



SPEC® CINT2006 Result

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Oracle Corporation

SPECint®_rate2006 = 223

Sun Fire X4170 M2 (Intel Xeon E5620 2.4GHz)

SPECint_rate_base2006 = 210

CPU2006 license: 6

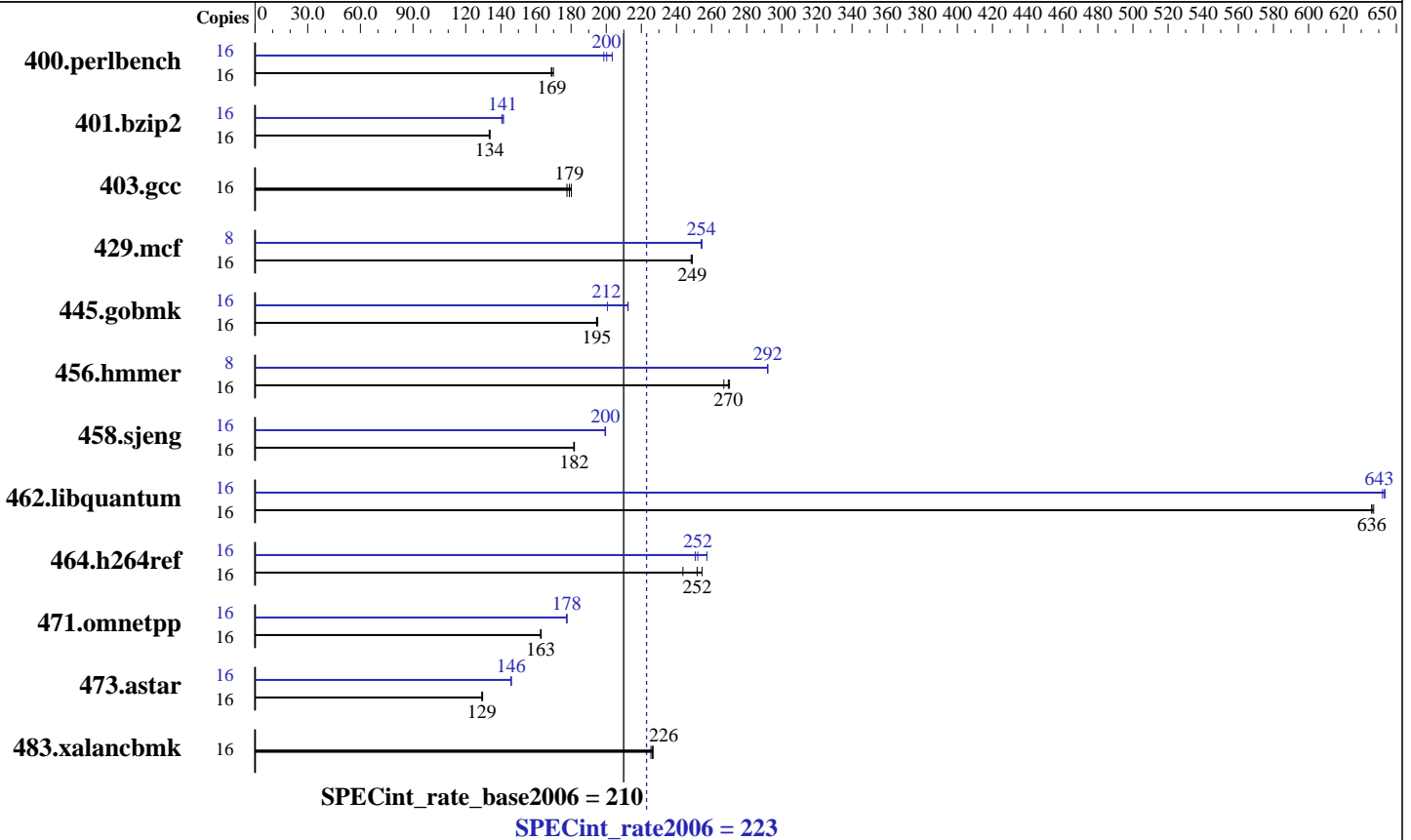
Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Sep-2010

Hardware Availability: Jun-2010

Software Availability: Apr-2010



Hardware

CPU Name: Intel Xeon E5620
 CPU Characteristics: Intel Turbo Boost Technology up to 2.66 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 or 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: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R, ECC, running at 1066 MHz and CL9)
 Disk Subsystem: 1 x 146 GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: Oracle Enterprise Linux Server release 5.5 kernel 2.6.18-194.el5
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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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 | 16 | 920 | 170 | 927 | 169 | <u>925</u> | <u>169</u> | 16 | <u>781</u> | <u>200</u> | 787 | 199 | 768 | 203 |
| 401.bzip2 | 16 | <u>1155</u> | <u>134</u> | 1154 | 134 | 1158 | 133 | 16 | <u>1095</u> | <u>141</u> | 1091 | 142 | 1098 | 141 |
| 403.gcc | 16 | 715 | 180 | <u>719</u> | <u>179</u> | 725 | 178 | 16 | 715 | 180 | <u>719</u> | <u>179</u> | 725 | 178 |
| 429.mcf | 16 | 588 | 248 | <u>586</u> | <u>249</u> | 586 | 249 | 8 | 287 | 254 | <u>287</u> | <u>254</u> | 287 | 254 |
| 445.gobmk | 16 | <u>862</u> | <u>195</u> | 860 | 195 | 863 | 194 | 16 | 836 | 201 | <u>791</u> | <u>212</u> | 790 | 212 |
| 456.hammer | 16 | 552 | 270 | 559 | 267 | <u>554</u> | <u>270</u> | 8 | 256 | 292 | <u>256</u> | <u>292</u> | 256 | 292 |
| 458.sjeng | 16 | 1064 | 182 | <u>1065</u> | <u>182</u> | 1067 | 181 | 16 | <u>970</u> | <u>200</u> | 970 | 200 | 971 | 199 |
| 462.libquantum | 16 | 520 | 637 | <u>521</u> | <u>636</u> | 521 | 636 | 16 | 516 | 642 | 515 | 643 | <u>515</u> | <u>643</u> |
| 464.h264ref | 16 | 1391 | 255 | <u>1406</u> | <u>252</u> | 1453 | 244 | 16 | <u>1404</u> | <u>252</u> | 1376 | 257 | 1412 | 251 |
| 471.omnetpp | 16 | 614 | 163 | 615 | 163 | <u>614</u> | <u>163</u> | 16 | <u>563</u> | <u>178</u> | 564 | 177 | 563 | 178 |
| 473.astar | 16 | 869 | 129 | <u>869</u> | <u>129</u> | 866 | 130 | 16 | <u>770</u> | <u>146</u> | 771 | 146 | 769 | 146 |
| 483.xalancbmk | 16 | 487 | 227 | 490 | 225 | <u>488</u> | <u>226</u> | 16 | 487 | 227 | 490 | 225 | <u>488</u> | <u>226</u> |

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 to invoke the command numactl to bind copies to the cores. (For details, please see the config file.)

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Load Default BIOS Settings and then change the following
C-State Disabled
Data Reuse Optimization Disabled
All prefetches Enabled

General Notes

This result is measured on a Sun Fire X4170 M2 server. The Sun Fire X4170 M2 and the Sun Fire X4270 M2 are electronically equivalent.



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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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L(path to library) -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

Continued on next page



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Peak Compiler Invocation (Continued)

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
 401.bzip2: -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) -static(pass 2)
 -prof-use(pass 2) -ansi-alias

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

403.gcc: basepeak = yes

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
 -ipo -no-prec-div -ansi-alias

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

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll2 -ansi-alias

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Peak Optimization Flags (Continued)

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(path to library) -lsmartheap

473.astar: -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=routine -Wl,-z,muldefs
-L(path to library) -lsmartheap64

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-ic11.1-linux64-revE-pathfix-smartheap.html>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.html

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE-pathfix-smartheap.xml>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.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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