PRODUCT BRIEF
Intel® Q87 Chipset
Intel® Q85 Chipset

Your Business Just Became More Manageable and Secure

The Intel® Q87 and Q85 Chipsets and the 4th Generation Intel® Core™ vPro™ Processors

With industry-leading performance and responsiveness, the Intel® Q87 and Q85 chipsets and the 4th generation Intel® Core™ processor family offer enhanced manageability and security for your most demanding business needs.

Enhanced Manageability and Security

With enhanced hardware-based keyboard, video, and mouse (KVM) Remote Control,[1] IT administrators can now mange clients across multiple screens. Combined with secure data access via Intel® Identity Protection Technology,[2] the Intel® Q87 and Q85 chipsets help your business stay secure in the digital world.

Smarter Performance

The combination of the Intel Q87 or Q85 chipsets and the 4th generation Intel® Core™ processors delivers increased desktop performance for an incredible PC experience. You will get maximum power for whatever you do, thanks to the combination of smart features such as Intel® Turbo Boost Technology 2.0[3] and Intel® Hyper-Threading Technology,[4] which together activate full processing power exactly where and when you need it.

Increased Responsiveness

Intel® Smart Connect Technology[5] enables instant access to your data by allowing your content to be refreshed in the stand-by power state—all while minimizing power consumption. In addition to faster boot and resume times, Intel® Rapid Start Technology[6] provides energy efficiency without sacrificing user experience. While providing Solid-State Drive (SSD)-like performance and large Hard Disk Drive (HDD) capacity at lower costs, the Intel Q87 chipset features Intel® Smart Response Technology,[7] which delivers faster application loading for the most demanding corporate users.

Enrich your IT environment

Intelligent, hardware-assisted security management features help you quickly deploy security patches across PCs faster and helps prevent others from disabling installed security software. Not only can data encryption run up to four times faster due to Intel® Advanced Encryption Standard-New Instructions[8] (Intel® AESNI), but you can remotely unlock encrypted drives that require pre-boot authentication and manage data security settings, even when the PC is off. You can also help protect your organization's sensitive data with optional Intel® Anti-Theft Technology.[9] When enabled, your Intel® Core™ vPro™ processor-based PCs can be automatically

disabled if they are lost or stolen. Once recovered, the system can be reactivated to full functionality.

Protect your passwords and other credentials with Intel® Identity Protection Technology.[2] Intel® IPT ensures your passwords are safe by presenting a PAVP-protected window for password authentication. With the use of the Public Key Infrastructure embedded in the platform signing into your system and application is simpler and secure.

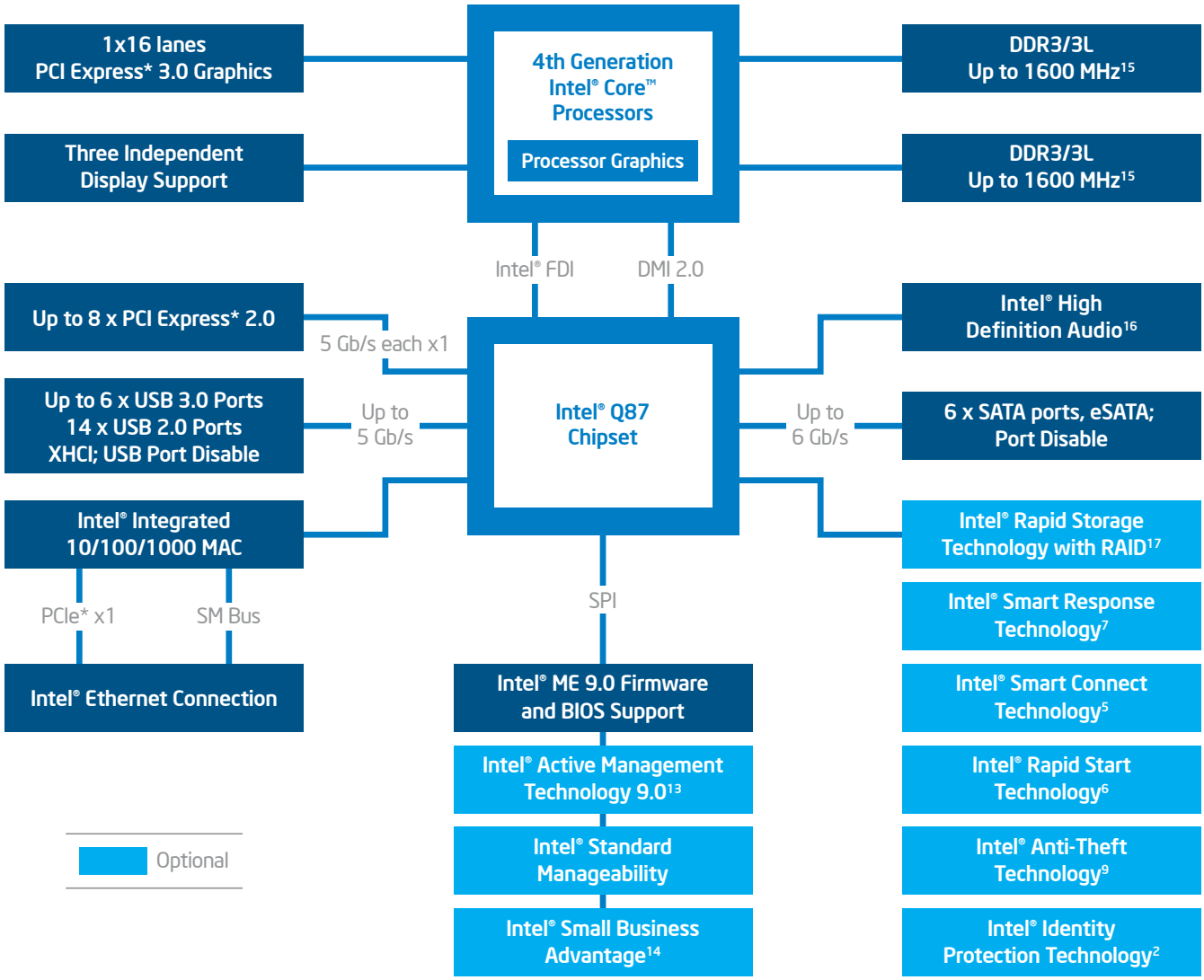
Remote management capabilities make PC upkeep easier and more cost effective, enabling you to keep your PCs running smoothly, without taking them out of the hands of users. Once activated, Intel® vPro™ Technology[10] allows you to remotely configure, diagnose, isolate, and repair an infected PC—even if it's unresponsive.

Hardware-based KVM Remote Control lets you fix more issues remotely by seeing what your users see and with greater resolution than ever before. To reach you, users can even "call for help" through a wired or wireless protected tunnel to request assistance in managing or repairing their PC. For better manageability, users can also use their mouse across multiple client monitors.

Improved Built-In Visuals

With smart performance and built-in 3-D visual and graphics support, the 4th generation Intel® Core™ vPro™ processor family adds a new dimension to your PC experience.[11] Intel® Quick Sync Video, our built-in hardware accelerator in all 4th generation Intel Core processors, delivers astonishing video transcoding performance, enabling your PC to edit, burn, and share your content faster—without the need for added hardware. Additionally, Intel® InTru™ 3D Technology[12] delivers 3-D movie playback without hesitation or interruption. In addition to security and manageability, the Intel® Q87 and Q85

Intel® Q87 Chipset Block Diagram



chipsets and the 4th generation Intel® Core™ processors enable Intel® Wireless Display (Intel® WiDi).[18] Intel WiDi allows users to view content from their PC on a TV—wirelessly.

Intel® Stable Image Platform Program

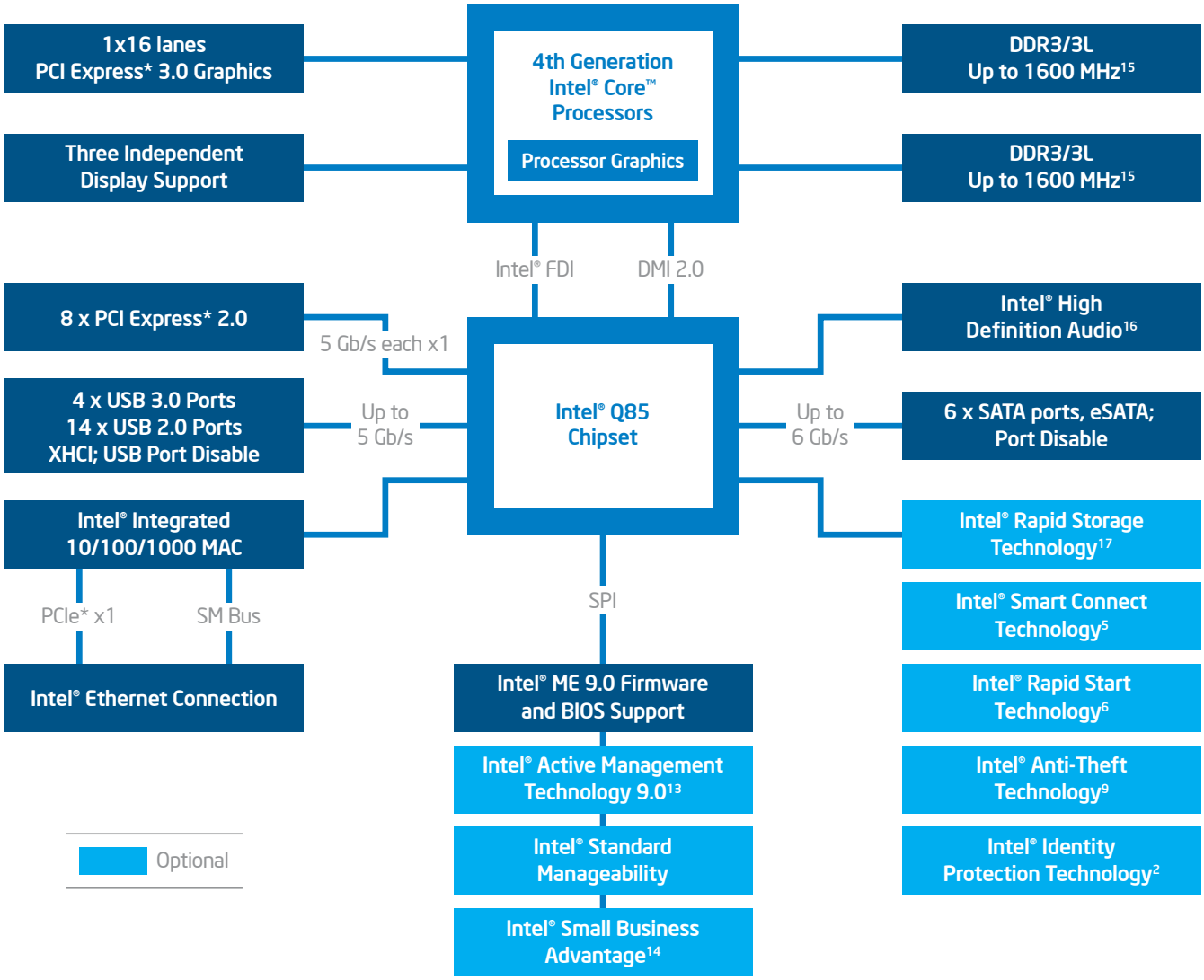
Reducing the variety of supported hardware platforms greatly simplifies enterprise PC management, which in turns lowers total cost of ownership. The Intel® Stable Image Platform Program[19] (Intel® SIPP) can help your company identify and deploy standardized, stable image PC platforms for at least 15 months. The Intel® Q87 and Q85 chipsets support Intel SIPP.

Faster, Lower Power Peripherals

Platforms based on the Intel Q87 and Q85 chipsets and the 4th generation Intel Core processors deliver must-have capabilities for mainstream platforms. The Intel Q87 and Q85 chipsets integrate several capabilities to provide flexibility for connecting I/O devices. Integrated USB 3.0 support helps you connect faster to your digital life. The latest Intel® Rapid Storage Technology[17] enables the full Serial ATA (SATA) interface speed of up to 6 Gb/s to support next-generation SSDs and traditional HDDs. In addition, the Intel Q87 and Q85 chipsets drive lower power through enhanced link power management of the Advanced Host Controller Interface (AHCI), enables easier expandability with support for native hot plug, and boosts boot and multitasking performance with Native Command Queuing (NCQ).

Intel® Rapid Recover Technology provides a fast, easy-to-use method for the end user to recover their data and return their system to an operational status.

Intel® Q85 Chipset Block Diagram



Intel® Q87 and Q85 Chipset Features at a Glance

Features	Benefits
Support for the 4th generation Intel® Core™ processors	Supports the 4th generation Intel® Core™ processors with Intel® Turbo Boost Technology 2.0,[3] Intel® Pentium® processors, and Intel® Celeron® processors.
Intel® Active Management Technology[13] (Intel® AMT)	Using built-in platform capabilities and popular third-party management and security applications, Intel AMT allows IT to better discover, heal, and protect the networked computing assets.
Intel® Rapid Storage Technology[17]	With additional hard drives added, provides quicker access to digital photo, video and data files, and greater data protection against a hard disk drive failure with RAID 1, 5, and 10. Support for external SATA (eSATA) enables the full SATA interface speed outside the chassis, up to 3 Gb/s.
Intel® Rapid Recover Technology	Intel's latest data protection technology provides a recovery point that can be used to quickly recover a system should a hard drive fail or if there is data corruption. The clone can also be mounted as a read-only volume to allow a user to recover individual files.
Intel® High Definition Audio[16]	Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking.
Intel® Smart Response Technology[7]	Implements storage I/O caching for faster response times of application startup and quicker access to user data.
Intel® Smart Connect Technology[5]	Provides faster application refresh by allowing applications to be updated in a low power state.
Intel® Rapid Start Technology[6]	Allows quick system resumes from the hibernate state.
Universal Serial Bus 3.0	Integrated USB 3.0 support, provides greater enhancement in performance with a design data rate of up to 5 Gb/s with up to six USB 3.0 ports.
Universal Serial Bus 2.0	Hi-Speed USB 2.0 support with a design data rate of up to 480 Mb/s with up to fourteen USB 2.0 ports.
Intel® Small Business Advantage (Intel® SBA)[14]	Provides small businesses with out-of-the-box features to enhance the security and productivity of their small business.
Serial ATA (SATA) 6 Gb/s	Next-generation high-speed storage interface supporting up to 6 Gb/s transfer rates for optimal data access with up to 6 SATA ports.
Serial ATA (SATA) 3 Gb/s	High-speed storage interface supporting up to 6 SATA ports.
eSATA	SATA interface designed for use with external SATA devices. Provides a link for 3 Gb/s data speeds to eliminate bottlenecks found with current external storage solutions.
SATA Port Disable	Enables individual SATA ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through SATA ports. Especially targeted for eSATA ports.
PCI Express 2.0* Interface	Offers up to 5 GT/s for fast access to peripheral devices and networking with up to eight PCI Express* 2.0 x1 ports, configurable as x2, x4, and x8 depending on desktop motherboard designs.
USB Port Disable	Enables individual USB ports to be enabled or disabled as needed. This feature provides added protection of data by preventing malicious removal or insertion of data through USB ports.
Intel® Integrated 10/100/1000 MAC	Support for the Intel® Ethernet Connection I217-LM.
Green Technology	Manufactured with lead-free and halogen-free component packages.

For more information, visit the Intel Web site: **http://www.intel.com/content/www/us/en/chipsets/business-chipsets/laptop-desktop-business-chipsets.html**

[1] KVM Remote Control (Keyboard, Video, Mouse) is only available with Intel® Core™ i5 vPro™ and Core™ i7 vPro™ processors with Intel® Active Management technology activated and configured and with integrated graphics active. Discrete graphics are not supported.

[2] No system can provide absolute security under all conditions. Requires an Intel® Identity Protection Technology-enabled system, including a 4th generation Intel® Core™ processor, enabled chipset, firmware, and software, and participating website. Consult your system manufacturer. Intel assumes no liability for lost or stolen data and/or systems or any resulting damages. For more information, visit http://ipt.intel.com

[3] Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your PC manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit http://www.intel.com/go/turbo

[4] Available on select Intel® Core™ processors. Requires an Intel® HT Technology-enabled system. Consult your PC manufacturer. Performance will vary depending on the specific hardware and software used. For more information including details on which processors support HT Technology, visit http://www.intel.com/info/hyperthreading

[5] Intel® Smart Connect Technology requires a select Intel® processor, Intel® software and BIOS update, Intel® Wireless adapter, and Internet connectivity. Solid-state memory or drive equivalent may be required. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[6] Requires a select Intel® processor, Intel® software and BIOS update, and a Solid-State Drive (SSD) or hybrid drive. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[7] Intel® Smart Response Technology requires a select Intel® Core™ processor, an enabled chipset, Intel® Rapid Storage Technology software, and a properly configured hybrid drive (HDD + small SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

[8] Intel® AES-NI requires a computer system with an AES-NI enabled processor, as well as non-Intel software to execute the instructions in the correct sequence. Not available on all 4th generation Intel® Core™ processors. For availability, consult your reseller or system manufacturer. For more information, see http://software.intel.com/en-us/node/256942

[9] No system can provide absolute security under all conditions. Requires an enabled chipset, BIOS, firmware and software and a subscription with a capable Service Provider. Consult your system manufacturer and Service Provider for availability and functionality. Intel assumes no liability for lost or stolen data and/or systems or any other damages resulting thereof. For more information, visit http://www.intel.com/go/anti-theft

[10] Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software and IT environment. To learn more visit http://www.intel.com/ technology/vpro

[11] Built-in visual features are not enabled on all PCs and optimized software may be required. Check with your system manufacturer. Learn more at http://www.intel.com/go/biv

[12] Viewing stereo 3-D content requires 3-D glasses and a 3-D-capable display. Physical risk factors may be present when viewing 3D material.

[13] Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup & configuration. For more information, visit http://www.intel.com/technology/platform-technology/intel-amt

[14] Requires an Intel® Small Business Advantage enabled system and proper configuration. Availability of features will depend upon the setup and configuration by your PC manufacturer. Consult your system manufacturer.

[15] DDR3L memory supported at 1.5V only.

[16] Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel® HD Audio, refer to http://www.intel.com/ design/chipsets/hdaudio.htm

[17] Intel® Rapid Storage Technology requires the computer have an Intel® RST-enabled Intel® chipset, RAID controller in the BIOS enabled, and the Intel RST software driver installed. Please consult your system vendor for more information. The Intel® Q85 chipset does not support RAID features.

[18] Requires an Intel® Wireless Display-enabled PC, TV adapter, and compatible television. Available on select Intel® Core™ processors. Does not support Blu-ray* or other protected content playback. Consult your PC manufacturer. For more information, see www.intel.com/go/wirelessdisplay

[19] Consult your PC manufacturer for availability of systems that meet Intel® SIPP guidelines. Intel SIPP is a client program only and does not apply to servers or Intel®-based handhelds and/or handsets. For more information, visit http://www.intel.com/itcenter/topics/refresh/sipp.htm

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