appendix **C**

RPL Parameters and Extensions

Overview

This appendix contains the description of the RPL BIND parameters and the override parameters that you can specify in the BOOTCONF.SYS file.

The following topics are covered in this chapter.

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RPL.NLM BIND Time Parameters

You use these parameters when you bind RPL.NLM to the network board when running RPL on enhanced Remote Boot PROMS. See “Bind RPL.NLM to the Network Board” on page 62 for further information.

These parameters are optional and are not case-sensitive. Enter the parameters in any order. Separate the parameters with blanks or commas.

ACK

Configures the RPL BOOT ROM module to acknowledge FILE.DATA.RESPONSE frames sent by RPL.NLM. This parameter allows the adapter to keep pace with RPL.NLM.

RPL.NLM sends FILE.DATA.RESPONSE frames in Packet Burst mode.

FRAME = *ff*

Configures the Bootstrap program to use a frame type other than the default to access the NetWare server. Valid selections are these:

- FRAME=802.2

  This is the default. The "Frame" parameter is fully supported on BOOT ROMs that use the RBOOT.RPL Bootstrap program.

  The "Frame" parameter is ignored on BOOT ROMs that use PCN2L.RPL and TOKEN.RPL.

- FRAME=EII

  Configures the Bootstrap program for ETHERNET_II. This option should be used only on ETHERNET networks.

- FRAME=SNAP

  Configures the Bootstrap program for SNAP.

If you select FRAME=EII or FRAME=SNAP, RPL.NLM forces the Bootstrap program to issue a Get Nearest Server (GNS) request.

However, FRAME=EII or FRAME=SNAP configures ETHER.RPL to use ETHERNET_II instead of 802.3. Specifying FRAME=EII on a Token-Ring BOOT ROM causes the parameter to be ignored.

GNS

Specifies that you want the workstation to issue a Get Nearest Server request when the appropriate Bootstrap program gets downloaded.

Normally, RPL.NLM fills in the Bootstrap program with the NetWare server information, so that it doesn't need to issue a Get Nearest Server request.

GNS may cause the workstation to find a NetWare server other than the one where RPL.NLM is located.

NODEFAULT

Tells RPL.NLM not to respond to a FIND frame unless the node address of the workstation is found in the BOOTCONF.SYS file.

This parameter is provided for security reasons.

The workstation won't boot until the network administrator inserts into the BOOTCONF.SYS file the node address and associated disk image filenames to use when booting the workstation.

PROTECT

Tells RPL.NLM to configure the Bootstrap program so that it will protect itself in the workstation memory. It does this by adjusting the "Memory Size" variable in the BIOS data area (40:13) to reflect the amount of memory that it uses.

PROTECT reduces the amount of memory that the workstation has available for DOS by about 12 K. Don't use "Protect" unless necessary.

PS = *server*

Tells the Bootstrap program to attach to a NetWare server other than the one where RPL.NLM is loaded.

Replace *server* with the name of a NetWare server that contains the disk image file for the workstation.

TRO

Specifies that you want the Bootstrap program to do a This Ring Only count of three (3) on all Broadcast frames.

It is useful in a source routing environment where servers are available on the local ring.

WAIT TIME = *ssss*

Specifies the number of seconds that you want the Bootstrap program to wait before automatically selecting the cursored disk image names specified in the BOOTCONF.SYS file.

Default: 0000, which means infinity

Range: 0000 to 65535.

RPL.NLM BIND Override Parameters in the BOOTCONF.SYS File

When RPL.NLM parses BOOTCONF.SYS, it allows the user the override the BIND time parameters with parameters specific to a particular workstation that is being booted.

By default, the same parameters that you use with BIND apply to all workstations that are attached to the particular board specified in the BIND command.

See “RPL.NLM BIND Time Parameters” on page 141 for a description of these parameters.

In addition, the following commands are allowed on a per-node basis. They override the BIND time parameters.

NOACK

Overrides the “ACK” parameter for BIND.

NOGNS

Overrides the “GNS” parameter for BIND.

NOPROTECT

Overrides the “Protect” parameter for BIND.

NOTRO

Overrides the “TRO” parameter for BIND.

REP*string1*|*string2*

Allows you to replace all occurrences of *string1* with *string2* in the disk image file. You need to use the | (ASCII 7Ch) delimiter to delimit the string values.

Use this parameter to reconfigure a disk image file during the RPL process. It is useful for tailoring files such as AUTOEXEC.BAT or CONFIG.SYS to a specific workstation.

These are the conventions for using REP:

- The search is case-sensitive.

  The Bootstrap program searches for *string1* exactly as it is entered in BOOTCONF.SYS file.

- All occurrences of *string1* are replaced with *string2* in the disk image file.

- *String2* must be equal to or shorter than *string1*.

- If *string2* is shorter than *string1*, the disk image file is padded with ASCII blanks when the substitution is made.

- *String2* must not contain embedded ASCII blanks.

  REP interprets the first blank as the end of the string.

How Does REP Work?

RPL.NLM parses the node address line of BOOTCONF.SYS looking for these strings. If an entry if found, but doesn't match one of the strings, REP assumes it to be a disk image filename.

Therefore, you shouldn't have a disk image file named the same as any of these keywords.

An example of a BOOTCONF.SYS line using REP is as follows:

```
0x*1234 = NET$DOS.SY REP NODE ADDRESS ^^^^^
  NODE ADDRESS 67890
```

The example shows that the string NODE ADDRESS ^^^^^ will be replaced with NODE ADDRESS 67890 wherever it occurs in the disk image file.

BOOTCONF.SYS Extensions

When RPL.NLM loads it searches the SYS:\LOGIN directory of the NetWare server for a BOOTCONF.SYS file. If it finds the file, it reads the file into a memory buffer so that it can parse the file when a FIND frame is received from a workstation.

The parsing of BOOTCONF.SYS is done by RPL.NLM, and not the Bootstrap program, to minimize the amount of traffic on the network during the RPL process.

The extensions to BOOTCONF.SYS are given in this section.

Using Wildcard Characters in BOOTCONF.SYS

Wildcard characters (* and ?) are allowed in the line specifying the node address of the workstation. This allows the network administrator more flexibility in building the BOOTCONF.SYS file.

The rules for these wildcard characters are as follows:

- Use the asterisk (*) character to specify a range of digits in the node address.

  For example, if the node address of the workstation is 10005A123456, it may be specified as 0x*123456 in BOOTCONF.SYS. In this example, RPL.NLM matches the node address with any node address that ends in 123456.

- Only one asterisk (*) can appear in the node address.

- Use the question mark character to specify any single digit in the node address.

  In the earlier example, the node address could be specified as 0x??????123456, which is equivalent to 0x*123456.

You can use wildcard characters to specify a default disk image file for all workstations on the network that don't have a specific disk image file.

You do this by placing one of these lines as the last line in the BOOTCONF.SYS file:

```
0x* = DEFAULT.SYS

0x???????????? = DEFAULT.SYS
```

Either one of these lines matches on all workstation node addresses. The DEFAULT.SYS (or any name you choose) disk image file is generated by DOSGEN, like any disk image file.

Specifying More than One Disk Image File per Node Address

Each line in BOOTCONF.SYS that contains a node address can specify more than one disk image filename, separated by one or more blank characters.

The Bootstrap program presents the workstation user a prompt at boot up time to select the disk image file to boot.

For example, if a workstation's node address is 10005A123456, the line

```
0x10005a123456 = ONE.SYS TWO.SYS THREE.DOS
```

causes the Bootstrap program to display this on the screen:

```
ONE.SYS TWO.SYS THREE.DOS
```

The Bootstrap program then uses NCP calls to open the selected disk image file.

If the filenames don't exist, the screen displays the following:

```
Unable to OPEN Disk Image File
```

Then the Bootstrap program retries the operation.

You can enter up to 10 disk image filenames for each node address in BOOTCONF.SYS file.

The filenames must be separated by one or more blank characters, and they must all fit on one line.

Allowing Multiple Lines per Node Address

The ASCII colon (:) can be used to allow for multiple lines when you specify a particular node address in BOOTCONF.SYS file. It is provided for convenience when specifying multiple parameters on the node address line.

To use this feature, place the ASCII colon (:) at the end of the line. Note that it must be preceded by at least one ASCII blank:

```
0x10005a460025 = NET$DOS.SYS DOS1.SYS :

DOS2.SYS
```