SPEC® CFP2006 Result
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HITACHI

BladeSymphony BS2000 (Intel Xeon X5675)

$SPECfp^{®}\_rate2006 =$ 254
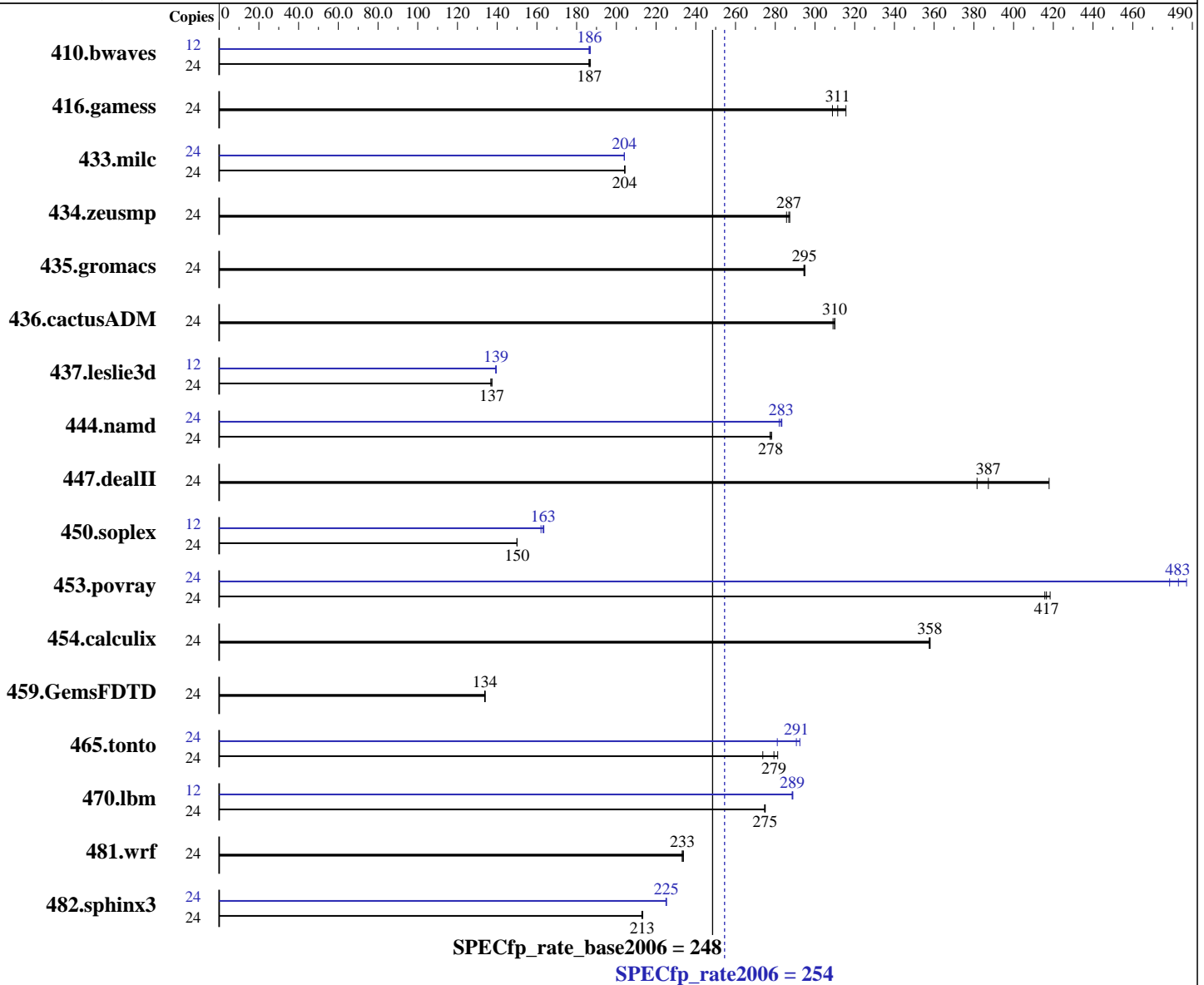
$SPECfp\_rate\_base2006 =$ 248

CPU2006 license: 35
Test sponsor: HITACHI
Tested by: HITACHI

Test date: Mar-2011
Hardware Availability: Feb-2011
Software Availability: Jan-2011

SPECfp_rate_base2006 = 248

SPECfp_rate2006 = 254

Hardware

CPU Name:	Intel Xeon X5675
CPU Characteristics:	Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz:	3066
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

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Software

Operating System:	Red Hat Enterprise Linux Server release 5.4.3, Advanced Platform, Kernel 2.6.18-164.9.1.el5 on an x86_64
Compiler:	Intel C++ Compiler XE for Linux Version 12.0.2.137 Build 20110112 Intel Fortran Compiler XE for Linux Version 12.0.2.137 Build 20110112
Auto Parallel:	No
File System:	ext3

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L3 Cache:	12 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	48 GB (6 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 1333 MHz)	Peak Pointers:	32/64-bit
		Other Software:	None
Disk Subsystem:	2 x 146 GB 10000 rpm SAS RAID1 configuration		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1745	187	**1749**	**187**	1752	186	12	876	186	872	187	**875**	**186**
416.gamess	24	**1509**	**311**	1489	316	1522	309	24	**1509**	**311**	1489	316	1522	309
433.milc	24	1078	204	**1079**	**204**	1079	204	24	1080	204	1080	204	**1080**	**204**
434.zeusmp	24	**761**	**287**	760	287	765	286	24	**761**	**287**	760	287	765	286
435.gromacs	24	582	294	581	295	**581**	**295**	24	582	294	581	295	**581**	**295**
436.cactusADM	24	928	309	**926**	**310**	925	310	24	928	309	**926**	**310**	925	310
437.leslie3d	24	1643	137	**1643**	**137**	1650	137	12	809	140	**809**	**139**	810	139
444.namd	24	694	277	**693**	**278**	692	278	24	**680**	**283**	683	282	679	283
447.dealII	24	719	382	657	418	**709**	**387**	24	719	382	657	418	**709**	**387**
450.soplex	24	**1335**	**150**	1334	150	1335	150	12	612	164	618	162	**614**	**163**
453.povray	24	305	418	**307**	**417**	307	416	24	262	487	267	479	**264**	**483**
454.calculix	24	**553**	**358**	554	358	553	358	24	**553**	**358**	554	358	553	358
459.GemsFDTD	24	**1903**	**134**	1905	134	1901	134	24	**1903**	**134**	1905	134	1901	134
465.tonto	24	840	281	**845**	**279**	863	274	24	**813**	**291**	840	281	808	292
470.lbm	24	1199	275	**1200**	**275**	1201	275	12	**571**	**289**	571	289	571	289
481.wrf	24	1150	233	1147	234	**1149**	**233**	24	1150	233	1147	234	**1149**	**233**
482.sphinx3	24	2193	213	2198	213	**2195**	**213**	24	2077	225	2079	225	**2078**	**225**

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.
     '/usr/bin/numactl' used to bind processes to CPUs
```

Operating System Notes

```
     'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
     Large pages were disabled for this run
```

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Platform Notes

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

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 -ansi-alias

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

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CPU2006 license: 35		**Test date:**	Mar-2011
Test sponsor:	HITACHI	**Hardware Availability:**	Feb-2011
Tested by:	HITACHI	**Software Availability:**	Jan-2011

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 -ansi-alias
```

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`

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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) -prof-use(pass 2) -static -auto-ilp32`

    470.lbm: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
        `-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3`
        `-ansi-alias -opt-prefetch -static -auto-ilp32`

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

C++ benchmarks:

    444.namd: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
        `-no-prec-div(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) -prof-use(pass 2) -opt-malloc-options=3`
        `-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

    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(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
        `-no-prec-div(pass 2) -prof-use(pass 2) -static`

    416.gamess: basepeak = yes

    434.zeusmp: basepeak = yes

    437.leslie3d: `-xSSE4.2 -ipo -O3 -no-prec-div`
        `-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

    459.GemsFDTD: basepeak = yes

    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:

    435.gromacs: basepeak = yes

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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/PlatformHitachi.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/PlatformHitachi.xml

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 18:59:19 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 April 2011.