



SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 29.4

PowerEdge M610 (Intel Xeon E5540, 2.53 GHz)

SPECint_base2006 = 26.5

CPU2006 license: 55

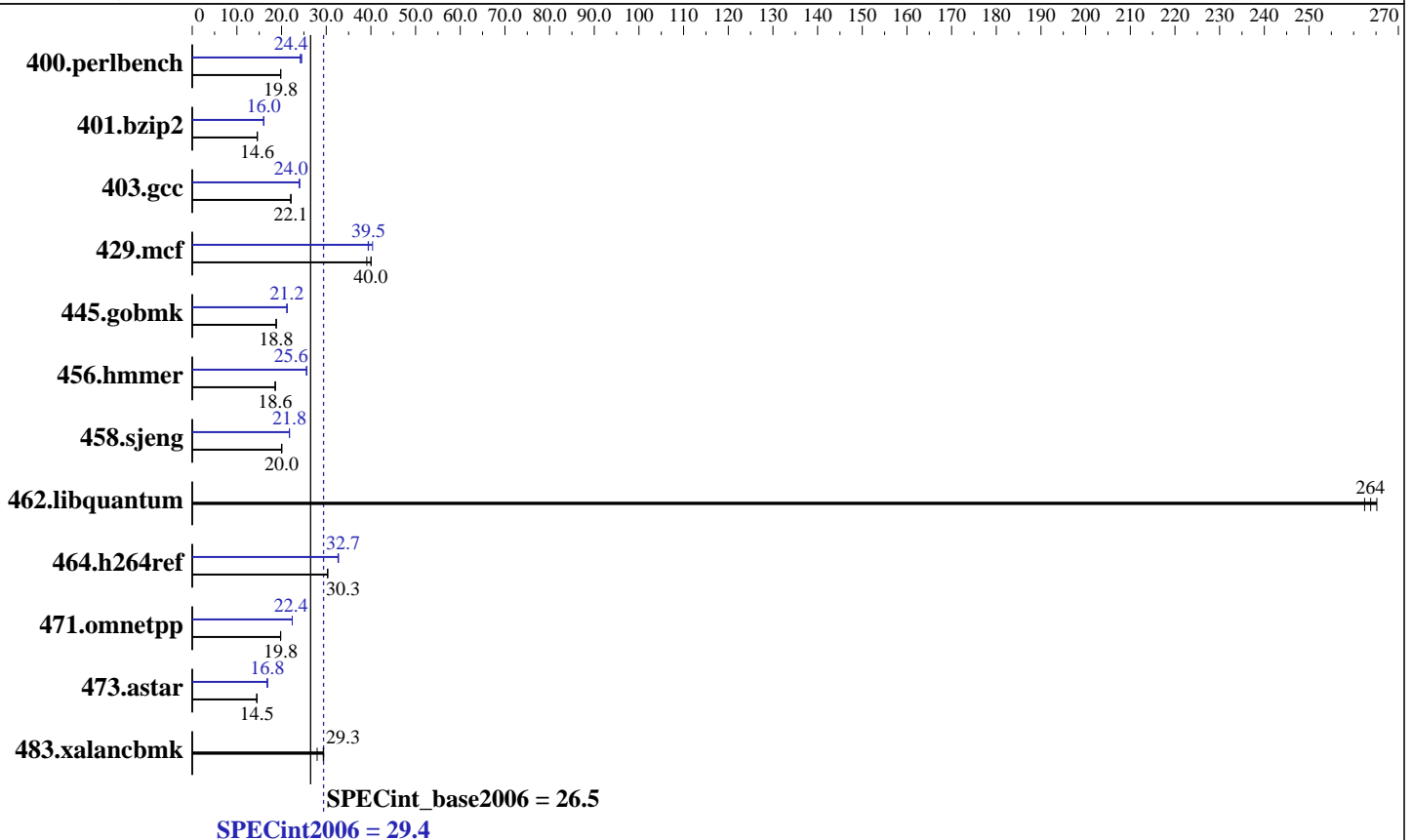
Test date: Mar-2009

Test sponsor: Dell Inc.

Hardware Availability: Mar-2009

Tested by: Dell Inc.

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5540
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2533
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 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 DDR3-1067 DR RDIMM)
 Disk Subsystem: 1 x 146 GB 10000 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	494	19.8	493	19.8	<u>493</u>	<u>19.8</u>	399	24.5	404	24.2	<u>400</u>	<u>24.4</u>
401.bzip2	662	14.6	663	14.6	<u>663</u>	<u>14.6</u>	603	16.0	<u>603</u>	<u>16.0</u>	603	16.0
403.gcc	365	22.1	364	22.1	<u>365</u>	<u>22.1</u>	336	24.0	335	24.0	<u>335</u>	<u>24.0</u>
429.mcf	233	39.1	228	40.1	<u>228</u>	<u>40.0</u>	226	40.4	<u>231</u>	<u>39.5</u>	232	39.4
445.gobmk	557	18.8	<u>558</u>	<u>18.8</u>	559	18.8	494	21.2	<u>494</u>	<u>21.2</u>	495	21.2
456.hammer	502	18.6	<u>502</u>	<u>18.6</u>	502	18.6	364	25.6	364	25.6	<u>364</u>	<u>25.6</u>
458.sjeng	606	20.0	<u>605</u>	<u>20.0</u>	603	20.1	556	21.8	<u>556</u>	<u>21.8</u>	556	21.8
462.libquantum	<u>78.5</u>	<u>264</u>	78.9	262	78.1	265	<u>78.5</u>	<u>264</u>	78.9	262	78.1	265
464.h264ref	731	30.3	729	30.3	<u>731</u>	<u>30.3</u>	678	32.6	<u>677</u>	<u>32.7</u>	676	32.7
471.omnetpp	315	19.8	316	19.8	<u>316</u>	<u>19.8</u>	279	22.4	<u>279</u>	<u>22.4</u>	279	22.4
473.astar	483	14.5	487	14.4	<u>484</u>	<u>14.5</u>	417	16.8	<u>418</u>	<u>16.8</u>	418	16.8
483.xalanbmk	<u>235</u>	<u>29.3</u>	247	28.0	234	29.4	<u>235</u>	<u>29.3</u>	247	28.0	234	29.4

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

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.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

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

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Base Optimization Flags (Continued)

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

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

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Peak Optimization Flags (Continued)

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.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

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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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.20090710.02.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.20090710.02.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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