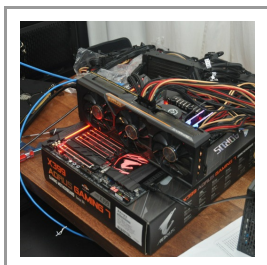


# Apple's New Hardware With The T2 Security Chip Will Currently Block Linux From Booting

Written by Michael Larabel in Hardware on 5 November 2018 at 09:04 AM EST. 65 Comments



Apple's MacBook Pro laptops have become increasingly unfriendly with Linux in recent years while their Mac Mini computers have generally continued working out okay with most Linux distributions due to not having to worry about multiple GPUs, keyboards/touchpads, and other Apple hardware that often proves problematic with the Linux kernel. But now with the latest Mac Mini systems employing Apple's T2 security chip, they took are likely to crush any Linux dreams.

At least until further notice, these new Apple systems sporting the T2 chip will not be able to boot Linux operating systems. Apple's T2 security chip being embedded into their newest products provides a secure enclave, APFS storage encryption, UEFI Secure Boot validation, Touch ID handling, a hardware microphone disconnect on lid close, and other security tasks. The T2 restricts the boot process quite a bit and verifies each step of the process using crypto keys signed by Apple.



Apple Mac Minis used to work fine on Linux, but that appears to no longer be the case... Or for any other Apple hardware with the T2 security chip enabled.

By default, Microsoft Windows isn't even bootable on the new Apple systems until enabling support for Windows via the Boot Camp Assistant macOS software. The Boot Camp Assistant will install the Windows Production CA 2011 certificate that is used to authenticate Microsoft bootloaders. But this doesn't setup the Microsoft-approved UEFI certificate that allows verification of code by Microsoft partners, including what is used for signing Linux distributions wishing to have UEFI SecureBoot support for Windows PCs.

Apple's T2 documentation makes it clear and explicitly mentions Linux:

*NOTE: There is currently no trust provided for the the Microsoft Corporation UEFI CA 2011, which would allow verification of code signed by Microsoft partners. This UEFI CA is commonly used to verify the authenticity of bootloaders for other operating systems such as Linux variants.*

In other words, until Apple decides to add this certificate or the T2 chip otherwise is cracked so it could be fully disabled or allowed to load arbitrary keys, good luck even being able to boot Linux distributions on the new Apple hardware.

**Update:** According to [Apple Support](#) it may be possible to disable the Secure Boot security in full when booting to the Startup Security Utility in the macOS Recovery mode. This may allow Linux to then load on the device albeit without any boot security but by default / out-of-the-box the T2 chip will indeed prevent Linux distributions from booting.

**Update 2:** It looks like even if disabling the Secure Boot functionality, the T2 chip is reportedly still blocking operating systems aside from macOS and Windows 10.

65 Comments



Share Tweet Like 667 Share

## About The Author



Michael Larabel is the principal author of Phoronix.com and founded the site in 2004 with a focus on enriching the Linux hardware experience. Michael has written more than 10,000 articles covering the state of Linux hardware support, Linux performance, graphics drivers, and other topics. Michael is also the lead developer of the Phoronix Test Suite, Phromatic, and OpenBenchmarking.org automated benchmarking software. He can be followed via [Twitter](#) or contacted via [MichaelLarabel.com](#).

## Related Hardware News

- [Better Linux Support Is Coming For The Huawei MateBook X](#)
- [ARM Posts Compiler Patches For Their New "Ares" High Performance Core](#)
- [Hands On With The Most Open-Source, High-Performance System For 2018](#)
- [An All-In-One Water Cooling Setup That Can Be Controlled Under Linux](#)
- [Samsung 860 EVO 2TB SSD - A Great Drive For A Growing Steam Linux Game Collection](#)
- [Endless Computers Introducing \\$299 "Hack" Laptop To Teach Kids To Code](#)

## Popular News This Week

- [NVIDIA RTX, AMD On Linux & Distro Performance Dominated Linux Discussions In October](#)
- [Apple's New Hardware With The T2 Security Chip Will Currently Block Linux From Booting](#)
- [An Open Letter To Solus From Its Founder Ikey Doherty](#)
- [The Linux 4.20/5.0 Kernel Is The Biggest All Year With 354+ Thousand Lines Of New Code](#)
- [System76 Unveils Thelio "Open" Desktops With Intel/AMD CPU Options, NVIDIA/Radeon GPUs](#)
- [Endless Computers Introducing \\$299 "Hack" Laptop To Teach Kids To Code](#)

## Latest Linux News

- [GRUB Bootloader Picks Up A Verifier Framework For Secure Boot, TPM, PGP Verification](#)
- [Mesa 18.3-RC2 Released With RADV, Wayland & NIR Fixes](#)
- [GCC 9 Lands Support For Intel PTWRITE](#)
- [VirtualBox 5.2.22 Released, Disables 3D For Wayland & Brings Linux 4.19 Fixes](#)
- [GSConnect 15 Offers Better Phone Integration With The GNOME Shell](#)
- [Better Linux Support Is Coming For The Huawei MateBook X](#)
- [Ubuntu Linux On Samsung Galaxy Devices Finally Reaches Beta \(Samsung DeX\)](#)
- [OpenMP 5.0 Specification Released, GCC 9.0 Lands Initial Support](#)
- [NVIDIA 415.13 Beta Linux Graphics Driver Released With Assorted Improvements](#)
- [More AMD Zen Microarchitecture Tuning For Mesa Is Likely Ahead](#)

## Latest Featured Articles

- [Raptor Talos II POWER9 Benchmarks Against AMD Threadripper & Intel Core i9](#)
- [A Look At The AMD EPYC Performance On The Amazon EC2 Cloud](#)
- [16-Way Graphics Card Comparison With Valve's Steam Play For Windows Games On Linux](#)
- [The Many New Features of The Linux 4.20 Kernel](#)
- [Initial Benchmarks Of OpenBSD 6.4, DragonFlyBSD 5.3, FreeBSD vs. Linux](#)

## Support Phoronix

The mission at Phoronix since 2004 has centered around enriching the Linux hardware experience. In addition to supporting our site through advertisements, you can help by subscribing to Phoronix Premium. You can also use our [NewEgg.com](#) shopping links when making online purchases or contribute to Phoronix through a [PayPal](#) tip.