# SPEC® CINT2006 Result
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## SGI

SGI Altix ICE 8200 (Intel Xeon Processor X5355, 2.66 GHz)

$SPECint^{®}\_rate2006 =$    105
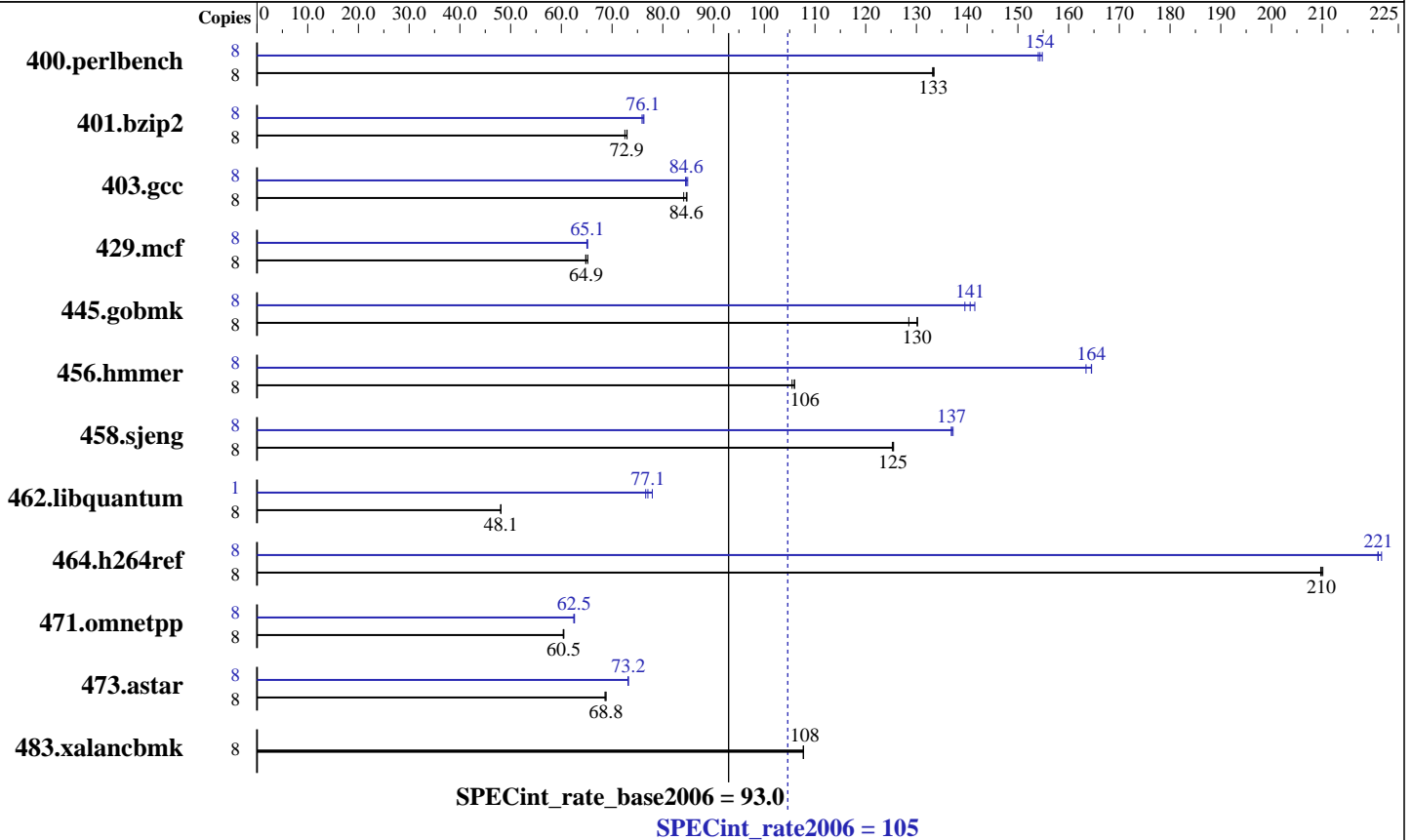
$SPECint\_rate\_base2006 =$  93.0

**CPU2006 license:** 4
**Test sponsor:** SGI
**Tested by:** SGI

**Test date:** Sep-2007
**Hardware Availability:** Aug-2007
**Software Availability:** Nov-2007



SPECint_rate_base2006 = 93.0

SPECint_rate2006 = 105

## Hardware

CPU Name: Intel Xeon X5355
CPU Characteristics: Quad Core, 2.66 GHz
CPU MHz: 2666
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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache: None
Other Cache: None
Memory: 16 GB (8*2GB PC2-5300 FB-DIMMs)
Disk Subsystem: 16 TB RAID 6+1
32 x 500 GB SATA (Seagate Barracuda 7200 rpm)
Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 10 SP1 (x86_64) Kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64, Version 10.1, Build 20070824
Auto Parallel: Yes
File System: NFSv3 IPoIB
System State: Multi-user, run level 3
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: SGI ProPack Compute Node 5 SP2 for Linux
MicroQuill SmartHeap Library 8
Binutils 2.17

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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 | 8 | 587 | 133 | 586 | 133 | **586** | **133** | 8 | 507 | 154 | **506** | **154** | 505 | 155 |
| 401.bzip2 | 8 | 1064 | 72.5 | **1059** | **72.9** | 1058 | 73.0 | 8 | 1012 | 76.3 | 1017 | 75.9 | **1014** | **76.1** |
| 403.gcc | 8 | **761** | **84.6** | 760 | 84.8 | 766 | 84.1 | 8 | 758 | 84.9 | **761** | **84.6** | 762 | 84.5 |
| 429.mcf | 8 | 1119 | 65.2 | **1124** | **64.9** | 1126 | 64.8 | 8 | **1121** | **65.1** | 1119 | 65.2 | 1122 | 65.0 |
| 445.gobmk | 8 | **645** | **130** | 644 | 130 | 653 | 128 | 8 | **597** | **141** | 593 | 142 | 601 | 140 |
| 456.hmmer | 8 | **705** | **106** | 708 | 105 | 704 | 106 | 8 | 457 | 163 | **454** | **164** | 454 | 165 |
| 458.sjeng | 8 | 771 | 125 | **772** | **125** | 773 | 125 | 8 | 705 | 137 | **707** | **137** | 707 | 137 |
| 462.libquantum | 8 | 3449 | 48.1 | **3448** | **48.1** | 3448 | 48.1 | 1 | 270 | 76.6 | 266 | 77.9 | **269** | **77.1** |
| 464.h264ref | 8 | **844** | **210** | 844 | 210 | 843 | 210 | 8 | **801** | **221** | 801 | 221 | 799 | 222 |
| 471.omnetpp | 8 | **827** | **60.5** | 827 | 60.5 | 828 | 60.4 | 8 | **800** | **62.5** | 800 | 62.5 | 799 | 62.6 |
| 473.astar | 8 | **817** | **68.8** | 819 | 68.6 | 816 | 68.8 | 8 | 768 | 73.1 | 767 | 73.2 | **767** | **73.2** |
| 483.xalancbmk | 8 | 512 | 108 | 513 | 108 | **512** | **108** | 8 | 512 | 108 | 513 | 108 | **512** | **108** |

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

## General Notes

```
BIOS settings:
  Hardware Prefetcher:  disabled
  Adjacent Cacheline Prefetcher:  disabled
462.libquantum (peak) compiled with automatic parallelization
  and run with OMP_NUM_THREADS = 8
```

## 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 -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs -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
   483.xalancbmk: -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

```
    400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
                   -prefetch
```

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# Peak Optimization Flags (Continued)

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 -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 -lsmartheap`

483.xalancbmk: `basepeak = yes`

# 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.20090714.07.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.20090714.07.xml

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