SPEC® CFP2006 Result
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Fujitsu

$SPECfp®_rate2006 = $ **281**

PRIMERGY RX600 S5, Intel Xeon E7520, 1.86 GHz

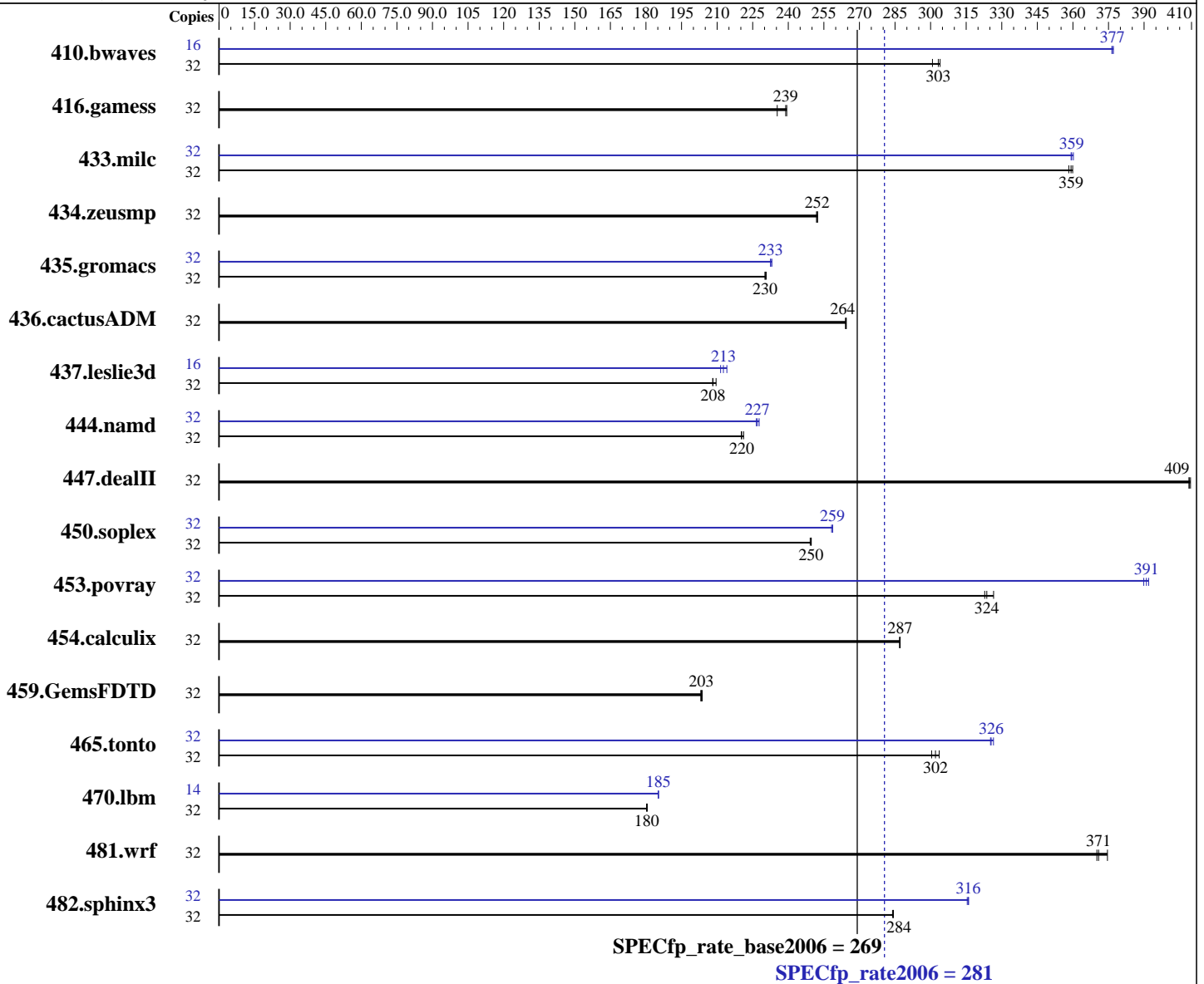$SPECfp_rate_base2006 = $ **269**

CPU2006 license: 19	**Test date:** Jul-2010
Test sponsor: Fujitsu	**Hardware Availability:** Jun-2010
Tested by: Fujitsu	**Software Availability:** Jan-2010

Copies: 0 15.0 30.0 45.0 60.0 75.0 90.0 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 345 360 375 390 410

- **410.bwaves** — 16: 377; 32: 303
- **416.gamess** — 32: 239
- **433.milc** — 32: 359; 32: 359
- **434.zeusmp** — 32: 252
- **435.gromacs** — 32: 233; 32: 230
- **436.cactusADM** — 32: 264
- **437.leslie3d** — 16: 213; 32: 208
- **444.namd** — 32: 227; 32: 220
- **447.dealII** — 32: 409
- **450.soplex** — 32: 259; 32: 250
- **453.povray** — 32: 391; 32: 324
- **454.calculix** — 32: 287
- **459.GemsFDTD** — 32: 203
- **465.tonto** — 32: 326; 32: 302
- **470.lbm** — 14: 185; 32: 180
- **481.wrf** — 32: 371
- **482.sphinx3** — 32: 316; 32: 284

SPECfp_rate_base2006 = 269

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Hardware

CPU Name:	Intel Xeon E7520
CPU Characteristics:	
CPU MHz:	1867
FPU:	Integrated
CPU(s) enabled:	16 cores, 4 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	2,3,4 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:	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:	Multi-User Run Level 3

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L3 Cache:	18 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	256 GB (64x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)	Other Software:	None
Disk Subsystem:	1 x SAS, 300 GB, 10000 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	**1434**	**303**	1431	304	1446	301	16	578	376	577	377	**577**	**377**
416.gamess	32	2618	239	**2623**	**239**	2662	235	32	2618	239	**2623**	**239**	2662	235
433.milc	32	816	360	820	358	**818**	**359**	32	818	359	816	360	**817**	**359**
434.zeusmp	32	1154	252	**1155**	**252**	1156	252	32	1154	252	**1155**	**252**	1156	252
435.gromacs	32	**992**	**230**	990	231	993	230	32	980	233	**982**	**233**	983	233
436.cactusADM	32	1446	264	1448	264	**1446**	**264**	32	1446	264	1448	264	**1446**	**264**
437.leslie3d	32	**1444**	**208**	1445	208	1435	210	16	711	211	**707**	**213**	702	214
444.namd	32	**1165**	**220**	1165	220	1160	221	32	1133	227	1127	228	**1131**	**227**
447.dealII	32	894	410	**895**	**409**	895	409	32	894	410	**895**	**409**	895	409
450.soplex	32	1069	250	1071	249	**1069**	**250**	32	1032	259	**1032**	**259**	1033	258
453.povray	32	521	327	**526**	**324**	527	323	32	**435**	**391**	434	392	437	390
454.calculix	32	**920**	**287**	920	287	919	287	32	**920**	**287**	920	287	919	287
459.GemsFDTD	32	1672	203	1667	204	**1669**	**203**	32	1672	203	1667	204	**1669**	**203**
465.tonto	32	1048	300	1037	304	**1042**	**302**	32	964	327	**967**	**326**	968	325
470.lbm	32	2435	181	2439	180	**2438**	**180**	14	1038	185	1039	185	**1038**	**185**
481.wrf	32	954	375	**964**	**371**	966	370	32	954	375	**964**	**371**	966	370
482.sphinx3	32	**2194**	**284**	2196	284	2194	284	32	1977	315	1974	316	**1974**	**316**

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

   The system automatically configures the memory to run at 800 MHz.

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CPU2006 license: 19
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General Notes

    For information about Fujitsu please visit: http://www.fujitsu.com
    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

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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
```

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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) `-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: basepeak = yes

> 434.zeusmp: basepeak = yes

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

> 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: `-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`

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Peak Optimization Flags (Continued)

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.20100708.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.20100708.xml

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For other inquiries, please contact webmaster@spec.org.

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