# SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

### IBM BladeCenter HX5 (Intel Xeon L7545)

$SPECfp^®\_rate2006 =$ 203
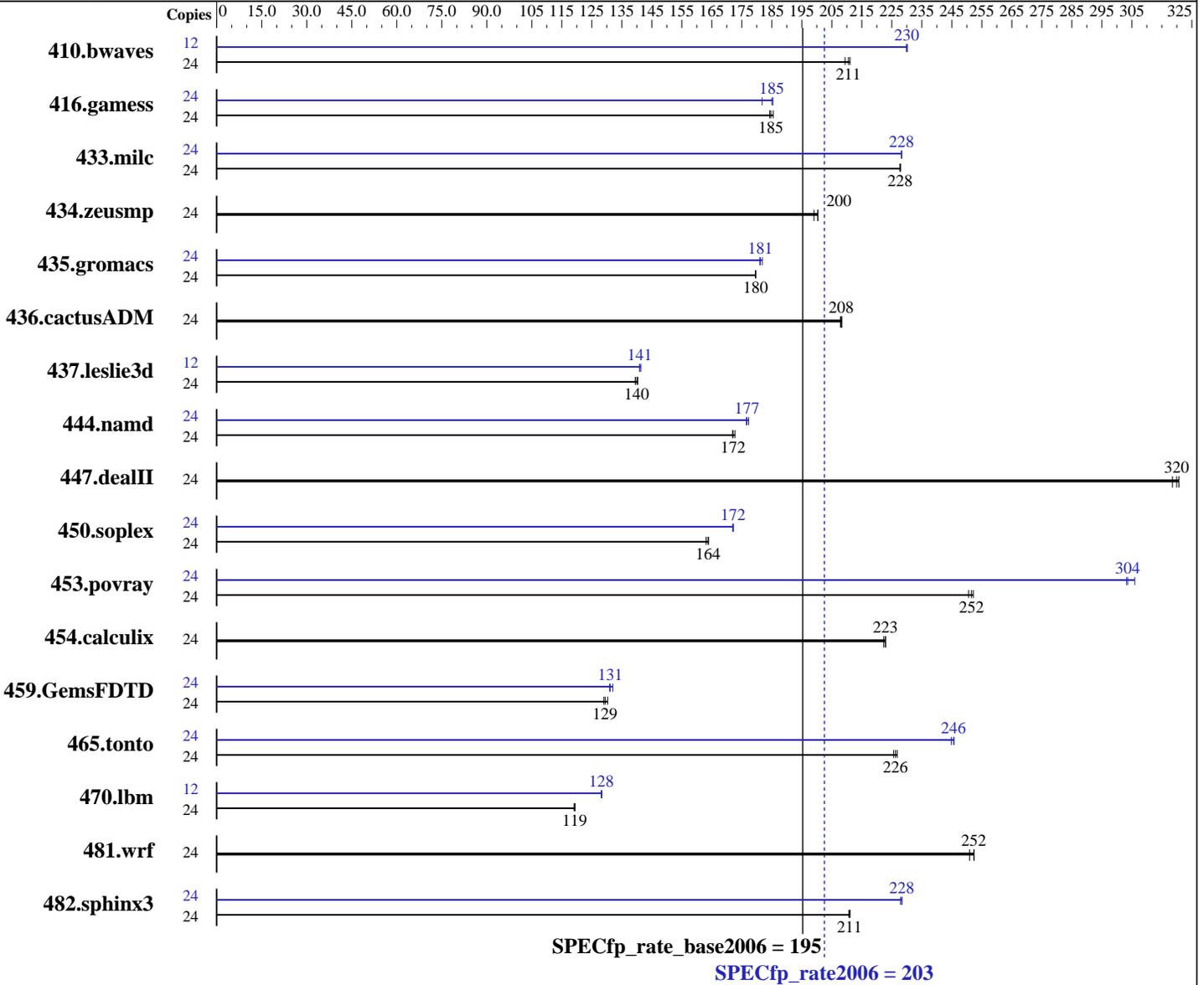
$SPECfp\_rate\_base2006 =$ 195

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

**Test date:** Aug-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Jan-2010



| | Copies | |
|---|---|---|
| 410.bwaves | 12 | 230 |
| | 24 | 211 |
| 416.gamess | 24 | 185 |
| | 24 | 185 |
| 433.milc | 24 | 228 |
| | 24 | 228 |
| 434.zeusmp | 24 | 200 |
| 435.gromacs | 24 | 181 |
| | 24 | 180 |
| 436.cactusADM | 24 | 208 |
| 437.leslie3d | 12 | 141 |
| | 24 | 140 |
| 444.namd | 24 | 177 |
| | 24 | 172 |
| 447.dealII | 24 | 320 |
| 450.soplex | 24 | 172 |
| | 24 | 164 |
| 453.povray | 24 | 304 |
| | 24 | 252 |
| 454.calculix | 24 | 223 |
| 459.GemsFDTD | 24 | 131 |
| | 24 | 129 |
| 465.tonto | 24 | 246 |
| | 24 | 226 |
| 470.lbm | 12 | 128 |
| | 24 | 119 |
| 481.wrf | 24 | 252 |
| 482.sphinx3 | 24 | 228 |
| | 24 | 211 |

SPECfp_rate_base2006 = 195

SPECfp_rate2006 = 203

## Hardware

CPU Name: Intel Xeon L7545
CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz: 1867
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

**Continued on next page**

## Software

Operating System: SuSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1
Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)

**Continued on next page**

# SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM BladeCenter HX5 (Intel Xeon L7545)

$SPECfp\_rate2006 = \quad 203$

$SPECfp\_rate\_base2006 = \quad 195$

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

**Test date:** Aug-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Jan-2010

| | |
|---|---|
| L3 Cache: | 18 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 128 GB (16 x 8 GB PC3-8500R CL7, Quad Rank, running at 978 MHz) |
| Disk Subsystem: | 2 x 50 GB SATA, SSD, RAID 0 |
| Other Hardware: | None |

| | |
|---|---|
| Base Pointers: | 64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | None |

## Results Table

| Benchmark | Base | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 24 | 1557 | 209 | **1549** | **211** | 1545 | 211 | 12 | **709** | **230** | 709 | 230 | 708 | 230 |
| 416.gamess | 24 | **2544** | **185** | 2549 | 184 | 2533 | 185 | 24 | 2535 | 185 | **2540** | **185** | 2585 | 182 |
| 433.milc | 24 | **967** | **228** | 966 | 228 | 967 | 228 | 24 | 966 | 228 | 965 | 228 | **965** | **228** |
| 434.zeusmp | 24 | 1090 | 200 | 1097 | 199 | **1090** | **200** | 24 | 1090 | 200 | 1097 | 199 | **1090** | **200** |
| 435.gromacs | 24 | 955 | 180 | **954** | **180** | 954 | 180 | 24 | **946** | **181** | 947 | 181 | 942 | 182 |
| 436.cactusADM | 24 | 1379 | 208 | 1377 | 208 | **1378** | **208** | 24 | 1379 | 208 | 1377 | 208 | **1378** | **208** |
| 437.leslie3d | 24 | 1608 | 140 | **1612** | **140** | 1617 | 139 | 12 | 800 | 141 | 798 | 141 | **800** | **141** |
| 444.namd | 24 | 1114 | 173 | **1118** | **172** | 1119 | 172 | 24 | **1089** | **177** | 1090 | 177 | 1086 | 177 |
| 447.dealII | 24 | 856 | 321 | **858** | **320** | 862 | 319 | 24 | 856 | 321 | **858** | **320** | 862 | 319 |
| 450.soplex | 24 | **1222** | **164** | 1222 | 164 | 1227 | 163 | 24 | 1164 | 172 | **1163** | **172** | 1163 | 172 |
| 453.povray | 24 | 506 | 252 | **508** | **252** | 510 | 251 | 24 | **421** | **304** | 417 | 306 | 421 | 303 |
| 454.calculix | 24 | 888 | 223 | **888** | **223** | 890 | 222 | 24 | 888 | 223 | **888** | **223** | 890 | 222 |
| 459.GemsFDTD | 24 | **1967** | **129** | 1973 | 129 | 1954 | 130 | 24 | 1929 | 132 | **1942** | **131** | 1944 | 131 |
| 465.tonto | 24 | 1047 | 226 | **1044** | **226** | 1041 | 227 | 24 | **962** | **246** | 965 | 245 | 961 | 246 |
| 470.lbm | 24 | 2762 | 119 | 2768 | 119 | **2762** | **119** | 12 | 1285 | 128 | **1285** | **128** | 1287 | 128 |
| 481.wrf | 24 | 1062 | 252 | 1068 | 251 | **1062** | **252** | 24 | 1062 | 252 | 1068 | 251 | **1062** | **252** |
| 482.sphinx3 | 24 | 2216 | 211 | 2220 | 211 | **2217** | **211** | 24 | 2048 | 228 | 2052 | 228 | **2048** | **228** |

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

```
echo 1 > /proc/sys/vm/zone_reclaim_mode
```

## Platform Notes

```
Turbo Boost set to Traditional
```

# SPEC CFP2006 Result

## IBM Corporation

IBM BladeCenter HX5 (Intel Xeon L7545)

### SPECfp_rate2006 =     203

### SPECfp_rate_base2006 =   195

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

**Test date:** Aug-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Jan-2010

## General Notes

    'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
     Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## Base Compiler Invocation

C benchmarks:
    icc    -m64

C++ benchmarks:
    icpc   -m64

Fortran benchmarks:
    ifort -m64

Benchmarks using both Fortran and C:
    icc    -m64 ifort -m64

## Base Portability Flags

        410.bwaves: -DSPEC_CPU_LP64
        416.gamess: -DSPEC_CPU_LP64
          433.milc: -DSPEC_CPU_LP64
        434.zeusmp: -DSPEC_CPU_LP64
       435.gromacs: -DSPEC_CPU_LP64 -nofor_main
      436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
       437.leslie3d: -DSPEC_CPU_LP64
          444.namd: -DSPEC_CPU_LP64
         447.dealII: -DSPEC_CPU_LP64
        450.soplex: -DSPEC_CPU_LP64
        453.povray: -DSPEC_CPU_LP64
       454.calculix: -DSPEC_CPU_LP64 -nofor_main
     459.GemsFDTD: -DSPEC_CPU_LP64
         465.tonto: -DSPEC_CPU_LP64
          470.lbm: -DSPEC_CPU_LP64
          481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
        482.sphinx3: -DSPEC_CPU_LP64

## Base Optimization Flags

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

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

# SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM BladeCenter HX5 (Intel Xeon L7545)

$SPECfp\_rate2006 =$ 203

$SPECfp\_rate\_base2006 =$ 195

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

**Test date:** Aug-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Jan-2010

## Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static
```

## Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc   -m64
```

```
482.sphinx3: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc  -m64
```

```
450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

## Peak Portability Flags

```
  410.bwaves: -DSPEC_CPU_LP64
  416.gamess: -DSPEC_CPU_LP64
    433.milc: -DSPEC_CPU_LP64
  434.zeusmp: -DSPEC_CPU_LP64
 435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
 437.leslie3d: -DSPEC_CPU_LP64
    444.namd: -DSPEC_CPU_LP64
   447.dealII: -DSPEC_CPU_LP64
  453.povray: -DSPEC_CPU_LP64
 454.calculix: -DSPEC_CPU_LP64 -nofor_main
 459.GemsFDTD: -DSPEC_CPU_LP64
    465.tonto: -DSPEC_CPU_LP64
     470.lbm: -DSPEC_CPU_LP64
     481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

# SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM BladeCenter HX5 (Intel Xeon L7545)

SPECfp_rate2006 =      203

SPECfp_rate_base2006 =   195

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

**Test date:** Aug-2010  
**Hardware Availability:** Jun-2010  
**Software Availability:** Jan-2010  

# Peak Optimization Flags

C benchmarks:

    433.milc: `-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) `-fno-alias -opt-prefetch`

    470.lbm: `-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-malloc-options=3 -ansi-alias -auto-ilp32`

    482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`

C++ benchmarks:

    444.namd: `-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) `-fno-alias -auto-ilp32`

    447.dealII: basepeak = yes

    450.soplex: `-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-malloc-options=3`

    453.povray: `-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 -ansi-alias`

Fortran benchmarks:

    410.bwaves: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

    416.gamess: `-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 -Ob0 -ansi-alias -scalar-rep-`

    434.zeusmp: basepeak = yes

    437.leslie3d: `-xSSE4.2 -ipo -O3 -no-prec-div -static`

    459.GemsFDTD: `-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 -Ob0`

    465.tonto: `-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 -inline-calloc -opt-malloc-options=3`

Benchmarks using both Fortran and C:

# SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM BladeCenter HX5 (Intel Xeon L7545)

$SPECfp\_rate2006 = \quad 203$

$SPECfp\_rate\_base2006 = \quad 195$

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

**Test date:** Aug-2010
**Hardware Availability:** Jun-2010
**Software Availability:** Jan-2010

## Peak Optimization Flags (Continued)

435.gromacs: `-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 -auto-ilp32`

436.cactusADM: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100603.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100603.xml`

SPEC and SPECfp 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 12:21:41 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 31 August 2010.