Software Evaluation Guide for Autodesk 3ds Max 2009* and Enemy Territory: Quake Wars*

"Render a 3D character while playing a game"

http://www.intel.com/performance/resources

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About this Document

This document is a guide measuring performance of the Intel® Processors on application software. The primary audience for this document includes individuals, publications, OEMs and technical analysts whose goal is to test or evaluate the performance benefits and features of the Pentium Processor. If there are questions that are not answered here on software application performance evaluation of the Pentium Processor, please contact your Intel representative.

Each software application test measures different aspects of processor and/or system performance. While no single numerical measurement can completely describe the performance of a complex device like a microprocessor or a personal computer, application tests can be useful tools for comparing different components and systems. The following results and procedures give a glimpse of the performance of certain software applications, however your own usage of each application may vary from what is shown here. The only totally accurate way to measure the performance of your system, is to test the actual software applications you use, in the way you use them, on your computer system. Test results published by Intel are measured on specific systems or components using specific hardware and software configurations, and any differences between those configurations (including software) and your configuration may make those results inapplicable to your component or system.

Software application tests are, at most, only one kind of information that you may use during the purchasing process. To get a true picture of the performance of a component or system you are considering purchasing, you must consult other sources of information (such as performance information on the exact system you are considering purchasing). If you have any questions about the performance of any Intel microprocessor, please view the detailed performance briefs and reports published by Intel or call Intel at (US) 1-800-628-8686 or 916-356-3104.

Chapter 1

Autodesk 3ds Max 2009* and Enemy Territory: Quake Wars*

1.0 Software Description

Autodesk 3ds Max 2009* is a popular animation modeling, and rendering solution for film, television, games and design visualization. It contains the essential high-productivity tools required for creating eye-catching film and television animation, cutting-edge games, and distinct design visualizations. For more information about Autodesk 3ds Max 2009*, visit http://www.autodesk.com/

Enemy Territory: Quake Wars* is a multiplayer, team-based first-person shooter by id Software set in the Quake universe.

1.1 Test Workload Description

The workload used in this document for Autodesk 3ds Max 2009 is called Dragon_Character_Rig.max. The workload consists of a scene of a Dragon_Character_Rig.max that is rendered at 1920x1080 for frames 1-5. For Enemy Territory: Quake Wars, the file etqw1_5.ndm is a time demo of game play. It can only be used with Enemy Territory: Quake Wars* version 1.5. While the dragon character is being rendered, the time demo is then played simultaneously.

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Chapter 2

Procedure for Evaluating Multi-tasking Performance in Autodesk 3ds Max 2009* and Enemy Territory: Quake Wars*

The following is a procedure for evaluating performance in a multi-tasking scenario using Autodesk 3ds Max 2009 and Enemy Territory: Quake Wars.

1. Install Autodesk 3ds Max 2009* with default options.

2. Install Enemy Territory: Quake Wars* with default options.

3. Obtain and apply the 1.5 patch to Enemy Territory: Quake Wars*.

4. Copy the "etqw1_5.ndm" file to C:\Program Files\id Software\Enemy Territory – QUAKE Wars\base\demos (create the directory 'demos' if it does not exist).

5. Create a local folder C:\3dsMax2009_WL and copy the Autodesk 3ds Max 2009* workload files to it.

6. Launch Enemy Territory: Quake Wars* by clicking on the Start menu, then selecting All Programs->id Software->Enemy Territory – QUAKE Wars(TM)->Enemy Territory – QUAKE Wars(TM).

7. Create a user for offline use only and set it as the default user.

8. Change the game settings by clicking Options->Settings. In the "Simple" tab, change the Video settings as follows:

   Fullscreen: Unchecked

   Aspect Ratio 4:3(Standard)

   Resolution: 1280 x 1024 (5:4)

   Quality: Normal

In the Advanced tab, change the settings as follows:

Diffuse: 25%

Bump: 50%

Specular: 25%

Anisotropy: 50%

Lighting Quality: Normal

Foliage Quality: Normal

Terrain Quality: Normal

Debris/Weather: Normal

Shader Effects: Normal

Effects Level: Normal

Shader Level: High

Anti-Aliasing: Disable

Vertical Sync: Unchecked

Shadows: Checked

Soft Particles: Unchecked

Smooth Foliage: Checked

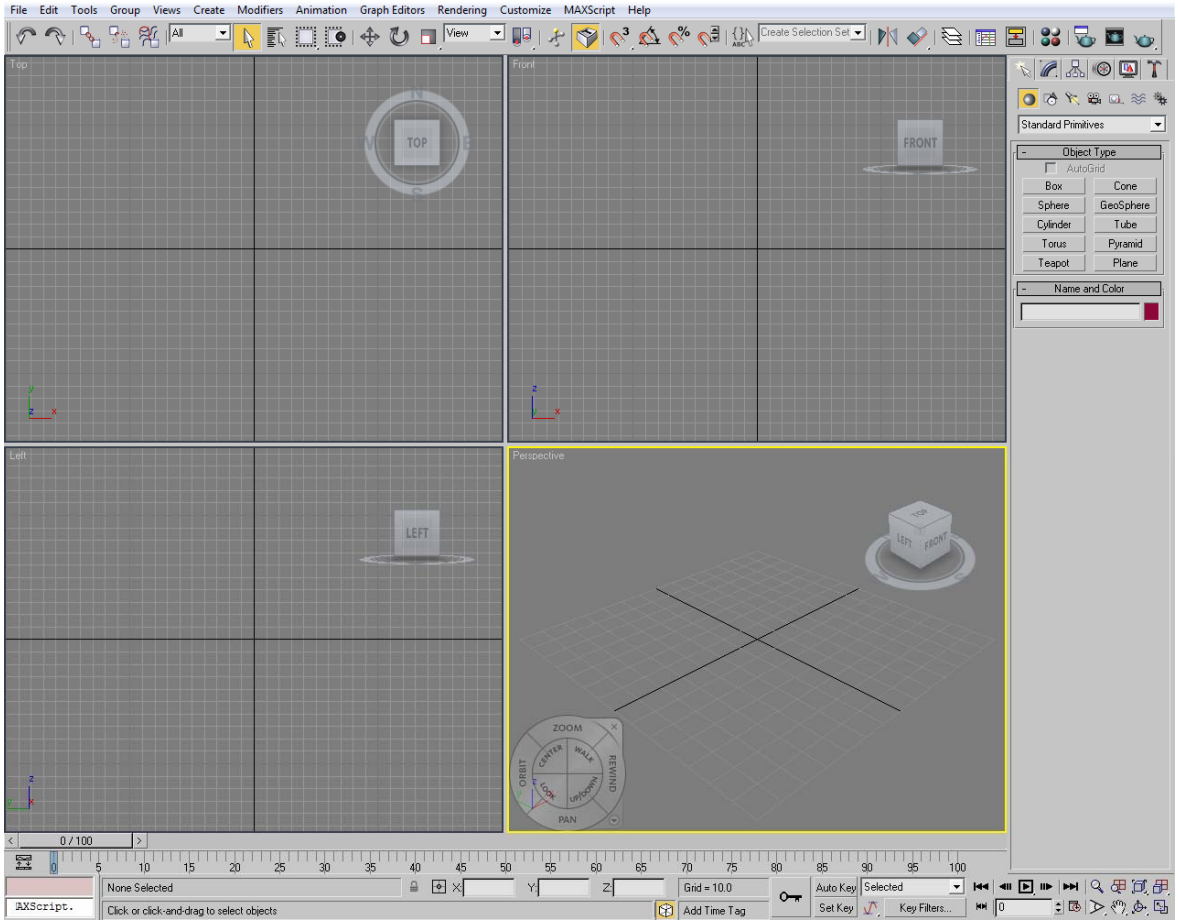
9. Press Apply to save the settings and go back to the main menu. Once it is finished loading, open the console by pressing Ctrl+Alt+~ and type the following commands:

   "r_useThreadedRenderer 2" then press enter

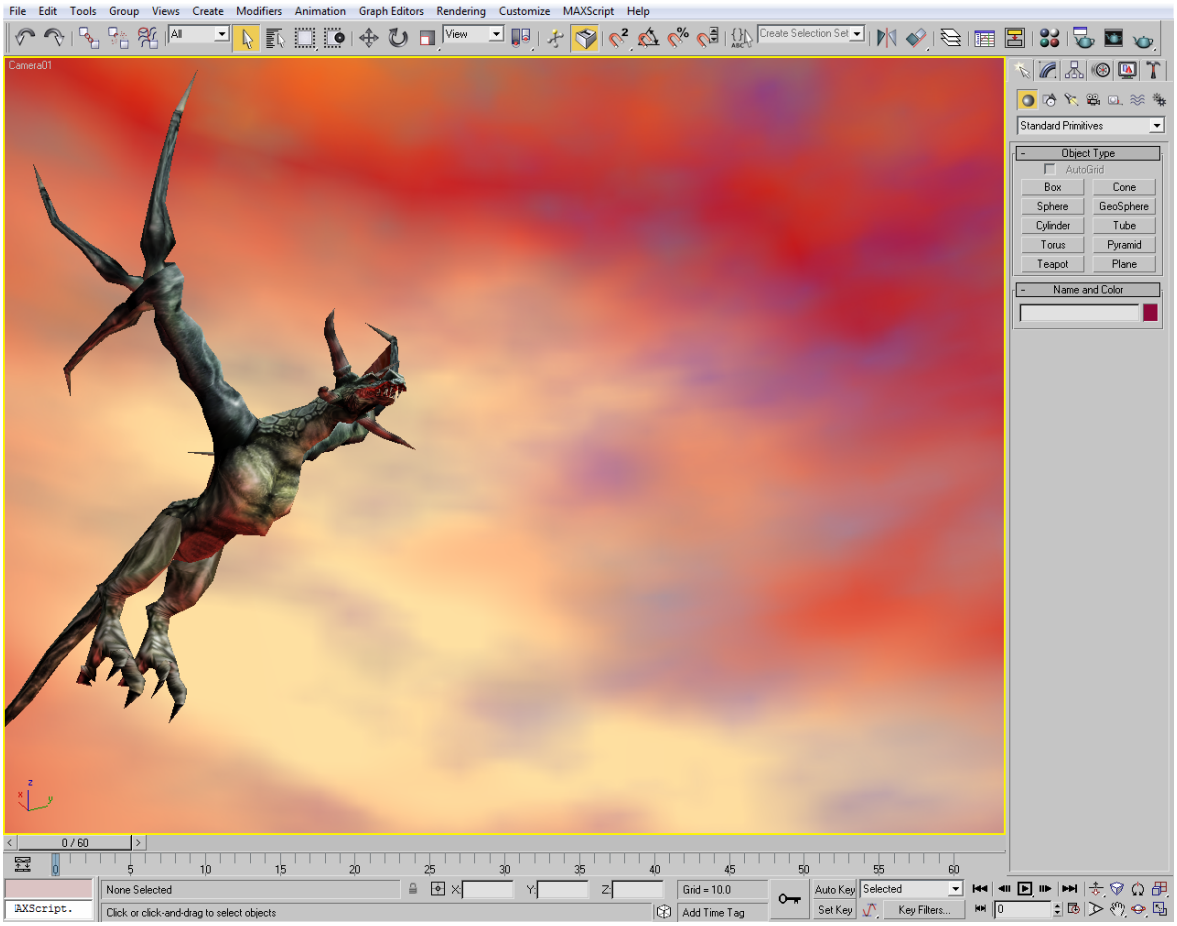
   "win_notaskkeys 0" then press enter

10. Exit the game and reboot the system.

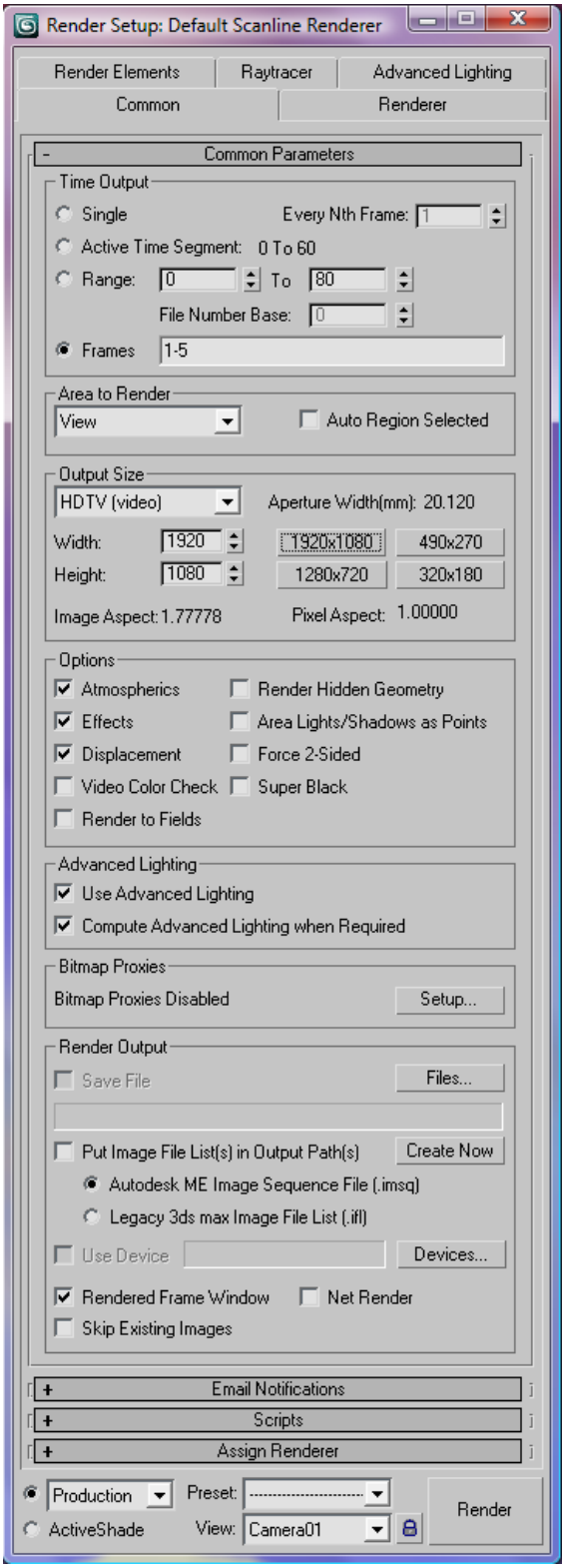
11. Launch Autodesk 3ds Max 2009* by clicking on the Start menu, then selecting All Programs->Autodesk->Autodesk 3ds Max 2009 32-bit-> Autodesk 3ds Max 2009 32-bit. Upon first run, uncheck "Show this dialog at startup" and click close. The window shown below should appear.



12. From the File menu, select Open and navigate to where the workload is located. Select the Dragon_Character_Rig.max file and click Open. This will bring up the window below.



13. From the Rendering menu, select Render Setup. Set the options so that they are as shown below. Make sure the Time Output is set to Frames 1-5 and the Output Size is set to HDTV (video) at 1920x1080.



14. Minimize Autodesk 3ds Max 2009* and launch Enemy Territory: Quake Wars* by clicking on the Start menu, then selecting All Programs->id Software->Enemy Territory – QUAKE Wars(TM)->Enemy Territory – QUAKE Wars(TM). The game should be launched in windowed mode.

15. Bring up the console by pressing Ctrl+Alt+~ and then type in "timeNetDemo etqw1_5.ndm" but do not press Enter.

16. Press Windows Key+D to minimize everything.

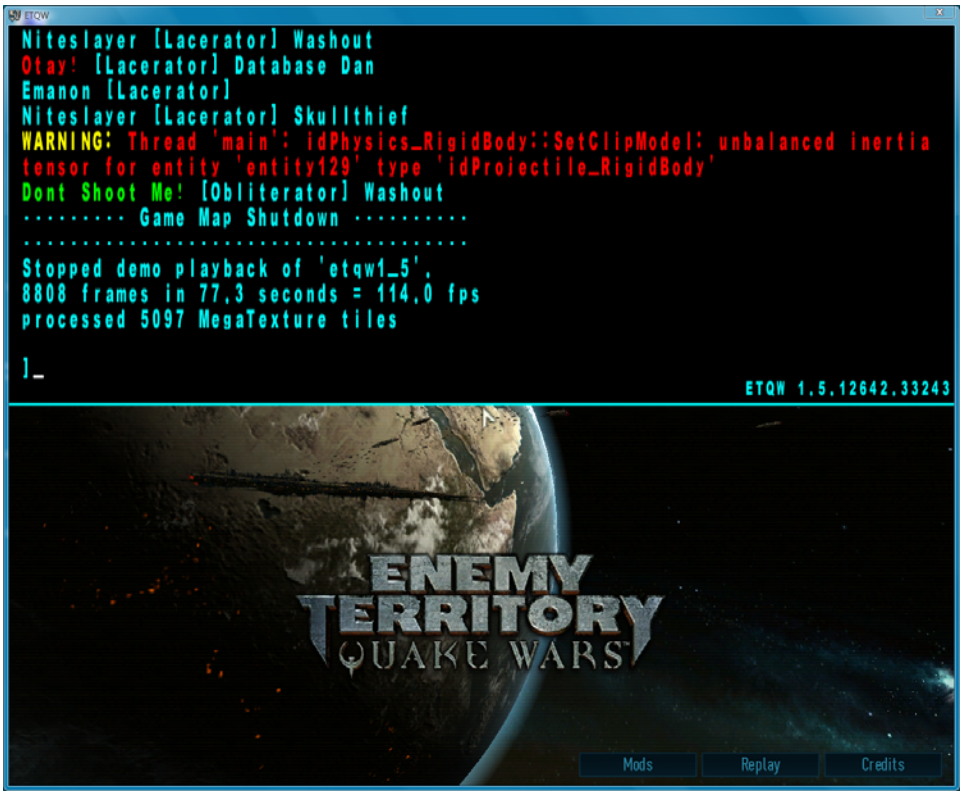
17. Open the Windows Task Manager by right-clicking on the Taskbar and selecting Task Manager. Open the Performance tab and then minimize Windows Task Manager.

18. Restore Autodesk 3ds Max 2009* and press the Render button. There will be a window asking if you want to continue without having an assigned file to save. Press "Yes" and then immediately press Windows Key+D.

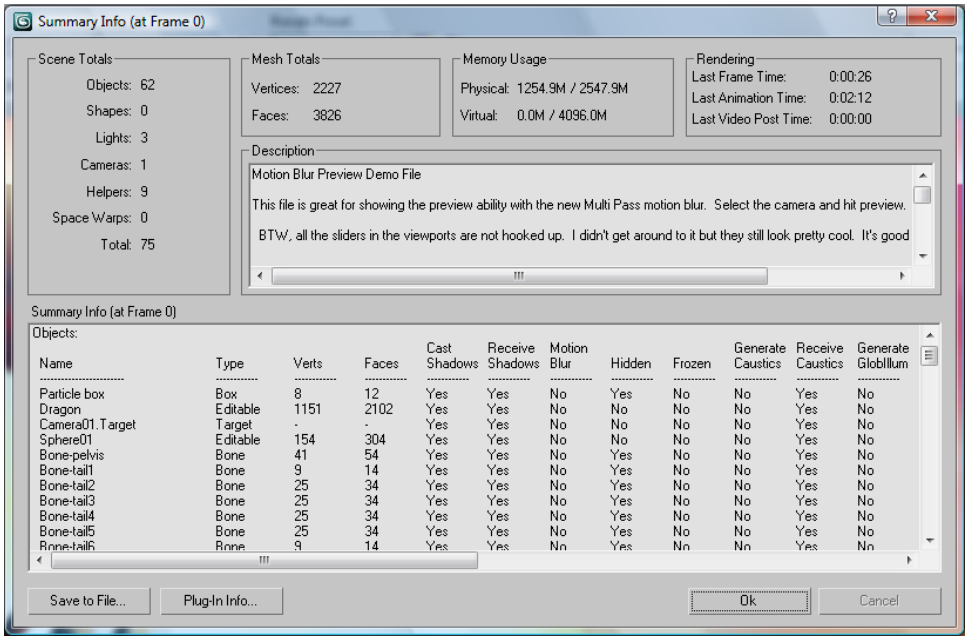
19. Restore Enemy Territory: Quake Wars* and press Enter to begin the benchmark.

20. You will notice that the CPU utilization is being displayed in the bottom right of the screen. Once the CPU utilization is very low, both workloads are finished and you can check the results by doing the following.

    i. For Enemy Territory: Quake Wars*, bring up the console by pressing Ctrl+Alt+~ and the average FPS is shown



    ii. For Autodesk 3ds Max 2009, under the File menu select Summary Info. The time to complete the rendering is listed as Last Animation Time in the top right.



21. Exit out of Autodesk 3ds Max 2009* (without saving changes) and Enemy Territory: Quake Wars*.

22. Repeat steps 11-21 four more times. Take the median of the 3ds Max 2009* run times and take the corresponding average FPS number.