



SPEC® CINT2006 Result

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Huawei

SPECint®_rate2006 = 1600

Tecal RH5885 V2 (8-sockets, Intel Xeon E7-8830)

SPECint_rate_base2006 = 1530

CPU2006 license: 3175

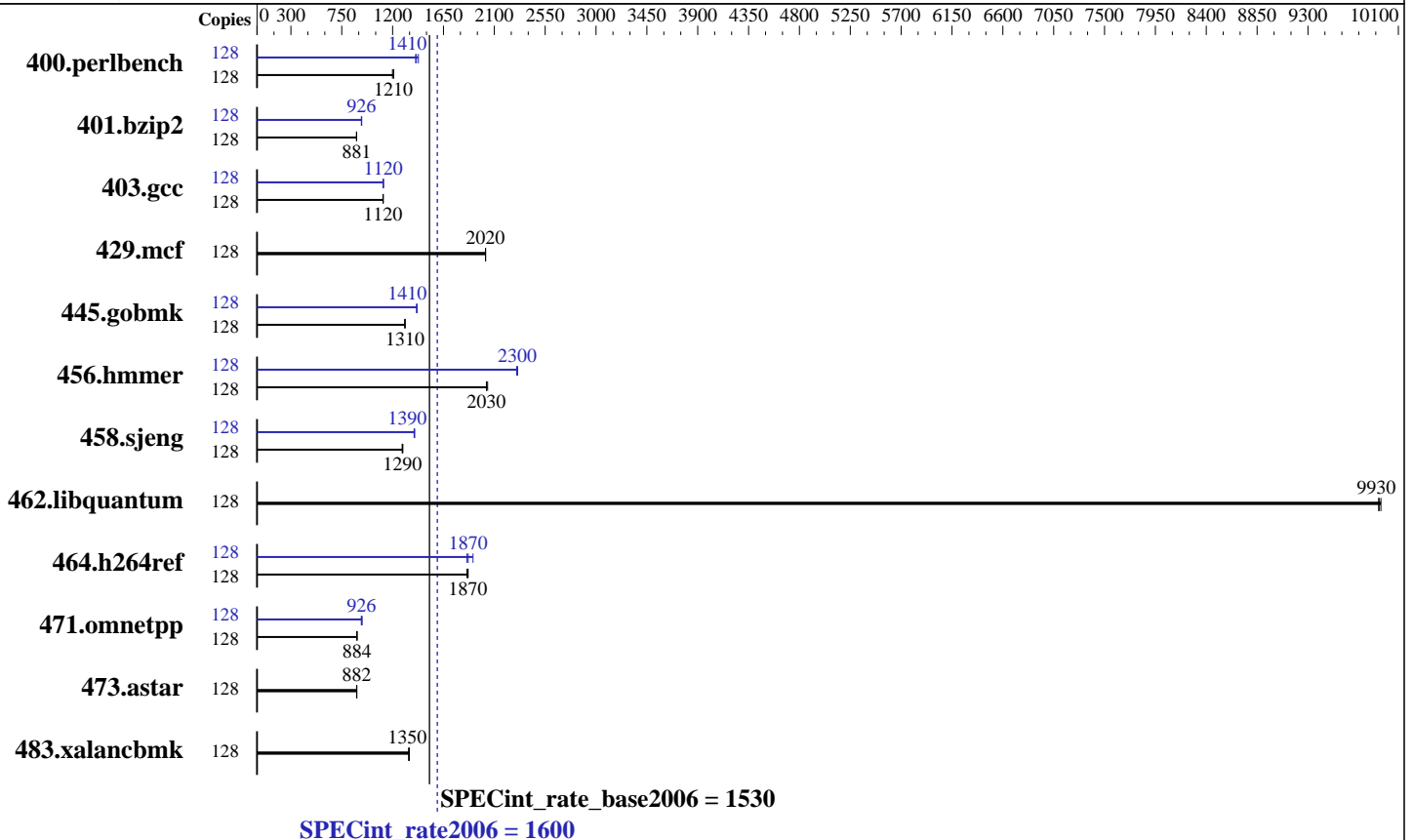
Test date: Jan-2013

Test sponsor: Huawei

Hardware Availability: Dec-2012

Tested by: Huawei

Software Availability: Oct-2012



Hardware

CPU Name: Intel Xeon E7-8830
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 64 cores, 8 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 8 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 2 TB (128 x 16 GB 4Rx4 PC3-10600R-9, ECC, running at 1066 MHz)
 Disk Subsystem: 2 x 500 GB (SATA, 7200RPM, RAID1)
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 13.0.0.079 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	1034	1210	1043	1200	<u>1037</u>	<u>1210</u>	128	876	1430	<u>887</u>	<u>1410</u>	891	1400
401.bzip2	128	<u>1402</u>	<u>881</u>	1401	882	1403	880	128	1334	926	<u>1334</u>	<u>926</u>	1338	923
403.gcc	128	924	1110	922	1120	<u>924</u>	<u>1120</u>	128	<u>923</u>	<u>1120</u>	924	1120	920	1120
429.mcf	128	577	2020	<u>577</u>	<u>2020</u>	577	2020	128	577	2020	<u>577</u>	<u>2020</u>	577	2020
445.gobmk	128	1027	1310	1025	1310	<u>1025</u>	<u>1310</u>	128	947	1420	<u>949</u>	<u>1410</u>	951	1410
456.hammer	128	585	2040	588	2030	<u>588</u>	<u>2030</u>	128	518	2310	<u>519</u>	<u>2300</u>	520	2300
458.sjeng	128	1205	1290	<u>1204</u>	<u>1290</u>	1200	1290	128	1114	1390	1110	1400	<u>1113</u>	<u>1390</u>
462.libquantum	128	267	9950	267	9930	<u>267</u>	<u>9930</u>	128	267	9950	267	9930	<u>267</u>	<u>9930</u>
464.h264ref	128	<u>1517</u>	<u>1870</u>	1517	1870	1525	1860	128	1525	1860	1482	1910	<u>1516</u>	<u>1870</u>
471.omnetpp	128	905	884	904	885	<u>905</u>	<u>884</u>	128	860	930	<u>864</u>	<u>926</u>	867	923
473.astar	128	1017	884	<u>1019</u>	<u>882</u>	1020	881	128	1017	884	<u>1019</u>	<u>882</u>	1020	881
483.xalancbmk	128	<u>656</u>	<u>1350</u>	658	1340	655	1350	128	<u>656</u>	<u>1350</u>	658	1340	655	1350

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS configuration:

Power Technology set to Custom, Performance/Watt set to Traditional
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ 5569a0425e2ad530534e4c79a46e4d28
running on 5885-8P-15 Fri Jan 25 21:35:47 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : Intel(R) Xeon(R) CPU E7- 8830 @ 2.13GHz
 8 "physical id"s (chips)
128 "processors"
```

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

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Platform Notes (Continued)

```

cpu cores : 8
siblings : 16
physical 0: cores 0 1 2 8 17 18 24 25
physical 1: cores 0 1 2 8 17 18 24 25
physical 2: cores 0 1 2 8 17 18 24 25
physical 3: cores 0 1 2 8 17 18 24 25
physical 4: cores 0 1 2 8 17 18 24 25
physical 5: cores 0 1 2 8 17 18 24 25
physical 6: cores 0 1 2 8 17 18 24 25
physical 7: cores 0 1 2 8 17 18 24 25
cache size : 24576 KB

```

From /proc/meminfo

```

MemTotal:      2117593280 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

/usr/bin/lsb_release -d

Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*

```

redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

uname -a:

```

Linux 5885-8P-15 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 25 21:33

SPEC is set to: /home/cpu2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_58858p15-lv_home
                ext4      434G  14G  398G   4% /home

```

Additional information from dmidecode:

BIOS American Megatrends Inc. RGPUC-BIOS-V052 01/16/2013

Memory:

```

128x 16 GB
128x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank

```

(End of data from sysinfo program)

Descriptions about memory generated by sysinfo are not correct, only 128 DIMMs are installed not 256, see descriptions below.

Memory:

```

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```



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General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

Binaries compiled on a system with 4x Xeon E7-8870 CPU + 1024GB memory using RHEL6.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/home/cpu2006/smartheap -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca



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Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/home/cpu2006/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.xml>

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For other inquiries, please contact webmaster@spec.org.

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