# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

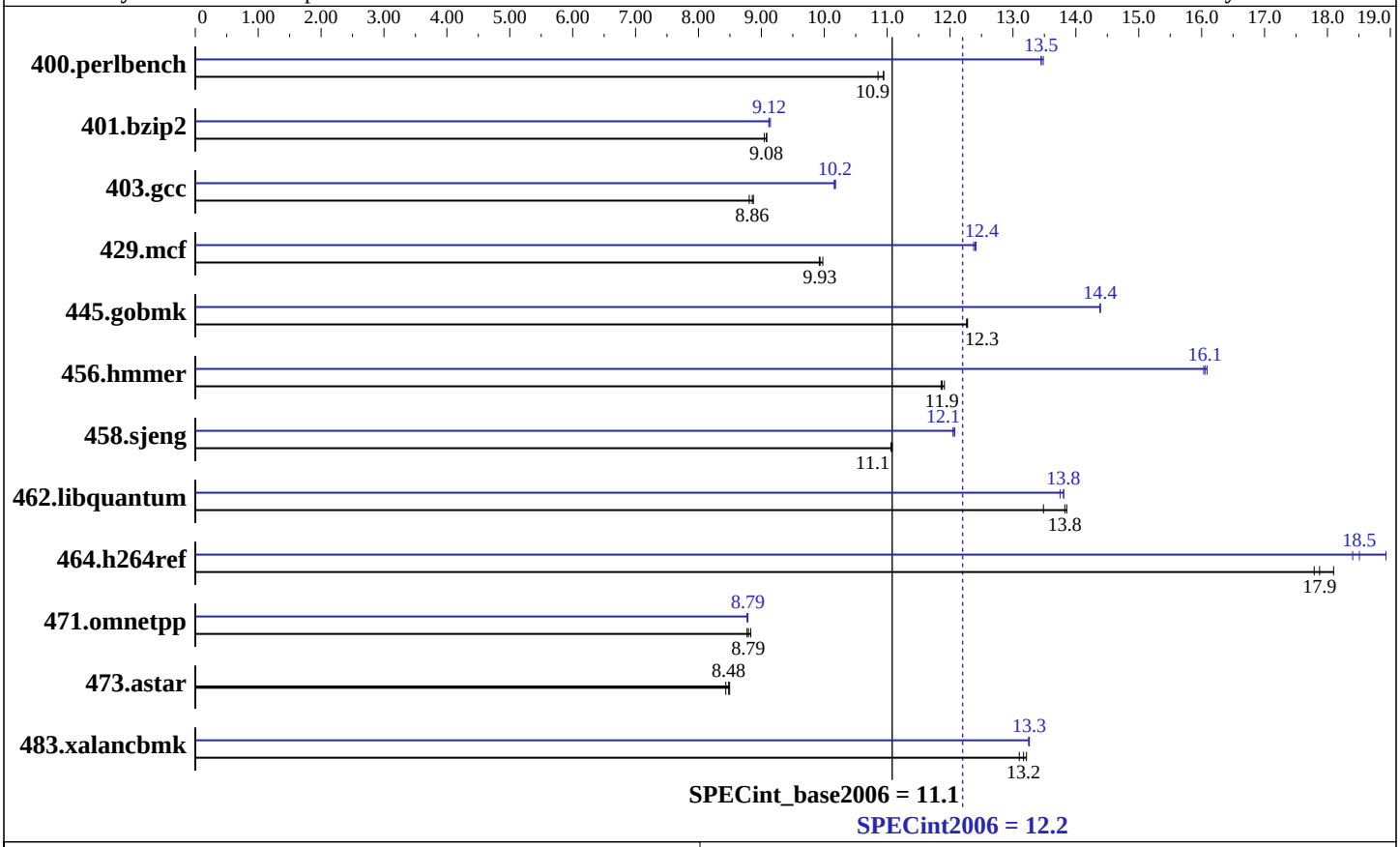
## IBM System x3455 (AMD Opteron 2216)

SPECint®2006 = 12.2

SPECint_base2006 = 11.1

**CPU2006 license:** 11
**Test sponsor:** IBM Corporation
**Tested by:** IBM Corporation

**Test date:** Aug-2007
**Hardware Availability:** Oct-2006
**Software Availability:** Mar-2007




### Hardware

| | |
|---|---|
| CPU Name: | AMD Opteron 2216 |
| CPU Characteristics: | |
| CPU MHz: | 2400 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1, 2 chips |
| Primary Cache: | 64 KB I + 64 KB D on chip per core |
| Secondary Cache: | 1 MB I+D on chip per core |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 16 GB (8 x 2GB DDR2-5300 ECC) |
| Disk Subsystem: | 1 x 160 GB Serial ATA, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SLES 10 (x86_64), 2.6.16.21-0.8-smp |
| Compiler: | QLogic PathScale Compiler Suite, Release 3.0 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Multi-user, run level 3 |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | MicroQuill SmartHeap 8.1 |

# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

## IBM System x3455 (AMD Opteron 2216)

SPECint2006 = 12.2

SPECint_base2006 = 11.1

**CPU2006 license:** 11
**Test sponsor:** IBM Corporation
**Tested by:** IBM Corporation

**Test date:** Aug-2007
**Hardware Availability:** Oct-2006
**Software Availability:** Mar-2007

## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 900 | 10.9 | **893** | **10.9** | 893 | 10.9 | 726 | 13.4 | **726** | **13.5** | 725 | 13.5 |
| 401.bzip2 | 1067 | 9.05 | 1062 | 9.09 | **1063** | **9.08** | 1055 | 9.14 | 1058 | 9.12 | **1058** | **9.12** |
| 403.gcc | 907 | 8.87 | **909** | **8.86** | 914 | 8.81 | 791 | 10.2 | **792** | **10.2** | 793 | 10.2 |
| 429.mcf | 914 | 9.98 | **918** | **9.93** | 919 | 9.92 | 735 | 12.4 | **736** | **12.4** | 737 | 12.4 |
| 445.gobmk | 854 | 12.3 | **855** | **12.3** | 855 | 12.3 | **729** | **14.4** | 729 | 14.4 | 729 | 14.4 |
| 456.hmmer | 783 | 11.9 | **786** | **11.9** | 787 | 11.9 | 582 | 16.0 | **581** | **16.1** | 580 | 16.1 |
| 458.sjeng | **1092** | **11.1** | 1092 | 11.1 | 1094 | 11.1 | 1002 | 12.1 | 1004 | 12.0 | **1004** | **12.1** |
| 462.libquantum | 1536 | 13.5 | 1495 | 13.9 | **1499** | **13.8** | 1507 | 13.7 | **1501** | **13.8** | 1501 | 13.8 |
| 464.h264ref | **1238** | **17.9** | 1223 | 18.1 | 1244 | 17.8 | 1169 | 18.9 | 1203 | 18.4 | **1196** | **18.5** |
| 471.omnetpp | 708 | 8.83 | **711** | **8.79** | 712 | 8.77 | 711 | 8.79 | **711** | **8.79** | 712 | 8.77 |
| 473.astar | 826 | 8.50 | **828** | **8.48** | 832 | 8.43 | 826 | 8.50 | **828** | **8.48** | 832 | 8.43 |
| 483.xalancbmk | 522 | 13.2 | **524** | **13.2** | 527 | 13.1 | **520** | **13.3** | 520 | 13.3 | 521 | 13.2 |

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

## General Notes

```
taskset utility used to bind CPU(s) to processes
```

## Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
464.h264ref: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:
`-Ofast -OPT:malloc_alg=1`

C++ benchmarks:
`-Ofast -m32 -L/tools/SmartHeap_8.1/lib -lsmartheap`

## Base Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

## Peak Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
464.h264ref: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LINUX`

## Peak Optimization Flags

C benchmarks:

400.perlbench: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast -LNO:opt=0`

401.bzip2: `-O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint`

Continued on next page

## Peak Optimization Flags (Continued)

403.gcc: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-m32 -O3 -OPT:Ofast`

429.mcf: `-m32 -O3 -ipa -L/tools/SmartHeap_8.1/lib -lsmartheap`

445.gobmk: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off -WOPT:retype_expr=on`

456.hmmer: `-O2 -OPT:alias=disjoint -OPT:malloc_alg=1 -CG:cflow=0`

458.sjeng: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -IPA:plimit=50000 -IPA:pu_reorder=2`

462.libquantum: `-O3 -ipa -CG:local_fwd_sched=on -IPA:space=1000`

464.h264ref: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-O3 -IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0`

C++ benchmarks:

471.omnetpp: `-Ofast -CG:gcm=off -m32 -L/tools/SmartHeap_8.1/lib -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/tools/SmartHeap_8.1/lib -lsmartheap`

## Peak Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.13.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.13.xml`

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

## IBM System x3455 (AMD Opteron 2216)

SPECint2006 = 12.2

SPECint_base2006 = 11.1

**CPU2006 license:** 11
**Test sponsor:** IBM Corporation
**Tested by:** IBM Corporation

**Test date:** Aug-2007
**Hardware Availability:** Oct-2006
**Software Availability:** Mar-2007

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 v1.0.
Report generated on Tue Jul 22 13:14:10 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 September 2007.