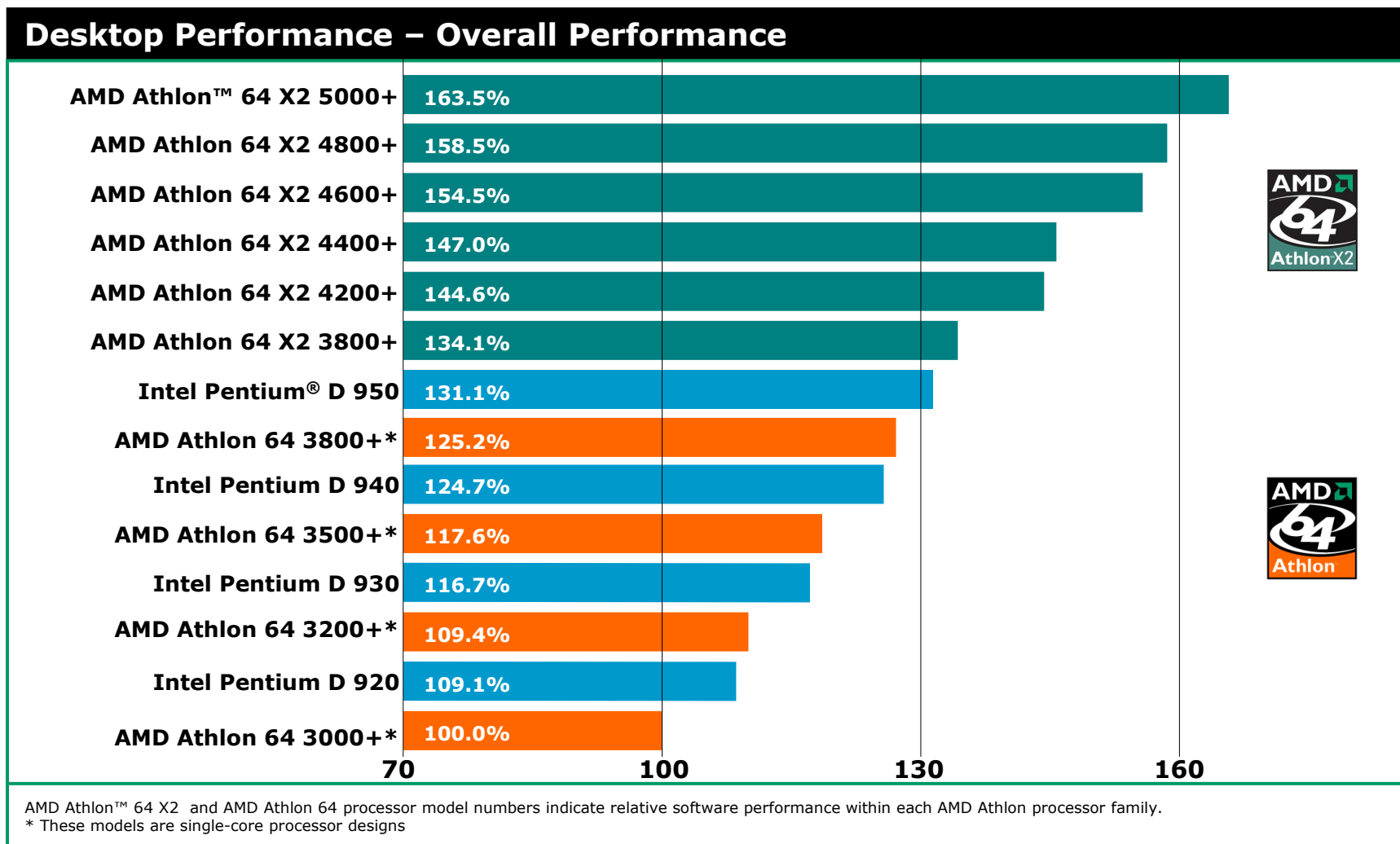# AMD Desktop Processor Benchmarks

June 2006

A summary of desktop processor performance benchmarks

Overall Performance
(Geometric Mean of: Office Productivity, Digital Media and Games)

Desktop Performance – Overall Performance

Processor	Performance
AMD Athlon™ 64 X2 5000+	163.5%
AMD Athlon 64 X2 4800+	158.5%
AMD Athlon 64 X2 4600+	154.5%
AMD Athlon 64 X2 4400+	147.0%
AMD Athlon 64 X2 4200+	144.6%
AMD Athlon 64 X2 3800+	134.1%
Intel Pentium® D 950	131.1%
AMD Athlon 64 3800+*	125.2%
Intel Pentium D 940	124.7%
AMD Athlon 64 3500+*	117.6%
Intel Pentium D 930	116.7%
AMD Athlon 64 3200+*	109.4%
Intel Pentium D 920	109.1%
AMD Athlon 64 3000+*	100.0%

AMD Athlon™ 64 X2 and AMD Athlon 64 processor model numbers indicate relative software performance within each AMD Athlon processor family.
* These models are single-core processor designs

AMD

AMD Processor-based System Configurations

Socket 939 Configuration

Operating System
Name: Microsoft Windows® XP Professional
Version: RTM, Service Pack 2 installed
Build #:   2600
DirectX Version: DirectX 9.0C

Hardware
Motherboard: Asus A8N32SLI-Deluxe
BIOS Info: 806
Is BIOS publicly available?   Yes   No X
Chipset: NVIDIA nForce4 SLI X16

Memory
Manufacturer & Type: Corsair CMX512-3200XLPRO
Quantity & Size: (each)/(MB)   Qty (2) 512 MB DIMM Module
Total Memory Size: (MB)   1 GIG total

Hard Drive   x 2
   Model Name: Western Digital Raptor
   Model Number: WD1500ADFD   Hard Drive Size: 150 GB
   Transfer Mode: SATA 10K RPM
   Other Info: NTFS was used to format the hard disk

Network Card   Included with Operating System: Yes X No
   Name: Integrated on motherboard Model Number: Marvell Yukon 88E8053
       PCIe™ Gigabit Ethernet Controller

Sound Card
Manufacturer's Name: Model Number: Realtek AC'97 Audio
Version Number: N/A

Video Card
   Graphics Adapter: X1900XTX Memory Size (MB) and Type: 512DDR3

Drivers
Network Card   Publisher Name: Marvell Version: 8.27.43 Date if applicable:
       5/6/2005
IDE Drivers   Publisher Name: Microsoft   Name: IDE ATA/ATAPI
       Controller Version: 5.1.2600.2180 Date if applicable:7/1/2001
Sound Card   Publisher Name: Realtek Semiconductor Corp. Version:
       5.100.5900 Date if applicable: 8/19/2005
Video Card   Publisher Name: ATI Technologies Version: 8.241.0.0
       Date if applicable: 3/21/2006 Graphics Resolution: 1024x768
       Color Depth:32 bit Refresh Rate: 85Hz Texture Format: n/a

Socket AM2 Configuration

Operating System
Name: Microsoft Windows® XP Professional
Version: RTM, Service Pack 2 installed
Build #:   2600
DirectX Version: DirectX 9.0C

Hardware
Motherboard: Asus M2N32SLID
BIOS Info: 3092
Is BIOS publicly available?   Yes   No X
Chipset: C51-MCP55 (Nvidia)

Memory
Manufacturer & Type: Corsair CM2X512-800
Quantity & Size: (each)/(MB)   Qty (2) 512 MB DIMM Module
Total Memory Size: (MB)   1 GIG total

Hard Drive   x 1
   Model Name: Western Digital Raptor
   Model Number: WD1500ADFD   Hard Drive Size: 150 GB
   Transfer Mode: SATA 10K RPM
   Other Info: NTFS was used to format the hard disk

Network Card   Included with Operating System: Yes X No
   Name: Integrated on motherboard Model Number: Marvell (Nvidia)

Sound Card
Manufacturer's Name: Model Number: SoundMAX Integrated Digital HD Audio
Version Number: N/A

Video Card
   Graphics Adapter: X1900XTX Memory Size (MB) and Type: 512DDR3

Drivers
Network Card   Publisher Name: Nvidia Version: 55.2.1.0 Date if applicable:
       3/22/2006
IDE Drivers   Publisher Name: Nvidia Name: Nvidia MCP55 Serial ATA
       Version: 5.10.2600.654 Date if applicable:3/16/200
Sound Card   Publisher Name: Analog Devices Version: 5.10.1.4490
       Date if applicable: 3/21/2006
Video Card   Publisher Name: ATI Technologies Inc. Version: 8.2141.0.0
       Date if applicable: 3/21/2006   Graphics Resolution:
       1024x768 Color Depth:32 bit Refresh Rate: 85Hz Texture
       Format: n/a

Intel Processor-based System Configurations

Operating System

    Name: Microsoft Windows® XP Profession
    Version: RTM, Service Pack 2 installed
    Build #:   2600
    DirectX Version: DirectX 9.0C

Hardware

Motherboard: Intel 975 XBX
BIOS Info: BX97510J.86A.0442.2006.0120.13
Is BIOS publicly available?   Yes   X   No
Chipset: Intel 955 Chipset

Memory

Manufacturer & Type: Corsiar: CM2X512-5400C4PRO
Quantity & Size: (each)/(MB)   Qty (2) 512 MB DIMM Module
Total Memory Size: (MB)   1 GIG total

Hard Drive   x 2

    Model Name: Western Digital Raptor
    Model Number: WD360GD   Hard Drive Size: 36.0 GB
    Transfer Mode: SATA Raid 0 10K RPM
    Other Info: NTFS was used to format the hard disk: 2 Diskdrives setup into
       a Raid0 configuration

Network Card   Name: Intel® PRO/1000 PL Network Connection

    Model Number: Onboard

Sound Card

Manufacturer's Name: Sigmatel Model Number: Onboard

Video Card

    Graphics Adapter: 7800 GTX 512   Memory Size (MB) and Type: 512 DDR3

Drivers

EIDE Publisher Name: Intel ® 82801G (ICH7 Family) Ultra SATA Storage
        Controller - 27DF   Version: 7.0.0.1020
        Date if applicable: 5/23/2005 DMA Enabled: Yes X   No
Network Card   Publisher Name: Intel   Version: 9.2.24.0
        Date if applicable: 9/14/2005
SATA Drivers   Publisher Name: Intel (Intel® 82801G (ICH7 Family) Ultra
        ATA Storage Controllers - 27DF   Version: 7.0.0.1020
        Date if applicable: 5/23/2005
Sound Card   Publisher Name: Sigmatel   Version: 5.10.4866.0
        Date if applicable: 12/12/2005
Video Card   Publisher Name: Nvidia   Version:8.1.9.5
        Date if applicable: 11/4/2005   Graphics Resolution: 1024x768
        Color Depth: 32 bit   Refresh Rate: 85Hz Texture Format: n/a

Performance & Mainstream Processors
Benchmark Suite

OFFICE PRODUCTIVITY

- BAPCo® SYSmark® 2004 Office Productivity, Version 1.0 (w/ patch 2)
- VeriTest Business Winstone™ 2004, Version 1.0.1 (w/SP2 reg fix)
- VeriTest Business Winstone Multitasking Test Scores, Version 1.0.1
- RARLAB WinRAR 3.42, by Eugene Roshal
- PC World WorldBench 5.0 Overall, 5/10/04 (w/SP2 Reg Edit)
- Remote Collaboration Scenario:
    - Windows® NetMeeting 3.01; and
    - Windows® Media Encoder Series 9 (9.00.00.3250)
- Travel Ready Scenario
    - Microsoft® Office Publisher 2003 (11.5525.5606); and
    - Nero Vision Express (3.1.0.0))

DIGITAL MEDIA

- BAPCo SYSmark 2004 Internet Content Creation
- VeriTest Multimedia Content Creation Winstone 2004, Version 1.0.1
- DivXNetworks, Inc., DrDivX, Version 1.0.6
- RazorLame© by Holger Dors, Version 1.1.5 1342
- Smokey City Design, LLC, The Panorama Factory, Version 3.3
- Persistence of Vision Raytracer Pty Ltd. POV-Ray© for Windows, Version 3.7.4 beta3
- Sony Vegas Studio (4.0)
- Microsoft® Moviemaker (5.1)

GAMING (all at 1024x768x32)

- Futuremark Corp. 3DMark03™ Patch 360 (Hardware Vertex Shaders)
- Futuremark Corp. 3DMark03 Patch 360 (Software Vertex Shaders)
- Half-Life 2 at_coast_05_rev7.dem (1.0.1.0 Protocol Version 7)
- Half-Life 2 at_prison_05_rev7.dem (1.0.1.0 Protocol Version 7)
- Lucas Arts Star Wars Jedi Knight II Demo, Version 1.04
- Id Software, Inc. Quake III Arena Demo2
- Id Software, Inc. Return to Castle Wolfenstein: Enemy Territory, Version 2.60
- Epic Games Unreal Tournament 2004 Flyby (3355)
- Epic Games Unreal Tournament 2004 Botmatch (3355)
- Ubisoft Entertainment Splinter Cell (1.1.1)
- Ubisoft Entertainment Splinter Cell (1.1.2)
- Ubisoft Entertainment Far Cry Version 1.3.1 Pier
- Dreamcatcher Interactive Painkiller Version 1.64
- Id Software, Inc. Doom3™ Version 1.1
- Crafty 32bit Version 19.19 by Bob Hyatt

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