Khronos Calls for Industry Feedback on Potential Standardization Initiative for Heterogeneous Communications

Seeking feedback from automotive, robotics, aerospace, industrial, medical and IoT developers; The Takyon API, by Abaco Systems

PORTLAND, OREGON, UNITED STATES, January 16, 2019 /EINPresswire.com/ -- The Khronos® Group, an open consortium of leading hardware and software companies creating advanced acceleration standards, today announces a request for industry feedback to gauge interest in developing a new low-level, heterogeneous communications open standard that could transform the way applications are developed for High Performance Embedded Computing (HPEC) systems. If there is industry support, then Khronos would create a working group and invite any interested company to participate for a voice and a vote in creating and evolving a multi-vendor standard under Khronos' proven multi-company governance process. Those interested in finding out more and providing feedback are invited to visit the Khronos Heterogeneous Communication feedback page.

Target users for this new standard would include developers in aerospace, automotive, robotics, industrial, medical and Internet of Things (IoT) markets that wish to focus on algorithm development--not communication intricacies--but need the performance and flexibility of low-level point-to-point protocols with the simplicity of high-level point-to-point methodologies. Implementers of the standard could include chip, board and system hardware manufacturers and embedded software tool and OS vendors. The goal would be to unify low-level communication into a simple API with the aim of reducing application complexity, minimizing development costs, and accelerating time-to-market.

If Khronos forms a working group to address this opportunity, any participating company will be invited to submit design contributions to be discussed and integrated by the working group members. Khronos has already received one such design proposal: the Takyon API from Abaco Systems.

"Khronos has created a methodical exploratory process to enable us to take well-formed proposals for new open standards and evaluate industry interest before we create a working group to develop the standard itself. This process allows us to focus the resources of our members, and of the industry, on efforts that stand an excellent chance of being widely-adopted and having a positive market impact," said Neil Trevett, Khronos president. "We thank Abaco for initiating this investigation, and we look forward to engaging with the embedded industry to gauge the interest in evolving this potential new open standard."

Takyon unifies low-level point-to-point communication and signaling functionality with just five core functions, making it easy to learn and use. Takyon enables programmers to quickly develop high-performance, scalable, portable, and fault-tolerant applications running across complex systems. Takyon builds on Abaco's expertise in advanced embedded software, among which is its AXIS software development environment, the foundation for Takyon. More details and resources on the proposed Takyon API, including a user's guide and a free open source implementation, can be found on the Khronos Heterogeneous Communication feedback page.

"Current HPEC communication APIs are typically focused on a particular hardware interconnect/architecture, or a specific thread/process/processor/application locality. Some are very complex, requiring hundreds of lines of code just to handle simple concepts. Others intend to be simple, but get deceptively complex in real-world use cases. Still others mask important, underlying features which can ultimately impact latency and determinism," said Peter Thompson, vice president, product marketing at Abaco. "There is no single standard that fits all localities and features - resulting in high development costs, ill-fated shortcuts, and confused embedded HPEC developers. We believe that this effort by Khronos has the potential to address this problem with a simple but elegant API that could become a key open standard."

About the Khronos Group
The Khronos Group is an open industry consortium of over 140 leading hardware and software companies creating advanced, royalty-free, acceleration standards for 3D graphics, Augmented and Virtual Reality, vision processing and machine learning. Khronos standards include Vulkan®, OpenGL®, OpenGL® ES, OpenGL® SC, WebGL™, SPIR-V™, OpenCL™, SYCL™, OpenVX™, NNEF™, COLLADA™, OpenXR™ and glTF™. Khronos members are enabled to contribute to the development of Khronos specifications, are empowered to vote at various stages before public deployment and are able to accelerate the delivery of their cutting-edge accelerated platforms and applications through early access to specification drafts and conformance tests.

About Abaco Systems
With more than 30 years' experience, Abaco Systems is a global leader in open architecture computing and electronic systems for aerospace, defense and industrial applications. We create innovative, modular solutions based on open standards that are characterized by outstanding price/performance, ultimate rugged reliability and minimal SWaP. Our goal is to be a significant contributor to our customers' success, partnering with them to reduce cost, time-to-deployment and risk and supporting them over the long term. With an active presence in hundreds of national asset platforms on land, sea and in the air, Abaco Systems is trusted where it matters most. www.abaco.com.

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