



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 385

PRIMERGY RX600 S5, Intel Xeon E7530, 1.86 GHz

SPECfp_rate_base2006 = 373

CPU2006 license: 19

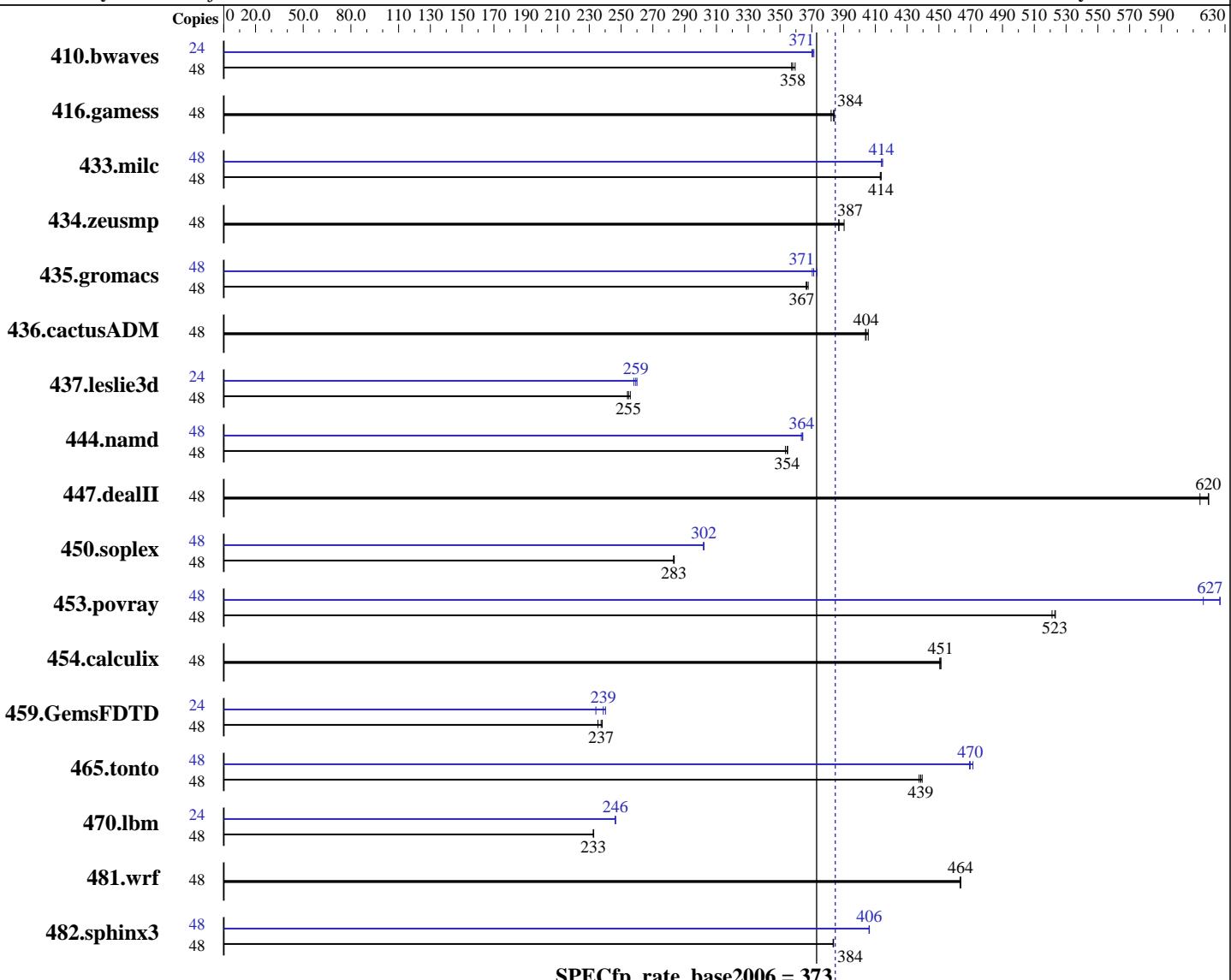
Test date: Apr-2010

Test sponsor: Fujitsu

Hardware Availability: Jun-2010

Tested by: Fujitsu

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon E7530
CPU Characteristics: Intel Turbo Boost Technology up to 2.13 GHz
CPU MHz: 1867
FPU: Integrated
CPU(s) enabled: 24 cores, 4 chips, 6 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

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: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (64x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC,
 see add'l detail in notes)
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM
 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	Seconds	Ratio
410.bwaves	48	1826	357	<u>1822</u>	<u>358</u>	1814	360	24	878	371	<u>880</u>	<u>371</u>	881	<u>370</u>		
416.gamess	48	2446	384	<u>2450</u>	<u>384</u>	2459	382	48	2446	384	<u>2450</u>	<u>384</u>	2459	<u>382</u>		
433.milc	48	1067	413	<u>1065</u>	<u>414</u>	1065	414	48	1063	415	1065	414	<u>1064</u>	<u>414</u>		
434.zeusmp	48	<u>1128</u>	<u>387</u>	1129	387	1119	390	48	<u>1128</u>	<u>387</u>	1129	387	<u>1119</u>	<u>390</u>		
435.gromacs	48	932	368	935	366	<u>934</u>	<u>367</u>	48	<u>923</u>	<u>371</u>	918	373	925	370		
436.cactusADM	48	<u>1419</u>	<u>404</u>	1420	404	1414	406	48	<u>1419</u>	<u>404</u>	1420	404	<u>1414</u>	<u>406</u>		
437.leslie3d	48	1764	256	1776	254	<u>1772</u>	<u>255</u>	24	868	260	874	258	<u>870</u>	<u>259</u>		
444.namd	48	<u>1086</u>	<u>354</u>	1085	355	1089	353	48	<u>1057</u>	<u>364</u>	1059	363	<u>1057</u>	<u>364</u>		
447.dealII	48	894	614	<u>886</u>	<u>620</u>	886	620	48	894	614	<u>886</u>	<u>620</u>	886	620		
450.soplex	48	1412	283	1414	283	<u>1414</u>	<u>283</u>	48	1326	302	<u>1325</u>	<u>302</u>	1325	302		
453.povray	48	490	521	<u>488</u>	<u>523</u>	488	523	48	414	616	407	627	<u>407</u>	<u>627</u>		
454.calculix	48	878	451	<u>878</u>	<u>451</u>	879	451	48	878	451	<u>878</u>	<u>451</u>	879	451		
459.GemsFDTD	48	2163	235	<u>2145</u>	<u>237</u>	2138	238	24	1088	234	<u>1066</u>	<u>239</u>	1060	240		
465.tonto	48	1079	438	1075	439	<u>1077</u>	<u>439</u>	48	1002	471	<u>1006</u>	<u>470</u>	1007	469		
470.lbm	48	<u>2835</u>	<u>233</u>	2833	233	2836	233	24	<u>1338</u>	<u>246</u>	1337	247	1339	246		
481.wrf	48	1156	464	1157	463	<u>1157</u>	<u>464</u>	48	1156	464	1157	463	<u>1157</u>	<u>464</u>		
482.sphinx3	48	2440	383	2438	384	<u>2439</u>	<u>384</u>	48	2303	406	2304	406	<u>2303</u>	<u>406</u>		

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 978 MHz.



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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: -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 -Obo
```

```
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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Tested with SPEC CPU2006 v1.1.

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