SPEC® CFP2006 Result

Itautec

Servidor Itautec MX214 (Intel Xeon X5670)

$SPECfp^®_rate2006 = $ 262

$SPECfp_rate_base2006 = $ 255

Benchmark	Copies	Result
410.bwaves	12	198
	24	194
416.gamess	24	321
433.milc	24	212
	24	212
434.zeusmp	24	294
435.gromacs	24	301
436.cactusADM	24	319
437.leslie3d	12	145
	24	141
444.namd	24	285
	24	279
447.dealII	24	421
	24	415
450.soplex	12	161
	24	145
453.povray	24	498
	24	420
454.calculix	24	365
459.GemsFDTD	24	137
465.tonto	24	293
	24	284
470.lbm	12	300
	24	283
481.wrf	24	241
482.sphinx3	24	233
	24	221

SPECfp_rate_base2006 = 255

SPECfp_rate2006 = 262

Hardware

CPU Name: Intel Xeon X5670
CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz: 2933
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 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2 Build 20110112
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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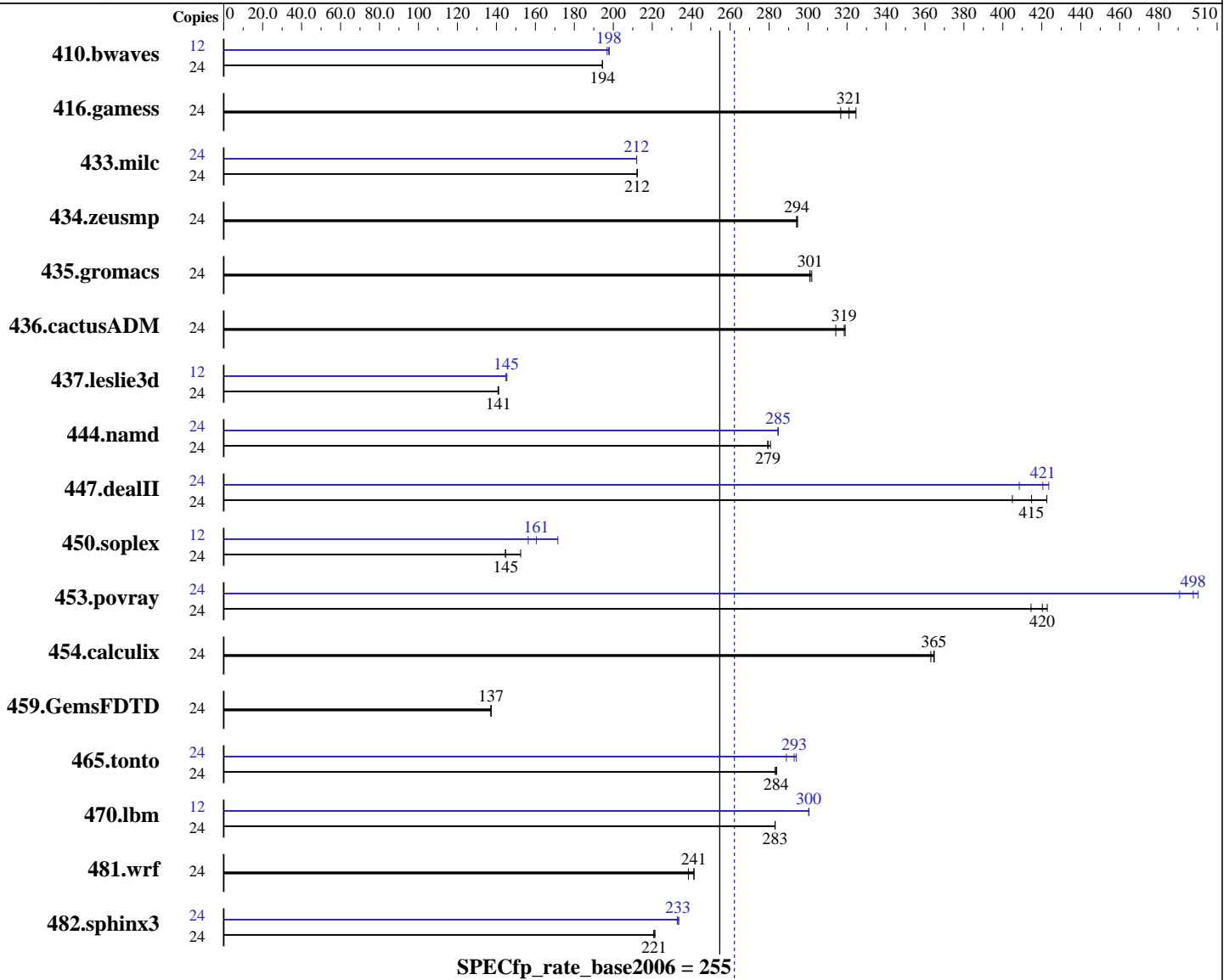
$SPECfp\_rate\_base2006 =$ 255

CPU2006 license: 9001	**Test date:** Jun-2011
Test sponsor: Itautec	**Hardware Availability:** Apr-2011
Tested by: Itautec	**Software Availability:** Jan-2011

L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 500 GB SATA-2, 7200 RPM
Other Hardware:	None
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	1677	195	**1677**	**194**	1678	194	12	824	198	**825**	**198**	829	197
416.gamess	24	1448	325	**1464**	**321**	1484	317	24	1448	325	**1464**	**321**	1484	317
433.milc	24	1038	212	**1038**	**212**	1038	212	24	1040	212	1039	212	**1039**	**212**
434.zeusmp	24	742	294	**742**	**294**	741	295	24	742	294	**742**	**294**	741	295
435.gromacs	24	568	302	569	301	**569**	**301**	24	568	302	569	301	**569**	**301**
436.cactusADM	24	**900**	**319**	913	314	899	319	24	**900**	**319**	913	314	899	319
437.leslie3d	24	1599	141	**1599**	**141**	1602	141	12	776	145	778	145	**778**	**145**
444.namd	24	686	281	689	279	**689**	**279**	24	676	285	**676**	**285**	676	285
447.dealII	24	**662**	**415**	650	423	678	405	24	648	424	**653**	**421**	672	408
450.soplex	24	1384	145	**1383**	**145**	1313	152	12	640	156	**623**	**161**	583	172
453.povray	24	302	423	308	414	**304**	**420**	24	255	500	**257**	**498**	260	491
454.calculix	24	**543**	**365**	543	365	545	363	24	**543**	**365**	543	365	545	363
459.GemsFDTD	24	1856	137	**1855**	**137**	1855	137	24	1856	137	**1855**	**137**	1855	137
465.tonto	24	832	284	834	283	**833**	**284**	24	**806**	**293**	818	289	803	294
470.lbm	24	**1165**	**283**	1165	283	1165	283	12	549	300	549	300	**549**	**300**
481.wrf	24	1110	241	**1111**	**241**	1124	239	24	1110	241	**1111**	**241**	1124	239
482.sphinx3	24	**2117**	**221**	2119	221	2112	221	24	2009	233	2002	234	**2006**	**233**

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.
     Large pages were not enabled for this run

Platform Notes

    Data Reuse disabled in BIOS.

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Test sponsor: Itautec
Tested by: Itautec

Test date: Jun-2011
Hardware Availability: Apr-2011
Software Availability: Jan-2011

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
```

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
```

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Tested by: Itautec

Test date: Jun-2011
Hardware Availability: Apr-2011
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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
```

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
```

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Test date: Jun-2011
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Peak Optimization Flags (Continued)

```
      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: -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

        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) -prof-use(pass 2) -unroll4 -ansi-alias
                  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

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) -prof-use(pass 2) -unroll4 -auto
                  -inline-calloc -opt-malloc-options=3
                  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Benchmarks using both Fortran and C:

```
       435.gromacs: basepeak = yes

   436.cactusADM: basepeak = yes

       454.calculix: basepeak = yes

          481.wrf: basepeak = yes
```

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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/Itautec-Intel-Linux64-Platform.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/Itautec-Intel-Linux64-Platform.xml

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

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