

Major OEM Gets an Assist from Phoenix with Edge AI Platform

Introduction

A well-known computer OEM was beginning development on the latest generation of its rugged edge AI platform that would come bundled with [AWS Panorama Computer Vision Application Development Kit](#). The OEM relied on one of its ODMs (Original



Design Manufacturer) for the firmware and integration on the previous generation but wasn't satisfied with the results. So, they turned to a trusted x86 firmware partner, Phoenix Technologies, for help, even though this new platform was based on Arm CPUs from NVIDIA.

For this project Phoenix not only provided their Arm firmware expertise and guidance, but also performed Linux kernel integration and final system integration testing which is part of quality assurance (QA). The final project shipped on time in 2022.

SUMMARY

A well-known computer OEM relied on Phoenix Technologies to supply firmware for their Arm-based edge AI platform.

KEY CHALLENGES

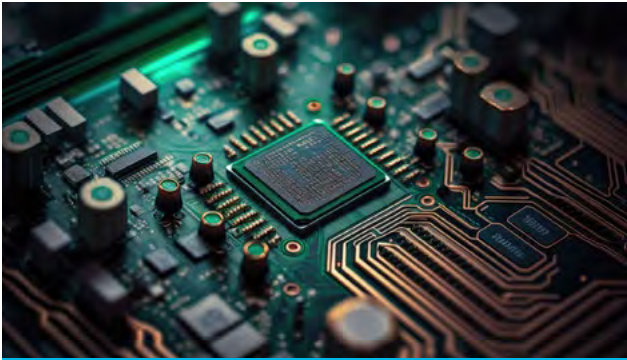
- + Identifying a reliable and experienced firmware partner with Arm expertise that can also provide Linux kernel integration, system integration and QA services.

WHY PHOENIX?

Phoenix was chosen because of its previous relationship with the OEM and proven expertise in firmware for Arm-based systems.

PRODUCT/FEATURE USED

- + PhoenixBoot



Phoenix and Arm Relationship

Phoenix Technologies has a long-standing relationship with Arm from both a technical and marketing perspective.

Phoenix actively participates in the Arm SystemReady program and is also an Arm Ecosystem Partner. Phoenix regularly engages with Arm personnel and works closely with many Arm customers.

NOTE: The Phoenix Technologies listing in the Arm Partner Ecosystem Catalog is [here](#).

Key Challenge

The OEM decided to base their edge AI platform on an NVIDIA Jetson Xavier NX single-board computer platform. The Jetson platform comes equipped with 6-core Carmel processors that are designed by NVIDIA but are based on the Arm architecture. NVIDIA also provides a reference package which includes open-source UEFI firmware, a Linux kernel, and other components. This package is intended to be used for development purposes and is not fit for a final shipping product that is designed and built to meet exacting standards.

The OEM had a less than satisfactory experience with their firmware and integration partner on the previous generation product and decided that they

needed to engage with a more experienced and reliable partner this time. They turned to Phoenix Technologies with whom they had a previous relationship on x86 based systems. Although the OEM had not worked with Phoenix on an Arm-based solution before, they had great faith in Phoenix's firmware expertise and knew that Phoenix had undertaken many Arm firmware projects in the past.

The Phoenix engineering team relied on the PhoenixBoot product to complete the firmware work for this project. PhoenixBoot is designed to augment reference open-source, firmware implementations supplied by silicon vendors such as NVIDIA to make the final product both UEFI and Arm SystemReady compliant. By leveraging PhoenixBoot, the Phoenix engineering team was able to

“Phoenix provided firmware for an NVIDIA Jetson Xavier NX based edge AI platform.”

complete the project on time and this left additional time and resources for Phoenix to also assist in other aspects of the project such as Linux kernel integration, as well as quality assurance (QA) or more specifically final system integration testing.



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