



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 76.0

PowerEdge R900 (Intel Xeon E7220, 2.93 GHz)

SPECint_rate_base2006 = 62.8

CPU2006 license: 55

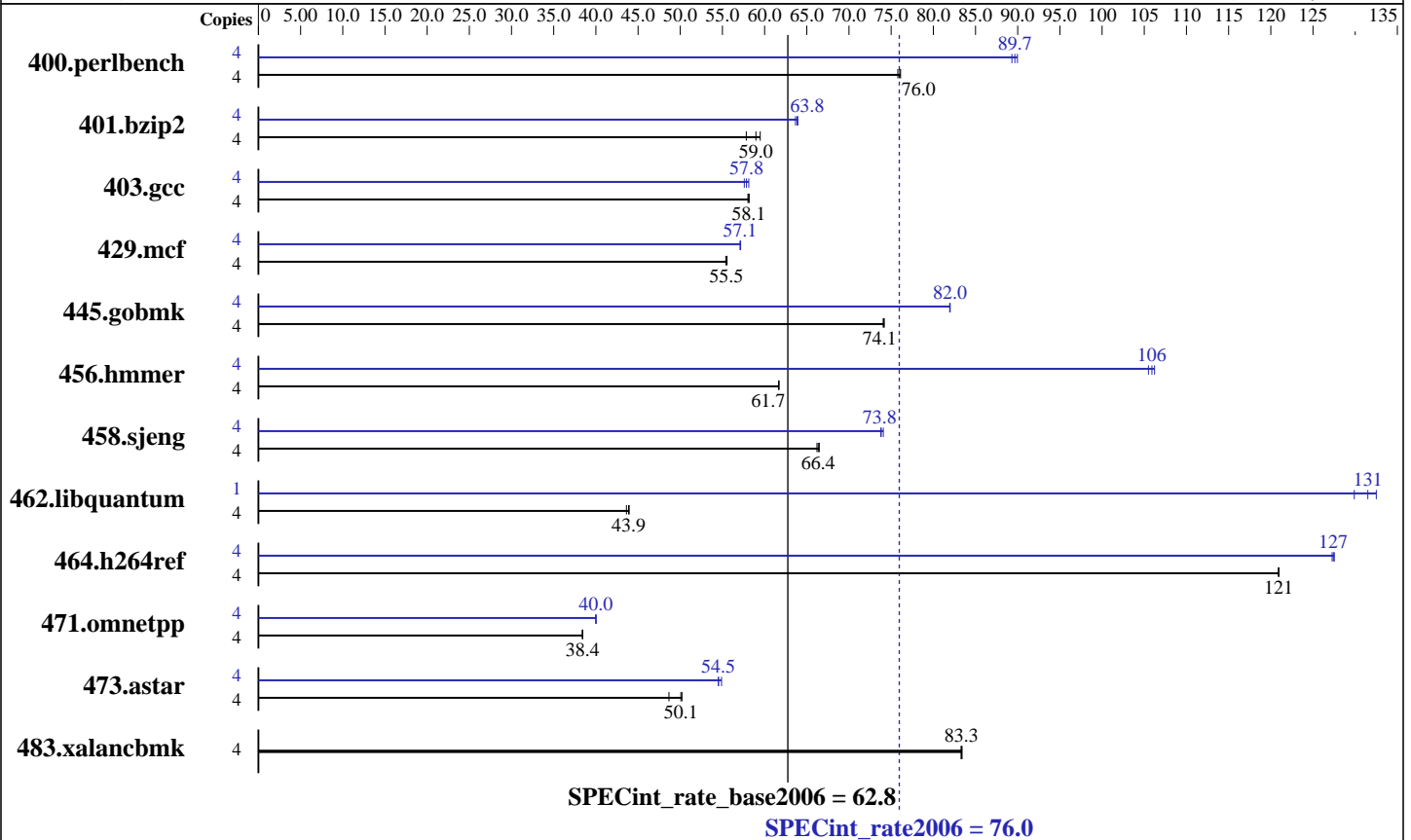
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: May-2008



Hardware

CPU Name: Intel Xeon E7220
 CPU Characteristics:
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per core
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (16 x 1 GB 667 MHz ECC CL5 FB-DIMM)
 Disk Subsystem: 2 x 300 GB 10000 RPM SAS (RAID-0)
 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 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015
 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	514	76.0	516	75.8	513	76.1	4	436	89.7	438	89.3	434	90.0
401.bzip2	4	649	59.5	655	59.0	667	57.8	4	604	63.9	606	63.7	605	63.8
403.gcc	4	554	58.1	554	58.2	555	58.0	4	559	57.6	554	58.1	557	57.8
429.mcf	4	657	55.5	657	55.5	658	55.4	4	639	57.1	639	57.1	638	57.2
445.gobmk	4	566	74.1	566	74.2	566	74.1	4	512	81.9	512	82.0	512	82.0
456.hmmer	4	605	61.7	605	61.7	605	61.7	4	351	106	352	106	354	105
458.sjeng	4	729	66.4	728	66.5	731	66.2	4	656	73.8	653	74.1	656	73.8
462.libquantum	4	1900	43.6	1886	43.9	1889	43.9	1	158	131	160	130	156	133
464.h264ref	4	732	121	732	121	732	121	4	694	128	695	127	696	127
471.omnetpp	4	651	38.4	651	38.4	650	38.4	4	625	40.0	625	40.0	625	40.0
473.astar	4	561	50.1	559	50.2	577	48.7	4	515	54.5	512	54.9	515	54.5
483.xalancbmk	4	331	83.3	331	83.3	331	83.4	4	331	83.3	331	83.3	331	83.4

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

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode
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:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -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/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include

456.hmmer: /opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

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

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

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

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-ic10.1-int-linux64-revD.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml>

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

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