



## SOLUTION BRIEF



# Panfrost Open Source GPU Driver



COLLABORA

### ARM IP

+ Mali GPUs

### OVERVIEW & GOAL

Panfrost is an open-source graphics driver for Arm Mali GPUs, including the Midgard, Bifrost, and Valhall generations. As part of the thriving open-source Mesa 3D project, Panfrost supports OpenGL and OpenGL ES on Mali GPUs running Linux operating systems with development underway for Vulkan and OpenCL support. Arm, in partnership with Collabora, actively supports Panfrost's development. Thanks to this close collaboration, device manufacturers can confidently choose SoCs containing a Mali GPU regardless of the software operating system and graphics middleware.

### CHALLENGE

Panfrost's development focuses on long-term sustainability and maintainability for OEMs and all elements of modern supply chains. Historically, open-source software focuses on maintaining stability and





#### APPLICATION AREA

- + Industrial
- + Internet of Things (IoT)
- + Smart Cameras
- + Vision

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functionality for the long term. Such focus is especially crucial in the age of complex and connected systems, where every link in the chain must be regularly updated to retain its security and deliver new functionality to users.

Panfrost allows vendors to deploy products safely, with the knowledge that GPU support will work as well as it did on day one, while being constantly upgraded and updated. Its development is backed up by testing and continuous integration, ensuring that these changes do not regress functionality even on the oldest devices.

Thanks to the transparent nature of open-source projects – allowing any fixes and customizations, whether local or contributed back to the upstream community – Panfrost gives complete control over the entire GPU stack.

#### SOLUTION & BENEFITS

Panfrost delivers a high-quality open-source driver for Arm Mali GPUs. It supports three full architectural generations in Midgard (Mali-T600, Mali-T700 and Mali-T800 series), Bifrost (Mali-G72, Mali-G31, Mali-G51, Mali-G52 and Mali-G76), and Valhall (Mali-G57, Mali-G310 and Mali-G510).

Developed to work within the Linux environment, Panfrost provides conformant and performant out-of-the-box open-source support for any system that uses an Arm Mali SoC. As a fully open-source driver for Linux-based environments, Panfrost allows for better compatibility with open-source software stacks including Wayland and facilitates broader community involvement. The Panfrost source code is freely available for developers to view, modify, and distribute.

Panfrost delivers a first-rate open-source Linux solution which can be used by device manufacturers alongside the direct technical guidance already offered by Arm.

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#### FURTHER DETAILS

- [Mesa 3D](#)
- [Mesa 3D Drivers](#)