnsvr_nam*
prnsvr_nam Enter a 1 to 16 character name for the printer server. This must be established with the Define command when any sessions are active. Any alphanumeric character is valid.

The printer server's node name is used in certain commands and by host-initiated connections. The name must be different from all other node names on the same local network if the printer server accepts host-initiated connections or offers services.

Show Alarms

Show console error conditions.

- ▷ Server>> show server alarms

This command displays the number of nonfatal console errors that have occurred since the printer server was last booted, and the times and error numbers of the sixteen most recent errors.

Show Server Characteristics

Display the characteristics of the printer server.

```
▷ Server>> [show |list] server characteristics
```

This command will display a detailed listing of all printer server options such as local group, hardware group, network group, LAT_compatible group, TCP/IP group, and port IP address. This information is not continually updated since characteristic information does not change.

Show Server Configuration

Display port configuration information.

```
▷ Server>> show server config [port port_num] [ps]
```

port_num Directs the output to the specified port number.

ps Puts the output in a PostScript format.

Show Server Status

Display the constantly changing printer server status information.

```
▷ Server>> [show |monitor] server status
```

The monitor command continually updates the display information.

Display Network Characteristics

Display the printer server's network characteristics.

```
▷ Server>> [show |list] server network
```

Show Server Limits

Display the current configurable memory table allocation.

```
Server>> [show |monitor] server limits
```

Trial values are available for five printer server resources: queue, circuits, sessions, nodes and services.

The Show Server Limits command does not alter the limits, but allows the user to experiment with trial values for these resources without changing the actual limits in the printer server. For example:

```
Server>> show server limit nodes 256.
```

Set Console Terminal Port

Designate a printer server serial port as a console terminal port.

```
Server>> [set |define |change] server console  
port_num
```

port_num Enter the printer server port number where the console terminal will be connected. If a port number is not designated, the lowest numbered serial port will be assumed.

Other Options

Enable or disable special printer server options.

- ▷ `Server>> [set |define |change] server options`
`option_list [all |enabled |disabled]`
- `option_list` Enter a list of options from the available options section below.
- `all` Enables all options.
- `enabled` Adds the specified option to the existing option list. If not specified, the existing list is replaced by the new one.
- `disabled` Removes a specified option from the existing option list. The default is none -- all options disabled.

Available options are:

- | | |
|----|--|
| 0 | Enable unknown frames (bypass protocol frame filter). |
| 2 | Enable use of 0's (not 1's) in host portion of IP broadcast address. |
| 3 | Pack Group Codes into smallest number of bytes. |
| 4 | Host Initiated Requests announce supported services. |
| 5 | Print Information-Only messages to the console port. |
| 6 | Print Non-Fatal error messages to the console port. |
| 7 | Reserved. |
| 8 | Reserved. |
| 9 | Inhibit round robin port allocation. |
| 10 | Enable fast TCP/IP acknowledge to speed up 38400 baud and parallel ports. |
| 11 | Force an IP (or ARP) datagram to be sent out when route cannot be found. |
| 15 | Enforce LAT Circuit Timer (slows performance for bridged LAT usage and prevents timeouts). |
-

Set Prompt

Specify the prompt displayed when the printer server is in local mode and awaiting a printer server command.

- ▷ Server>> set server prompt "**prompt**"
 - "prompt"** Enter 1 to 8 characters, enclosed in quotes. The default is "server". The printer server always adds the string ">>" after the prompt in privileged mode or ">" when not in privileged mode. The RCF port will always display Local>.

Modify SNMP

Add or modify entries in the SNMP table or change the printer server's SNMP trap host IP address.

- ▷ Server>> [set |define |change] server snmp **com_name** access **acc_right** [**trap** IP **ip_addr**] [**set**] [enabled |disabled]
 - com_name** The name of an SNMP community.
 - acc_right** Specifies access privileges associated with the community name: read, write, or read/write.
 - trap** Establishes a trap host to receive messages from the printer server.
 - ip_address** Enter the IP address for the workstation that will receive SNMP trap messages from the printer server. The IP address must be entered in decimal dot notation. For example, 123.234.345.490. The
 - set** Allows an SNMP manager to perform set type operations on the printer server.
 - enabled** If enabled, SNMP set requests will be accepted.
 - disabled** If disabled, SNMP set requests will be rejected.
-

Change Domain

Specify the name of the local network's domain or hierarchy within a network.

- ▷ Server>> [set |define |change] server domain **domain_name**
domain_name The printer server's domain name, which can contain up to 48 alphanumeric characters including periods.

Protocols

Enable or Disable Protocols

Enable or disable individual protocols.

- ▷ Server>> define server authorize protocol [all |none |**specific**] [enabled |disabled]
- all Activates all protocols.
- none Disables all protocols.
- specific** Select a protocol to be enabled from this list: LAT, TCP, AppleTalk, NetWare, TES, or NetBios).
- enabled After selecting a specific protocol, enter this command to activate it. Other protocols will be disabled.
- disabled Disables a specific protocol.

NOTE: *If enable or disable is not included in command, only the specified protocol will be enabled. All others will be disabled.*

Show NetBios Characteristics

Show NetBios characteristics.

```
Server>> [show |list] server netbios
```

AppleTalk

Show Server AppleTalk

Show AppleTalk protocol is recognized by the printer server.

```
Server>> [show |list] server appletalk
```

AppleTalk Backspoofing

Enable or disable AppleTalk backspoofing on a port.

```
Server>> define port port_num appletalk  
backspoo [enabled |disabled]
```

<i>port_num</i>	Enter the printer server port number.
enabled	Enables backspoofing on the port.
disabled	Disables backspoofing on the port.

Define TBCP - AppleTalk

Allow Apple Adobe binary postscript files to print on Hewlett-Packard printers.

```
Server>> define port port_num appletalk tbc  
[enabled |disabled]
```

<i>port_num</i>	Enter the printer server port number.
enabled	Enables HPTBCP on this port.
disabled	Disables HPTBCP on this port. This is the default.

The Hewlett-Packard printers must support Hewlett-Packard's Tagged Binary Communications Protocol (TBCP). This command is dynamically enabled on the printer server's MIO port for most Hewlett-Packard printers (applicable to NETJet users only).

Show Fonts

Display one or more port's user-entered font list in Apple environments only.

- ▷ Server>> [show |list] port **port_num** fonts
port_num The printer server port number to which the inquiry is directed.

Add Fonts - Apple

Add PostScript font names to one or more ports' font list in Apple environments on uni-directional ports. The number of font strings which can be stored depends upon available memory.

- ▷ Server>> [set |define |change] port **port_num** fonts add "**font_list**"
port_num A list of port numbers separated by commas. For example, ports 1,2.
"font_list" A list of PostScript font names set off by blanks and/or tabs and enclosed in double quotes. If a font name consists of more than one word, separate words with dashes instead of spaces. For example, "Arial-Narrow"

NOTE: *Font names are case-sensitive and must be enclosed in quotes.*

Command example:

- ▷ Server>> change port 1,2 fonts add "Courier-Bold Helvetica-Italics"

Remove Fonts - Apple

Remove one or more PostScript font names from a ports' font list in Apple environments only.

- ▷ Server>> [set |define |change] port **port_num** fonts remove "**font_list**" [*all*]
port_num A list of port numbers separated by commas. For example, ports 1,2.
-

"font_list" A list of PostScript font names set off by blanks and/or tabs and enclosed in double quotes.

all Enter this option to remove all font names from the font list.

NOTE *Font strings are case-sensitive and must be enclosed in quotes.*

The asterisk character (*) may be used as a wild card in the font name; however, it must be the last character of the font name preceded by at least one alphanumeric character. For example, to remove all font names beginning with the letter 'A', enter:

```
▷ Server>> change port 1 fonts remove "a*"
```

LAT

Change Groups

Select the LAT-compatible group code(s) for the printer server. These group codes apply only to locally defined LAT-compatible services and ports on the printer server.

- ▷ Server>> [set |define |change] server groups
group_list [enabled |disabled]
- group_list** Enter the list of LAT-compatible group codes to modify (see explanation of group codes below). This list can be a single group code, a list of group codes separated by commas, or a range of group codes specified by two numbers separated by a dash. Group codes must be between 0 and 255.
- enabled** Enter enabled to add one or more groups to the printer server's existing group list.
- disabled** Enter disabled to removes one or more groups from the printer server's existing group list.

If neither enabled nor disabled is chosen, the printer server replaces its entire existing group list with the new group list specified in the command.

Group codes are assigned to LAT-compatible network devices based on categories. For example, all engineering nodes on a network might be assigned to a group code of 0 and accounting nodes to a group code of 1. The network administrator may restrict a user to the use of only engineering codes, so the administrator sets the port to access only the group 0.

Show Server

Display the printer server's LAT characteristics.

- ▷ Server>> [show |list] server LAT

Change Authorized Groups

Specify which group codes (groups of LAT-compatible services) are accessible to a port. The default is no groups authorized for port.

- ▷ Server>> [set |define |change] port **port_num**
authorized groups **group_list** [enabled |disabled]
- port_num** Enter number of the port that will be given access to the group.
- group_list** Enter the group or list of groups that will be assigned to the port.
- enabled Enables specified groups access to a port.
- disabled Disables specified groups access to a port.

NetWare Commands

Define Password

Define a password for the PSERVER emulation to use to login to the NetWare file server.

- ▷ Server>> define server netware password
"password"
- "password"** Enter a maximum of 8 characters and enclose them in quotes. The default is no password. To clear, enter "" in its place.

Define NetWare Node

Define NetWare nodes as Remote Printer or Preferred File Server.

- ▷ Server>> define node **node_name** [nfserver
|npserver]
 - node_name** The name of the node to be affected.
 - nfserver Defines the node as the Novell Preferred File Server. Only one nfserver node may be defined.
 - npserver Defines the node to act as a Novell Remote Printer. More than one npserver node may be defined.
-

Choose Frame Type

Specify the order in which the printer server will handle NetWare frame types.

- ▷ Server>> [set |define |change] server netware
[default |802.2 |snap |802.3 |ethernet_II
ether_type]
- | | |
|--------------------------|--|
| default | IPX will try 802.2, Ethernet II, 802.3, and 802.2 snap in order. The first one found will be selected. |
| 802.2 | IPX will only look for 802.2 Ethernet frames. |
| snap | IPX will only look for 802.2 snap Ethernet frames. |
| 802.3 | IPX will only look for 802.3 Ethernet frames. |
| ethernet_II | IPX will only look for Ethernet II frames. |
| <i>ether_type</i> | If Ethernet II is selected, the user can specify the Ethernet type in ASCII hexadecimal characters. For example, the NetWare default is 0x8137. The Ethernet type is not changed if this is omitted. |

Display Characteristics

Display the printer server's Novell NetWare characteristics.

- ▷ Server>> [show |list] server netware
-

Define Required Fileserver

The user must perform two operations to set up a Novell file server as the required file server for the Emulex printer server.

- 1) Define whether the printer server will attach to the required file server or preferred file server:

```
Server>> define server netware required [enabled  
|disabled]
```

enabled If enabled, the printer server will attach only to the required file server.

disabled If disabled, the printer server attaches to the preferred file server.

The Emulex printer server will only attempt to directly attach to the Novell file server and no other, even if that file server is currently down.

- 2) Enter this command to further designate the preferred file server.

```
Server>> define node node_name nfserver
```

node_name Enter the name for the node that will be the Novell Preferred File Server.

nfserver Specifies the file server as the Novell Preferred File Server. Only one Novell nfserver node may be defined.

The Emulex printer server will perform a get nearest query. The file server that responds will be queried to see if it is the defined preferred file server. If it is not, the file server's bindery is scanned to find the defined preferred file server. If this information is found in the bindery, a direct attachment is made and the existing file server attachment is dropped.

If no Novell file server is defined as the Emulex nfserver, the printer server does a get nearest query, and will attach to the file server which responds and use its bindery.

Define as Remote Printer

Allow the printer server to emulate a NetWare Remote Printer.

- ▷ Server>> [set |define |change] server netware rprinter [enabled |disabled]

enabled	Enables remote printer emulation.
disabled	Disables the remote printer emulation.

Rediscover Interval

Set the RPRINTER rediscovery interval, which queries the network for newly configured Novell print servers and starts all remote printers found.

- ▷ Server>> [set |define |change] server netware rediscover **minutes**

minutes	Enter the time in minutes between 1-14 to set the interval for automatic rediscovery. Enter 0 to disable automatic rediscovery. The default is 2 minutes. If the time is not specified, the printer server will rediscover immediately.
----------------	---

Adjust Processing Speed

Enable NetWare PSERVER to adjust to the processing speed of the computer.

- ▷ Server>> define server netware fast printserver [enabled| disabled]

enabled	Use when operating PSERVER at a faster PC speed than 4.77 MHz.
disabled	Use when operating PSERVER at 4.77 MHz or slower. Default is disabled.

Forms

Enable or disable the NetWare forms function.

- ▷ `Server>> define server netware forms [enabled |disabled]`
- `forms` Use this to designate the NetWare form function.
- `enabled` With forms enabled, the printer server will pause a print job that requires a different type of paper and wait for paper to be changed on the printer.
- `disabled` The default is disabled.

Selecting Bindery Emulation or NDS Mode

Specify the discovery method used by PSERVER.

- ▷ `Server>> define server netware pserver [auto |disabled |3.x |4.x]`
- `auto` Discovers through both NDS and bindery. Default is auto.
- `disabled` Disables the printer server protocol separately from other NetWare protocols.
- `3.x` Only discovers through bindery.
- `4.x` Only discovers though NDS.

Define Context - NDS

Specify the NDS context where the PSERVER printer server object exists.

- ▷ `Server>> define server netware context "context"`
 - `"context"` Enclose the context in quotes. The default is no context. To clear, enter " " in its place.
-

Define NDS Tree

Specify the NDS Tree where the PSERVER object exists.

- ▷ Server>> define server netware nds **"tree_name"**
"tree_name" Enter the NDS tree name where the printer server is located, enclosed in quotes. The default is no NDS tree name. To clear, enter "" in its place.

TCP/IP Commands

Change TCP/IP Routing

Modify a TCP/IP routing entry in the printer server's internal routing table.

- ▷ Server>> [set |define |change] server route IP **dest_ip** gateway **gwy_name** **gwy_ip**
 - dest_ip** Enter the IP address of a destination network whose route you desire to add to the routing table. The IP address must be in standard decimal dot notation. For example, 123.234.345.490
 - gwy_name** Enter the gateway node name to use when routing packets to the destination.
 - gwy_ip** Enter the gateway IP address to use when routing packets to the destination. The IP address must be in standard decimal dot notation. For example, 123.234.345.490
-

Establish or Change TCP/IP Nodes

Establish or change a TCP/IP node.

```
▷ Server>> [set |define |change] node [node_name |  
ip ip_address] [tcpip |gateway [default] |syslog  
facility]
```

node_name Enter either the TCP/IP full node name or the IP address of the node. See naming conventions in beginning of this section.

ip_address The IP address of the designated node in decimal dot notation. For example, 123.234.345.490

tcpip Establishes the node as a TCP/IP node in the printer server's internal node table.

gateway Establishes the node as a TCP/IP gateway, which allows communication between segments on a network.

default If entered along with the gateway option, defines the TCP/IP gateway to be the first gateway seen after the routing table is checked.

syslog Establishes the node as a TCP/IP syslog node, which is designated to receive events or errors.

facility Entered with syslog, this option defines what type of facility reporting is done (LPR, local0 to local7). Default is LPR.

IMPORTANT: *Since only 10 entries are allowed in the permanent table, a Set command may succeed when Define or Change generates a node table full error.*

Show TCP/IP Characteristics

Display the printer server's TCP/IP characteristics.

```
▷ Server>> [show |list] server tcpip
```

BootP, DHCP and RARP Parameters

When the Emulex printer server reboots, the default sequence of IP address acquisition is to attempt BootP first; if BootP fails, attempt DHCP; if DHCP fails, attempt RARP.

Use the following three commands will define how many times the printer server will attempt BootP, DHCP and RARP.

Define BootP Parameters

Define how many times printer server will attempt BootP.

```
▷ Server>> define server bootp n m [temp]
```

- | | |
|-------------|---|
| n | Enter the number of broadcast requests (between 0 and 7) to be made if the printer server does not know its IP address. The default is 2. |
| m | Enter the number of broadcast attempts to be made if the printer server IP address is known. The default is 0. |
| <i>temp</i> | Enter the response in volatile memory only. The default is permanent. |

Define DHCP Parameters

Define how many times printer server will attempt DHCP.

- ▷ `Server>>define server dhcp n m [temp]`
- | | |
|-------------|---|
| <i>n</i> | Enter the number of times (between 0 and 7) to attempt DHCP if the server IP address is unknown. The default is 2. |
| <i>m</i> | Enter the number of times to attempt DHCP if the server IP address is known. The default is 1. |
| <i>temp</i> | If entered, the acquired IP address is stored in volatile memory. Only "infinite" lease IP addresses are stored in non-volatile memory. The default is permanent. |

If both *n* and *m* are zero, DHCP is effectively disabled.

Define RARP Parameters

Define how many times printer server will attempt RARP.

- ▷ `Server>> [set |define |change] server rarp n m [temp]`
- | | |
|-------------|--|
| <i>n</i> | Enter the number of times an attempt will be made if the server IP address is unknown. The default is 2. |
| <i>m</i> | Enter the number of times the attempt will be made if the IP address of the server is known. The default is 1. |
| <i>temp</i> | Enter this option to store the acquired IP address in volatile memory; only "infinite" lease IP addresses are stored in non-volatile memory. The default is permanent. |
-

Load/Dump Configuration

Configuring a load host or dump host will allow you to:

- Upgrade printer server software.
- Define a workstation to receive and record memory image dumps.

Define TCP/IP Load Host

Specify the TCP/IP host where the printer server's operational software will load from.

- ```
Server>> define server preferred load ip
 ip_address
 ip_address Enter the IP address of the node where the
 operational software is stored in decimal dot
 notation. For example, 123.234.345.490. The
 default is none.
```

### Define Server Load

Specify the source of the operating software for subsequent loads. The command determines which load protocol the printer server uses the next time the printer server is reinitialized.

- ```
Server>> define server load [selfload |TFTP
                             [put] |decnet]
```
- | | |
|-----------------|--|
| <i>selfload</i> | Upon reinitialization, the printer server self-loads its operational software from onboard non-volatile memory. This keyword requires special firmware which contains the operating software. A printer server configured for a selfload also has the ability to download its operational software from a network load host. |
| TFTP | Upon reinitialization, the printer server downloads its operational software from a network load host using standard TFTP load protocol. |
-

- put Use this keyword when the environment does not support BootP, DHCP, or TFTP server load requests to a printer server.
- dechnet Upon reinitialization, the printer server downloads its operational software from a network load host using standard decnet-compatible load protocol. The default is dec.

Power must be cycled after this command is performed.

Define Software File Name

Specify the file name of the file on a load host that contains the printer server's operational software.

- ▷ Server>> define server software *file_name*
file_name Enter the name of the file that contains the printer server's operational software. For DECnet load hosts, this is a 1 to 9 character file name. For TFTP load hosts, this is a 1 to 16 character file name. See the chart below for DECnet and TFTP file names:

<i>Printer Server</i>	<i>TFTP</i>	<i>DECnet</i>
NETJet	NJATLNE	NJATLNE.SYS
NETQue	NQATLNE	NQATLNE.SYS
Token Ring	NQ TTLNE	NQ TTLNE.SYE
NETQue Mate	NQMTLNE	NQMTLNE.SYS
NETQue Pro2	NP2TLNE	NP2TLNE.SYS

Set Load/Dump Gateway

Specify the IP address of the gateway through which the printer server loads and dumps its internal software.

- ▷ Server>> define server gateway [*load_dump*] ip [*ip_address* | none]
load_dump Enter the gateway through which the printer server loads and dumps its internal software. The printer server maintains only one gateway

	IP address for both the load and dump functions.
<i>ip_address</i>	Enter the IP address of the gateway node in decimal dot notation. For example, 123.234.345.490. This address must be on the same subnet as the printer server.
none	Enter none to remove an existing IP address. Although no IP address is chosen, the printer server attempts the load or dump operation without using a gateway. The printer server attempts to use the IP address of the load or dump host even if the host IP address is on a different subnet than the printer server's IP address.

When the printer server loads its internal software over the network, it checks to see if a gateway load_dump IP address has been set and uses the set gateway to contact the node from which it will download its operational software. In the same way, when the printer server performs a crash dump upload, it checks to see if a gateway load_dump IP address has been set and uses the set gateway to contact the node to which it will send the dump of its internal memory.

Set Dump Host

Enable or disable the printer server's ability to send a copy of its internal memory to a specified dump host.

- ```
▷ Server>> [set |define |change] server dump
[enabled |disabled]
```
- |          |                                                                                                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enabled  | Default is enabled. When this command is enabled, the printer server sends a file memory image to a specified host before reinitializing after a fatal error or upon execution of a Crash 300 command. |
| disabled | When the command is disabled, no dump can occur. Prior to a dump occurring, a preferred dump node must be specified.                                                                                   |

### Define TCP/IP Dump Host

---

The dump will save a copy of the printer server's memory to the specified workstation.

- ▷ Server>> define server preferred dump ip  
*ip\_address*  
*ip\_address* Enter the IP address of the destination node in decimal dot notation. For example, 123.234.345.490. The default is none.

## Service Commands

### Change Service

Specify the name of the service to be established or modified.

```
▷ Server>> [set |define |change] service
 "servc_name" [TCPport_num] [port port_num]
 [password "pass_txt"] [protocol] [enabled
 |disabled]
```

- "servc\_name"** Enter the name of the service to be created or modified, enclosed in quotes. The maximum length of service names depend on the protocol: NetWare - 47, LAT - 16, Apple - 32.
- TCPport\_num** Enter the TCP/IP port number of the service to be created. If this is omitted for a new service, the printer server creates the services as a LAT-only service. Enter the TCP/IP port number to create a service that is a combined LAT-compatible and TCP/IP service.
- port\_num** Enter the port number on which the service is being established. If on all ports, enter ALL. RCF ports will not change, but the command does affect virtual ports.
- "pass\_txt"** Enter 1 to 16 characters, beginning with a letter of the alphabet, and enclose the word in quotes. To remove password protection from the service, enter Password "". The default is none.
- protocol** Enter one of these protocols: AppleTalk, LAT, NetBios, NetWare, TCP/IP.
-

## Define Service

Establish or modify an AppleTalk service.

- ▷ Server>> define service "**servc\_name**" appletalk  
type "**prn\_type**"  
  
    "**servc\_name**"      Enter the name of the service, enclosed  
                          in quotations marks.  
  
    "**prn\_type**"      Enter the type of printer.

## Delete Service

Remove a service from the printer server's service table.

- ▷ Server>> [clear |purge |delete] service  
    "**servc\_name**"  
  
    "**servc\_name**"      Enter the name of the service to be  
                          removed, enclosed in quotation marks (valid for  
                          Apple service).

## Show Service

Display the characteristics for a specified service.

- ▷ Server> [show |list] service "**servc\_nam**" ch  
  
    "**servc\_nam**"      Enter the name of the particular service,  
                          enclosed in quotation marks.

This command will display a detailed listing of all service characteristics. For remote services, the service or TCP port name, the applicable protocols, and the identification phrase associated with the service are given. For local services, the service or TCP port name and services options set by the Set Service command are displayed.

---