

ARM asks Khronos for OpenCL nod for Midgard GPU

August 5 2012, by Nancy Owano

(Phys.org) -- ARM wastes no time taking every opportunity to prove its reputation as "GPU computing" kingpins. GPU computing is seen as having a bright future, where the computational performance of the GPU, which was historically used for graphics, is harnessed to augment the main processor. The result is improved performance and energy efficiency. Earlier this week, ARM announced that its Mali-T604 graphics processing unit was submitted for OpenCL 1.1 Full Profile conformance to the standards overseer, Khronos Group.

This is seen as a significant step in advancing the future of mobile [GPU](#) technology. Processor designer ARM acquires pioneer status as the first GPU IP supplier to submit conformance for full profile OpenCL.

“Full Profile. Yes, Full Profile, not Embedded Profile,” blogged Roberto Mijat, who at ARM is responsible for GPU Computing products and technologies such as OpenCL and RenderScript. “We did not see the need to compromise,” he stated.

“An OpenCL Full Profile driver is more attractive to developers. It makes life easier by providing a functional baseline: new developers do not need to worry about which features are supported and which are not, and what performance you may get, and what precision may be supported.”

He said clear advantages are that Full Profile lowers the entry point and reduces cost for developers.

The Full Profile OpenCL 1.1 found in compliant laptop and desktop GPUs can help pave the way for desktop GPU computing capabilities across the mobile, embedded and smart-TV markets.

Certification will be done by the Khronos Group, founded in January 2000 by companies including ATI, Intel, Nvidia, SGI and Sun. ARM's Mali-T604 [graphics processing unit](#) is based on a published Khronos specification and is expected to pass the Khronos Conformance testing process.

Mali-T604 is described as a fourth-generation of Mali embedded graphics IP. The Mali-T604 is the first implementation of ARM's Midgard architecture and offers scalability from one to four cores.

ARM has turned to open-standards guard Khronos to make sure its Mali-T604 is compliant with The Open Computing Language (OpenCL). The OpenCL is an open standard programming framework for portable, parallel computation. It enables the CPU and GPU in a system to work faster and more efficiently together. OpenCL uses the GPU to do parallel computations.

Companies developing products that implement a Khronos API need to pass conformance tests defined by the Khronos industry consortium before they can use the name or logo of the API in association with such products or call their product 'compliant' with a Khronos specification.

[ARM](#) is a Promoter Member of Khronos and has representatives participating in OpenCL and other working groups.

More information: [mobile.arm.com/about/newsroom/ ..._nergy-efficiency.php](http://mobile.arm.com/about/newsroom/..._nergy-efficiency.php)

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