# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

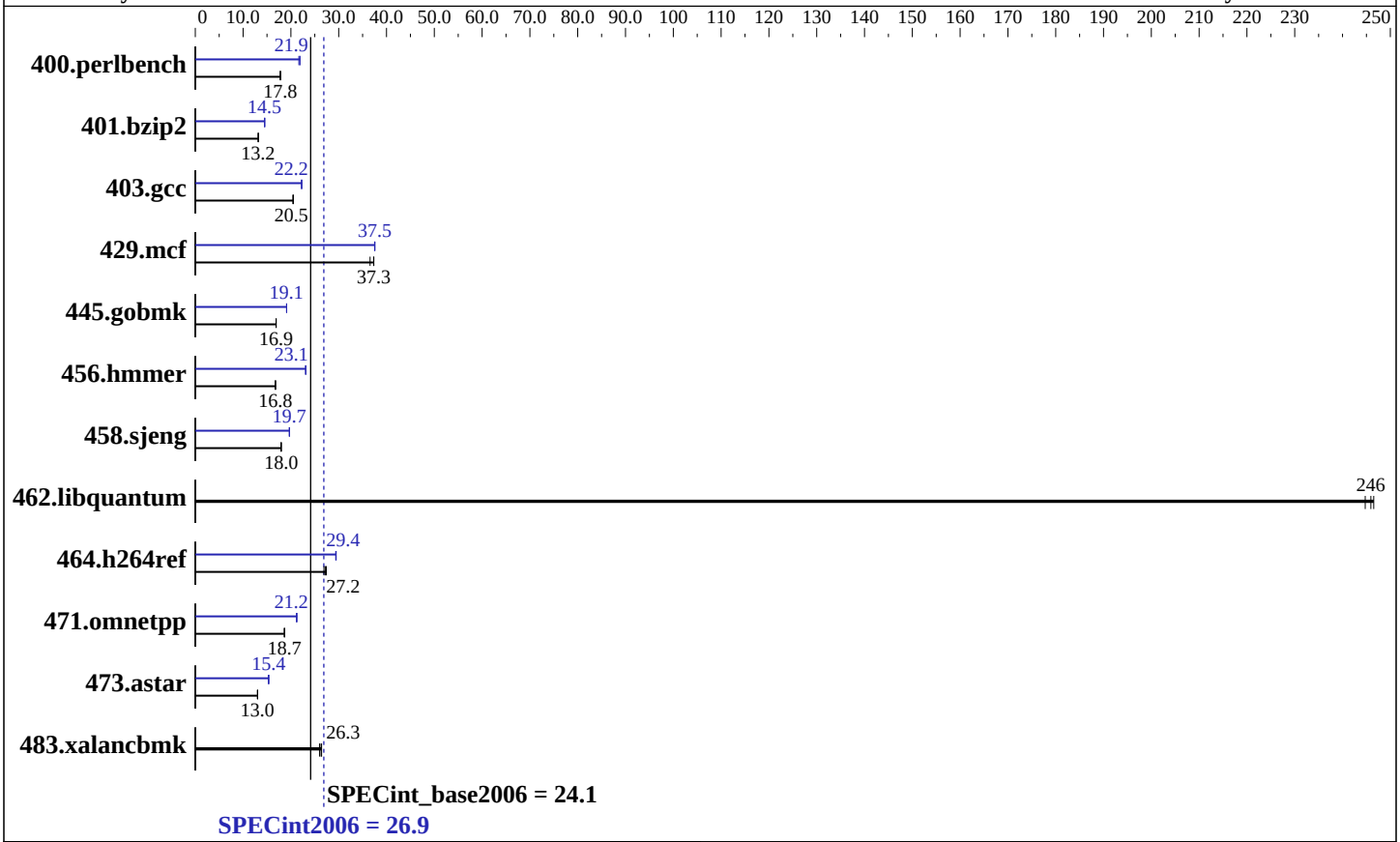
PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)

SPECint®2006 = 26.9

SPECint_base2006 = 24.1

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

**Test date:** Aug-2009
**Hardware Availability:** Oct-2009
**Software Availability:** Feb-2009




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5520 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.53 GHz |
| CPU MHz: | 2267 |
| 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: | 24 GB (6 x 4 GB DDR3-1333 DR RDIMM downclocked to 1066 MHz) |
| Disk Subsystem: | 1 x 500 GB 7200 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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080 |
| 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<br>Binutils 2.18.50.0.7.20080502 |

# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R510 (Intel Xeon E5520, 2.26 GHz)

SPECint2006 = 26.9

SPECint_base2006 = 24.1

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

**Test date:** Aug-2009
**Hardware Availability:** Oct-2009
**Software Availability:** Feb-2009

## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 548 | 17.8 | **549** | **17.8** | 550 | 17.8 | 451 | 21.7 | **447** | **21.9** | 446 | 21.9 |
| 401.bzip2 | 732 | 13.2 | 733 | 13.2 | **733** | **13.2** | 665 | 14.5 | 665 | 14.5 | **665** | **14.5** |
| 403.gcc | 393 | 20.5 | **393** | **20.5** | 394 | 20.4 | 362 | 22.2 | 361 | 22.3 | **362** | **22.2** |
| 429.mcf | 249 | 36.6 | **244** | **37.3** | 244 | 37.3 | **243** | **37.5** | 243 | 37.5 | 243 | 37.6 |
| 445.gobmk | 620 | 16.9 | **621** | **16.9** | 621 | 16.9 | **549** | **19.1** | 549 | 19.1 | 549 | 19.1 |
| 456.hmmer | 556 | 16.8 | 557 | 16.8 | **557** | **16.8** | **404** | **23.1** | 404 | 23.1 | 404 | 23.1 |
| 458.sjeng | 675 | 17.9 | 673 | 18.0 | **673** | **18.0** | 614 | 19.7 | **614** | **19.7** | 615 | 19.7 |
| 462.libquantum | **84.3** | **246** | 84.7 | 245 | 84.0 | 247 | **84.3** | **246** | 84.7 | 245 | 84.0 | 247 |
| 464.h264ref | 807 | 27.4 | 822 | 26.9 | **814** | **27.2** | 753 | 29.4 | **752** | **29.4** | 751 | 29.5 |
| 471.omnetpp | **335** | **18.7** | 335 | 18.7 | 336 | 18.6 | 295 | 21.2 | **295** | **21.2** | 294 | 21.3 |
| 473.astar | 540 | 13.0 | **539** | **13.0** | 538 | 13.0 | **457** | **15.4** | 459 | 15.3 | 456 | 15.4 |
| 483.xalancbmk | **262** | **26.3** | 261 | 26.4 | 266 | 26.0 | **262** | **26.3** | 261 | 26.4 | 266 | 26.0 |

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 stacksize to unlimited prior to run

## General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

## 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 -parallel
-par-runtime-control -opt-prefetch
```

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

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) -auto-ilp32 -opt-prefetch -ansi-alias

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

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -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: basepeak = yes

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: -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=block -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

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`

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.20090805.01.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.20090805.01.xml`


SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.


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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 04:19:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 October 2009.