

Introduction

The firmware API enables kernel code to request files required for functionality from userspace, the uses vary:

- Microcode for CPU errata
- Device driver firmware, required to be loaded onto device microcontrollers
- Device driver information data (calibration data, EEPROM overrides), some of which can be completely optional.

Types of firmware requests

There are two types of calls:

- Synchronous
- Asynchronous

Which one you use vary depending on your requirements, the rule of thumb however is you should strive to use the asynchronous APIs unless you also are already using asynchronous initialization mechanisms which will not stall or delay boot. Even if loading firmware does not take a lot of time processing firmware might, and this can still delay boot or initialization, as such mechanisms such as asynchronous probe can help supplement drivers.