



SPEC® CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 19.4

PowerEdge T710 (Intel Xeon E5502, 1.86 GHz)

SPECint_base2006 = 17.5

CPU2006 license: 55

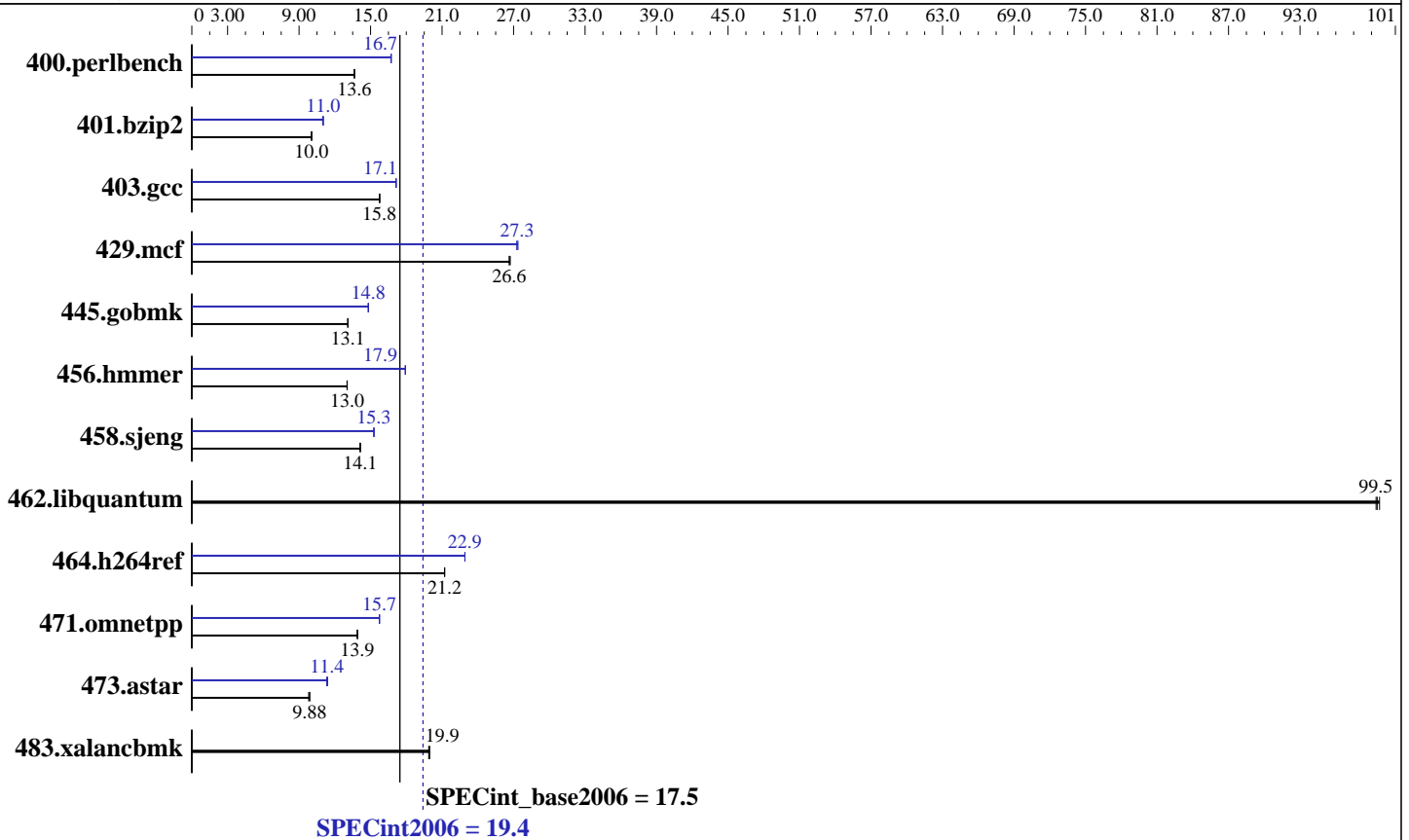
Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: Jun-2009

Tested by: Dell Inc.

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5502
 CPU Characteristics:
 CPU MHz: 1867
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 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: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 x 4 GB DDR3-1066 DR RDIMM downclocked to 800 MHz)
 Disk Subsystem: 1 x 73 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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
 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 | | | | | |
|----------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 717 | 13.6 | 715 | 13.7 | <u>716</u> | <u>13.6</u> | <u>584</u> | <u>16.7</u> | 584 | 16.7 | 584 | 16.7 |
| 401.bzip2 | 961 | 10.0 | <u>960</u> | <u>10.0</u> | 959 | 10.1 | <u>875</u> | <u>11.0</u> | 874 | 11.0 | 879 | 11.0 |
| 403.gcc | 510 | 15.8 | <u>511</u> | <u>15.8</u> | 511 | 15.8 | 469 | 17.2 | 470 | 17.1 | <u>470</u> | <u>17.1</u> |
| 429.mcf | 341 | 26.7 | 342 | 26.6 | <u>342</u> | <u>26.6</u> | 334 | 27.3 | <u>334</u> | <u>27.3</u> | 333 | 27.4 |
| 445.gobmk | 801 | 13.1 | <u>801</u> | <u>13.1</u> | 801 | 13.1 | <u>708</u> | <u>14.8</u> | 708 | 14.8 | 709 | 14.8 |
| 456.hammer | 716 | 13.0 | <u>716</u> | <u>13.0</u> | 715 | 13.0 | 521 | 17.9 | <u>521</u> | <u>17.9</u> | 520 | 17.9 |
| 458.sjeng | 856 | 14.1 | <u>856</u> | <u>14.1</u> | 857 | 14.1 | 791 | 15.3 | 792 | 15.3 | <u>791</u> | <u>15.3</u> |
| 462.libquantum | 208 | 99.7 | <u>208</u> | <u>99.5</u> | 208 | 99.4 | 208 | 99.7 | <u>208</u> | <u>99.5</u> | 208 | 99.4 |
| 464.h264ref | 1043 | 21.2 | 1044 | 21.2 | <u>1043</u> | <u>21.2</u> | <u>966</u> | <u>22.9</u> | 966 | 22.9 | 965 | 22.9 |
| 471.omnetpp | 450 | 13.9 | 450 | 13.9 | <u>450</u> | <u>13.9</u> | <u>397</u> | <u>15.7</u> | 397 | 15.7 | 397 | 15.7 |
| 473.astar | <u>711</u> | <u>9.88</u> | 709 | 9.90 | 716 | 9.81 | 616 | 11.4 | 620 | 11.3 | <u>618</u> | <u>11.4</u> |
| 483.xalancbmk | <u>346</u> | <u>19.9</u> | 347 | 19.9 | 346 | 19.9 | <u>346</u> | <u>19.9</u> | 347 | 19.9 | 346 | 19.9 |

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

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

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/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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/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

473.astar: -DSPEC_CPU_LP64

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-calloc
 -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.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: 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/spec/cpu2006.1.1/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 -auto-ilp32
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

483.xalancbmk: basepeak = yes



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Peak Other Flags

Same as Base Other Flags

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.20090805.01.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.20090805.01.xml>

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For other inquiries, please contact webmaster@spec.org.

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