SPEC® CFP2006 Result

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Fujitsu Siemens Computers

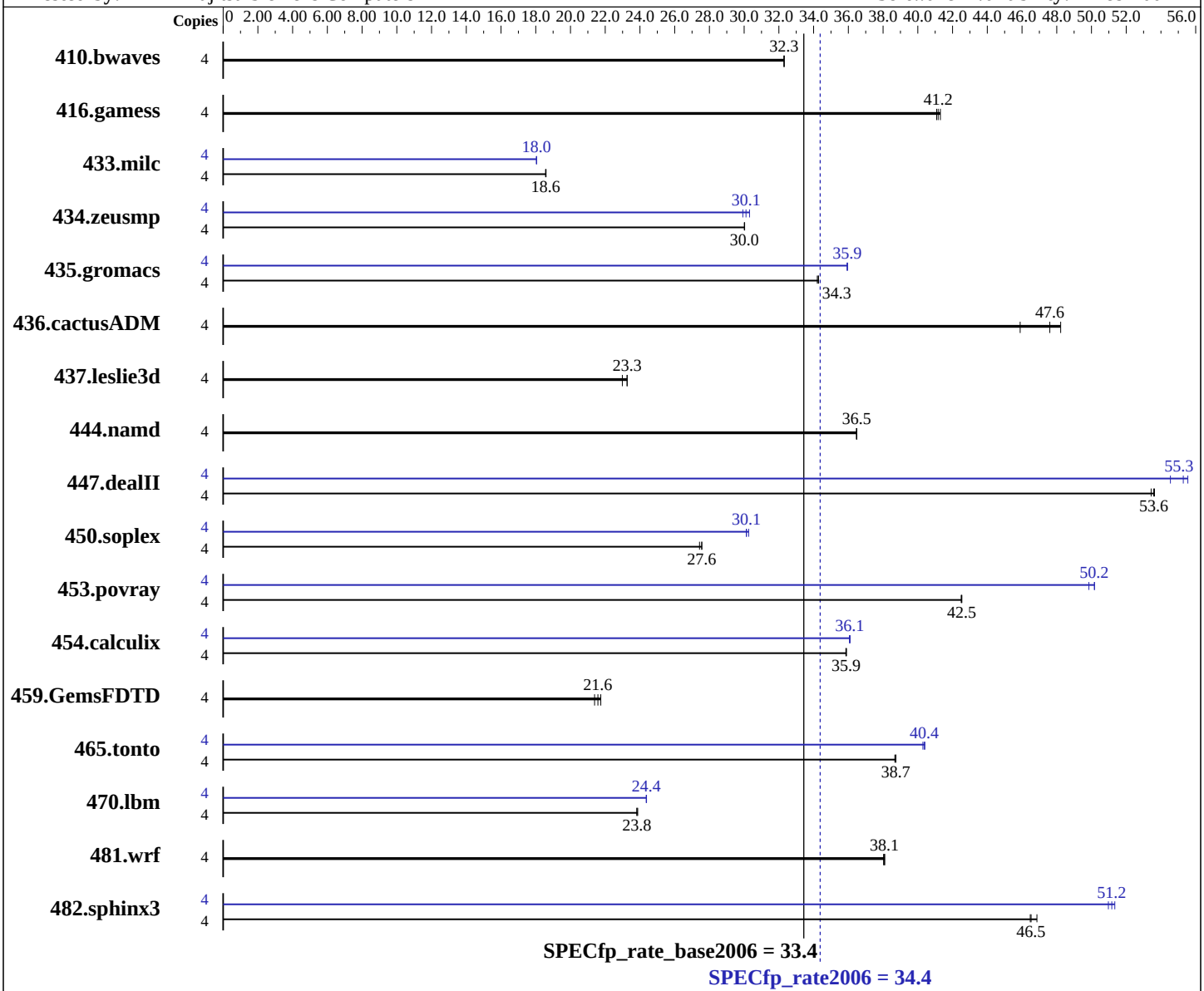
PRIMERGY RX600 S3, Intel Xeon processor 7130M, 3.20 GHz

SPECfp®_rate2006 = 34.4

SPECfp_rate_base2006 = 33.4

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: May-2007
Hardware Availability: Aug-2006
Software Availability: Feb-2007



Hardware

CPU Name:	Intel Xeon 7130M
CPU Characteristics:	800 MHz system bus
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 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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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (16x2 GB DDR2 PC2-3200R, 2 rank, CAS 3-3-3, with ECC)
Disk Subsystem: Seagate ST973401SS (SAS 73GB 10 krpm)
Other Hardware: None

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	4	1683	32.3	**1683**	**32.3**	1683	32.3	4	1683	32.3	**1683**	**32.3**	1683	32.3
416.gamess	4	1896	41.3	1906	41.1	**1902**	**41.2**	4	1896	41.3	1906	41.1	**1902**	**41.2**
433.milc	4	1975	18.6	**1977**	**18.6**	1977	18.6	4	**2035**	**18.0**	2035	18.0	2035	18.0
434.zeusmp	4	1212	30.0	**1213**	**30.0**	1213	30.0	4	1216	29.9	**1209**	**30.1**	1201	30.3
435.gromacs	4	835	34.2	833	34.3	**833**	**34.3**	4	795	35.9	**795**	**35.9**	794	36.0
436.cactusADM	4	1042	45.9	**1004**	**47.6**	991	48.2	4	1042	45.9	**1004**	**47.6**	991	48.2
437.leslie3d	4	1636	23.0	**1616**	**23.3**	1616	23.3	4	1636	23.0	**1616**	**23.3**	1616	23.3
444.namd	4	879	36.5	**879**	**36.5**	880	36.5	4	879	36.5	**879**	**36.5**	880	36.5
447.dealII	4	853	53.6	**854**	**53.6**	856	53.4	4	**828**	**55.3**	824	55.5	839	54.5
450.soplex	4	1216	27.4	**1211**	**27.6**	1210	27.6	4	1102	30.3	**1107**	**30.1**	1107	30.1
453.povray	4	**500**	**42.5**	501	42.5	500	42.5	4	427	49.9	424	50.2	**424**	**50.2**
454.calculix	4	919	35.9	**920**	**35.9**	920	35.9	4	**915**	**36.1**	914	36.1	915	36.1
459.GemsFDTD	4	**1967**	**21.6**	1984	21.4	1952	21.7	4	**1967**	**21.6**	1984	21.4	1952	21.7
465.tonto	4	**1016**	**38.7**	1016	38.7	1018	38.7	4	974	40.4	**975**	**40.4**	977	40.3
470.lbm	4	2307	23.8	2302	23.9	**2306**	**23.8**	4	**2255**	**24.4**	2256	24.4	2254	24.4
481.wrf	4	**1173**	**38.1**	1175	38.0	1173	38.1	4	**1173**	**38.1**	1175	38.0	1173	38.1
482.sphinx3	4	1677	46.5	**1676**	**46.5**	1664	46.9	4	1529	51.0	**1524**	**51.2**	1518	51.3

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.

BIOS configuration:
```

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General Notes (Continued)

```
Hyper-Threading Technology = Disable
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

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

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Peak Portability Flags (Continued)

465.tonto: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

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.20090714.09.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.09.xml

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

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