# SPEC® CINT2006 Result

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## Dell Inc.

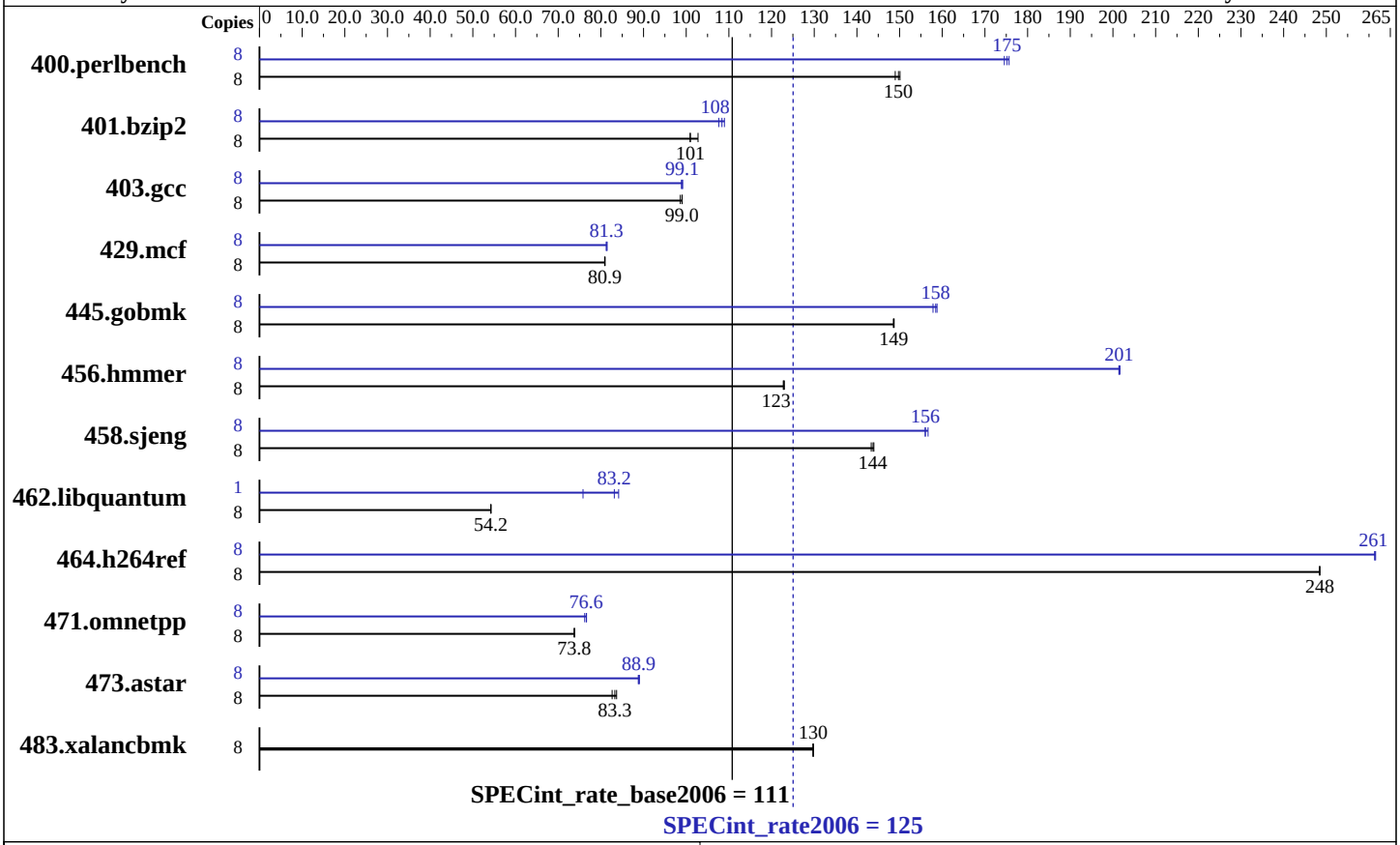
PowerEdge 2950 III (Intel Xeon X5450, 3.00 GHz)

SPECint®_rate2006 = 125

SPECint_rate_base2006 = 111

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

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




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5450 |
| CPU Characteristics: | 1333 MHz system bus |
| CPU MHz: | 3000 |
| 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 (8x2 GB 667 MHz ECC CL5 FB-DIMM) |
| Disk Subsystem: | 1 x 73 GB SAS 15k 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 | 8 | **522** | **150** | 525 | 149 | 521 | 150 | 8 | 448 | 175 | 445 | 176 | **446** | **175** |
| 401.bzip2 | 8 | **765** | **101** | 765 | 101 | 751 | 103 | 8 | 717 | 108 | 709 | 109 | **712** | **108** |
| 403.gcc | 8 | **650** | **99.0** | 653 | 98.6 | 650 | 99.0 | 8 | **650** | **99.1** | 651 | 98.9 | 649 | 99.2 |
| 429.mcf | 8 | 902 | 80.9 | **902** | **80.9** | 901 | 81.0 | 8 | **897** | **81.3** | 896 | 81.5 | 898 | 81.3 |
| 445.gobmk | 8 | **565** | **149** | 564 | 149 | 565 | 149 | 8 | **530** | **158** | 529 | 159 | 532 | 158 |
| 456.hmmer | 8 | 608 | 123 | 607 | 123 | **608** | **123** | 8 | 370 | 202 | **370** | **201** | 371 | 201 |
| 458.sjeng | 8 | 672 | 144 | 675 | 143 | **673** | **144** | 8 | 620 | 156 | 618 | 157 | **620** | **156** |
| 462.libquantum | 8 | 3057 | 54.2 | **3057** | **54.2** | 3056 | 54.2 | 1 | **249** | **83.2** | 246 | 84.2 | 273 | 75.8 |
| 464.h264ref | 8 | **713** | **248** | 713 | 248 | 713 | 248 | 8 | 677 | 262 | 677 | 261 | **677** | **261** |
| 471.omnetpp | 8 | 678 | 73.8 | 677 | 73.8 | **678** | **73.8** | 8 | 656 | 76.2 | **653** | **76.6** | 652 | 76.6 |
| 473.astar | 8 | **674** | **83.3** | 671 | 83.7 | 680 | 82.6 | 8 | 631 | 89.0 | **632** | **88.9** | 633 | 88.8 |
| 483.xalancbmk | 8 | 426 | 130 | 425 | 130 | **425** | **130** | 8 | 426 | 130 | 425 | 130 | **425** | **130** |

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

## Compiler Invocation Notes

```
OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0
```

## Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

## Platform Notes

```
BIOS Settings:
Adjacent Cache Line Prefetch = Disabled (default Enabled)
Hardware Prefetcher = Disabled (default Enabled)
```

## 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

## 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

Continued on next page

## Peak Portability Flags (Continued)

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

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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