

Gama Network Presents:

Gamasutra.com

64-bit Game Development: Immediate Changes On the Horizon
(64 :)

By Alex Pournelle

Gamasutra

June 3, 2004

URL: http://www.gamasutra.com/features/20040603/pournelle_01.shtml

(Game Developers Conference)가

(Windows Hardware Engineering Conference, WinHEC) PC

WinHEC 2004 ()
가 2006)
64 . 64 PC

/ ,

.
 AMD Athlon64 Opteron
 Memory 64 Technology) EM64T(Extended
 가
 . EM64T
 AMD 32/64
 . DEP(Data Ex
 ecuti on Prevention,)
 가 ; “ 64
 ” 4 가
 . , AMD
 , Via
 .
 “ AMD - ” “ x86
 - 64 ” . (AMD
 가
 가 .)



The screenshot shows the Windows XP Performance Options dialog box with the 'Data Execution Prevention' tab selected. The 'Help protect all programs except:' section has 'nxdemo' listed. An error dialog box titled 'Data Execution Prevention' is overlaid, stating: 'A Windows security feature has detected a problem and closed this program. Name: nxdemo'. Below it, a command prompt window shows the execution of 'nxdemo nxdemo_good' and 'nxdemo nxdemo_bad', with the latter resulting in a 'Sneaky Exit'.

Windows XP Professional
 Build 2600...ppsp_sp2_rcl.040311-2315 (Service Pack 2, v.2006)
 5:02 PM

1: XP SP2 D
 EP
 DEP

AMD 가 64
 가 32
 WinHEC 2004 2005

64 가 32

;

64

. AMD 가

, 64 가
, 64

WinHEC

: 4

“ Tejas ” () “ Jayhawk ” ()
가

(Prescott)

4GHz

4

(

가

4

)

10

M(

)

EM64T

가

(

2005

).

가

;

2005

. HyperTransport

Opteron

(

) CPU

;

AMD

-

HyperThreaded Pentium 4,

Opterons,

dual-Pentium M

. Windows 2000/XP

“ ” CPU

(HyperThreaded Pentium 4

CP

U

),

dual-Opteron

:

. CPU

가

;

가 XP

4-CPU

Opteron

()

. (4

).

XP SP2 32

32

XP

64

(DEP

XP SP2 x86-64
. SP2 32
64
가 - . " DEP "
AMD " NX " (No Execute)
가 . SP
2 , x86-64

DEP
32 - x86 가
가
. DEP AMD 64 - 가
가 SP2
가
-
DEP 가 ,

가 - ()
,
()
(;
가 ;

DEP

DEP

가

가 SP2

SP2

(RC) 1

; 6

RC2 가

: 가 -

가

4GB

2000/XP

2GB

, LARGE_MEMORY_AWARE

3GB

. Byte.com

April 12, 2004 Chaos Manor co

lumn(

)

XP

XP SP2

x86-64

4GB

. SP2

:

가

. SP2 ActiveX
, SP2

가

. XP SP1 2000 SP3

(

)

,

,

.

,

SP2

.

,

(

3

)

.

가

.

.

.

Quality Lab)

WHQL (Windows Hardware

가

,

가

. XP

가

가
SP2

가 , 64

QA
가

()

XP SP1

SP2

가 , SP2

64
x86-64
가

32 XP
, XP 64 (XP64)

16

WinHEC

XP 64

16
가 16

64

16

OS

(Samer Arafeh) “ 64

16

16

Win32 API

”

:

16

16

가

가

32

16

(

PC

).

WinHEC

:

16

가

32

AMD 가

32

AMD

64

x86-64

:

64

XP6

4

5-10%

가

64

XP64

The image shows a screenshot of the Windows Firewall control panel window. The window title is "Windows Firewall" and it has three tabs: "General", "Exceptions", and "Advanced". The "General" tab is active. At the top, there is a blue banner with a shield icon and the text "For your security, some settings are controlled by Group Policy". Below this, a message states: "Windows Firewall helps protect your computer by preventing unauthorized users from gaining access to your computer through a network or the Internet." There are three radio button options: 1. "On (recommended)" with a green shield icon, which is selected. The description says: "This setting blocks all outside sources from connecting to this computer, with the exception of those selected on the Exceptions tab." 2. "Don't allow exceptions" with an unchecked checkbox. The description says: "Select this check box when you connect to a public network in less secure locations, such as restaurants, hotels, and airports. Any selections on the Exceptions tab will be ignored." 3. "Off (not recommended)" with a red shield icon containing a white 'X'. The description says: "Avoid using this setting. Turning off Windows Firewall may make this computer more vulnerable to viruses and intruders." At the bottom left, there is a link: "Learn more about [Windows Firewall](#)". At the bottom right, there are "OK" and "Cancel" buttons.

2 :

SP 2

IT



OpenGL . NT 4.0 . 3D Ope
 OpenGL , DirectX
 . OpenGL
 CAD , OpenG
 L ,
 64 ?
 64
 , AMD
 . XP64 가 AMD 가
 AMD 64
 , AMD C
 PU
 AMD
 32 x86 - 64
 ;
 ,
 .
 x86 - 64 가
 , 2005
 .NET

,
.
e, CLR)

(Common Language Runtime

“ 가 ”

“ XNA ” 가
, WinHEC

(가) .
가 64 Athlon64 Op

teron

“ ”

32

64

x86-64

가

. 32

64

가
가

/

64 XP64

x86-

. X86-64

가

가

가

, /

,
x86-64

가 .

.
x86-64

64

-

가

.
가 ;

T&L

x86-64

5%

가

,

.

64

XP64

가

-

XP XP64

2000/XP

Microsoft Documentation on Windows XP Service Pack 2 (<http://www.microsoft.com/technet/prodtechnol/winxppro/maintain/winxpsp2.mspx>)

A Technical Preview Program, release notes, and other background information on SP2.

WinHEC 2004

:

64-Bit Business Strategy

(http://download.microsoft.com/download/1/8/f/18f8cee2-0b64-41f2-893d-a6f2295b40c8/SW04001_WINHEC2004.ppt)

Microsoft's 64-bit Windows client and server technology roadmap and strategy.

Porting the ATI Radeon's Direct3D Driver to AMD Athlon64 (http://download.microsoft.com/download/1/8/f/18f8cee2-0b64-41f2-893d-a6f2295b40c8/DW04056_WINHEC2004.ppt)

ATI's experiences in porting the ATI Radeon dri

ver for Microsoft Direct3D to the AMD Athlon64 platform.

WoW64 Internal Architecture

(http://download.microsoft.com/download/1/8/f/18f8cee2-0b64-41f2-893d-a6f2295b40c8/DW04040_WINHEC2004.ppt)

Architecture of the Win32 emulation layer on 64-bit Windows, WoW64 process address space layout, registry redirection and reflection, file system redirection, 32-bit I/O on 64-bit Windows, and debugging.

Windows XP SP2 Configuration and Preinstall Considerations

(http://download.microsoft.com/download/1/8/f/18f8cee2-0b64-41f2-893d-a6f2295b40c8/TW04094_WINHEC2004.ppt)

Implementation details for preinstallation and end-user installation experiences for Windows XP SP2.

Windows XP SP2 New Hardware Support

(http://download.microsoft.com/download/1/8/f/18f8cee2-0b64-41f2-893d-a6f2295b40c8/TW04093_WINHEC2004.ppt)

New hardware support in Windows XP SP2, including Bluetooth wireless technologies and NX capabilities in newer CPUs.

WinHEC

/ - AMD :

Configuring Microsoft Visual Studio Projects to Support the AMD64 Architecture

(<http://download.microsoft.com/download/5/b/5/5b5bec17-ea71-465>

[3-9539-204a672f11cf/VSProj_AMD64.doc](#))

**Porting and Optimizing Applications on 64-bit
Windows for AMD64 Architecture** (http://download.microsoft.com/download/5/b/5/5b5bec17-ea71-4653-9539-204a672f11cf/AMD64_PortApp.doc)

**Porting and Optimizing Multimedia Codecs for
AMD64 Architecture on Windows** (http://download.microsoft.com/download/5/b/5/5b5bec17-ea71-4653-9539-204a672f11cf/MMCodec_amd64.doc)

Copyright 2003 CMP Media Inc. All rights reserved.