

## Video Card Support

GTsuite 6.2 has many new features (GEM, GTise 3D viewer, GTpost 3D viewer, etc.) related to 3D graphics. In order to make these new features function properly, the video card hardware AND the driver for the system must meet specific requirements described below. If the requirements are not met, the graphics intensive parts of GT-SUITE may not work, but the remainder of the product will function. In summary, the card must generally have a minimum of 64M of dedicated video memory and the driver must support GLX 1.3+ and OpenGL 1.2+. Please see below for details.

**Note:** OpenGL and Java 3D are not supported on the Itanium platform. Therefore the features that use Java 3D (GEM, 3D viewer, dynamic plots, run-time monitors, etc.) will not be available on Itanium.

## Video Card Hardware

A modestly powerful video card is required which is supported by Java3D. In general, newer video cards have adequate support for 3D graphics. We recommend using video cards newer than 2 years. Below are the hardware requirements for the video card:

1. Video cards integrated on the computer's motherboard are not recommended.
2. The video card should have at least 64M (128M is suggested) of dedicated video card memory.
3. The latest video card driver from the video card vendors should be used and the video card's hardware acceleration should be fully enabled. See the section below for specific requirements for the driver.

Below is a list of video cards known to be compatible with GTsuite V6.2, but only a limited number of cards have been tested and so this list is not complete. If your video card is not on this list, we recommend trying it before investing in a new video card. Based on our testing of V6.2 of GT-SUITE, NVIDIA cards work well more often than other brands.

<b>NVIDIA Graphic Cards:</b>	<b>ATI Graphic Cards:</b>
- GeForce 6200V+	- Radeon 9600
- GeForce 6200TC	- Radeon 9250 (works ok, but 9600 and up is recommended)
- GeForce FX5900XT	
- GeForce FX5700 Ultra	- Mobility Radeon 7000 IGP
- GeForce FX5500	- Mobility Radeon x300
- GeForce FX5200 Ultra	

## Video Card Drivers

For the graphically intensive features, the video driver must have a GLX version of at least 1.3 and OpenGL version as shown below. A driver from the video card manufacturer is more likely to meet the requirements than a generic one from the

operating system, especially on Windows. Red Hat v7.2 through RH Enterprise Linux 3.0 does not come with GLX 1.3 and an updated version is only known to be available through video card manufacturers.

Platforms requiring OpenGL 1.2 or higher	Platforms requiring OpenGL 1.1 or higher
<ul style="list-style-type: none"> <li>- Win32/x86</li> <li>- Linux/x86,x86_64</li> <li>- Solaris/Sparc</li> <li>- Solaris/x86</li> </ul>	<ul style="list-style-type: none"> <li>- HP-UX</li> <li>- IBM AIX</li> </ul>

Please note that while HP-UX and IBM AIX are supported in V6.2 of GT-SUITE, they may not be supported in future versions of GT-SUITE because the JAVA 3D libraries utilized by GT-SUITE are currently not being developed for these two platforms. They are already behind the other platforms today, and there is no evidence that SUN (the makers of JAVA) is working with HP or IBM to make future versions available.

### Remote X-Windows

When using X-Windows to display the graphics on another machine's display, both the client and server's GLX version must be at least 1.3 and have the required OpenGL version shown above.

We do not officially support any third-party X-Windowing software. However, as a service to our users we have tested the following: Cygwin, Exceed and Exceed Power Suite 2006. We have found that the base Exceed package does not support GLX 1.3 and does not work with the advanced 3D features. The Exceed 3D add-on which was tested as found in "Exceed Power Suite 2006" does meet the minimum requirements, however it gives ~20% slower frame rates compared to displaying graphics generated locally on the same machine. The option "GLX 1.3 Support" must be enabled from Start> Exceed Tools> XConfig> Exceed 3D and GLX. Cygwin only has a GLX version of 1.2, so it does not work with most machines. It was found to work with a remote machine with a GLX version of 1.4 (RHEL4.0), but its frame rate is 50% slower than compared to the local machine. Again, the above products are not supported or endorsed.

### Testing the video card

The script **gttestj3d**, located in the \$GTIHOME/bin directory, may be used to test whether OpenGL and GLX is installed and working properly on your machine. If the required versions are not installed, it can typically be upgraded by installing the latest graphics driver for the video card from the graphics card manufacturer, not Microsoft (in the case of Windows operating system).

### Troubleshooting 3D Issues

If you are experiencing problems with our 3D applications, please read through the "Video Card Support" section first. There are many details above that will more than

likely resolve your problem. If the above information does not help, please follow the steps below.

- I. Check that your video card meets the minimum requires as stated above.
  - a. If you do not meet these requirements, please update your card. Refer to our list of recommended cards that are known to work well with our 3D applications.
- II. Update the video card driver from the video card vendor.
  - a. The driver must be provided by the vendor and not the OS default driver.
  - b. This is necessary to ensure that you are using the proper version of OpenGL and GLX (refer to the information above). Using an outdated video driver with an older version of OpenGL or GLX will prevent our 3D applications from running.
- III. Run our gttestj3d script, located in the \$GTIHOME/bin directory and read the instructions. This will check that you are running the required version of OpenGL.
  - a. Select the "Test J3D Support" button.
    - i. This will test if your video card OpenGL and GLX version is acceptable.
  - b. If the above succeeds, then select the "Test J3D Performance" button.
    - i. This will test if your video card's performance meets the expectations for our 3D applications. If not, it will be suggested for you to upgrade your card.
  - c. As long as the "J3D Support" test passes, then your system will be enabled for running our 3D applications.
    - i. Even if your performance isn't great, you should at least be able to use the minimal features of the 3D applications.
- IV. Another option is to test with upgraded video card. Install and test 3D on your machine, but with an upgraded video card. Make sure that this new card meets the minimum requirements we specify. Run the gttestj3d script as mentioned in Step 3.
- V. If you are still not successful after trying all the methods above, including upgrading your video card, then there is one more option. **Note: This method will give you limited functionality. GEM and GTpost dynamic view may be unstable. This method is not recommended and should only be used as a last resort.**
  - a. First verify that 3D applications worked in v6.1.0 (If you do not have v6.1.0 installed, then you cannot perform the following steps).
    - i. This can be done by first opening up the standard 4cyl example model in GTise v6.1.0.
    - ii. Single-click on a "FsplitGeneral" part.
    - iii. Select "Edit 3DView" from the "Edit" menu.
    - iv. Ensure that the 3D object appears in the 3D Flowsplit viewer.
    - v. If a 3D object does not appear, then please do NOT perform the following step.

- b. If the above step (a.) passed, then you can attempt to roll back your Java3D version. Please refer to the note mentioned in step V. before continuing.
  - i. If you would like to attempt to roll back your Java3D version, open a command prompt window.
  - ii. `cd %GTIHOME%\GTI\v6.2.0\GTsuite\bin` on Windows or `$GTIHOME\GTI\v6.2.0\GTsuite\bin` on UNIX/Linux
  - iii. Run `revertJ3dLib.bat` on Windows or `./revertJ3dLib` on UNIX/Linux.
  - iv. Make sure that the screen outputs that some files were copied.
  - v. You may now attempt to run 3D applications taking note of the limited functionality.