



For APAC Immediate Release Only

SolidWorks 2009 performance significantly enhanced by OpenGL

VBO support on ATI FirePro™ , ATI FireGL™ Graphics

- What is VBO and how does it work?
Vertex Buffer Objects (VBO) is part of Solidworks 2009 or higher versions. **(The function is activated by default)**. It is a buffer which is stored on the GPU memory and when activated, the application stores vertex data for triangles and lines in this location.
- Why is VBO important?
VBO is a modern and innovative way for an application to render data without repeatedly accessing the computer's sub systems such as the hard drive and therefore help achieve higher operational performance. The data is stored on the GPU memory allowing direct and immediate access.
- Where and when is it available? How would someone access it?
VBO is a new feature of Solidworks that can be used by all current models of the ATI FireGL™, ATI FirePro™ graphics accelerator. The amount of memory that can be used is based on the graphic memory available on the card. The more data (geometry, textures, Framebuffer resolution) you need to visualize, the more memory is utilized in the process. In order to use VBO, the application needs to use some specific OpenGL APIs.
- Is VBO proprietary technology and unique to AMD/ATI FireGL?
It is not proprietary however, Dassault Systèmes worked on Solidworks 2009 and CATIA (V5 R18 and higher) with ATI to develop the implementation of VBO to meet their specific requirements for performance and efficiency.
Some key requirements for VBO implementation are:
 1. A clear status of the amount of memory available at anytime in order to stop allocating the buffer as appropriate and therefore avoiding any impact on application process memory.
 2. Fast creation/destruction and transfer of these buffers to maintain a good level of performance and interactivity at any time.
 3. The implementation of the Vertex Buffer Objects technology in Solidworks boosts AMD's competitive edge with respect to graphics acceleration performance.
- Which ATI FireGL™, FirePro™ SKUs takes advantage of VBO?
All current models of the ATI FireGL™, ATI FirePro™ Workstation Graphics.

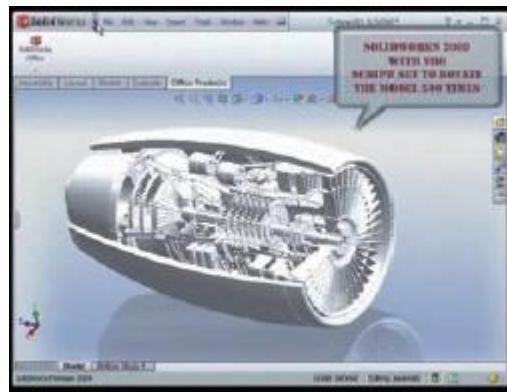
The following video which compares shaded model performance in SolidWorks 2007 and SolidWorks Premium 2009 running on ATI FireGL™ V7700.

Subject:

Compare with Solidworks 2007 (without VBO) and Solidworks Premium 2009 (with VBO) when script rotating the shaded aircraft engine model 500 times.

SYSTEM: HP XW4600
CPU: INTEL Core2 DUO E8400 3.0GHZ
Memory: 4GB RAM
OS: XP32 SP2
Graphics and Software 1: ATI FireGL™ V7700 with Solidworks 2007 (without VBO)
Graphics and Software 2: ATI FireGL™ V7700 with Solidworks Premium 2009 (with VBO)
Driver: ATI Driver 8.523.1.1 Download

Video here: <http://workstation.sapphiretech.com/archive/VideoDemo/MV02.htm>



The primary boost that you see in performance for **SolidWorks 2009** is due to support for **OpenGL Vertex Buffer Objects (VBO)** and the optimized **ATI FirePro** driver.

Result report:

ATI FireGL™ V7700 with Solidworks Premium 2009 (with VBO)

-- Time: 7.83 sec at 64.00 FPS.

ATI FireGL™ V7700 with Solidworks 2007 (without VBO)

--Time: 13.36 sec at 37.50 FPS

More Demos:

http://workstation.sapphiretech.com/presentation/media/demoroom_index.aspx

More Product Information:

<http://workstation.sapphiretech.com/presentation/index.aspx>

More Information about Solidworks and Sapphire Workstation Graphics:

http://workstation.sapphiretech.com/archive/newsletter/eng/0175/eng_8_20090211_915_7.pdf