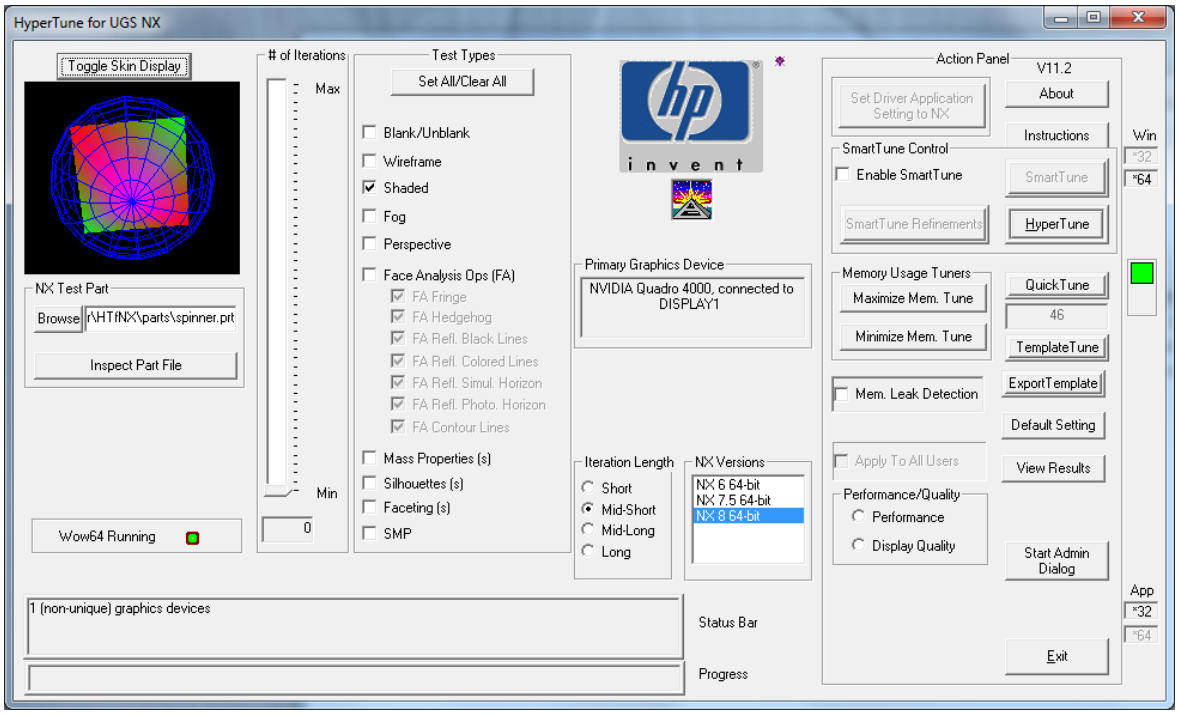
HP recommends Windows® 7.

HyperTune for NX— An HP Exclusive Toolset (July 2012)

Introduction

HyperTune for NX™ (HTfNX) is an HP exclusive toolset, which optimizes the performance of graphics intensive operations in NX versions 17 and later. It is HP patented technology that also offers admin reporting and checking tools for the NX environment. The tuning feature can be used in QuickTune mode, which uses predetermined tuning selected for your configuration, or it allows the option of evaluating the performance of NX with any parts and a selection of graphics operations. It runs on all NX supported versions of Windows® 7 Professional 64-bit[1] in conjunction with all HP and Mobile Workstations.



Background

When invoked, it examines the system to determine what versions of NX are installed and does a moderate amount of integrity checking on the state of NX installation. It also checks the graphics board to see if it's a supported graphics board. In each case, if inconsistencies are discovered they are reported. The user is given the option of selecting the version of NX to tune, the option to select their own part (or a small and simple default part will be utilized), a list of supported NX options, and number of iterations and the length of each iteration. When the button "HyperTune" is pressed, the tool runs NX, loads the user-selected part and runs the operations that the user selected and for each iteration it examines the effects of changing internal parameters to decide which one is best. Depending on the size and the options selected the evaluation could run for a long time, so it's best to run HyperTune during the non-working hours. It's best to not run any other applications while HTfNX runs. The part selected must be one that the version of NX selected can load. The larger the number of iterations and the longer each iteration, the better the result of the tuning will be.

Another tuning feature is SmartTune which is a more advanced version of HyperTune. It does everything HyperTune does and more. SmartTune enables users to review performance results of different test runs and provides them the option of changing their mind without incurring the cost of another full HyperTune run. For instance, if one is only interested in seeing what kind of improvement they will see in shaded mode they can only set the shaded test type and press SmartTune Refinement to adjust the performance tuning quickly. For both HyperTune and SmartTune, the NX part and the operations selected should be representative of what the user typically does in a

workday in order to maximize improvements. If HyperTune or SmartTune cannot improve the performance then it will not do any tuning.

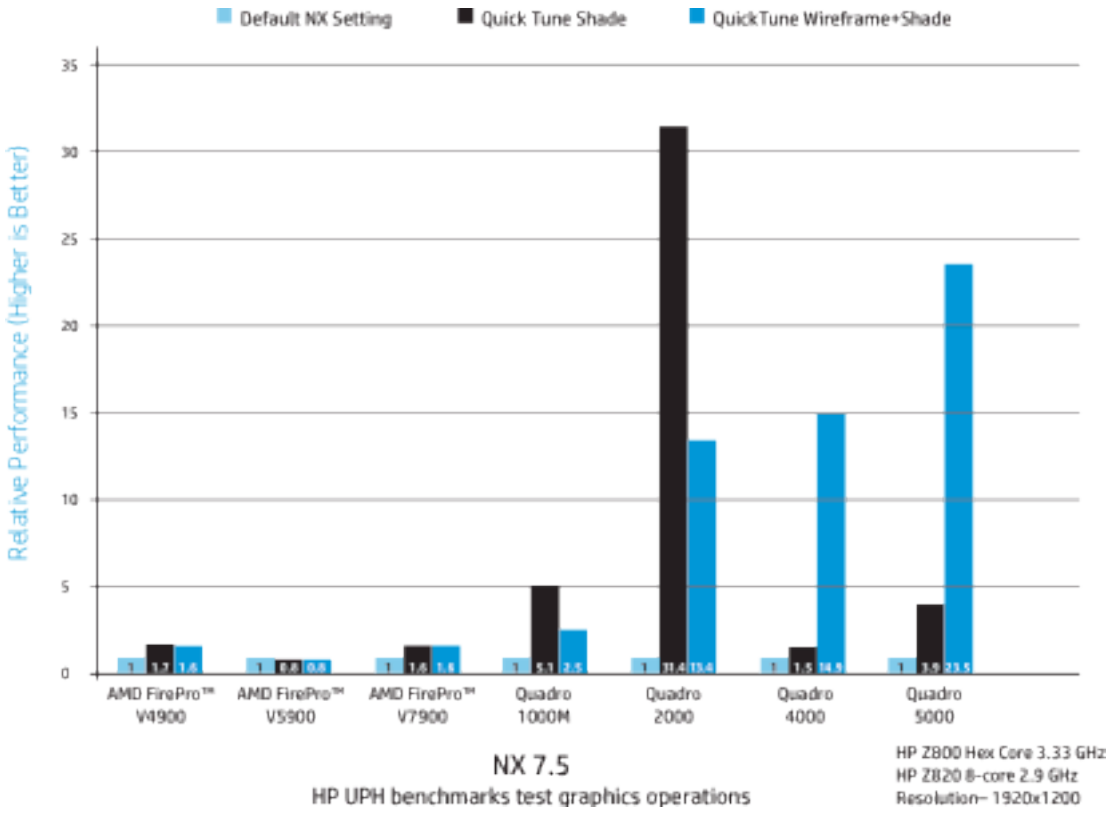
HTfNX has the ability to apply the tuning computed in evaluation session to other HP platforms using the TemplateTune. This allows for coming up with tunings appropriate to an enterprise for one representative configuration and then applying it to all identical configurations. HyperTune should be run once for every version of NX which HTfNX supports. If you change the graphics board or the graphics driver you should rerun HyperTune. Users are encouraged to tune one representative system using QuickTune, HyperTune or SmartTune and then run their own benchmark to see if they would benefit from it. If so, then they should export a template (using ExportTemplate) and then import it to all the applicable systems (command line options also available). HyperTune's effects on a system can be reversed using DefaultSettings.

Results

Best performance results are observed when only a few of the many graphics test types are selected before running HyperTune. The chart shows some of the results of performance improvements over a default run using SmartTune Refinement. In all the cases tested so far HyperTune has been able to improve graphics performance by some degree.

NX HyperTune improves NX graphics performance

Improvements varies by graphics device and operation measured



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HTfNX ships with HP Performance Advisor. HP Performance Advisor is included with every HP Workstation or available for download from the hp.com/go/hpperformanceadvisor web site. HTfNX is available from the Your Software / Siemens PLMS NX icon.

Additional resources

hp.com/go/whitepapers

1 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations.

2 AMD Graphics are not supported when there are greater than 32 GB of system memory present. See intel.com/info/em64t for more information.

3 Multi-Core technologies are designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefits. Not all customers or software applications will necessarily benefit from use of these technologies.

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