SPEC® CFP2006 Result

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Fujitsu Siemens Computers

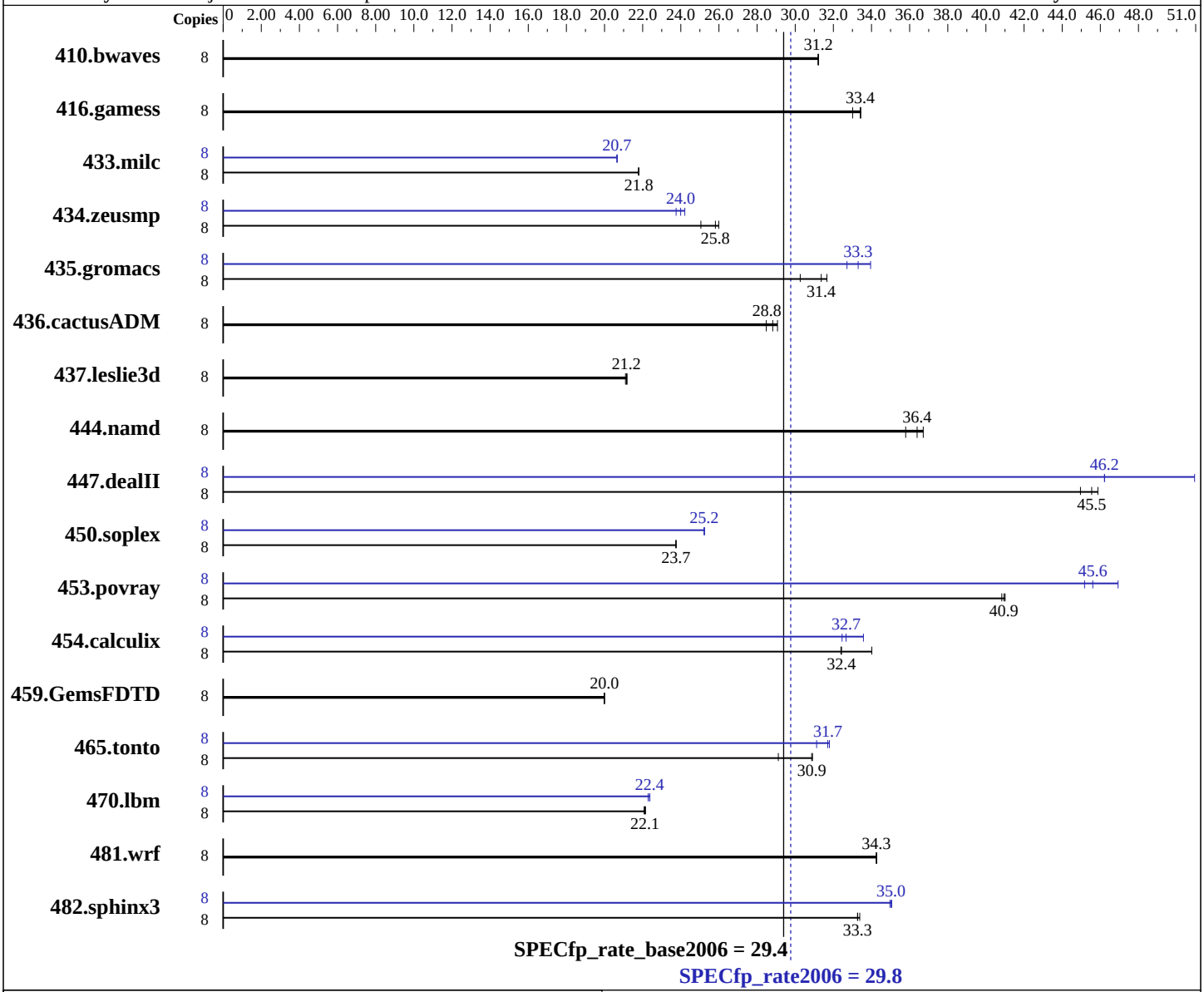
PRIMERGY RX600 S3, Intel Xeon processor 7110M, 2.60 GHz

SPECfp®_rate2006 = 29.8

SPECfp_rate_base2006 = 29.4

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

Test date: Jun-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:	4 cores, 2 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, 10000rpm)
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	**3483**	**31.2**	3483	31.2	3485	31.2	8	**3483**	**31.2**	3483	31.2	3485	31.2
416.gamess	8	**4688**	**33.4**	4684	33.4	4745	33.0	8	**4688**	**33.4**	4684	33.4	4745	33.0
433.milc	8	**3369**	**21.8**	3368	21.8	3372	21.8	8	3556	20.7	3555	20.7	**3555**	**20.7**
434.zeusmp	8	**2820**	**25.8**	2906	25.1	2801	26.0	8	**3034**	**24.0**	3007	24.2	3065	23.8
435.gromacs	8	1804	31.7	1888	30.3	**1821**	**31.4**	8	1746	32.7	**1715**	**33.3**	1682	34.0
436.cactusADM	8	3289	29.1	**3317**	**28.8**	3356	28.5	8	3289	29.1	**3317**	**28.8**	3356	28.5
437.leslie3d	8	3564	21.1	**3555**	**21.2**	3550	21.2	8	3564	21.1	**3555**	**21.2**	3550	21.2
444.namd	8	1748	36.7	1793	35.8	**1763**	**36.4**	8	1748	36.7	1793	35.8	**1763**	**36.4**
447.dealII	8	**2009**	**45.5**	2036	45.0	1995	45.9	8	1980	46.2	1796	50.9	**1980**	**46.2**
450.soplex	8	2809	23.8	**2809**	**23.7**	2810	23.7	8	2645	25.2	2644	25.2	**2644**	**25.2**
453.povray	8	1042	40.8	1038	41.0	**1039**	**40.9**	8	942	45.2	907	46.9	**933**	**45.6**
454.calculix	8	**2035**	**32.4**	1940	34.0	2037	32.4	8	1966	33.6	**2020**	**32.7**	2034	32.5
459.GemsFDTD	8	**4246**	**20.0**	4247	20.0	4244	20.0	8	**4246**	**20.0**	4247	20.0	4244	20.0
465.tonto	8	2547	30.9	**2551**	**30.9**	2704	29.1	8	2529	31.1	2476	31.8	**2483**	**31.7**
470.lbm	8	**4970**	**22.1**	4963	22.1	4979	22.1	8	4912	22.4	4932	22.3	**4915**	**22.4**
481.wrf	8	**2609**	**34.3**	2608	34.3	2609	34.3	8	**2609**	**34.3**	2608	34.3	2609	34.3
482.sphinx3	8	4671	33.4	4687	33.3	**4686**	**33.3**	8	4459	35.0	**4451**	**35.0**	4447	35.1

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

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`

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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