



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 64.2

PRIMERGY TX300 S6, Intel Xeon E5507, 2.26 GHz

SPECfp_rate_base2006 = 62.3

CPU2006 license: 19

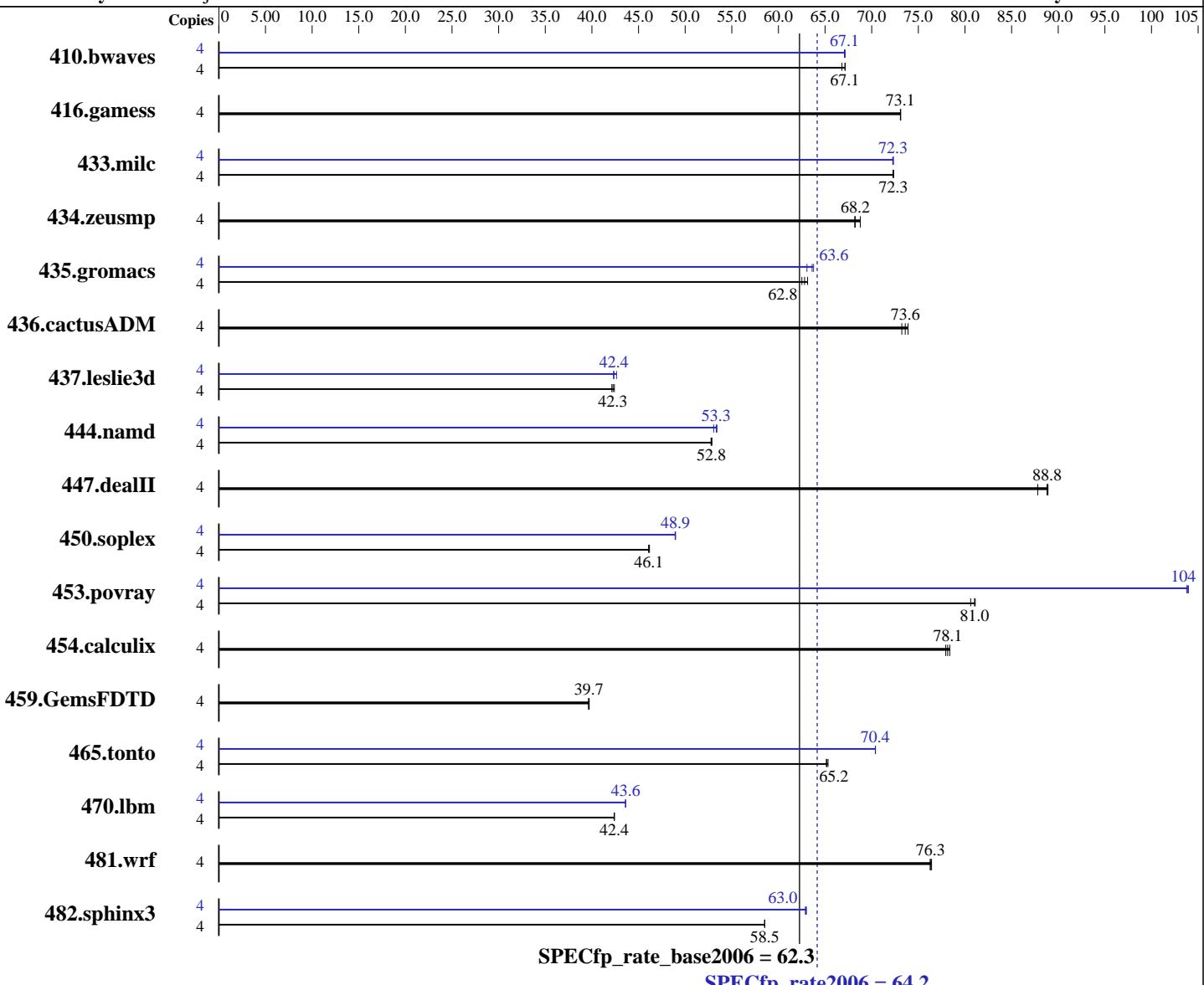
Test date: Feb-2010

Test sponsor: Fujitsu

Hardware Availability: Apr-2010

Tested by: Fujitsu

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon E5507
CPU Characteristics:
CPU MHz: 2267
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
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

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: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (6x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
 Disk Subsystem: 1 x SATA, 160 GB, 5.4 krpm
 Other Hardware: None

Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: Binutils 2.18.50.0.7.20080502

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---------------|--------|------------|-------------|-------------|-------------|-------------|-------------|--------|------------|-------------|-------------|-------------|-------------|-------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 4 | 814 | 66.8 | 809 | 67.2 | 810 | 67.1 | 4 | 810 | 67.1 | 809 | 67.2 | 810 | 67.1 |
| 416.gamess | 4 | 1071 | 73.1 | 1072 | 73.1 | 1072 | 73.1 | 4 | 1071 | 73.1 | 1072 | 73.1 | 1072 | 73.1 |
| 433.milc | 4 | 508 | 72.3 | 508 | 72.3 | 508 | 72.3 | 4 | 508 | 72.3 | 508 | 72.3 | 508 | 72.3 |
| 434.zeusmp | 4 | 529 | 68.8 | 534 | 68.2 | 533 | 68.2 | 4 | 529 | 68.8 | 534 | 68.2 | 533 | 68.2 |
| 435.gromacs | 4 | 455 | 62.8 | 457 | 62.5 | 452 | 63.1 | 4 | 448 | 63.8 | 449 | 63.6 | 453 | 63.1 |
| 436.cactusADM | 4 | 653 | 73.2 | 649 | 73.6 | 647 | 73.9 | 4 | 653 | 73.2 | 649 | 73.6 | 647 | 73.9 |
| 437.leslie3d | 4 | 887 | 42.4 | 890 | 42.3 | 892 | 42.1 | 4 | 882 | 42.6 | 889 | 42.3 | 888 | 42.4 |
| 444.namd | 4 | 607 | 52.9 | 607 | 52.8 | 608 | 52.8 | 4 | 601 | 53.4 | 605 | 53.1 | 601 | 53.3 |
| 447.dealII | 4 | 515 | 88.9 | 521 | 87.8 | 515 | 88.8 | 4 | 515 | 88.9 | 521 | 87.8 | 515 | 88.8 |
| 450.soplex | 4 | 724 | 46.1 | 723 | 46.2 | 723 | 46.1 | 4 | 682 | 48.9 | 681 | 49.0 | 682 | 48.9 |
| 453.povray | 4 | 263 | 81.0 | 264 | 80.6 | 262 | 81.1 | 4 | 205 | 104 | 205 | 104 | 205 | 104 |
| 454.calculix | 4 | 422 | 78.1 | 421 | 78.4 | 423 | 77.9 | 4 | 422 | 78.1 | 421 | 78.4 | 423 | 77.9 |
| 459.GemsFDTD | 4 | 1071 | 39.6 | 1069 | 39.7 | 1069 | 39.7 | 4 | 1071 | 39.6 | 1069 | 39.7 | 1069 | 39.7 |
| 465.tonto | 4 | 604 | 65.2 | 604 | 65.1 | 603 | 65.3 | 4 | 559 | 70.4 | 559 | 70.4 | 559 | 70.4 |
| 470.lbm | 4 | 1297 | 42.4 | 1296 | 42.4 | 1296 | 42.4 | 4 | 1260 | 43.6 | 1260 | 43.6 | 1260 | 43.6 |
| 481.wrf | 4 | 585 | 76.4 | 586 | 76.3 | 586 | 76.3 | 4 | 585 | 76.4 | 586 | 76.3 | 586 | 76.3 |
| 482.sphinx3 | 4 | 1332 | 58.5 | 1332 | 58.5 | 1332 | 58.5 | 4 | 1238 | 63.0 | 1240 | 62.9 | 1238 | 63.0 |

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.
 BIOS configuration:
 Data Reuse Optimization = Disable



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General Notes

This result was measured on the PRIMERGY TX300 S6. The PRIMERGY TX300 S6 and the PRIMERGY RX300 S6 are electronically equivalent.

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

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)
           -unroll14 -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)
           -unroll14 -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.20100316.00.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.20100316.00.xml>

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

Tested with SPEC CPU2006 v1.1.

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