SPEC® CINT2006 Result

Intel Corporation

Supermicro SuperServer 6026T-NTR+ (Intel Xeon X5560, 2.80 GHz)

SPECint®2006 =   34.6

SPECint_base2006 =   30.8
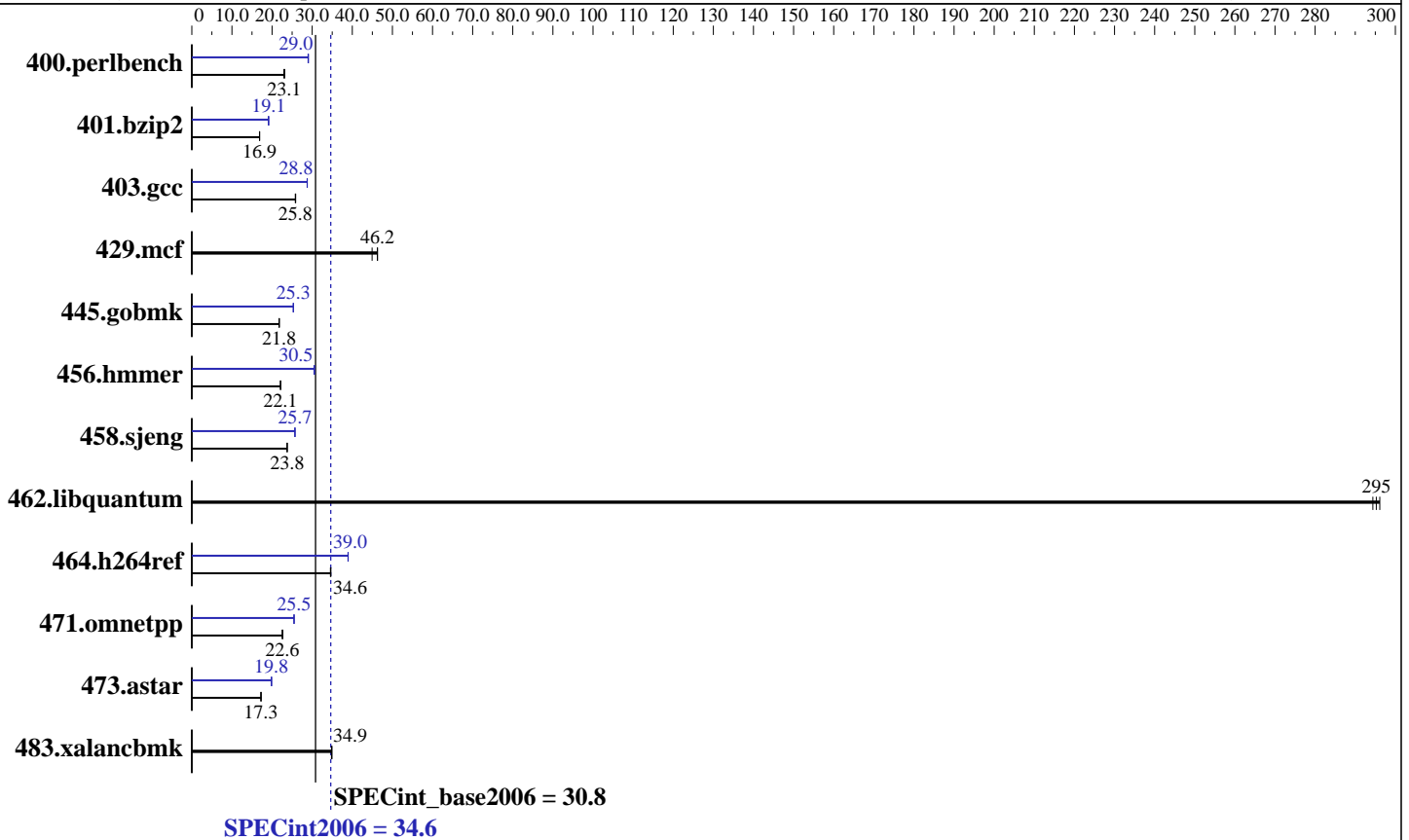
CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2009

Hardware Availability: Mar-2009

Software Availability: Feb-2009

400.perlbench	29.0 / 23.1
401.bzip2	19.1 / 16.9
403.gcc	28.8 / 25.8
429.mcf	46.2
445.gobmk	25.3 / 21.8
456.hmmer	30.5 / 22.1
458.sjeng	25.7 / 23.8
462.libquantum	295
464.h264ref	39.0 / 34.6
471.omnetpp	25.5 / 22.6
473.astar	19.8 / 17.3
483.xalancbmk	34.9

SPECint_base2006 = 30.8

SPECint2006 = 34.6

Hardware

CPU Name:	Intel Xeon X5560
CPU Characteristics:	Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz:	2800
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 4GB DDR3-1333, CL9)
Disk Subsystem:	1 x 150 GB SATA, 10000RPM
Other Hardware:	None

Software

Operating System:	SuSe Linux SLES10 SP2, Kernel 2.6.16.60-0.34-smp for x86_64
Compiler:	Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
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	426	23.0	422	23.1	**424**	**23.1**	**337**	**29.0**	336	29.1	337	29.0
401.bzip2	**571**	**16.9**	572	16.9	571	16.9	504	19.2	**504**	**19.1**	505	19.1
403.gcc	311	25.9	**312**	**25.8**	312	25.8	280	28.7	**280**	**28.8**	280	28.8
429.mcf	203	44.9	**197**	**46.2**	197	46.3	203	44.9	**197**	**46.2**	197	46.3
445.gobmk	482	21.8	482	21.8	**482**	**21.8**	**414**	**25.3**	415	25.3	414	25.3
456.hmmer	422	22.1	**422**	**22.1**	422	22.1	306	30.5	305	30.6	**306**	**30.5**
458.sjeng	**509**	**23.8**	509	23.8	510	23.7	470	25.7	**471**	**25.7**	471	25.7
462.libquantum	70.0	296	**70.2**	**295**	70.4	294	70.0	296	**70.2**	**295**	70.4	294
464.h264ref	639	34.6	641	34.5	**639**	**34.6**	568	38.9	568	39.0	**568**	**39.0**
471.omnetpp	275	22.7	**277**	**22.6**	277	22.5	**245**	**25.5**	245	25.5	245	25.5
473.astar	406	17.3	**407**	**17.3**	408	17.2	353	19.9	**354**	**19.8**	354	19.8
483.xalancbmk	198	34.9	**198**	**34.9**	198	34.8	198	34.9	**198**	**34.9**	198	34.8

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 cores
KMP_AFFINITY set to granularity=fine,scatter
```

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:
    `-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel`
    `-par-runtime-control -opt-prefetch`

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xSSE4.2 -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/11.0/080/bin/intel64/icc`

456.hmmer: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

458.sjeng: `/opt/intel/Compiler/11.0/080/bin/intel64/icc`

C++ benchmarks (except as noted below):
    icpc

473.astar: `/opt/intel/Compiler/11.0/080/bin/intel64/icpc`

Peak Portability Flags

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

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Peak Optimization Flags (Continued)

```
   401.bzip2: -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) -auto-ilp32 -opt-prefetch -ansi-alias

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

     429.mcf: basepeak = yes

   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 -auto-ilp32

462.libquantum: basepeak = yes

  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
```

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/spec/cpu2006.1.1/lib -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 -auto-ilp32
             -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

483.xalancbmk: basepeak = yes
```

Peak Other Flags

C benchmarks:

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

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The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.02.xml

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