



SPEC® CINT2006 Result

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HITACHI

SPECint®2006 = 35.6

BladeSymphony BS2000 (Intel Xeon X5570)

SPECint_base2006 = 30.4

CPU2006 license: 872

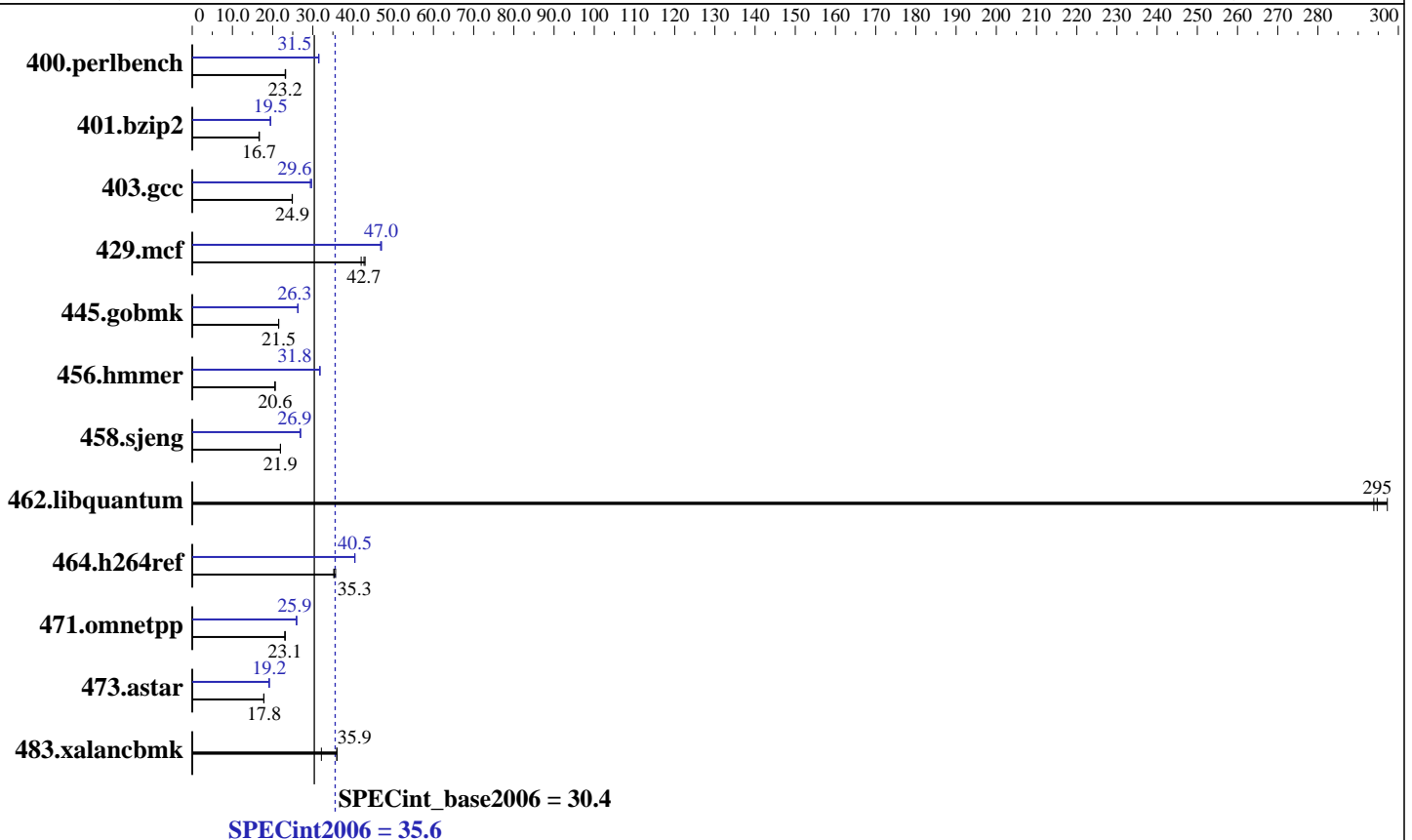
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Mar-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon X5570
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1, 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: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB(6 x 4 GB PC3-10600R, 2 rank, CL=9)
 Disk Subsystem: 1 x 147 GB 10000 rpm SAS
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.3, Advanced Platform, Kernel 2.6.18-128.el5 on an x86_64
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081
 Auto Parallel: Yes
 File System: ext3
 System State: Multi-user run level 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|----------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 422 | 23.1 | <u>422</u> | <u>23.2</u> | 420 | 23.2 | <u>310</u> | <u>31.5</u> | 310 | 31.5 | 311 | 31.5 |
| 401.bzip2 | 581 | 16.6 | <u>579</u> | <u>16.7</u> | 578 | 16.7 | <u>496</u> | <u>19.5</u> | 496 | 19.5 | 496 | 19.5 |
| 403.gcc | 324 | 24.8 | 323 | 24.9 | <u>324</u> | <u>24.9</u> | 274 | 29.4 | 272 | 29.6 | <u>272</u> | <u>29.6</u> |
| 429.mcf | 217 | 42.0 | 212 | 43.0 | <u>213</u> | <u>42.7</u> | 195 | 46.9 | <u>194</u> | <u>47.0</u> | 194 | 47.1 |
| 445.gobmk | <u>488</u> | <u>21.5</u> | 488 | 21.5 | 488 | 21.5 | <u>399</u> | <u>26.3</u> | 399 | 26.3 | 399 | 26.3 |
| 456.hammer | 453 | 20.6 | 452 | 20.6 | <u>453</u> | <u>20.6</u> | <u>294</u> | <u>31.8</u> | 294 | 31.8 | 294 | 31.7 |
| 458.sjeng | 551 | 22.0 | <u>551</u> | <u>21.9</u> | 551 | 21.9 | <u>450</u> | <u>26.9</u> | 450 | 26.9 | 450 | 26.9 |
| 462.libquantum | 70.5 | 294 | <u>70.3</u> | <u>295</u> | 69.7 | 297 | 70.5 | 294 | <u>70.3</u> | <u>295</u> | 69.7 | 297 |
| 464.h264ref | 628 | 35.2 | <u>627</u> | <u>35.3</u> | 621 | 35.7 | <u>547</u> | <u>40.5</u> | 547 | 40.5 | 548 | 40.4 |
| 471.omnetpp | 270 | 23.1 | <u>271</u> | <u>23.1</u> | 271 | 23.1 | <u>241</u> | <u>25.9</u> | 241 | 26.0 | 241 | 25.9 |
| 473.astar | <u>393</u> | <u>17.8</u> | 395 | 17.8 | 393 | 17.8 | 366 | 19.2 | <u>367</u> | <u>19.2</u> | 367 | 19.1 |
| 483.xalancbmk | 215 | 32.1 | 192 | 36.0 | <u>192</u> | <u>35.9</u> | 215 | 32.1 | 192 | 36.0 | <u>192</u> | <u>35.9</u> |

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0

Platform Notes

BIOS Settings:
Intel HT Technology = Disabled

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX



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Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/bsc/smartheap/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include

458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include

C++ benchmarks:

icpc

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_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX



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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 -opt-prefetch

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) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3

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.hmmr: -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: basepeak = yes

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

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/home/bsc/smartheap/lib -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/home/bsc/smartheap/lib -lsmartheap

483.xalancbmk: basepeak = yes



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Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.05.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.05.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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