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Name

     ARB_half_float_pixel

Name Strings

     GL_ARB_half_float_pixel

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Status

     Complete. Appprove by the ARB on October 22, 2004.

Version

     Last Modified Date:  October 1, 2004
     Version:             6

Number

     ARB Extension #40

Dependencies

     This extension is written against the OpenGL 2.0 Specification
     but will work with the OpenGL 1.5 Specification.

     Based on the NV_half_float extension.

     This extension interacts with ARB_color_buffer_float.

Overview

     This extension introduces a new data type for half-precision (16-bit)
     floating-point quantities.  The floating-point format is very similar
     to the IEEE single-precision floating-point standard, except that it
     has only 5 exponent bits and 10 mantissa bits.  Half-precision floats
     are smaller than full precision floats and provide a larger dynamic
     range than similarly sized normalized scalar data types.

     This extension allows applications to use half-precision floating-
     point data when specifying pixel data.  It extends the existing image
     specification commands to accept the new data type.

     Floating-point data is clamped to [0, 1] at various places in the
     GL unless clamping is disabled with the ARB_color_buffer_float
     extension.

IP Status

     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