Intel® Digital Set Top Box Reference Design

Intel Brings Technology to the Digital Home

The converging worlds of computing, communications and consumer electronics are creating compelling new opportunities in the world of digital home video. Today this trend is perhaps most evident in the rapid evolution of the "set top box" from its traditional role as a basic cable TV or satellite receiver into a versatile multi-function digital multi-media appliance that can wirelessly send content to any room in the home.

Inside the box, Intel is adding greater intelligence and flexibility with a new digital set top box design that provides consumers with a choice of exciting digital media and services from a new delivery channel – the DSL and other broadband networks provided by telecommunication and cable service providers. Outside the box, consumers will discover an almost infinite variety of ways to wirelessly share a rich spectrum of digital video, voice and data services with consumer electronics devices throughout the home.

The Intel® Digital Set Top Box Reference Design and the direct broadband connection between viewer and service provider open the door to a rich new menu of "triple-play" voice, data and video services:

- Video on Demand (VoD)
- Pay per View (PPV) video programming
- "Internet phone" Voice over Internet Protocol (VoIP) communications
- Streaming video and audio content
- Online shopping
- Interactive online games
- Web browsing
- E-mail and text messaging

The new generation of digital set top boxes allows consumers to share digital content by wirelessly networking with PCs, video displays and audio gear in any room of the home.

So while Dad orders a favorite film from the service provider's Video on Demand menu and watches it on the wireless big-screen TV in the family room, Mom can catch a live Pay-per-View program and do some interactive home shopping on a portable wireless video monitor from the back patio. At the same time, the kids can talk with their friends over the Internet from a PC upstairs while playing an online game and listening to their favorite music.

Intel's flexible design enables manufacturers to tailor their own set top boxes to meet the needs of service providers and consumers. For example, a set top box can be designed to provide personal video recorder (PVR) capability through the addition of one or more hard drives or DVD drives. Consumers can expand their systems even more by adding remote control units, joysticks, and game controllers, or they can add a state-of-the-art TV or display monitor using any one of a variety of built-in video connectivity options.

Intel® 815 Digital Set Top Box Reference Design

The Intel® 815 Digital Set Top Box Reference Design (DSTB) showcases the convergence of computing, communications and consumer electronics.

With support for leading OS environments including Windows* CE* .NET,* Windows* XP Embedded and Linux,* the Intel DSTB Reference Design provides the computing horsepower to decode the latest compression technologies, such as Windows Media* Player 9, in addition to MPEG-1, MPEG-2 and MPEG-4 compression formats.

The design includes the Low Voltage Intel® Celeron® processor or the Ultra Low Voltage Intel® Celeron® processor, the Intel® 815 chipset, and an Intel® controller providing integrated networking and hard drive connectivity, in addition to video, audio and connectivity components from third-party suppliers.

Thomson* Cobra* Platform

In another set top box development incorporating Intel® technologies, major set top box manufacturer Thomson recently announced their new Cobra video delivery platform which enables telecom service providers to deliver high quality "triple-play" audio, video and data services to large audiences of consumers through existing DSL networks.

Thomson and Intel co-developed Cobra to support all major next-generation compression technologies and enable a variety of flexible product configurations. The Thomson Cobra platform is designed to support flexible configurations to meet the needs of worldwide telecom service providers and consumer markets.

According to Thomson,[1] *"the platform will support a complete range of set top boxes to suit the needs of various markets, such as:*

- *A basic set top box receiver that delivers streaming audio and video content and supports interactive applications;*
- *A set top box receiver with a hard drive to receive video-on-demand programming over DSL networks;*
- *A set top box receiver with a hard drive and tuners to support advanced personal video recorder (PVR) capability for easy to use program recording and playback;*
- *A set top box receiver with a hard drive, PVR capability, and an optical drive such as CD or DVD for program recording and playback."*

[1] Source: Thomson Web site www.thomson.net/gb/06/c03/031113.htm