SPEC® CINT2006 Result

Supermicro

Motherboard X8DTL-3F (Intel Xeon W5590, 3.33GHz)

$SPECint^{®}2006 =$ 40.9

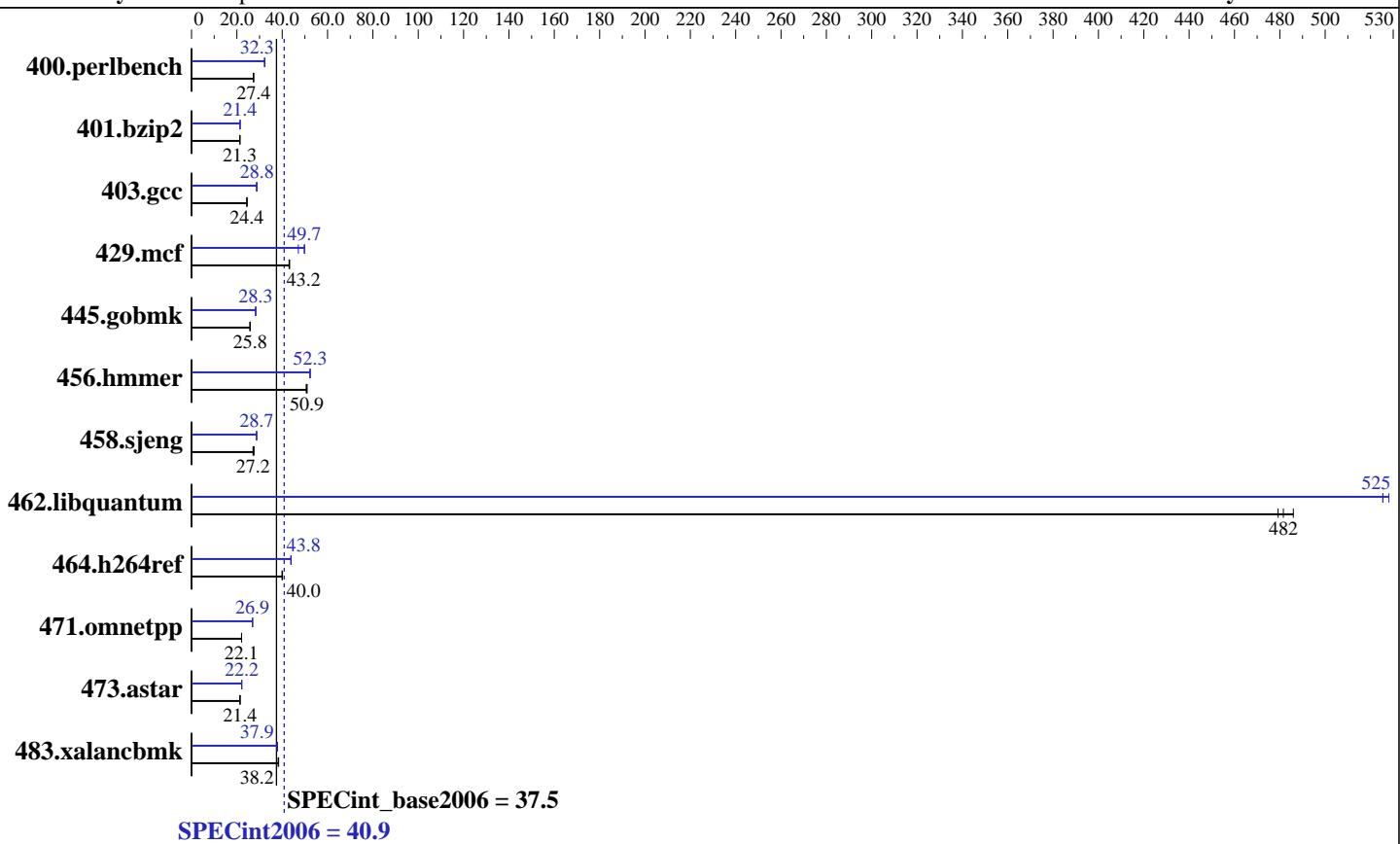$SPECint\_base2006 =$ 37.5

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2010
Hardware Availability: Sep-2009
Software Availability: Nov-2009

Results graph showing, for each benchmark, peak (blue) and base values:

- 400.perlbench: 32.3 / 27.4
- 401.bzip2: 21.4 / 21.3
- 403.gcc: 28.8 / 24.4
- 429.mcf: 49.7 / 43.2
- 445.gobmk: 28.3 / 25.8
- 456.hmmer: 52.3 / 50.9
- 458.sjeng: 28.7 / 27.2
- 462.libquantum: 525 / 482
- 464.h264ref: 43.8 / 40.0
- 471.omnetpp: 26.9 / 22.1
- 473.astar: 22.2 / 21.4
- 483.xalancbmk: 37.9 / 38.2

SPECint_base2006 = 37.5
SPECint2006 = 40.9

Hardware

CPU Name:	Intel Xeon W5590
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
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 DDR3-1333 RDIMM, ECC, CL9)
Disk Subsystem:	1 x 300 GB SATA II, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**357**	**27.4**	357	27.4	357	27.3	**302**	**32.3**	304	32.1	302	32.3
401.bzip2	**453**	**21.3**	453	21.3	452	21.3	450	21.4	**451**	**21.4**	451	21.4
403.gcc	329	24.5	**330**	**24.4**	330	24.4	281	28.6	**279**	**28.8**	279	28.9
429.mcf	211	43.2	212	43.0	**211**	**43.2**	183	49.9	**184**	**49.7**	194	47.1
445.gobmk	**406**	**25.8**	406	25.8	407	25.8	371	28.3	370	28.3	**371**	**28.3**
456.hmmer	**183**	**50.9**	183	50.9	185	50.6	179	52.2	178	52.3	**178**	**52.3**
458.sjeng	446	27.2	**445**	**27.2**	438	27.6	422	28.7	421	28.8	**422**	**28.7**
462.libquantum	**43.0**	**482**	43.2	479	42.6	486	**39.4**	**525**	39.4	525	39.2	528
464.h264ref	**553**	**40.0**	554	39.9	551	40.1	504	43.9	505	43.8	**505**	**43.8**
471.omnetpp	283	22.1	283	22.1	**283**	**22.1**	233	26.9	232	26.9	**232**	**26.9**
473.astar	327	21.4	329	21.3	**328**	**21.4**	318	22.1	**317**	**22.2**	317	22.2
483.xalancbmk	**180**	**38.2**	184	37.6	180	38.4	**182**	**37.9**	183	37.7	182	37.9

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

Operating System Notes

    'ulimit -s unlimited' was set for stacksize unlimited
     KMP_AFFINITY set to granularity=fine,scatter

Platform Notes

    Fan speed set to Full Speed in BIOS Setup.
    As tested, the system used a COMPUWARE
    CPS-5611-3A2LF power supply, 2 SNK-P0035AP4 heatsinks,
    and 1 EVERCOOL EC6025H12S,
    2 Nidec UltraFlo T92T12MMA7-57 T072 cooling fans.

General Notes

    Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

Base Compiler Invocation

C benchmarks:
     icc -m64

C++ benchmarks:
     icpc -m64

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Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
   401.bzip2: -DSPEC_CPU_LP64
     403.gcc: -DSPEC_CPU_LP64
     429.mcf: -DSPEC_CPU_LP64
   445.gobmk: -DSPEC_CPU_LP64
   456.hmmer: -DSPEC_CPU_LP64
   458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
  464.h264ref: -DSPEC_CPU_LP64
  471.omnetpp: -DSPEC_CPU_LP64
   473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

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

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64
```

Base Other Flags

C benchmarks:
```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc   -m64
```

```
400.perlbench: icc -m32
```

```
429.mcf: icc -m32
```

```
445.gobmk: icc -m32
```

```
464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc -m32
```

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CPU2006 license: 001176		**Test date:**	Apr-2010
Test sponsor:	Supermicro	**Hardware Availability:**	Sep-2009
Tested by:	Supermicro	**Software Availability:**	Nov-2009

Peak Compiler Invocation (Continued)

        473.astar: `icpc -m64`

Peak Portability Flags

      400.perlbench: `-DSPEC_CPU_LINUX_IA32`
        401.bzip2: `-DSPEC_CPU_LP64`
          403.gcc: `-DSPEC_CPU_LP64`
        456.hmmer: `-DSPEC_CPU_LP64`
        458.sjeng: `-DSPEC_CPU_LP64`
      462.libquantum: `-DSPEC_CPU_LP64 -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`

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

          403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc`
                `-opt-malloc-options=3 -auto-ilp32`

          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`

      462.libquantum: `-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel`
                `-opt-prefetch -par-schedule-static=32768 -ansi-alias`

        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`

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Peak Optimization Flags (Continued)

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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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 -Wl,-z,muldefs`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

483.xalancbmk: `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch`
`-Wl,-z,muldefs`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap`

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-ic11.1-linux64-revE.20100316.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml

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