# LogoFAIL Attacks
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# What to Do for Protection

## What is LogoFAIL?

When your computer starts booting up, it displays a logo, usually of the computer manufacturer such as HP, Lenovo, Dell, Acer, etc. Some computers are designed to allow corporate buyers or others to include their own custom logo on the boot display. LogoFAIL takes advantage of that capability to insert malicious code that can be executed before any antivirus/antimalware software or the operating system protection is loaded.

## Who is Vulnerable?

Any computer system with a UEFI BIOS that allows custom logos, which is essentially all but Apple, even their Intel processor based ones that do have UEFI, and most Dell computers. Apple and most Dell computers lock the logo to their own so it can’t be changed.

## What can be Done for Protection?

BIOS updates should be made available beginning the 4th quarter of 2023 and on into 2024. It will be critical to install the updates when they are available. BIOS updates are usually an executable file that is downloaded and run, which automatically goes through several steps to prepare the new code, verify it, write it to the system, and restart. Because an interrupted installation can make the system unbootable, the BIOS update will usually require that the battery be charged above some required amount and the charger plugged in to proceed with the installation. Once started, it must be allowed to complete.

## Where do I Find the Updates?

Updates are normally found on the computer manufacturer’s website support page, where you can search for updates for your specific model, or sometimes download (if not already on your computer) and use a software assistant that will display the applicable updates available for your model. It is also possible that they may be incorporated into the Windows optional updates.

## What Can I Do Until Updates are Available?

Be cautious of who you allow to access your computer and avoid using questionable USB devices or web downloads. Keep your operating system, antivirus and other software up to date.