



SPEC® CINT2006 Result

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Sun Microsystems

SPECint®_rate2006 = Not Run

Sun Fire X4240 (AMD Opteron 2224 SE 3.2GHz)

SPECint_rate_base2006 = 53.4

CPU2006 license: 6

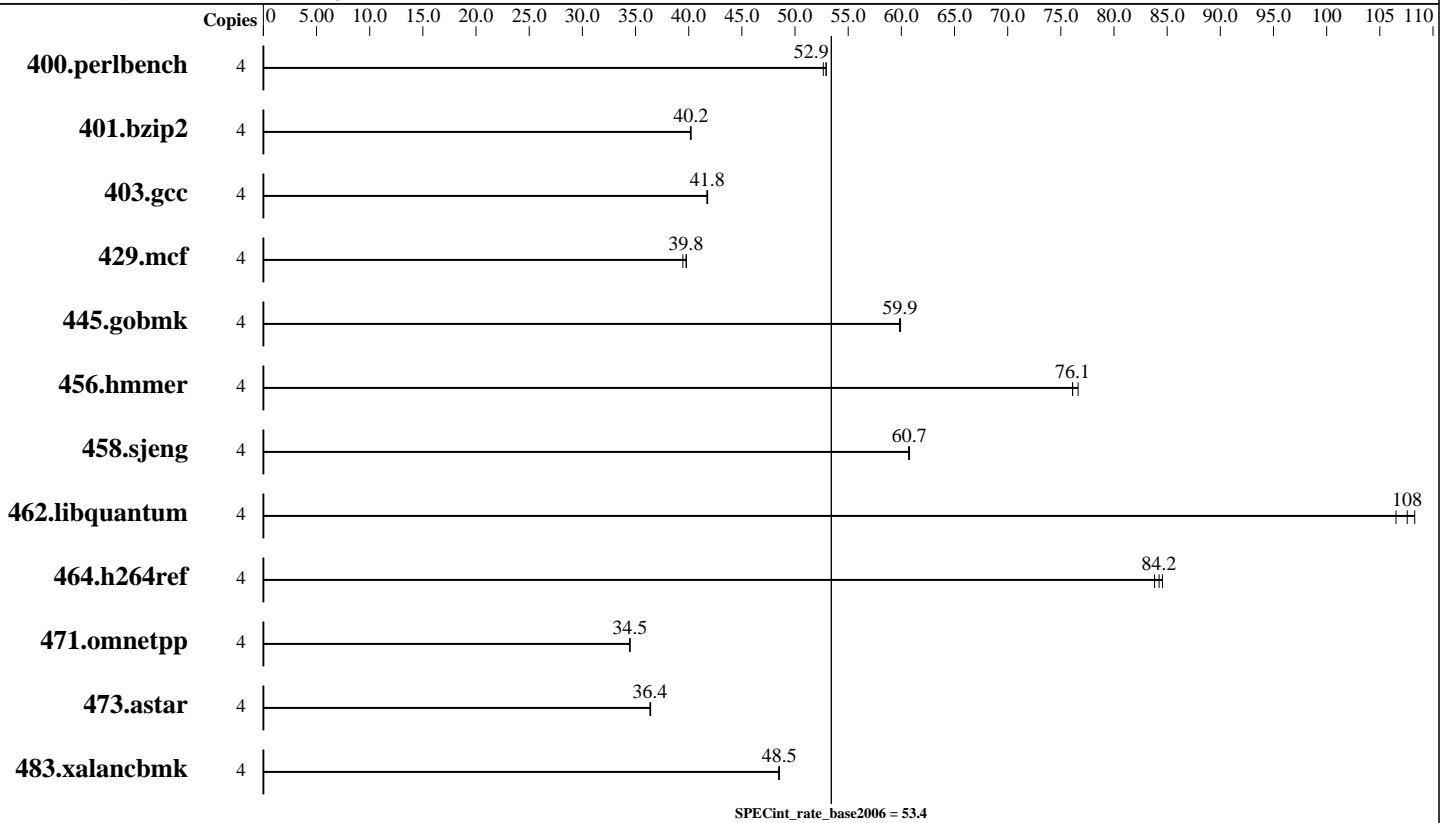
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Nov-2008

Hardware Availability: Mar-2008

Software Availability: Jun-2008



Hardware

CPU Name: AMD Opteron 2224 SE
 CPU Characteristics: 3200
 CPU MHz: Integrated
 FPU: 4 cores, 2 chips, 2 cores/chip
 CPU(s) enabled: 1,2 chips
 CPU(s) orderable: 64 KB I + 64 KB D on chip per core
 Primary Cache: 1 MB I+D on chip per core
 Secondary Cache: None
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x2GB, DDR2-667, CL5, Reg, Dual Rank)
 Disk Subsystem: SAS, 72 GB, 10 K RPM
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: PGI Server Complete Version 7.2
 Auto Parallel: No
 File System: ReiserFS
 System State: Run level 3 (Full multiuser with network)
 Base Pointers: 32/64-bit
 Peak Pointers: Not Applicable
 Other Software: binutils 2.18, 32-bit and 64-bit libhugetlbfs libraries



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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	4	742	52.7	<u>739</u>	<u>52.9</u>	738	52.9							
401.bzip2	4	<u>960</u>	<u>40.2</u>	961	40.2	960	40.2							
403.gcc	4	771	41.8	<u>771</u>	<u>41.8</u>	772	41.7							
429.mcf	4	<u>918</u>	<u>39.8</u>	917	39.8	925	39.5							
445.gobmk	4	<u>701</u>	<u>59.9</u>	701	59.8	700	59.9							
456.hammer	4	490	76.1	487	76.6	<u>490</u>	<u>76.1</u>							
458.sjeng	4	798	60.7	796	60.8	<u>797</u>	<u>60.7</u>							
462.libquantum	4	765	108	<u>770</u>	<u>108</u>	778	107							
464.h264ref	4	1056	83.8	<u>1051</u>	<u>84.2</u>	1047	84.6							
471.omnetpp	4	725	34.5	725	34.5	<u>725</u>	<u>34.5</u>							
473.astar	4	771	36.4	<u>772</u>	<u>36.4</u>	772	36.4							
483.xalancbmk	4	570	48.5	<u>569</u>	<u>48.5</u>	569	48.5							

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

Submit Notes

The config file option 'submit' was used.
'numactl' was used to bind copies to the cores

Operating System Notes

The libhugetlbfs libraries were installed using the installation rpms that came with the distribution.

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2097152' was used to set environment locked pages in memory limit

Set vm/nr_hugepages=7168 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

General Notes

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

HUGETLB_MORECORE = "yes"

LD_LIBRARY_PATH = "/data1/61dorado-cpu2006v1.1/amd909gh-libs/64:/data1/61dorado-cpu2006v1.1/amd909gh-libs/32"

Default BIOS settings were used.



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Base Compiler Invocation

C benchmarks:

pgcc

C++ benchmarks:

pgcpp

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
483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:

```
-Mvect=cachesize:6291456 -fastsse -Msmartalloc=huge -Mfprelaxed
-Mipa=fast -Mipa=inline -tp barcelona-64 -Bstatic_pgi
```

C++ benchmarks:

```
-Mvect=cachesize:6291456 -fastsse -Msmartalloc=huge -Mfprelaxed
--zc_eh -Mipa=fast -Mipa=inline:10 -tp barcelona-32 -Bstatic_pgi
```

Base Other Flags

C benchmarks:

```
-Mipa=jobs:4
```

C++ benchmarks:

```
-Mipa=jobs:4
```

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

```
http://www.spec.org/cpu2006/flags/pgi72\_linux\_flags.html
http://www.spec.org/cpu2006/flags/CPU2006\_flags.20090710.html
http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.html
```



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

http://www.spec.org/cpu2006/flags/pgi72_linux_flags.xml
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090710.xml
<http://www.spec.org/cpu2006/flags/amd-platform-amd909gh.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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