



Intel Processor Selling Guide

for Business

May 2007



Legal Information

- *Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>*
- *Intel may make changes to specifications, release dates and product descriptions at any time, without notice. Intel, Intel Core, Pentium and the Intel logo are trademarks or registered trademarks of the Intel Corporation or its subsidiaries in the United States and other countries.*

Key Messages

- Usage of security, productivity, communications and collaboration software continues to rise
- Multitasking usage is commonplace in today's business environment
- This combination of new applications and demanding usages requires the right processor technology to optimize the business computing environment
- Intel has industry leading solutions for all business desktop end-user needs

Key Business Processor Transitions

Q1 2007

Q2 2007

Q3 2007

Best




Intel® vPro™ processor technology
 Intel® Core™2 Duo E6000 processor
 Intel® Q965 Express Chipset, Intel® AMT rel 2.x, Intel® VT



Intel® vPro processor technology
 Intel® Core™2 Duo E6x50 processor
 Intel® Q35 Express Chipset, Intel® AMT rel 3.0, Intel® VT, Intel® TXT

Better



E6x00
 1066Mhz FSB, 2MB Cache




E6x20
 1066Mhz FSB, 4MB Cache




E6x50 (July)
 1333Mhz FSB, 4MB Cache

Good




9xx
 800Mhz FSB, 4MB Cache





E4xxx
 800Mhz FSB, 2MB Cache

Entry



8xx
 800Mhz FSB, 4MB Cache

E2xxx (June)
 800Mhz FSB, 1MB Cache



Business Desktop Products

Q2/Q3'07



Intel® vPro™ processor technology

featuring Intel® Core™2 Duo E6000 processors
Proactive security, built-in manageability,
next generation performance



Intel® Core™2 Duo E6000 processors

Industry leading performance with improved
responsiveness for advanced usages



Intel® Core™2 Duo E4000 processors





Industry leading performance and ground-breaking
energy efficiency



Intel® Pentium® dual-core E2000 processors

Exceptional value from a trusted brand

Intel has a Solution for all Business Users

User	Current and Future Usages	Application Examples	We Recommend	Proof Points
Power <i>(includes advanced)</i>	<ul style="list-style-type: none"> Professional content development Dual monitors Managed Services 	<ul style="list-style-type: none"> Windows* Vista* Enterprise or Ultimate Adobe* Acrobat* 8 Professional Intuit* Quickbooks* Premier/Enterprise 	E6000 Sequence 	<ul style="list-style-type: none"> Reduce HW desk-side visits up to 60% and SW visits up to 90%¹ 48% faster than prior gen on prod benchmark²
Advanced <i>(includes mainstream)</i>	<ul style="list-style-type: none"> Cross functional/boundary productivity & collaboration Advanced content develop. Anti-virus/spam, spyware and data backup 	<ul style="list-style-type: none"> Windows Vista Enterprise or Ultimate Intuit Quickbooks Premier Adobe Acrobat 8 Professional or Std Microsoft Groove* 	E6000 Sequence 	<ul style="list-style-type: none"> 20% faster than comp top bin on prod. benchmark² Run foreground apps 18% faster than prior gen with virus scan in the background⁴
Mainstream <i>(includes Basic)</i>	<ul style="list-style-type: none"> Cross functional productivity Business process streamline Communications Anti-virus and data backup VoIP 	<ul style="list-style-type: none"> Windows Vista Business or Enterprise Intuit Quickbooks Pro Adobe Acrobat Elements Skype* 	E4000 Sequence 	<ul style="list-style-type: none"> 25% faster image content creation vs comp⁵ 18% faster productivity benchmark than prior gen²
Basic	<ul style="list-style-type: none"> Personal productivity Core content creation Essential communication Basic anti-virus 	<ul style="list-style-type: none"> Windows Vista Business Microsoft® Office Calendaring, Email 	E2000 Sequence 	<ul style="list-style-type: none"> 28% faster spreadsheets than prior gen⁶ 27% faster productivity benchmark than comp²

1,2,4,5,6 See details in addendum.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>

* Other names and brands may be claimed as the property of others

Intel Confidential



Intel® vPro™ processor technology

Power User: Proactive security, built-in manageability, next generation performance

The Power User

...is concerned about cross functional/boundary productivity and collaboration, professional content development, protection from viruses, spam, spyware and data loss, minimal disruptions due to PC issues and high quality VoIP

Feature	Benefit
Intel® AMT ³	Diagnose/repair PCs off hours or even if powered down or OS down
4MB cache	Unmatched responsiveness with advanced apps and usages
1066Mhz FSB	Faster transfers to/from memory for the most advanced usages
64-bit	Ready for 64-bit software

Business Disruptions

Up to **90%** reduction in software related desk-side visits¹ Up to **60%** reduction in hardware related desk-side visits¹

"Day in the Life" Productivity

48% Faster than prior generation²
(SYSmark* 2004 SE)
 Intel® Core™2 Duo E6700 vs Intel® Pentium® D processor 945

* Other names and brands may be claimed as the property of others
 1,2 See configuration and test details in backup.
 3 See notices and disclaimers in backup.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



Intel® Core™2 Duo E6000 sequence

Advanced User: Industry leading performance with improved responsiveness for advanced usages

The Advanced User

...is concerned about cross functional/boundary productivity & collaboration, business process streamlining, advanced content development, protection from viruses, spam, spyware, data loss and, high quality VoIP

Feature	Benefit
4MB cache	Unmatched responsiveness with advanced apps and usages
1066Mhz FSB	Fast transfers to/from memory for the most advanced usages
64-bit	Ready for 64-bit software

Virus Scan

18% Faster foreground apps with virus scan in the background than prior gen⁴

Intel® Core™2 Duo processor E6300 vs Intel® Pentium® D processor 945

"Day in the Life" Productivity

32% Faster than prior generation² (SYSmark* 2004 SE) **20%** Faster than competition's highest bin² (SYSmark* 2004 SE)

Intel® Core™2 Duo processor E6300 vs Intel® Pentium® D processor 945

Intel® Core™2 Duo E6420 vs AMD Athlon® 64 X2 6000+

* Other names and brands may be claimed as the property of others
2,4 See configuration and test details in backup.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



Intel® Core™2 Duo E4000 sequence

Mainstream User: Industry leading performance and ground-breaking energy efficiency

The Mainstream User

...is concerned about cross functional productivity, business process streamlining, essential content creation, protection from viruses and data loss and high quality VoIP

Feature	Benefit
2MB cache	Great responsiveness with advanced applications
800MHz FSB	Fast transfers to/from memory for advanced usages
64-bit	Ready for 64-bit software

Extracting Images for a Presentation

14% Faster than prior generation⁵ **>25%** Faster than competition⁵

Intel® Core™2 Duo processor E4300 vs Intel® Pentium® D processor 925

Intel® Core™2 Duo processor E4300 vs AMD Athlon® 64 X2 4200+

"Day in the Life" Productivity

18% Faster than prior gen² (SYSmark* 2004 SE) **15%** Faster than competition² (SYSmark* 2004 SE)

Intel® Core™2 Duo processor E4300 vs Intel® Pentium® D processor 925

Intel® Core™2 Duo processor E4300 vs AMD Athlon® 64 X2 4200+

* Other names and brands may be claimed as the property of others
2,5 See configuration and test details in backup.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



Intel® Pentium® dual-core E2000 sequence

Basic User: Proven technology and exceptional value

The Basic User

...is concerned about personal productivity, core content creation, essential communications and, protection from viruses

Feature	Benefit
1MB cache	Responsiveness with key productivity apps and usages
800MHz FSB	Fast transfers to/from memory for improved performance
64-bit	Ready for 64-bit software

Spreadsheet Productivity

28%

Faster than prior generation⁶

Intel® Pentium® dual-core E2160 vs Intel® Pentium® D processor 925

27%

Faster than competition⁶

Intel® Pentium® dual-core E2160 vs AMD Athlon® 64 X2 3800+

"Day in the Life" Productivity

17%

Faster than prior gen²

(SYSmark* 2004 SE)
Intel® Pentium® dual-core E2160 vs Intel® Pentium® D processor 925

27%

Faster than competition²

(SYSmark* 2004 SE)
Intel® Pentium® dual-core E2160 vs AMD Athlon® 64 X2 3800+

* Other names and brands may be claimed as the property of others

^{2,6} See configuration and test details in backup.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



Backup

more compute resources to your dual-core experience

Intel dual-core feature scaling		
Feature	E4400	E6420
Speed (GHz)	2	2.13
FSB (MHz)	800	1066
Cache (MB)	2	4
Supports Intel® vPro™ technology	No	Yes
Intel® Virtualization Technology	No	Yes

Spreadsheet Productivity

59% Faster⁷

Intel® Core™2 Duo processor E6420 vs Intel® Core™2 Duo processor E4400

Document Productivity

14% Faster⁷

Intel® Core™2 Duo processor E6420 vs Intel® Core™2 Duo processor E4400

- **Faster FSB for improved data transfers to and from system memory**
- **Double the shared cache for increasingly data intensive applications**
- **Isolate a portion of a managed PC to perform system upgrades and maintenance without interrupting the end-user with Intel® VT**

⁷ See configuration and test details in backup.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



next generation dual-core performance

Intel dual-core feature scaling		
Feature	E2160	E4400
Speed (GHz)	1.80	2
FSB (MHz)	800	800
Cache (MB)	1	2

Spreadsheet Productivity

23% Faster⁷

Intel® Core™2 Duo processor E4400 vs Intel® Core™2 Duo processor E2160

Document Productivity

30% Faster⁷

Intel® Core™2 Duo processor E4400 vs Intel® Core™2 Duo processor E2160

- Double the shared cache for increasingly data intensive applications

⁷ See configuration and test details in addendum. Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance testing and the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>



Addendum

- 1 Case Study with Intel® vPro processor technology, "An Analysis of Early Testing of Intel® vPro™ processor technology in Large IT Departments. Charles LeGrand, CHL Global Associates and Mark Salamasick, University of Texas, Dallas, March 2007.
- 2 **Configuration for Intel® Core™2 Duo processors:** Intel® Core™2 Duo processor E6300 (1.86GHz, 1066MHz FSB, 2MB L2 Cache), Intel® Core™2 Duo processor E6320 (1.86GHz, 1066MHz FSB, 4MB L2 Cache), Intel® Core™2 Duo processor E6400 (2.13GHz, 1066MHz FSB, 2MB L2 Cache), Intel® Core™2 Duo processor E6420 (2.13GHz, 1066MHz FSB, 4MB L2 Cache), Intel® Core™2 Duo processor E6420 (2.13GHz, 1066MHz FSB, 4MB L2 Cache), Intel® Core™2 Duo processor E6600 (2.4GHz, 1066MHz FSB, 4MB L2 Cache), Intel® Core™2 Duo processor E6700 (2.66GHz, 1066MHz FSB, 4MB L2 Cache), Intel® Core™2 Duo processor E4300 (1.80GHz, 800MHz FSB, 2MB L2 Cache), Intel® Core™2 Duo processor E4400 (2.00GHz, 800MHz FSB, 2MB L2 Cache), all Intel® Core™2 Duo processors having 12W idle power rating with Intel® G965 Express Chipset on DG965SS board, Intel Chipset Software Installation File 8.0.1.1002, Dual Channel Micron* PC2-5300U 2x512MB of DDR2 667 5-5-5-15, Maxtor* Diamond Max 10 NCQ Serial ATA (300GB, 7200RPM), Intel® Graphics Media Accelerator X3000, Windows* XP Professional 2600 SP2 NTFS, DirectX 9.0c. Configuration for Intel® Pentium® D processors: Intel® Pentium® D processor 915 (2.80GHz, 800MHz FSB, 2x2MB L2 Cache), 925 (3.0GHz, 800MHz FSB, 2x2MB L2 Cache), 945 (3.4GHz, 800MHz FSB, 2x2MB L2 Cache), other peripherals same as that of Intel® Core™2 Duo processors. **Configuration for AMD* Athlon* 64 X2 processors:** Athlon 64 X2 3800+ (2.0GHz, 2x512KB L2 Cache), Athlon 64 X2 4200+ (2.2GHz, 2x512KB L2 Cache), Athlon 64 X2 6000+ (3.0GHz, 2x1MB L2 Cache) with nVidia* nForce® 430 Ultra chipset on Asus M2NPV-VM board, nVidia nForce driver Smbus 8.24, Dual Channel Micron* PC2-5300U 2x512MB of DDR2 667 5-5-5-15, Integrated nVidia GeForce 6150 graphics, Maxtor* Diamond Max 10 NCQ Serial ATA (300GB, 7200RPM), Windows* XP Professional 2600 SP2 NTFS, DirectX 9.0c.
- 3 **Intel® Active Management Technology** requires the platform to have an Intel(R) AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. With regard to notebooks, Intel AMT may not be available or certain capabilities may be limited over a host OS-based VPN or when connecting wirelessly, on battery power, sleeping, hibernating or powered off. For more information, see <http://www.intel.com/technology/iamt>.
- 4 **Intel® Core™2 Duo processor E6300** (2MB L2 Cache, 1.86GHz, 1066MHz FSB), Intel® Q965 Express Chipset, Intel® DG965WH board, Intel chipset install file 8.0.1.1002, Corsair* 2x1GB DDR2800 5-5-5-15, Intel® Matrix Storage Manager 6.0.0.1022 RAID-0 ready, **Intel® Pentium® D processor 945** (2x2MB L2, 3.4GHz, 800MHz FSB), Intel® 945G Express Chipset on Intel D945GPM board, Intel chipset software install file 7.2.2.1007, Micron* 2x1GB DDR 667 5-5-5-15, Intel Matrix Storage Manager 5.5.0.1035 RAID-0 ready, all with ATI* Radeon X850 XT PCIe, ATI Catalyst Driver 6.6 driver 8.263.0.0, Maxtor* DiamondMax* 10 300GB NCQ Serial ATA 7200RPM, Window* XP Professional Build 2600 NTFS, DirectX 9.0c. **Run description:** average response time of Word* 2003 building 2 documents by pasting in 5 bmp images and 3 excel tables and changing content layout while running McAfee* VirusScan* 10.0.21 in the background.
- 5 **Intel® Core™2 Duo E4300** (2MB L2, 1.8GHz, 800MHz FSB), or **Intel® Pentium® D processor 945** (2x2MB L2, 3.4GHz, 800MHz FSB), Intel® DQ965GF, Intel® Graphics Media Accelerator 3000, Chipset installation file 8.0.1.1002, Intel Matrix Storage Manager 6.0.0.1022 RAID-0 Ready, AMD Athlon 64 X2 4200+ (2x512KB, 2.2GHz), ECS RS485M-M with Radeon* Xpress 200 driver 5.10, ATI* Radeon Xpress 1150, all with Micron* 2x1GB DDR2 800 5-5-5-18, Maxtor* DiamondMax10 300GB NCQ SATA 7200RPM, Windows*XP Build 2600 SP2 NTFS, DirectX 9.0c. **Run description:** Adobe* After Effects* 7.0 applying filters and effects to 12 different multimedia input files and saving the output as an uncompressed AVI file.
- 6 **Intel® Pentium® D processor 925** (3GHz, 800MHz FSB, 2x2MB L2 Cache), **Intel® Pentium® Dual-Core processor E2160** (1.80GHz, 800MHz FSB, 1MB L2 Cache) and both with Intel® D946GZIS, Intel® Graphics Media Accelerator 950, Chipset Install file 8.1.1.1010, Micron* 2x512MB DDR2 667 5-5-5-15, Seagate* Barracuda* 320GB NCQ SATA2 7200RPM, Windows* Vista* Ultimate RTM Build 6000 NTFS. **AMD* Athlon* 64 X2 3800+** (2GHz, 2x512KB L2 Cache), Asus* M2A-VM, Integrated ATI* X1200 Series, Micron* 2x512MB DDR2 667 5-5-5-15, Seagate* Barracuda* 320GB NCQ SATA2 7200RPM, Windows* Vista* Ultimate RTM Build 6000 NTFS. **Run description:** Microsoft* Excel* 2007 executing approximately 28,000 sets of calculations using common calculations and functions.
- 7 **Source:** Intel. **Configurations:** **Intel® Core™2 Duo processor E6420** (2.13GHz, 1066MHz FSB, 4MB L2 Cache), **Intel® Core™2 Duo processor E4400** (2.00GHz, 800MHz FSB, 2MB L2 Cache), **Intel® Pentium® Dual-Core processor E2160** (1.80GHz, 800MHz FSB, 1MB L2 Cache) **E4400 vs. E2160 Comparison:** Intel® D946GZIS, Intel® Graphics Media Accelerator 950, Chipset Install file 8.1.1.1010, Micron* 2x512MB DDR2 667 5-5-5-15, Seagate* Barracuda* 320GB NCQ SATA2 7200RPM, Windows* Vista* Ultimate RTM Build 6000 NTFS. **E6420 vs. E4400 Comparison** E6420 with Intel DG965GF-GuardfishRev. 304 Dual channel DS Micron 2GB (2x1GB) DDRII 800 5-5-5-18 with integrated 965G graphics + MXT DM10 300GB NCQ SATA (MB BIOS 4713. Vid and E4400 with Intel DG965WH-Westchester Rev. 304 Dual channel DS Micron 2GB (2x1GB) DDRII 800 5-5-5-18 with nVidia Geforce 7300 LE graphics + MXT DM10 300GB NCQ SATA (MB BIOS 12) **Run Descriptions:** Microsoft* Excel* 2007 executing approximately 28,000 sets of calculations using common calculations and functions, Microsoft* Word* 2007 comparing two 1085 page documents, comparing differences, and creating a new document showing only the differences.

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/index.htm>

Intel Confidential

