AMD Athlon™ 64 FX-60 Processor Competitive Performance Guide

About This Document

This document is intended for those who are interested in the performance of AMD64 technology, as demonstrated by the AMD Athlon™ 64 FX-60 processor. Performance is evaluated by means of benchmark tests in the following categories.

Overall performance averages in each category are provided, as well as the results of individual benchmarks in the category.

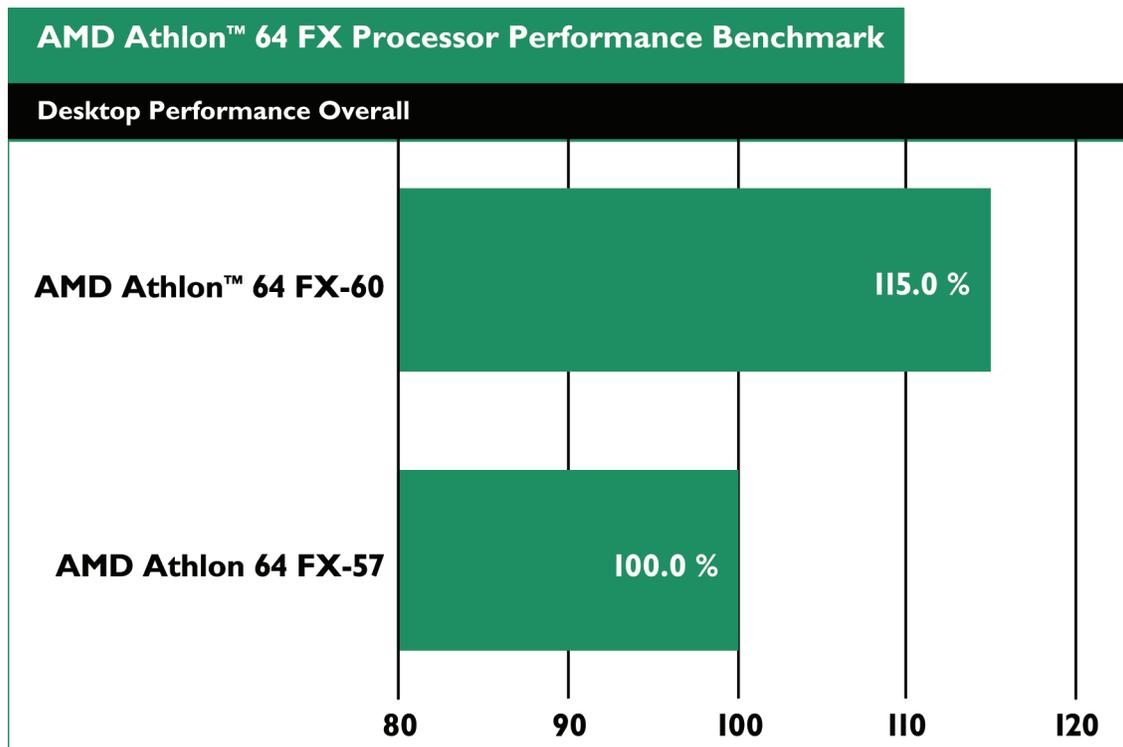A comprehensive performance average is provided in Overall Performance (page 3)

All benchmark scores are normalized to the AMD Athlon™ 64 FX-57 processor. The test system configuration is also provided.

For a detailed description of the benchmarking methodology, including step-by-step procedures for duplicating the tests, refer to *AMD Processor Performance Evaluation Guide,* order# 30579.

Overall Performance

The AMD Athlon™ 64 processor is AMD's most powerful processor for high-performance desktop PCs. The processor provides leading-edge performance for demanding software applications such as digital video, audio, imaging editing, and 3-D gaming, as well as office applications.

The AMD Athlon 64 processor features AMD64 technology for the coming wave of 64-bit applications.

AMD Athlon™ 64 FX Processor Performance Benchmark

Desktop Performance Overall

AMD Athlon™ 64 FX-60	115.0 %
AMD Athlon 64 FX-57	100.0 %

80   90   100   110   120

This document shows how the AMD Athlon™ 64 FX-60 processor performs overall relative to the AMD Athlon™ 64 FX-57 processor.

While there is no simple way to measure performance that covers every user experience, AMD has compiled an overall average from averages of major benchmark scores in the Computer Gaming, Digital Media, and Office Productivity categories.

The following sections list the benchmarks in each category.

Refer to Table 1 on page 35 for benchmark system configuration.

Computer Gaming (All Tests Performed at 1024x768x32 Resolution)

The high performance benefits will amaze computer gamers. The following benchmarks focus on the exceptional gaming capabilities of a system:

3DMark™ 03 Pro (Hardware Vertex Shaders) by Futuremark Corporation

3DMark 03 Pro (Software Vertex Shaders) by Futuremark Corporation

3DMark 2005 (Patch 120, D3D Hardware T&L by Futuremark Corporation

3DMark 2005 (Patch 120, D3D Software T&L) by Futuremark Corporation

Crafty (Version 19.19)

Doom 3 (Version 1.3)

Far Cry (Version 1.3.3, Pier)

Half-Life 2 (Version 1.0.1.0, at_coast_05_rev7.dem)

Half-Life 2 (Version 1.0.1.0, at_prison_05_rev7.dem)

Painkiller (Version 1.64)

Quake IV (Version 1.04, Arena Demo)

Return to Castle Wolfenstein Enemy Territory (Version 2.60)

Splinter Cell (Version 1.2b, test 1_1_1)

Splinter Cell (Version 1.2b, test 1_1_2)

Star Wars - Jedi Knights II: Jedi Outcast (Patched to 1.04)

Unreal Tournament 2004 (Version 3355, Demo BotMatch)

Unreal Tournament 2004 (Version 3355, Demo Flyby)

Digital Media

AMD64 processor-based systems take advantage of newly-designed system features to deliver outstanding performance for digital creation and playback.

Ziff Davis Media, Inc. Multimedia Content Creation Winstone® 2004 (Version 1.0.1)

BAPCO® SYSmark® 2004 Internet Content Creation

Dr. DivX (Version 1.0.6)

POV-Ray (Version 3.7.10)

RazorLAME MP3 Encoder (Version 1.1.5.1342)

Panorama Factory (Version 3.3)

Sony Vegas Studio (Version 4.0)

Microsoft® Movie Maker (Version 5.1)

Apple iTunes (Version 6.0)

Content Creation Winstone is a registeredTrademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

Office Productivity

The AMD Athlon™ 64 FX-60 processor runs common office productivity applications very efficiently. Work productivity may increase because you can perform more tasks and spend less time waiting for applications to respond. The following benchmarks simulate a workload likely to be seen in an office workplace environment.

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01)

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01, Multitasking Test)

BAPCO® SYSmark® 2004 Office Productivity (Version 1.0, Patch 2)

PC Worldbench (Version 5)

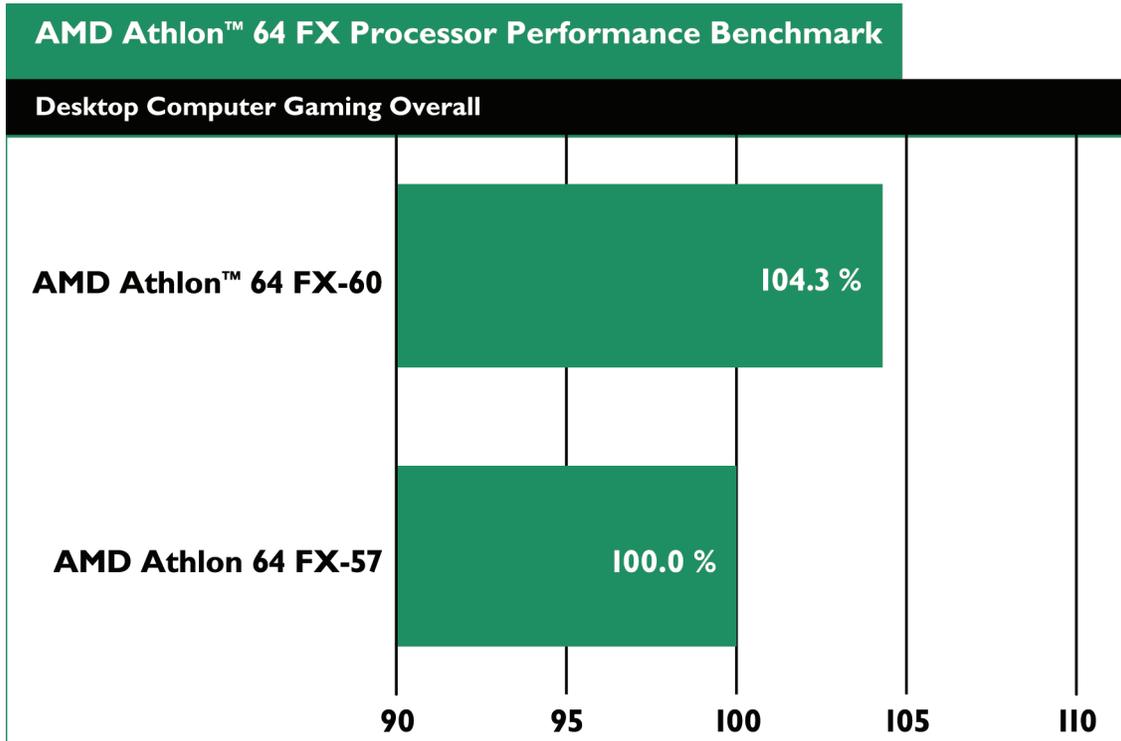WinRAR (Version 3.51)

Remote Collaboration Scenario

Travel Ready Scenario

Business Winstone is a registeredTrademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

Computer Gaming Overall

With the innovative AMD64 architecture, an integrated DDR memory controller, and large L1 and L2 caches, the AMD Athlon™ 64 FX-60 processor is the 'gamer's choice', providing absolutely the best performance in today's computer games.

AMD Athlon™ 64 FX Processor Performance Benchmark

Desktop Computer Gaming Overall

AMD Athlon™ 64 FX-60	104.3 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.
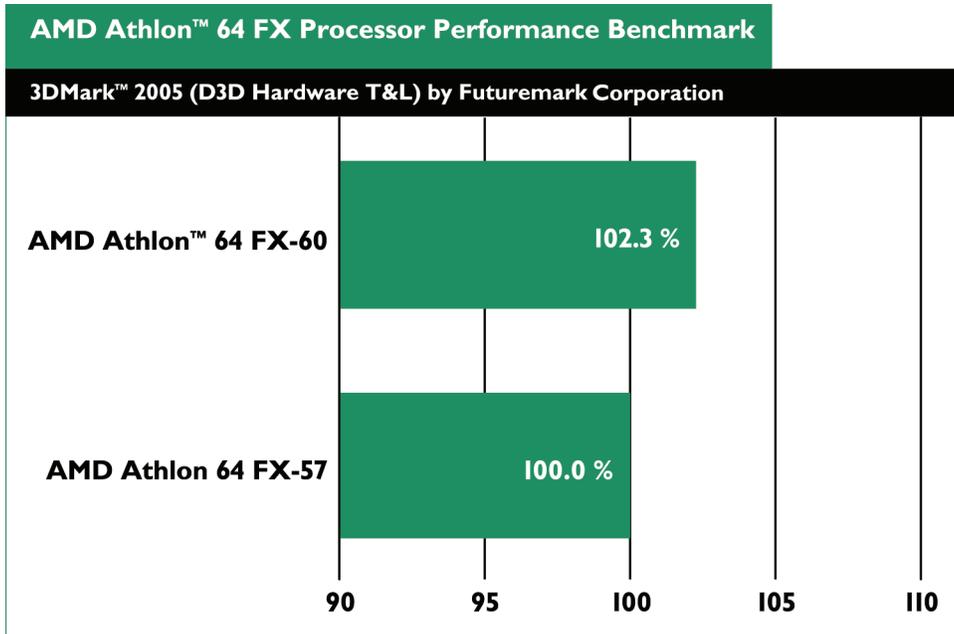
Overall gaming performance is an average of data from the following computer gaming benchmarks, normalized to the score to the AMD Athlon™ 64 FX-57 processor (all at 1024x768x32 resolution).

3DMark™ 03 Pro (Hardware Vertex Shaders) by Futuremark Corporation

3DMark 03 Pro (Software Vertex Shaders) by Futuremark Corporation

3DMark 2005 (Patch 120, D3D Hardware T&L by Futuremark Corporation

3DMark 2005 (Patch 120, D3D Software T&L) by Futuremark Corporation

Crafty (Version 19.19)

Doom 3 (Version 1.3)

Far Cry (Version 1.3.3, Pier)

Half-Life 2 (Version 1.0.1.0, at_coast_05_rev7.dem)

Half-Life 2 (Version 1.0.1.0, at_prison_05_rev7.dem)

Painkiller (Version 1.64)

Quake IV (Version 1.04, Arena Demo)

Return to Castle Wolfenstein Enemy Territory (Version 2.60)

Splinter Cell (Version 1.2b, test 1_1_1)

Splinter Cell (Version 1.2b, test 1_1_2)

Star Wars - Jedi Knights II: Jedi Outcast (Patched to 1.04)

Far Cry (Version 1.3.3, Pier)

Unreal Tournament 2004 (Version 3355, Demo BotMatch)

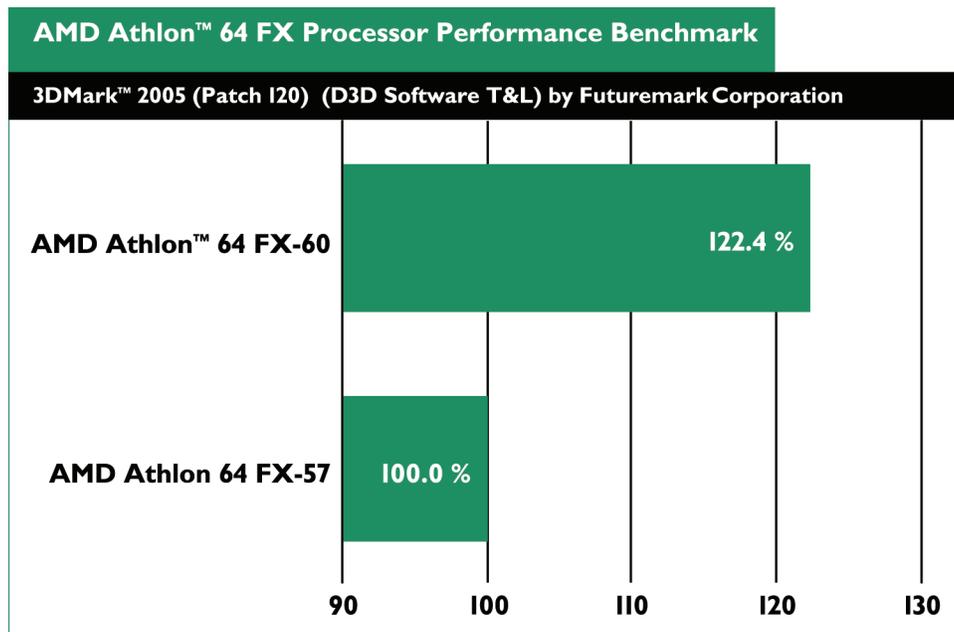Unreal Tournament 2004 (Version 3355, Demo Flyby)

3DMark™ 2005 (Patch 120, D3D Hardware T&L)
by Futuremark Corporation

AMD Athlon™ 64 FX Processor Performance Benchmark

3DMark™ 2005 (D3D Hardware T&L) by Futuremark Corporation

AMD Athlon™ 64 FX-60	102.3 %
AMD Athlon 64 FX-57	100.0 %

90　95　100　105　110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

3DMark™ 2005 (Patch 120, D3D Software T&L)
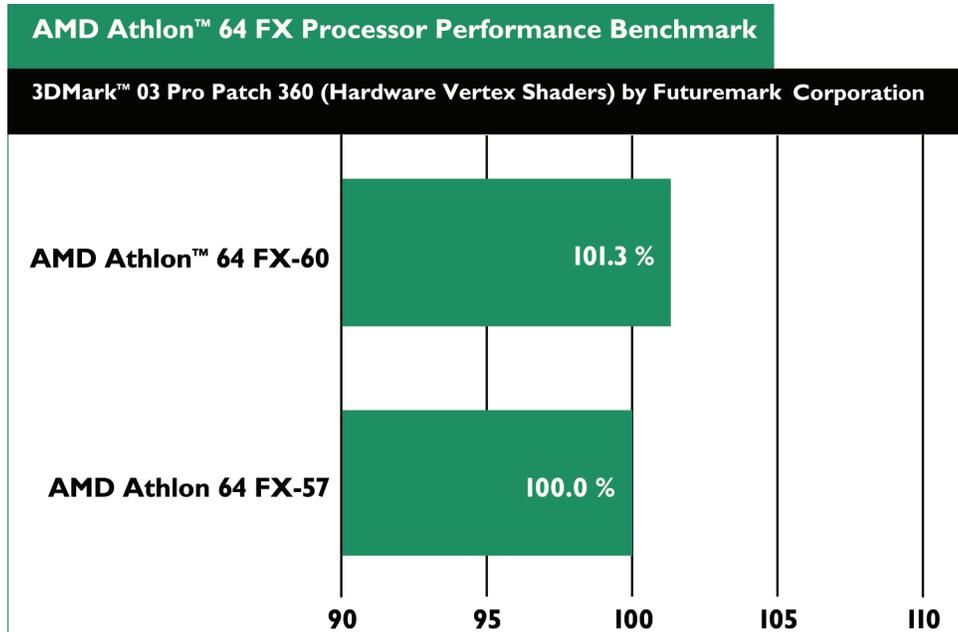# by Futuremark Corporation

AMD Athlon™ 64 FX Processor Performance Benchmark

3DMark™ 2005 (Patch 120) (D3D Software T&L) by Futuremark Corporation

AMD Athlon™ 64 FX-60	122.4 %
AMD Athlon 64 FX-57	100.0 %

90　100　110　120　130

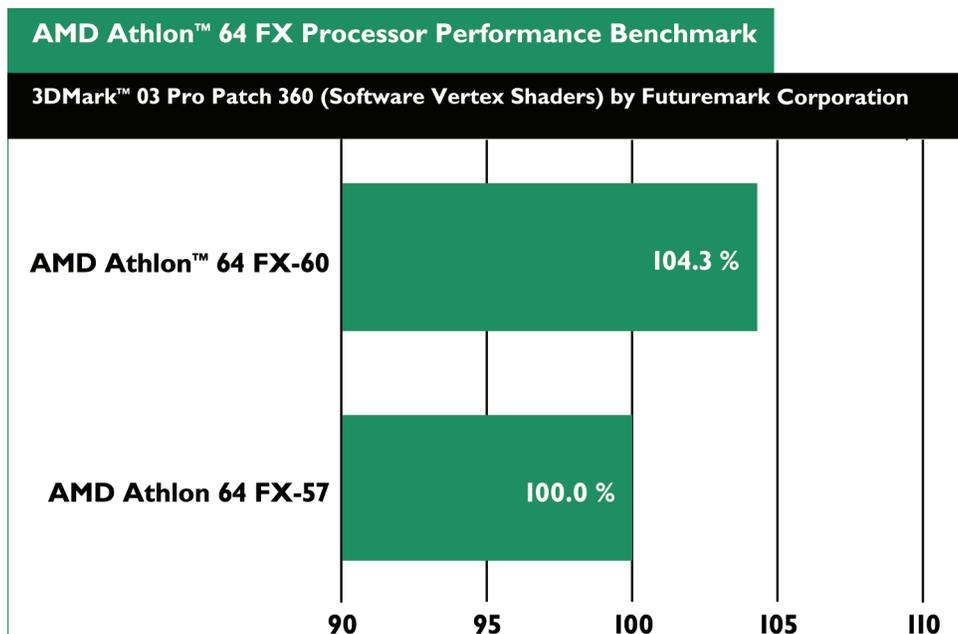*3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.*

Refer to Table 1 on page 35 for benchmark system configuration.

3DMark™ 03 Pro (Hardware Vertex Shaders) by Futuremark Corporation

AMD Athlon™ 64 FX Processor Performance Benchmark

3DMark™ 03 Pro Patch 360 (Hardware Vertex Shaders) by Futuremark Corporation

AMD Athlon™ 64 FX-60	101.3 %
AMD Athlon 64 FX-57	100.0 %

90 95 100 105 110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.
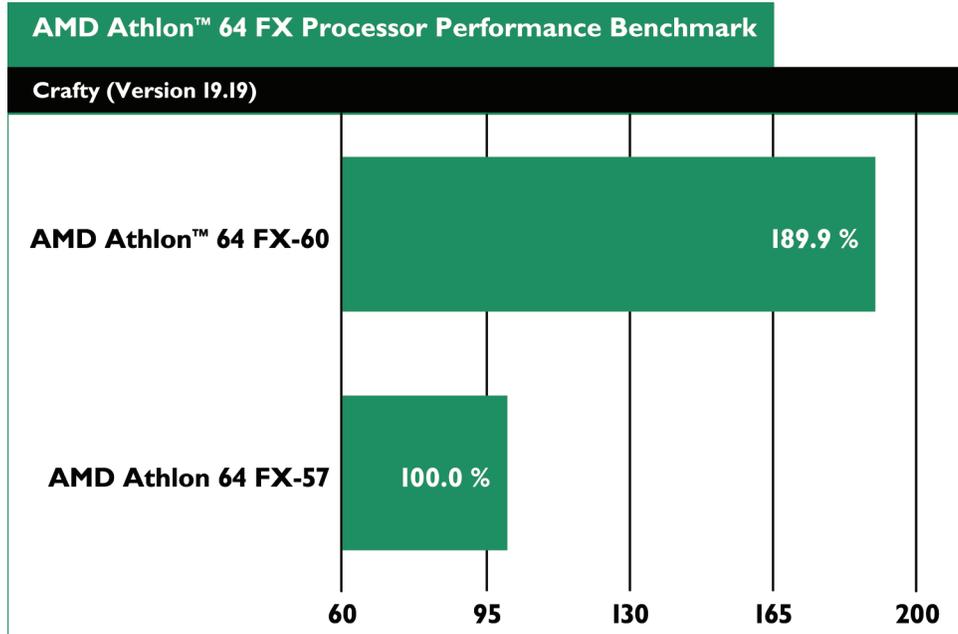
3DMark™ 03 Pro (Software Vertex Shaders) by Futuremark Corporation

AMD Athlon™ 64 FX Processor Performance Benchmark

3DMark™ 03 Pro Patch 360 (Software Vertex Shaders) by Futuremark Corporation

AMD Athlon™ 64 FX-60	104.3 %
AMD Athlon 64 FX-57	100.0 %

90 95 100 105 110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Crafty (Version 19.19)

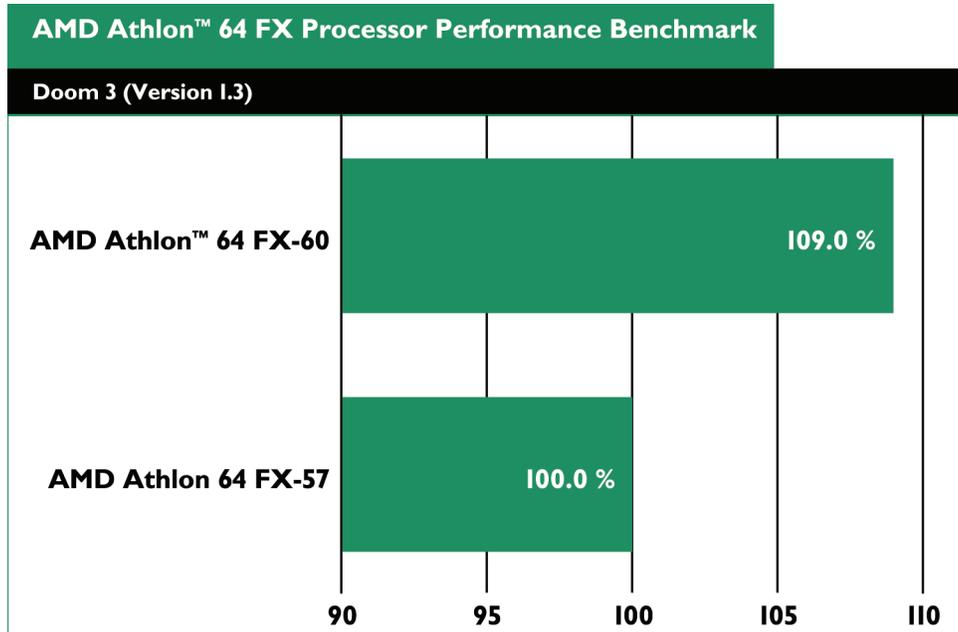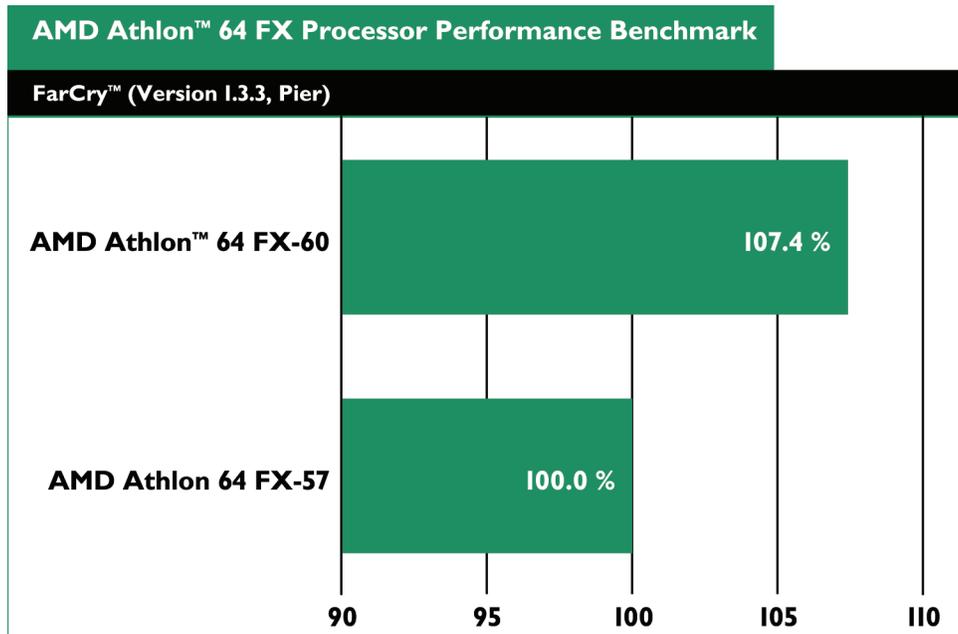**AMD Athlon™ 64 FX Processor Performance Benchmark**

Crafty (Version 19.19)

AMD Athlon™ 64 FX-60	189.9 %
AMD Athlon 64 FX-57	100.0 %

60   95   130   165   200

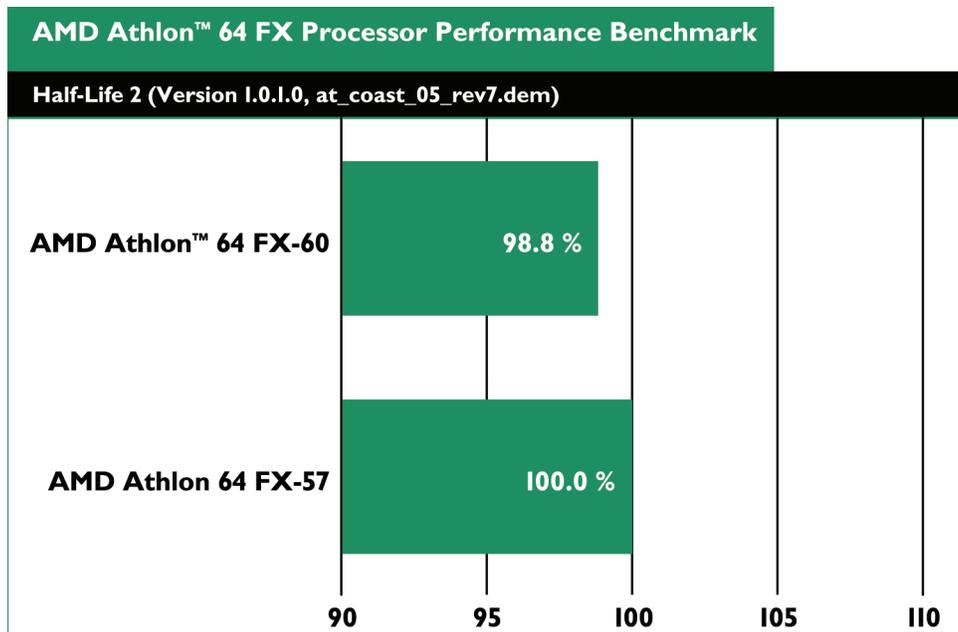*3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.*

Doom 3 (Version 1.3)

AMD Athlon™ 64 FX Processor Performance Benchmark

Doom 3 (Version 1.3)

AMD Athlon™ 64 FX-60	109.0 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

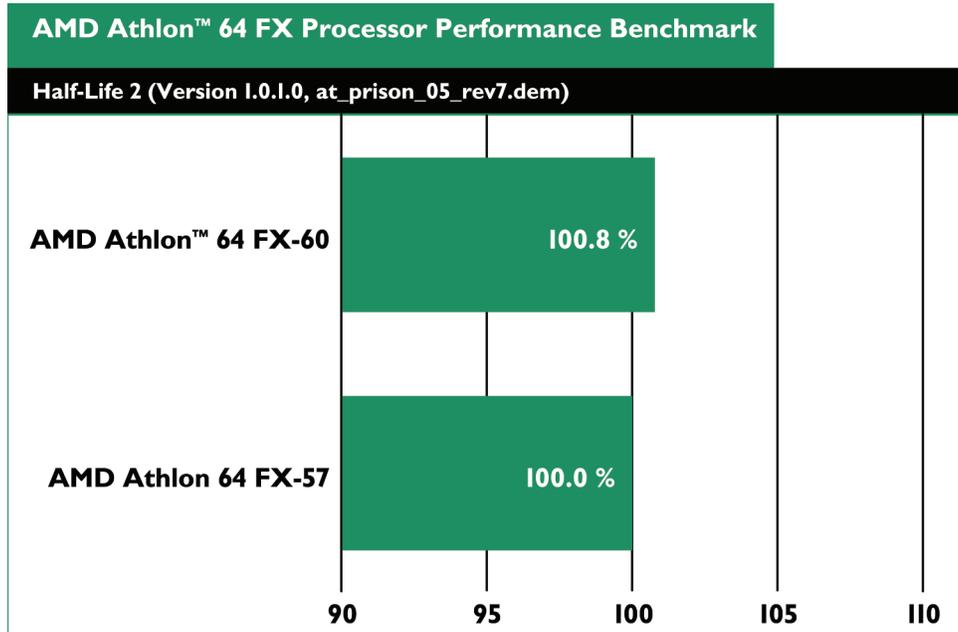*Refer to Table 1 on page 35 for benchmark system configuration.*

Far Cry (Version 1.3.3, Pier)

AMD Athlon™ 64 FX Processor Performance Benchmark

FarCry™ (Version I.3.3, Pier)

AMD Athlon™ 64 FX-60	I07.4 %
AMD Athlon 64 FX-57	I00.0 %

90   95   100   105   II0

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

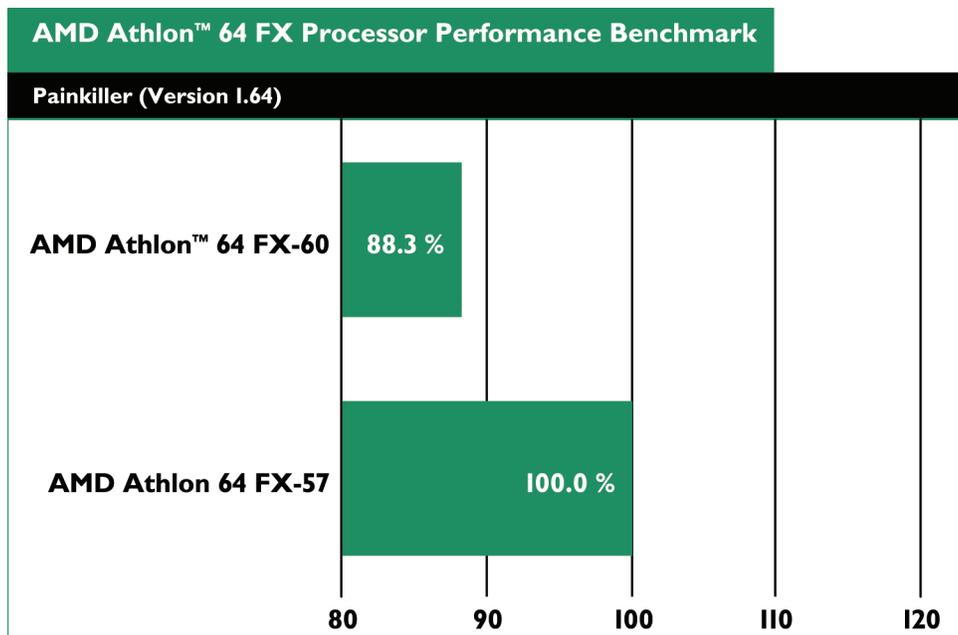# Half-Life 2 (Version 1.0.1.0, at_coast_05_rev7.dem)

AMD Athlon™ 64 FX Processor Performance Benchmark

Half-Life 2 (Version I.0.I.0, at_coast_05_rev7.dem)

AMD Athlon™ 64 FX-60	98.8 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   II0

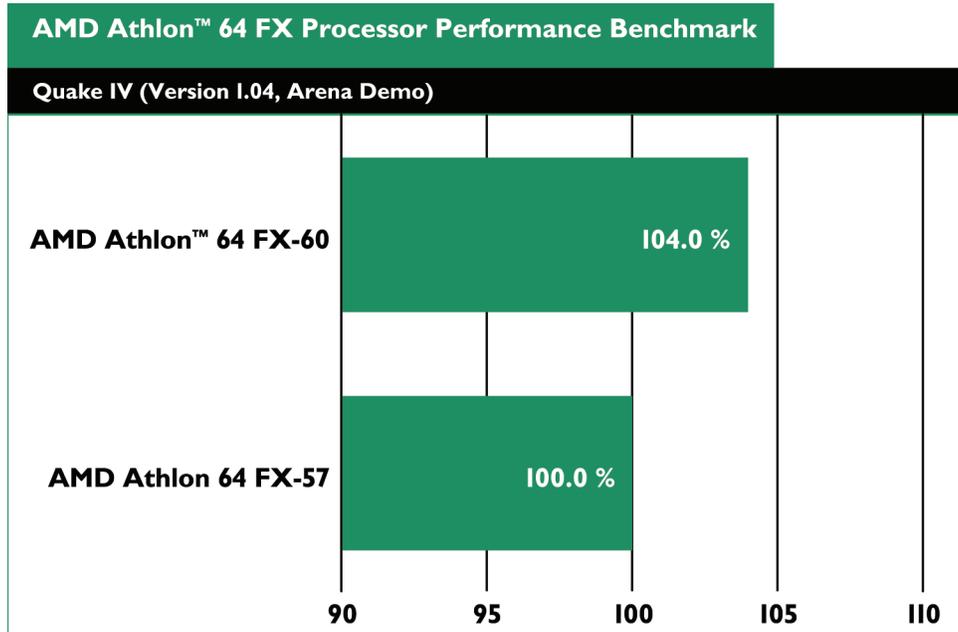*3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.*

Half-Life 2 (Version 1.0.1.0, at_prison_05_rev7.dem)

AMD Athlon™ 64 FX Processor Performance Benchmark

Half-Life 2 (Version I.0.I.0, at_prison_05_rev7.dem)

AMD Athlon™ 64 FX-60	100.8 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Painkiller (Version 1.64)
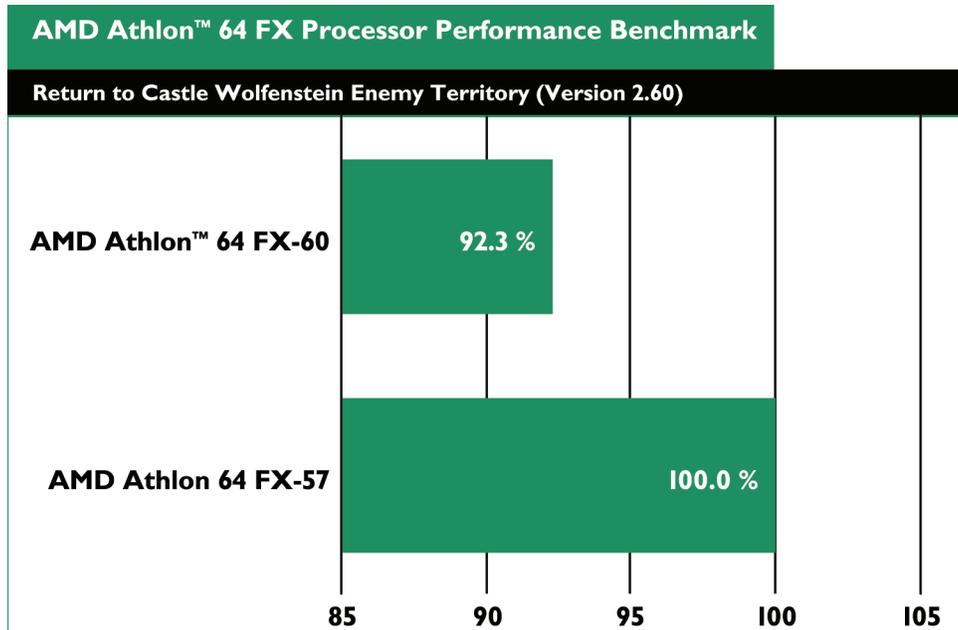
AMD Athlon™ 64 FX Processor Performance Benchmark

Painkiller (Version I.64)

AMD Athlon™ 64 FX-60	88.3 %
AMD Athlon 64 FX-57	100.0 %

80   90   100   110   120

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

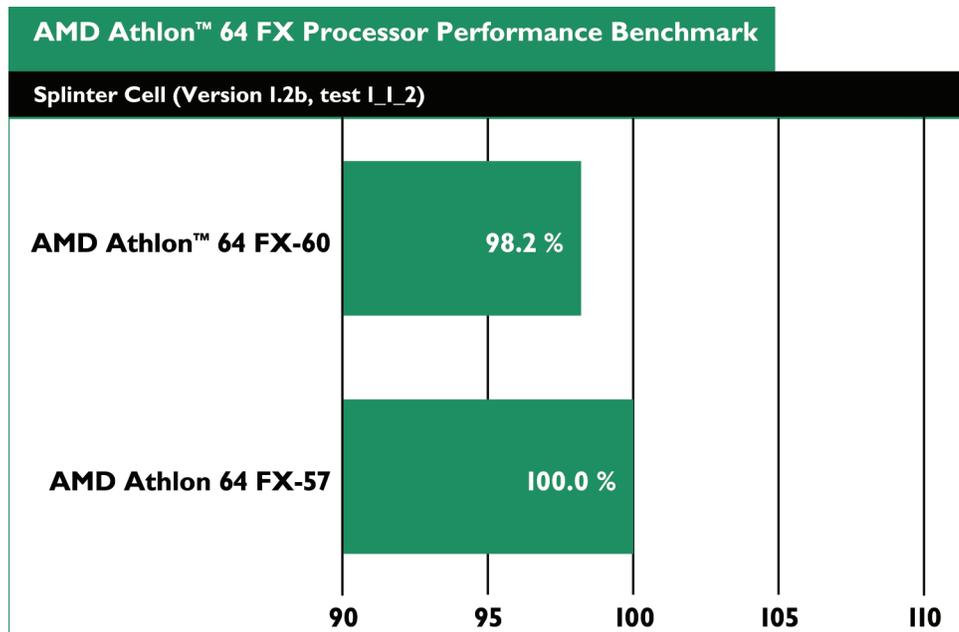*Refer to Table 1 on page 35 for benchmark system configuration.*

Quake IV (Version 1.04, Arena Demo)

AMD Athlon™ 64 FX Processor Performance Benchmark

Quake IV (Version I.04, Arena Demo)

AMD Athlon™ 64 FX-60	104.0 %
AMD Athlon 64 FX-57	100.0 %

90 95 100 105 110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor

Return to Castle Wolfenstein Enemy Territory (Version 2.60)

AMD Athlon™ 64 FX Processor Performance Benchmark

Return to Castle Wolfenstein Enemy Territory (Version 2.60)

AMD Athlon™ 64 FX-60	92.3 %
AMD Athlon 64 FX-57	100.0 %

85 90 95 100 105

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

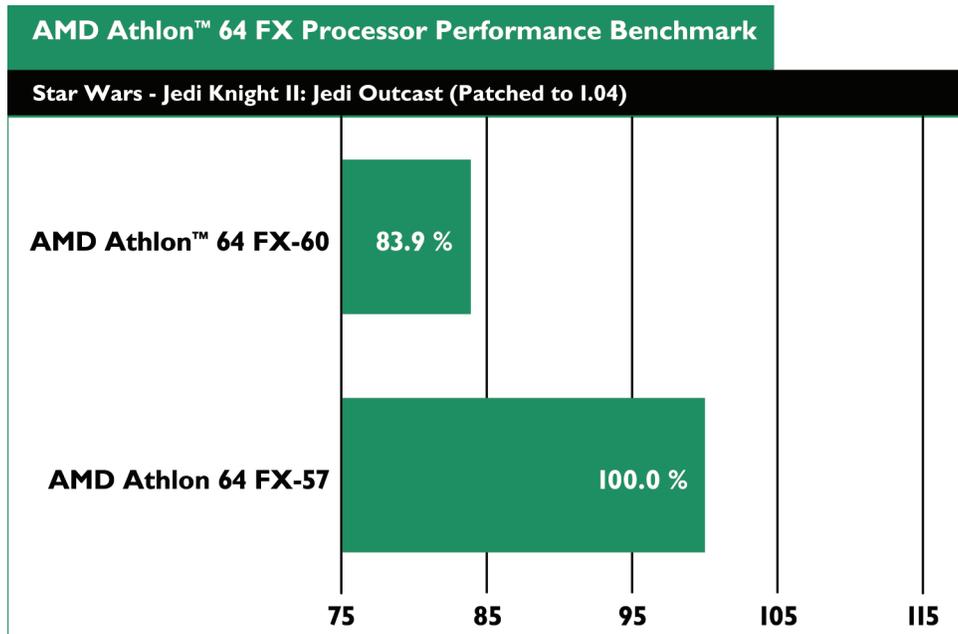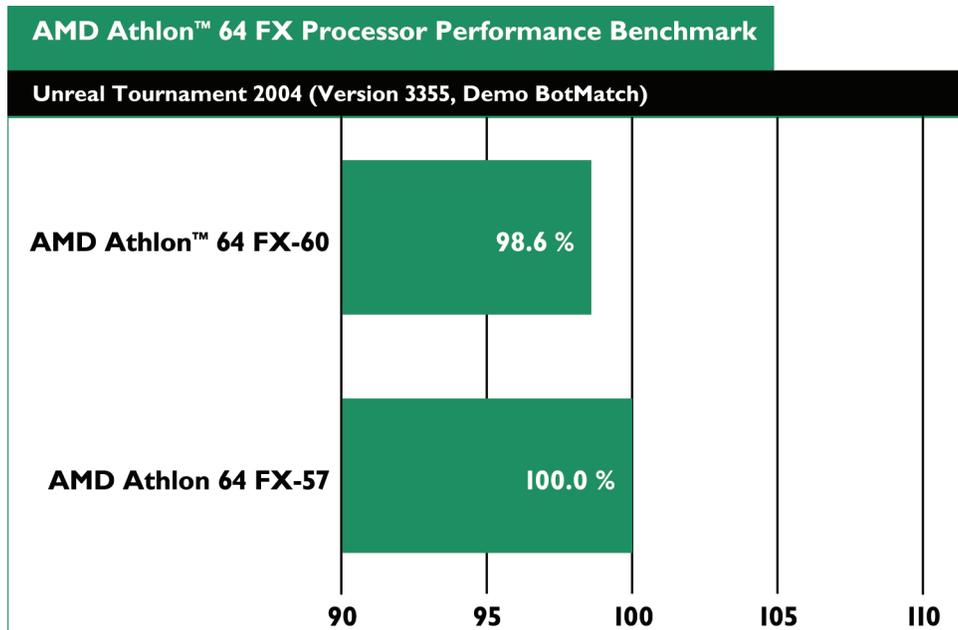# Splinter Cell (Version 1.2b, test 1_1_1)

AMD Athlon™ 64 FX Processor Performance Benchmark

Splinter Cell (Version 1.2b, test 1_1_1)

AMD Athlon™ 64 FX-60	101.0 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Splinter Cell (Version 1.2b, test 1_1_2)
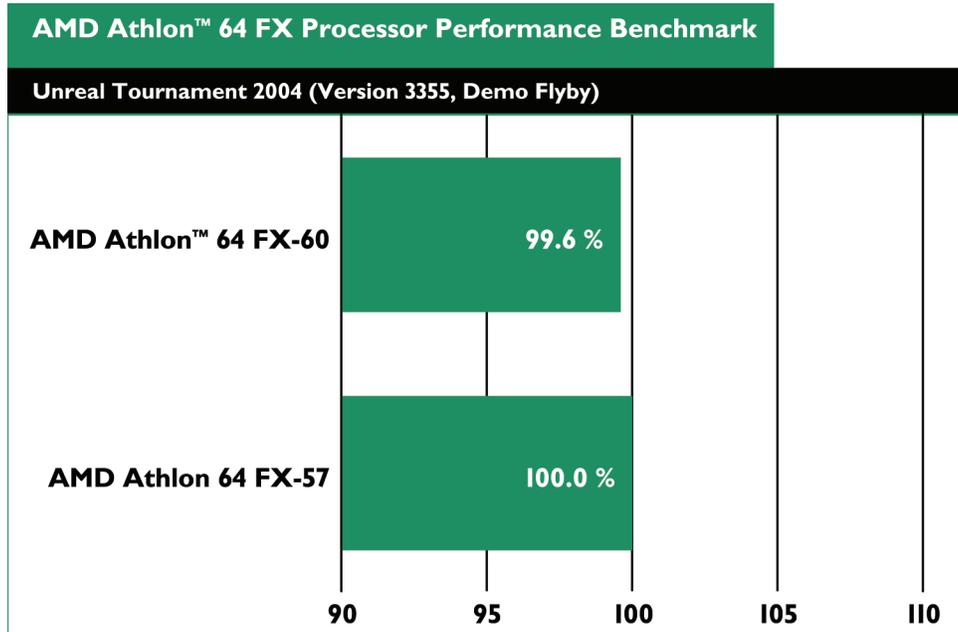
AMD Athlon™ 64 FX Processor Performance Benchmark

Splinter Cell (Version 1.2b, test 1_1_2)

AMD Athlon™ 64 FX-60	98.2 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110
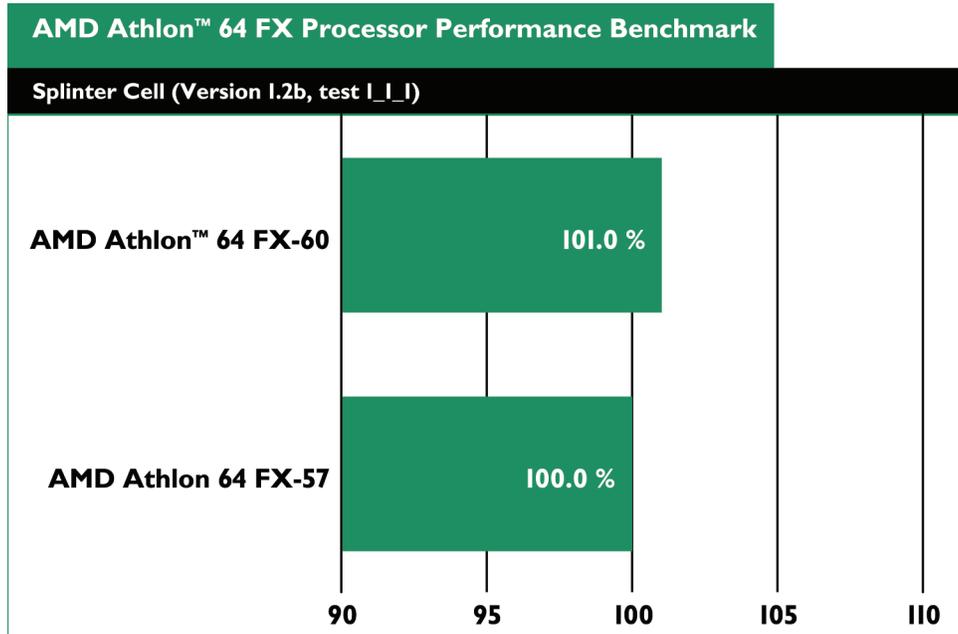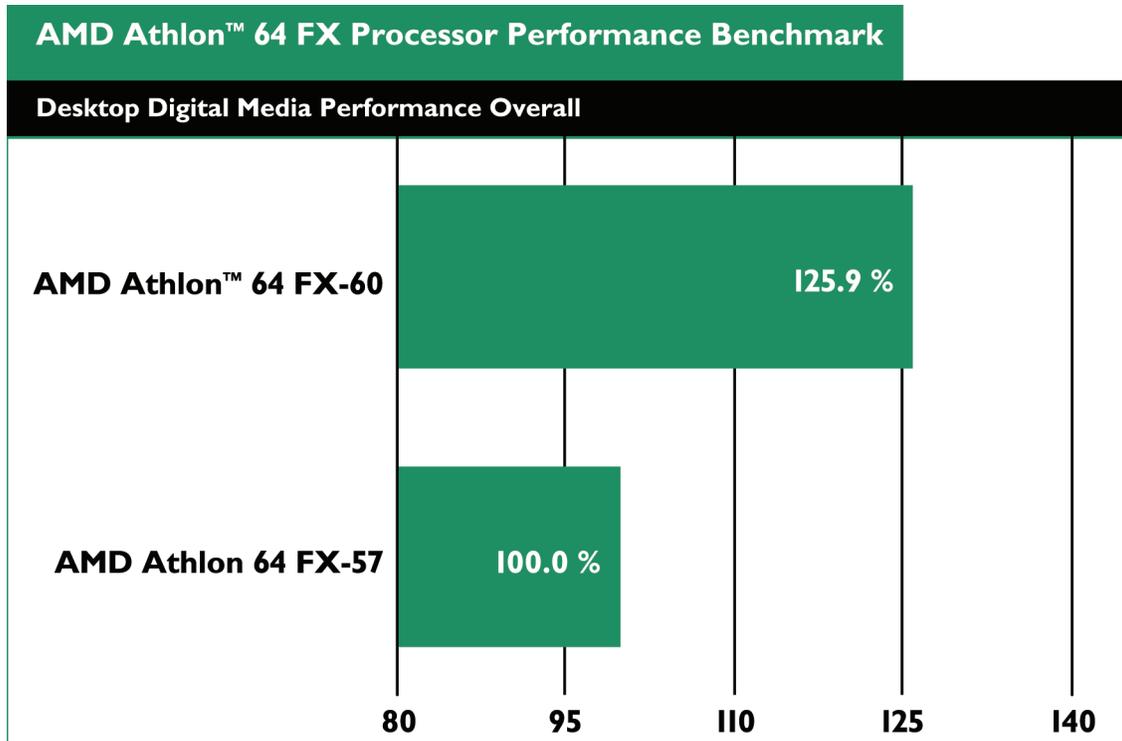
3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Refer to for benchmark system configuration.

Star Wars - Jedi Knights II: Jedi Outcast (Patched to 1.04)

AMD Athlon™ 64 FX Processor Performance Benchmark

Star Wars - Jedi Knight II: Jedi Outcast (Patched to I.04)

AMD Athlon™ 64 FX-60	83.9 %
AMD Athlon 64 FX-57	100.0 %

75   85   95   105   115

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Unreal Tournament 2004 (Version 3355, Demo BotMatch)

AMD Athlon™ 64 FX Processor Performance Benchmark

Unreal Tournament 2004 (Version 3355, Demo BotMatch)

AMD Athlon™ 64 FX-60	98.6 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Unreal Tournament 2004 (Version 3355, Demo Flyby)

AMD Athlon™ 64 FX Processor Performance Benchmark

Unreal Tournament 2004 (Version 3355, Demo Flyby)

AMD Athlon™ 64 FX-60	99.6 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

3-D gaming may reveal limitations in the graphics solution and may not truly represent relative processor performance.

Refer to Table 1 on page 35 for benchmark system configuration.

Digital Media Overall

With a revolutionary processor design and now including support for SSE3 as well as 3DNow!™ Professional technology and SSE2 instructions, the AMD Athlon™ 64 FX-60 processor provides outstanding performance for multimedia applications. Compose, edit, and encode digital audio, video, and image files quickly and smoothly so you can save time and produce outstanding work.

AMD Athlon™ 64 FX Processor Performance Benchmark

Desktop Digital Media Performance Overall

AMD Athlon™ 64 FX-60	125.9 %
AMD Athlon 64 FX-57	100.0 %

80 95 110 125 140

The digital media overall benchmark is an average of compiled data from the list of benchmark scores from the following list of tests. The score is normalized to the AMD Athlon™ 64 FX-57 processor.

Ziff Davis Media, Inc. Multimedia Content Creation Winstone® 2004 (Version 1.0.1)

BAPCO® SYSmark® 2004 Internet Content Creation

Dr. DivX (Version 1.0.6)

POV-Ray (Version 3.7.10)

RazorLAME MP3 Encoder (Version 1.1.5.1342)

Panorama Factory (Version 3.3)

Sony Vegas Studio (Version 4.0)

Microsoft® Movie Maker (Version 5.1)

Apple iTunes (Version 6.0)

Content Creation Winstone is a registeredTrademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

Ziff Davis Media, Inc. Multimedia Content Creation Winstone® 2004 (Version 1.0.1)

Multimedia Content Creation Winstone® is a system-level, application-based benchmark that measures a PC's overall performance when running Windows® operating system-based multimedia content creation applications.

AMD Athlon™ 64 FX Processor Performance Benchmark

Ziff Davis Media Inc. Multimedia Content Creation Winstone® 2004 (Version I.0.I)

AMD Athlon™ 64 FX-60	109.0 %
AMD Athlon 64 FX-57	100.0 %

90 95 100 105 110
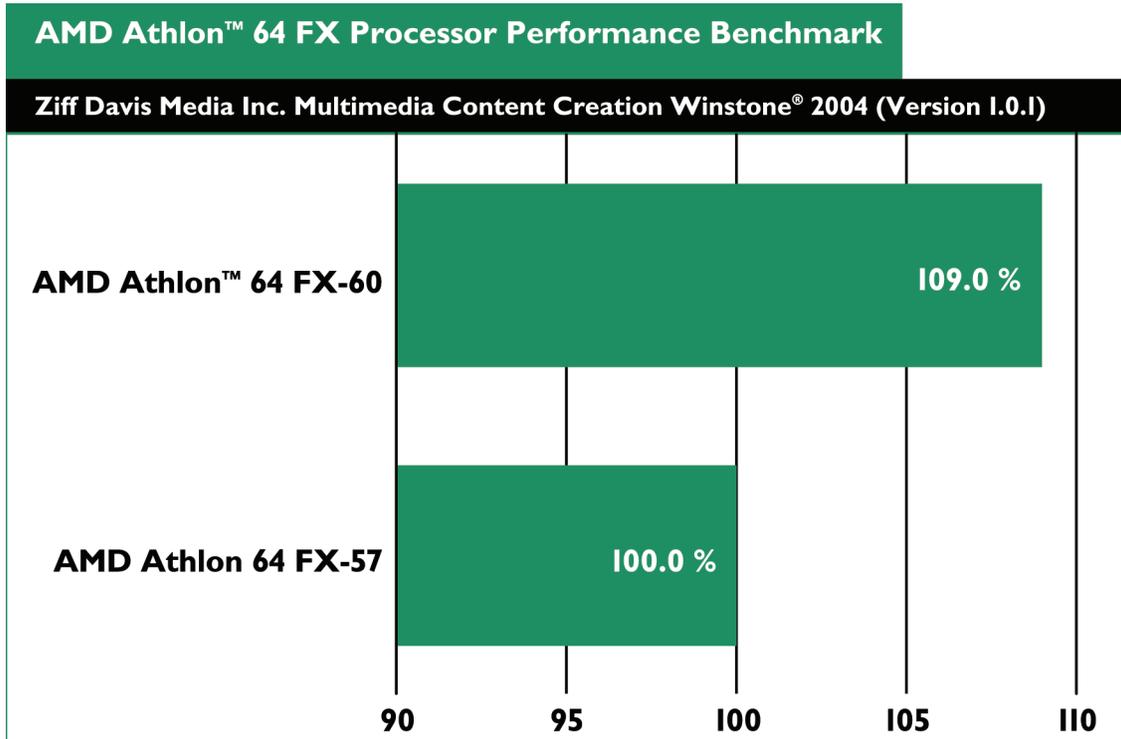
The score is normalized to the AMD Athlon™ 64 FX-57 processor. Multimedia Content Creation Winstone 2004 version 1.0 uses the following applications:

- Adobe® Photoshop® 7.0.1
- Adobe Premiere 6.50
- Macromedia Director MX 9.0
- Macromedia Dreamweaver MX 6.1
- Microsoft® Windows® Media Encoder 9 Version 9.00.00.2980
- NewTek's LightWave 3D 7.5b
- Steinberg WaveLab 4.0f

Multimedia Content Creation Winstone 2004 is a single, large test that runs the listed applications through a series of scripted activities and returns a single score.

Content Creation Winstone is a registeredTrademark of Ziff Davis Media, Inc.

BAPCO® SYSmark® 2004 Internet Content Creation

SYSmark® 2004 is an application-based benchmark.

AMD Athlon™ 64 FX Processor Performance Benchmark

BAPCO® SYSmark® 2004 Internet Content Creation

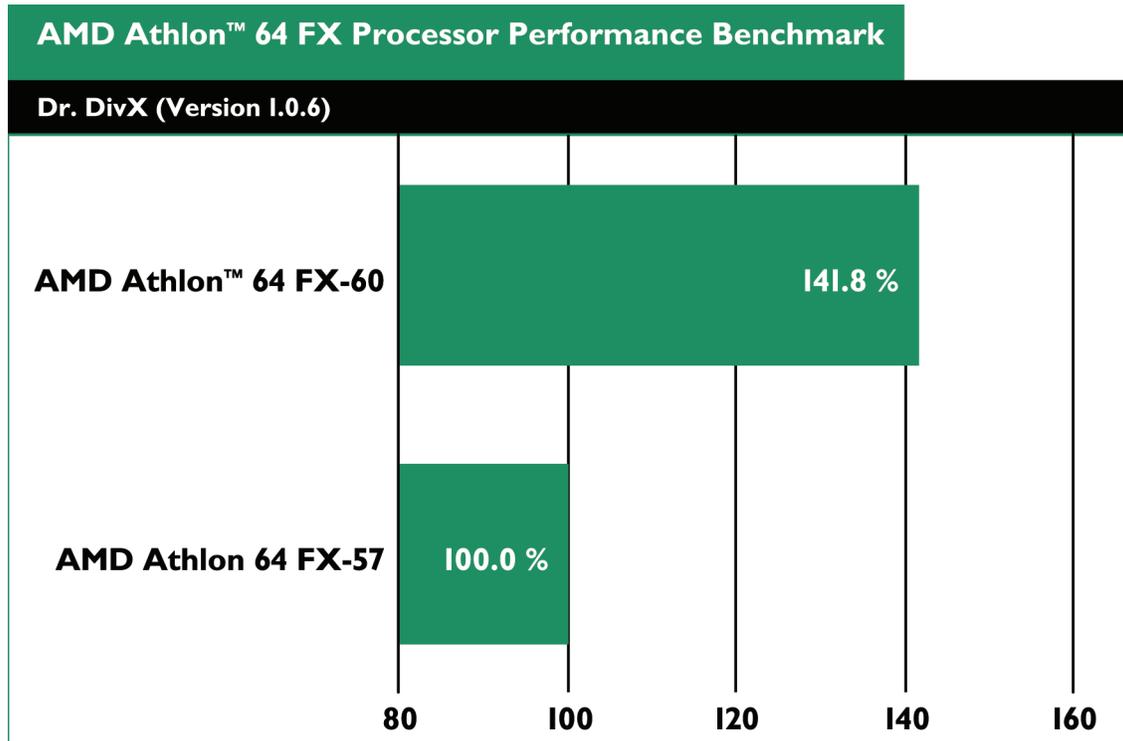|	
AMD Athlon™ 64 FX-60	127.9 %
AMD Athlon 64 FX-57	100.0 %

90   100   110   120   130
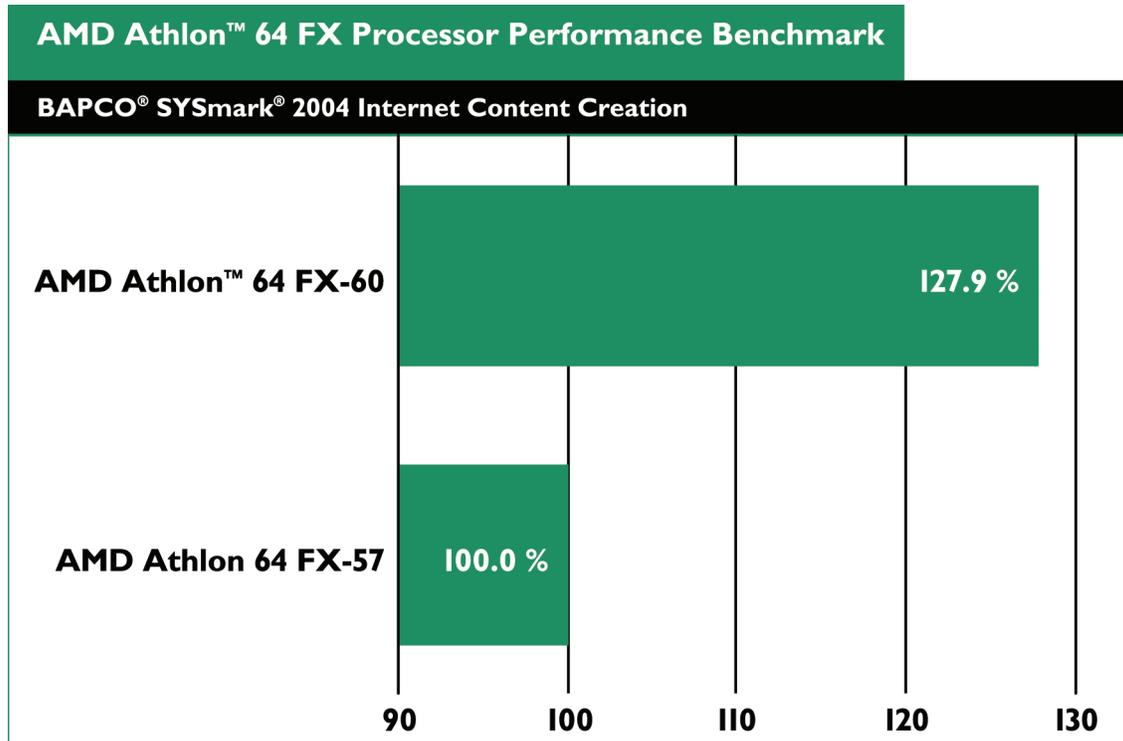
This benchmark incorporates the following Internet Content Creation applications. The score is normalized to the AMD Athlon™ 64 FX-57 processor.

- Adobe® After Effects 5.5
- Adobe Photoshop 7.01
- Adobe Premiere 6.5
- Discrete 3ds max 5.1
- Network Associates McAfee VirusScan 7.0
- WinZip Computing WinZip 8.1
- Macromedia Dreamweaver MX
- Macromedia Flash MX
- Windows® Media Encoder 9 Series

Refer to for benchmark system configuration.

Dr. DivX (Version 1.0.6)

Dr. DivX converts video to a MPEG-4-based format. The test is a measure of the time required to convert a video file to MPEG-4 format.

The score is normalized to the AMD Athlon™ 64 FX-57 processor.

POV-Ray (Version 3.7.10)

This benchmark uses POV-Ray to create photo-realistic3-D images using a rendering technique called ray-tracing. The test is a measure of pixels per second generated while creating a standard benchmark image.

AMD Athlon™ 64 FX Processor Performance Benchmark

POV-Ray (Version 3.7.l0)

AMD Athlon™ 64 FX-60	159.9 %
AMD Athlon 64 FX-57	100.0 %

80   100   120   140   160
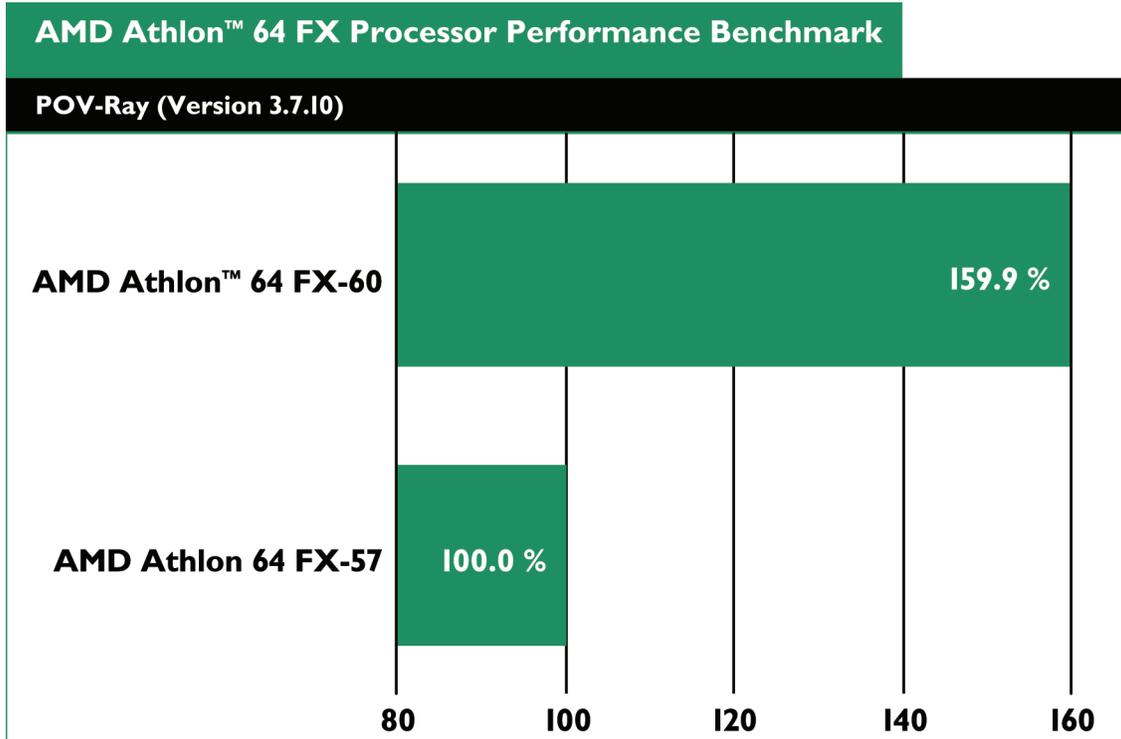
The score is normalized to the AMD Athlon™ 64 FX-57 processor.

Refer to Table 1 on page 35 for benchmark system configuration.

RazorLAME MP3 Encoder (Version 1.1.5.1342)
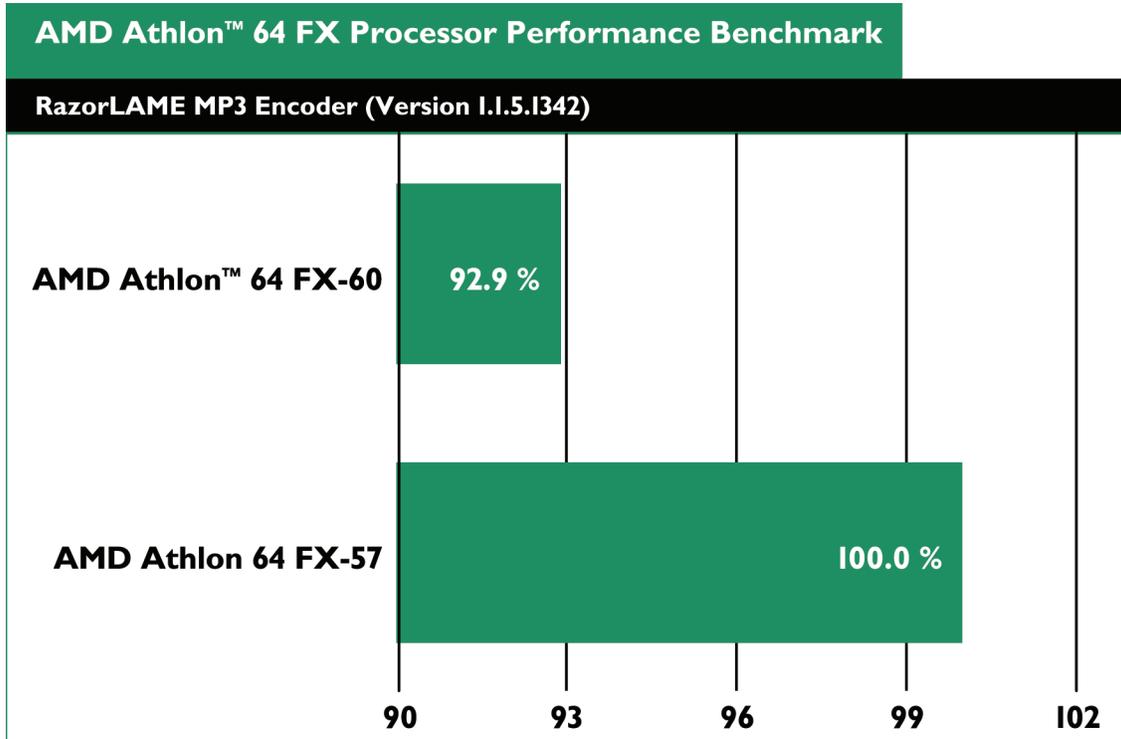
AMD Athlon™ 64 FX Processor Performance Benchmark

RazorLAME MP3 Encoder (Version 1.1.5.1342)

AMD Athlon™ 64 FX-60	92.9 %
AMD Athlon 64 FX-57	100.0 %

90   93   96   99   102

The score is normalized to the AMD Athlon™ 64 FX-57 processor. This benchmark is the compiled data from the RazorLAME version 1.1.5 MP3 benchmark scores.

Refer to Table 1 on page 35 for benchmark system configuration.

Panorama Factory (Version 3.3)

Panorama Factory is a digital photo-editing application that creates panoramic photos and 360° photographs.
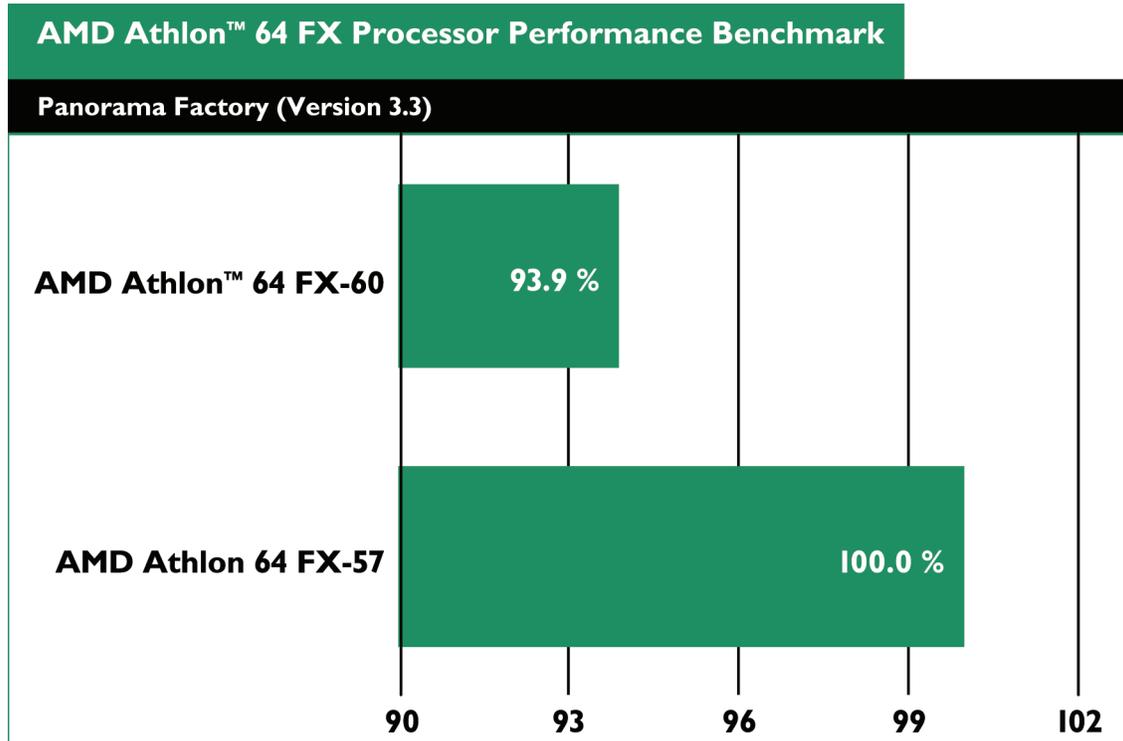
AMD Athlon™ 64 FX Processor Performance Benchmark

Panorama Factory (Version 3.3)

Processor	Score
AMD Athlon™ 64 FX-60	93.9 %
AMD Athlon 64 FX-57	100.0 %

Axis values: 90, 93, 96, 99, 102

The score is normalized to the AMD Athlon™ 64 FX-57 processor. The benchmark is a measure of the time required to stitch together a set of photos into a panorama.

Refer to Table 1 on page 35 for benchmark system configuration.

Sony Vegas Studio (Version 4.0)

Sony Vegas Studio is a digital video-editing application that edits and converts video files into different formats.
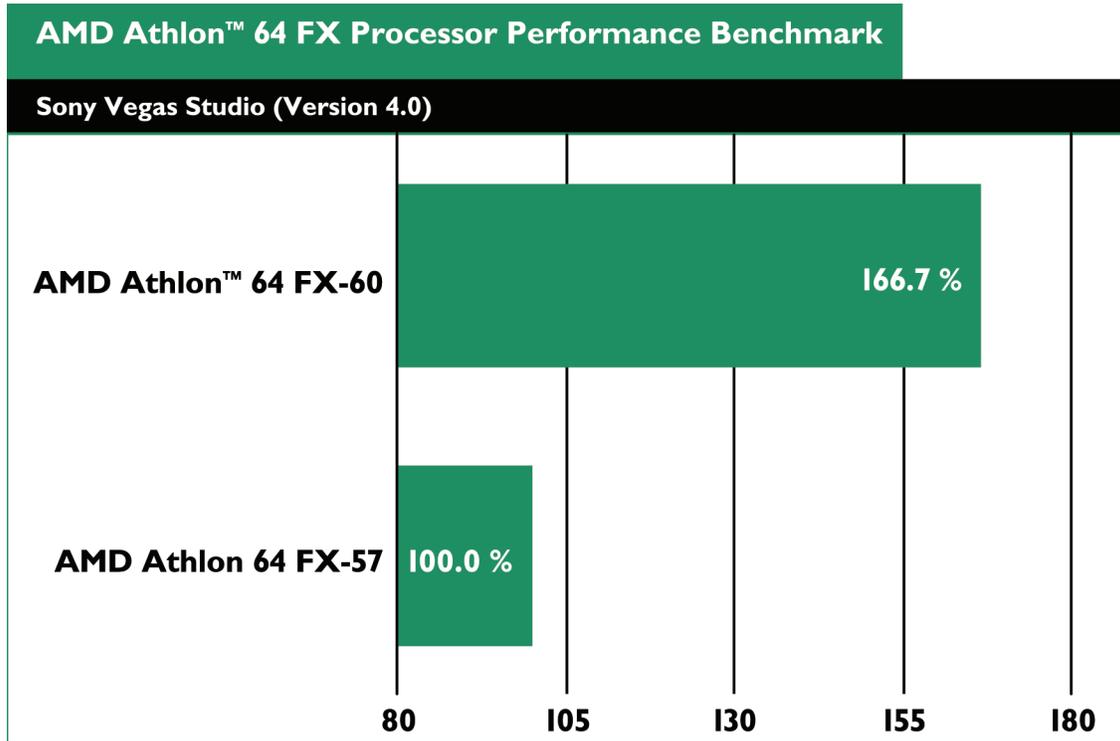
AMD Athlon™ 64 FX Processor Performance Benchmark

Sony Vegas Studio (Version 4.0)

AMD Athlon™ 64 FX-60 — 166.7 %

AMD Athlon 64 FX-57 — 100.0 %

80   105   130   155   180

The score is normalized to the AMD Athlon™ 64 FX-57 processor. The benchmark is a measure of the time required to convert video files into different formats.

Microsoft® Movie Maker (Version 5.1)

Microsoft® Movie maker creates movie files from still photos.
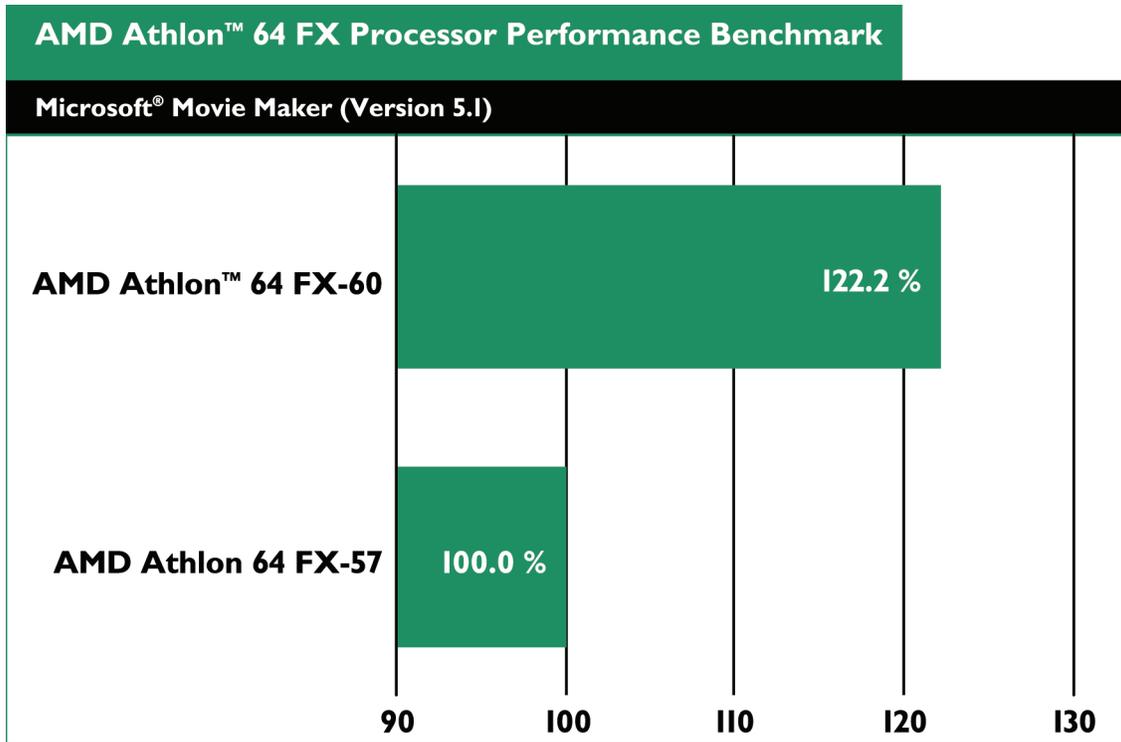
AMD Athlon™ 64 FX Processor Performance Benchmark
Microsoft® Movie Maker (Version 5.1)

AMD Athlon™ 64 FX-60	122.2 %
AMD Athlon 64 FX-57	100.0 %

90   100   110   120   130

The score is normalized to the AMD Athlon™ 64 FX-57 processor. The benchmark is a measure of the time required to create video files from still photos.

Refer to Table 1 on page 35 for benchmark system configuration.

Apple iTunes (Version 6.0)

Apple iTunes downloads, organizes, and plays digital music and video.

AMD Athlon™ 64 FX Processor Performance Benchmark

apple iTunes (Version 6.0)

AMD Athlon™ 64 FX-60	141.7 %
AMD Athlon 64 FX-57	100.0 %

80   100   120   140   160
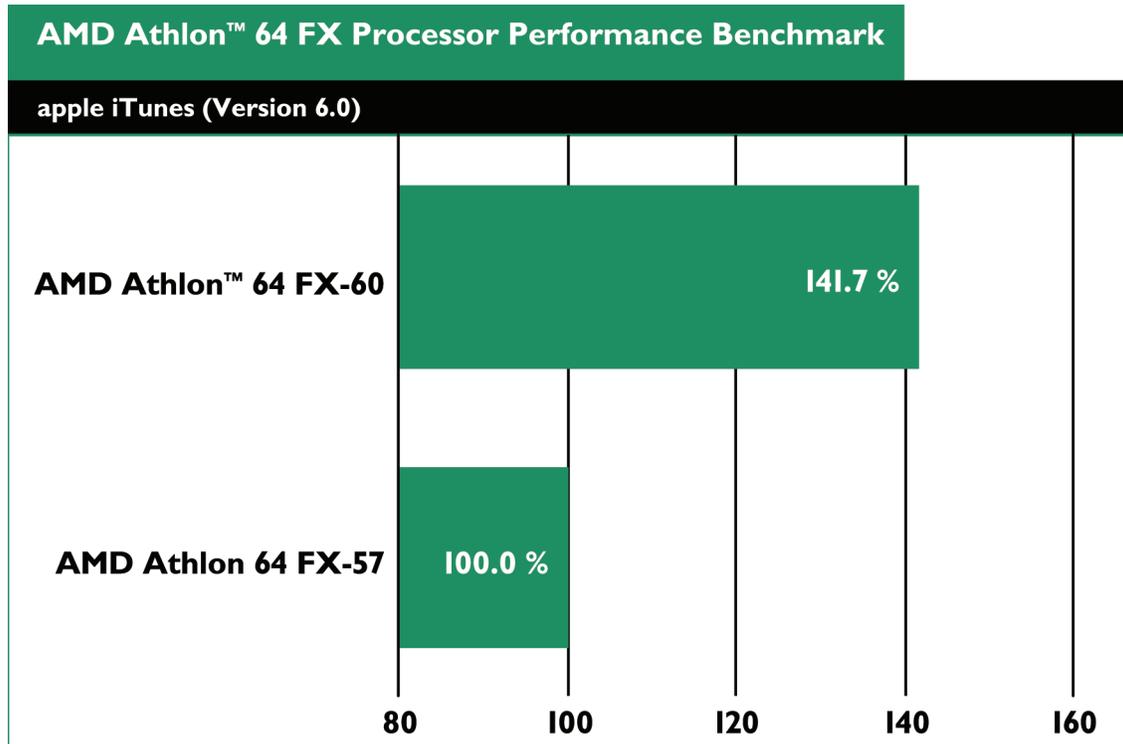
The score is normalized to the AMD Athlon™ 64 FX-57 processor. The benchmark measures the time it takes to convert an audio wave file to MP3 format using the default iTunes MP3 encoder.

Refer to Table 1 on page 35 for benchmark system configuration.

Office Productivity Overall

The AMD Athlon™ 64 FX-60 processor provides high levels of performance when running office productivity applications in a multi-tasking environment. High-speed HyperTransport™ technology and an integrated memory controller make the AMD Athlon 64 processor an efficient platform for today's knowledge worker.

AMD Athlon™ 64 FX Processor Performance Benchmark

Desktop Office Productivity Overall

AMD Athlon™ 64 FX-60	116.0 %
AMD Athlon 64 FX-57	100.0 %

80   90   100   110   120
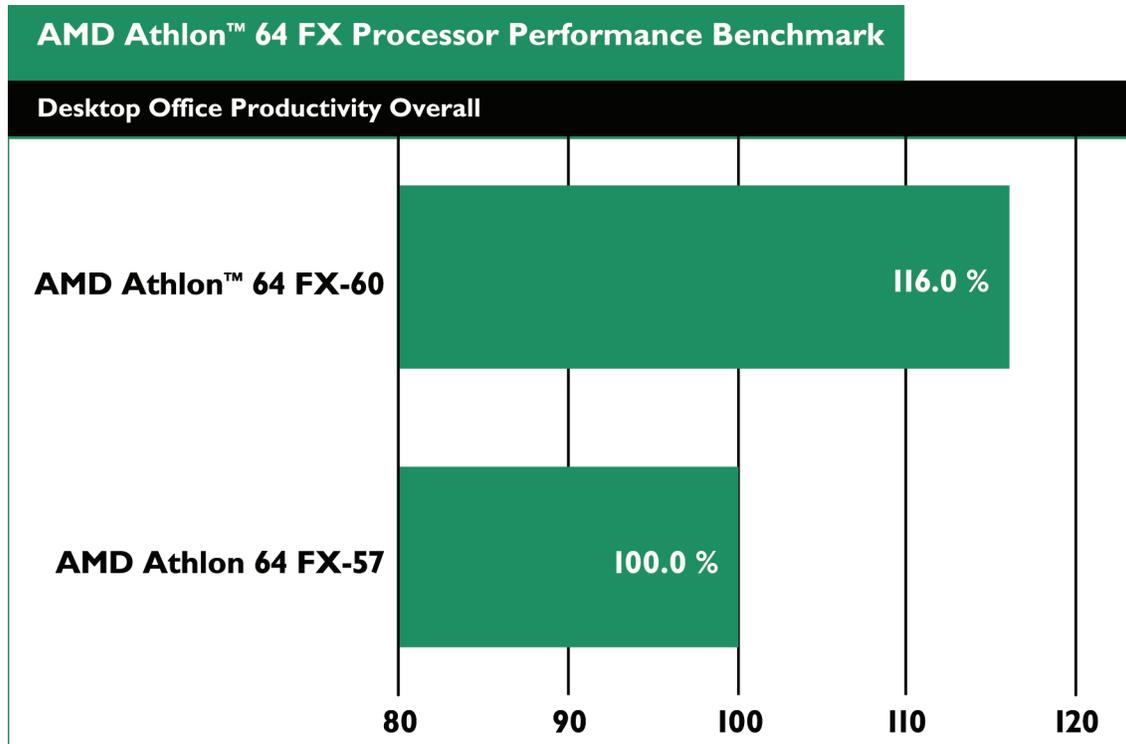
The score is normalized to the AMD Athlon™ 64 FX-57 processor. This benchmark is an average of compiled data from the list of benchmark scores from the following list of tests.

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01)

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01, Multitasking Test)

BAPCO® SYSmark® 2004 Office Productivity (Version 1.0, Patch 2)

PC Worldbench (Version 5)

WinRAR (Version 3.51)

Remote Collaboration Scenario

Travel Ready Scenario

Business Winstone is a registered Trademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01)

Business Winstone® is a system-level, application-based benchmark that measures overall PC performance when running today's top-selling Windows® operating system-based applications. Business Winstone does not mimic what these packages do; it runs real applications through a series of scripted activities and uses the time a PC takes to complete those activities to produce its performance scores.

AMD Athlon™ 64 FX Processor Performance Benchmark

Ziff Davis Media Inc. — Business Winstone® 2004 (Version 1.01)

Processor	Score
AMD Athlon™ 64 FX-60	97.1 %
AMD Athlon 64 FX-57	100.0 %

Scale: 90, 95, 100, 105, 110
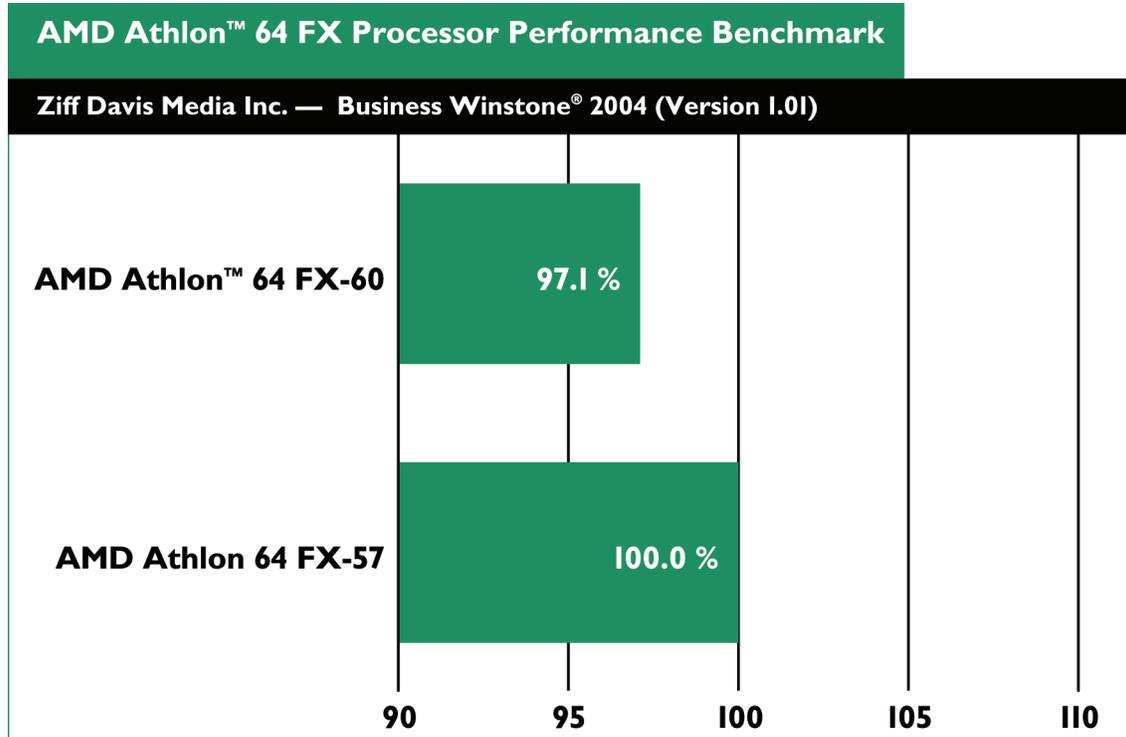
The score is normalized to the AMD Athlon™ 64 FX-57 processor. The Business Winstone benchmark uses the following applications:
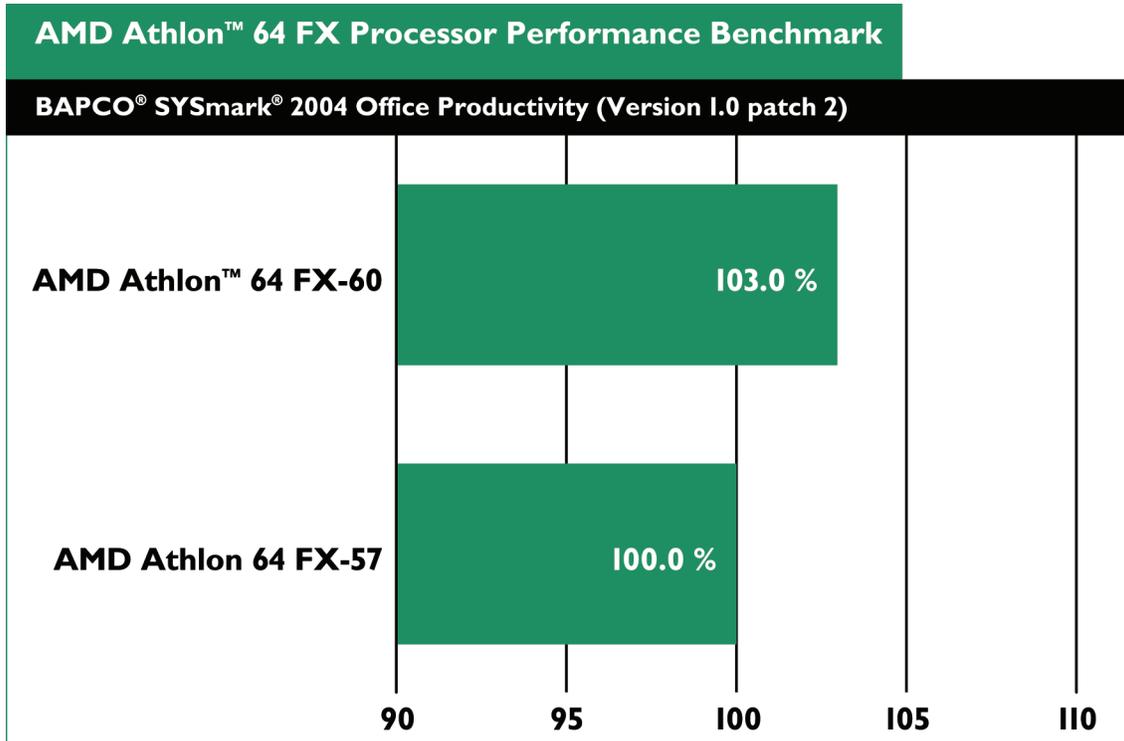
- Microsoft® Internet Explorer 6
- Microsoft Outlook 2002 SP-2
- Microsoft Project 2002
- Microsoft Access 2002 SP-2
- Microsoft PowerPoint 2002 SP-2
- Microsoft Excel 2002 SP-2
- Microsoft FrontPage 2002 SP-2
- Microsoft Word 2002 SP-2
- Norton AntiVirus Professional Edition 2003
- WinZip 8.1 SR-1

Business Winstone is a registered Trademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

Ziff Davis Media, Inc. — Business Winstone® 2004 (Version 1.01, Multitasking Test)

The Business Winstone® Multitasking test uses the same applications as Business Winstone, but runs some of the applications in the background while doing work in the foreground. If you're the type of person who runs a virus check in the background while using office applications in the foreground, you'll want to check out this test.
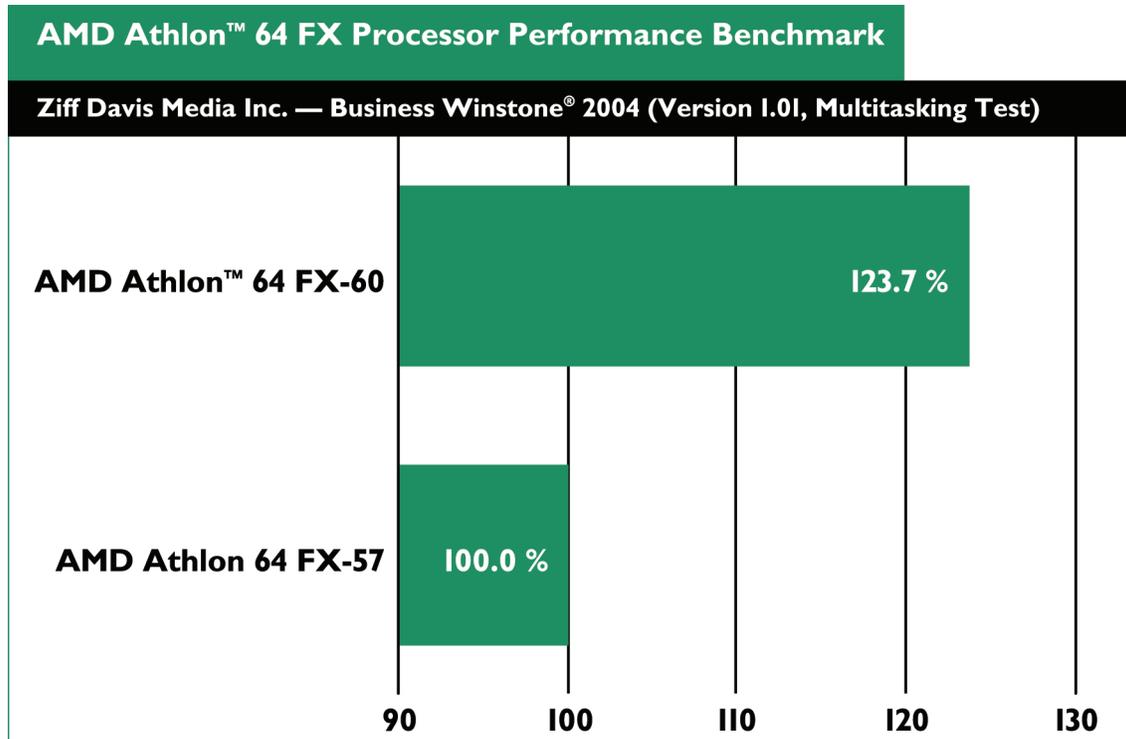
AMD Athlon™ 64 FX Processor Performance Benchmark

Ziff Davis Media Inc. — Business Winstone® 2004 (Version I.0I, Multitasking Test)

AMD Athlon™ 64 FX-60	123.7 %
AMD Athlon 64 FX-57	100.0 %

90   100   110   120   130

The score is normalized to the AMD Athlon™ 64 FX-57 processor. The Business Winstone Multitasking benchmark uses the following applications:

- Microsoft® Internet Explorer 6
- Microsoft Outlook 2002 SP-2
- Microsoft Project 2002
- Microsoft Access 2002 SP-2
- Microsoft PowerPoint 2002 SP-2
- Microsoft Excel 2002 SP-2
- Microsoft FrontPage 2002 SP-2
- Microsoft Word 2002 SP-2
- Norton AntiVirus Professional Edition 2003
- WinZip 8.1 SR-1

Business Winstone is a registered Trademark of Ziff Davis Media, Inc.

Refer to Table 1 on page 35 for benchmark system configuration.

BAPCO® SYSmark® 2004 Office Productivity (Version 1.0, Patch 2)

The BAPCO® SYSmark® 2004 is an application-based benchmark.

AMD Athlon™ 64 FX Processor Performance Benchmark

BAPCO® SYSmark® 2004 Office Productivity (Version I.0 patch 2)

AMD Athlon™ 64 FX-60	103.0 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110

The score is normalized to the AMD Athlon™ 64 FX-57 processor. The BAPCO SYSmark benchmark uses the following applications.

- Adobe® Acrobat® 5.0.5
- Microsoft® Access 2002
- Microsoft Excel 2002
- Microsoft Internet Explorer 6
- Microsoft Outlook 2002
- Microsoft PowerPoint 2002
- Microsoft Word 2002
- Network Associates McAfee VirusScan 7.0
- ScanSoft Dragon Naturally Speaking 6 Preferred
- WinZip Computing WinZip 8.1

Refer to Table 1 on page 35 for benchmark system configuration.

PC Worldbench (Version 5)

PC Worldbench is an office productivity benchmark developed by PC World magazine.

AMD Athlon™ 64 FX Processor Performance Benchmark

Worldbench (Version 5 with SP2 Reg Edit)

AMD Athlon™ 64 FX-60	101.7 %
AMD Athlon 64 FX-57	100.0 %

90   95   100   105   110
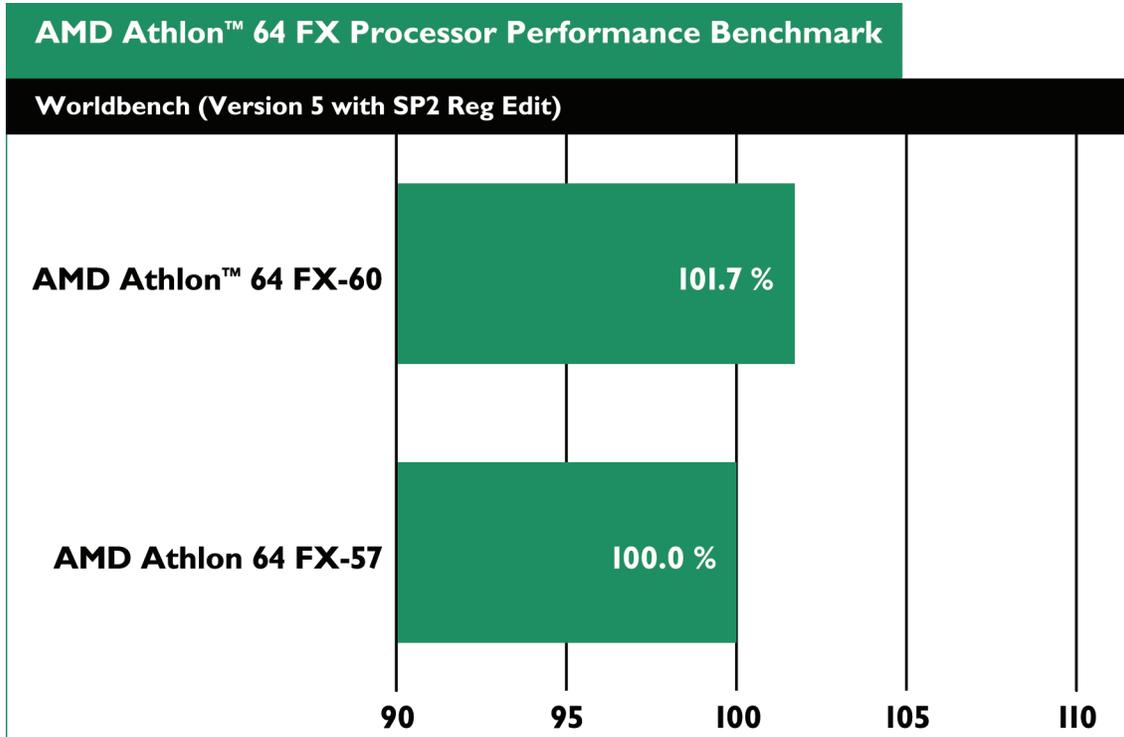
The score is normalized to the AMD Athlon™ 64 FX-57 processor. PC Worldbench™ uses the following applications:

- ACD Systems ACDSee PowerPack 5.0
- Adobe® Photoshop® 7.0.1
- Adobe Premiere 6.5
- Ahead Software Nero Express 6.0.0.3
- Discreet 3ds max 5.1 (DirectX)
- Discreet 3ds max 5.1 (OpenGL)
- Microsoft® Office XP with SP-2
- Microsoft Windows Media Encoder 9.0
- Mozilla 1.4
- Musicmatch Jukebox 7.10
- Roxio VideoWave Movie Creator 1.5
- WinZip Computing WinZip 8.1

WinRAR (Version 3.51)

WinRAR is archive management software. WinRAR may be used to backup data and to reduce the size of e-mail attachments, to decompress RAR, ZIP, and other files downloaded from Internet, and to create new archives in RAR and ZIP file format.
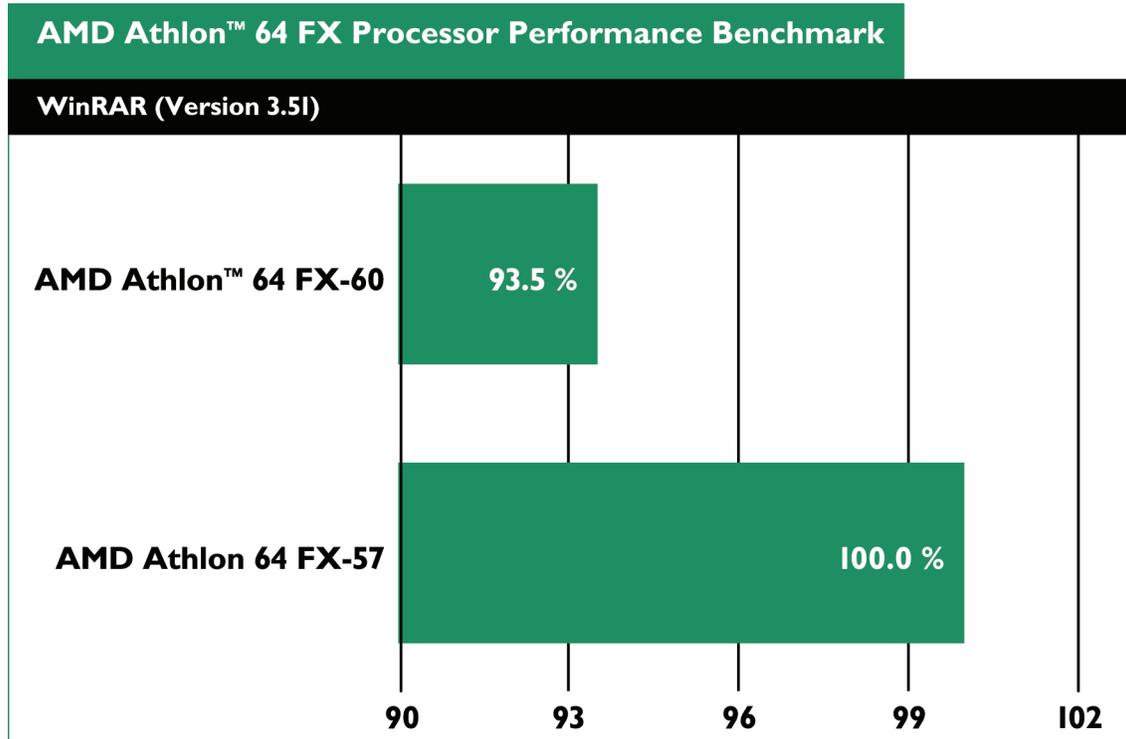
AMD Athlon™ 64 FX Processor Performance Benchmark

WinRAR (Version 3.5I)

AMD Athlon™ 64 FX-60	93.5 %
AMD Athlon 64 FX-57	100.0 %

90   93   96   99   I02

The score is normalized to the AMD Athlon™ 64 FX-57 processor. This benchmark is the compiled data from the WinRAR benchmark scores.

Refer to Table 1 on page 35 for benchmark system configuration.

Remote Collaboration Scenario

The Remote Collaboration Scenario is a multi-application benchmark that combines Microsoft® NetMeeting (Version 3.01) and Windows® Media Encoder (Version 9.00.00.2980).

This scenario launches Microsoft NetMeeting on two systems. The host system shares a PowerPoint presentation on the target system while Microsoft Windows Media Encoder converts an MPEG2 file to the Mpeg4 format.
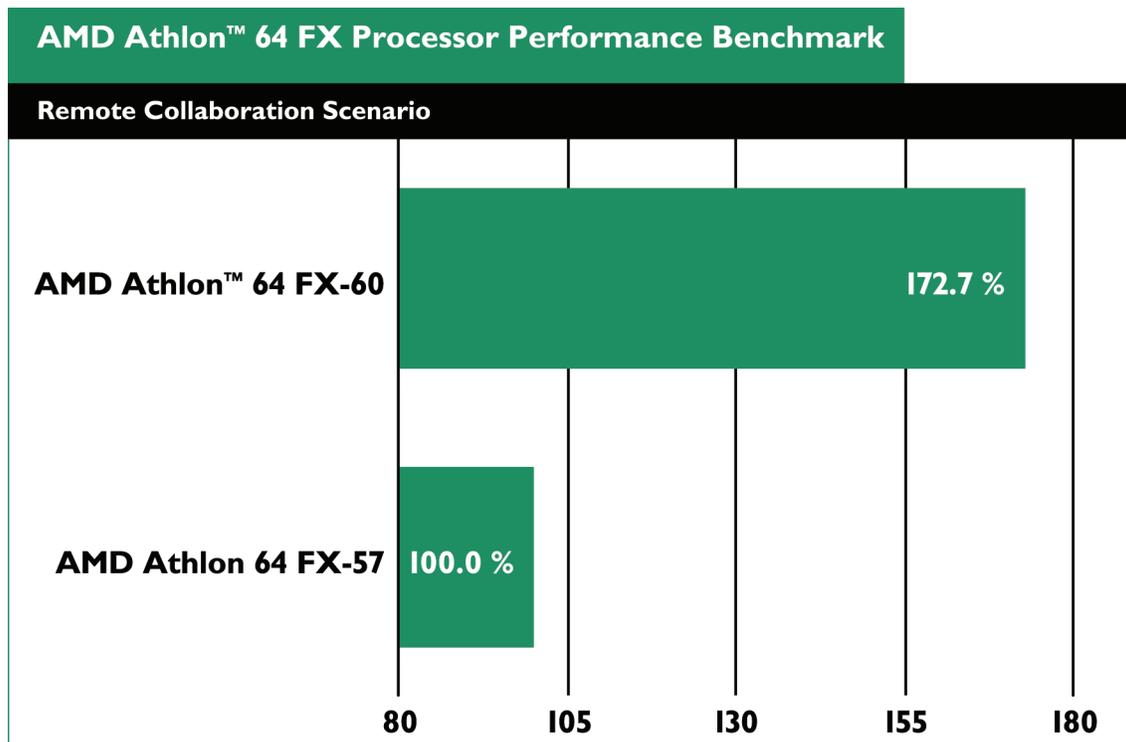
AMD Athlon™ 64 FX Processor Performance Benchmark

Remote Collaboration Scenario

AMD Athlon™ 64 FX-60	172.7 %
AMD Athlon 64 FX-57	100.0 %

80   105   130   155   180

The score is normalized to the AMD Athlon™ 64 FX-57 processor.

Travel Ready Scenario

The Travel Ready Scenario is a multi-application benchmark that combines Microsoft$^{®}$ Publisher 2003 (Version 11.5525.5606) and Nero Recorder (Version 3.1.0.0). During the benchmark, Microsoft Publisher runs with a scripted input to create a newsletter while Nero Recorder runs to convert an MPEG2 file to the Nero MPEG4 format.
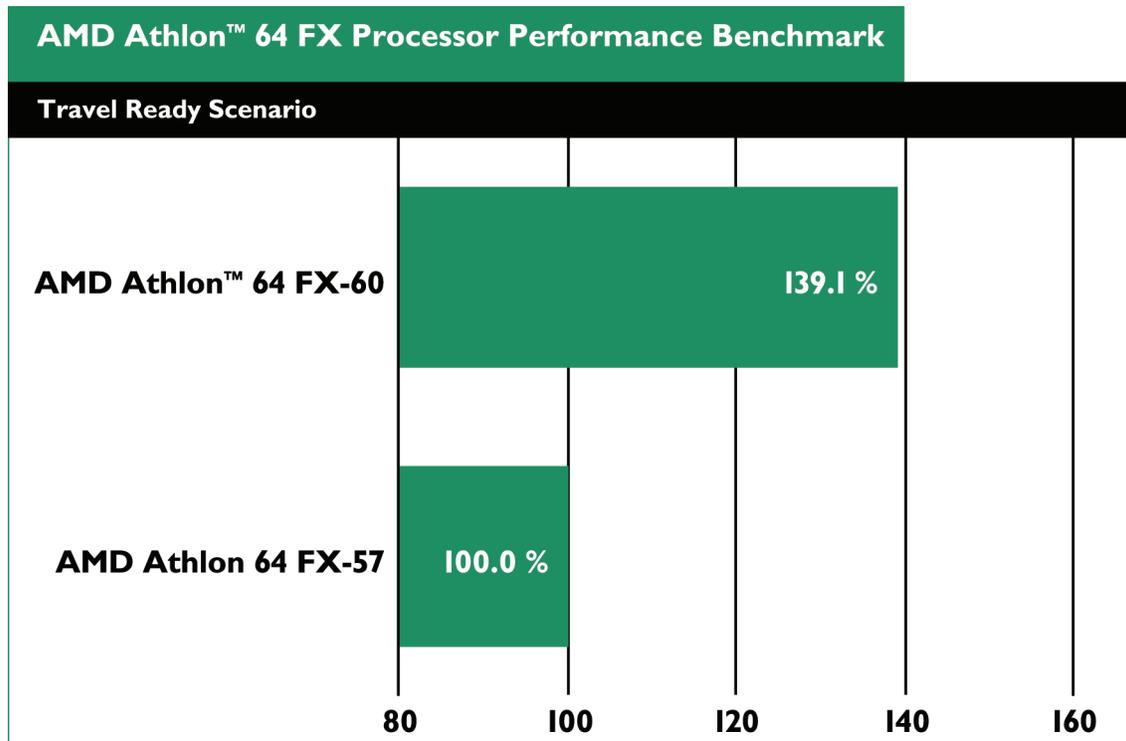
AMD Athlon™ 64 FX Processor Performance Benchmark

Travel Ready Scenario

AMD Athlon™ 64 FX-60	139.1 %
AMD Athlon 64 FX-57	100.0 %

80   100   120   140   160

The score is normalized to the AMD Athlon™ 64 FX-57 processor.

Benchmark System Configuration

Table 1 shows the system configuration that AMD used to perform the benchmarks described in this document.

Table 1. AMD Athlon™ 64 Processor Test System Configuration

Component		Manufacturer and Model Description
Operating System		Microsoft® Windows® XP Professional RTM, Service Pack 1a installed, Build 2600, DirectX 9.0C
Hardware	**Processor**	AMD Athlon™ 64 Processor
	Motherboard	Asus A8N32SLI-Deluxe, BIOS MCT2/Dual Core
	Chipset	NVIDIA nForce SLI X16
	RAM	1 GB DDR SDRAM total (qty (2) 512 MB DIMM Module CMX512-3500XLPro)
	Hard Drive	Qty (2) Western Digital Raptor WD360GD, 36.0 GB, SATA RAID 0 10,000 RPM (NTFS used to format the hard disk). Drives are configured in a RAID 0 configuration.
	Video Card	NVIDIA 7800 GTX, 512 MB DDR3
	Audio	NVIDIA nForce Audio (integrated on motherboard)
	LAN	Marvel Yukon 88E8053 PCI Express™ Gigabit (integrated on motherboard)
Drivers	**SATA**	NVIDIA nForce ATA RAID Class Controller, v5.10.2600.5552, 1/20/2005
	Video	NVIDIA, v8.1.9.4, 11/04/2005, 1024x768, 85 Hz refresh rate
	Audio	NVIDIA, v6.14.462.0, 1/26/2005
	LAN	Marvell, v8.27.43, 05/06/2005

Trademarks