# SPEC® CINT2006 Result
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## Dell Inc.

PowerEdge R200 (Intel Xeon X3230, 2.66 GHz)

$SPECint®\_rate2006 =$ 61.3

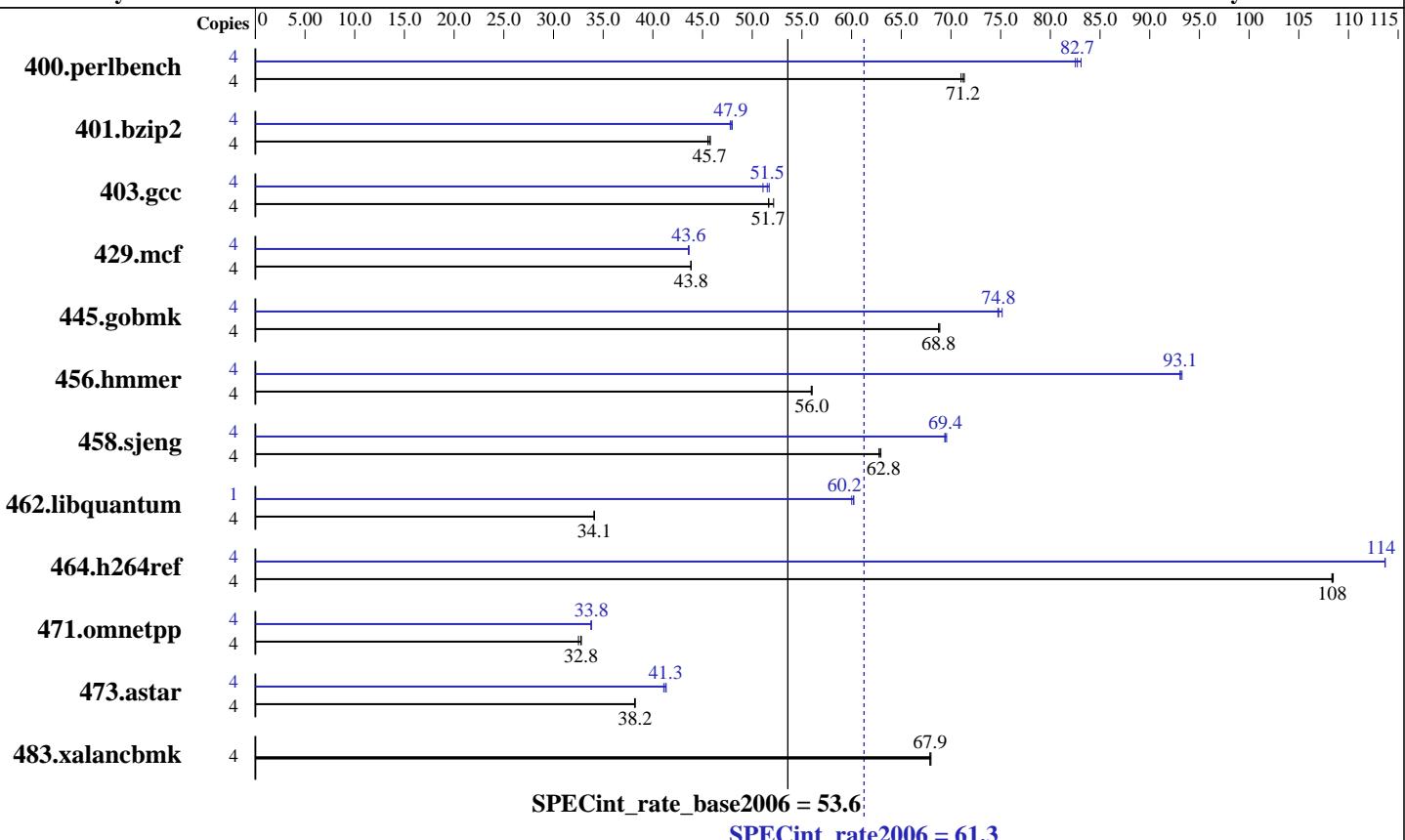$SPECint\_rate\_base2006 =$ 53.6

**CPU2006 license:** 55
**Test sponsor:** Dell Inc.
**Tested by:** Dell Inc.

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

Copies 0  5.00  10.0  15.0  20.0  25.0  30.0  35.0  40.0  45.0  50.0  55.0  60.0  65.0  70.0  75.0  80.0  85.0  90.0  95.0  100  105  110 115

| Benchmark | Copies | Peak | Base |
|-----------|--------|------|------|
| 400.perlbench | 4 | 82.7 | 71.2 |
| 401.bzip2 | 4 | 47.9 | 45.7 |
| 403.gcc | 4 | 51.5 | 51.7 |
| 429.mcf | 4 | 43.6 | 43.8 |
| 445.gobmk | 4 | 74.8 | 68.8 |
| 456.hmmer | 4 | 93.1 | 56.0 |
| 458.sjeng | 4 | 69.4 | 62.8 |
| 462.libquantum | 1 / 4 | 60.2 | 34.1 |
| 464.h264ref | 4 | 114 | 108 |
| 471.omnetpp | 4 | 33.8 | 32.8 |
| 473.astar | 4 | 41.3 | 38.2 |
| 483.xalancbmk | 4 | | 67.9 |

**SPECint_rate_base2006 = 53.6**

SPECint_rate2006 = 61.3

## Hardware

CPU Name: Intel Xeon X3230
CPU Characteristics: 1066 MHz system bus
CPU MHz: 2666
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1 chip
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: 8 GB (4 x 2GB 800MHz DDR2)
Disk Subsystem: 73GB SAS, 10K RPM
Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725
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

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 550 | 71.0 | 548 | 71.3 | **549** | **71.2** | 4 | **472** | **82.7** | 474 | 82.5 | 470 | 83.1 |
| 401.bzip2 | 4 | **845** | **45.7** | 843 | 45.8 | 848 | 45.5 | 4 | **806** | **47.9** | 808 | 47.8 | 804 | 48.0 |
| 403.gcc | 4 | **623** | **51.7** | 617 | 52.2 | 623 | 51.6 | 4 | 623 | 51.7 | **625** | **51.5** | 630 | 51.1 |
| 429.mcf | 4 | **832** | **43.8** | 832 | 43.9 | 832 | 43.8 | 4 | **836** | **43.6** | 836 | 43.6 | 837 | 43.6 |
| 445.gobmk | 4 | 610 | 68.8 | 609 | 68.9 | **610** | **68.8** | 4 | 562 | 74.7 | 558 | 75.2 | **561** | **74.8** |
| 456.hmmer | 4 | 666 | 56.0 | **666** | **56.0** | 667 | 55.9 | 4 | **401** | **93.1** | 401 | 93.1 | 400 | 93.2 |
| 458.sjeng | 4 | **771** | **62.8** | 769 | 62.9 | 771 | 62.8 | 4 | 696 | 69.6 | **697** | **69.4** | 698 | 69.4 |
| 462.libquantum | 4 | 2429 | 34.1 | 2432 | 34.1 | **2430** | **34.1** | 1 | 344 | 60.2 | **344** | **60.2** | 345 | 60.0 |
| 464.h264ref | 4 | 817 | 108 | 816 | 108 | **817** | **108** | 4 | 779 | 114 | **779** | **114** | 779 | 114 |
| 471.omnetpp | 4 | 769 | 32.5 | 762 | 32.8 | **763** | **32.8** | 4 | **739** | **33.8** | 739 | 33.8 | 740 | 33.8 |
| 473.astar | 4 | **735** | **38.2** | 736 | 38.2 | 735 | 38.2 | 4 | 683 | 41.1 | 679 | 41.3 | **680** | **41.3** |
| 483.xalancbmk | 4 | **406** | **67.9** | 406 | 68.0 | 407 | 67.9 | 4 | **406** | **67.9** | 406 | 68.0 | 407 | 67.9 |

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

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

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap
```

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| | | | |
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# 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

       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

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# Peak Optimization Flags (Continued)

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`
`-L/home/cmplr/usr3/alrahate/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -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.20090714.02.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.20090714.02.xml

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

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