SPEC® CFP2006 Result

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Fujitsu Siemens Computers

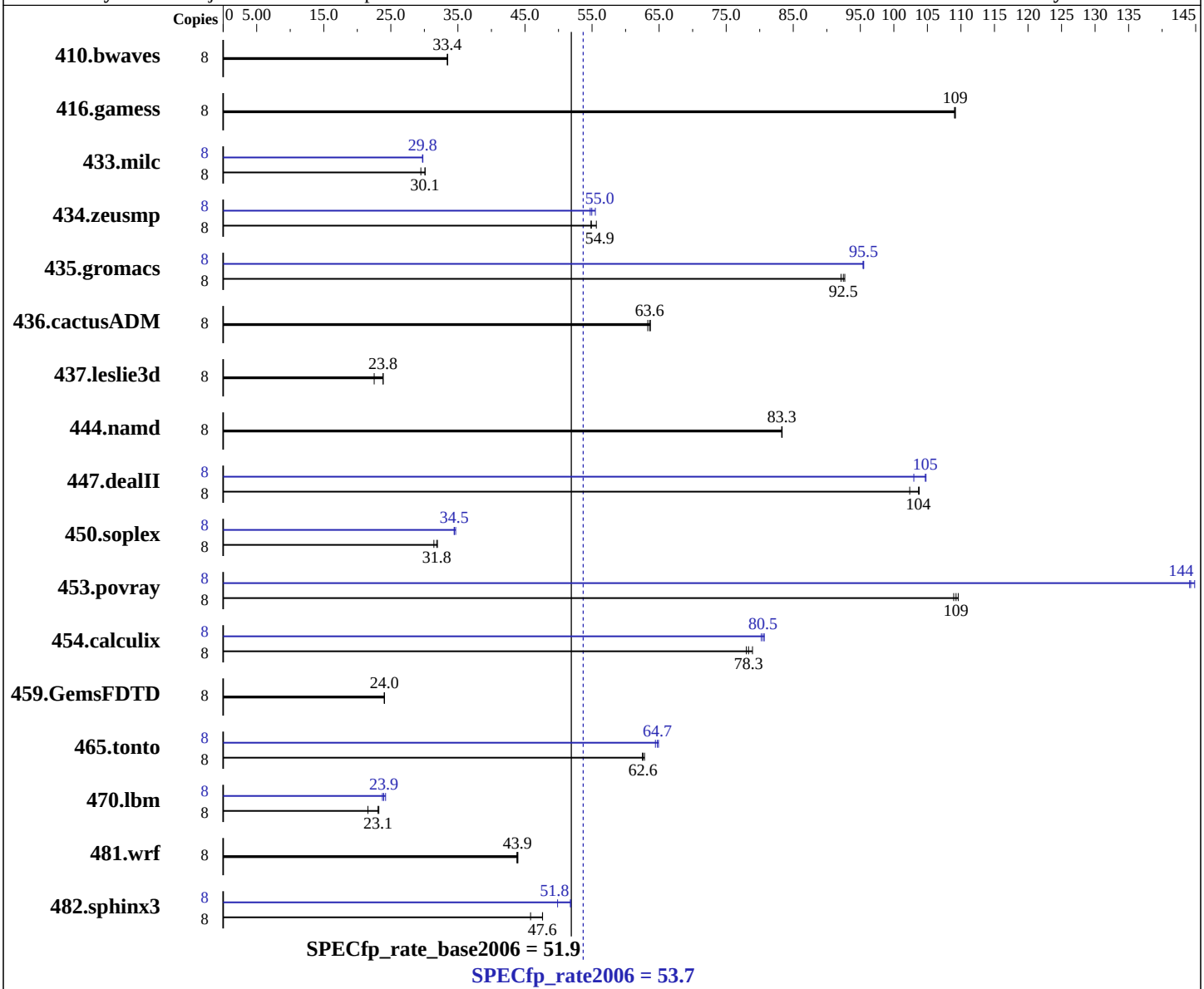
PRIMERGY RX200 S3, Intel Xeon processor E5335, 2.0 GHz

SPECfp®_rate2006 = 53.7

SPECfp_rate_base2006 = 51.9

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

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



Hardware

CPU Name:	Intel Xeon E5335
CPU Characteristics:	1333 MHz system bus
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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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:	ext2

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 PC2-5300F, 2 rank, CAS 5-5-5, with ECC)
Disk Subsystem: SAS (73GB 15400 rpm)
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	8	3252	33.4	**3251**	**33.4**	3249	33.5	8	3252	33.4	**3251**	**33.4**	3249	33.5
416.gamess	8	1437	109	**1435**	**109**	1435	109	8	1437	109	**1435**	**109**	1435	109
433.milc	8	2491	29.5	**2441**	**30.1**	2439	30.1	8	**2467**	**29.8**	2466	29.8	2471	29.7
434.zeusmp	8	1327	54.8	1308	55.6	**1326**	**54.9**	8	1330	54.7	1312	55.5	**1324**	**55.0**
435.gromacs	8	616	92.7	**618**	**92.5**	620	92.1	8	598	95.5	599	95.4	**598**	**95.5**
436.cactusADM	8	1501	63.7	**1503**	**63.6**	1510	63.3	8	1501	63.7	**1503**	**63.6**	1510	63.3
437.leslie3d	8	3339	22.5	3151	23.9	**3156**	**23.8**	8	3339	22.5	3151	23.9	**3156**	**23.8**
444.namd	8	770	83.3	770	83.3	**770**	**83.3**	8	770	83.3	770	83.3	**770**	**83.3**
447.dealII	8	894	102	882	104	**883**	**104**	8	**874**	**105**	873	105	889	103
450.soplex	8	2123	31.4	**2096**	**31.8**	2088	32.0	8	**1936**	**34.5**	1937	34.4	1924	34.7
453.povray	8	**389**	**109**	388	110	391	109	8	**295**	**144**	295	144	294	145
454.calculix	8	846	78.0	**843**	**78.3**	836	78.9	8	818	80.7	823	80.2	**820**	**80.5**
459.GemsFDTD	8	3532	24.0	3529	24.1	**3531**	**24.0**	8	3532	24.0	3529	24.1	**3531**	**24.0**
465.tonto	8	1259	62.5	**1258**	**62.6**	1253	62.8	8	**1216**	**64.7**	1221	64.4	1213	64.9
470.lbm	8	5092	21.6	4734	23.2	**4761**	**23.1**	8	4538	24.2	4628	23.8	**4591**	**23.9**
481.wrf	8	2040	43.8	**2036**	**43.9**	2033	43.9	8	2040	43.8	**2036**	**43.9**	2033	43.9
482.sphinx3	8	3402	45.8	3274	47.6	**3275**	**47.6**	8	3127	49.9	**3012**	**51.8**	3007	51.8

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 1333 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 = Disable, Adjacent Sector Prefetch = Disable

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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`

C++ benchmarks:
`-fast`

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Base Optimization Flags (Continued)

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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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 11:08:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 June 2007.