



SPEC[®] CINT2006 Result

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Sugon

SPECint[®]_rate2006 = 249

I620-G10 (Intel Xeon E5-2609 v2, 2.50 GHz)

SPECint_rate_base2006 = 240

CPU2006 license: 9046

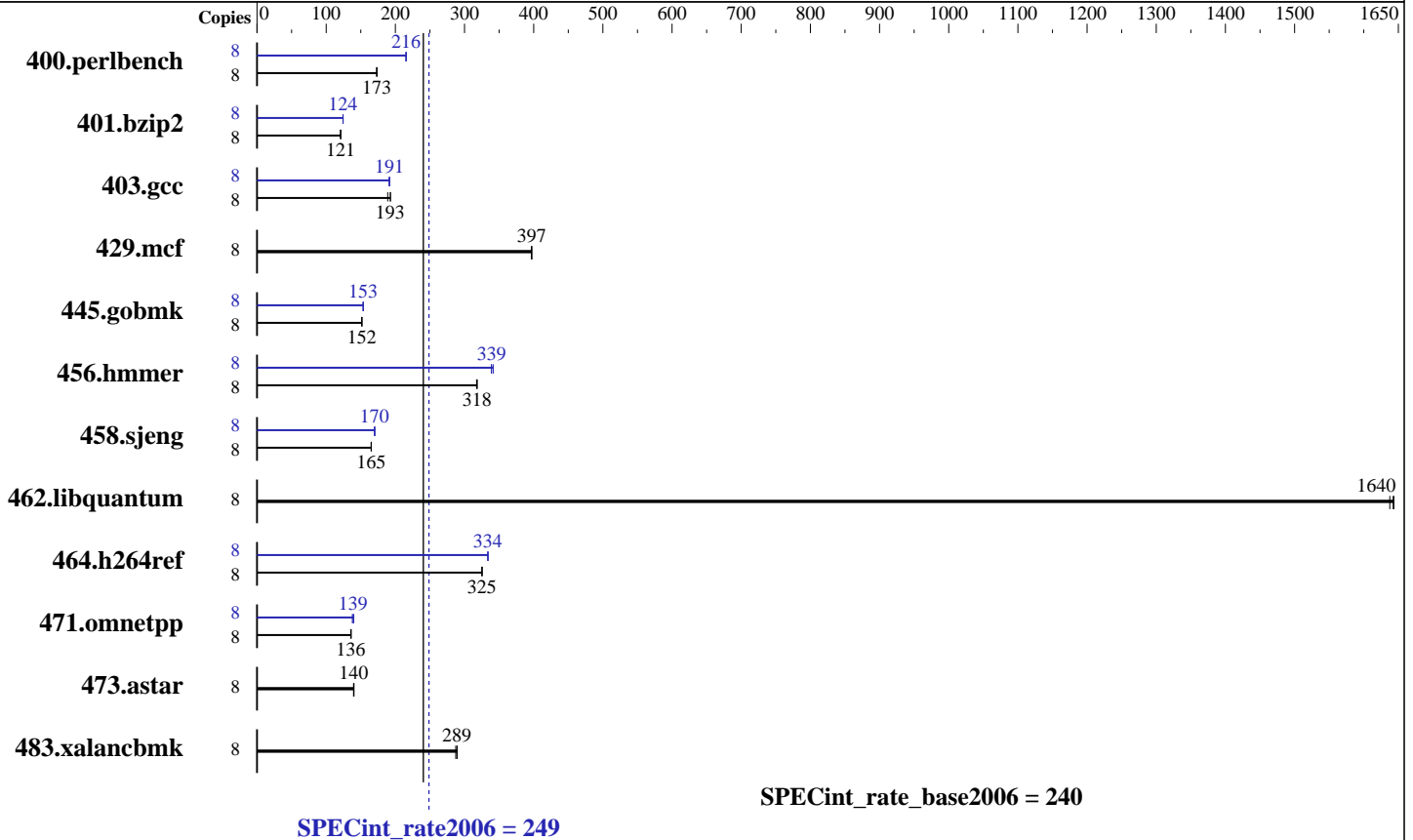
Test sponsor: Sugon

Tested by: Sugon

Test date: Dec-2013

Hardware Availability: Jan-2014

Software Availability: Jan-2014



Hardware

CPU Name: Intel Xeon E5-2609 v2
 CPU Characteristics:
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 10 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz and CL9)
 Disk Subsystem: 1 X 2 TB SATA 7200 RPM, RAID 0
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (Full multiuser with network)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



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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	8	<u>451</u>	<u>173</u>	452	173	451	173	8	362	216	363	215	<u>363</u>	<u>216</u>
401.bzip2	8	638	121	639	121	<u>638</u>	<u>121</u>	8	620	124	<u>621</u>	<u>124</u>	621	124
403.gcc	8	334	193	<u>334</u>	<u>193</u>	341	189	8	336	192	<u>336</u>	<u>191</u>	337	191
429.mcf	8	<u>184</u>	<u>397</u>	184	397	184	397	8	<u>184</u>	<u>397</u>	184	397	184	397
445.gobmk	8	554	152	<u>554</u>	<u>152</u>	554	152	8	<u>547</u>	<u>153</u>	547	153	546	154
456.hammer	8	235	317	235	318	<u>235</u>	<u>318</u>	8	218	342	<u>220</u>	<u>339</u>	220	339
458.sjeng	8	<u>586</u>	<u>165</u>	586	165	586	165	8	<u>569</u>	<u>170</u>	570	170	568	170
462.libquantum	8	101	1640	101	1640	<u>101</u>	<u>1640</u>	8	101	1640	101	1640	<u>101</u>	<u>1640</u>
464.h264ref	8	544	325	545	325	<u>544</u>	<u>325</u>	8	531	334	530	334	<u>530</u>	<u>334</u>
471.omnetpp	8	369	136	<u>368</u>	<u>136</u>	367	136	8	357	140	<u>360</u>	<u>139</u>	363	138
473.astar	8	400	140	402	140	<u>402</u>	<u>140</u>	8	400	140	402	140	<u>402</u>	<u>140</u>
483.xalancbmk	8	<u>191</u>	<u>289</u>	191	289	192	287	8	<u>191</u>	<u>289</u>	191	289	192	287

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:
Intel Virtualization technology set to disabled
Power Technology set to performance
Turbo boost set to disabled
DDR Speed set to force 1333
Sysinfo program /home/cpu2006/config/sysinfo.rev6874
\$Rev: 6874 \$ \$Date:: 2013-11-20 #\$ 654bd3fcf53b06faef0efe54ed011998
running on cpu2006 Mon Dec 23 22:03:03 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 E5-2609 v2 @ 2.50GHz
2 "physical id"s (chips)
8 "processors"

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Platform Notes (Continued)

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 : 4
siblings  : 4
physical 0: cores 0 1 2 3
physical 1: cores 0 1 2 3
cache size : 10240 KB
```

From /proc/meminfo

```
MemTotal:      264502396 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

/usr/bin/lsb_release -d

```
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

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

```
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

uname -a:

```
Linux cpu2006 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Dec 23 22:00

SPEC is set to: /home/cpu2006

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_cpu2006-lv_home
                ext4      1.8T   63G  1.6T   4% /home
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. 3.0a 10/10/2013

Memory:

```
16x Hynix Semiconducto HMT42GR7AFR4C 16 GB 1 rank 1333 MHz
```

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB

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General Notes (Continued)

memory using RedHat EL 6.4
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/sh -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: `-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/sh -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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-IVB.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-IVB.xml>

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

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