



SPEC® CINT2006 Result

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Huawei

SPECint®2006 = 60.1

Huawei CH121 V1 (Intel Xeon E5-2690)

SPECint_base2006 = 55.2

CPU2006 license: 3175

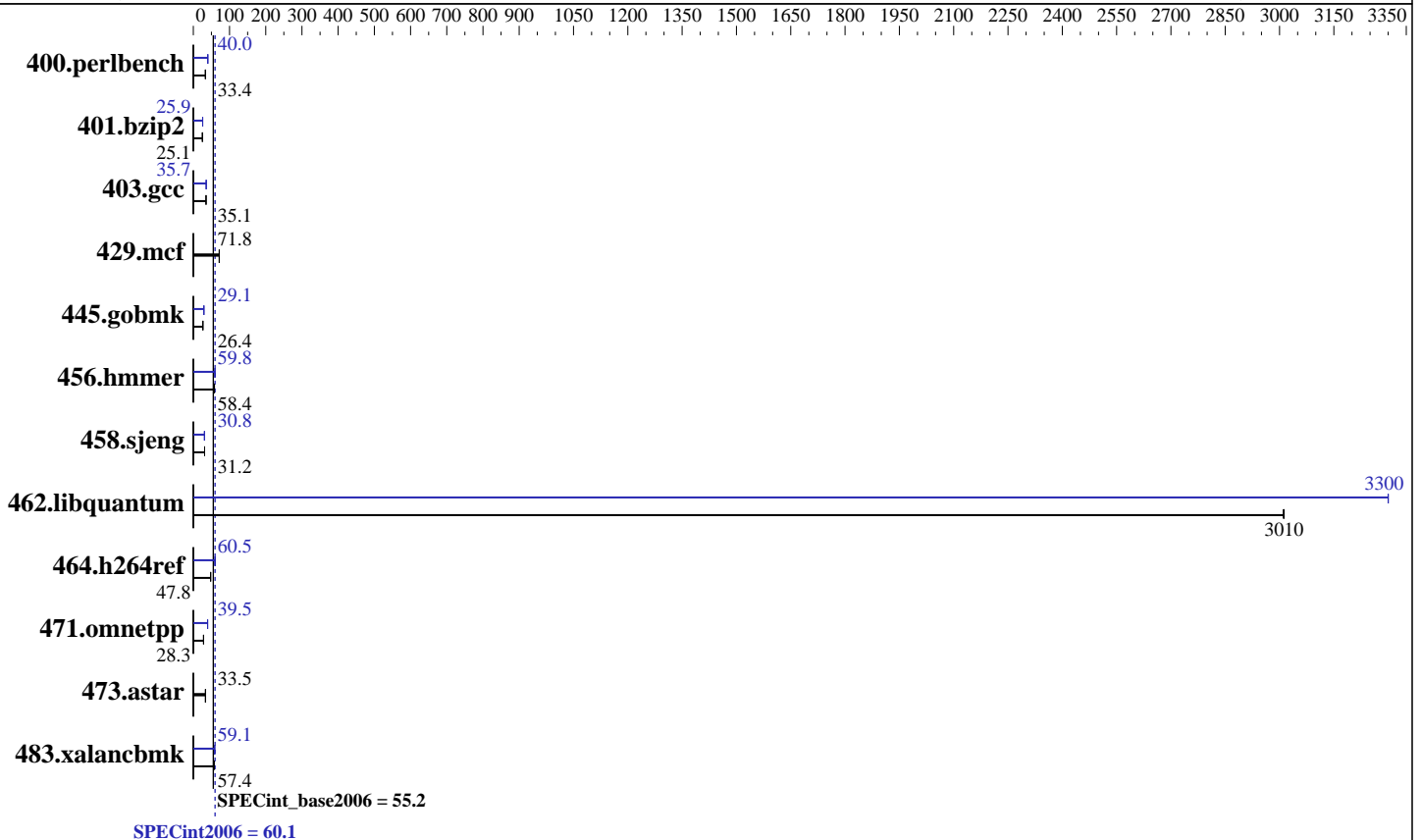
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2012

Hardware Availability: Aug-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2690
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
 CPU MHz: 2900
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
 CPU(s) orderable: 1,2 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: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 2 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 12.1.4 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.4 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	292	33.5	<u>293</u>	<u>33.4</u>	293	33.3	<u>244</u>	<u>40.0</u>	245	39.9	244	40.0
401.bzip2	384	25.1	384	25.1	<u>384</u>	<u>25.1</u>	373	25.8	<u>373</u>	<u>25.9</u>	373	25.9
403.gcc	229	35.1	<u>229</u>	<u>35.1</u>	230	35.1	226	35.7	<u>226</u>	<u>35.7</u>	226	35.6
429.mcf	128	71.3	<u>127</u>	<u>71.8</u>	127	71.8	128	71.3	<u>127</u>	<u>71.8</u>	127	71.8
445.gobmk	<u>398</u>	<u>26.4</u>	397	26.4	398	26.4	<u>360</u>	<u>29.1</u>	360	29.1	360	29.1
456.hmmer	160	58.3	<u>160</u>	<u>58.4</u>	160	58.4	156	59.8	156	59.7	<u>156</u>	<u>59.8</u>
458.sjeng	<u>388</u>	<u>31.2</u>	388	31.2	388	31.2	393	30.8	393	30.8	<u>393</u>	<u>30.8</u>
462.libquantum	6.88	3010	6.88	3010	<u>6.88</u>	<u>3010</u>	6.28	3300	<u>6.28</u>	<u>3300</u>	6.28	3300
464.h264ref	461	48.0	<u>463</u>	<u>47.8</u>	465	47.6	<u>366</u>	<u>60.5</u>	373	59.3	366	60.5
471.omnetpp	222	28.2	221	28.3	<u>221</u>	<u>28.3</u>	159	39.2	158	39.7	<u>158</u>	<u>39.5</u>
473.astar	207	33.9	210	33.4	<u>209</u>	<u>33.5</u>	207	33.9	210	33.4	<u>209</u>	<u>33.5</u>
483.xalancbmk	122	56.5	<u>120</u>	<u>57.4</u>	120	57.5	117	59.0	<u>117</u>	<u>59.1</u>	117	59.1

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Select only test related files when installing the operating system

Platform Notes

BIOS configuration:
Intel Hyper-Threading set to Disabled
Set Power Efficiency Mode to Performance
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /opt/spec2006/config/sysinfo.rev6800
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on rhel62x64spec1.huawei.com Tue Aug 7 11:40:53 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 E5-2690 0 @ 2.90GHz
2 "physical id"s (chips)
16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 8

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Platform Notes (Continued)

```
siblings : 8
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal:      132120564 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsc_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 rhel62x64spec1.huawei.com 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 Aug 7 11:32
```

```
SPEC is set to: /opt/spec2006
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sda3        ext3      119G      25G   88G   22% /opt
```

Additional information from dmidecode:

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/opt/spec2006/libs/32:/opt/spec2006/libs/64"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL6.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:
icc -m64

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

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Peak Compiler Invocation (Continued)

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
 401.bzip2: -DSPEC_CPU_LP64
 403.gcc: -DSPEC_CPU_LP64
 429.mcf: -DSPEC_CPU_LP64
 456.hmmer: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 473.astar: -DSPEC_CPU_LP64
 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)
 -opt-prefetch -ansi-alias

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

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
 -opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
 -ansi-alias

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

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

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Peak Optimization Flags (Continued)

462.libquantum: -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch
-auto-p32

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)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml>

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