



# SPEC® CINT2006 Result

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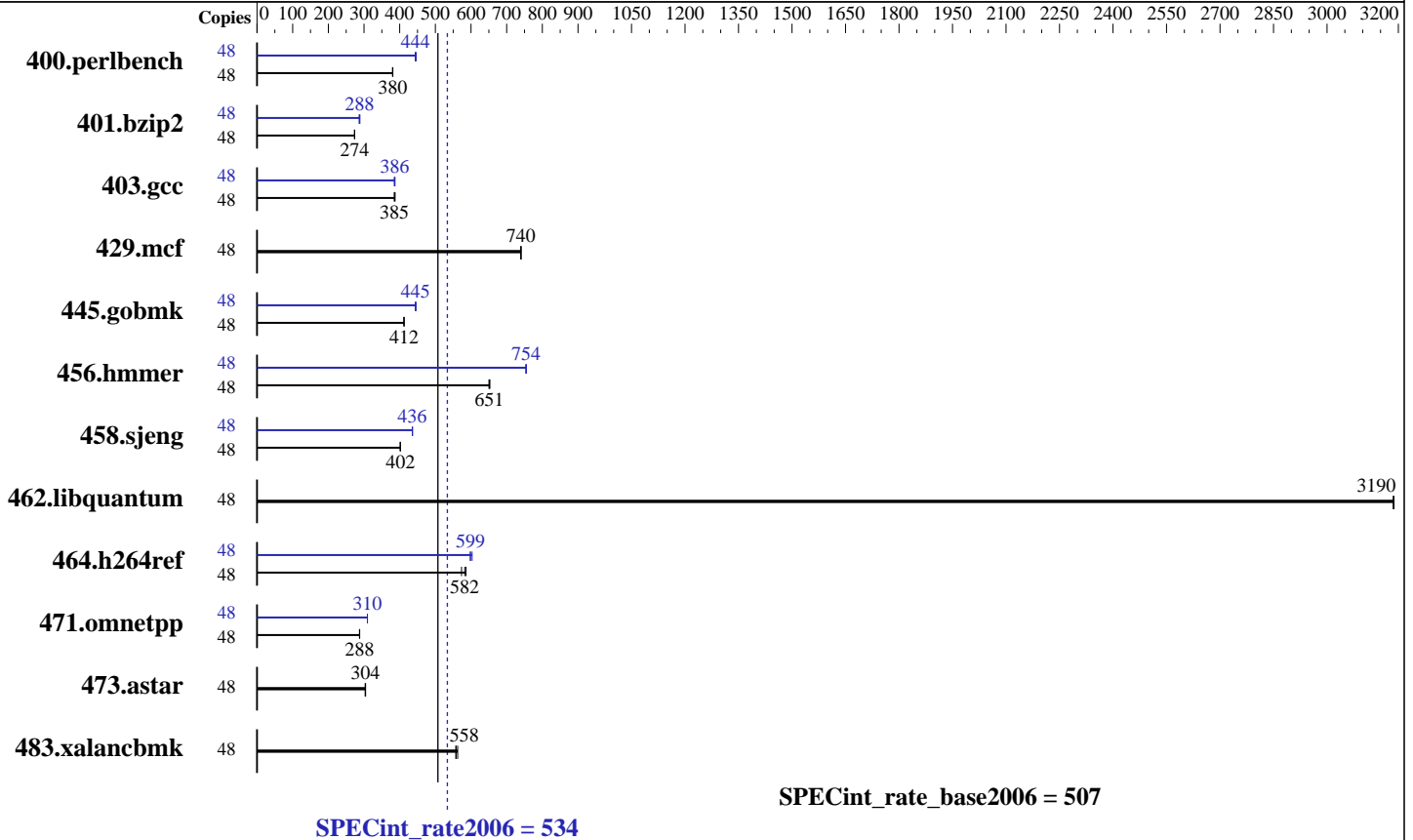
## Huawei Tecal RH5885 V2

SPECint®\_rate2006 = 534

SPECint\_rate\_base2006 = 507

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 E7-4807  
 CPU Characteristics: 1867  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 4 chips, 6 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: 18 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 1 TB (64 x 16 GB 4Rx4 PC3-10600R-9, ECC, running at 800 MHz)  
 Disk Subsystem: 1 x 300G 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	48	1231	381	1234	380	<u>1233</u>	<u>380</u>	48	<u>1056</u>	<u>444</u>	1056	444	1050	446
401.bzip2	48	1693	274	1694	274	<u>1693</u>	<u>274</u>	48	1618	286	1607	288	<u>1609</u>	<u>288</u>
403.gcc	48	998	387	1003	385	<u>1003</u>	<u>385</u>	48	1004	385	999	387	<u>1002</u>	<u>386</u>
429.mcf	48	591	741	592	740	<u>592</u>	<u>740</u>	48	591	741	592	740	<u>592</u>	<u>740</u>
445.gobmk	48	1221	412	1222	412	<u>1222</u>	<u>412</u>	48	1134	444	1129	446	<u>1132</u>	<u>445</u>
456.hammer	48	686	653	<u>688</u>	<u>651</u>	688	651	48	594	754	593	755	<u>594</u>	<u>754</u>
458.sjeng	48	1448	401	<u>1444</u>	<u>402</u>	1444	402	48	1332	436	<u>1333</u>	<u>436</u>	1334	436
462.libquantum	48	<u>312</u>	<u>3190</u>	312	3190	312	3190	48	<u>312</u>	<u>3190</u>	312	3190	312	3190
464.h264ref	48	1853	573	<u>1824</u>	<u>582</u>	1813	586	48	1761	603	1777	598	<u>1774</u>	<u>599</u>
471.omnetpp	48	1042	288	1044	287	<u>1043</u>	<u>288</u>	48	<u>969</u>	<u>310</u>	969	309	969	310
473.astar	48	1107	304	1111	303	<u>1109</u>	<u>304</u>	48	1107	304	1111	303	<u>1109</u>	<u>304</u>
483.xalancbmk	48	594	558	<u>594</u>	<u>558</u>	589	563	48	594	558	<u>594</u>	<u>558</u>	589	563

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 /root/benchmark/cpu2006/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ 5569a0425e2ad530534e4c79a46e4d28  
running on Huawei-RH5885 Tue Oct 30 20:59:56 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- 4807 @ 1.87GHz  
4 "physical id"s (chips)  
48 "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 : 6
siblings  : 12
physical 0: cores 0 8 9 16 17 25
physical 1: cores 0 1 2 18 24 25
physical 2: cores 0 1 2 18 24 25
physical 3: cores 1 8 9 16 17 24
cache size : 18432 KB
```

```
From /proc/meminfo
MemTotal:      1058609944 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 30 20:07
```

```
SPEC is set to: /root/benchmark/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sdal        ext4      274G  6.1G  254G   3% /root/benchmark
```

```
Additional information from dmidecode:
BIOS American Megatrends Inc. RGPUC-BIOS-V018 08/29/2012
Memory:
64x 16 GB
64x Hyundai HMT42GR7BMR4C-H9 16 GB 800 MHz 4 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:
64x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank
```

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/root/benchmark/cpu2006/libs/32:/root/benchmark/cpu2006/libs/64"

Binaries compiled on a system with 4x Xeon E7-4807 CPU + 512 GB  
memory using RHEL6.2  
Transparent Huge Pages enabled with:

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## General Notes (Continued)

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/root/benchmark/cpu2006/smartheap -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32  
  
400.perlbench: icc -m64

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## Peak Compiler Invocation (Continued)

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`

462.libquantum: `basepeak = yes`

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## Peak Optimization Flags (Continued)

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/root/benchmark/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](mailto:webmaster@spec.org).

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