SPEC® CINT2006 Result

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Dell Inc.

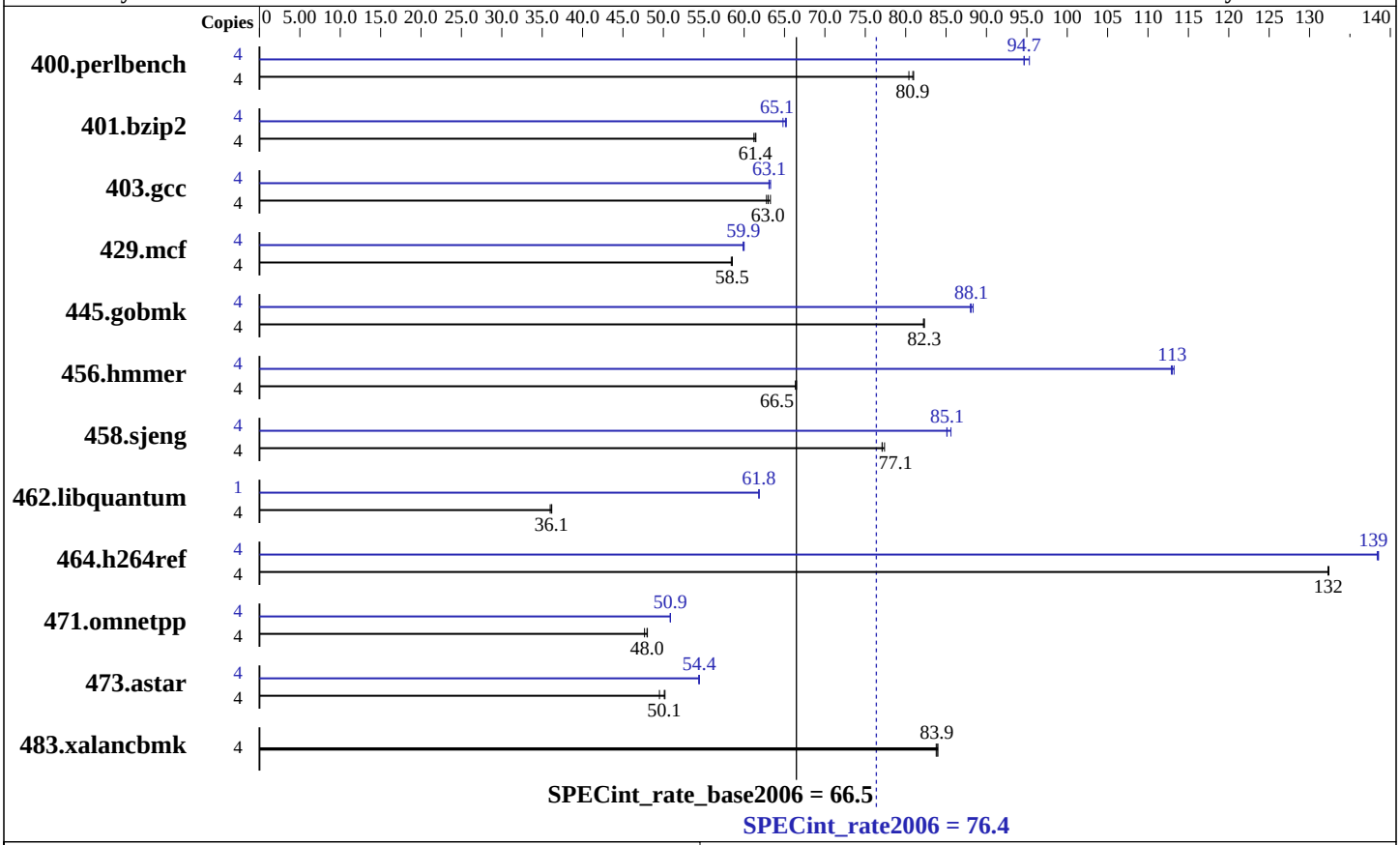
PowerEdge R300 (Intel Xeon X5460, 3.16 GHz)

SPECint®_rate2006 = 76.4

SPECint_rate_base2006 = 66.5

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

Test date: Feb-2008
Hardware Availability: Mar-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	1333 MHz system bus
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 (4x4 GB DDR2-667)
Disk Subsystem:	1 x 300 GB SAS 15k RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
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 2.17.50.0.15

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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	483	81.0	**483**	**80.9**	486	80.4	4	**413**	**94.7**	410	95.3	413	94.6
401.bzip2	4	631	61.2	**629**	**61.4**	628	61.5	4	592	65.2	**593**	**65.1**	596	64.8
403.gcc	4	**511**	**63.0**	509	63.3	513	62.8	4	510	63.1	**510**	**63.1**	509	63.3
429.mcf	4	623	58.5	**623**	**58.5**	625	58.4	4	**609**	**59.9**	609	59.9	608	60.0
445.gobmk	4	**510**	**82.3**	510	82.3	510	82.2	4	477	88.0	**476**	**88.1**	475	88.4
456.hmmer	4	**561**	**66.5**	561	66.5	563	66.3	4	331	113	**330**	**113**	330	113
458.sjeng	4	**628**	**77.1**	628	77.1	625	77.4	4	569	85.1	**569**	**85.1**	565	85.6
462.libquantum	4	2303	36.0	**2293**	**36.1**	2290	36.2	1	335	61.9	**335**	**61.8**	335	61.8
464.h264ref	4	669	132	**669**	**132**	669	132	4	**639**	**139**	640	138	639	139
471.omnetpp	4	524	47.7	**521**	**48.0**	521	48.0	4	491	50.9	492	50.9	**491**	**50.9**
473.astar	4	567	49.5	559	50.2	**560**	**50.1**	4	516	54.4	**516**	**54.4**	516	54.5
483.xalancbmk	4	**329**	**83.9**	329	83.8	329	84.0	4	**329**	**83.9**	329	83.8	329	84.0

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

Compiler Invocation Notes

```
OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

Platform Notes

```
BIOS Settings:
Adjacent Cache Line Prefetch = Disabled (default Enabled)
Hardware Prefetcher = Disabled (default Enabled)
```

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:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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

Continued on next page

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/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090713.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090713.00.xml`

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 15:26:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 March 2008.