SPEC® CINT2006 Result
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Supermicro
(Test Sponsor: Intel Corporation)

Supermicro X7DB8+ (Intel Xeon processor E5410, 2.33 GHz)

$SPECint^®2006 =$ 21.6
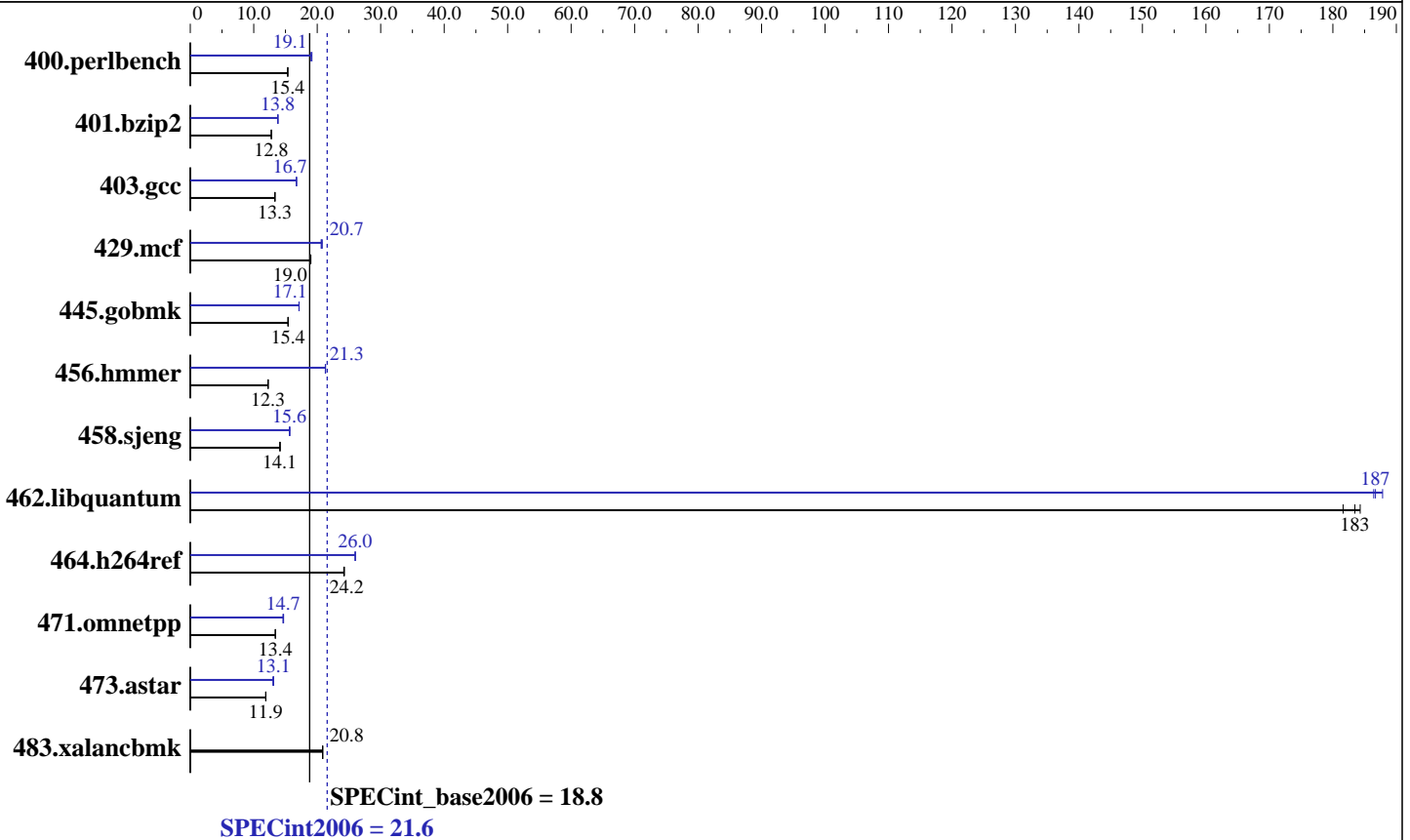
$SPECint\_base2006 =$ 18.8

CPU2006 license: 13

Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Nov-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007

Benchmark	Value
400.perlbench	19.1 / 15.4
401.bzip2	13.8 / 12.8
403.gcc	16.7 / 13.3
429.mcf	20.7 / 19.0
445.gobmk	17.1 / 15.4
456.hmmer	21.3 / 12.3
458.sjeng	15.6 / 14.1
462.libquantum	187 / 183
464.h264ref	26.0 / 24.2
471.omnetpp	14.7 / 13.4
473.astar	13.1 / 11.9
483.xalancbmk	20.8

SPECint_base2006 = 18.8

SPECint2006 = 21.6

Hardware

CPU Name: Intel Xeon E5410

CPU Characteristics: Quad Core, 2.33 GHz

CPU MHz: 2333

FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip

CPU(s) orderable: 1,2 chips

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 (8 * 2GB DDR2 5300F, 2 rank, CL5-5-5, ECC)

Disk Subsystem: 1x73GB Seagate ST37330LC SCSI 10K RPM

Other Hardware: None

Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1 RC1, Kernel linux-cbgm 2.6.16.43-0.5-smp for x86_64

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: Multi-user, run level 3

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: SmartHeap library V8.1 Binutils 2.17.50.0.15

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	636	15.4	**636**	**15.4**	636	15.4	**511**	**19.1**	510	19.2	514	19.0
401.bzip2	**756**	**12.8**	755	12.8	756	12.8	**699**	**13.8**	698	13.8	700	13.8
403.gcc	**604**	**13.3**	605	13.3	602	13.4	**481**	**16.7**	482	16.7	480	16.8
429.mcf	480	19.0	**481**	**19.0**	481	19.0	**441**	**20.7**	439	20.8	442	20.6
445.gobmk	**681**	**15.4**	681	15.4	680	15.4	612	17.1	**612**	**17.1**	612	17.2
456.hmmer	**761**	**12.3**	761	12.3	761	12.3	438	21.3	**438**	**21.3**	439	21.3
458.sjeng	854	14.2	**857**	**14.1**	857	14.1	775	15.6	**773**	**15.6**	771	15.7
462.libquantum	**113**	**183**	114	182	112	184	110	188	**111**	**187**	111	186
464.h264ref	915	24.2	911	24.3	**914**	**24.2**	**851**	**26.0**	853	26.0	851	26.0
471.omnetpp	467	13.4	466	13.4	**466**	**13.4**	**426**	**14.7**	425	14.7	428	14.6
473.astar	**590**	**11.9**	591	11.9	589	11.9	540	13.0	534	13.1	**535**	**13.1**
483.xalancbmk	**331**	**20.8**	331	20.8	330	20.9	**331**	**20.8**	331	20.8	330	20.9

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

General Notes

```
Bios settings:
Hardware Prefetcher:      Enabled
Adjacent Sector Prefetch: Enabled
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
```

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
```

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Base Optimization Flags

C benchmarks:
```
-fast -vec-guard-write -parallel -par-runtime-control
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/users/rahul/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: /opt/intel/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/include

    456.hmmer: /opt/intel/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/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:

Continued on next page

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Peak Optimization Flags (Continued)

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`
`-auto-ilp32`

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`
`-auto-ilp32`

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/spec/users/rahul/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/spec/users/rahul/cpu2006.1.0/lib  -lsmartheap`

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-ic10-ia32-intel64-linux-flags.20090714.36.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.20090714.36.xml`

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

Tested with SPEC CPU2006 v1.0.
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