



SPEC® CINT2006 Result

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SGI

SGI Rackable C2108-RP2 (Intel Xeon E5-2670, 2.60 GHz)

SPECint®_rate2006 = 631

SPECint_rate_base2006 = 605

CPU2006 license: 4

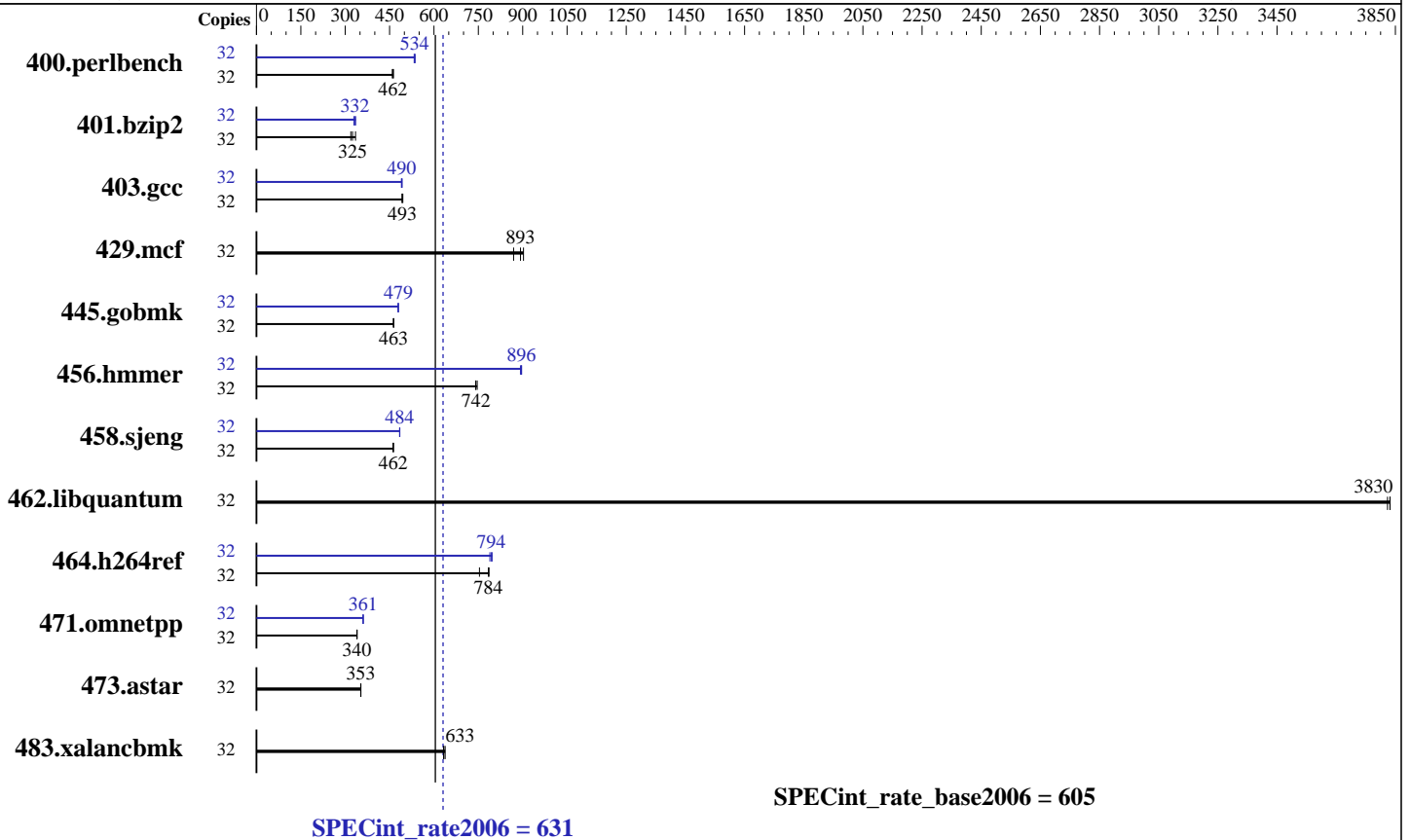
Test sponsor: SGI

Tested by: SGI

Test date: Aug-2012

Hardware Availability: Mar-2012

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2670
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
 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: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 4.3 TB RAID 5
 48 x 146 GB SAS (Seagate Cheetah 15K.7)
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP2, Kernel 3.0.26-0.7-default
 Compiler: C/C++; Version 12.1.0.225 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: NFSv3 IPoIB
 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	32	681	459	675	463	677	462	32	585	534	583	536	586	533
401.bzip2	32	922	335	951	325	968	319	32	929	332	938	329	921	335
403.gcc	32	521	495	523	493	523	492	32	525	490	523	493	525	490
429.mcf	32	327	893	336	869	323	903	32	327	893	336	869	323	903
445.gobmk	32	725	463	723	464	725	463	32	701	479	700	479	700	480
456.hammer	32	403	741	403	742	400	746	32	333	896	335	892	333	896
458.sjeng	32	836	463	838	462	837	462	32	800	484	800	484	799	485
462.libquantum	32	173	3830	173	3830	173	3820	32	173	3830	173	3830	173	3820
464.h264ref	32	904	784	939	754	901	786	32	889	797	898	789	892	794
471.omnetpp	32	588	340	589	340	588	340	32	554	361	555	361	555	361
473.astar	32	637	352	636	353	637	353	32	637	352	636	353	637	353
483.xalancbmk	32	346	638	349	633	349	632	32	346	638	349	633	349	632

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"
echo never > /sys/kernel/mm/transparent_hugepage/defrag

Platform Notes

Sysinfo program /store/cma/cpu2006-v1.2/config/sysinfo.rev6800
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on cy018 Fri Aug 10 11:47:15 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 E5-2670 0 @ 2.60GHz
2 "physical id"s (chips)
32 "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 : 16
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:          65532464 kB
HugePages_Total:   0
Hugepagesize:      2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 2
sgi-accelerate-release: SGI Accelerate 1.4, Build 706r14.sles11sp2-1204092008
sgi-foundation-release: SGI Foundation Software 2.6, Build
706r14.sles11sp2-1204092008
sgi-mpi-release: SGI MPI 1.4, Build 706r14.sles11sp2-1204092008
sgi-upc-release: SGI UPC 1.4, Build 706r14.sles11sp2-1204092008

```

```

uname -a:
Linux cy018 3.0.26-0.7-default #1 SMP Tue Apr 17 10:27:57 UTC 2012 (3829766)
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Aug 10 11:45 last=5

```

SPEC is set to: /store/cma/cpu2006-v1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
10.149.5.201:/mnt/data nfs   4.3T  3.2T  1.1T  75% /nas

```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/store/cma/cpu2006-v1.2/libs/32:/store/cma/cpu2006-v1.2/libs/64"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/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>

```



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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:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/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`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:

`icpc -m32`



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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.xalanbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
 -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xAVX(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

464.h264ref: -xAVX(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: -xAVX(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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalanbmk: basepeak = yes



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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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/SGI-platform-SNB-2S.html>

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

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

<http://www.spec.org/cpu2006/flags/SGI-platform-SNB-2S.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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