

compaq/hp ProLiant 1850r detecting incorrect CPU speed

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Hi Folks,

I've got a dual-cpu ProLiant 1850R with Pentium II 350MHz CPUs. When I boot RedHat v8.0, v9.0 or Knoppix v3.3 the kernel always detects 233MHz CPUs. I suspect the cause might be that the FSB speed is 100MHz but is being detected as 66MHz.

Has anyone seen anything similar? Anyone have any suggestions? Can I just ignore it?

cheers,

Rob Urban

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----- Output from dmesg for RH8.0 -----
Linux version 2.4.18-14smp (bhcompile@stripples.devel.redhat.com) (gcc
version 3
.2 20020903 (Red Hat Linux 8.0 3.2-7)) #1 SMP Wed Sep 4 12:34:47 EDT 2002
BIOS-provided physical RAM map:
 BIOS-e820: 0000000000000000 - 0000000000009f800 (usable)
 BIOS-e820: 0000000000009f800 - 000000000000a0000 (reserved)
 BIOS-e820: 000000000000f0000 - 00000000000100000 (reserved)
 BIOS-e820: 00000000000100000 - 0000000000017ffc000 (usable)
 BIOS-e820: 0000000000017ffc000 - 0000000000018000000 (ACPI data)
 BIOS-e820: 00000000fec00000 - 00000000fec10000 (reserved)
 BIOS-e820: 00000000fee00000 - 00000000fee10000 (reserved)
 BIOS-e820: 00000000fff80000 - 0000000100000000 (reserved)
0MB HIGHMEM available.
383MB LOWMEM available.
found SMP MP-table at 000f4ff0
hm, page 000f4000 reserved twice.
hm, page 000f5000 reserved twice.
hm, page 000f2000 reserved twice.
hm, page 000f3000 reserved twice.
On node 0 totalpages: 98300
zone(0): 4096 pages.
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zone(1): 94204 pages.
zone(2): 0 pages.
Intel MultiProcessor Specification v1.4
  Virtual Wire compatibility mode.
OEM ID: COMPAQ Product ID: PROLIANT APIC at: 0xFEE00000
Processor #1 Pentium(tm) Pro APIC version 16
Processor #0 Pentium(tm) Pro APIC version 16
I/O APIC #8 Version 17 at 0xFEC00000.
Processors: 2
Kernel command line: ro root=LABEL=/
Initializing CPU#0
Detected 233.040 MHz processor.
Speakup v-1.00 CVS: Tue Jun 11 14:22:53 EDT 2002 : initialized
Console: colour VGA+ 80x25
Calibrating delay loop... 461.62 BogomIPS
Memory: 381528k/393200k available (1451k kernel code, 9108k reserved,
1067k data
, 240k init, 0k highmem)
Dentry cache hash table entries: 65536 (order: 7, 524288 bytes)
Inode cache hash table entries: 32768 (order: 6, 262144 bytes)
Mount cache hash table entries: 8192 (order: 4, 65536 bytes)
ramfs: mounted with options: <defaults>
ramfs: max_pages=47963 max_file_pages=0 max_inodes=0 max_dentries=47963
Buffer cache hash table entries: 32768 (order: 5, 131072 bytes)
Page-cache hash table entries: 131072 (order: 7, 524288 bytes)
CPU: Before vendor init, caps: 0183fbff 00000000 00000000, vendor = 0
CPU: L1 I cache: 16K, L1 D cache: 16K
CPU: L2 cache: 512K
CPU: After vendor init, caps: 0183fbff 00000000 00000000 00000000
Intel machine check architecture supported.
Intel machine check reporting enabled on CPU#0.
CPU: After generic, caps: 0183fbff 00000000 00000000 00000000
CPU: Common caps: 0183fbff 00000000 00000000 00000000
Enabling fast FPU save and restore... done.
Checking 'hlt' instruction... OK.
POSIX conformance testing by UNIFIX
mtrr: v1.40 (20010327) Richard Gooch (rgooch@atnf.csiro.au)
mtrr: detected mtrr type: Intel
CPU: Before vendor init, caps: 0183fbff 00000000 00000000, vendor = 0
CPU: L1 I cache: 16K, L1 D cache: 16K
CPU: L2 cache: 512K
CPU: After vendor init, caps: 0183fbff 00000000 00000000 00000000
Intel machine check reporting enabled on CPU#0.
CPU: After generic, caps: 0183fbff 00000000 00000000 00000000
CPU: Common caps: 0183fbff 00000000 00000000 00000000
CPU0: Intel Pentium II (Deschutes) stepping 01
per-CPU timeslice cutoff: 1459.39 usecs.
task migration cache decay timeout: 1 msecs.
enabled ExtINT on CPU#0
ESR value before enabling vector: 00000000
ESR value after enabling vector: 00000000
```

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Booting processor 1/0 eip 2000
Initializing CPU#1
masked ExtINT on CPU#1
ESR value before enabling vector: 00000000
ESR value after enabling vector: 00000000
Calibrating delay loop... 465.17 BogoMIPS
CPU: Before vendor init, caps: 0183fbff 00000000 00000000, vendor = 0
CPU: L1 I cache: 16K, L1 D cache: 16K
CPU: L2 cache: 512K
CPU: After vendor init, caps: 0183fbff 00000000 00000000 00000000
Intel machine check reporting enabled on CPU#1.
CPU: After generic, caps: 0183fbff 00000000 00000000 00000000
CPU: Common caps: 0183fbff 00000000 00000000 00000000
CPU1: Intel Pentium II (Deschutes) stepping 01
Total of 2 processors activated (927.79 BogoMIPS).
ENABLING IO-APIC IRQs
Setting 8 in the phys_id_present_map
...changing IO-APIC physical APIC ID to 8 ... ok.
init IO-APIC IRQs
  IO-APIC (apicid-pin) 8-0, 8-16, 8-17, 8-18, 8-19, 8-20, 8-21, 8-22,
  8-23, 8-24,
  8-25, 8-26, 8-27, 8-28, 8-29, 8-30, 8-31, 8-32, 8-33, 8-34 not connected.
..TIMER: vector=0x31 pin1=2 pin2=0
number of MP IRQ sources: 16.
number of IO-APIC #8 registers: 35.
testing the IO APIC.....
```

IO APIC #8.....

```
.... register #00: 08000000
..... : physical APIC id: 08
.... register #01: 00220011
..... : max redirection entries: 0022
..... : PRQ implemented: 0
..... : IO APIC version: 0011
.... register #02: 00000000
..... : arbitration: 00
.... IRQ redirection table:
NR Log Phy Mask Trig IRR Pol Stat Dest Deli Vect:
00 000 00 1 0 0 0 0 0 0 00
01 003 03 0 0 0 0 0 1 1 39
02 002 02 0 0 0 0 0 1 1 31
03 003 03 0 0 0 0 0 1 1 41
04 003 03 0 0 0 0 0 1 1 49
05 003 03 1 1 0 0 0 1 1 51
06 003 03 0 0 0 0 0 1 1 59
07 003 03 0 0 0 0 0 1 1 61
08 003 03 0 0 0 0 0 1 1 69
09 003 03 1 1 0 0 0 1 1 71
0a 003 03 1 1 0 0 0 1 1 79
0b 003 03 1 1 0 0 0 1 1 81
0c 003 03 0 0 0 0 0 1 1 89
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```
0d 003 03 0 0 0 1 0 1 1 91
0e 003 03 0 0 0 0 0 1 1 99
0f 003 03 1 1 0 0 0 1 1 A1
10 000 00 1 0 0 0 0 0 0 00
11 000 00 1 0 0 0 0 0 0 00
12 000 00 1 0 0 0 0 0 0 00
13 000 00 1 0 0 0 0 0 0 00
14 000 00 1 0 0 0 0 0 0 00
15 000 00 1 0 0 0 0 0 0 00
16 000 00 1 0 0 0 0 0 0 00
17 000 00 1 0 0 0 0 0 0 00
18 000 00 1 0 0 0 0 0 0 00
19 000 00 1 0 0 0 0 0 0 00
1a 000 00 1 0 0 0 0 0 0 00
1b 000 00 1 0 0 0 0 0 0 00
1c 000 00 1 0 0 0 0 0 0 00
1d 000 00 1 0 0 0 0 0 0 00
1e 000 00 1 0 0 0 0 0 0 00
1f 000 00 1 0 0 0 0 0 0 00
20 000 00 1 0 0 0 0 0 0 00
21 000 00 1 0 0 0 0 0 0 00
22 000 00 1 0 0 0 0 0 0 00
```

IRQ to pin mappings:

```
IRQ0 -> 0:2
IRQ1 -> 0:1
IRQ3 -> 0:3
IRQ4 -> 0:4
IRQ5 -> 0:5
IRQ6 -> 0:6
IRQ7 -> 0:7
IRQ8 -> 0:8
IRQ9 -> 0:9
IRQ10 -> 0:10
IRQ11 -> 0:11
IRQ12 -> 0:12
IRQ13 -> 0:13
IRQ14 -> 0:14
IRQ15 -> 0:15
```

..... done.

Using local APIC timer interrupts.

calibrating APIC timer ...

..... CPU clock speed is 233.0007 MHz.

..... host bus clock speed is 66.1117 MHz.

cpu: 0, clocks: 130015, slice: 43338

CPU0<T0:130000,T1:86656,D:6,S:43338,C:130015>

cpu: 1, clocks: 130015, slice: 43338

CPU1<T0:130000,T1:43312,D:12,S:43338,C:130015>

checking TSC synchronization across CPUs: passed.

migration_task 0 on cpu=0

migration_task 1 on cpu=1

mtrr: your CPUs had inconsistent fixed MTRR settings

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mtrr: probably your BIOS does not setup all CPUs
PCI: PCI BIOS revision 2.10 entry at 0xf0084, last bus=1
PCI: Using configuration type 1
PCI: Probing PCI hardware
PCI BIOS passed nonexistent PCI bus 1!
PCI: Device 00:00 not found by BIOS
PCI: Device 00:a0 not found by BIOS
PCI: Device 00:a1 not found by BIOS
PCI: Device 00:a2 not found by BIOS
PCI: Device 00:a3 not found by BIOS
Limiting direct PCI/PCI transfers.
isapnp: Scanning for PnP cards...
isapnp: No Plug & Play device found
speakup: initialized device: /dev/synth, node (MAJOR 10, MINOR 25)
Linux NET4.0 for Linux 2.4
Based upon Swansea University Computer Society NET3.039
Initializing RT netlink socket
apm: BIOS not found.
Starting kswapd
VFS: Diskquotas version dquot_6.5.0 initialized
pty: 2048 Unix98 ptys configured
Serial driver version 5.05c (2001-07-08) with MANY_PORTS MULTIPORT
SHARE_IRQ SER
IAL_PCI ISAPNP enabled
ttyS0 at 0x03f8 (irq = 4) is a 16550A
ttyS1 at 0x02f8 (irq = 3) is a 16550A
Real Time Clock Driver v1.10e
oprofile: APIC was already enabled
oprofile 0.2 loaded, major 254
block: 736 slots per queue, batch=184
Uniform Multi-Platform E-IDE driver Revision: 6.31
ide: Assuming 33MHz system bus speed for PIO modes; override with idebus=xx
PIIX4: IDE controller on PCI bus 00 dev a1
PIIX4: not 100% native mode: will probe irqs later
 ide0: BM-DMA at 0xf100-0xf107, BIOS settings: hda:pio, hdb:pio
hda: CD-224E, ATAPI CD/DVD-ROM drive
ide0 at 0x1f0-0x1f7,0x3f6 on irq 14
ide-floppy driver 0.99.newide
Floppy drive(s): fd0 is 1.44M
FDC 0 is a National Semiconductor PC87306
NET4: Frame Diverter 0.46
RAMDISK driver initialized: 16 RAM disks of 4096K size 1024 blocksize
ide-floppy driver 0.99.newide
md: md driver 0.90.0 MAX_MD_DEVS=256, MD_SB_DISKS=27
md: Autodetecting RAID arrays.
md: autorun ...
md: ... autorun DONE.
pci_hotplug: PCI Hot Plug PCI Core version: 0.4
NET4: Linux TCP/IP 1.0 for NET4.0
IP Protocols: ICMP, UDP, TCP, IGMP
IP: routing cache hash table of 4096 buckets, 32Kbytes

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TCP: Hash tables configured (established 32768 bind 32768)
Linux IP multicast router 0.06 plus PIM-SM
NET4: Unix domain sockets 1.0/SMP for Linux NET4.0.
RAMDISK: Compressed image found at block 0
Freeing initrd memory: 244k freed
VFS: Mounted root (ext2 filesystem).
SCSI subsystem driver Revision: 1.00
kmod: failed to exec /sbin/modprobe -s -k scsi_hostadapter, errno = 2
Compaq SMART2 Driver (v 2.4.22)
cpqarray: Device 0xae10 has been found at bus 1 dev 0 func 0
cpqarray: Finding drives on ida0 (SMART-2/P)
cpqarray ida/c0d0: blksz=512 nr_blks=35536800
blk: queue c042d180, I/O limit 4095Mb (mask 0xffffffff)
Partition check:
 ida/c0d0: p1 p2 p3 p4 < p5 >
sym53c8xx: at PCI bus 0, device 6, function 0
sym53c8xx: 53c875 detected
sym53c8xx: at PCI bus 0, device 6, function 1
sym53c8xx: 53c875 detected
sym53c875-0: rev 0x14 on pci bus 0 device 6 function 0 irq 10
sym53c875-0: ID 7, Fast-20, Parity Checking
sym53c875-1: rev 0x14 on pci bus 0 device 6 function 1 irq 11
sym53c875-1: ID 7, Fast-20, Parity Checking
scsi0 : sym53c8xx-1.7.3c-20010512
scsi1 : sym53c8xx-1.7.3c-20010512
blk: queue c1f68c18, I/O limit 4095Mb (mask 0xffffffff)
blk: queue c1f68c18, I/O limit 4095Mb (mask 0xffffffff)
Journalled Block Device driver loaded
kjournald starting. Commit interval 5 seconds
EXT3-fs: mounted filesystem with ordered data mode.
Freeing unused kernel memory: 240k freed
EXT3 FS 2.4-0.9.18, 14 May 2002 on ida0(72,1), internal journal
Adding Swap: 1048552k swap-space (priority -1)
kjournald starting. Commit interval 5 seconds
EXT3 FS 2.4-0.9.18, 14 May 2002 on ida0(72,5), internal journal
EXT3-fs: mounted filesystem with ordered data mode.
parport0: PC-style at 0x3bc [PCSPP,TRISTATE]
ohci1394: pci_module_init failed
ip_tables: (C) 2000-2002 Netfilter core team
Linux Tulip driver version 0.9.15-pre11 (May 11, 2002)
tulip0: EEPROM default media type Autosense.
tulip0: Index #0 - Media MII (#11) described by a 21140 MII PHY (1) block.
tulip0: MII transceiver #5 config 1000 status 782f advertising 01e1.
divert: allocating divert_blk for eth0
eth0: Digital DS21140 Tulip rev 34 at 0xd8914c80, 00:00:F8:1A:FE:E0, IRQ 5.
eth0: Setting full-duplex based on MII#5 link partner capability of 05e1.
loop: loaded (max 8 devices)