Full 128-Bit Precision Graphics Pipeline
Enable mathematical computations to maintain high accuracy, resulting in unmatched visual quality.

High-Quality Full-Screen Anti-aliasing (FSAA)
Up to 32x FSAA dramatically reduces visual aliasing effects for “haloing” at resolutions up to 2560 x 1600, resulting in highly realistic scenes. New rotated-grid FSAA algorithm (RG FSAA) delivers unprecedented quality and performance.

High-Precision, High Dynamic Range Imaging (HDR)
Sets new standards for image clarity and quality through floating-point capabilities in shading, filtering, texturing, and blending. Enables unprecedented quality of rendered images for visual effects processing.

Features and Benefits

Hardware-Accelerated Pixel Read-Back
Ultra-fast pixel-read back performance delivers massive throughput, more than 10x the performance of previous generations of graphics systems.

GPU Computing
NVIDIA CUDA provides a C-language environment and tool suite that unleashes new capabilities to solve complex, visualization challenges such as near-time ray tracing and interactive volume rendering.

NVIDIA PureVideo Technology
NVIDIA PureVideo™ technology is the combination of high-definition video processing and software that delivers unprecedented picture clarity, smooth video, accurate color, and precise image scaling for SD and HD video content. Features include, high-quality scaling, spatial-temporal de-interlacing, inverse telecine, and high quality HD video playback from DVD.

NVIDIA G80 Architecture
Innovative unified architecture designed to dynamically allocate geometry, shading, pixel, and compute processing power to deliver optimized GPU performance.

Dual-Link Digital Display Connectors
Dual-link "DVI-D" transmitters support ultra-high-resolution panels (up to 2560 x 1600 @ 60Hz on each panel) – which result in advancing image quality producing detailed photorealistic images.

Essential for Microsoft Windows Vista
Offering an enriched 3D user interface, increased application performance, and the highest image quality, NVIDIA Quadro graphics boards and NVIDIA® OpenGL ICD drivers are optimized for 32- and 64-bit architectures to enable the best Windows Vista™ experience.

Professional Certifications

Computer-Aided Design (CAD) / Computer-Aided Manufacturing (CAM) / Computer-Aided Engineering (CAE) Applications

- AutoCAD
- CATIA
- Delmia
- Delmia
- PDMS
- PTC
- Pro/ENGINEER
- Revit
- Solid Edge
- SolidWorks
- and many more...

Digital Content Creation (DCC) and Broadcast
- 3ds Max
- After Effects
- Houdini
- Illustrator
- Lightwave
- Maya
- Premiere Pro
- Softimage XSI
- and many more...

Energy
- Landmark
- Paradigm Geo
- Schlumberger

Medical/Life Sciences
- Avangage
- Tripos
- Vital Images

For more information about NVIDIA Quadro, visit www.nvidia.com

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The NVIDIA Quadro® family of professional solutions takes the leading professional applications to a new level of interactivity by enabling unprecedented capabilities.

The industry’s leading workstation applications leverage these solutions to enable hardware-accelerated features not found in any other professional graphics solution.

The Quadro professional products include a set of industry specialty solutions that have been architected to enable advanced imaging visualization and broadcast applications - from multi-system scalability and synchronization to uncompressed 12-bit HD-SDI video output.
The Definition of Performance. The Standard for Quality.

Ground-breaking Unified Architecture Delivers Unprecedented Performance

The latest NVIDIA Quadro architecture takes application performance to new levels by featuring the industry’s first unified architecture. Designed to dynamically allocate geometry, shading, pixel, and compute processing power, the latest NVIDIA Quadro graphics boards deliver optimized Graphics Processing Unit (GPU) performance. The GPU pipelines efficiency is further multiplied by fast 3D and large texture transfers, NVIDIA’s crossbar memory architecture, enabling occlusion culling, lossless depth 2-buffer, and color compression.

These elements combine to achieve unprecedented 3D performance: blazing geometry performance, lightning-fast line performance and massive fill rates powered by a dynamically configurable array of thread processors. With ultra-fast pixel-read back performance, massive host throughput gains can be achieved for professional applications. However, the true measure of power is application performance and the new NVIDIA Quadro architecture doubles the performance of the previous generation.

Advanced Programmability Empowers a New Class of Applications

The latest NVIDIA Quadro FX graphics solutions are the reference standard for Shader Model 4.0 and next-generation operating systems enabling breakthrough real-time visualization applications. Styling and production rendering are integral functions of the design workflow and NVIDIA Quadro FX provides professionals the tools to shorten the production process and enable faster time to market. The major CAD and DCC application vendors can take full advantage of the programmable NVIDIA Quadro architecture by enabling sophisticated shaders to simulate a virtually unlimited range of physical characteristics, such as lighting effects (dispersion, reflection, refraction, BRDF models) and even physical surface properties (casting effects, porosity, molded surfaces). Real-time shaders allow these effects to be combined and modified interactively, something that is impossible with simple 2D static texture maps.

Full 128-bit Floating Point Precision Delivers the Industry’s Highest Workstation Quality

Sophisticated real-time effects typically involve multiple mathematical operations that demand high precision to maintain image quality. The NVIDIA Quadro architecture features true 128-bit IEEE floating point precision (32-bit fp per component) resulting in the highest level of accuracy and the ultimate in visual quality.

The NVIDIA Quadro family delivers true 16-bit and 32-bit floating point formats for accurately matching visual images. All images have a smoother, more appealing variation in color density, which increases visual realism and generates photorealistic rendered images.

Certified for the Highest Quality Experience with the Most Demanding Workstation Applications

The performance and power of the NVIDIA Quadro architecture are built on a solid foundation of quality engineering. This engineering excellence is exemplified by the NVIDIA Unified Driver Architecture (UDA), which is certified for quality by the entire spectrum of CAD and DCC applications.

NVIDIA Quadro Solutions

- **Ultra-High-End:** NVIDIA Quadro FX 5900, NVIDIA Quadro FX 4600 X2
- **High-End:** NVIDIA Quadro FX 4000, NVIDIA Quadro FX 3700, NVIDIA Quadro FX 3500
- **Mid-Range:** NVIDIA Quadro FX 3450, NVIDIA Quadro FX 3300, NVIDIA Quadro FX 3100, NVIDIA Quadro FX 3000
- **Entry-Level:** NVIDIA Quadro FX 2000, NVIDIA Quadro FX 1900, NVIDIA Quadro FX 1800, NVIDIA Quadro FX 1600, NVIDIA Quadro FX 1500
- **Specialty:** NVIDIA Quadro SLI, NVIDIA Quadro SDI, NVIDIA Quadro G-Sync

**SCALABLE GRAPHICS PERFORMANCE**

NVIDIA Quadro graphics solutions feature NVIDIA SLI™ multi-GPU technology. A revolutionary platform innovation, SLI technology enables professional users to dynamically scale graphics performance, enhance image quality, and expand display real estate by combining multiple NVIDIA Quadro graphics solutions in a single system.

**UNCOMPROMISED PROFESSIONAL GRAPHICS TO GO**

The NVIDIA Quadro FX professional solutions for mobile workstations deliver the fastest application performance and the highest quality graphics. The NVIDIA Quadro FX mobile solutions enable the leading CAD, DCC, and visualization applications to solve the most complex professional visual computing challenges in a mobile form factor.

**INTEGRATED GRAPHICS TO VIDEO SOLUTION**

The NVIDIA Quadro SDI solutions are ideal for on-air broadcast professionals across many applications, including virtual set, sports, and weather news systems. The NVIDIA Quadro SDI solution is the industry’s only fully integrated graphics to video output product, and will composite live video footages onto virtual backgrounds and send the result to live video for TV broadcast. The solution also allows film production and post-production professionals to preview the results of 3D compositing, editing, and color grading in real time on HD broadcast monitors.

**A QUANTUM LEAP IN VISUAL COMPUTING FOR THE GPU**

The NVIDIA Quadro Plex is a dedicated visual computing system (VCS) enabling breakthrough levels of capability and productivity for professionals ranging from manufacturing designers and stylists to earth scientists to digital content creators. NVIDIA Quadro Plex provides the flexibility to be deployed with any certified PCI Express® x16 platform. NVIDIA Quadro Plex achieves unmatched compute density, can be deployed in a wide range of environments, and scales to meet the most demanding professional applications requirements.

**C PROGRAMMING ENVIRONMENT FOR THE GPU**

The NVIDIA CUDA™ software development kit provides a C language environment and tools suite that unearths new capabilities to solve complex, visualization challenges such as real-time ray tracing and interactive volume rendering.

**REVOLUTIONIZING ADVANCED VISUALIZATION**

NVIDIA Quadro G-Sync delivers frame and gesture functionality to unprecedented levels of industrial realism, visualization, and collaborative capabilities. The NVIDIA Quadro G-Sync II option can be combined with the Quadro FX 5500 or 4600, and G-Sync I can be combined with the FX 5500 to provide advanced multi-system visualization and external signal synchronization.