Intel® UEFI Community Resource Center

Your gateway for developing UEFI firmware, drivers, and applications for use on Intel® architecture platforms.

Best Known Methods for Testing UEFI Firmware with Linux

Testing Mainstream Linux Distributions with Client & Workstation Platforms

Many users will use new Intel Architecture platforms to evaluate Linux. Validating mainstream Linux distributions prior to deployment can eliminate UEFI issues outside of the standard test plan, reducing tech support issues after platforms ship to customers.

Selecting a Compatible Linux Distribution

The easiest distributions to use for testing are "live CD" versions (boot to the OS without a full installation) and support a "shim" boot loader for UEFI Secure Boot (works with UEFI CA keys).

As of February 2013, distributions meeting these requirements "out of the box" are:

- Ubuntu: 12.10 and 12.04.02 LTS 64-bit Desktop
  http://www.ubuntu.com/download/desktop
- Fedora 18 64-bit Desktop Edition
  http://fedoraproject.org/en/get-fedora

The ISO images can be used to generate boot images for DVD or USB thumb drives (see USB install instructions for Ubuntu & Fedora).

- We recommend testing with Secure Boot enabled. However, additional Linux distributions supporting UEFI can be used with UEFI Secure Boot disabled.
- The Linux Foundation has an alternative loader for UEFI Secure Boot, but requires additional configuration.
- Ubuntu 12.10, Ubuntu 12.04.02 LTS and Fedora 18 do not require additional steps.

Main Areas to Examine for Compatibility Testing

General UEFI Compatibility: Verify that Linux can boot without legacy BIOS (CSM) support enabled.

UEFI Secure Boot: Booting with UEFI Secure Boot verifies UEFI CA KEK & DB are installed properly.

UEFI Variable Access (NVRAM): Verify UEFI variables created by Linux do not disrupt functionality.

Test for "Live CD" or "OS Install" Scenarios with Linux

End users may boot to Linux for a variety of reasons. Some users will test Linux using a "Live CD" distribution, which runs from DVD or USB. Other users may use the install procedure, opting to replace the factory default OS. We recommend tests to verify that booting Linux does not disrupt platform firmware functionality (boot process, setup, recovery, etc.).

Additional Information

- UEFI – Ubuntu Community Documentation
  https://help.ubuntu.com/community/UEFI
- Ubuntu BIOS/UEFI Requirements Document
  http://odm.ubuntu.com/docs/ubuntu-bios-uefi-requirements.pdf
- UEFI Secure Boot Guide for Fedora 18
  http://docs.fedoraproject.org/en-US/Fedora/18/html/UEFI_Secure_Boot_Guide/index.html
- Linux Foundation Secure Boot System
  http://blog.hansenpartnership.com/linux-foundation-secure-boot-system-released/