Aptio OpenEdition: Holistic UEFI Solutions for the Open-source Ecosystem
Aptio OpenEdition

Holistic UEFI Solutions for the Open-source Ecosystem

Zach Bobroff, Sr Director Product Management, AMI
AMI is committed to contributing to the open-source community with the goal to encourage:

- Transparency
- Reliability
- Security

AMI wants to be a key player in driving the industry forward:

- To encourage adoption of an industry standard solution
- By giving innovative features back to the community
AMI is working with SI providers ODMs and OEMs to provide open Firmware solutions

Open-Source trees are based off the Linux Foundation OpenBMC and EDK II trees

AMI develops additional value-added features and security on top of these trees

AMI will maintain the base source and offer multiple levels of support options

Source trees are fully managed and maintained by AMI and contributed back to OCP & OpenBMC community

Aptio OpenEdition (OE)
As a leader, the Source trees in Open Compute Project (OCP) are **fully managed and maintained** by AMI with its world class engineer-to-engineer support.

- ODMs and CSP are shipping OCP platforms that are sold on the OCP marketplace.
- AMI’s open-source trees are pulled from the EDKII trees and AMI develops additional value-add features on top of them.
- AMI plans to push these trees to the OCP community on a periodic basis after thorough validation and is working with ODMs to target OCP marketplace systems.

Point-of-use customers can then utilize this hardened open-source tree for their OCP server platforms.
Current Submission Status

https://github.com/opencomputeproject/Aptio-OpenEdition

Approved as Incubation Project by IC

Sub-project to current Open System Firmware (OSF) project and falls under same governance
# Project Goals

<table>
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<th>Objective</th>
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<tr>
<td>Provide the OCP community an open-source standard boot firmware solution</td>
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<td>Contribute innovative features the community demands</td>
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<td>Support the community when issues are found</td>
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<tr>
<td>Schedule group meetings to discuss any current issues and future plans</td>
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<td>Fully committed to upstreaming changed back to upstream projects</td>
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Current Submission Features

Project is an EDKII project with standard peripheral support and ported to specific platforms

Support for:

- Full UEFI boot support with SecureBoot enablement
- LinuxBoot support
- On every release, full testing on all supported platforms by the Repo with integrated testing of an open-source BMC solution under the OCP GitHub umbrella as well
Aptio OpenEdition Block Diagram

- **EDKII Core**
- **UsbBus**
- **SataBus**
- **UsbMassStorage**
- **PciBus**
- **Network Stack**
- **NvmExpress**

- **CPU**
- **MRC**
- **Chipset Code**

- **GPIO Porting**
- **SIO Porting**
- **PCle Porting**
- **Platform Porting**

- **LinuxBoot**
- **Optional Pack 1**
- **Optional Pack 2**

- **Si Packages (May be Binary)**

- **Optional Packages**

- **OPEN SYSTEM FIRMWARE**
UEFI Secure Boot ensures all external code executed during FW boot is properly signed and authenticated from a DB controlled by the platform owner!

Source: https://edk2-docs.gitbook.io/understanding-the-uefi-secure-boot-chain/secure_boot_chain_in_uefi/uefi_secure_boot
LinuxBoot: Providing the Industry Flexibility

LinuxBoot brings in a small Linux kernel to the FW for eventual booting of the platform.

Using Linux allows organizations with highly customized deployments the flexibility to implement higher level code.
Upcoming Additions

- Redfish Host Interface support (LAN over USB)
- Dockerfile build support
- 2 more additional OCP platforms from different ODMs
Goals for Future Improvement

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<th>Description</th>
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<td>Infinity</td>
<td>Provide full DevOps to the community tree</td>
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<td>Server</td>
<td>Create a hardware lab for live testing of images</td>
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<td>People</td>
<td>Get more involvement from other community players</td>
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<td>Layers</td>
<td>Support as many OCP platforms as possible</td>
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Call to Action

1. Currently working on setup of logistics for group meetings, currently using OSF meeting for any items

2. Contribution is already available, please review!

3. If you would like your platform supported or have any questions, please come to the OSF meeting or use the GitHub project

4. Watch a demonstration of Aptio Open Edition in AMI Booth B-16 during OCP Summit and visit AMI in the OCP Experience Center!

Current Submission: https://github.com/opencomputeproject/Aptio-OpenEdition

OPEN POSSIBILITIES
Thank you!