



Digital Office

Desktop Platform Vision Guide for 2006



2006 Digital Office Platforms

What do business customers need in 2006?

They need to protect their businesses from intentional security threats and unintentional security breaches. Enable employees to connect, collaborate, and communicate in an increasingly fast-paced world. And improve overall manageability by stabilizing in-house technology and minimizing routine management tasks and costs.

Inside, you'll find Intel's desktop platform vision for the digital office in 2006, with a new lineup of desktop PCs that addresses all these concerns. Read on to find out how you can help your customers better protect, connect, and manage in 2006.



Customer Concerns

In the typical business, you'll find three key constituents with distinct yet overlapping concerns relative to desktop computing. They all want technology that helps them protect their data and business, connect easily, and manage quickly and cost-effectively. Here's a deeper look at their concerns.



CEO, CFO, and Small Business Owner

- Business advantage
- The bottom line
- Regulatory compliance issues



End User

- Broad and easy access to data
- Easy connectivity to people
- Freedom from disruption and delays



IT Manager

- Enabling business strategy
- Maximizing uptime
- Minimizing costs

Protect

Better threat protection, identity and trust management

Businesses of all sizes are vigilant against external attacks on their computers and network, which could bring down key systems for hours or days—and thus disable an entire business. To minimize vulnerability, they want PCs to be equipped with the latest security patches and maintain authorized, safe configurations. With more users working from remote locations, they also want robust user identification before allowing a connection to the company network. And they want to protect against unintended internal security breaches.

Desktop Capabilities Needed

- Protection against malicious buffer-overflow attacks
- Transparent deployment of security patches, regardless of computer state
- Tamper-resistant virtual IT service partitions
- End-point access control based on specified IT policies
- Hardware-hardened platform identity and configuration attestation
- Containment of infected clients before they impact the network
- Hard drive backup and RAID for data protection and recovery

Connect

Access to people, data, and services

In today's connected business environment, with geographically dispersed and mobile workforces and customer base, complex digital content, and real-time execution requirements, users need PCs that help them stay in touch and productive wherever they are. They want anytime, anywhere access to their data and services and to voice, video and data sharing capabilities.

Desktop Capabilities Needed

- Performance to run latest collaboration tools
- High-quality audio for a superior VoIP experience
- Rich collaboration enhanced by high-quality graphics
- Fast and reliable networking with Gigabit Ethernet (GbE) wired or 802.11 wireless LAN solutions

Manage

Easier inventory, maintenance, deployment of PCs

With everything else in their world changing, businesses want their technology to remain stable and predictable—thus, less expensive to deploy and maintain. They don't want to devote scarce resources to developing and testing new applications for a variety of desktop configurations, deploying security patches to many different PC images, and resolving a constant stream of problems with nonstandard PCs.

Desktop Capabilities Needed

- Platforms with a stable image to help reduce management costs
- IT manageability partition for robust and seamless upgrades
- Out-of-band management capabilities for remote platform diagnosis, maintenance, inventory and upgrade, regardless of computer state
- Technology support for applications and operating systems



Intel® Desktop Solutions

Intel's 2006 family of digital office PCs, code-named Averill, is designed to provide the higher levels of platform protection, connectivity, manageability, and performance that businesses need.

Protect

Help protect your data assets and minimize business disruptions with hardware enhanced virus protection, proactive patch management, and data backup/restore.

Intel Averill "Protect" Technologies

- Intel® dual-core processor with Intel's Execute Disable Bit for protection against certain types of malicious buffer overflow attacks
- Intel® Active Management Technology for out-of-band management of PCs regardless of state and with features to help isolate and contain infected clients
- Intel® Virtualization Technology to enable manageability partitions
- Intel® Matrix Storage Technology with integrated RAID 0, 1 for performance, data protection and convenient data backup/restore, or recovery of accidentally corrupted or deleted data



for the Digital Office

These new desktop platforms consist of not only the latest Intel® processors but also many other complementary enabling hardware and software technologies that work together to help deliver improved protection, connection, and manageability.

Connect

Reduce constraints of time and geography with platform technologies that support access to people, data, and services, including effective collaboration in voice, video, and data.

Intel Averill “Connect” Technologies

- Intel® dual-core processor to support high-quality audio and video collaboration
- Integrated Intel® High Definition Audio, coupled with a wide-band codec, provides audio quality superior to POTS on existing telephone equipment; this superior quality aids in understanding conversation, which results in improved overall personal and team communication and collaboration
- Intel integrated chipset graphics engines to support high-quality video and the richer visualization and organization capabilities of advanced OSs such as Microsoft Windows Vista*
- Intel® 82566 Gigabit LAN Connection or 802.11 a/b/g wireless LAN networking with fast and efficient network access for reliably connected collaboration
- Chipset support for cost-effective dual-independent displays, with Advanced Digital Display 2 (ADD2) cards for better collaboration

Manage

Make your business more agile and adaptable with platforms that are highly capable while maintaining a stable system image that maximizes the cost-effectiveness and efficiency of deployment and management.

Intel Averill “Manage” Technologies

- Intel® Stable Image Platform Program (Intel® SIPP) components for a predictable platform software image
- Intel® Virtualization Technology for manageability
- Intel® Active Management Technology for out-of-band access and with features to help isolate and contain infected clients
- Intel® EM64T support for 64-bit applications for enhanced performance



More Detail

New Desktop Platform Technologies

Intel® Active Management Technology

The Averill family improves IT management of digital office platforms with the next-generation Intel® Active Management Technology¹ which speeds the repair of PCs by better supporting remote diagnosis and problem repair, regardless of the system state. Service costs can be reduced through fewer desk-side service calls. IT staff and PC service technicians can discover all hardware and software assets, heal systems remotely, and protect against malicious software attacks, even with a crashed hard drive, locked operating system, or on a powered-down system. Intel Active Management Technology for the Averill family of PCs also contains features to help isolate and contain infected clients. Learn more about Intel Active Management Technology at www.intel.com/technology/manage/iamt. (As discussed later, this technology is a feature of the Intel® Professional Business Platform.)

Intel® Virtualization Technology

Intel® Virtualization Technology² enables a single platform to run multiple operating systems and applications in independent partitions, functioning as multiple “virtual” systems. This technology can help support legacy applications critical to business or applications that must be supported on multiple operating systems simultaneously. Intel Virtualization Technology can also enhance management and security of systems by providing a dedicated environment for IT services. This “embedded IT appliance” can, through third-party software, provide services outside the user’s main operating system, such as endpoint access control, firewall services, or inventory management. The embedded IT appliance, by working independently of the user’s operating system, can make management software less susceptible to intentional or unintentional tampering. Intel Virtualization Technology includes hardware support, which improves the robustness and performance of today’s software-only solutions. Learn more at www.intel.com/technology/computing/vptech/?iid=search&. (As discussed later, this technology is a feature of the Intel® Professional Business Platform.)

Intel® Stable Image Platform Program

As IT managers deploy client systems in the enterprise, unexpected changes to the previously qualified platform may force potentially costly software image revisions and hardware prequalification. Intel’s Averill family of digital office PCs is part of the Intel® Stable Image Platform Program (Intel® SIPP). A stable image platform uses a standardized hardware configuration that IT can deploy for a defined period, typically 12 months. Potential benefits include reduced cost, faster testing, and more rapid deployment of applications and security patches, which can free IT staff to focus resources on value-added projects. Intel SIPP platform building blocks include the processor, chipset, and wired and wireless LAN components. Visit www.intel.com/business/bss/products/client/stableplatform for more information.

Compact Form Factors

Office PC customers are looking for compact footprints at competitive price points, so Intel is driving new compact form factors for the Averill family using building blocks based on the Balanced Technology Extended (BTX) specification. For details on BTX visit www.intel.com/go/btx.

The Averill family includes other Intel technologies designed to provide robust platforms in 2006 including dual-core processing, Intel’s Execute Disable Bit³, Intel® Extended Memory 64 Technology (Intel® EM64T⁴), Intel® Matrix Storage Technology, Intel® Integrated Graphics, and Intel® High Definition Audio.

Designed to provide the higher levels of platform protection, connectivity, manageability, and performance that businesses need.



Averill Platform Categories

Intel is working with industry leaders to provide platforms with the best combination of ease of use, performance, flexibility, manageability and reliability at affordable prices.

For the 2006 Averill family, Intel defines two platform categories for the digital office:

Fundamental PC Platform

Current technology in a stable platform

Intel® Professional Business Platform

Maximum business advantage through the latest Intel capabilities on a stable image.

Usage Models and Capabilities Supported

USAGE MODEL	CAPABILITY	FUNDAMENTAL	PROFESSIONAL
PROTECT Threat, vulnerability, identity and trust management	Protection against certain types of malicious buffer overflow attacks	✓	✓
	Transparent deployment of security patches at any time		✓
	Tamper-resistant virtual IT services partition		✓
	End-point access control based on IT policies		✓
	Containment of infected clients before they impact the network		✓
	Hardware hardened platform identity and configuration attestation		✓
	Hard drive backup and RAID for protection and recovery, including recovery of accidentally corrupted/deleted files		✓
CONNECT Effective collaboration with voice, video, and data	Performance to run new collaboration tools	✓	✓
	High-quality audio for a superior VOIP solution	✓	✓
	Rich collaboration enabled through high-quality graphics	✓	✓
	Expanded visual workspace for richer collaboration through dual-independent display		✓
	Fast, reliable networking with GbE wired or 802.11 a/b/g wireless LAN	✓	✓
MANAGE Easier maintenance, deployment, allocation of resources	Platforms with stable image to reduce image management costs	✓	✓
	IT manageability partition for more robust seamless upgrades		✓
	Out-of-band management to allow platform diagnosis, maintenance and upgrades irrespective of the computer's state		✓



Fundamental PC Platform

The 2006 digital office Fundamental PC platform has the performance needed for everyday office tasks, with a solid baseline of manageability and security features.

The Averill Fundamental PC is part of the Intel® Stable Image Platform Program. The Fundamental PC contains a core set of features designed to provide fundamental business support for companies that require current technology, but do not consider technology a principal source of business advantage.

The 2006 Fundamental PC Platform for the digital office provides capabilities and Intel technologies to meet the needs of small, medium, and large businesses.

Averill Fundamental PC Features

- Intel® EM64T technology to improve performance with 64-bit applications
- Intel® dual-core processor for better application performance in a multithreaded environment
- Intel's Execute Disable Bit for protection against certain types of malicious buffer overflow attacks
- Intel GbE wired or 802.11 a/b/g wireless LAN solutions for easy deployment, great performance and robust connectivity
- Intel® Matrix Storage technology for RAID data protection with easy and secure data backup/restore
- Integrated Intel® High Definition Audio to support dedicated voice capture streams for improved voice quality with analog devices, and wideband-capable analog headsets replacing USB devices for optimum price/performance
- Intel integrated chipset graphics engine to support high-quality video and the richer visualization and organization capabilities of advanced OSs such as Microsoft Windows Vista

Key Technologies Required

- Stable image platform using components based on the Intel SIPP
- Intel® dual-core processors
- High-quality Intel integrated graphics in the Intel® Q963 Express chipset
- Integrated Intel® High Definition Audio
- Intel® 82566 Gigabit LAN Connection or 802.11 a/b/g wireless LAN networking
- Intel® EM64T Technology
- Intel's Execute Disable Bit technology
- BTX form factors for reduced noise, and convenient, cost-effective solutions based on the BTX specification
- Intel® Matrix Storage Technology with SATA hard disk drives for fast access and reliability as well as easy backup/restore of your data, including recovery of accidentally corrupted/deleted files
- DVD CD R/W combo drive for flexible optical disk support



Intel® Professional Business Platform

The 2006 digital office Intel® Professional Business platform combines Intel's premier business technologies packaged in a mainstream platform with the latest manageability and security features.

The Intel Professional Business Platform offers enhanced performance and headroom for the most demanding business applications. The Professional Platform has a rich set of advanced features for companies where technology is a principal source of business advantage. The Professional Platform, with its built-in manageability and security capabilities, is expected to be supported by leading OEMs and IT service providers.

Intel® Professional Business Platform Features

- Next-generation Intel® dual-core processor (code-named "Conroe"), delivering exceptional performance and headroom to support demanding tasks including video conferencing, multithreaded applications and multitasking, all with outstanding performance/watt. "Conroe's" new, high-performance microarchitecture, shared cache optimized for multi-core use, and faster mainstream front-side bus maximize the responsiveness of professional platforms even when running demanding business applications. The improved fine-grain power control and advanced semiconductor technology used with "Conroe" help deliver high-performance desktop platforms that consume less power than previous platform generations
- Next-generation Intel Active Management Technology with enhancements for improved management, supporting heal, protect and discover capability with out-of-band capabilities, regardless of system state and isolation and containment of infected clients
- Intel Virtualization Technology, with capabilities that support multiple operating environments, including manageability partitions
- Capable of supporting Microsoft Windows Vista and executing tomorrow's 64-bit applications

All of the components defined for the Intel Professional Business Platform are based on the Intel Stable Image Platform Program to ensure the lowest available total cost of ownership.

Key Technologies Required

- Intel "Conroe" Processor (dual-core processor)
- Intel® Virtualization Technology
- Intel® Stable Image Platform Program (Intel® SIPP) using the Intel® Q965 Express chipset
- Q965 Intel® Active Management Technology
- Intel® High Definition Audio support in the chipset for better VOIP communications with high-quality wide-band audio codecs
- Intel® 82566 Gigabit LAN Connection or 802.11 a/b/g wireless LAN networking
- Intel® EM64T Technology
- Intel's Execute Disable Bit
- Support for dual-independent display and an ADD2 video card for more efficient collaboration capability; ADD2 cards are typically less costly than a second graphics card; ADD2 cards occupy a PCIe x16 slot
- BTX form factors for reduced noise, and convenient, cost-effective solutions based on the BTX specification
- Intel® Matrix Storage Technology with SATA hard disk drives for fast access and reliability as well as easy backup/restore of your data, including recovery of accidentally corrupted/deleted files
- DVD CD R/W combo drive for flexible optical disk support

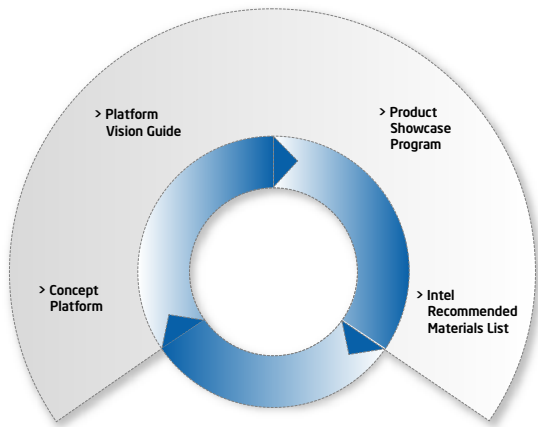


The Intel® Professional Business Platform builds on Intel's Fundamental PC platform with the addition of more advanced technology.

Suggested Platform Requirements

Bolded items are required to meet Intel's minimum definition for Professional and Fundamental platforms, respectively. Other items are recommended to enable the full value and desired usage models of the platform.

	FUNDAMENTAL	PROFESSIONAL
PROCESSOR	Intel® dual-core processor	Intel "Conroe" processor (dual-core processor)
CHIPSET	Intel® Q963 Express chipset	Intel® Q965 Express chipset
STABLE IMAGE	Intel® Stable Image Platform Program	Intel® Stable Image Platform Program
OUT-OF-BAND MANAGEMENT	Not Required	Q965 Intel® Active Management Technology with associated firmware
HARDWARE-ENHANCED VIRTUALIZATION	Not Required	Intel® Virtualization Technology
HARDWARE VIRUS PROTECTION	Intel's Execute Disable Bit	Intel's Execute Disable Bit
64-BIT SOFTWARE CAPABILITY	Intel® Extended Memory 64 Technology	Intel® Extended Memory 64 Technology
GRAPHICS	High-quality Intel integrated graphics	High-quality Intel integrated graphics
AUDIO	Intel® High Definition Audio	Intel® High Definition Audio
HARD DRIVES	Standard SATA hard drives	Intel® Matrix Storage Technology using SATA hard drives (with optional dual drives for RAID data protection)
OPTICAL DRIVES	DVD CD combo R/W drive	DVD CD combo R/W drive
NETWORKING	Intel® 82566 Gigabit LAN Connection; optional 802.11 a/b/g wireless LAN for small business	Intel® 82566 Gigabit LAN Connection; optional 802.11 a/b/g wireless LAN for small business
MEMORY	512 MB-1 GB DDR2 Memory minimum	1 GB DDR2 Memory minimum
PLATFORM ATTESTATION	N/A	Trusted Platform Module (TPM) 1.2
DISPLAY	Single	ADD2 card for Dual Independent Display
PERIPHERAL CONNECTIVITY	USB 2.0—optional Bluetooth ^s wireless peripherals	USB 2.0—optional Bluetooth wireless peripherals
FORM FACTOR	BTX family	Small form factor based on BTX
VOLUME/PROFILE	~13 to 25 liter desktop or tower	~7 to 11 liter 3–4" thick desktop or mini-tower
VIRTUALIZED MANAGEMENT AND SECURITY SOFTWARE	Not Available	Bundling Opportunities with Enabled Software Vendors



Intel® Desktop Platform Vision Program

Through the Intel® Desktop Platform Vision Program, Intel shares its desktop vision with industry partners and helps these partners supply and support its vision all over the world. Intel provides technical support and monetary investments to consistently advance the capabilities of its platforms, with the goal of enabling new usage models and improving existing ones.

The program has four key elements:

Concept Platforms

Intel-designed platforms that simulate desktop usages and features up to 18 months ahead of Intel platform launch.

Platform Vision Guides

Documentation that describes Intel® desktop platforms for a variety of digital home and digital office usage models.

Product Showcase Program

Products targeted for release at launch for vision-aligned platforms delivered by the Intel® Innovation Alliance.⁶

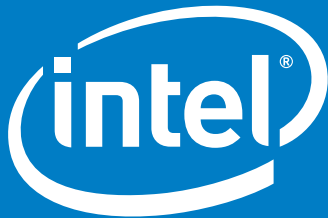
Intel Recommended Materials List

This program identifies products in leading technology categories to facilitate component selection. For more information about the Intel Desktop Platform Vision Program, visit our Web site at www.intel.com/go/rml

For more information on programs, related tools and documentation, visit the Platform Vision Portal Web site at www.intel.com/go/pvp

NOTE: Some elements of the Platform Vision Program portal require an NDA with Intel and a logon password for access. Please contact your local Intel representative for assistance.





For more Information visit www.intel.com/technology

1. Intel® Active Management Technology requires the computer have an AMT-enabled Intel chipset, network hardware and software, connection with a power source, and a network connection.
2. Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM) and for some uses, certain platform software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations. Intel Virtualization Technology-enabled BIOS and VMM applications are currently in development.
3. Enabling Execute Disable Bit functionality requires a PC with a processor with Execute Disable Bit capability and a supporting operating system. Check with your PC manufacturer on whether your system delivers Execute Disable Bit functionality.
4. Intel® Extended Memory 64 Technology (Intel® EM64T) requires a computer system with a processor, chipset, BIOS, OS, device drivers, and applications enabled for Intel® EM64T. Processor will not operate (including 32-bit operation) without an Intel EM64T-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel EM64T-enabled OS, BIOS, device drivers and applications may not be available. Check with your vendor for more information.
5. Bluetooth is a trademark owned by its proprietor and used by Intel Corporation under license.
6. Intel's Innovation Alliance is a group of Original Design Manufacturers working with Intel to provide PCs that are aligned to Intel's Platform Vision Program.

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