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BCM5761 PRODUCT Brief

10/100/1000BASE-T CONTROLLER WITH INTEGRATED TRANSCEIVER, ADVANCED SECURITY, AND PLATFORM MANAGEMENT CAPABILITIES

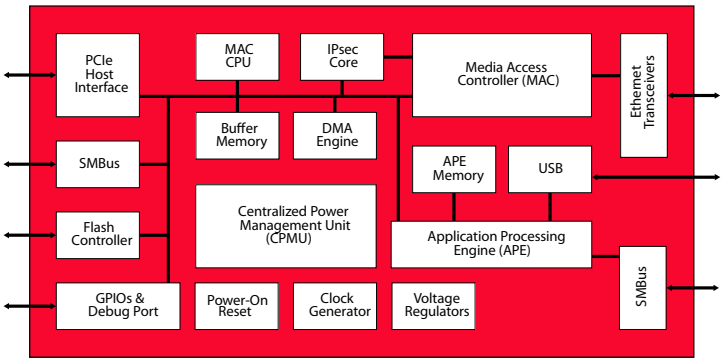
FEATURES

- **Integrated 10/100/1000BASE-T transceiver**
  - 10/100/1000BASE-T triple-speed MAC
  - State-of-the- art physical layer interface that exceeds IEEE requirements
  - On-chip voltage regulation
- **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 different power modes
  - Innovative implementation that optimizes power consumption dynamically and transparently, depending on network and system states
  - Policy-based implementation allows easy system integration and enables OEMs to differentiate
- **Performance features**
  - TCP, IP, and UDP checksum
  - Receive Side Scaling (RSS) for multicore client processors
  - Microsoft® Large Send Offload (LSO) and Giant Send Offload (GSO)
  - Interrupt coalescing
- **IPsec Task Offload**
  - Compliant with Microsoft v2 logo requirements
  - NDIS 6.0 support with Authentication and Authentication+Encryption
  - AES-GMAC, AES-GCM, and ICV crypto algorithms support
- **Industry-compliant web services-based manageability**
  - Out-of-band manageability through Broadcom® TruManage™ technology
  - Desktop and Mobile Architecture for System Hardware (DASH) specification v1.0 and v1.1
  - Platform Management Component Intercommunication (PMCI) specification
  - Robust ACPI-compliant Wake-on-LAN (WoL)
  - Alert Standard Format (ASF) 2.0 support

SUMMARY OF BENEFITS

- **Single-chip device for LAN-on-Motherboard (LOM) and network interface card (NIC) applications**
- **Proven technology built on ten generations of controller products**
- **Wirespeed performance increases user performance**
  - PCI Express provides wirespeed non-blocking throughput
  - TCP/IP offloads significantly reduce utilization of CPU and increases network throughput for large files download
- **Advance security with no performance penalty**
  - Full offload of all IPsec packet processing with on-chip cryptographic engines supporting the latest industry algorithms
  - Enables corporate customers to take full advantage of Microsoft Server and Domain isolation technology
- **Web services-based remote manageability reduces IT costs**
  - Secure platform manageability with both user/machine authentication and encryption capabilities
  - Remote monitoring and control of desktop and mobile PCs in a corporate network
  - Remote configuration and installation
  - Remote diagnostic and repair of PC platforms regardless of their state
  - Scalable solution that is agnostic to the platform vendors and architecture
- **Extremely low power consumption enables environment-friendly designs**
  - Increases battery life in mobile applications and saves energy in desktop implementations
  - Enables full web services-based manageability while maintaining Energy Star compliance

BCM5761 Block Diagram



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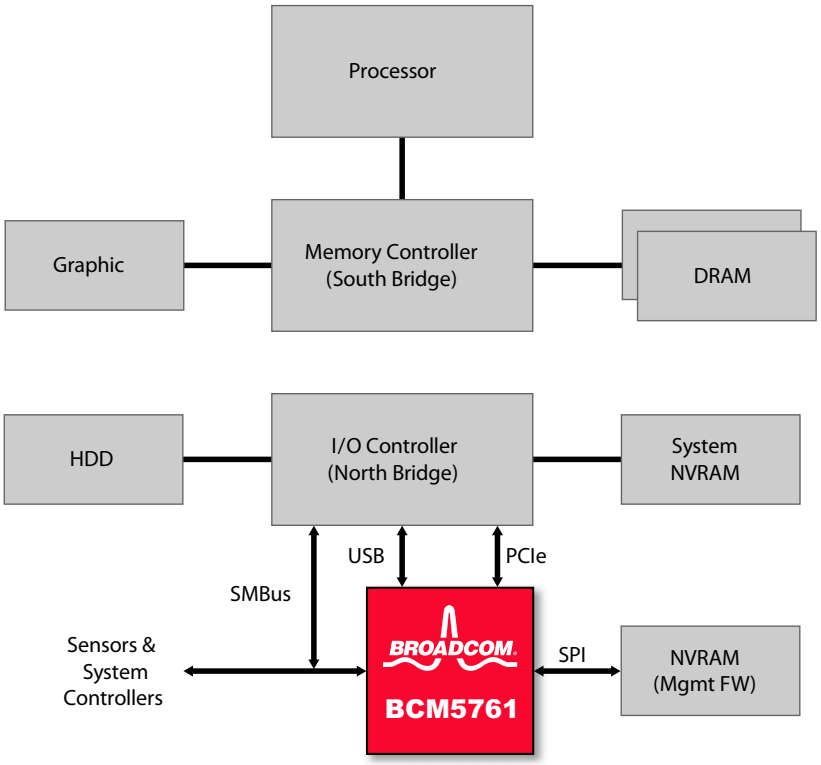
OVERVIEW



DASH Typical System Implementation Diagram

The BCM5761 is a fully integrated 10/100/1000BASE-T Gigabit Ethernet (GbE) media access control and physical layer transceiver solution for high-performance network applications. The BCM5761 combines a triple-speed, IEEE 802.3™ compliant media access controller (MAC), PCI Express bus interface, on-chip buffer memory, and integrated physical layer transceiver in a single device. The BCM5761 is fabricated in a low-voltage silicon process, providing an ultralow power solution. By itself, the BCM5761 provides a complete single-chip GbE NIC or LOM solution.

The BCM5761 includes a 10/100/1000-Mbps Ethernet MAC with full-duplex and half-duplex capability at all speeds. Support for the following 802.3 functions is featured in the MAC—VLAN tagging, Layer 2 priority encoding, and full-duplex flow control.

The BCM5761 controller offers IPsec task offload capabilities compliant with Microsoft v2 logo requirements, which enables IT professionals to deploy IPsec technology on their existing network with no performance penalty and while maintaining low CPU utilization and high network capacity by offloading all the cryptographic processing to the hardware. With in-line offload architecture, the BCM5761 controller enables network security at an extremely low cost. With network topologies becoming more complex with increased mobility and remote workers, security threats are now more sophisticated with viruses and worms. IPsec protocols operate at the network layer and enable end-to-end authentication and encryption between clients and servers, allowing efficient network segmentation and isolation.

The BCM5761 integrates an on-chip application processing engine (APE) with its runtime memory providing a complete web services-based management functionality via Broadcom's TruManage technology. The single-chip highly integrated product offers a scalable and centralized architecture, which, combined with a highly optimized firmware and software, enables low-power, secure, fault-tolerant, and cost-effective implementation.

Target applications of the BCM5761:

- Desktop and mobile PC LOM

Software drivers available:

- Windows® NT, 2000, XP, and Vista
- Linux® 2.2, 2.4, and 2.6

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BROADCOM CORPORATION
5300 California Avenue
Irvine, California 92617

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Phone: 949-926-5000
Fax: 949-926-5203
E-mail: info@broadcom.com
Web: www.broadcom.com