



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 84.0

PowerEdge T300 (Intel Xeon X5460, 3.16 GHz)

SPECint_rate_base2006 = 77.4

CPU2006 license: 55

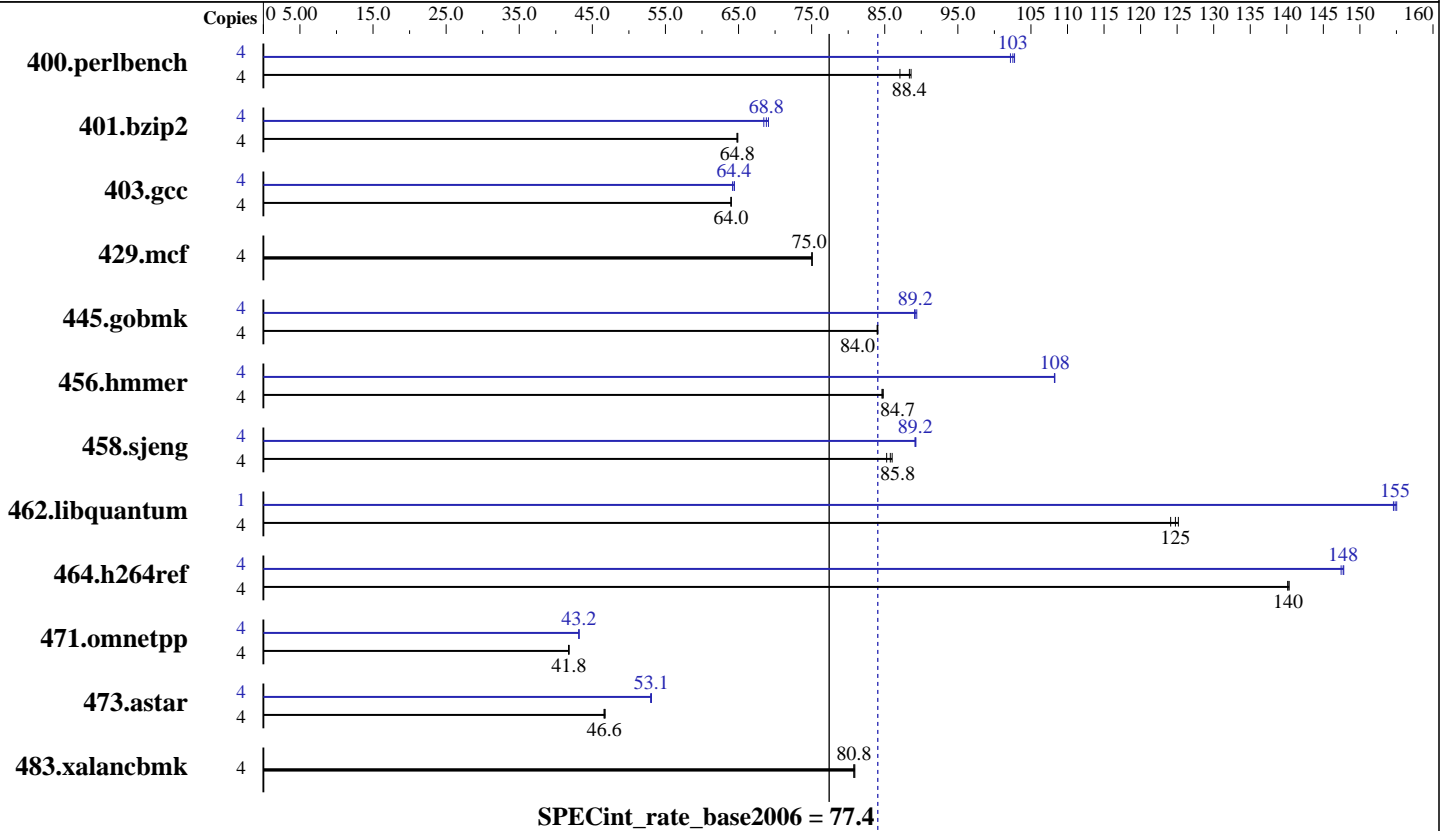
Test date: Nov-2008

Test sponsor: Dell Inc.

Hardware Availability: Mar-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon X5460
 CPU Characteristics:
 CPU MHz: 3166
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (4 x 4 GB DDR2-667 FBDIMM)
 Disk Subsystem: 1 x 300 GB 15000 RPM SAS
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 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 | 4 | 449 | 87.1 | <u>442</u> | <u>88.4</u> | 441 | 88.6 | 4 | <u>381</u> | <u>103</u> | 380 | 103 | 382 | 102 |
| 401.bzip2 | 4 | 595 | 64.9 | 596 | 64.8 | <u>596</u> | <u>64.8</u> | 4 | 559 | 69.1 | 564 | 68.5 | <u>561</u> | <u>68.8</u> |
| 403.gcc | 4 | <u>503</u> | <u>64.0</u> | 503 | 64.0 | 503 | 64.0 | 4 | <u>500</u> | <u>64.4</u> | 500 | 64.4 | 502 | 64.2 |
| 429.mcf | 4 | 486 | 75.1 | 486 | 75.0 | <u>486</u> | <u>75.0</u> | 4 | 486 | 75.1 | 486 | 75.0 | <u>486</u> | <u>75.0</u> |
| 445.gobmk | 4 | 500 | 84.0 | <u>500</u> | <u>84.0</u> | 499 | 84.1 | 4 | 471 | 89.1 | <u>471</u> | <u>89.2</u> | 469 | 89.4 |
| 456.hammer | 4 | 441 | 84.6 | <u>441</u> | <u>84.7</u> | 440 | 84.8 | 4 | 345 | 108 | <u>345</u> | <u>108</u> | 345 | 108 |
| 458.sjeng | 4 | 563 | 86.0 | 568 | 85.3 | <u>564</u> | <u>85.8</u> | 4 | 543 | 89.1 | <u>543</u> | <u>89.2</u> | 542 | 89.3 |
| 462.libquantum | 4 | 662 | 125 | <u>664</u> | <u>125</u> | 668 | 124 | 1 | <u>134</u> | <u>155</u> | 134 | 155 | 134 | 155 |
| 464.h264ref | 4 | 631 | 140 | <u>632</u> | <u>140</u> | 632 | 140 | 4 | <u>599</u> | <u>148</u> | 600 | 147 | 599 | 148 |
| 471.omnetpp | 4 | 599 | 41.7 | 598 | 41.8 | <u>598</u> | <u>41.8</u> | 4 | <u>579</u> | <u>43.2</u> | 579 | 43.2 | 579 | 43.2 |
| 473.astar | 4 | <u>602</u> | <u>46.6</u> | 602 | 46.6 | 601 | 46.8 | 4 | 530 | 53.0 | 529 | 53.1 | <u>529</u> | <u>53.1</u> |
| 483.xalancbmk | 4 | 341 | 80.9 | 342 | 80.8 | <u>342</u> | <u>80.8</u> | 4 | 341 | 80.9 | 342 | 80.8 | <u>342</u> | <u>80.8</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.

Operating System Notes

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

General Notes

taskset was used to bind processes to cores except for 462.libquantum peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc



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Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/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/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/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

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Peak Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch

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

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3

429.mcf: basepeak = yes

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

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias

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

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -parallel -par-runtime-control
-opt-prefetch

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

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

483.xalancbmk: 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-ic11.0-int-linux64-revA.20090713.02.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.11.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.02.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.11.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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