

# What is UEFI? What are the advantages of UEFI over BIOS?

What is UEFI? Why is BIOS considered outdated compared to UEFI? Let's explore the similarities and differences between UEFI and BIOS in the article below!

Many users want to know the difference between UEFI and BIOS to find the right choice. Please refer to the content below to learn about the advantages and how to properly enable UEFI. We believe that after reading this article, you will gain useful knowledge to help you use your computer more effectively.

## What is UEFI?

**UEFI, which stands for Unified Extensible Firmware Interface, is a modern firmware interface used to replace the traditional BIOS.** UEFI's role is to create a connection between the operating system and the hardware, and it's a better and safer upgrade compared to BIOS.

UEFI speeds up device boot times, offers large storage capacity for hard drives (GPT format), and provides an intuitive interface with integrated Secure Boot to prevent malware.

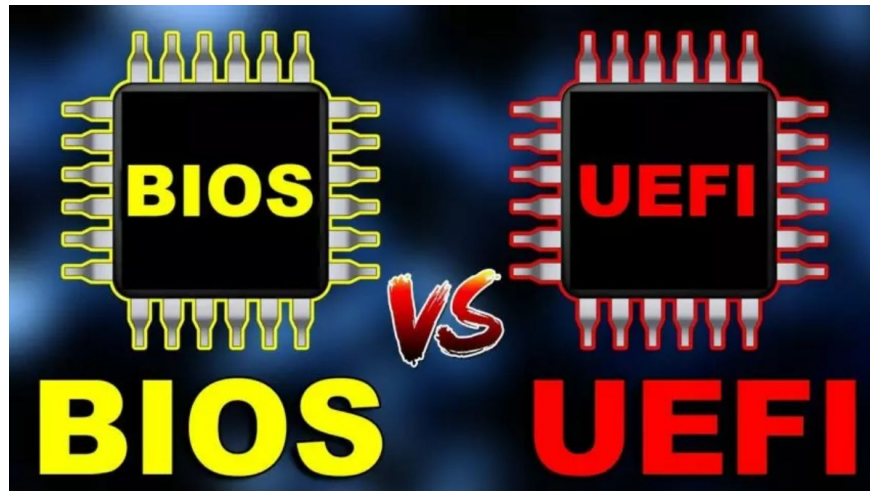


If you're looking for a high-end laptop with UEFI and AI applications, consider AI laptops. Check out some of the AI ??laptop models currently available:

## Why is BIOS outdated compared to UEFI?

When comparing UEFI and BIOS, you can see that BIOS has become outdated compared to UEFI for several reasons. First, BIOS is limited in technology and scalability; it no longer seems to meet the requirements of modern hardware. BIOS currently only supports hard drives up to about 2TB with the MBR standard. This results in slow boot times, a text-only interface, and a lack of security features.

As for UEFI, it supports the GPT standard, providing extremely large storage capacity. This results in faster boot times, an intuitive graphical interface, Secure Boot security, and flexible scalability. This allows for the full utilization of the latest hardware performance on the device.



## **Key advantages of UEFI over BIOS**

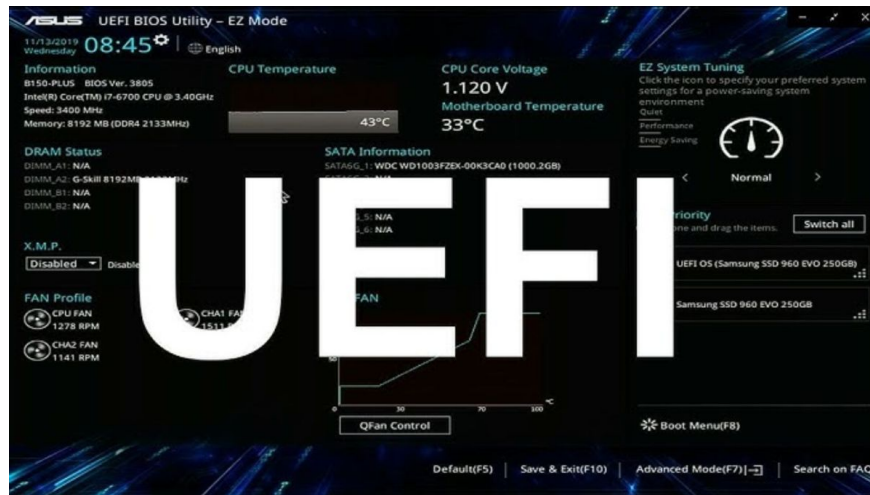
UEFI offers significant improvements, not only in boot speed but also in support for modern hardware. To learn more about the key advantages of UEFI over BIOS, please see the information below.

### **Supports Windows 11 operating system.**

The UEFI system is considered crucial for your computer to run Windows 11. Microsoft stipulates that Windows 11 can only run on systems booted in UEFI mode with a GPT-formatted hard drive and Secure Boot enabled. This is to enhance security and prevent malware threats from the moment the computer starts up.

### **Speed up your computer's startup process.**

BIOS, on the other hand, can only operate in 16-bit mode with 1MB of memory. UEFI, however, can operate on 32-bit and 64-bit systems with more memory space. This contributes to a smoother and faster computer boot process.

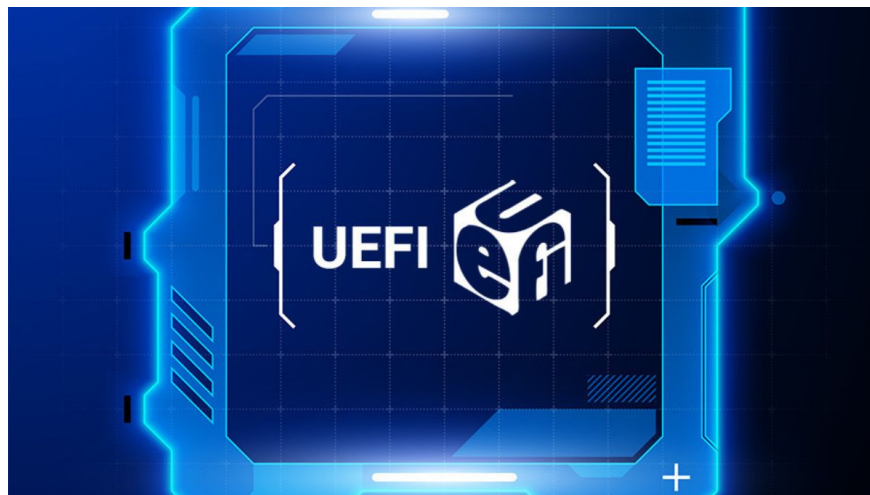


## **Compatible with large hard drives of 2.2 TB or more at boot time.**

By using the GPT partitioning standard instead of the traditional MBR found in BIOS, UEFI can run hard drives up to 2.2 TB (Terabytes) at boot. GPT helps manage drives with capacities up to zettabytes and also supports more partitions. This allows users to maximize storage space while maintaining fast and stable operating system boot times.

## **Upgraded interface with a better BIOS experience.**

UEFI features intuitive graphics, clear colors, and mouse control instead of just keyboard input . This makes it easier for users to operate, especially those unfamiliar with the text-based interface of older BIOS versions.



## **Flexible control with the mouse.**

Users will have more flexible control using the mouse. This makes navigating and manipulating menus easier, without being limited by arrow keys as with the BIOS. The ability to click, drag, drop, and quickly select will make customizing hardware parameters, managing devices, and activating features faster.

## **Secure Boot support enhances system security.**

Secure Boot enhances security, providing users with peace of mind. It only allows the booting of operating systems or software that have been properly digitally signed. This helps prevent malware, rootkits, and unauthorized programs from appearing during the boot process.

## How to check if your computer uses UEFI or BIOS

UEFI and BIOS are essential components of a computer. To enable UEFI, you first need to check whether your computer is currently using BIOS or UEFI. Below are some ways to help you check accurately:

### Method 1: Check via Disk Management.

#### 1. Open Disk Management:

Press Windows + X > Select Disk Management. Or press Windows + R > The Run command window will appear > Type diskmgmt.msc > Press Enter.

#### 2. Check:

1. If Windows displays an EFI or UEFI partition, then the machine is using UEFI/EFI.
2. If neither UEFI nor EFI is displayed, the computer is using Legacy BIOS.

### Method 2: Check on System Information.

#### 1. Open the Run dialog box:

Press the Windows key + R.

#### 2. Enter msinfo32:

Type 'msinfo32' into the empty field > Click Enter.

#### 3. Check:

In System Information, under System Summary, you will see whether the BIOS Mode is Legacy BIOS or UEFI.

### Method 3: Check via setupact.log

#### 1. Open Notepad:

Find and select Notepad > Click on Run as Administrator.

#### 2. Copy the file address:

Once Notepad opens, select File > Open > Copy C:WindowsPantherssetupact.log into the File name field.

#### 3. Enter the command:

Press Ctrl + F > Enter the command 'Detected boot environment' in the Find what field > Select Find Next.

#### 4. Check:

When you close the Find dialog box, you will see one of two lines:

1. Callback\_BootEnvironmentDetect: Detected boot environment: BIOS > Legacy BIOS.
2. Callback\_BootEnvironmentDetect: Detected boot environment: EFI > EFI and UEFI.

**Note:** The Setupact.log file is usually created during Windows installation. If you don't see this log file, try another troubleshooting method.

You've just learned about the differences between **UEFI and BIOS**, along with other useful related information. We believe you've gained some valuable new knowledge about computers. To see more topics, please follow our news page.

1. **See also related articles: Computer tips and tricks, Computers - Laptops - Tablets**

## Frequently Asked Questions

Does UEFI affect gaming performance?

UEFI can indirectly improve the gaming experience by enabling faster system boot times and supporting high-speed hard drives/SSDs. This results in faster game and map loading, creating a smoother gaming experience.

Can older computers be upgraded to UEFI?

Yes, older computers can be upgraded to UEFI provided their motherboard and firmware support this standard. This is usually the case for motherboards manufactured from 2012 onwards.

Is it possible to install Windows and Linux side-by-side on a UEFI system?

Yes, during installation, both operating systems will use the GPT partition table and store boot information in the EFI System Partition (ESP). However, Windows and Linux need to be installed in the same UEFI mode to prevent boot errors.

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