



SPEC[®] CFP2006 Result

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Fujitsu Siemens Computers

SPECfp[®]_rate2006 = 104

PRIMERGY RX600 S4, Intel Xeon E7330, 2.40 GHz

SPECfp_rate_base2006 = 97.6

CPU2006 license: 22

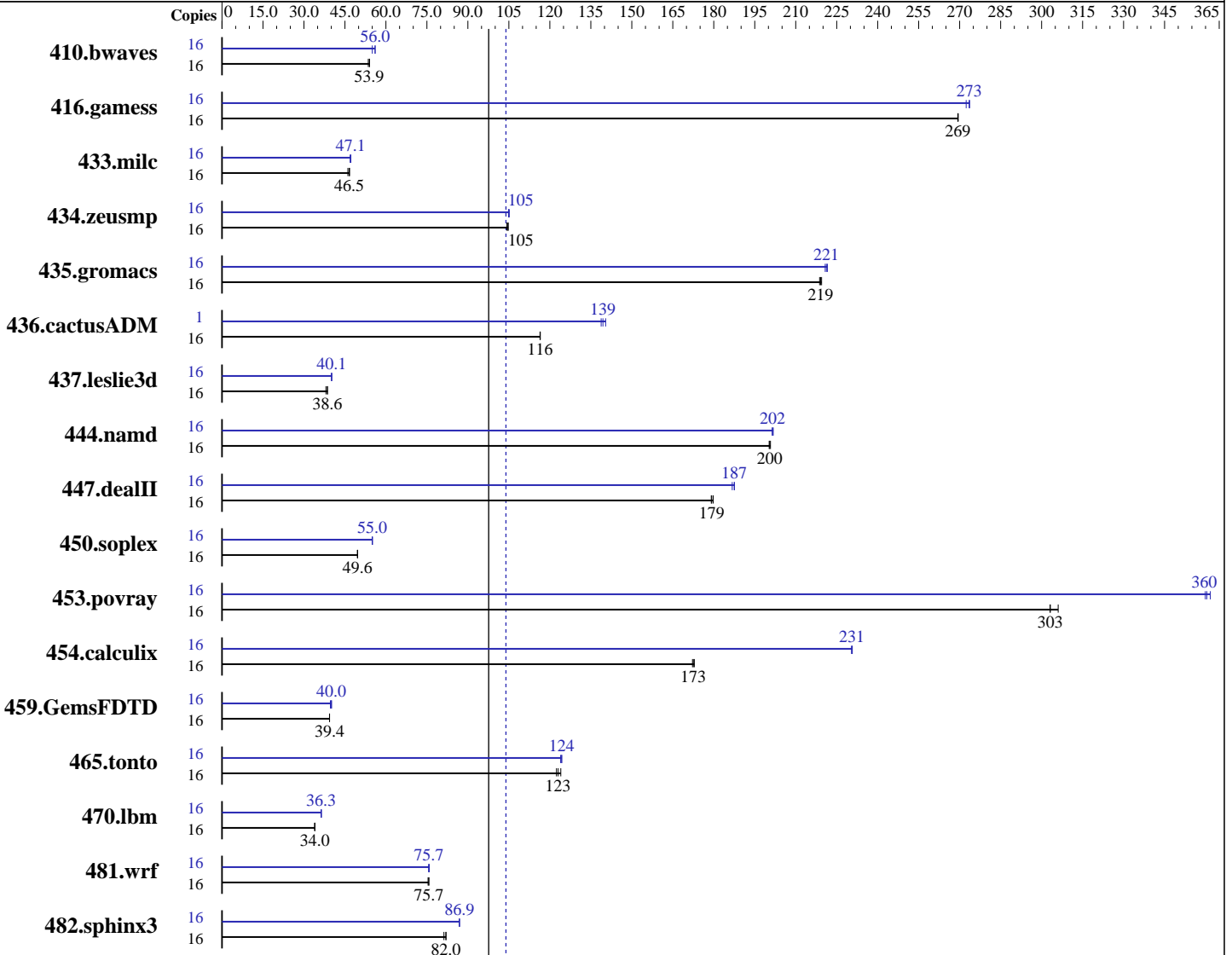
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jan-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



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Hardware

CPU Name: Intel Xeon E7330
 CPU Characteristics: 1067 MHz system bus
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 1,2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip, 3 MB shared / 2 cores

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725
 Auto Parallel: Yes
 File System: ext2
 System State: Multiuser, Runlevel 3
 Base Pointers: 64-bit

Continued on next page



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L3 Cache: None
Other Cache: None
Memory: 64 GB (16x4 GB PC2-5300F, 2 rank, CAS 5-5-5, with ECC)
Disk Subsystem: Seagate ST973451SS (SAS, 73GB, 15000rpm)
Other Hardware: None

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	4061	53.5	4034	53.9	4025	54.0	16	3953	55.0	3879	56.1	3880	56.0
416.gamess	16	1163	269	1163	269	1163	269	16	1145	274	1150	272	1146	273
433.milc	16	3188	46.1	3155	46.5	3145	46.7	16	3131	46.9	3119	47.1	3114	47.2
434.zeusmp	16	1397	104	1390	105	1391	105	16	1388	105	1388	105	1385	105
435.gromacs	16	521	219	522	219	521	219	16	517	221	516	221	516	222
436.cactusADM	16	1643	116	1642	116	1641	117	1	86.1	139	85.1	140	85.7	139
437.leslie3d	16	3955	38.0	3898	38.6	3897	38.6	16	3754	40.1	3748	40.1	3745	40.2
444.namd	16	641	200	639	201	640	200	16	636	202	637	202	637	201
447.dealII	16	1022	179	1018	180	1021	179	16	980	187	976	187	976	188
450.soplex	16	2688	49.6	2692	49.6	2689	49.6	16	2428	55.0	2425	55.0	2423	55.1
453.povray	16	278	306	281	303	281	303	16	237	360	236	360	235	362
454.calculix	16	765	173	764	173	767	172	16	572	231	573	230	572	231
459.GemsFDTD	16	4313	39.4	4315	39.3	4311	39.4	16	4279	39.7	4243	40.0	4232	40.1
465.tonto	16	1280	123	1270	124	1286	122	16	1270	124	1267	124	1266	124
470.lbm	16	6469	34.0	6475	34.0	6471	34.0	16	6055	36.3	6052	36.3	6048	36.3
481.wrf	16	2370	75.4	2361	75.7	2360	75.7	16	2361	75.7	2362	75.7	2355	75.9
482.sphinx3	16	3839	81.2	3803	82.0	3805	82.0	16	3587	86.9	3590	86.9	3588	86.9

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
'OMP_NUM_THREADS' set to number of cores (default)

General Notes

This result has been produced with binaries provided and compiled by Intel.

All binaries were built with 64-bit Intel compiler except:
437.leslie3d, 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.

For information about Fujitsu Siemens Computers please see:

Continued on next page



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General Notes (Continued)

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

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

Continued on next page

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Page 3



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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

-fast

Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Benchmarks using both Fortran and C:

icc ifort

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
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 -fno-alias
-auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

Continued on next page



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Peak Optimization Flags (Continued)

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.01.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.01.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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