SPEC® CFP2006 Result

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Fujitsu Siemens Computers

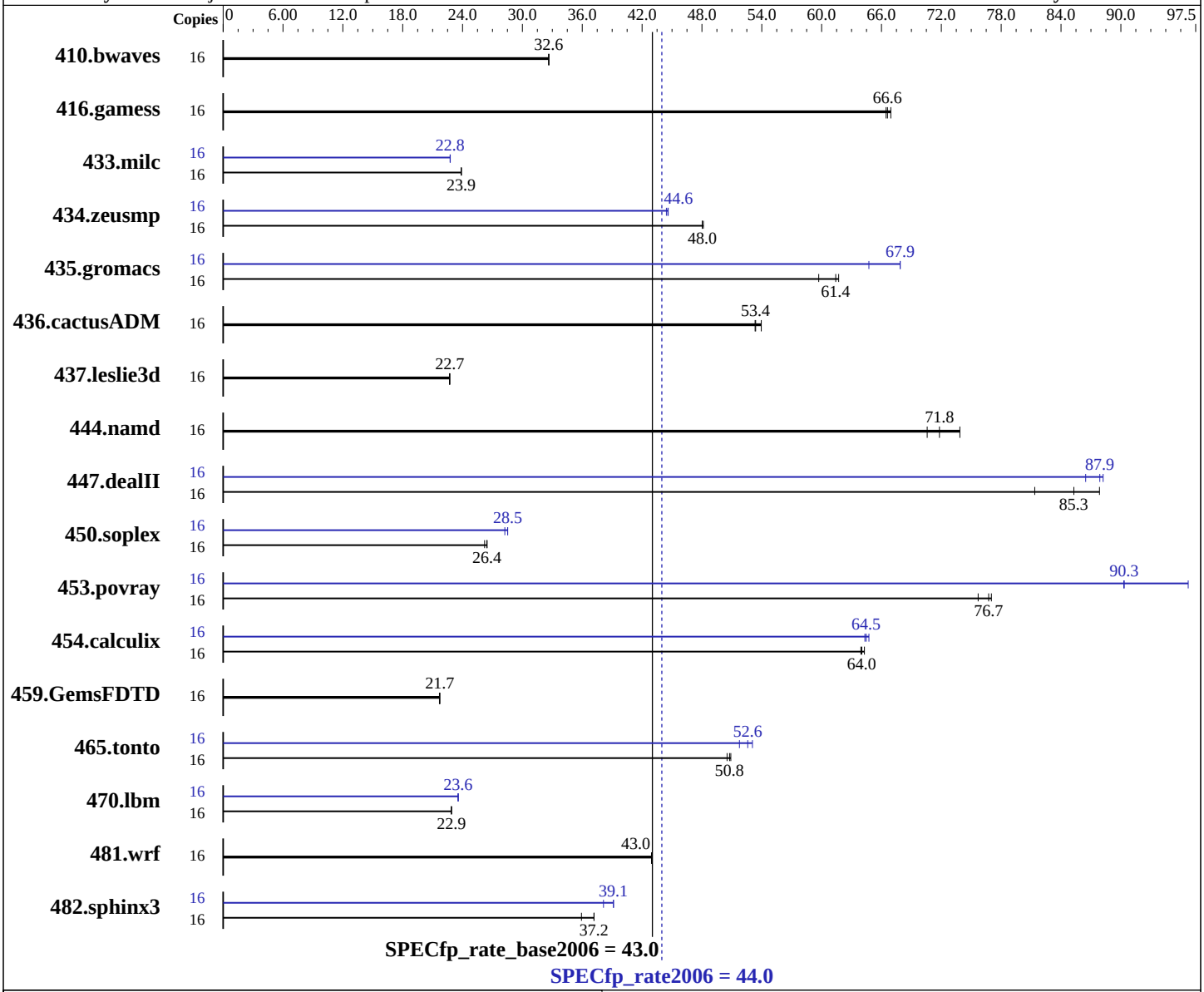
PRIMERGY TX600 S3, Intel Xeon processor 7110M, 2.60 GHz

SPECfp®_rate2006 = 44.0

SPECfp_rate_base2006 = 43.0

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

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



Hardware

CPU Name:	Intel Xeon 7110M
CPU Characteristics:	800 MHz system bus
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip, 2 threads/core
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: 4 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: 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	16	**6661**	**32.6**	6660	32.6	6661	32.6	16	**6661**	**32.6**	6660	32.6	6661	32.6
416.gamess	16	4714	66.5	4680	66.9	**4704**	**66.6**	16	4714	66.5	4680	66.9	**4704**	**66.6**
433.milc	16	6154	23.9	6151	23.9	**6153**	**23.9**	16	6450	22.8	**6453**	**22.8**	6455	22.8
434.zeusmp	16	3032	48.0	3024	48.1	**3031**	**48.0**	16	3263	44.6	**3266**	**44.6**	3277	44.4
435.gromacs	16	**1860**	**61.4**	1913	59.7	1851	61.7	16	**1683**	**67.9**	1765	64.7	1683	67.9
436.cactusADM	16	**3582**	**53.4**	3544	53.9	3585	53.3	16	**3582**	**53.4**	3544	53.9	3585	53.3
437.leslie3d	16	**6620**	**22.7**	6629	22.7	6619	22.7	16	**6620**	**22.7**	6629	22.7	6619	22.7
444.namd	16	1737	73.9	1818	70.6	**1787**	**71.8**	16	1737	73.9	1818	70.6	**1787**	**71.8**
447.dealII	16	2250	81.4	**2146**	**85.3**	2083	87.9	16	**2083**	**87.9**	2117	86.5	2075	88.2
450.soplex	16	5091	26.2	5043	26.5	**5047**	**26.4**	16	4725	28.2	**4678**	**28.5**	4678	28.5
453.povray	16	1105	77.0	1125	75.7	**1109**	**76.7**	16	880	96.8	943	90.3	**942**	**90.3**
454.calculix	16	2065	63.9	2053	64.3	**2062**	**64.0**	16	**2047**	**64.5**	2052	64.3	2039	64.7
459.GemsFDTD	16	7814	21.7	7830	21.7	**7818**	**21.7**	16	7814	21.7	7830	21.7	**7818**	**21.7**
465.tonto	16	3093	50.9	3116	50.5	**3101**	**50.8**	16	2967	53.1	**2994**	**52.6**	3042	51.8
470.lbm	16	9605	22.9	9609	22.9	**9607**	**22.9**	16	9329	23.6	**9330**	**23.6**	9334	23.6
481.wrf	16	4160	43.0	**4160**	**43.0**	4162	42.9	16	4160	43.0	**4160**	**43.0**	4162	42.9
482.sphinx3	16	8681	35.9	8386	37.2	**8389**	**37.2**	16	8178	38.1	7968	39.1	**7970**	**39.1**

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:

Continued on next page

General Notes (Continued)

```
Hardware Prefetch = Enable

This result was measured on the PRIMERGY RX600 S3.
The PRIMERGY RX600 S3 and the PRIMERGY TX600 S3 are electronically equivalent.

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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`

Continued on next page

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`

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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