SPEC® CINT2006 Result
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SGI

SGI Altix ICE 8200EX (Intel Xeon X5570, 2.93 GHz)

SPECint®_rate2006 =   249

SPECint_rate_base2006 =   233

CPU2006 license: 4	**Test date:** Feb-2009
Test sponsor: SGI	**Hardware Availability:** Mar-2009
Tested by: SGI	**Software Availability:** Feb-2009

Copies 0 30.0 60.0 90.0 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690

400.perlbench — 16: 251 — 16: 213

401.bzip2 — 16: 164 — 16: 156

403.gcc — 16: 193 — 16: 199

429.mcf — 8: 274 — 16: 272

445.gobmk — 16: 264 — 16: 240

456.hmmer — 16: 231 — 16: 179

458.sjeng — 16: 249 — 16: 227

462.libquantum — 16: 686 — 16: 686

464.h264ref — 16: 320 — 16: 298

471.omnetpp — 16: 174

473.astar — 16: 167 — 16: 153

483.xalancbmk — 16: 265

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Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Quad Core, 2.93 GHz
	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2934
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:	48 GB (12*4GB DDR3-1066 CL7 RDIMMs)
Disk Subsystem:	7 TB RAID 5
	48 x 147 GB SAS (Seagate Cheetah 15000 rpm)
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.30-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
Auto Parallel:	No
File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SGI ProPack 6 for Linux Service Pack 2 Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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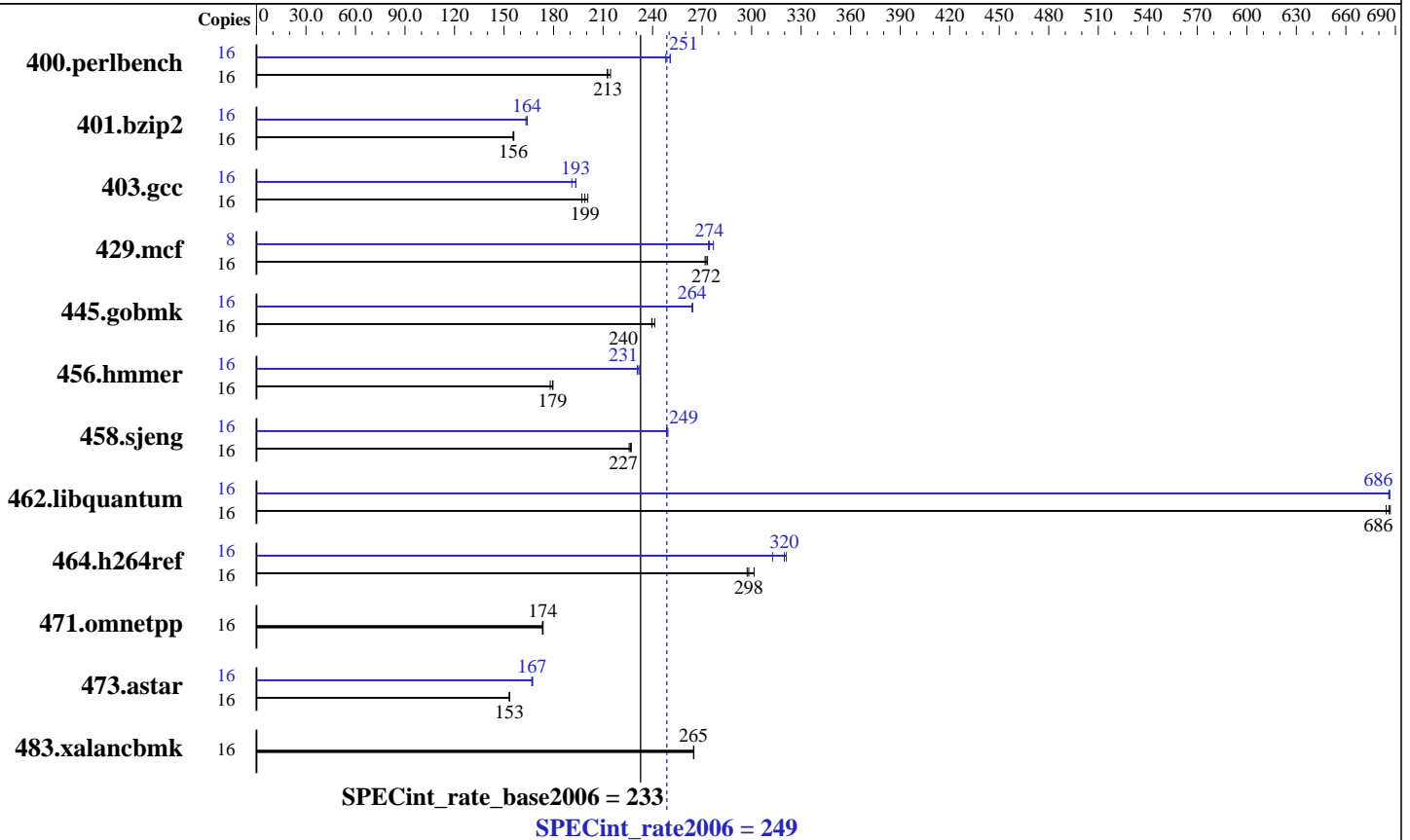SPECint_rate_base2006 = 233

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	729	215	735	213	**735**	**213**	16	624	251	**624**	**251**	630	248
401.bzip2	16	993	156	**992**	**156**	990	156	16	941	164	946	163	**942**	**164**
403.gcc	16	**647**	**199**	653	197	642	201	16	674	191	666	194	**666**	**193**
429.mcf	16	**536**	**272**	534	273	537	272	8	266	274	**266**	**274**	264	277
445.gobmk	16	**700**	**240**	701	239	696	241	16	**636**	**264**	635	264	636	264
456.hmmer	16	831	180	**832**	**179**	839	178	16	644	232	647	231	**646**	**231**
458.sjeng	16	857	226	**854**	**227**	853	227	16	777	249	**778**	**249**	779	248
462.libquantum	16	**483**	**686**	484	684	483	687	16	483	687	**483**	**686**	483	686
464.h264ref	16	**1187**	**298**	1191	297	1175	301	16	**1107**	**320**	1103	321	1132	313
471.omnetpp	16	**576**	**174**	576	174	577	173	16	**576**	**174**	576	174	577	173
473.astar	16	732	153	**733**	**153**	733	153	16	673	167	**672**	**167**	671	167
483.xalancbmk	16	417	265	417	265	**417**	**265**	16	417	265	417	265	**417**	**265**

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

Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

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 -inline-calloc
   -opt-malloc-options=3 -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) -opt-prefetch -ansi-alias -auto-ilp32`

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

429.mcf: `-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) -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 -auto-ilp32`

462.libquantum: `-xSSE4.2 -ipo -O3 -no-prec-div -static`
`-opt-malloc-options=3 -opt-prefetch`

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: `basepeak = yes`

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`

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

Tested with SPEC CPU2006 v1.1.
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