Forum: CentOS 5 - Software Support

Topic: Kernel-PAE and where is my 4Gb ?

Subject: Kernel-PAE and where is my 4Gb ?

Posted by: dtobal

Posted on: 2012/3/4 12:51:58

Hi All,

I need some help.... my IBM server has 4Gb Ram, and when I use top, or webmin, I just can see 2Gb.
I already installed kernel-PAE and add mem=4096M to my grub.conf .

I can see the memory installed in my hardware info that I am sending below. Did I forget anything?

Please! This memory is missing and resulting in bad performance!

My Centos is 5.5.

Thanks,
Denilson

[root@ipbx tmp]# more 030312.txt
ipbx.ssc.br
description: Tower Computer
product: System x3200 M3 -[7328AC1]- (XxXxXxX)
vendor: IBM
version: 05
serial: TR01AN4
width: 32 bits
capabilities: smbios-2.5 dmi-2.5 smp-1.4 smp
configuration: boot=normal chassis=tower cpus=1 family=System X sku=XxXxXxX
uuid=08B89A10-E5B3-11E0-8F0B-E41F1393703F
*-core
description: Motherboard
product: System Planar Card
vendor: IBM
physical id: 0
version: SIT
serial: 19L5JN
slot: Rear Bottom
*-cpu
description: CPU
product: Intel(R) Xeon(R) CPU X3430 @ 2.40GHz
vendor: Intel Corp.

```
physical id: 1
bus info: cpu@0
version: 6.14.5
serial: 0001-06E5-0000-0000-0000-0000
slot: Node 1 Socket 1
size: 1197MHz
capacity: 4GHz
width: 64 bits
clock: 505MHz
capabilities: x86-64 boot fpu fpu_exception wp vme de pse tsc msr pae
mce cx8 apic mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss h
t tm pbe nx rdtscp constant_tsc nonstop_tsc pni monitor ds_cpl vmx smx est tm2 s
sse3 cx16 xtpr sse4_1 sse4_2 popcnt lahf_lm _8_ cpufreq
configuration: cores=4 enabledcores=4 id=4 threads=4

*-memory
description: System Memory
physical id: 5
slot: System board or motherboard
size: 4GiB
*-bank:0
description: DIMM 1333 MHz (0.8 ns)
product: M393B5673FH0-CH9
vendor: Samsung
physical id: 0
serial: AA34F404
slot: DIMM01
size: 2GiB
width: 64 bits
clock: 1333MHz (0.8ns)
*-bank:1
description: DIMM 1333 MHz (0.8 ns)
product: 18JSF25672PDZ1G4G1
vendor: Micron
physical id: 1
serial: 892E89E0
slot: DIMM02
size: 2GiB
width: 64 bits

*-firmware
description: BIOS
vendor: IBM Corp.
physical id: 13
version: -[GYE152AUS-1.12]-
date: 06/29/2011
size: 1MiB
capacity: 4032KiB
capabilities: pci pnp upgrade shadowing cdboot bootselect edd int13flo
```

```
ppynec int13floppytoshiba int13floppy360 int13floppy1200 int13floppy720 int13flo
ppy2880 int5printscreen int9keyboard int14serial int17printer int10video acpi us
b ls120boot zipboot biosbootspecification netboot
*-pci
description: Host bridge
product: Clarksfield/Lynnfield DMI
vendor: Intel Corporation
physical id: 100
bus info: pci@0000:00:00.0
version: 11
width: 32 bits
clock: 33MHz

[root@ipbx tmp]# more dmidecode.txt
# dmidecode 2.10
SMBIOS 2.5 present.
60 structures occupying 2244 bytes.
Table at 0x7F6B9000.

Handle 0x0000, DMI type 38, 16 bytes
IPMI Device Information
Interface Type: KCS (Keyboard Control Style)
Specification Version: 2.0
I2C Slave Address: 0x10
NV Storage Device: Not Present
Base Address: 0x0000000000000C92 (I/O)

Handle 0x0001, DMI type 4, 40 bytes
Processor Information
Socket Designation: Node 1 Socket 1
Type: Central Processor
Family: Xeon
Manufacturer: Intel(R) Corporation

PAE (Physical address extension)

Version: Intel(R) Xeon(R) CPU X3430 @ 2.40GHz
Core Enabled: 4
Thread Count: 4
Characteristics:
64-bit capable

Handle 0x0002, DMI type 7, 19 bytes
Cache Information
Socket Designation: Internal Cache Level 3
Configuration: Enabled, Not Socketed, Level 3
Operational Mode: Write Back
Location: Internal
Installed Size: 8192 kB
```

Maximum Size: 8192 kB
Supported SRAM Types:
Asynchronous
Installed SRAM Type: Asynchronous
Speed: Unknown
Error Correction Type: Single-bit ECC
System Type: Unified
Associativity: 16-way Set-associative

Handle 0x0003, DMI type 7, 19 bytes
Cache Information
Socket Designation: Internal Cache Level 1
Configuration: Enabled, Not Socketed, Level 1
Operational Mode: Write Back
Location: Internal
Installed Size: 32 kB
Maximum Size: 32 kB
Supported SRAM Types:
Asynchronous
Installed SRAM Type: Asynchronous
Speed: Unknown
Error Correction Type: Single-bit ECC
System Type: Data
Associativity: 8-way Set-associative

Handle 0x0004, DMI type 7, 19 bytes
Cache Information
Socket Designation: Internal Cache Level 2
Configuration: Enabled, Not Socketed, Level 2
Operational Mode: Write Back
Location: Internal
Installed Size: 256 kB
Maximum Size: 256 kB
Supported SRAM Types:
Asynchronous
Installed SRAM Type: Asynchronous
Speed: Unknown
Error Correction Type: Single-bit ECC
System Type: Unified
Associativity: 8-way Set-associative

Handle 0x0005, DMI type 16, 15 bytes
Physical Memory Array
Location: System Board Or Motherboard
Use: System Memory
Error Correction Type: Single-bit ECC
Maximum Capacity: 32 GB
Error Information Handle: Not Provided
Number Of Devices: 6

Handle 0x0006, DMI type 6, 12 bytes
Memory Module Information
Socket Designation: DIMM01
Bank Connections: 0 0
Current Speed: Unknown
Type: DIMM
Installed Size: 2048 MB (Single-bank Connection)
Enabled Size: 2048 MB (Single-bank Connection)
Error Status: OK

Handle 0x0007, DMI type 17, 27 bytes
Memory Device
Array Handle: 0x0005
Error Information Handle: Not Provided
Total Width: 72 bits
Data Width: 64 bits
Size: 2048 MB
Form Factor: DIMM
Set: None
Locator: DIMM01
Bank Locator: BANK01
Type: Other
Type Detail: Unknown
Speed: 1333 MHz
Manufacturer: Samsung
Serial Number: AA34F404
Asset Tag: Unknown
Part Number: M393B5673FH0-CH9

Handle 0x0008, DMI type 6, 12 bytes
Memory Module Information
Socket Designation: DIMM02
Bank Connections: 0 0
Current Speed: Unknown
Type: DIMM
Installed Size: 2048 MB (Single-bank Connection)
Enabled Size: 2048 MB (Single-bank Connection)
Error Status: OK

Handle 0x0009, DMI type 17, 27 bytes
Memory Device
Array Handle: 0x0005
Error Information Handle: Not Provided
Total Width: 72 bits
Data Width: 64 bits
Size: 2048 MB
Form Factor: DIMM
Set: None
Locator: DIMM02

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Bank Locator: BANK02
Type: Other
Type Detail: Unknown
Speed: 1333 MHz
Manufacturer: Micron
Serial Number: 892E89E0
Asset Tag: Unknown
Part Number: 18JSF25672PDZ1G4G1

Handle 0x000A, DMI type 6, 12 bytes
Memory Module Information
Socket Designation: DIMM03
Bank Connections: 0 0
Current Speed: Unknown
Type: None

[root@ipbx log]# tail -n500 dmesg |more

3300MB HIGHMEM available.
896MB LOWMEM available.
found SMP MP-table at 0009d140
Memory for crash kernel (0x0 to 0x0) notwithin permissible range
disabling kdump
NX (Execute Disable) protection: active
On node 0 totalpages: 1074176
DMA zone: 4096 pages, LIFO batch:0
Normal zone: 225280 pages, LIFO batch:31
HighMem zone: 844800 pages, LIFO batch:31
DMI 2.5 present.


user-defined physical RAM map:
user: 0000000000010000 - 000000000009d000 (usable)
user: 000000000009d000 - 00000000000a0000 (reserved)
user: 00000000000e0000 - 0000000000100000 (reserved)
user: 0000000000100000 - 000000007d310000 (usable)
user: 000000007d310000 - 000000007d3d4000 (reserved)
user: 000000007d3d4000 - 000000007db72000 (usable)
user: 000000007db72000 - 000000007dc22000 (reserved)
user: 000000007dc22000 - 000000007f68f000 (usable)
user: 000000007f68f000 - 000000007f6df000 (reserved)
user: 000000007f6df000 - 000000007f7df000 (ACPI NVS)
user: 000000007f7df000 - 000000007f7ff000 (ACPI data)
user: 000000007f7ff000 - 000000007f800000 (usable)
user: 000000007f800000 - 0000000080000000 (reserved)
user: 00000000ff800000 - 0000000100000000 (reserved)
user: 0000000100000000 - 0000000106400000 (usable)
3300MB HIGHMEM available.
896MB LOWMEM available.
```

```
found SMP MP-table at 0009d140
Memory for crash kernel (0x0 to 0x0) notwithin permissible range
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DMI 2.5 present.
DMI: IBM System x3200 M3 -[7328AC1]-/System Planar Card, BIOS -[GYE152AUS-1.12]-
06/29/2011
Using APIC driver default

[root@ipbx log]# uname -a
Linux 2.6.18-274.18.1.el5PAE #1 SMP Thu Feb 9 13:25:50 EST 2012 i686 i686 i386 GNU/Linux


title CentOS (2.6.18-274.18.1.el5PAE)
root (hd0,0)
kernel /vmlinuz-2.6.18-274.18.1.el5PAE ro root=/dev/VolGroup00/LogVol00 mem=4196M rhgb quiet
initrd /initrd-2.6.18-274.18.1.el5PAE.img
```