



SPEC® CINT2006 Result

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Huawei Tecal RH5885 V2

SPECint®_rate2006 = 843

SPECint_rate_base2006 = 805

CPU2006 license: 3175

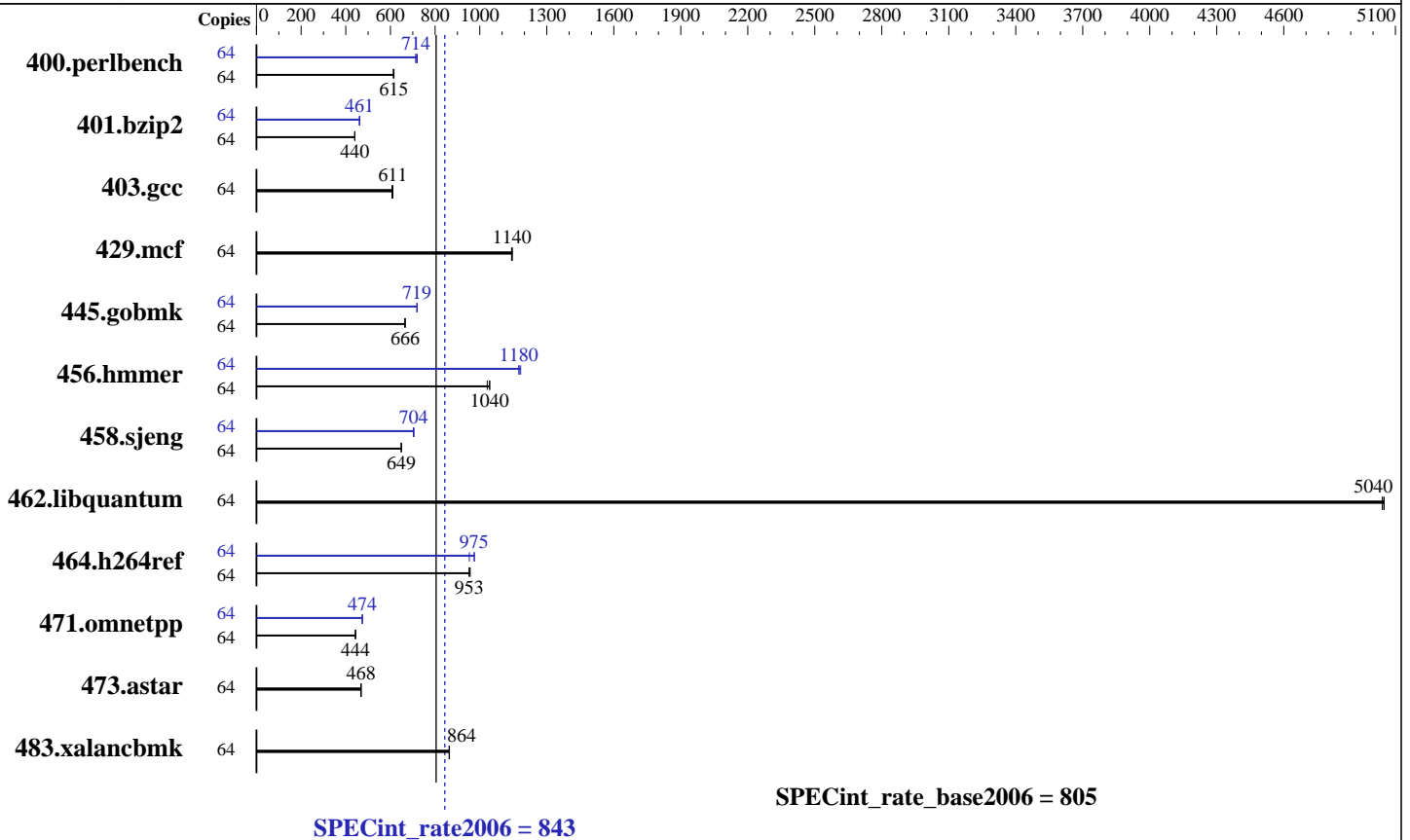
Test sponsor: Huawei

Tested by: Huawei

Test date: Oct-2012

Hardware Availability: Oct-2012

Software Availability: Oct-2012



Hardware

CPU Name: Intel Xeon E7-4830
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 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: 512 GB (64 x 8 GB 2Rx4 PC3-10600R, ECC, running at 1066 MHz)
 Disk Subsystem: 1 x 300 GB SAS 10K RPM
 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	64	1021	612	1015	616	<u>1017</u>	<u>615</u>	64	868	720	<u>876</u>	<u>714</u>	877	713
401.bzip2	64	1401	441	1403	440	<u>1403</u>	<u>440</u>	64	<u>1338</u>	<u>461</u>	1334	463	1341	461
403.gcc	64	<u>844</u>	<u>611</u>	844	611	849	607	64	<u>844</u>	<u>611</u>	844	611	849	607
429.mcf	64	511	1140	<u>510</u>	<u>1140</u>	510	1150	64	511	1140	<u>510</u>	<u>1140</u>	510	1150
445.gobmk	64	<u>1009</u>	<u>666</u>	1008	666	1011	664	64	933	719	<u>934</u>	<u>719</u>	934	719
456.hammer	64	<u>572</u>	<u>1040</u>	578	1030	572	1040	64	<u>508</u>	<u>1180</u>	508	1180	505	1180
458.sjeng	64	1194	648	1194	649	<u>1194</u>	<u>649</u>	64	1102	703	<u>1100</u>	<u>704</u>	1098	705
462.libquantum	64	263	5050	<u>263</u>	<u>5040</u>	263	5040	64	263	5050	<u>263</u>	<u>5040</u>	263	5040
464.h264ref	64	1480	957	1487	952	<u>1486</u>	<u>953</u>	64	<u>1453</u>	<u>975</u>	1486	953	1452	976
471.omnetpp	64	903	443	901	444	<u>902</u>	<u>444</u>	64	844	474	843	474	<u>843</u>	<u>474</u>
473.astar	64	958	469	962	467	<u>959</u>	<u>468</u>	64	958	469	962	467	<u>959</u>	<u>468</u>
483.xalancbmk	64	512	863	<u>511</u>	<u>864</u>	511	864	64	512	863	<u>511</u>	<u>864</u>	511	864

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:
Set Power Efficiency Mode to Performance
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ 5569a0425e2ad530534e4c79a46e4d28
running on Huawei-RH5885 Thu Oct 11 18:47:35 2012

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- 4830 @ 2.13GHz
4 "physical id"s (chips)
64 "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
cache size : 24576 KB
```

```
From /proc/meminfo
MemTotal:      529110344 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 Huawei-RH5885 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 Oct 11 18:38
```

```
SPEC is set to: /home/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_huaweirh5885-lv_home
                ext4       80G   6.7G   69G   9% /home
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. RGPUC-BIOS-V019 09/18/2012
Memory:
64x 8 GB
32x Samsung M393B1K70CH0-CH9 8 GB 1067 MHz 2 rank
32x Samsung M393B1K70DH0-YH9 8 GB 1067 MHz 2 rank
```

```
(End of data from sysinfo program)
Descriptions about memory generated by sysinfo are not correct,
only 64 DIMMs are installed not 128, see descriptions below.
Memory:
32x Samsung M393B1K70CH0-CH9 8 GB 1067 MHz 2 rank
32x Samsung M393B1K70DH0-YH9 8 GB 1067 MHz 2 rank
```

General Notes

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

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General Notes (Continued)

Binaries compiled on a system with 4xE7-4807 CPU + 512 GB 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

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

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Peak Compiler Invocation (Continued)

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: basepeak = yes

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

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

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

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

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