SPEC® CINT2006 Result
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Dell Inc.

SPECint®_rate2006 =   59.8

PowerEdge 860 (Intel Xeon X3230, 2.66 GHz)

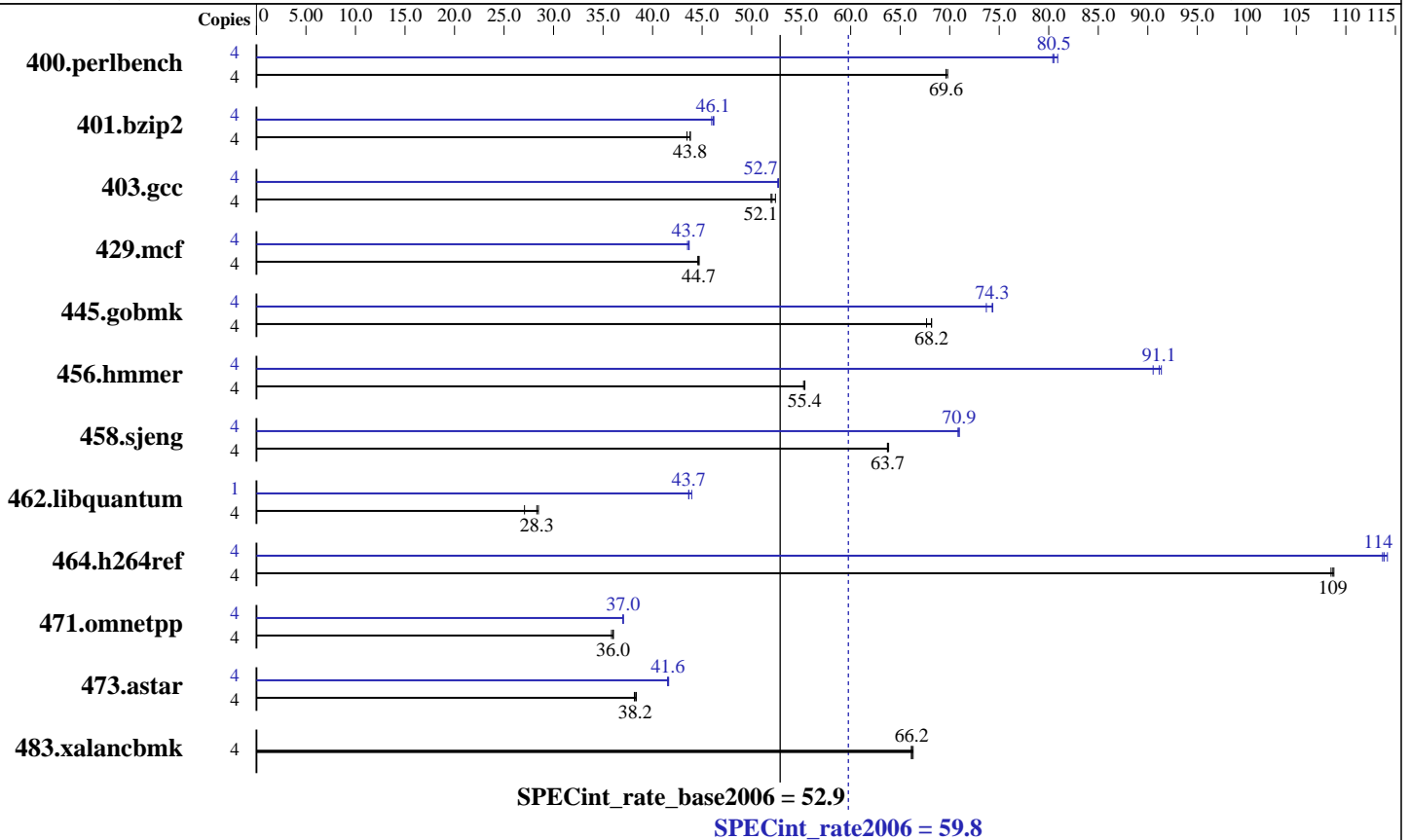SPECint_rate_base2006 = 52.9

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

Test date: Aug-2007
Hardware Availability: Jul-2007
Software Availability: Nov-2007

Copies		
400.perlbench	4	80.5
	4	69.6
401.bzip2	4	46.1
	4	43.8
403.gcc	4	52.7
	4	52.1
429.mcf	4	43.7
	4	44.7
445.gobmk	4	74.3
	4	68.2
456.hmmer	4	91.1
	4	55.4
458.sjeng	4	70.9
	4	63.7
462.libquantum	1	43.7
	4	28.3
464.h264ref	4	114
	4	109
471.omnetpp	4	37.0
	4	36.0
473.astar	4	41.6
	4	38.2
483.xalancbmk	4	66.2

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Hardware

CPU Name:	Intel Xeon X3230
CPU Characteristics:	1066MHz system bus
CPU MHz:	2660
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:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 GB 667 MHz DIMM)
Disk Subsystem:	1 x 73 GB SAS 10k RPM
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070725
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap library V8.1

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	560	69.8	561	69.6	**561**	**69.6**	4	483	80.9	**485**	**80.5**	486	80.4
401.bzip2	4	**882**	**43.8**	888	43.5	881	43.8	4	836	46.2	840	46.0	**837**	**46.1**
403.gcc	4	620	52.0	**619**	**52.1**	614	52.4	4	611	52.7	**611**	**52.7**	612	52.6
429.mcf	4	816	44.7	819	44.6	**817**	**44.7**	4	835	43.7	**836**	**43.7**	838	43.5
445.gobmk	4	**616**	**68.2**	620	67.7	616	68.2	4	569	73.7	**565**	**74.3**	564	74.3
456.hmmer	4	**674**	**55.4**	676	55.2	674	55.4	4	408	91.4	**409**	**91.1**	412	90.5
458.sjeng	4	**759**	**63.7**	760	63.7	758	63.8	4	682	71.0	683	70.8	**682**	**70.9**
462.libquantum	4	3062	27.1	**2928**	**28.3**	2911	28.5	1	471	43.9	**475**	**43.7**	475	43.6
464.h264ref	4	814	109	816	109	**814**	**109**	4	775	114	**777**	**114**	779	114
471.omnetpp	4	697	35.9	694	36.0	**694**	**36.0**	4	675	37.0	676	37.0	**675**	**37.0**
473.astar	4	736	38.2	**734**	**38.2**	732	38.4	4	676	41.5	675	41.6	**676**	**41.6**
483.xalancbmk	4	416	66.3	417	66.1	**417**	**66.2**	4	416	66.3	417	66.1	**417**	**66.2**

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
```

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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/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
```

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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/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`

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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.20090713.02.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.20090713.02.xml`

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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