# SPEC® CINT2006 Result

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## Dell Inc.

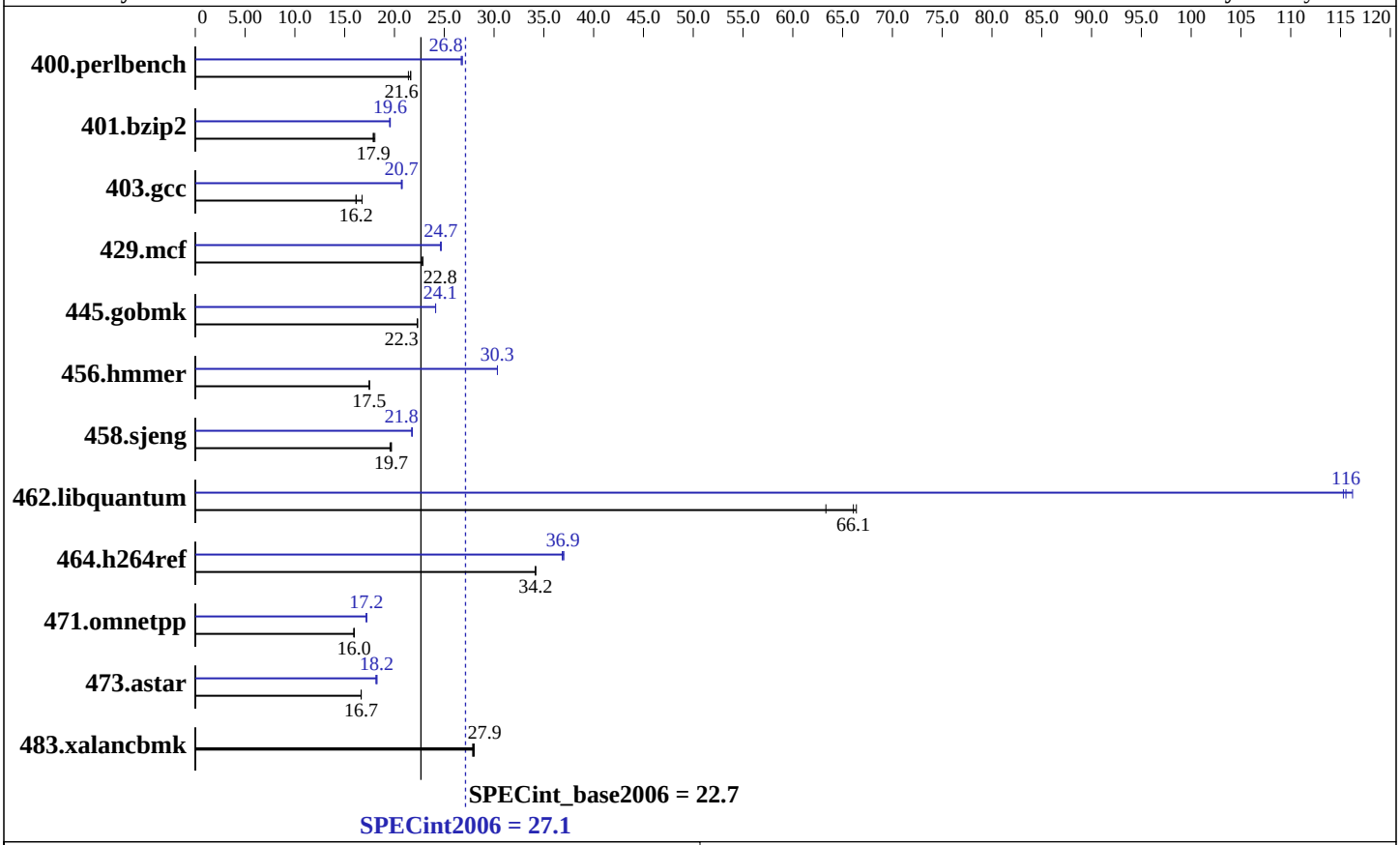
PowerEdge M600 (Intel Xeon X5260, 3.33 GHz)

SPECint®2006 = 27.1

SPECint_base2006 = 22.7

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

**Test date:** Aug-2008
**Hardware Availability:** Jan-2008
**Software Availability:** May-2008




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5260 |
| CPU Characteristics: | |
| CPU MHz: | 3333 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 6 MB I+D on chip per chip |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 16 GB (8 x 2 GB 667 MHz ECC CL5 FB-DIMM) |
| Disk Subsystem: | 1 x 80 GB 5400 RPM SATA |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp |
| Compiler: | Intel C++ Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015 |
| Auto Parallel: | Yes |
| File System: | ReiserFS |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502 |

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 457 | 21.4 | 452 | 21.6 | **452** | **21.6** | 366 | 26.7 | **365** | **26.8** | 365 | 26.8 |
| 401.bzip2 | **539** | **17.9** | 535 | 18.0 | 540 | 17.9 | **493** | **19.6** | 493 | 19.6 | 495 | 19.5 |
| 403.gcc | 499 | 16.1 | 481 | 16.7 | **498** | **16.2** | **389** | **20.7** | 387 | 20.8 | 389 | 20.7 |
| 429.mcf | 400 | 22.8 | **399** | **22.8** | 399 | 22.8 | **370** | **24.7** | 370 | 24.6 | 369 | 24.7 |
| 445.gobmk | 470 | 22.3 | **470** | **22.3** | 470 | 22.3 | **435** | **24.1** | 435 | 24.1 | 435 | 24.1 |
| 456.hmmer | 534 | 17.5 | 534 | 17.5 | **534** | **17.5** | **308** | **30.3** | 308 | 30.3 | 307 | 30.3 |
| 458.sjeng | 619 | 19.6 | 614 | 19.7 | **615** | **19.7** | **556** | **21.8** | 555 | 21.8 | 557 | 21.7 |
| 462.libquantum | 327 | 63.3 | 312 | 66.4 | **314** | **66.1** | 178 | 116 | 180 | 115 | **179** | **116** |
| 464.h264ref | 648 | 34.2 | **648** | **34.2** | 648 | 34.2 | 601 | 36.8 | **599** | **36.9** | 598 | 37.0 |
| 471.omnetpp | **392** | **16.0** | 391 | 16.0 | 393 | 15.9 | 363 | 17.2 | **363** | **17.2** | 364 | 17.2 |
| 473.astar | **422** | **16.7** | 422 | 16.7 | 421 | 16.7 | **385** | **18.2** | 387 | 18.1 | 385 | 18.2 |
| 483.xalancbmk | 246 | 28.0 | **247** | **27.9** | 248 | 27.9 | 246 | 28.0 | **247** | **27.9** | 248 | 27.9 |

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"

## 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 -vec-guard-write -parallel -par-runtime-control
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -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/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include
```

456.hmmer:
```
/opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/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

## 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/cpu2006.1.1/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/cpu2006.1.1/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

## Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.html`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html`

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml


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