



SPEC[®] CFP2006 Result

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Fujitsu Siemens Computers

PRIMERGY RX600 S3, Intel Xeon processor 7140M, 3.40 GHz

SPECfp[®]_rate2006 = 60.2

SPECfp_rate_base2006 = 58.5

CPU2006 license: 22

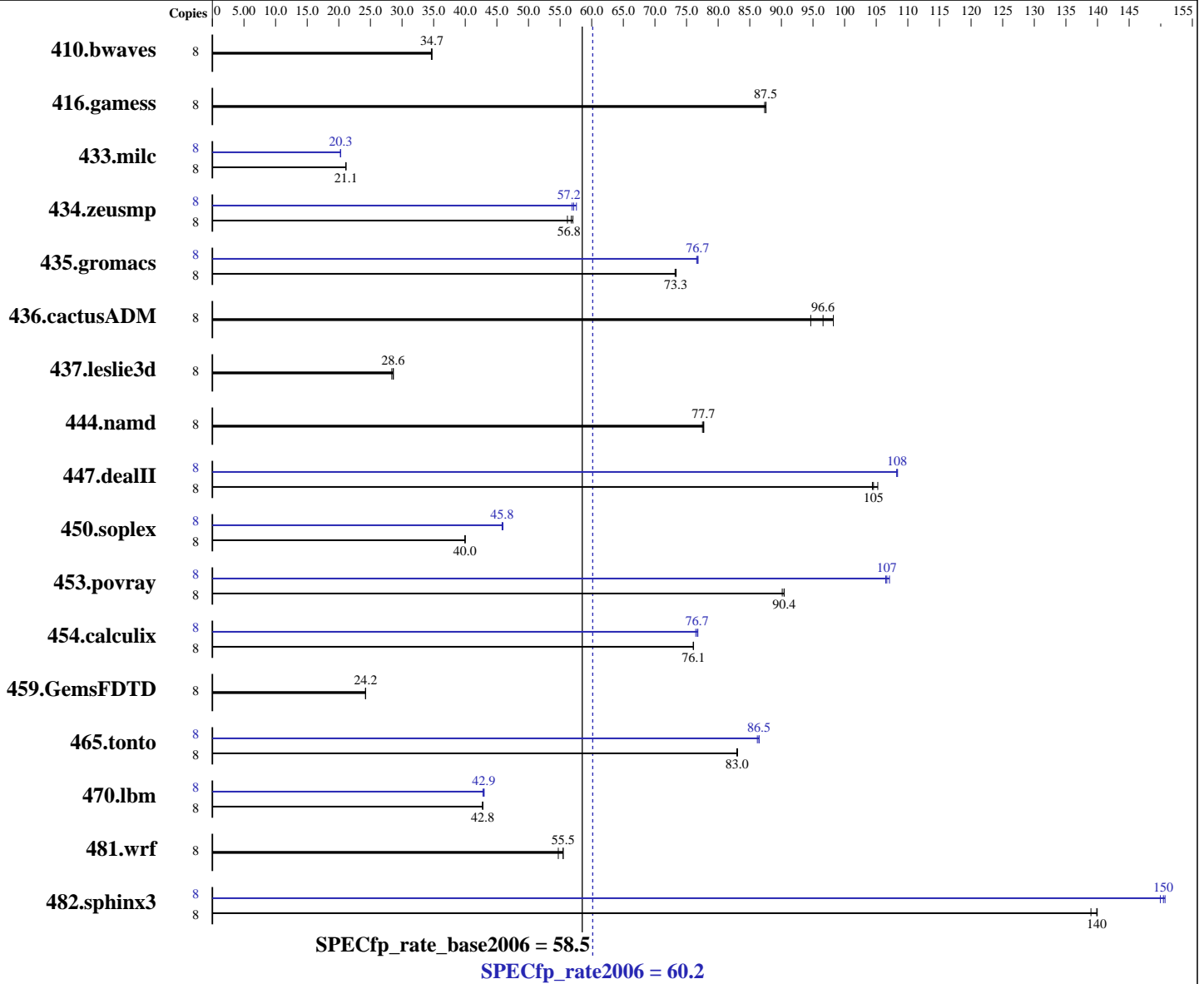
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Apr-2007

Hardware Availability: Dec-2006

Software Availability: Feb-2007



Hardware

CPU Name: Intel Xeon 7140M
 CPU Characteristics: 800 MHz system bus
 CPU MHz: 3400
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
 CPU(s) orderable: 1,2,4 chips
 Primary Cache: 12 K micro-ops I + 16 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core

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Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an x86_64
 Compiler: Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package-ID: l_cc_p_9.1.047
 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070215, Package ID: l_fc_p_9.1.043
 Auto Parallel: No
 File System: ReiserFS

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Hardware (Continued)

L3 Cache: 16 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (16x2 GB DDR2 PC2-3200R, 1 rank, CAS 3-3-3, with ECC)
Disk Subsystem: Fujitsu MAS3735NC (SCSI 73GB 15 krpm)
Other Hardware: None

Software (Continued)

System State: Multiuser, Runlevel 3
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 |
| 410.bwaves | 8 | 3139 | 34.6 | 3131 | 34.7 | 3131 | 34.7 | 8 | 3139 | 34.6 | 3131 | 34.7 | 3131 | 34.7 |
| 416.gamess | 8 | 1793 | 87.3 | 1790 | 87.5 | 1789 | 87.6 | 8 | 1793 | 87.3 | 1790 | 87.5 | 1789 | 87.6 |
| 433.milc | 8 | 3475 | 21.1 | 3475 | 21.1 | 3480 | 21.1 | 8 | 3624 | 20.3 | 3620 | 20.3 | 3620 | 20.3 |
| 434.zeusmp | 8 | 1296 | 56.2 | 1277 | 57.0 | 1282 | 56.8 | 8 | 1274 | 57.2 | 1279 | 56.9 | 1264 | 57.6 |
| 435.gromacs | 8 | 781 | 73.2 | 779 | 73.3 | 779 | 73.4 | 8 | 744 | 76.7 | 746 | 76.6 | 744 | 76.8 |
| 436.cactusADM | 8 | 973 | 98.2 | 990 | 96.6 | 1010 | 94.6 | 8 | 973 | 98.2 | 990 | 96.6 | 1010 | 94.6 |
| 437.leslie3d | 8 | 2650 | 28.4 | 2627 | 28.6 | 2629 | 28.6 | 8 | 2650 | 28.4 | 2627 | 28.6 | 2629 | 28.6 |
| 444.namd | 8 | 828 | 77.5 | 826 | 77.7 | 826 | 77.7 | 8 | 828 | 77.5 | 826 | 77.7 | 826 | 77.7 |
| 447.dealII | 8 | 877 | 104 | 875 | 105 | 870 | 105 | 8 | 845 | 108 | 846 | 108 | 844 | 108 |
| 450.soplex | 8 | 1670 | 39.9 | 1668 | 40.0 | 1670 | 40.0 | 8 | 1451 | 46.0 | 1456 | 45.8 | 1455 | 45.8 |
| 453.povray | 8 | 472 | 90.1 | 471 | 90.4 | 471 | 90.4 | 8 | 400 | 107 | 397 | 107 | 399 | 107 |
| 454.calculix | 8 | 867 | 76.1 | 868 | 76.1 | 867 | 76.1 | 8 | 863 | 76.5 | 859 | 76.8 | 861 | 76.7 |
| 459.GemsFDTD | 8 | 3502 | 24.2 | 3502 | 24.2 | 3504 | 24.2 | 8 | 3502 | 24.2 | 3502 | 24.2 | 3504 | 24.2 |
| 465.tonto | 8 | 949 | 83.0 | 948 | 83.0 | 948 | 83.1 | 8 | 910 | 86.5 | 910 | 86.5 | 913 | 86.2 |
| 470.lbm | 8 | 2569 | 42.8 | 2570 | 42.8 | 2573 | 42.7 | 8 | 2560 | 42.9 | 2557 | 43.0 | 2569 | 42.8 |
| 481.wrf | 8 | 1611 | 55.5 | 1633 | 54.7 | 1610 | 55.5 | 8 | 1611 | 55.5 | 1633 | 54.7 | 1610 | 55.5 |
| 482.sphinx3 | 8 | 1114 | 140 | 1115 | 140 | 1122 | 139 | 8 | 1037 | 150 | 1040 | 150 | 1035 | 151 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs

General Notes

The system bus runs at 800 MHz

All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with 32-bit Intel compiler by changing the path for include and library files.

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General Notes (Continued)

BIOS configuration:

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable

The PRIMERGY RX600 S3 and the PRIMERGY TX600 S3 are electronically equivalent.

For information about Fujitsu Siemens Computers in your country please see:

<http://www.fujitsu-siemens.com/countries>

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

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:

-fast

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Base Optimization Flags (Continued)

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

Peak Compiler Invocation

C benchmarks:

/opt/intel/cc/9.1.047/bin/icc -I/opt/intel/cc/9.1.047/include
-L/opt/intel/cc/9.1.047/lib

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/cc/9.1.047/bin/icpc
-I/opt/intel/cc/9.1.047/include -L/opt/intel/cc/9.1.047/lib

Fortran benchmarks (except as noted below):

ifort

434.zeusmp: /opt/intel/fc/9.1.043/bin/ifort
-I/opt/intel/fc/9.1.043/include -L/opt/intel/fc/9.1.043/lib

Benchmarks using both Fortran and C:

icc ifort

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



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Peak Optimization Flags

C benchmarks:

433.milc: -prof_gen(pass 1) -prof_use(pass 2) -fast

470.lbm: Same as 433.milc

482.sphinx3: -fast

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -prof_gen(pass 1) -prof_use(pass 2) -fast

450.soplex: Same as 447.dealII

453.povray: Same as 447.dealII

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -prof_gen(pass 1) -prof_use(pass 2) -fast

Benchmarks using both Fortran and C:

435.gromacs: -prof_gen(pass 1) -prof_use(pass 2) -fast

436.cactusADM: basepeak = yes

454.calculix: Same as 435.gromacs

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/CPU2006_flags.20070417.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/CPU2006_flags.20070417.xml



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