



SOLUTION BRIEF

arm

Firmware Solution Focused on Quality, Flexibility, and Security



ARM IP

- + Cortex-A
- + Cortex-R
- + Cortex-M

OVERVIEW & GOAL

Phoenix has well over 40 years of experience developing structured, secure and supported BIOS firmware. Over the years, we have built a reputation for our quality and our security focus. Because we have worked with some of the largest OEMs and Independent Hardware Vendors our security credentials are particularly strong.

PROBLEM

Firmware is complicated--there are many factors to be considered in terms of functionality, features, security, flexibility and the responsiveness of a firmware partner. The benefit of having a partner is you get what you want, when you want it, and you get the flexibility that is vital for success.



APPLICATION

- + Industrial
- + IoT
- + Hardware provider
- + Automotive
- + Smart Homes
- + Healthcare
- + Mobile Computing
- + Operating Systems
- + Artificial Intelligence
- + Security
- + 5G
- + Infrastructure
- + Smart Cities
- + Storage
- + Cloud Computing
- + Avionics
- + Transportation

PHOENIX OFFERINGS

Phoenix takes a multi-pronged approach to providing structured, secure and supported firmware for the Arm ecosystem. Our approach begins with industry leading firmware, but also includes our security-as-a-service offering, FirmCare. So, our customers not only get the best firmware possible for Arm-based systems, but also can rest assured that our security team has got their back when the inevitable attempts to hack their system comes to pass or vulnerabilities are discovered.

Below are brief descriptions of our various Arm firmware product and service offerings.

- **Phoenix Layer:** PhoenixLayer is a firmware product that targets systems using either UEFI firmware or a bootloader (e.g., U-Boot or coreboot). It provides a standard interface to the target system's OS/applications that is consistent and offers interfaces to a range of Arm-based SOCs. Much of the support is common across different SOCs, but Phoenix can also develop to meet your specific SOC requirements. This provides you with the flexibility to focus on your OS/applications and not the challenges of using different SOCs or even new versions of an SOC. OS/application can be written once to call into the standard PhoenixLayer interface, which then translates the call to the underlying SOC and OS interfaces.

FirmCare for Arm at the standard level is bundled with PhoenixLayer

- **PhoenixBoot:** PhoenixBoot provides a UEFI compliant package for most Arm SOCs (Phoenix can also develop to meet your specific SOC requirements) as well as integration with the SOC vendor's native UEFI (EDKII) code base. Phoenix can also work with you to make the final product Arm SystemReady compliant. PhoenixBoot can also provide the option to help optimize your existing firmware boot code using the decades of experience within the Phoenix team.

FirmCare for Arm at the standard level is bundled with PhoenixBoot.

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- **ArmCore:** ArmCore is a full suite of UEFI based core firmware for all Arm-based SOCs (for Qualcomm Snapdragon please refer to OmniCore). It provides a structured, secure and supported platform for Arm-based SOCs that can be used by customers to build their own firmware or Phoenix can build the firmware using ArmCore and NRE. ArmCore also maintains the Chain of Trust (CoT) throughout the boot process for system security. ArmCore can be used for embedded/IoT devices, embedded server (including edge computing devices) and servers.
 - **FirmCare for Arm:** FirmCare for Arm is a comprehensive security-as-a-service and/or sustaining engineering package to support customers and is applicable for all Arm-based systems. Customers can choose the level of support from standard which includes basic alerts and advice on emerging security vulnerabilities up to premium with 24-hour support including patching vulnerabilities and patching for sustaining engineering, as well as sophisticated and regular penetration (pen) testing. In addition, as part of FirmCare, Phoenix will provide guaranteed access to non-recurring engineering (NRE) services when required to meet specific needs.
 - **OmniCore:** OmniCore is a full suite of UEFI based core firmware features for Qualcomm Snapdragon compute platform SOCs. It provides a structured, supported and secure base for Qualcomm-based SOCs that can then be used by customers to build their own firmware or Phoenix can build the firmware using OmniCore and NRE.
 - **PhoenixOSO (Operating System Optimization):** PhoenixOSO is a service that provides OS level optimizations. Leveraging the decades of experience within the Phoenix team can help you improve boot times and ensure your OS runs more efficiently.