

Adding a Boot Disk Entry to an HP Integrity rx2660

Necessary Items

- Terminal Emulator application (e.g., PuTTY).
- Hard drive to be mounted.

Overview

In order to boot an rx2660 to a “new” disk, it is necessary to add an entry to the list of devices the rx2660 will try to boot from (i.e., add a boot entry).

- Connect to the Management Processor (MP).
- Power on the rx2660.
- From the MP, connect to the Console Terminal (CO) and watch the Power On Self Test (POST) and early boot.
- When the Extensible Firmware Interface (EFI) Menu appears, go to **Add Boot Option** and add the Boot Option for the disk.
- Still in the EFI Menu, go to **Change Boot Order** and move your disk to the top of the list.
- Boot from the disk.

Details

In this example, a network connection is made to the Management Processor PDQVCA, which is in an rx2660 that plays the role of PDQVSA in the PDQ system.

1. With the rx2660 initially powered OFF (but still plugged in), insert the new hard drive into an available slot.
2. Launch a PuTTY session and select either the **Telnet** or **SSH** radio button.
3. Connect to the MP and enter the Command Menu (CM). From any running workstation.

```
PDQVS1$ ssh "Admin@192.0.200.226"
```

```
Admin's password:
```

– OR –

```
PDQVS1$ telnet "Admin@192.0.200.226"
```

```
Admin's password:
```

NOTE: When using SSH, nothing appears in response to keystrokes, not even dots or asterisks.

```
Authentication successful.
```

```
      Hewlett-Packard Integrity Integrated Lights-Out 2
```

```
(c) Copyright Hewlett-Packard Company 1999-2011. All Rights Reserved.
```

```
      MP Host Name: pdqvca
```

```
      Revision F.02.26
```

```
MP MAIN MENU:
```

```
  CO: Console
```

```
  VFP: Virtual Front Panel
```

```
  CM: Command Menu
```

```
  SMCLP: Server Management Command Line Protocol
```

```
  CL: Console Log
```

```
  SL: Show Event Logs
```

```
  HE: Main Help Menu
```

```
  X: Exit Connection
```

```
[pdqvca] MP> CM
```

4. Power up the main part of the rx2660.

```
[pdqvca] MP:CM> pc -on
```

```
PC -on
```

```
System will be powered on.
```

```
  Confirm? (Y/[N]): y
```

```
Y
```

```
-> System is being powered on.
```

```
-> Command successful.
```

```
[pdqvca] MP:CM>
```

RX2660 BOOT DISK ENTRY

5. Return to the Main Menu (<Ctrl-b>) and go to the Console (CO) to monitor the early boot. This may take a little while.

MP MAIN MENU:

CO: Console
VFP: Virtual Front Panel
CM: Command Menu
SMCLP: Server Management Command Line Protocol
CL: Console Log
SL: Show Event Logs
HE: Main Help Menu
X: Exit Connection

[pdqvca] MP> co

[Use Ctrl-B or ESC-(to return to MP main menu.]

```
- - - - - Prior Console Output - - - - -
*          POST-MISERnet startup at 21-NOV-2018 10:45:56.58          *
*****

SYSTEM      job terminated at NOVEMBER 21, 2018 10:45 AM

Accounting information:
Buffered I/O count:          9029      Peak working set size:      9824
Direct I/O count:           3561      Peak virtual size:          250112
Page faults:                 22792     Mounted volumes:            0
Charged CPU time:           0 00:00:02.49  Elapsed time:              0 00:00:31.53
- - - - - Live Console - - - - -
*****
* ROM Version : 04.32
* ROM Date   : 05/21/2013
* BMC Version : 05.26
*****
0 0 0x0015B2 0x0000000018719204 boot time event
...
```

RX2660 BOOT DISK ENTRY

```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
| ^      Boot Menu                               |
| MODVSB                                       |
| DCYVSB                                       |
| HENDCN ROBIN                                |
| HENDCJ                                       |
| MANMVB                                       |
| Internal Bootable DVD                       |
| iLO Virtual Media                           |
| Core LAN A                                  |
| Core LAN B                                  |
| EFI Shell [Built-in]                        |
| FTWMVB                                       |
|-----|
| Boot Configuration                           |
| System Configuration                         |
| v                                             |
\-----/

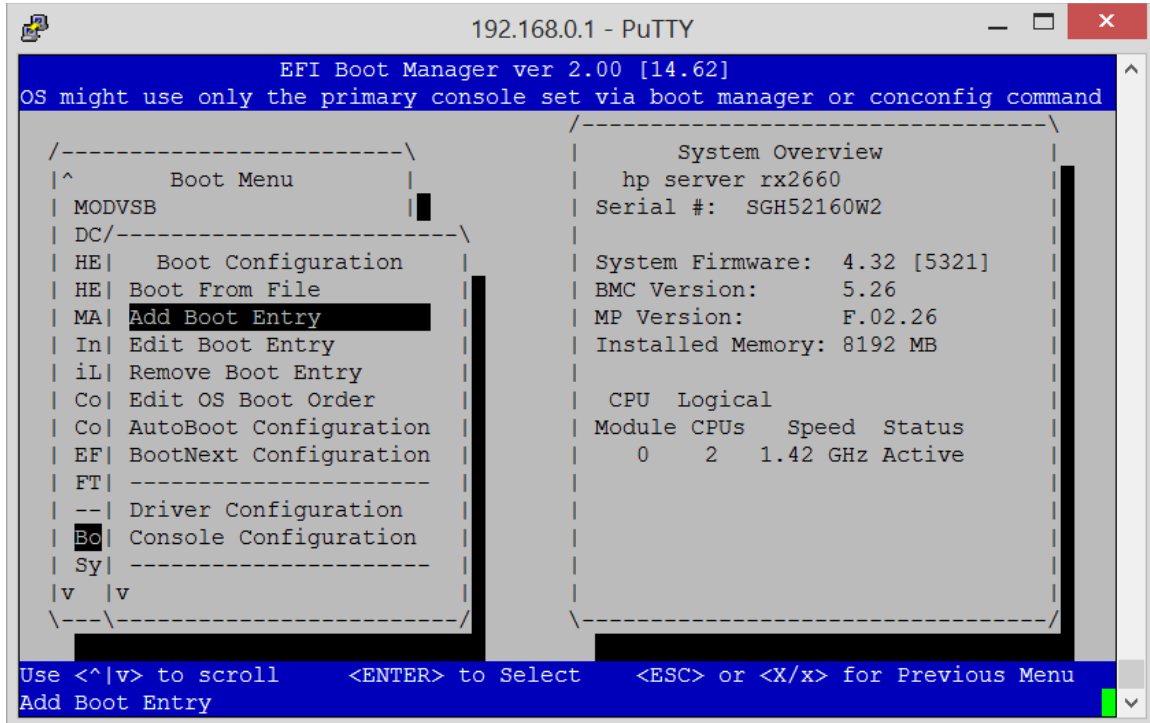
/-----\
| System Overview                               |
| hp server rx2660                             |
| Serial #:  SGH52160W2                       |
|-----|
| System Firmware:  4.32 [5321]               |
| BMC Version:      5.26                       |
| MP Version:       F.02.26                    |
| Installed Memory: 8192 MB                    |
|-----|
| CPU Logical                                     |
| Module CPUs  Speed  Status                  |
|  0    2    1.42 GHz Active                   |
|-----|

Use ^ and v to change option(s). Use Enter to select an option
Boot Configuration
```

- When the EFI Boot Manager Menu appears, press the Down arrow key to move the cursor to **Boot Configuration**, and then press <Enter>. This must be done quickly as there is about fifteen seconds to respond.

NOTE: If more than one bootable disk is inserted, then multiple entries will appear instead of the one (two-line) entry seen in this example. The first entry will be for the bootable disk in the lowest-numbered slot.

RX2660 BOOT DISK ENTRY



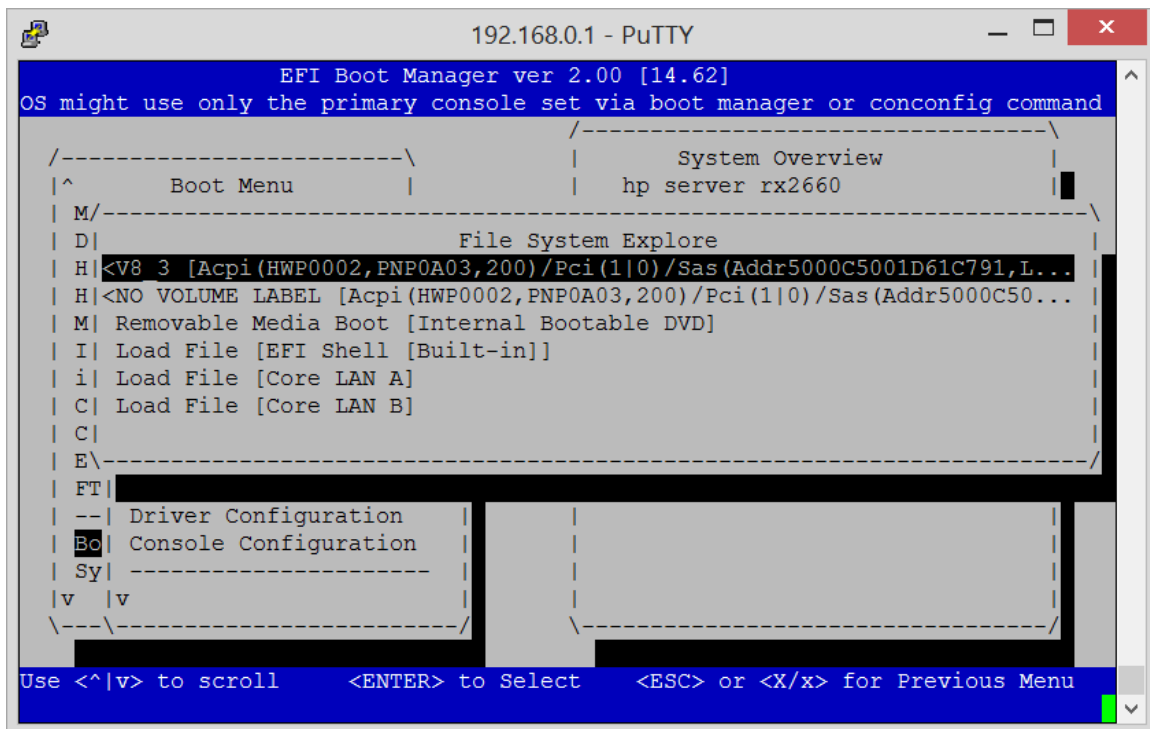
```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|^      Boot Menu      |
| MODVSB              |
| DC/-----\        |
| HE|   Boot Configuration
| HE|  Boot From File
| MA| Add Boot Entry
| In|  Edit Boot Entry
| iL| Remove Boot Entry
| Co|  Edit OS Boot Order
| Co|  AutoBoot Configuration
| EF|  BootNext Configuration
| FT| -----
| --| Driver Configuration
| Bo| Console Configuration
| Sy| -----
| v |v
\-----\

/-----\
|      System Overview
| hp server rx2660
| Serial #:  SGH52160W2
|
| System Firmware:  4.32 [5321]
| BMC Version:      5.26
| MP Version:       F.02.26
| Installed Memory: 8192 MB
|
| CPU Logical
| Module CPUs  Speed  Status
|   0    2    1.42 GHz Active

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
Add Boot Entry
```

7. In the dialog box, navigate to **Add Boot Entry** and press <Enter>. A message will display while the machine searches for a bootable device (this should take less than thirty seconds).



```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|^      Boot Menu      |
| M/-----\        |
| D|      File System Explore
| H| <V8 3 [Acpi (HWP0002, PNP0A03, 200) /Pci (1|0) /Sas (Addr5000C5001D61C791, L...
| H| <NO VOLUME LABEL [Acpi (HWP0002, PNP0A03, 200) /Pci (1|0) /Sas (Addr5000C50...
| M| Removable Media Boot [Internal Bootable DVD]
| I| Load File [EFI Shell [Built-in]]
| i| Load File [Core LAN A]
| C| Load File [Core LAN B]
| C|
| E\
| FT|
| --| Driver Configuration
| Bo| Console Configuration
| Sy| -----
| v |v
\-----\

/-----\
|      System Overview
| hp server rx2660

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
```

8. Navigate to the proper device (typically the top entry) and press <Enter>.

RX2660 BOOT DISK ENTRY

```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\          |          System Overview          |
|^          Boot Menu          |          hp server rx2660          | | | | | |
|M/-----\          |          |          |          |          |
|D|          File System Explore          |          |          |          |
|H| 12/11/06 03:43p <DIR> 2,048 EFI          | 1,L...          |
|H|          |          |          |          |          |          |
|M|          |          |          |          |          |          |
|I|          |          |          |          |          |          |
|i|          |          |          |          |          |          |
|C|          |          |          |          |          |          |
|C|          |          |          |          |          |          |
|E\          |          |          |          |          |          |
|FT|          |          |          |          |          |          |
|--| Driver Configuration          |          |          |          |
|Bo| Console Configuration          |          |          |          |
|Sy|          |          |          |          |          |          |
|v |v          |          |          |          |          |          |
\-----\          |          |          |          |          |

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
```

9. There is no option on this step, you must select EFI. Press <Enter> again and wait for the screen to refresh.

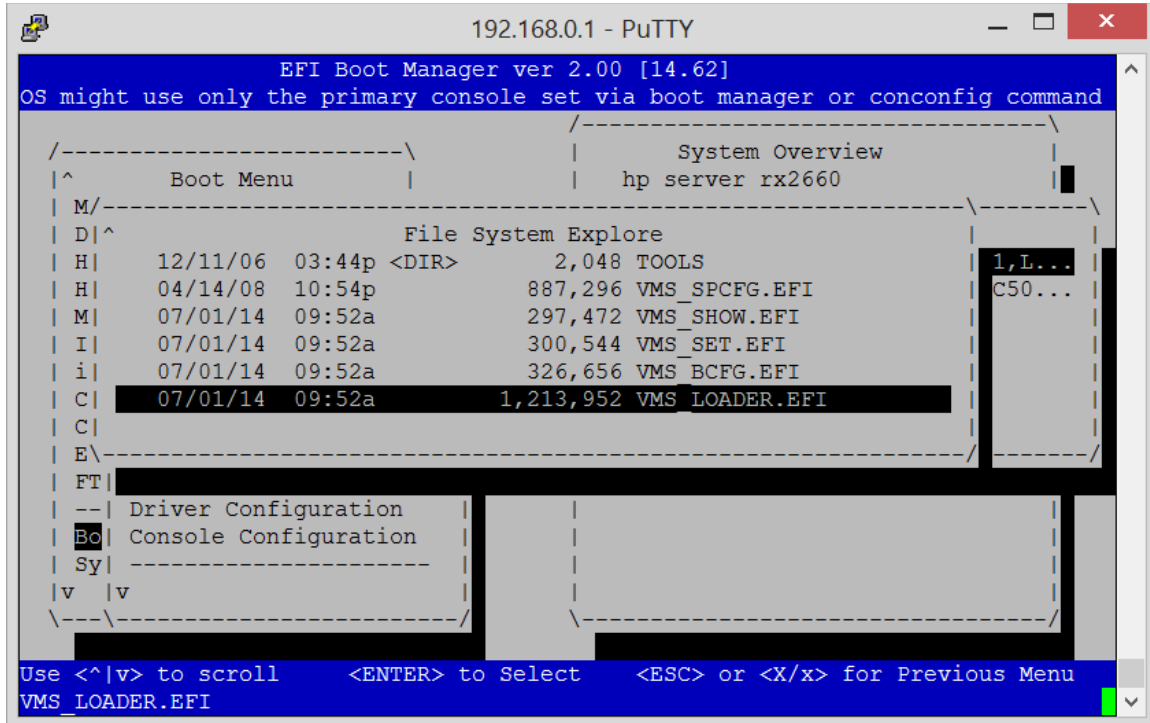
```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\          |          System Overview          |
|^          Boot Menu          |          hp server rx2660          | | | | | |
|M/-----\          |          |          |          |          |
|D|          File System Explore          |          |          |          |
|H| 12/11/06 03:43p <DIR> 2,048 .          | 1,L...          |
|H| 12/11/06 03:43p <DIR> 0 ..          | C50...          |
|M| 12/11/06 03:43p <DIR> 2,048 VMS          |          |          |
|I|          |          |          |          |          |          |
|i|          |          |          |          |          |          |
|C|          |          |          |          |          |          |
|C|          |          |          |          |          |          |
|E\          |          |          |          |          |          |
|FT|          |          |          |          |          |          |
|--| Driver Configuration          |          |          |          |
|Bo| Console Configuration          |          |          |          |
|Sy|          |          |          |          |          |          |
|v |v          |          |          |          |          |          |
\-----\          |          |          |          |          |

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
```

10. Navigate to the **VMS** line and press <Enter>.

RX2660 BOOT DISK ENTRY



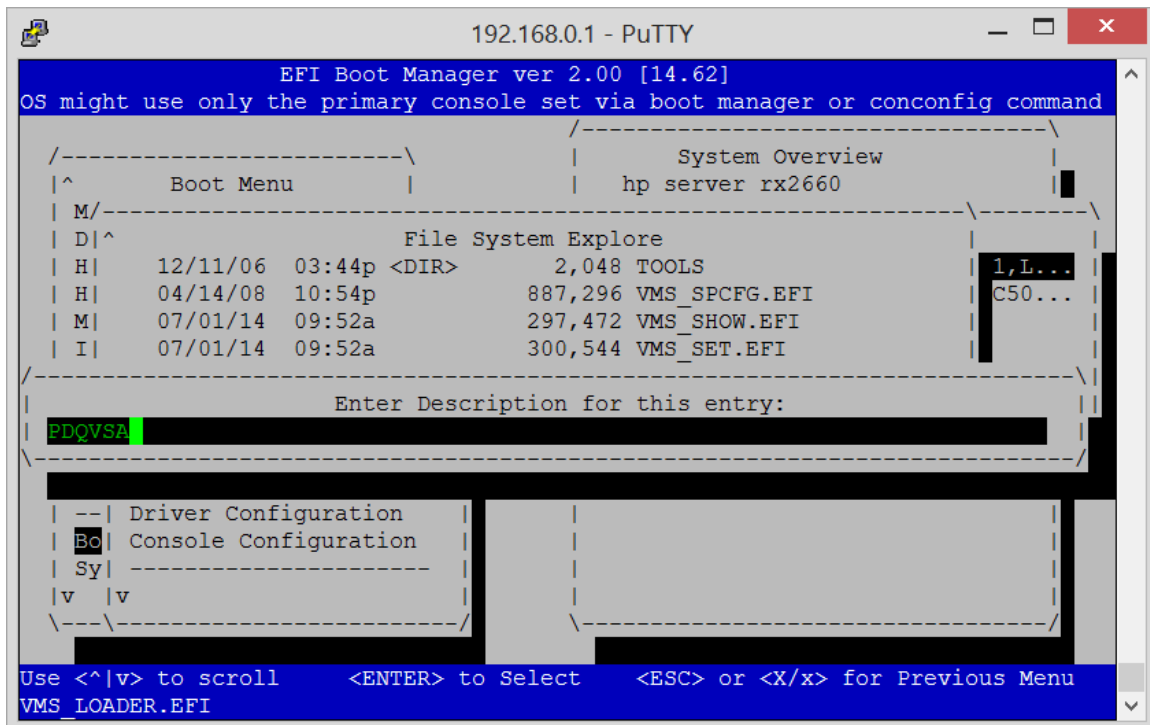
```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|^      Boot Menu      |      System Overview      |
|M/-----\          |      hp server rx2660          |
|D|^      File System Explore      |
|H| 12/11/06 03:44p <DIR> 2,048 TOOLS | 1,L...
|H| 04/14/08 10:54p 887,296 VMS_SPCFG.EFI | C50...
|M| 07/01/14 09:52a 297,472 VMS_SHOW.EFI
|I| 07/01/14 09:52a 300,544 VMS_SET.EFI
|i| 07/01/14 09:52a 326,656 VMS_BCFG.EFI
|C| 07/01/14 09:52a 1,213,952 VMS_LOADER.EFI
|C|
|E\
|FT|
|--| Driver Configuration
|Bo| Console Configuration
|Sy| -----
|v |v
\-----\

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
VMS_LOADER.EFI
```

11. Navigate to the line that reads VMS_LOADER.EFI and press <Enter>.

NOTE: It may be necessary to move the cursor past the end of the *page*.



```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|^      Boot Menu      |      System Overview      |
|M/-----\          |      hp server rx2660          |
|D|^      File System Explore      |
|H| 12/11/06 03:44p <DIR> 2,048 TOOLS | 1,L...
|H| 04/14/08 10:54p 887,296 VMS_SPCFG.EFI | C50...
|M| 07/01/14 09:52a 297,472 VMS_SHOW.EFI
|I| 07/01/14 09:52a 300,544 VMS_SET.EFI
|C|
|E\
|FT|
|--| Driver Configuration
|Bo| Console Configuration
|Sy| -----
|v |v
\-----\

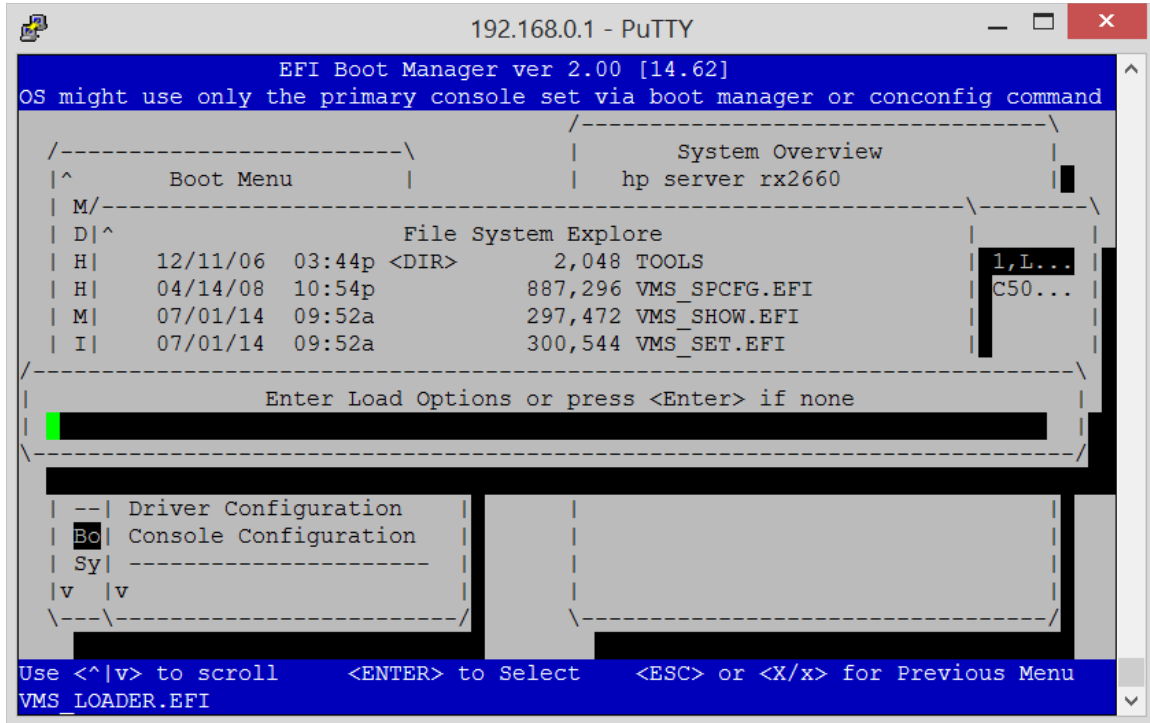
Enter Description for this entry:
PDQVSA

|--| Driver Configuration
|Bo| Console Configuration
|Sy| -----
|v |v
\-----\

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
VMS_LOADER.EFI
```

12. Enter a description for the hard drive (e.g., PDQVSA).

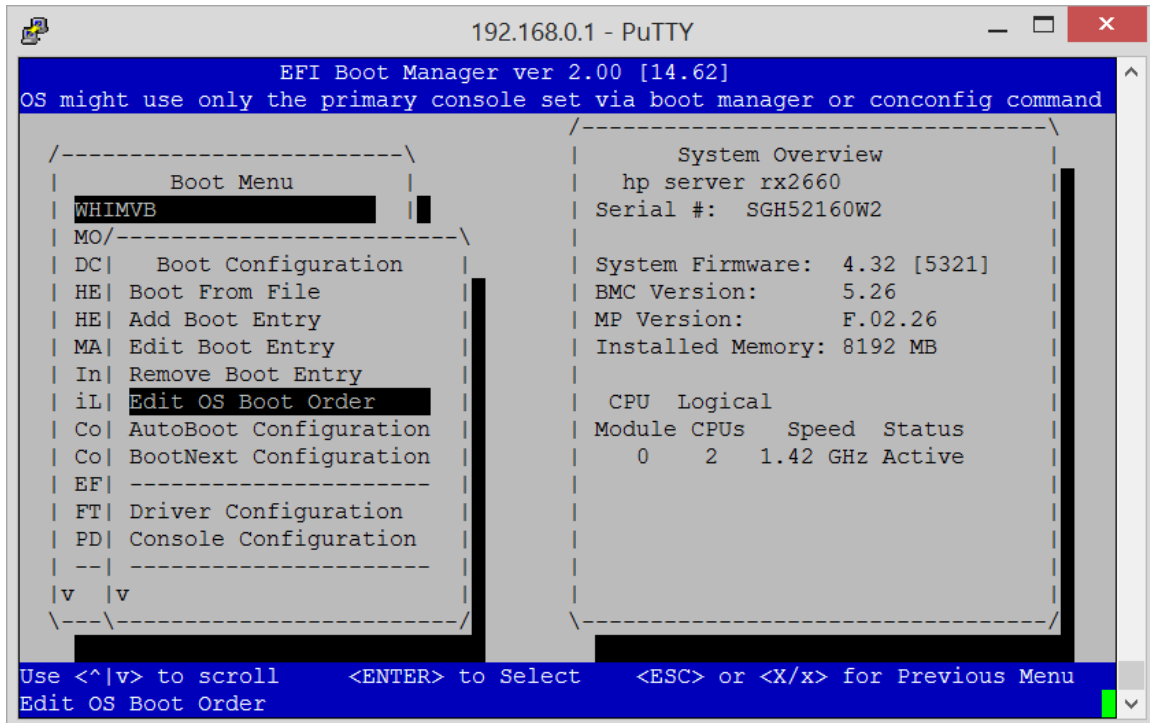
RX2660 BOOT DISK ENTRY



```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
| ^      Boot Menu      | |      System Overview      | |
| M/-----\          | |      hp server rx2660      |
| D|^      File System Explore      |
| H| 12/11/06 03:44p <DIR> 2,048 TOOLS | | 1,L... |
| H| 04/14/08 10:54p 887,296 VMS_SPCFG.EFI | | C50... |
| M| 07/01/14 09:52a 297,472 VMS_SHOW.EFI |
| I| 07/01/14 09:52a 300,544 VMS_SET.EFI |
|-----|-----|
| Enter Load Options or press <Enter> if none |
|-----|-----|
| --| Driver Configuration |
| Bo| Console Configuration |
| Sy| ----- |
| v |v |
|-----|-----|
Use <^|v> to scroll <ENTER> to Select <ESC> or <X/x> for Previous Menu
VMS_LOADER.EFI
```

- At the next prompt, leave the **Load Option** blank and press <Enter>. Type <y> at the **Save changes to NVRAM?** prompt.

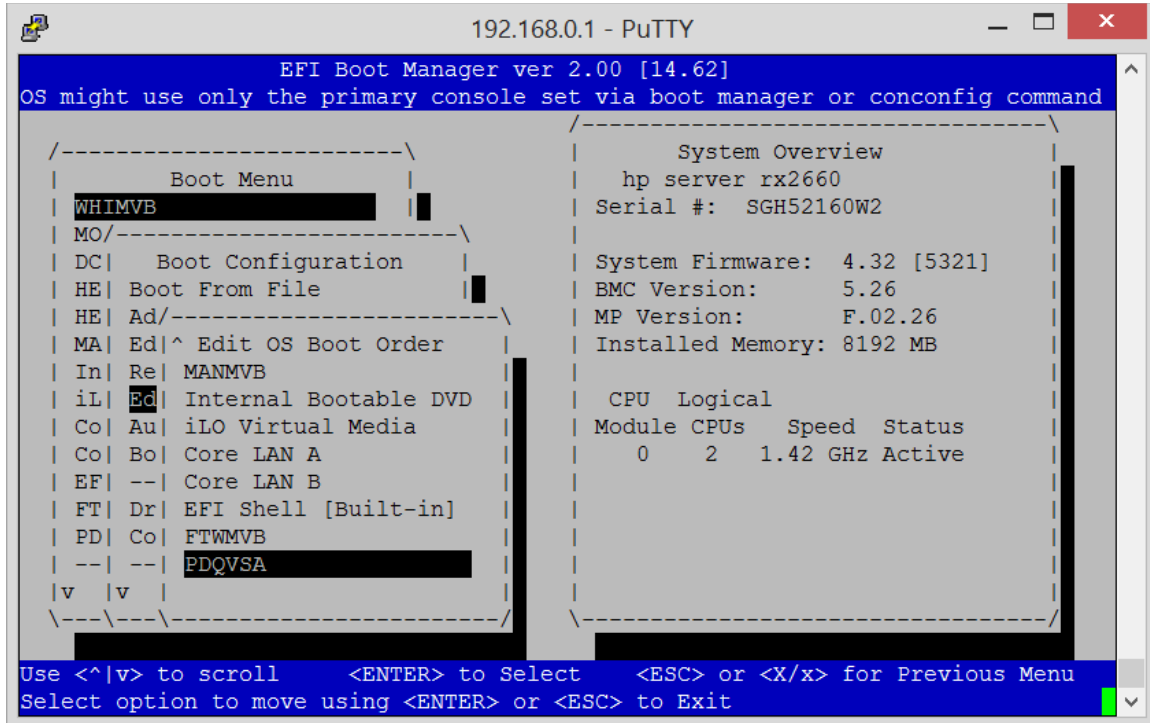


```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
| WHIMVB Boot Menu | |      System Overview      | |
| MO/-----\    | |      hp server rx2660      |
| DC| Boot Configuration | | Serial #: SGH52160W2 |
| HE| Boot From File     | | System Firmware: 4.32 [5321] |
| HE| Add Boot Entry     | | BMC Version: 5.26 |
| MA| Edit Boot Entry    | | MP Version: F.02.26 |
| In| Remove Boot Entry  | | Installed Memory: 8192 MB |
| iL| Edit OS Boot Order | | CPU Logical |
| Co| AutoBoot Configuration | | Module CPUs Speed Status |
| Co| BootNext Configuration | | 0 2 1.42 GHz Active |
| EF| ----- |
| FT| Driver Configuration |
| PD| Console Configuration |
| --| ----- |
| v |v |
|-----|-----|
Use <^|v> to scroll <ENTER> to Select <ESC> or <X/x> for Previous Menu
Edit OS Boot Order
```

- When the screen refreshes, navigate to **Edit OS Boot Order** and press <Enter>.

RX2660 BOOT DISK ENTRY



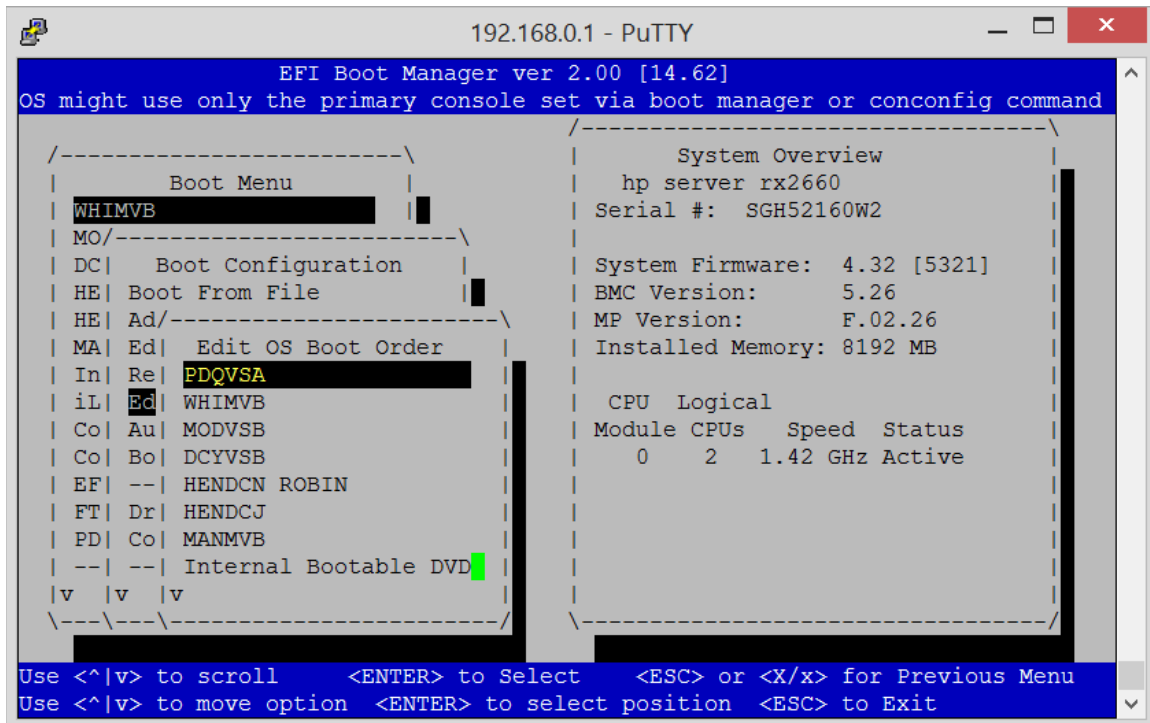
```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|          Boot Menu          |
| WHIMVB | |
| MO/-----\
| DC|   Boot Configuration   |
| HE| Boot From File         |
| HE| Ad/-----\
| MA| Ed|^ Edit OS Boot Order|
| In| Re| MANMVB              |
| iL| Ed| Internal Bootable DVD|
| Co| Au| iLO Virtual Media   |
| Co| Bo| Core LAN A          |
| EF| --| Core LAN B          |
| FT| Dr| EFI Shell [Built-in]|
| PD| Co| FTWMVB              |
| --| --| PDQVSA              |
| v |v |
|-----|

/-----\
|          System Overview          |
| hp server rx2660                  |
| Serial #:  SGH52160W2             |
| System Firmware:  4.32 [5321]    |
| BMC Version:      5.26           |
| MP Version:       F.02.26        |
| Installed Memory: 8192 MB        |
| CPU Logical
| Module CPUs      Speed  Status
|   0      2      1.42 GHz Active

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
Select option to move using <ENTER> or <ESC> to Exit
```

15. Highlight PDQVSA and press <Enter>, the word will turn yellow. Press the Up arrow until PDQVSA is the topmost entry. Press <Enter> again to lock it into its new position.



```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

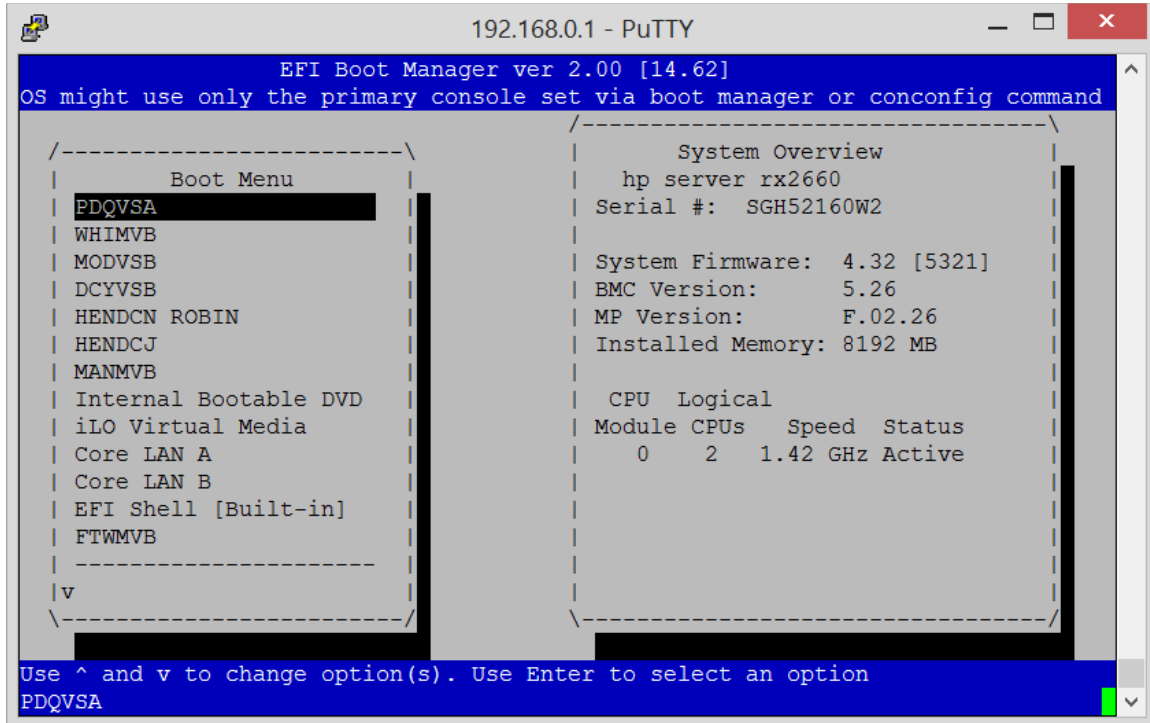
/-----\
|          Boot Menu          |
| WHIMVB | |
| MO/-----\
| DC|   Boot Configuration   |
| HE| Boot From File         |
| HE| Ad/-----\
| MA| Ed|^ Edit OS Boot Order|
| In| Re| PDQVSA              |
| iL| Ed| WHIMVB              |
| Co| Au| MODVSB              |
| Co| Bo| DCYVSB              |
| EF| --| HENDCN ROBIN        |
| FT| Dr| HENDCJ              |
| PD| Co| MANMVB              |
| --| --| Internal Bootable DVD|
| v |v |v
|-----|

/-----\
|          System Overview          |
| hp server rx2660                  |
| Serial #:  SGH52160W2             |
| System Firmware:  4.32 [5321]    |
| BMC Version:      5.26           |
| MP Version:       F.02.26        |
| Installed Memory: 8192 MB        |
| CPU Logical
| Module CPUs      Speed  Status
|   0      2      1.42 GHz Active

Use <^|v> to scroll  <ENTER> to Select  <ESC> or <X/x> for Previous Menu
Use <^|v> to move option <ENTER> to select position <ESC> to Exit
```

16. Press <Enter> and the color will change back.
17. Press <Esc> twice to return to the **Boot Menu**. The new drive will now display at the top of the list.

RX2660 BOOT DISK ENTRY

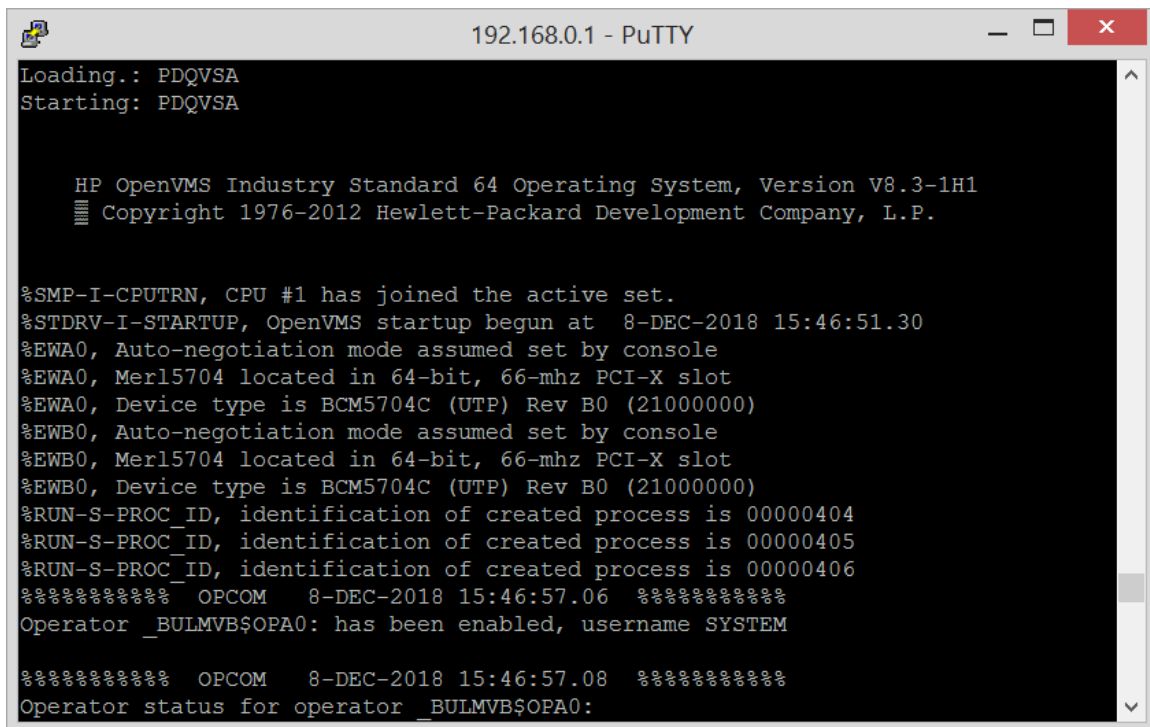


```
192.168.0.1 - PuTTY
EFI Boot Manager ver 2.00 [14.62]
OS might use only the primary console set via boot manager or conconfig command

/-----\
|          Boot Menu          |
| PDQVSA                      |
| WHIMVB                      |
| MODVSB                      |
| DCYVSB                      |
| HENDCN ROBIN                |
| HENDCJ                      |
| MANMVB                      |
| Internal Bootable DVD      |
| iLO Virtual Media          |
| Core LAN A                  |
| Core LAN B                  |
| EFI Shell [Built-in]       |
| FTWMVB                      |
|-----|
| v                            |
\-----/

/-----\
|          System Overview          |
| hp server rx2660                  |
| Serial #:  SGH52160W2             |
|                                     |
| System Firmware:  4.32 [5321]    |
| BMC Version:      5.26            |
| MP Version:       F.02.26         |
| Installed Memory: 8192 MB         |
|                                     |
| CPU Logical                          |
| Module CPUs   Speed  Status       |
|   0     2     1.42 GHz Active      |
|-----|
|                                     |
|-----|
| Use ^ and v to change option(s). Use Enter to select an option |
| PDQVSA                                                                |
|-----|
```

18. Press <Enter>, this will begin rebooting the machine.



```
192.168.0.1 - PuTTY
Loading.: PDQVSA
Starting: PDQVSA

HP OpenVMS Industry Standard 64 Operating System, Version V8.3-1H1
Copyright 1976-2012 Hewlett-Packard Development Company, L.P.

%SMP-I-CPUTRN, CPU #1 has joined the active set.
%STDRV-I-STARTUP, OpenVMS startup begun at  8-DEC-2018 15:46:51.30
%EWA0, Auto-negotiation mode assumed set by console
%EWA0, Mer15704 located in 64-bit, 66-mhz PCI-X slot
%EWA0, Device type is BCM5704C (UTP) Rev B0 (21000000)
%EWB0, Auto-negotiation mode assumed set by console
%EWB0, Mer15704 located in 64-bit, 66-mhz PCI-X slot
%EWB0, Device type is BCM5704C (UTP) Rev B0 (21000000)
%RUN-S-PROC_ID, identification of created process is 00000404
%RUN-S-PROC_ID, identification of created process is 00000405
%RUN-S-PROC_ID, identification of created process is 00000406
%%%%%%%%%% OPCOM  8-DEC-2018 15:46:57.06  %%%%%%%%%%%
Operator _BULMVB$OPA0: has been enabled, username SYSTEM

%%%%%%%%%% OPCOM  8-DEC-2018 15:46:57.08  %%%%%%%%%%%
Operator status for operator _BULMVB$OPA0:
```

19. After the machine has rebooted, press <Ctrl-b> to return to the Main Menu.

RX2660 BOOT DISK ENTRY

20. The rx2660 will first try to use the PDQVSA entry hereafter. This setting will survive a disconnection from the main power (as long as the MP battery is good).

21. Disconnect from the Console by pressing <Ctrl-b>, then disconnect from the MP by pressing <x>.

```
SYSTEM          job terminated at DECEMBER 8, 2018 04:09 PM

Accounting information:
Buffered I/O count:          8345          Peak working set size:          10272
Direct I/O count:           4343          Peak virtual size:              257120
Page faults:                 20407         Mounted volumes:                 0
Charged CPU time:           0 00:00:02.46  Elapsed time:                   0 00:00:38.74
```

22. Press <Ctrl-b>:

MP MAIN MENU:

```
CO: Console
VFP: Virtual Front Panel
CM: Command Menu
SMCLP: Server Management Command Line Protocol
CL: Console Log
SL: Show Event Logs
HE: Main Help Menu
X: Exit Connection
```

[pdqvca] MP> x

Remote connection closed.

PDQVSA\$