PROFESSIONAL PLATFORM PROCESSORS: THE NEW PLATFORM FOR PROFESSIONAL COMPUTING

DESIGNED FOR PROFESSIONAL COMPUTING ENVIRONMENTS

Professional users require stable and reliable high-performance platforms that meet the needs of their demanding applications. With the introduction of the **NVIDIA nForce™3 Professional** (NVIDIA nForce3 Pro) platform processors, NVIDIA revolutionizes professional motherboard designs, delivering a single-chip motherboard solution designed specifically for the 64-bit AMD Opteron™ processor. Featuring advanced hardware and software technologies and optimized for the industry-leading NVIDIA Quadro® workstation graphics, NVIDIA nForce3 Pro provides the performance, stability, and reliability required for today and tomorrow's professional workstations.

OPTIMIZED FOR NVIDIA QUADRO WORKSTATION GRAPHICS

Representing the standard in professional graphics, NVIDIA Quadro solutions define graphics performance and quality, making them the world's most successful professional graphics brand. NVIDIA Quadro products are certified by more professional applications than any other in the industry. Pair a NVIDIA nForce3 Pro-based motherboard or workstation system with the NVIDIA Quadro FX, the latest NVIDIA Quadro graphics solution—for the highest performance, most stable professional computing platform. The NVIDIA nForce3 Pro and NVIDIA Quadro FX solutions are both backed by the industry-renowned NVIDIA Unified Driver Architecture (UDA), ensuring optimal total system performance. Further, certifications and feature enhancements automatically benefit past, present, and future NVIDIA nForce3 Pro/ NVIDIA Quadro FX platforms for the ultimate in compatibility, stability and reliability.

DESIGNED FOR ENTERPRISE NETWORKS

NVIDIA nForce3 Professional processors deliver time-tested stability through the NVIDIA UDA, which enables single gold-disk deployment for all NVIDIA components. One software driver for all NVIDIA nForce3 Pro-based platforms greatly simplifies enterprise installation, upgrades, and administration, ensuring low total cost of ownership. Systems powered by NVIDIA nForce3 Pro and NVIDIA Quadro FX deliver certified quality for professional applications further protecting enterprise investment. In addition, with the NVIDIA nForce3 Pro platform, NVIDIA is committed to product availability aimed at providing stable platform configurations to support IT buying requirements.

ADVANCED TECHNOLOGY SOLUTIONS

The NVIDIA nForce3 Professional platform processors provide advanced technologies for robust professional computing. NVIDIA nForce3 Pro introduces the NVIDIA enterprise-class networking technology, delivering sophisticated features such as hardware Alert Standard Format (ASF) support, traffic prioritization, flow control, Advanced Configuration and Power Interface 2.0 (ACPI 2.0), and other manageability features for enterprise-class networking. The advanced NVIDIA RAID technology enables fault-tolerant storage designs for both Parallel and Serial ATA devices, ensuring maximum data integrity with the highest performance. Equipped with today's most advanced interface technologies—such as AGP 8X, PCI 2.3, USB 2.0, and ATA-133—NVIDIA nForce3 Pro ensures easy-to-use, high-bandwidth connectivity.

UNMATCHED PERFORMANCE

NVIDIA nForce3 Pro upholds the NVIDIA tradition of unprecedented platform performance. By combining high-speed HyperTransport™ technology with NVIDIA StreamThru™ data transport system, NVIDIA nForce3 Pro delivers uninterrupted data streaming and networking with exceptional system performance. In addition, the advanced technology solutions deliver unmatched storage and networking features with maximum performance. The single-chip, low-latency design architecture also reduces system operation lag-times and further improves performance.

NVIDIA NFORCE3 PROFESSIONAL SPECIFICATIONS

- NVIDIA enterprise-class networking technology
  - NVIDIA IEEE 802.3 MAC (Media Access Controller)
  - Supports 10/100 BaseT Ethernet/Fast Ethernet
  - ACR and CNR Interface Support
  - Enterprise-class network management features
    - ASF 1.03 compliant
    - Auto negotiation plus
    - Flow control
    - Traffic prioritization
    - ACPI 2.0
    - Wake On Lan (WOL)
  - NVIDIA StreamThru™ technology
    - Isochronous Controller Paired with HyperTransport Results in Fastest Networking Performance
- NVIDIA RAID technology
  - RAID 0 disk striping support for highest system and application performance
  - RAID 1 disk mirroring support for fault tolerance
  - RAID 0 +1 disk striping and mirroring support for highest performance with fault tolerance
  - Support for both SATA and ATA-133 disk controller standards
- Triple Fast Ultra ATA-133 Disk Drive Controllers
  - Each interface supports two devices, for a total of six devices
  - Third IDE interface can support two IDE-to-SATA bridge master/slave configuration devices to support up to two SATA ports
  - Third IDE channel additionally supports an over-clocked mode to achieve UDMA-150 to match the 150MB/sec. of the SATA link interface
  - Supports Ultra DMA modes 6-0 (Ultra DMA-133/100/66/33)
  - Industry-standard PCI bus master IDE register set
  - Separate independent IDE connections for 5V-tolerant primary and secondary interfaces
- AGP Interface
  - Supports AGP3.0—0.8V signaling for 8x and 4x with Fast Writes data transfers
  - Supports AGP2.0—1.5V signaling for 4x, 2x, and 1x modes with 4x and 2x Fast Writes data transfers
  - Supports graphics address remapping table (GART) features
  - The AGP3.0 8x 533MT/s (million transfers per second) interface provides the user with the ability to upgrade the external graphics card, thus avoiding obsolescence. An external AGP add-in card achieves higher performance than it would on existing platforms.
  - AGP interface is backward compatible with the AGP2.0 specification
- HyperTransport
  - High Throughput (3.6GB/sec.)
  - Low Voltage
  - Differential
  - Low Pin Count Interface
  - Isochronous Link between NVIDIA nForce3 Professional and AMD Opteron processor
- USB 2.0
  - Single USB 2.0 Enhanced Host Controller Interface (EHCI)/Dual USB 1.1 Open Host Controller Interface (OHCI)
  - Support for up to 6 ports
  - Supports transfer rates at high speed (480Mbps), full speed (12Mbps), and low speed (1.2Mbps)
  - Dynamically configures slower devices for best utilization of bandwidth
  - Allows USB concurrency
- AC '97 2.1 Compliant Interface
  - Supports 2, 4, or 6-channel audio
  - Dual AC-Link—supports up to two CODECs
  - 16-bit or 20-bit stereo output and 16-bit input streams
  - Supports input, output, and GPIO channels for host-based modems
  - Separate independent functions for audio and modem
  - Supports ACR and CNR interface
- SPDIF Output (Stereo or AC-3 Output)
- PCI Interface
  - The NVIDIA nForce3 Professional integrates a fast PCI-to-PCI bridge running at 33MHz. It includes an arbiter that supports six external master PCI slots. Features of the PCI interface include:
  - PCI 2.3-compliant, 5V tolerant
  - Supports six external PCI slots at 33MHz
  - Supports six bus master arbitration
  - PCI master and slave interfaces
  - Supports both master-initiated and slave-initiated terminations
  - Bidirectional write posting support for concurrency
  - Flexible routing of all four PCI interrupts
  - Supports read ahead: memory read line (MRL) and memory read multiple (MRM)

NVIDIA Corporation | 2701 San Tomas Expressway | Santa Clara, CA 95050 | T 408.486.2000 | F 408.486.2200 | **www.nvidia.com**