SPEC® CINT2006 Result

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Dell Inc.

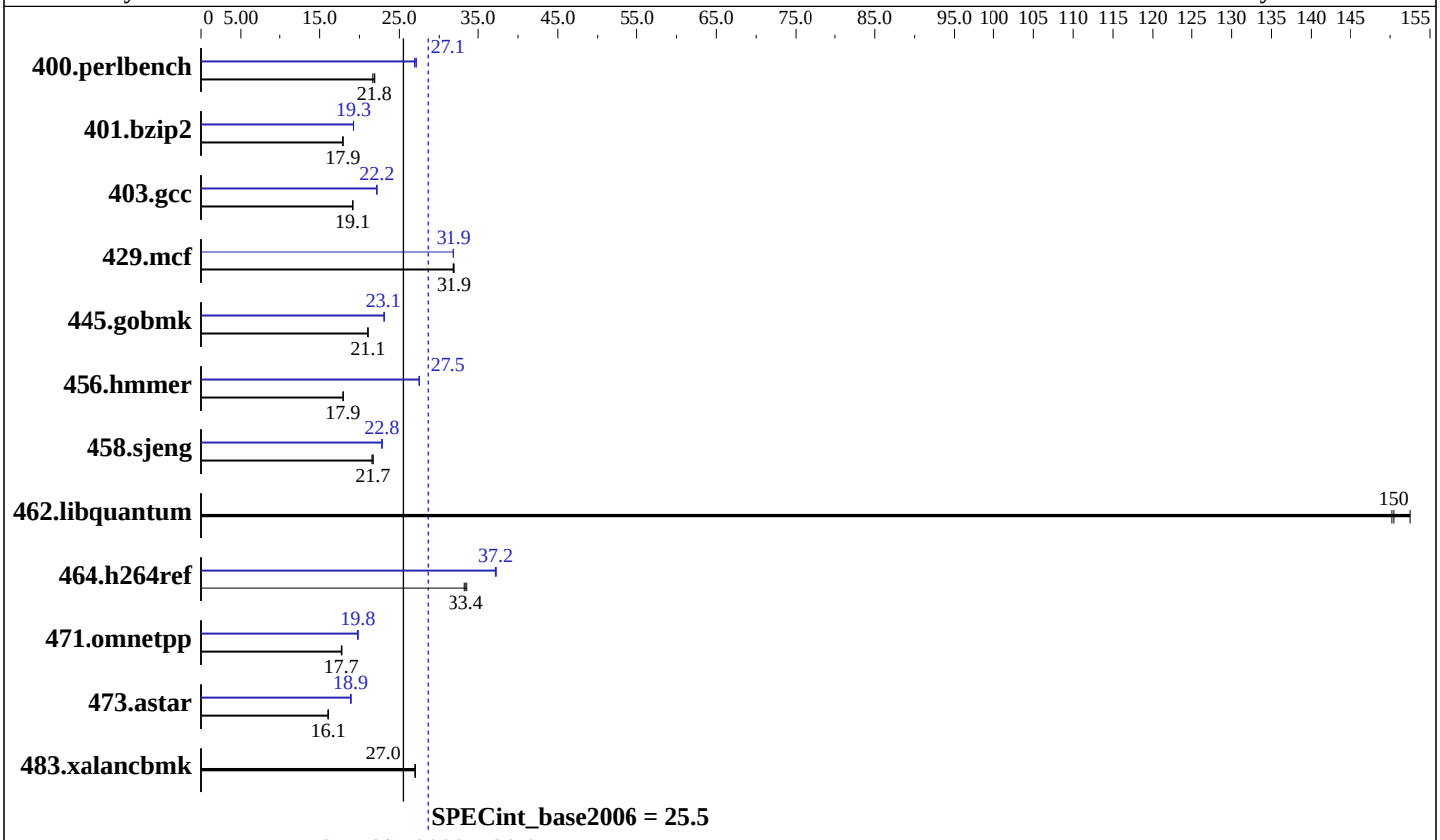
PowerEdge R300 (Intel Xeon X5460, 3.16 GHz)

SPECint®2006 = 28.6

SPECint_base2006 = 25.5

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Oct-2008
Hardware Availability: Mar-2008
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:	2 x 36 GB SAS, 15k RPM
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	446	21.9	**447**	**21.8**	451	21.7	360	27.1	363	26.9	**361**	**27.1**
401.bzip2	**538**	**17.9**	539	17.9	538	17.9	502	19.2	**501**	**19.3**	501	19.3
403.gcc	421	19.1	**420**	**19.1**	420	19.2	363	22.2	363	22.2	**363**	**22.2**
429.mcf	286	31.9	285	32.0	**286**	**31.9**	**286**	**31.9**	286	31.9	286	31.9
445.gobmk	**498**	**21.1**	498	21.1	498	21.1	454	23.1	**454**	**23.1**	454	23.1
456.hmmer	519	18.0	**520**	**17.9**	520	17.9	339	27.5	**339**	**27.5**	340	27.5
458.sjeng	558	21.7	**558**	**21.7**	561	21.6	530	22.8	**530**	**22.8**	531	22.8
462.libquantum	136	153	138	150	**138**	**150**	136	153	138	150	**138**	**150**
464.h264ref	659	33.6	665	33.3	**663**	**33.4**	**595**	**37.2**	596	37.2	594	37.3
471.omnetpp	351	17.8	**352**	**17.7**	352	17.7	**316**	**19.8**	316	19.8	315	19.8
473.astar	**437**	**16.1**	436	16.1	437	16.1	372	18.9	370	18.9	**371**	**18.9**
483.xalancbmk	**256**	**27.0**	256	27.0	256	27.0	**256**	**27.0**	256	27.0	256	27.0

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 processors
KMP_AFFINITY set to "physical,0"
```

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`

Base Optimization Flags

C benchmarks:
`-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -par-runtime-control -opt-prefetch`

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Base Optimization Flags (Continued)

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`
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`

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Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32 -opt-prefetch -ansi-alias

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

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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 -auto-ilp32

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

462.libquantum: basepeak = yes

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 -lsmartheap

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 -lsmartheap

483.xalancbmk: basepeak = yes

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.20090713.02.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.20090713.02.xml

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