# SPEC® CINT2006 Result

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## Cisco Systems

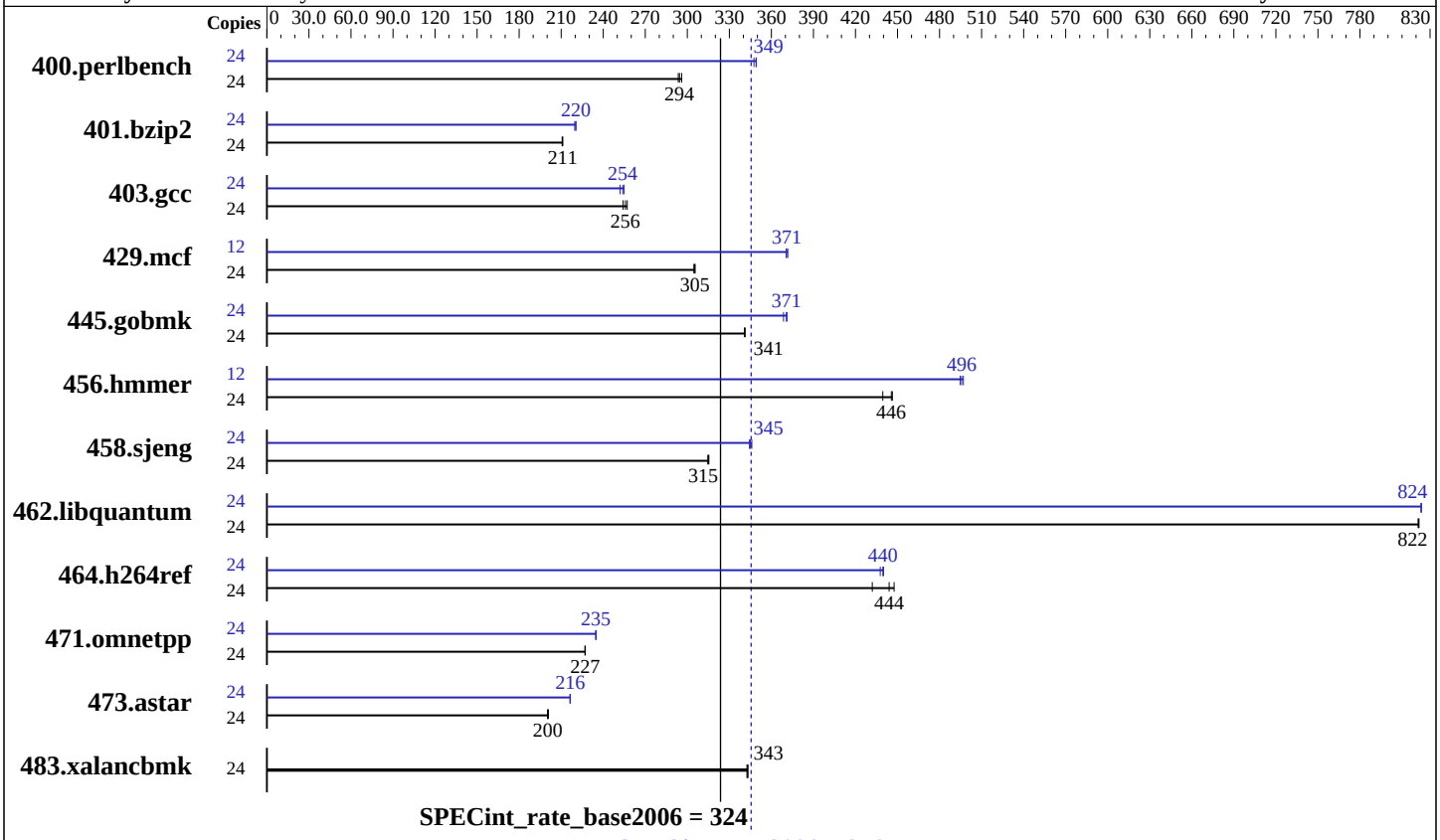
Cisco UCS B200 M2 (Intel Xeon X5650, 2.67 GHz)

SPECint®_rate2006 = 346

SPECint_rate_base2006 = 324

**CPU2006 license:** 9019
**Test sponsor:** Cisco Systems
**Tested by:** Cisco Systems

**Test date:** Feb-2010
**Hardware Availability:** Apr-2010
**Software Availability:** Jan-2010




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5650 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.06 GHz |
| CPU MHz: | 2667 |
| FPU: | Integrated |
| CPU(s) enabled: | 12 cores, 2 chips, 6 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: | 12 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 48 GB (12x4GB, PC3-10600R, Dual Rank, ECC) |
| Disk Subsystem: | 146 GB SAS, 10K RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SuSe Linux Enterprise Server 11 (x86_64), Kernel 2.6.27-19-5-default |
| Compiler: | Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Binutils 2.16.91.0.7<br>MicroQuill 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 | 24 | 799 | 294 | 792 | 296 | **796** | **294** | 24 | 675 | 348 | **672** | **349** | 671 | 349 |
| 401.bzip2 | 24 | 1099 | 211 | **1098** | **211** | 1097 | 211 | 24 | 1054 | 220 | **1051** | **220** | 1050 | 220 |
| 403.gcc | 24 | 751 | 257 | 760 | 254 | **755** | **256** | 24 | 758 | 255 | 767 | 252 | **761** | **254** |
| 429.mcf | 24 | 716 | 306 | 718 | 305 | **717** | **305** | 12 | 295 | 370 | 294 | 372 | **295** | **371** |
| 445.gobmk | 24 | 739 | 341 | **738** | **341** | 738 | 341 | 24 | **679** | **371** | 678 | 371 | 683 | 369 |
| 456.hmmer | 24 | 502 | 446 | 509 | 439 | **503** | **446** | 12 | 226 | 495 | 225 | 497 | **226** | **496** |
| 458.sjeng | 24 | 921 | 315 | 923 | 315 | **922** | **315** | 24 | 843 | 344 | **842** | **345** | 839 | 346 |
| 462.libquantum | 24 | 605 | 822 | 605 | 822 | **605** | **822** | 24 | 604 | 824 | 604 | 824 | **604** | **824** |
| 464.h264ref | 24 | 1187 | 448 | 1229 | 432 | **1196** | **444** | 24 | 1214 | 438 | **1208** | **440** | 1207 | 440 |
| 471.omnetpp | 24 | 661 | 227 | **660** | **227** | 660 | 227 | 24 | **639** | **235** | 638 | 235 | 639 | 235 |
| 473.astar | 24 | **841** | **200** | 839 | 201 | 841 | 200 | 24 | 778 | 216 | 779 | 216 | **778** | **216** |
| 483.xalancbmk | 24 | 482 | 343 | 483 | 343 | **483** | **343** | 24 | 482 | 343 | 483 | 343 | **483** | **343** |

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

## Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

## Operating System Notes

```
ulimit -s unlimited was used to set the stacksize to unlimited prior to run
```

## Platform Notes

```
BIOS Configuration : Data Reuse Optimization = Disabled
```

# Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

C++ benchmarks:

```
icpc -m32
```

# Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

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## Base Portability Flags (Continued)

462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs`
`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap`

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m32`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

462.libquantum: `icc -m64`

C++ benchmarks (except as noted below):
`icpc -m32`

473.astar: `icpc -m64`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`

Continued on next page

## Peak Portability Flags (Continued)

458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -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

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32 -opt-prefetch

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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -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 -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

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## Peak Optimization Flags (Continued)

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-ic11.1-linux64-revG.20100414.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20100414.xml`


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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 09:40:17 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 April 2010.