



SPEC® CINT2006 Result

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SGI

(Test Sponsor: Japan Advanced Institute of Science and Technology)

SPECint®_rate2006 = Not Run

SGI UV 3000 (Intel Xeon E5-4655 v3, 2.90 GHz)

SPECint_rate_base2006 = 50200

CPU2006 license: 4

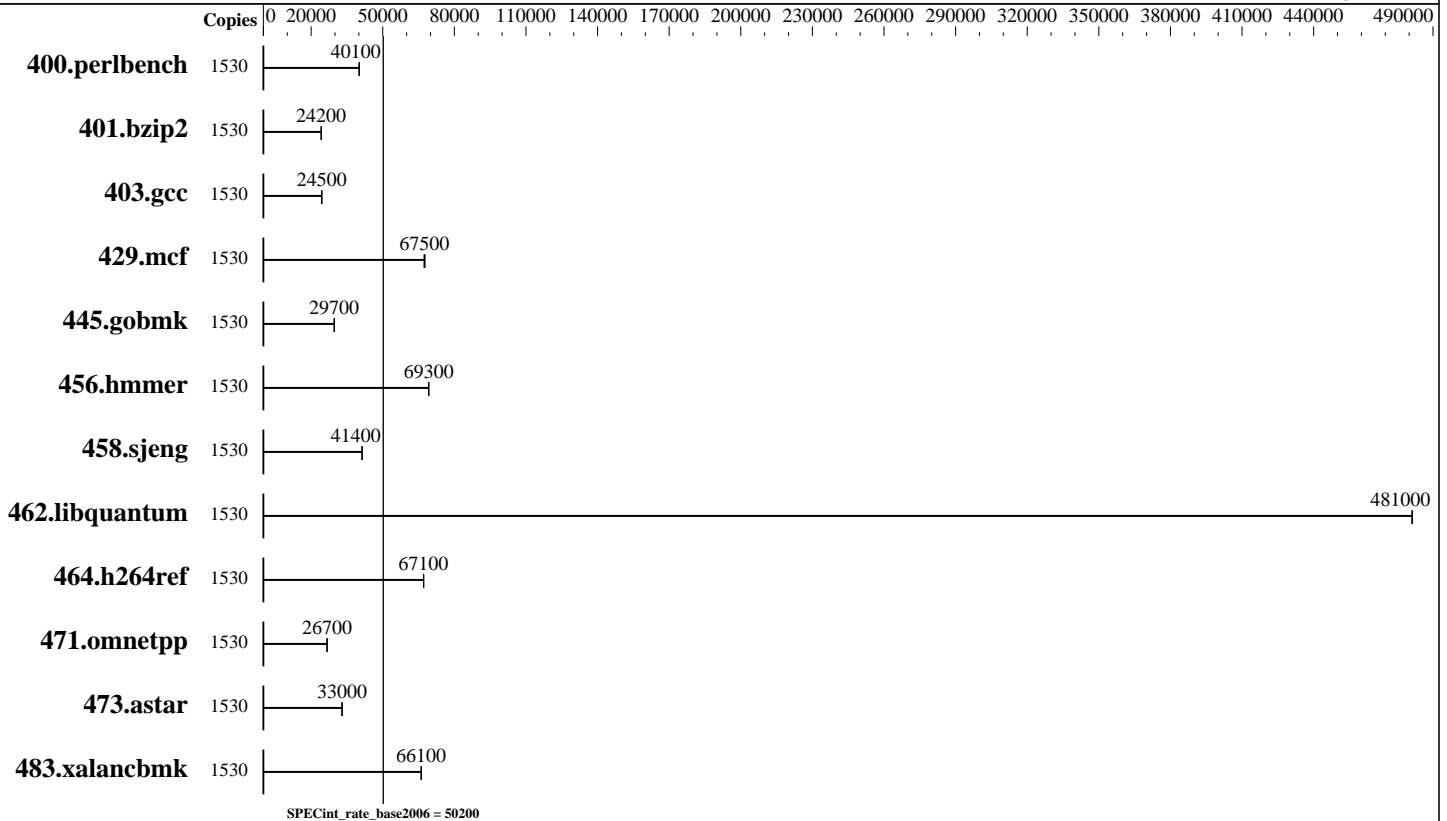
Test date: Aug-2016

Test sponsor: Japan Advanced Institute of Science and Technology

Hardware Availability: Sep-2015

Tested by: SGI

Software Availability: May-2016



Hardware

CPU Name: Intel Xeon E5-4655 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2900
FPU: Integrated
CPU(s) enabled: 1536 cores, 256 chips, 6 cores/chip
CPU(s) orderable: 4-256 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: 30 MB I+D on chip per chip
Other Cache: None
Memory: 32 TB (2048 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 32640 GB tmpfs
Other Hardware: NUMALink6 routers

Software

Operating System: SUSE Linux Enterprise Server 12 (x86_64) SP1, Kernel 3.12.48-52.27-default
Compiler: C/C++; Version 16.0.2.181 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: Not Applicable
Other Software: Microquill SmartHeap V10.2



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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	1530	372	40200	<u>372</u>	<u>40100</u>	373	40100							
401.bzip2	1530	<u>609</u>	<u>24200</u>	610	24200	609	24200							
403.gcc	1530	503	24500	<u>503</u>	<u>24500</u>	506	24300							
429.mcf	1530	207	67300	206	67700	<u>207</u>	<u>67500</u>							
445.gobmk	1530	540	29700	541	29700	<u>541</u>	<u>29700</u>							
456.hammer	1530	<u>206</u>	<u>69300</u>	206	69300	206	69300							
458.sjeng	1530	447	41400	<u>447</u>	<u>41400</u>	449	41300							
462.libquantum	1530	<u>65.9</u>	<u>481000</u>	65.9	481000	65.9	481000							
464.h264ref	1530	<u>504</u>	<u>67100</u>	504	67100	504	67200							
471.omnetpp	1530	358	26700	<u>359</u>	<u>26700</u>	359	26700							
473.astar	1530	<u>326</u>	<u>33000</u>	326	32900	325	33000							
483.xalancbmk	1530	160	66100	159	66200	<u>160</u>	<u>66100</u>							

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

Submit Notes

The dplace mechanism was used to bind copies to processors. The config file option 'submit' was used to generate dplace commands to bind each copy to a specific processor. Benchmark copies were launched in a staggered fashion to minimize kernel contention associated with synchronized launches. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

The tmpfs filesystem was set up with:

```
mkdir -p /mnt/shm/cpu2006-sgi-ic16
```

```
mount -t tmpfs -o rw,size=32640g,mpol=bind:1-255 tmpfs /mnt/shm/cpu2006-sgi-ic16
```

Platform Notes

Intel Hyperthreading set to Disabled

The dmidecode output is in error - There were 2048 memory DIMMs running at 2133.

General Notes

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

```
LD_LIBRARY_PATH = "/mnt/shm/cpu2006-sgi-ic16/libs/32:/mnt/shm/cpu2006-sgi-ic16/libs/64:/mnt/shm/cpu2006-sgi-ic16/sh"
```

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

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General Notes (Continued)

Filesystem page cache cleared with:
echo 1 > /proc/sys/vm/drop_caches

Base Compiler Invocation

C benchmarks:
icc -m64

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.hmmmer: -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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -auto-p32 -opt-prefetch
-opt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -auto-p32 -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs
-L/root/draddatz/cpu2006-sgi-ic16/sh -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca



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The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/SGI-UV3000-Platform-Flags.20160906.html>

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html>

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

<http://www.spec.org/cpu2006/flags/SGI-UV3000-Platform-Flags.20160906.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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