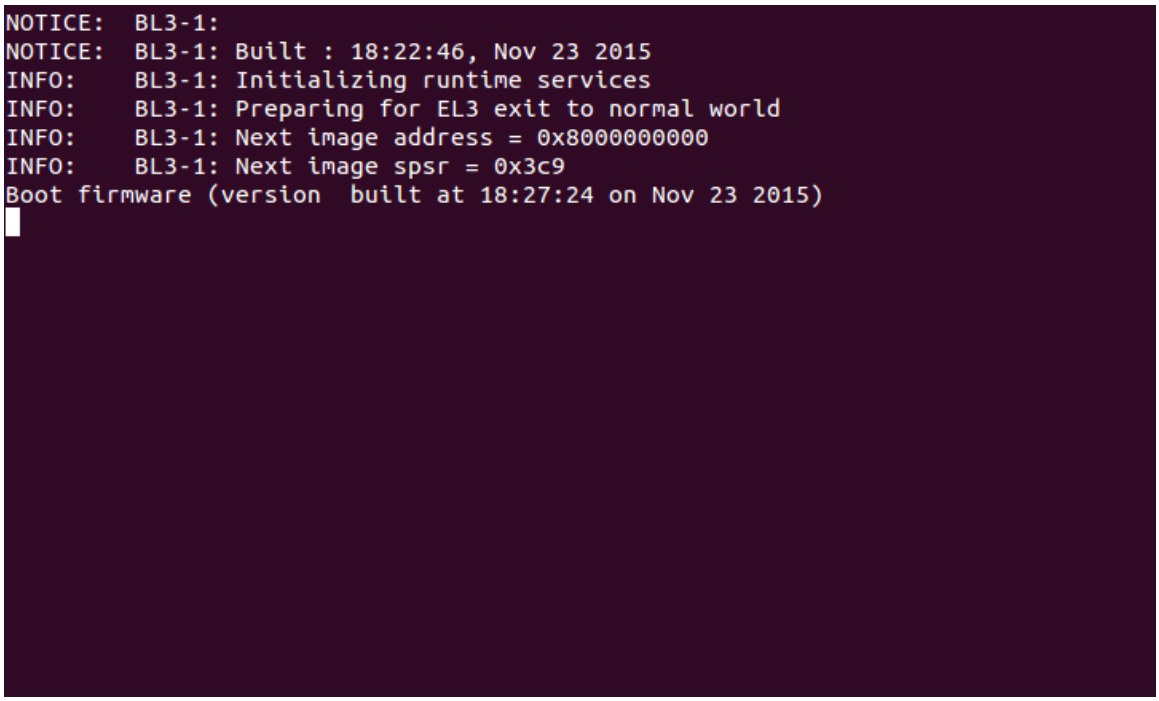
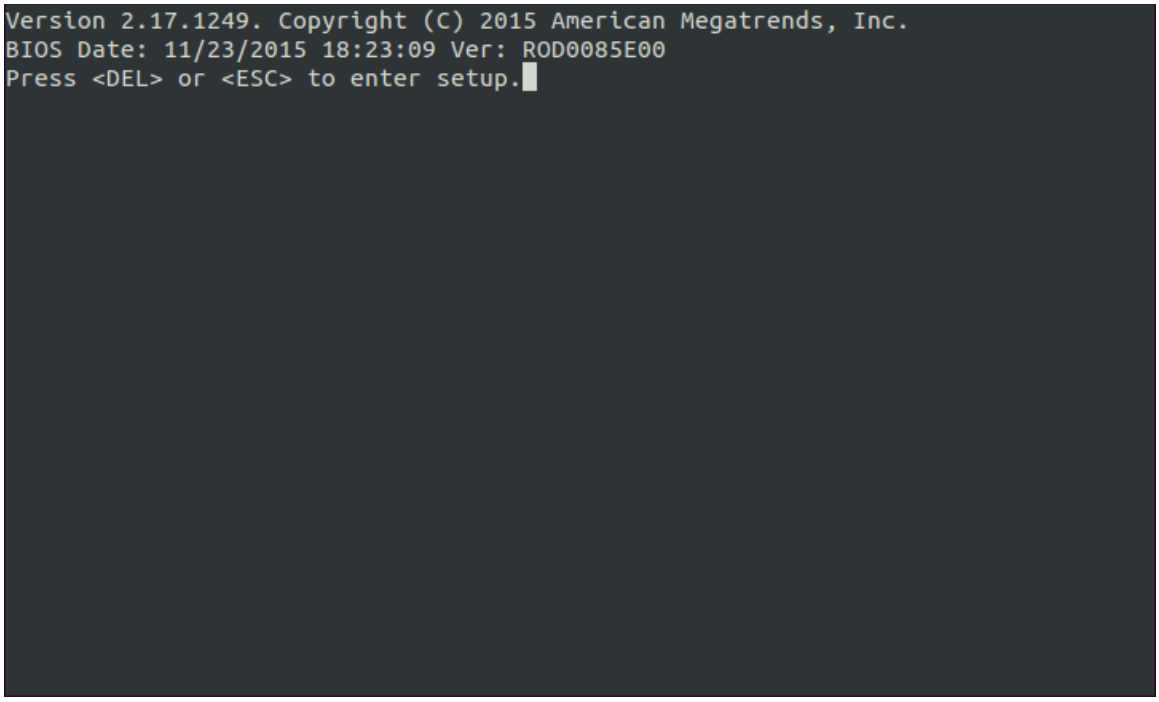
NOTE: Interruption of the firmware upgrade process could corrupt the firmware image making the unit unusable. SoftIron highly recommends performing the process with the unit protected by an uninterruptible power supply.

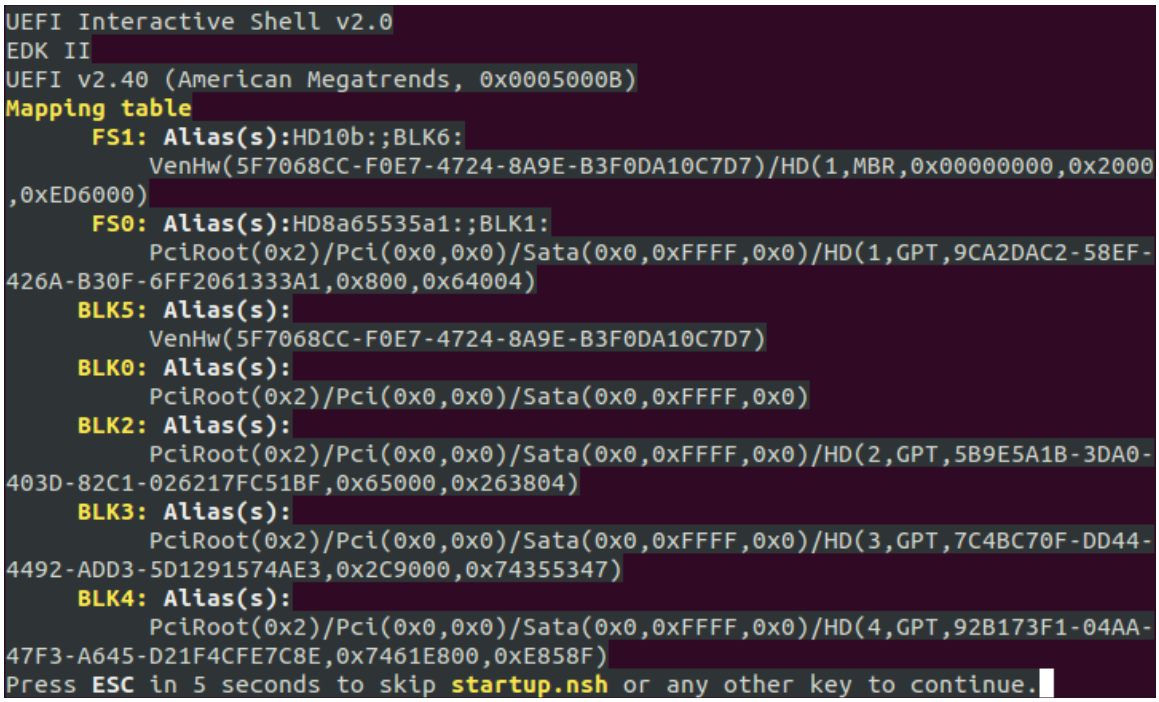
1. Download the latest firmware image and the firmware flash tool.
2. Copy the firmware .ROM file and SsiFlashARM64.EFI flash tool to either a SD card or the EFI partition on the Overdrive 3000 boot drive.
   NOTE: The Overdrive 3000 SD card slot is not compatible with SanDisk cards. Only cards with MMC-over-SPI are supported. This guide was created using a Patriot Memory PSF8GSDHC10-PC card.
3. Shut down the unit.
4. If the files were copied to an SD Card, insert that card in to the SD card slot on the back of the unit.
5. Connect to the serial console port on the rear of the chassis. Bring up a terminal window and power on the unit. The first screen will show the firmware build date:



6. The next screen also shows the build date as well as the version.



7. On the UEFI Shell page, press **ESC** before the 5 second timer runs out to enter the Shell.



8. The EFI Shell prompt.

```
EDK II
UEFI v2.40 (American Megatrends, 0x0005000B)
Mapping table
      FS1: Alias(s):HD10b:;BLK6:
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 1 seconds to skip startup.nsh or any other key to continue.
Shell>
```

9. Navigate to the location where the EFI flash tool was copied to in step 2. In this system, FS0 is the OS boot drive EFI partition and FS1 is the SD card.

```
UEFI v2.40 (American Megatrends, 0x0005000B)
Mapping table
      FS1: Alias(s):HD10b:;BLK6:
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 2 seconds to skip startup.nsh or any other key to continue.
Shell> FS1:
FS1:\>
```

10. Run the EFI flash utility; SsiFlashARM64.EFI [firmware ROM file] /U. Note the ROM file in the example screen below is located in a folder named RevB.

    NOTE: Interruption of the firmware upgrade process could corrupt the firmware image making the unit unusable. The entire process takes approximately **15 minutes** and there will not be progress displayed to the console for several minutes.

    DO NOT remove power or reset the system before the flash process is complete.

```
UEFI v2.40 (American Megatrends, 0x0005000B)
Mapping table
      FS1: Alias(s):HD10b:;BLK6:
           VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
           VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 2 seconds to skip startup.nsh or any other key to continue.
Shell> FS1:
FS1:\> SsiFlashARM64.EFI /RevB/ROD1001A.rom /U
```

11. The first progress indication is during the erasure of the existing firmware image.

```
Mapping table
      FS1: Alias(s):HD10b:;BLK6:
           VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
           VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
           PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 2 seconds to skip startup.nsh or any other key to continue.
Shell> FS1:
FS1:\> SsiFlashARM64.EFI /RevB/ROD1001A.rom /U
Erasing ............... 0x00510000 (31%)
```

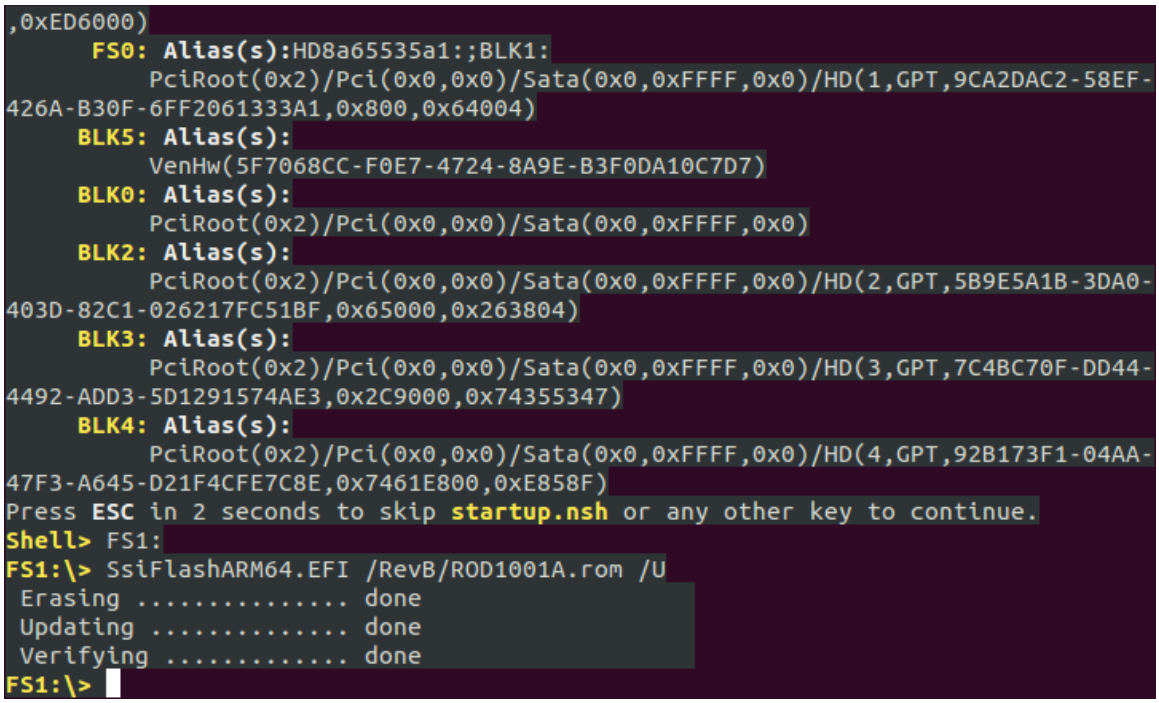
12. After the erase process is complete, the new firmware image will be written.

```
      FS1: Alias(s):HD10b:;BLK6:
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 2 seconds to skip startup.nsh or any other key to continue.
Shell> FS1:
FS1:\> SsiFlashARM64.EFI /RevB/ROD1001A.rom /U
 Erasing ............... done
 Updating .............. 0x008F0000 (55%)
```

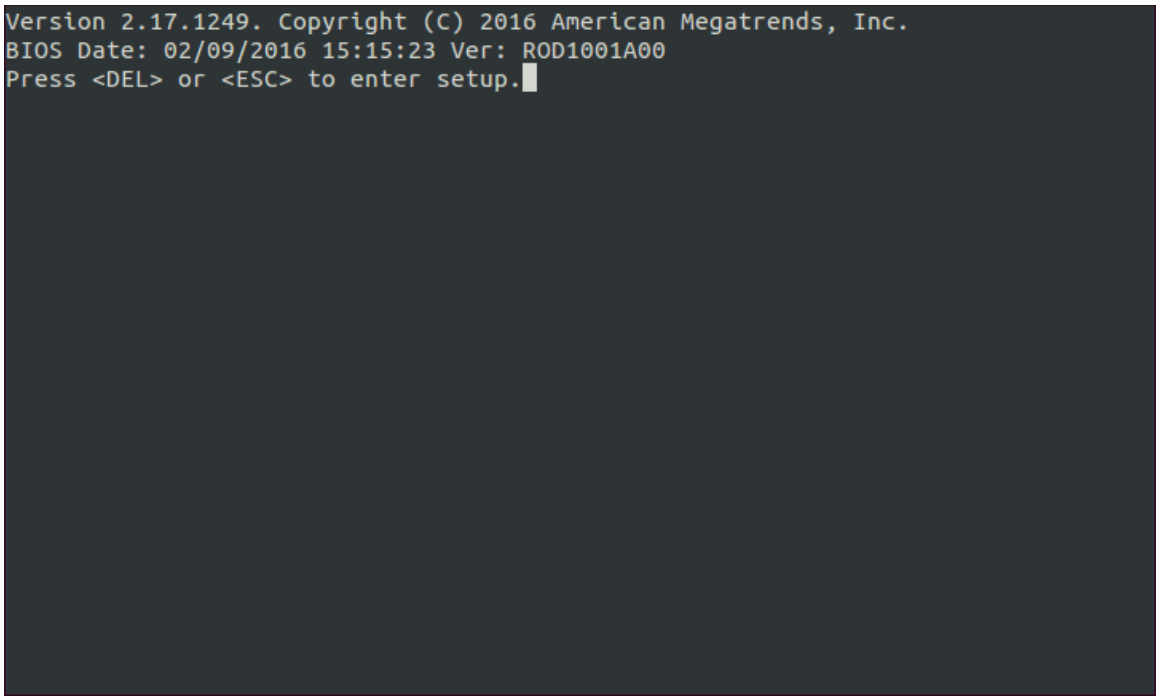
13. Once the image is written, the utility will read it back to verify that it was imaged correctly.

```
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)/HD(1,MBR,0x00000000,0x2000
,0xED6000)
      FS0: Alias(s):HD8a65535a1:;BLK1:
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(1,GPT,9CA2DAC2-58EF-
426A-B30F-6FF2061333A1,0x800,0x64004)
     BLK5: Alias(s):
          VenHw(5F7068CC-F0E7-4724-8A9E-B3F0DA10C7D7)
     BLK0: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)
     BLK2: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(2,GPT,5B9E5A1B-3DA0-
403D-82C1-026217FC51BF,0x65000,0x263804)
     BLK3: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(3,GPT,7C4BC70F-DD44-
4492-ADD3-5D1291574AE3,0x2C9000,0x74355347)
     BLK4: Alias(s):
          PciRoot(0x2)/Pci(0x0,0x0)/Sata(0x0,0xFFFF,0x0)/HD(4,GPT,92B173F1-04AA-
47F3-A645-D21F4CFE7C8E,0x7461E800,0xE858F)
Press ESC in 2 seconds to skip startup.nsh or any other key to continue.
Shell> FS1:
FS1:\> SsiFlashARM64.EFI /RevB/ROD1001A.rom /U
 Erasing ............... done
 Updating .............. done
 Verifying ............. 0x003B0000 (23%)
```

14. The update utility will exit back to the shell when the process is complete. The unit can now be powered off safely.

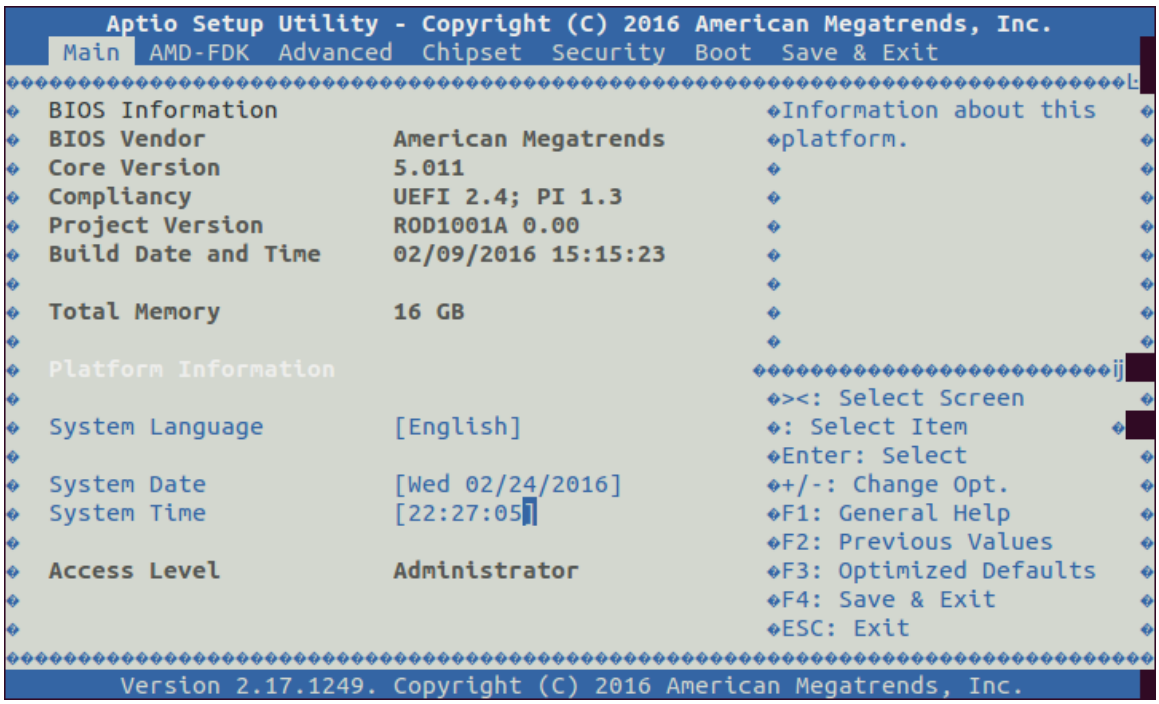


15. Shut down the unit and power it back on again to load the new firmware. When the BIOS setup screen is displayed, press **DEL** or **ESC** to enter the setup utility.

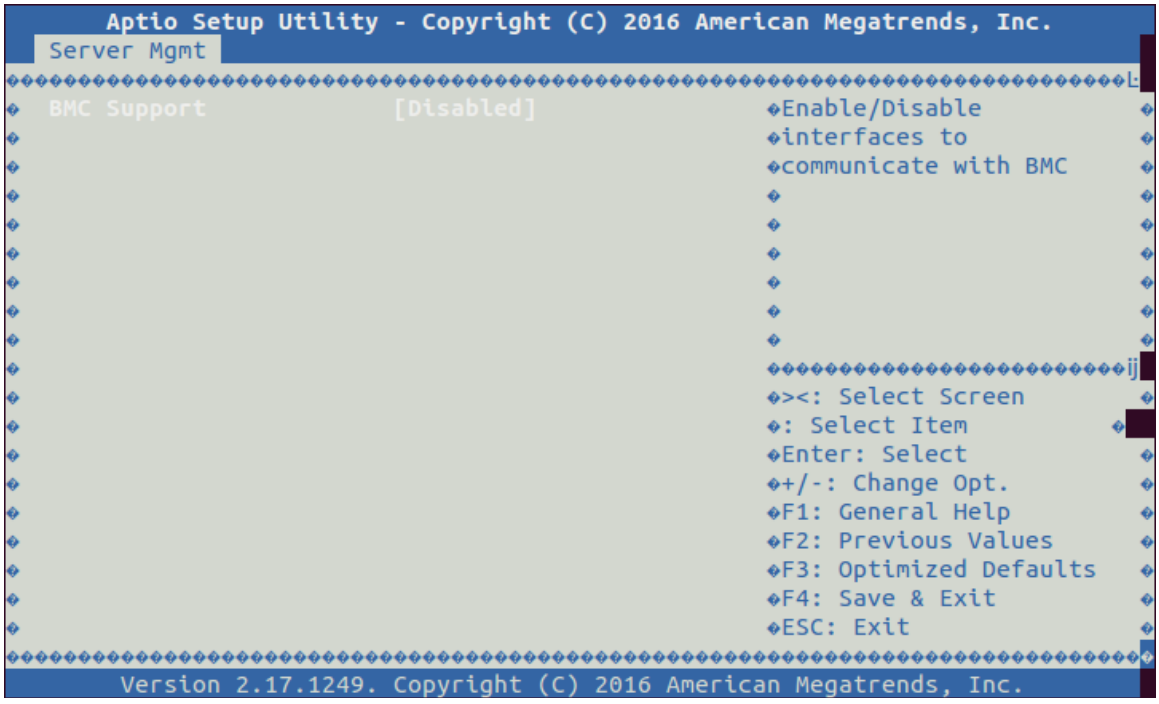


NOTE: The following configuration steps will set the firmware to the as-shipped state. Your individual configuration may vary.

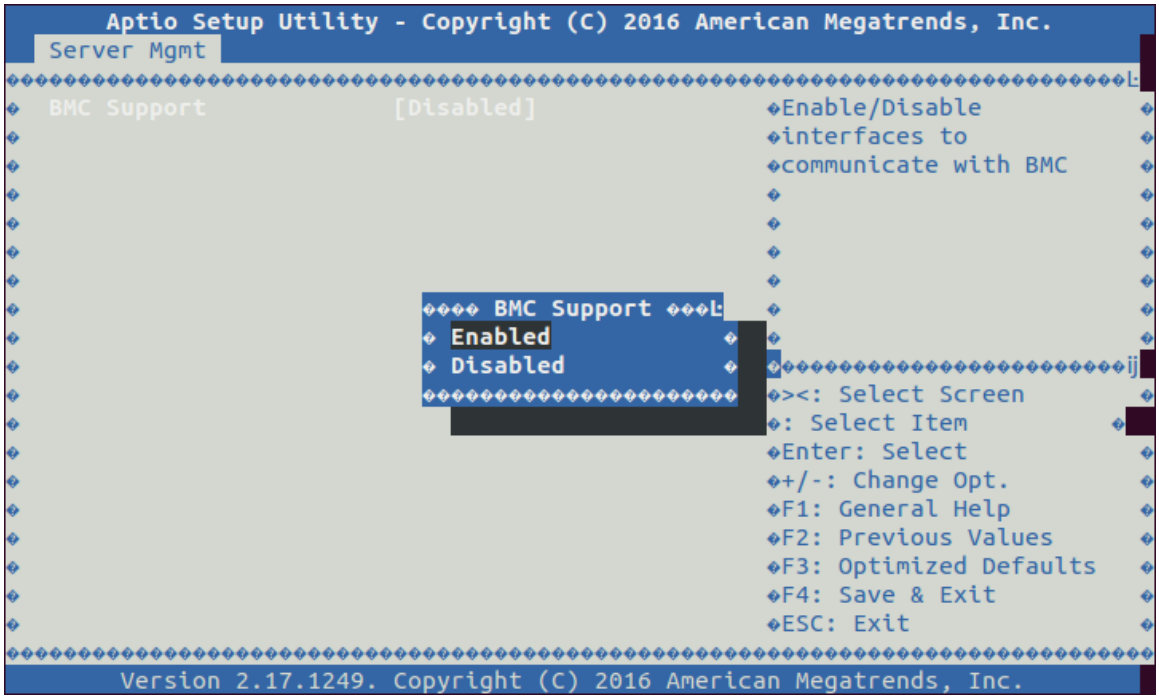
16. The main setup utility screen will be displayed.



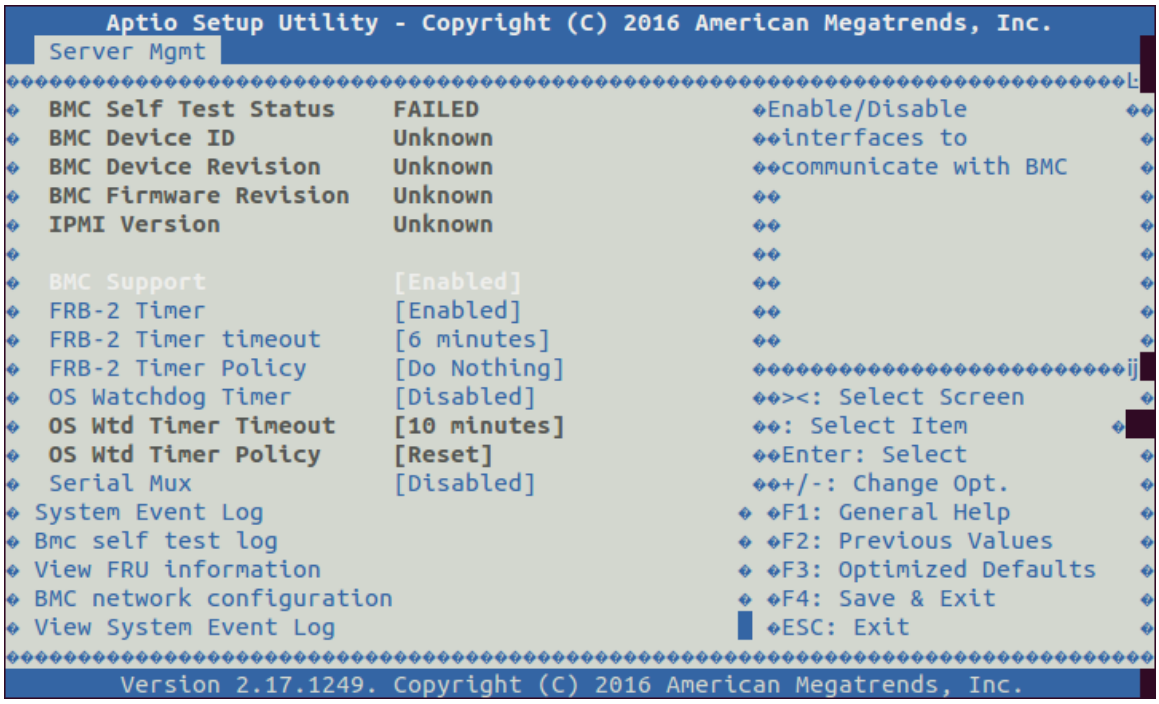
17. Navigate to the System Management tab (left direction arrow from the Main tab).



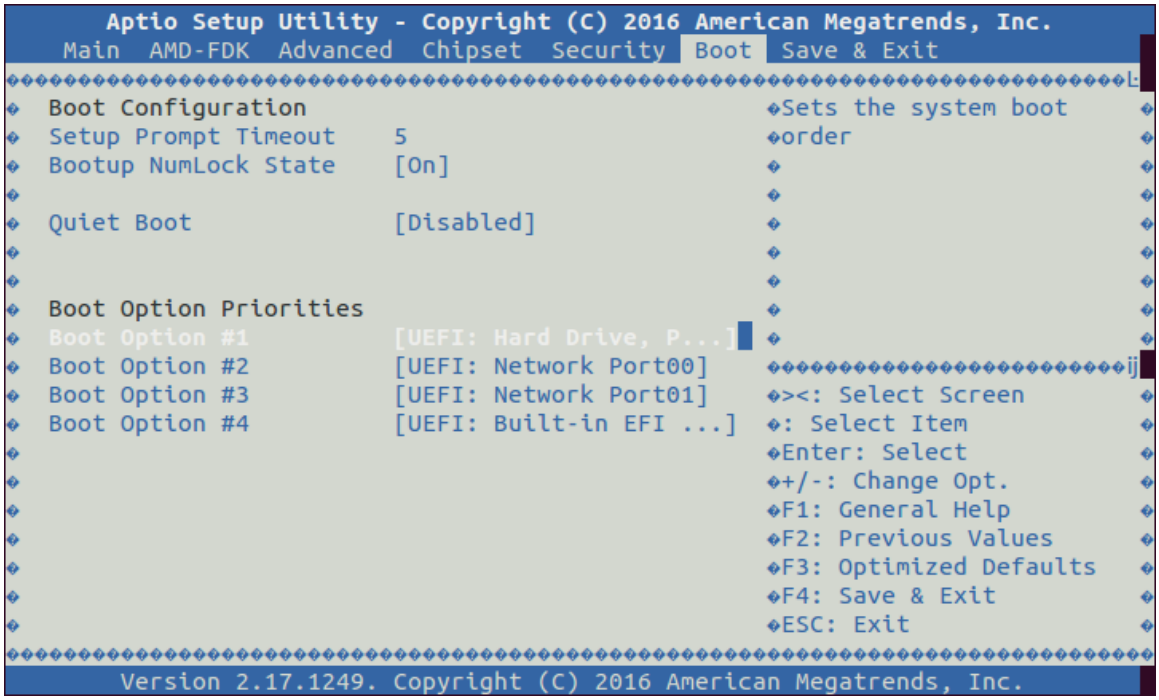
18. Enable BMC Support.



19. Note that the BMC self test will show as failed after it is first enabled in the BIOS. This is expected behavior as the self test has not been run. It will run automatically on the next power on or restart.

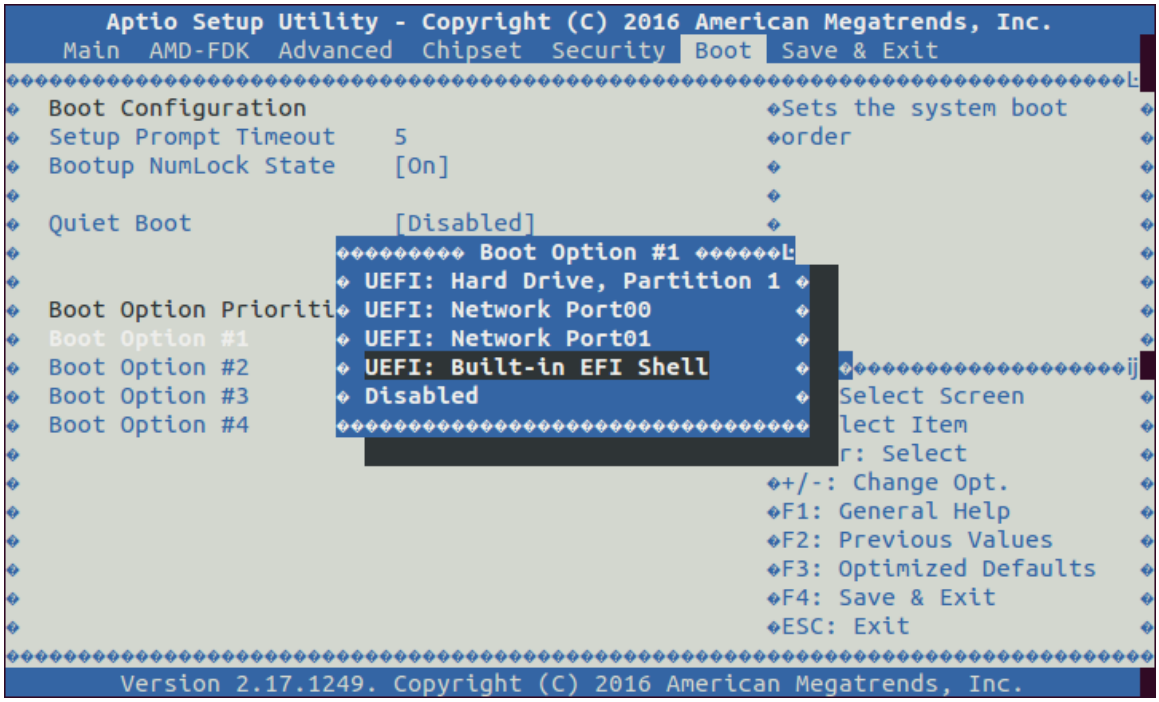


20. Navigate to the Boot tab (left direction arrow twice from the Server Management tab). Move down to the first boot option.

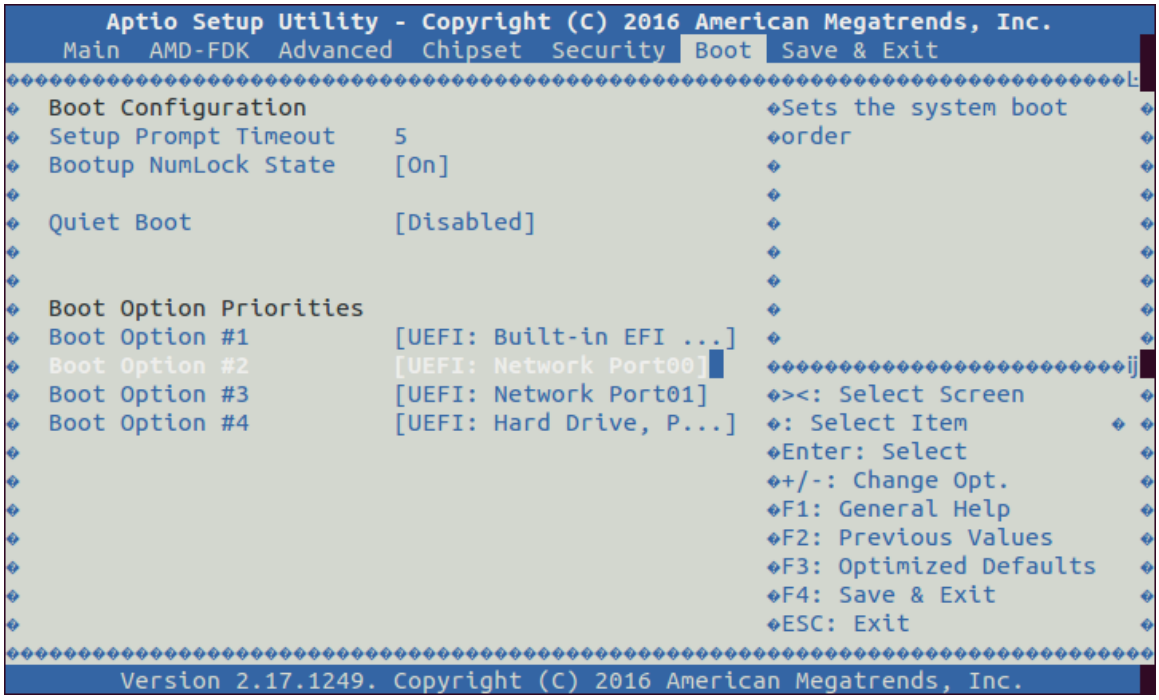


21. Change the first boot option to the Built-in EFI Shell.

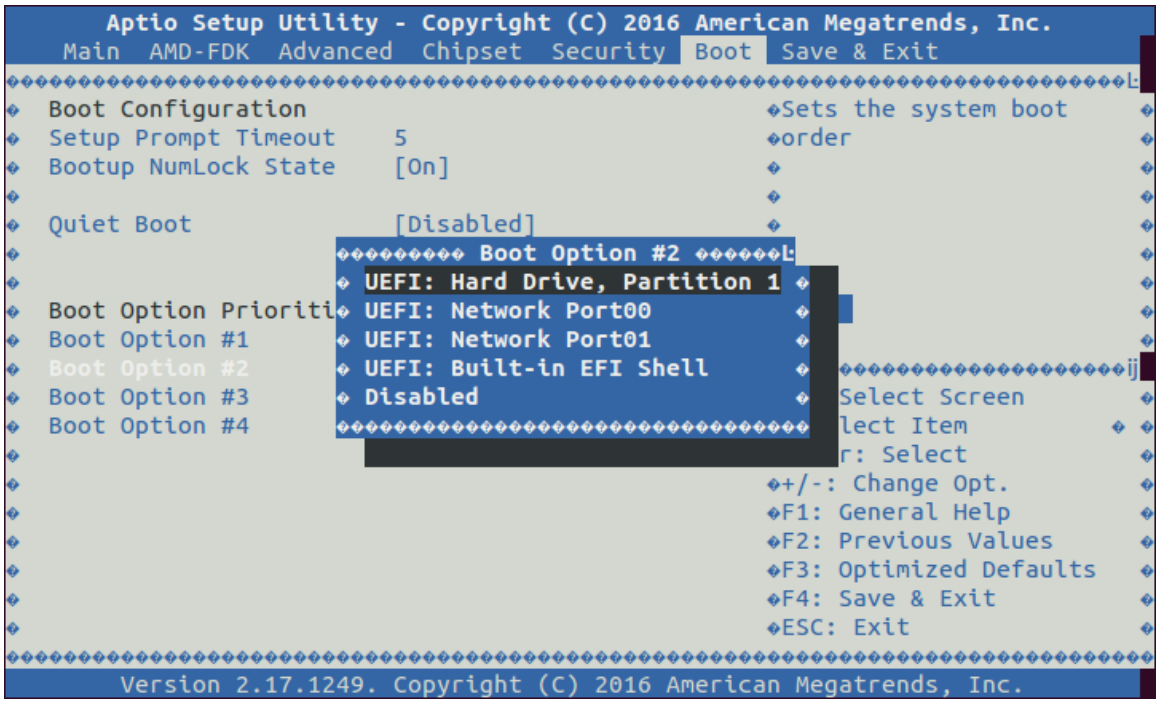
NOTE: The following configuration step is necessary for installations that do not use the PXE boot option. As of firmware 1.0.0.1A there is a known bug that could prevent the operating system from loading properly when the system is connected to certain networks without a PXE boot server. Moving the EFI Shell before the Network Ports in the boot order prevents this bug from causing the OS boot to fail.



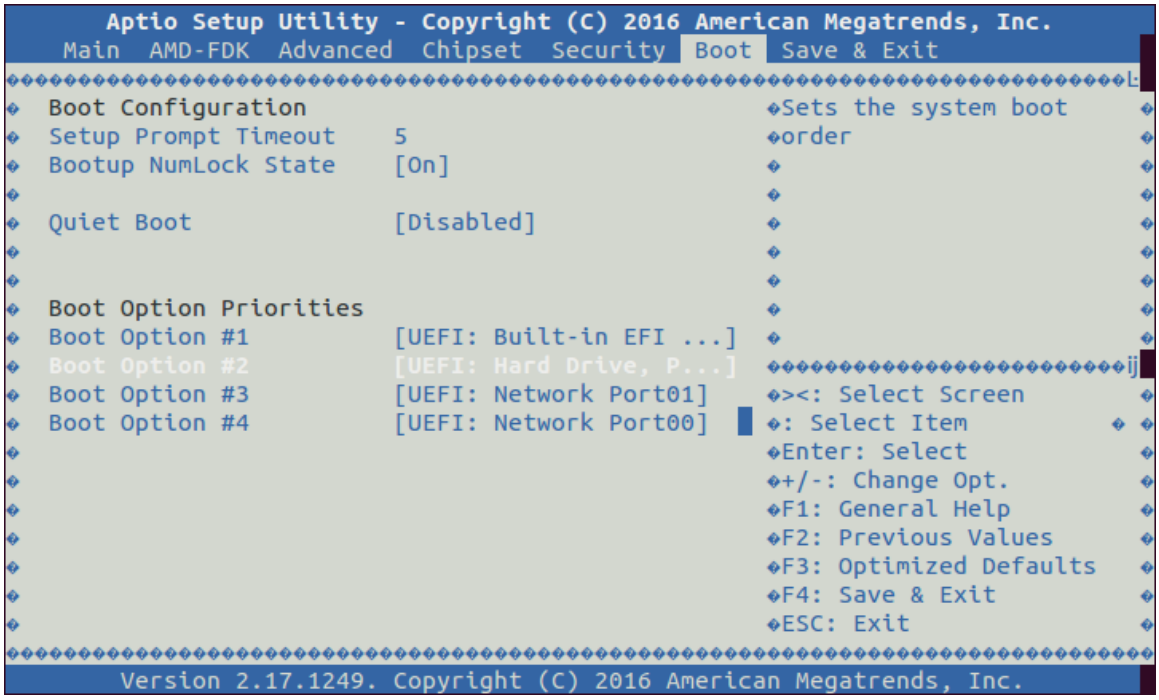
22. Move down to the second boot option.



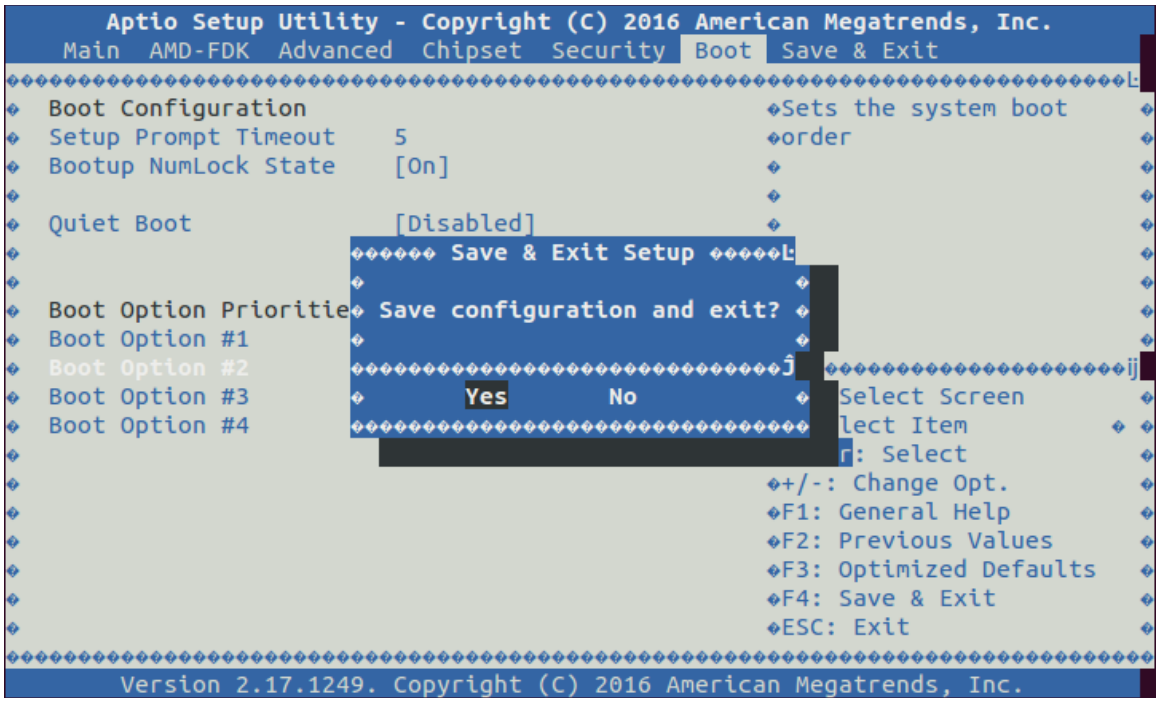
23. Change the second boot option to the hard drive partition that holds the boot OS (Partition 1 in the example below).



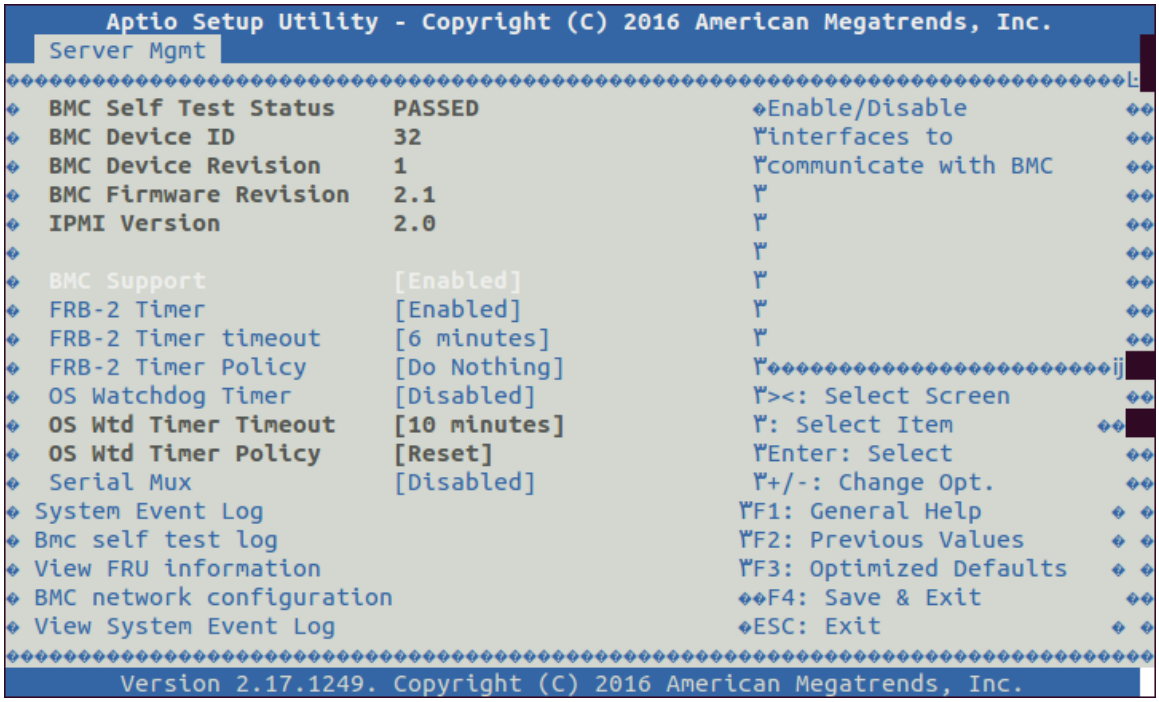
24. The completed boot order.



25. Press F4 and then Yes to save the configuration and exit the setup utility.



26. The next time the setup utility is entered, the BMC self test on the Server Management tab should show as passed.



27. The firmware update is now complete.