



SPEC® CINT2006 Result

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Huawei

SPECint®_rate2006 = 1710

Tecal RH5885 V2 (8-sockets, Intel Xeon E7-8850)

SPECint_rate_base2006 = 1640

CPU2006 license: 3175

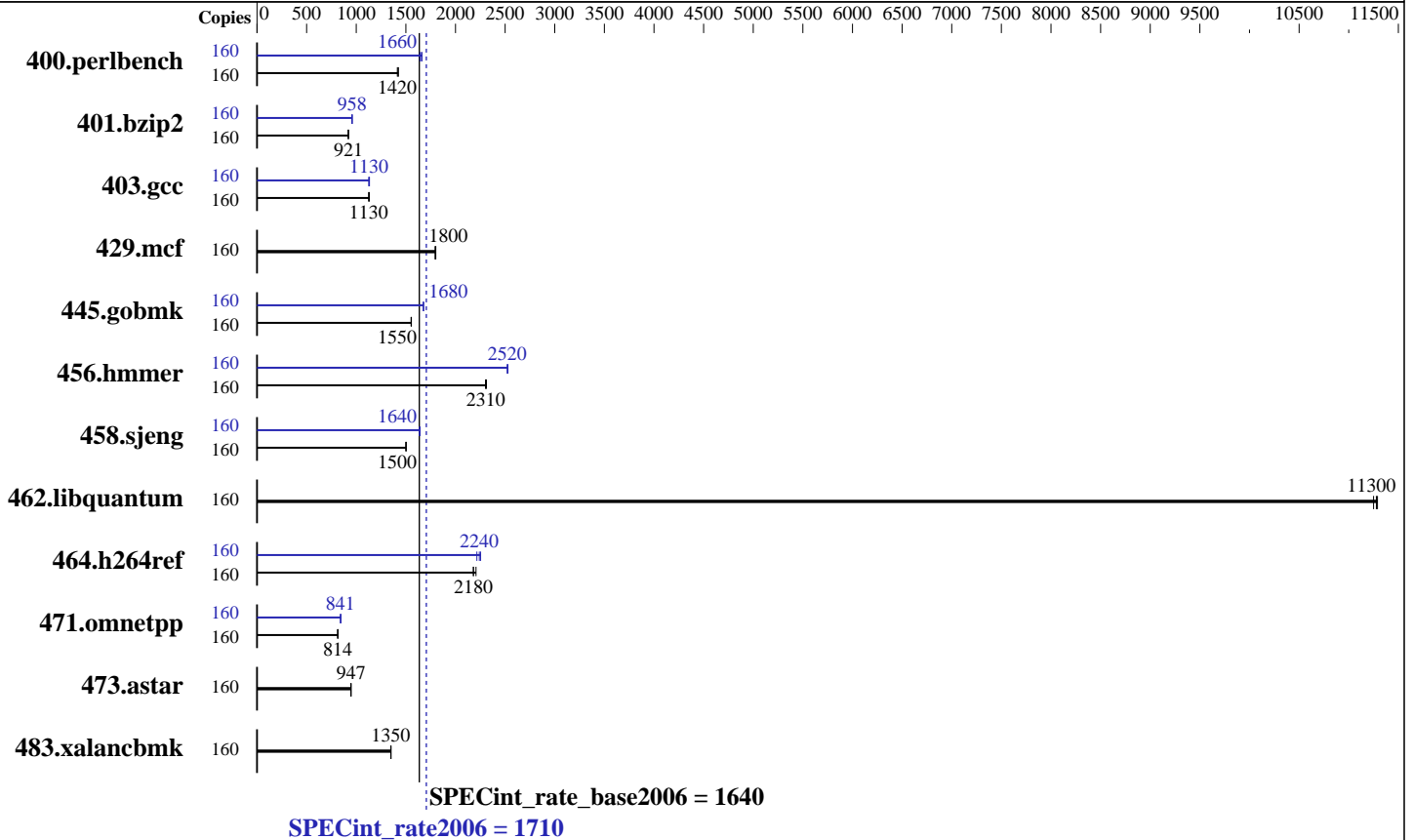
Test date: Jan-2013

Test sponsor: Huawei

Hardware Availability: Oct-2012

Tested by: Huawei

Software Availability: Oct-2012



Hardware

CPU Name: Intel Xeon E7-8850
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 80 cores, 8 chips, 10 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: 1 x 600 GB SAS, 10K RPM, RAID 0
 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	160	<u>1099</u>	<u>1420</u>	1099	1420	1105	1410	160	<u>944</u>	<u>1660</u>	940	1660	952	1640
401.bzip2	160	1680	919	1676	921	<u>1677</u>	<u>921</u>	160	1614	957	1609	959	<u>1612</u>	<u>958</u>
403.gcc	160	1144	1130	1139	1130	<u>1143</u>	<u>1130</u>	160	<u>1141</u>	<u>1130</u>	1137	1130	1144	1130
429.mcf	160	<u>812</u>	<u>1800</u>	810	1800	813	1790	160	<u>812</u>	<u>1800</u>	810	1800	813	1790
445.gobmk	160	1081	1550	1079	1560	<u>1080</u>	<u>1550</u>	160	1001	1680	1001	1680	<u>1001</u>	<u>1680</u>
456.hammer	160	646	2310	648	2300	<u>647</u>	<u>2310</u>	160	<u>592</u>	<u>2520</u>	592	2520	590	2530
458.sjeng	160	1288	1500	1291	1500	<u>1288</u>	<u>1500</u>	160	1183	1640	<u>1180</u>	<u>1640</u>	1179	1640
462.libquantum	160	<u>294</u>	<u>11300</u>	295	11300	294	11300	160	<u>294</u>	<u>11300</u>	295	11300	294	11300
464.h264ref	160	<u>1623</u>	<u>2180</u>	1605	2210	1625	2180	160	<u>1581</u>	<u>2240</u>	1572	2250	1598	2220
471.omnetpp	160	<u>1229</u>	<u>814</u>	1230	813	1227	815	160	1189	841	<u>1188</u>	<u>841</u>	1183	846
473.astar	160	<u>1186</u>	<u>947</u>	1185	948	1189	945	160	<u>1186</u>	<u>947</u>	1185	948	1189	945
483.xalancbmk	160	<u>818</u>	<u>1350</u>	819	1350	818	1350	160	<u>818</u>	<u>1350</u>	819	1350	818	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 8P-8850 Sun Jan 6 16:49:52 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- 8850 @ 2.00GHz
8 "physical id"s (chips)
160 "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 : 10
siblings  : 20
physical 0: cores 0 1 2 3 4 5 6 7 8 9
physical 1: cores 0 1 2 3 4 5 6 7 8 9
physical 2: cores 0 1 2 3 4 5 6 7 8 9
physical 3: cores 0 1 2 3 4 5 6 7 8 9
physical 4: cores 0 1 2 3 4 5 6 7 8 9
physical 5: cores 0 1 2 3 4 5 6 7 8 9
physical 6: cores 0 1 2 3 4 5 6 7 8 9
physical 7: cores 0 1 2 3 4 5 6 7 8 9
cache size : 24576 KB

```

From /proc/meminfo

```

MemTotal:      2117852448 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 8P-8850 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 6 16:32

SPEC is set to: /home/cpu2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_8p8850-lv_home
ext4           524G    15G  484G   3% /home

```

Additional information from dmidecode:

BIOS American Megatrends Inc. RGPUC-BIOS-V051 01/05/2013

Memory:

```

128x 16 GB
128x Samsung M393B2K70CM0-CH9 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:

```

128x Samsung M393B2K70CM0-CH9 16 GB 1067 MHz 4 rank

```



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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-revF.20130129.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-revF.20130129.xml>

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

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