### FEATURES

- Integrated 10/100/1000BASE-T transceiver
  - 10/100/1000BASE-T triple-speed media access controller (MAC)
  - Compliant with IEEE standards
  - Compliant with IEEE 802.3az draft for Energy Efficient Ethernet™ (EEE)
  - State-of-the-art physical layer interface that exceeds IEEE requirements
  - Jumbo frame support with up to 9.6 KB frame size
  - EthernetAV protocols with IEEE 802.1AS, 1588-2008, IEEE P802.1Qat, and IEEE P802.1Qav support
- PCI Express® host interface
  - x1 PCIe™ v1.1
  - Active state power management (ASPM) capability
  - Message signal interrupt (MSI)
- Intelligent power management
  - Centralized power management enables easy and efficient control of various power modes.
  - Innovative implementation that optimizes power consumption dynamically and transparently, depending on network and system states
- Performance features
  - TCP, IP, and UDP checksum offload (CSO)
  - Receive side scaling (RSS) for multicore client processors
  - IPV4 and IPV6 Microsoft® Large Send Offload (LSO)
  - Interrupt coalescing
  - Microsoft Windows® 7 WOL and Proxy support
- Robust ACPI-compliant WOL
- Alert Standard Format (ASF) 2.0
- On-chip voltage regulation using switching regulator

### SUMMARY OF BENEFITS

- Single-chip solution for LAN on Motherboard (LOM) applications
- Proven technology built on twelve generations of controller products
- Wirespeed performance increases user performance.
  - PCI Express provides wirespeed nonblocking throughput.
  - TCP/IP checksum offload significantly reduces CPU usage and increases network throughput for large-file download.
- Extremely low power consumption enables environment-friendly designs.
  - Increases battery life in mobile applications and saves energy in desktop implementations
  - Advanced power management capabilities with ASPM L0s, L1, and PCIe™ CLKREQ
  - Eliminates false system wake-up with NIC proxy capabilities
  - Enables Energy Star® compliant platforms
- Small package enabling smaller and more portable designs
  - 6 mm x 6 mm, 48-pin QFN package
- Lower BOM cost and chip cost, reducing overall cost of solution
  - 65 nm process
  - Fully integrated power regulation with minimal external discrete component
  - On-chip nonvolatile memory that eliminates the need for external memory device
  - Serial NVRAM interface with autosensing capability for advanced capabilities
- iSCSI boot capability
  - Allows diskless implementations
  - Improved manageability and deployment with remote boot
- System alerting and power cycling reduces IT costs
  - ASF 2.0 support for standards-based alerting—IT managers receive automatic alerts when PC support issues occur.
  - Remote power-on/off features allow IT managers to power-cycle PCs to address issues.
The BCM57761 is a Broadcom® NetXtreme® twelfth-generation 10/100/1000BASE-T Ethernet LAN controller solution for high-performance network applications. The device combines a triple-speed IEEE 802.3™-compliant MAC with a triple-speed Ethernet transceiver, x1 PCIe bus interface, and on-chip buffer memory in a single device. The BCM57761 is fabricated in a 65 nm CMOS process, providing a low-power system solution.

The device performs all the physical layer functions for 1000BASE-T, 100BASE-T, and 10BASE-T Ethernet on standard Category 5 UTP cable. Based on proven DSP technology, the device is a highly integrated solution combining digital adaptive equalizers, ADCs, PLLs, line drivers, echo cancellers, crosstalk cancellers, and all other required support circuitry. A full-featured MAC provides full/half-duplex capability at all speeds.

The on-chip high-performance processor enables custom frame processing features. For a lower total solution cost and lower power system-level power consumption, the BCM57761 integrates on-chip switching regulators and nonvolatile memory that eliminates the need for an external NVRAM device. The BCM57761 is truly a single-chip solution for a Gigabit Ethernet (GbE) LOM.

**Target applications:**
- Desktop and mobile PC LOM

**Software drivers available:**
- Windows® 2000, XP, 7, and Windows Vista®
- Linux® 2.4 and 2.6