

## Summary of SGI IP Disclosures and Khronos Membership

The ARB\_color\_buffer\_float extension approved by the OpenGL Architecture Review Board (ARB) on October 22, 2004 contains the following IP Status wording:

*SGI owns US Patent #6,650,327, issued November 18, 2003. SGI believes this patent contains necessary IP for graphics systems implementing floating point (FP) rasterization and FP framebuffer capabilities. SGI will not grant the ARB royalty-free use of this IP for use in OpenGL, but will discuss licensing on RAND terms, on an individual basis with companies wishing to use this IP in the context of conformant OpenGL implementations. SGI does not plan to make any special exemption for open source implementations.*

SGI issued the following IP Disclosure for OpenGL ES in March 2005:

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March 1, 2005

*Patent Disclosure Notice to Khronos Group Members and Participants in accordance with Section 5.5 of the Khronos Promoter Agreement:*

*SGI owns US Patent #6,650,327, "DISPLAY SYSTEM HAVING FLOATING POINT RASTERIZATION AND FLOATING POINT FRAMEBUFFERING," issued November 18, 2003. We believe this patent contains necessary IP for graphics systems implementing floating point (FP) rasterization and FP framebuffer capabilities.*

*We will not grant the Khronos Group royalty-free use of this IP for use in OpenGL ES, but we will discuss licensing on RAND terms, on an individual basis with companies wishing to use this IP in the context of conformant OpenGL ES implementations. We do not plan to make any special exemption for open source implementations.*

*However, we do wish to enable Khronos to standardize OpenGL ES APIs for accessing such FP capable hardware, in order to provide a single interface for the benefit of ISVs. We believe it is possible to structure the specifications currently being developed by the OpenGL ES working group to allow, but not require, such FP capabilities to be exposed and used by applications, and we are willing to cooperate with the working group to define the specifications in this manner. Each vendor will then be able to decide whether or not to expose these interfaces. It is the implementation of these FP capabilities which will require an SGI license.*

*Please direct all inquiries regarding licensing to:*

*Doug Crisman  
Director, Intellectual Property  
SGI*



*Jon Leech will work with the Khronos Group to resolve technical issues as described above, but he cannot address non-technical issues.*

*(signed) Paul McNamara  
Senior Vice President  
General Manager  
Visual Systems Group  
SGI*

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The ARB joined Khronos on Sep 20th, 2006 where all ARB specifications, including the ARB\_color\_buffer\_float extension were ratified by Khronos, including SGI as a member. SGI's membership terminated immediately after the Ratification vote.

Substantive drafting for OpenGL 3.0 started in late 2007. The ARB\_color\_buffer\_float functionality was first incorporated into the OpenGL core specifications with OpenGL 3.0 that was ratified by Khronos on August 10, 2008.