www.intel.com

[1] Verified devices and services will vary, and content restrictions may apply. Wireless and network performance varies with specific hardware and software configurations, usage, and environmental interference. Use a wired connection for improved performance with video and other media. May require TV tuner card and/or remote which may be sold separately. Instant on/off feature works after initial boot, when activated. Intel network setup software currently requires a verified router and DHCP ("Always On") or PPPoE broadband connectivity protocols. Check router and your current ISP specifications before purchasing. See www.intel.com/go/viiv_info for more information.

[2] Performance based on SPECint*_rate_base2000 (2 copies) and energy efficiency based on Thermal Design Power (TDP), comparing Intel® Core™2 Duo E6700 to Intel® Pentium® D Processor 960. Actual performance may vary. See www.intel.com/performance for more information.

[3] Feature available with Intel® G965 Express chipset; may not be available on all systems. Check with computer manufacturer for availability.

[4] Requires a TV tuner card.

USA/0806/MB/DN/HOP/1K

Order Number: 314346-001US

Leap ahead™

Intel® Viiv™ Technology: Performance and Technology for Entertainment PCs

Bringing the World of Digital Entertainment to the PC

Intel® Viiv™ technology is a combination of PC hardware and software features designed and tested to work together to deliver a great entertainment experience. Intel Viiv technology-based PCs combine:

- Intel dual-core processors with performance for media playback and multitasking
- Intel Express chipsets supporting high-definition audio/visual capabilities
- Intel networking silicon for broadband connectivity
- Intel Viiv™ software and platform drivers to enable digital entertainment and additional computing features

Hardware that Delivers

At the heart of a great digital entertainment experience is a great consumer PC. Every Intel® Viiv™ technology-based PC has been enabled with Intel-based hardware to deliver the features needed to enjoy digital entertainment. Intel Viiv technology-based PCs include:

Intel Dual-Core Processing Power

The "brain" of the Intel Viiv technology-based PC is an Intel dual-core processor. An Intel dual-core processor means the system has the performance for 1080i/1080p high-definition video playback and support for multiple tasks to be done in parallel—such as watching a downloaded movie while recording a TV show in the background. And when powered by the new Intel® Core™2 Duo processor, Intel Viiv technology-based PCs offer up to a 40% performance increase for industry-leading performance and amazing new entertainment experiences.[2]

As networked media devices become verified for Intel Viiv technology, dual-core processing performance adds further benefits by enabling multiple people to access entertainment from the same PC—even from different rooms. For example, one user can be playing a game on the PC while someone else streams music over the home network to a verified networked media device in another room.[1]

Intel® Express Chipsets

Intel Viiv technology-based platforms also contain an Intel Express chipset which has features that enable an exceptional digital media experience. For example:

- The Intel® Graphic Media Accelerator boosts graphics performance for richer visual color and picture clarity and 3D enhancements for gaming.
- Intel® High Definition Audio supports up to 7.1 surround sound and multiple, simultaneous audio streams.

In addition, Intel Viiv technology-based PCs must also include audio codecs and audio jacks supporting a minimum of 5.1 surround sound.

Intel® PRO Client LAN (82562 or 82573V/L)

The inclusion of Intel PRO Client LAN means every Intel Viiv technology-based PC is broadband ready with up to 1 Gigabit Ethernet networking capability. This enables access to online entertainment and services through an Internet Service Provider.

Intel® Viiv™ Technology with the Intel® Core™2 Duo Processor Inside

Intel® Viiv™ technology-based PCs are now available with Intel's latest platform components—the new Intel® Core™2 Duo processor and the Intel® 965 Express Chipset. These new hardware components bring significant performance enhancements to the PC entertainment experience.

Intel® Core™2 Duo Processor:

- Up to 40%[2] more performance to enable digital media applications
- Incredible system responsiveness when running multiple media streams and multiple applications at the same time
- 2X the execution throughput for video, 3D gaming and multimedia applications with Intel® Advanced Digital Media Boost
- Delivers an incredibly intense gaming experience with performance for more realistic simulations
- Up to 40%[2] more power efficiency enables small, quiet and stylish PC designs that look great in any room in your home

Intel® 965 Express Chipset:

- Enriched entertainment experience through enhanced 1080i/1080p high-definition video playback and up to 7.1 surround sound support
- Enhanced video playback with sharper images and precise color control with Intel® Clear Video Technology[3]
- Supports crystal clear video and audio streams from one cable with built-in support for HDMI[3]
- Enhanced TV viewing of picture-in-picture[4] functionality with dual tuner support[3]

Technologies to deliver more performance and lower power consumption:

- **Intel® Advanced Digital Media Boost**—enables better performance on media applications which support Intel® Streaming SIMD Extensions by enabling execution of 128 bit instructions in a single clock cycle
- **Intel® Wide Dynamic Execution**—executes 4 instructions per clock cycle versus 3 per clock cycle with Intel® Netburst™ microarchitecture
- **Intel® Advanced Smart Cache**—increases the efficiency of the L2 cache by enabling the entire cache to be allocated to either core as needed (versus a dedicated L2 cache for each core on previous generation processors)
- **Intel® Smart Memory Access**—maximizes main memory to processor bandwidth and reduces latency
- **Intel® Intelligent Power Capability**—optimizes energy usage of the processor cores by turning on computing functions only when needed

Additional features for digital entertainment:

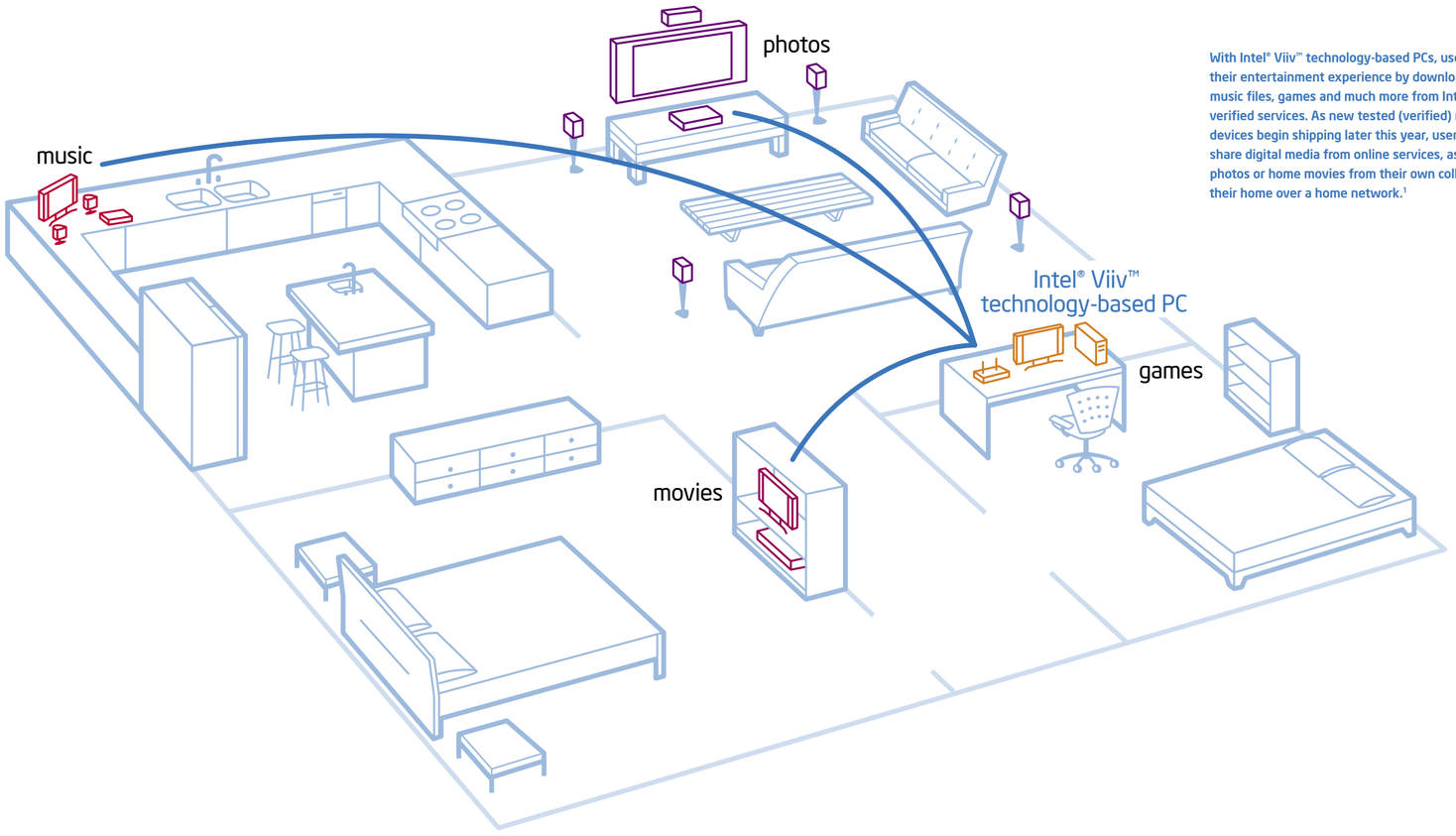
- **Intel® Graphics Media Accelerator 3000 (Intel® GMA 3000)**—improved realism and lifelike 3D effects for gaming[3]
- **Intel® Clear Video Technology**—enhanced HD video, sharp picture quality, brilliant colors and advanced display connectivity[3]
- **Intel® High Definition Audio (Intel® HD Audio)**—supports up to 7.1 surround sound and audio multi-streaming capabilities
- **Intel® Matrix Storage Technology**—improves storage responsiveness and protects digital memories when a second hard drive is present; new external hard drive support
- **Intel® Fast Memory Access (Intel® FMA)**—designed to maximize memory bandwidth

Entertainment Services and Peripherals

Intel® Viiv™ technology-based PCs not only deliver great entertainment, they have also been tested (verified) to work with an expanding range of entertainment content services and peripherals that can enhance how consumers access, control and share digital media.

Coming in the second half of 2006, Intel will verify new networked media devices and wireless routers to work with Intel Viiv technology. These peripheral devices connect to other consumer electronic equipment, like TVs and stereo systems, to enable users to play media from the PC throughout the home over a home network.[1]

Verified entertainment services, applications and media devices will carry an "Enjoy with Viiv technology" identifier to make them more easily recognized as having been tested to work with Intel Viiv technology-based PCs.



With Intel® Viiv™ technology-based PCs, users can personalize their entertainment experience by downloading news, movies, music files, games and much more from Intel Viiv technology-verified services. As new tested (verified) networked media devices begin shipping later this year, users will be able to share digital media from online services, as well as music, photos or home movies from their own collection, throughout their home over a home network.[1]

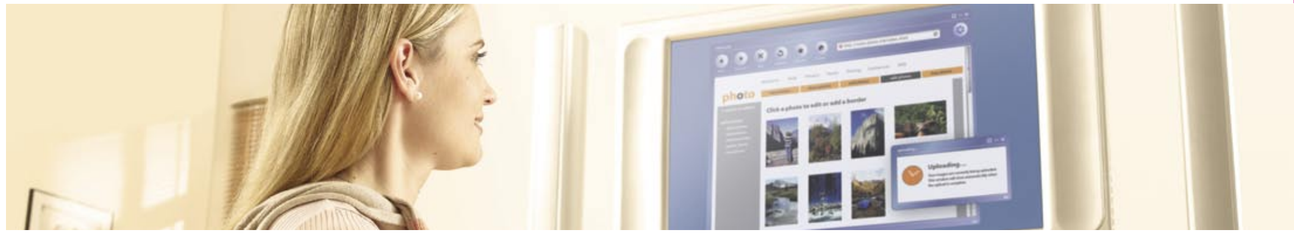
Enhancing the Intel® Viiv™ Technology Platform

In addition to Intel hardware technologies that enable high-definition entertainment, Intel® Viiv™ technology-based PCs also include Intel® Viiv™ Software and other platform drivers that enhance the PC entertainment experience. The platform drivers and software add CE-like functionality to the PC and provide additional capabilities to enable users to share media through verified networked media devices in the home.[1] Intel Viiv Software features and drivers available for Intel Viiv technology include:

Media Streaming and Management

The Intel® Viiv™ Media Server includes a variety of software components that enable users to manage, access and stream their own personal digital media and protected content from online services on their PC to Intel Viiv technology-verified media devices, such as digital media adapters – or networked DVD players – on their home network.[1] The Intel Viiv Media Server is based on industry standards such as Universal Plug-n-Play (UPnP) and the Digital Living Network Alliance (DLNA), enabling additional compatibility with other PCs and devices on the home network. It also includes other features to enhance sharing of digital content:

- **The Intel® Viiv™ Media Library** catalogs the digital media available on the Intel Viiv technology-based PC, and on other Universal Plug-n-Play devices on the network, so users can remotely browse, access and play that media through verified networked media devices.[1] The Intel Viiv Media Library can be configured by the user to automatically update the database when new media is added or created so the user has an up-to-date view of all the digital media available on the network.
- **Intel® Smart Streaming Technology** translates a wide variety of file formats for unprotected personal media on the PC into a format that a verified networked device can play even if the device itself does not support the original media format.
- **The Software Premium Content Module (SPCM) Plug-Ins** enable streaming of content and services that have been protected by the content providers with digital rights management (DRM) schemes from an Intel Viiv technology-based PC to Intel Viiv technology-verified media devices connected to the home network. The SPCM plug-ins transcript DRM-protected content into the industry standard DTCP-IP protocol. DTCP-IP then uses cryptographic technologies to protect the content from illegal copying, intercepting and tampering as the content is streamed over the network. Each Software Premium Content Module plug-in supports a specific digital rights management scheme. Intel Viiv Software currently includes a SPCM for Microsoft Windows Media* DRM encoded content – one of today's more prevalent digital media formats.
- **Remote User Interface (RUI) Service** enables the Intel Viiv technology-based PC to remote the user interface of supporting verified applications and services over the network to an Intel Viiv technology-verified media device.[1] The RUI service can remote the interface of online entertainment services to the connected device and send back instructions to the PC initiated by the user on a connected device in another room. With the RUI service, a user can browse, download and enjoy media, such as video and music, from supporting online services through the Internet connection of their Intel Viiv technology-based PC in addition to accessing the media already downloaded to the PC.
- **Intel® Viiv™ Zone** is a media "portal" for Intel Viiv technology-verified devices that enables users to access the verified services and applications that support RUI. The Intel Viiv Zone enables users to access remoted services and applications from one screen through an interface easily navigated with a remote control which may be sold separately.



Enabling Instant On/Off

Intel® Quick Resume Technology enables users to turn their Intel Viiv technology-based PC on and off – much like a TV – with the push of a button on the remote or PC. Intel Quick Resume Technology is part of the Intel Viiv technology platform drivers and, when enabled on the system, it puts the PC into a "visual off" after the system has been booted.

While visual off shuts down keyboard input, video display and other features, the system is still available to perform specific functions – such as record a TV show or stream media to a digital media adapter in another room over the home network.[1]

Intel Quick Resume Technology works with Microsoft* Windows* existing power states so users can manage power settings as they wish, such as setting the system to go into standby after a specified time interval. Intel Viiv technology-based PCs also include a "wake on LAN" feature which enables a user accessing the system from a verified connected device to "wake up" the PC from standby from another room to access digital media and remoted services over the home network.[1]

Enhanced Storage Performance

Intel® Matrix Storage Technology is a feature of Intel Viiv technology-based PCs which helps speed data retrieval from the hard drive and can help users protect important media files when the system contains dual RAID hard drives. Intel Matrix Storage technology is a platform driver feature and includes a backup and restore interface which can help users with dual RAID systems to preserve personal memories and valuable digital photos, videos and music by automating the storage of data and media on the second hard drive.

For single drive systems, Intel Matrix Storage technology improves storage performance through Native Command Queuing (NCQ), by harnessing the quad DMA (direct memory access) controllers, and through hardware and software optimizations. SMART alerting also notifies users when the drive detects potential oncoming failure.

Simplified Device Set Up

Intel® Hub Connect technology can help to simplify the process of adding verified devices to a home network.[1] Using an Intel Viiv technology-based PC and a verified router, Intel Hub Connect technology can detect, identify and configure Intel Viiv technology-verified devices on a protected wireless network.

When an Intel Viiv technology-verified device is turned on and connected to a display device (such as a TV in another room), the device will generate a 4-digit alpha numeric PIN pass code. The user then enters that PIN (which is valid for only a limited time period for added security) in the set up software on the Intel Viiv technology-based PC to set up the device on the home network. The PIN identifies the device so it can be automatically configured using the Intel Viiv Software's network management – eliminating the need to know or enter complicated network credentials such as the SSID or security keys.

In addition, Hub Connect technology contains a network management feature which enables users to view information on connected devices, internet connection and network status using a remote control through a graphical user interface.

A Complete Solution for Compelling Entertainment

Intel® Viiv™ technology-based PCs offer performance and features to get the most from today's digital entertainment—with hardware and software that enables users to manage, enjoy and access their own media and new entertainment services available today. With PC technologies for high-definition entertainment, combined with an expanding set of verified applications, online entertainment services and peripherals, Intel Viiv technology-based PCs can transform the way users enjoy digital entertainment.

Learn more online

http://www.intel.com/viiv/

Intel® Viiv™ technology-based PC Components

An Intel® Dual-Core Processor	Pentium® D inside™ / Pentium® Extreme inside™	Core™2 Extreme inside™ / Core™2 Duo inside™ / Core™ Duo inside™	
Intel Chipset & Drivers	Intel® Express Chipset Family 945G/P, 955X/975X + ICH7-DH & G/P965 + ICH8-DH	Intel® Express Chipset Family 975X, + ICH7-DH & G/P965 + ICH8-DH	Intel® Mobile 945GT, 945GM + ICH7-MDH
	Intel® High Definition Audio (≥5.1 audio jacks & audio codec) Intel® Quick Resume Technology Intel® Matrix Storage Technology (NCQ SATA Drive)		
Intel® Viiv™ Software	Intel® Viiv™ Media Server Intel® Hub Connect Technology		
Additional Requirements	Windows* XP Media Center Edition 2005 Operating System Intel® PRO Client LAN (82562 or 82573V/L)		

Intel® Viiv™ Technology Supported Formats for Streaming Media

Intel Viiv technology supports streaming of a number of media file formats to verified networked media devices. Some of these media formats are streamed in their native format (Pass-through) while Smart Streaming Technology translates others into a different format the networked device supports (Transcoded).

Video File Formats

File Format	Pass Through	Transcoded to MPEG2 PS or TS (Standard-definition only^)	File Extensions
MPEG1	Yes	No	.m1v .m2v .mp2 .mp2p .mp2t .mpa .mpe .mpeg .mpeg2 .mpg .mpg2 .dat
MPEG2 PS MPEG2 TS	Yes Yes	Yes Yes	.m1v .m2v .mp2 .mp2p .mp2t .mpa .mpe .mpeg .mpeg2 .mpg .mpg2 .vob
DV Type 1, 2	No	Yes	.avi
DivX3 DivX4 DivX5	Yes Yes Yes	No Yes Yes	.avi
WMV 7, 8, 9	Yes	Yes	.wmv, .asf
MPEG4 part 2	Yes	Yes	.mp4, .m4v
DVR-MS	Yes	Yes	.dvr-ms
VOB	Yes	Yes	.vob

^High-definition content is pass-through only

Audio File Formats

File Format	Pass Through	Transcoded to LPCM	File Extensions
MP3	Yes	Yes	.mp3
WMA	Yes	Yes	.wma
LPCM	No	N/A	
AAC	Yes	Yes	.aac, .m4a
AC3	Yes	No	.ac3

Image File Formats

File Format	Pass Through	Transcoded to JPEG	File Extensions
JPEG	Yes	N/A	.jpeg, .jpg
PNG	Yes	Yes	.png
TIFF	Yes	Yes	.tif, .tiff
BMP	Yes	Yes	.bmp
GIF	Yes	Yes	.gif