

Lab - Investigate BIOS or UEFI Settings

Introduction

In this lab, you will boot the computer, explore the firmware setup utility program, and change the boot order sequence.

Recommended Equipment

- Computer with or without operating system
- Motherboard manual

Instructions

Part 1: Enter BIOS or UEFI.

Step 1: Power on the computer.

- a. Plug the power supply cable into an AC wall outlet.
- b. If there is a power switch on the power supply, set the switch to “1” or “on”.
- c. Turn on the computer with the power button on the front panel.

Note: If the computer beeps more than once, or if the power does not come on, notify your instructor.

Step 2: Enter the firmware setup program.

During POST, press the firmware setup key or key combination. The firmware setup utility program screen will appear.

Questions:

What is the key or combination of keys used to enter the firmware setup utility program?

- ***Ctrl + f2***

Who manufactures the BIOS or UEFI system for your computer?

- ***Lenovo***

What is the BIOS or UEFI version?

- ***EMCN59WW***

Part 2: Explore the Settings.

Step 1: List the main menu options.

Question:

List the main menu options and describe what is monitored in each menu?

[Information]

- Product name
- BIOS Version

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- EC Version
- MTM
- Lenovo SN
- CPU
- System Memory
- NVME SSD
- Preinstalled led OS license
- OA3 Key ID
- OA2
- Secure Boot

[Configuration]

- System Time
- System Date
- Wireless LAN
- Graphic Device
- Intel (R) Virtual Technology
- Intel (R) Hyper – Threading Technology
- BIOS Back Flash
- HotKey Mode
- Fool Proof Fn Ctrl
- Flip to Boot
- System Performance Mode
- One Key Battery
- Storage
 - o Controller Mode

[Security]

- Administrator Password
- User Password
- HDD Password
- Set Administrator Password
- Set Hard Disk Passwords
- Intel Platform Trust Technology
- Clear Intel PTT Key
- Intel (R) SGX
 - o Intel (R) SGX Control
 - o Owner EPOCH Change
- Secure Boot

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- Secure Boot Status
- Platform Mode
- Secure Boot Mode
- Reset to Setup Mode
- Restore Factory Keys

[Boot]

- Boot Mode
- USB Boot
- PXE Boot to LAN
- IPV4 PXE First
- EFI
- Windows Boot Manager

Step 2: Find the security settings.

Navigate through each screen to find the security settings.

Question:

What security settings and features are available?

- Set Administrator Password
- Set Hard Disk Passwords
- Intel Platform Trust Technology
- Clear Intel PTT Key
- Intel (R) SGX
 - o Intel (R) SGX Control
 - o Owner EPOCH Change
- Secure Boot
- Secure Boot Status
- Platform Mode
- Secure Boot Mode
- Reset to Setup Mode
- Restore Factory Keys

Step 3: Find the CPU settings.

Navigate through each screen to find the CPU settings.

Questions:

What is the CPU speed?

- 1.00GHz

What other information is listed for the CPU?

- *Intel (R) Core(TM) i5-1035G1*

Step 4: Find the RAM settings.

Navigate through each screen to find the RAM settings.

Questions:

What is the RAM speed?

- *2400 MHz*

What other information is listed for the RAM?

- *RAM Max Memory: 8192 MB*

Step 5: Find the hard drive settings.

Navigate through each screen to find the hard drive settings.

Questions:

What information is listed for the hard drive?

- *N/A. No Hard Drive.*

Step 6: Find the boot order sequence.

Navigate through each screen to find the boot order sequence.

Questions:

What is the first boot device in the boot order sequence?

- *IPV4 PXE first*

How many additional devices can be assigned in the boot order sequence?

- *PXE Boot to LAN*

Step 7: Set the device boot order settings.

- a. Ensure that the first boot order device is the optical drive.
- b. Ensure that the second boot order device is the hard disk drive.

Questions:

Why would you change the first boot device to the optical drive?

- *N/A. No Optical Drive.*

What happens when the computer boots and the optical drive does not contain bootable media?

- *N/A. No Optical Drive.*

Step 8: Find the power management setup or ACPI screen.

Navigate through each screen to find the power management setup screen, or ACPI screen.

Question:

What power management settings are available?

- *N/A. No Power Management Settings.*

Step 9: Find the PnP settings.

Navigate through each screen to find the PnP settings.

Question:

What PnP settings are available?

- *N/A No PnP Settings.*

Step 10: Find the splash screen settings.

Navigate through each screen to find the splash screen settings.

Question:

What splash screen settings are available?

- *N/A No Splash Screen Settings.*

Step 11: Save and exit the setup utility program.

Save the new BIOS/UEFI settings and exit the setup utility program. The computer should restart automatically.

Note: An error message stating that an OS cannot be found (or a similar error) will appear on the screen after the computer boots. An operating system must now be installed to prevent this error. It is safe to turn off the computer at this time.

This lab is complete. Please have the instructor verify your work.