

## **Ubicom Introduces Industry's First Communications and Media Processor to Power the Digital Home**

*StreamEngine 5000 allows digital home equipment suppliers to deliver better user experience for multimedia applications, within a shorter timeframe*

**Mountain View, Calif. – January 5, 2006** – Ubicom, Inc., a leading provider of embedded processor and software platforms, has introduced the industry's first family of communications and media processors (CMPs). The company's [StreamEngine® 5000™](#) CMPs represent a new generation of processors that are specifically designed to meet the stringent requirements for delivering multimedia content such as HDTV, VoIP and online gaming to, and within, the digital home. These new CMPs offer product designers a low cost platform that delivers high sustained throughput with deterministic packet processing for ultra low jitter, combined with application and interface flexibility not found in traditional architectural approaches.

Designed around Ubicom's unique memory-to-memory and multithreaded processor architecture, StreamEngine 5000 offers efficient software execution by more than doubling the work that can be performed in each clock cycle, which in turn drives exceptional price/performance. As the applications and services proliferate within the home, this processor architecture provides the capability to characterize multiple types of media applications, while processing them with precise timing to virtually eliminate the delay and jitter which plague RISC-based solutions deployed in this environment. Ubicom's innovative architecture also allows multiple applications to be independently processed so that they do not interfere with each other. For example, HDTV feeds can be streamed and VoIP calls can be originated and processed on-chip, even when other applications are running simultaneously on the network.

"Ubicom's StreamEngine 5000 stands out as one of the most innovative processors for networking multimedia applications," said Joe Bryne, senior analyst at Linley Group. "Unique features such as the direct transfer of data from I/O interfaces to application memory and support for hard real-time threads reduces processing latency and jitter, delivering improved QoS for multimedia traffic."

"The digital home of today presents new challenges that tax the traditional architectures to the limit and demand new and more efficient designs," said Keith Morris, Ubicom vice president of marketing. "Our StreamEngine 5000 family was developed to address this – the first processors designed specifically to support communications and media applications concurrently."

Ubicom StreamEngine 5000 communications and media processors include several additional features that enable multimedia applications to run efficiently, reliably and simultaneously throughout the home. These include:

- **High sustained throughput** – Media applications such as streaming audio and video require continuous high bandwidth packet processing. StreamEngine 5000's on-chip memory enables packets to stream directly to on-chip memory and be processed to completion by any of the processor's 10 independent threads (each thread can operate independently as a separate processor).
- **Deterministic processing** – Media applications are very sensitive to jitter. Deterministic processing provides a fixed time for processing each packet, thus nearly eliminating jitter. Combined with ultra low latency of multithreading, it provides the best quality of service for media applications.
- **Multiple concurrent applications** – Today's digital environment is application rich, so multiple and diverse applications need to be processed in parallel with low jitter. The memory-to-memory and multithreading design enables StreamEngine 5000 CMPs to independently process multiple applications with low jitter.

- **Native audio processing** – Instruction set enhancements allow integrated soft CODECs combined with echo cancellation, adaptive jitter control, RTP/RTSP, SIP, and Intelligent Stream Handling (ISH) provides low cost and high quality multichannel voice over IP or audio distribution.
- **Dedicated security engine** – StreamEngine 5000 CMPs include a dedicated hardware security engine to support a wide variety of data encryption standards and digital rights management schemes. This engine, combined with Ubicom's professional grade stateful firewall, prevents networks from outside hack, identity theft attacks, and protects digital assets from unauthorized access.

The StreamEngine 5000 CMPs also feature a dedicated operating system for enhanced reliability, stability and high sustained throughput. Additionally, the processors' advanced design and high level of integration make lower cost of chip and BoM (Bill of Material) possible. The processors come with a fast time-to-market Ubicom software development kit and reference design hardware board.

### **Availability**

The StreamEngine 5000 family of communications and media processors, along with the complete hardware reference design and software development kit, is sampling now and will be available in volume production in Q2, 2006.

Figure 1: StreamEngine 5000 Block Diagram

[http://www.ubicom.com/images/processors/ip5000/IP5K\\_Block\\_Diagram\\_lg.jpg](http://www.ubicom.com/images/processors/ip5000/IP5K_Block_Diagram_lg.jpg)

Figure 2: Digital Home Gateway Application

[http://www.ubicom.com/images/processors/ip5000/IP5K\\_Home\\_Gateway\\_App\\_lg.jpg](http://www.ubicom.com/images/processors/ip5000/IP5K_Home_Gateway_App_lg.jpg)

Figure 3: StreamEngine 5000 Family Overview

[http://www.ubicom.com/processors/ip5000/ip5000\\_family.html#ip5k\\_family\\_overview](http://www.ubicom.com/processors/ip5000/ip5000_family.html#ip5k_family_overview)

### **About Ubicom, Inc.**

Ubicom, Inc. is a leading supplier of embedded processor and software platforms that address the needs of the rapidly evolving digital home. Ubicom's StreamEngine® technology enables innovative, high quality, high performance for communications and media applications.

The company provides optimized system-level solutions to OEMs for a wide range of products that deliver consistent quality for real time interactive applications such as VoIP, video, audio and online gaming combined with exceptional coverage in wireless applications. The company's technology is deployed in a variety of areas including wireless routers, access points, VoIP gateways, streaming media devices, print servers and other network devices.

Ubicom's unique multithreaded processor design, real-time operating system, and application-level solutions combine to ensure a high-quality user experience with fast time to market for our customers. Ubicom is a venture-backed, privately held company with corporate headquarters in Mountain View, California. For more information, visit [www.ubicom.com](http://www.ubicom.com).

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