SPEC® CFP2006 Result

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Fujitsu Siemens Computers

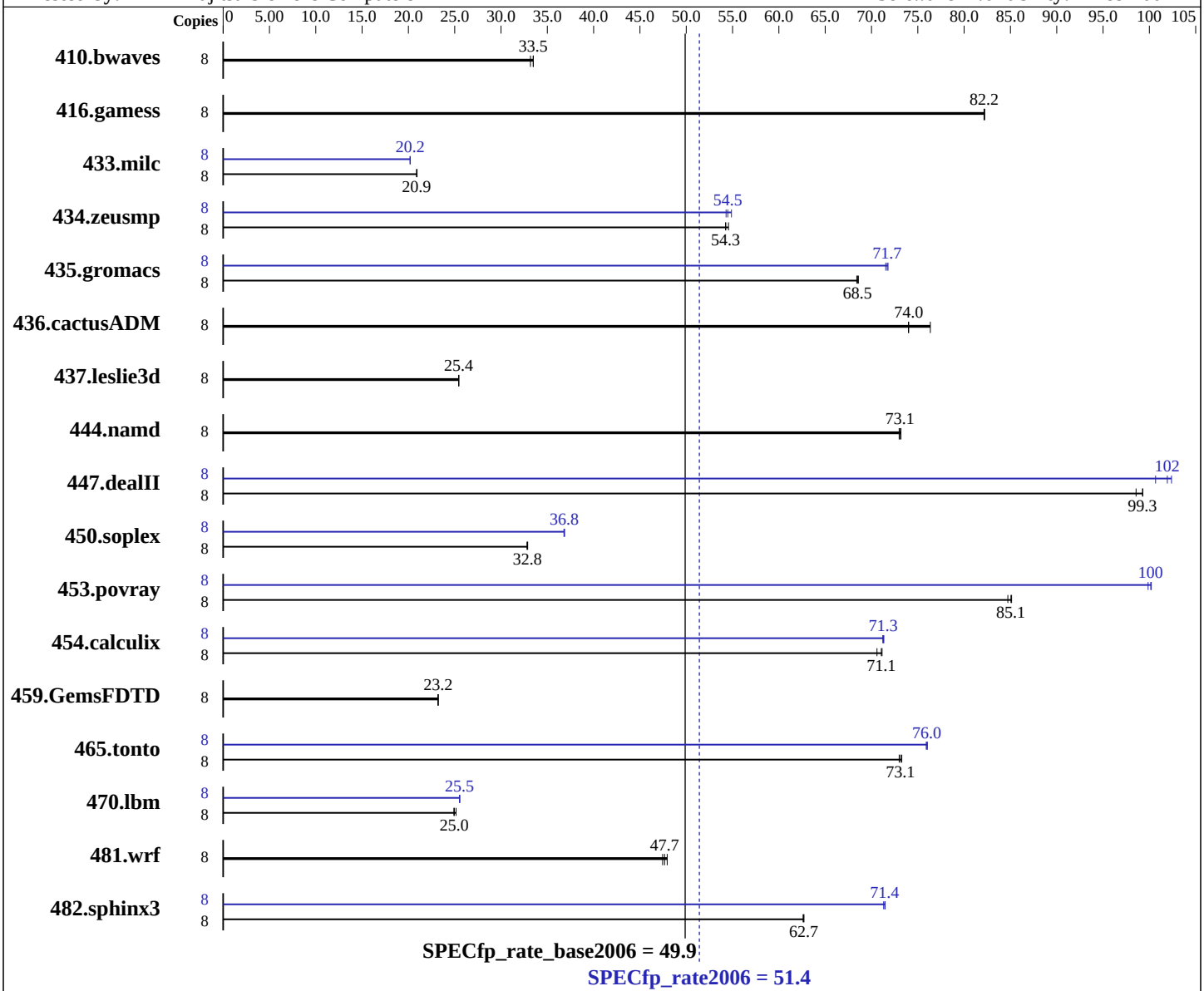
PRIMERGY RX600 S3, Intel Xeon processor 7130M, 3.20 GHz

SPECfp®_rate2006 = 51.4

SPECfp_rate_base2006 = 49.9

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:	8 cores, 4 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	8	**3247**	**33.5**	3277	33.2	3247	33.5	8	**3247**	**33.5**	3277	33.2	3247	33.5
416.gamess	8	1907	82.1	1905	82.2	**1906**	**82.2**	8	1907	82.1	1905	82.2	**1906**	**82.2**
433.milc	8	3516	20.9	**3515**	**20.9**	3508	20.9	8	**3638**	**20.2**	3635	20.2	3639	20.2
434.zeusmp	8	**1342**	**54.3**	1342	54.3	1334	54.6	8	1341	54.3	1327	54.9	**1336**	**54.5**
435.gromacs	8	835	68.4	833	68.6	**834**	**68.5**	8	796	71.8	799	71.5	**797**	**71.7**
436.cactusADM	8	**1292**	**74.0**	1292	74.0	1252	76.4	8	**1292**	**74.0**	1292	74.0	1252	76.4
437.leslie3d	8	**2957**	**25.4**	2957	25.4	2956	25.4	8	**2957**	**25.4**	2957	25.4	2956	25.4
444.namd	8	877	73.2	**878**	**73.1**	879	73.0	8	877	73.2	**878**	**73.1**	879	73.0
447.dealII	8	**922**	**99.3**	929	98.6	922	99.3	8	894	102	909	101	**898**	**102**
450.soplex	8	2034	32.8	2029	32.9	**2031**	**32.8**	8	1813	36.8	**1811**	**36.8**	1810	36.9
453.povray	8	500	85.1	502	84.7	**500**	**85.1**	8	426	99.9	**425**	**100**	425	100
454.calculix	8	928	71.1	935	70.6	**929**	**71.1**	8	925	71.3	927	71.2	**926**	**71.3**
459.GemsFDTD	8	**3657**	**23.2**	3661	23.2	3654	23.2	8	**3657**	**23.2**	3661	23.2	3654	23.2
465.tonto	8	1074	73.3	**1076**	**73.1**	1079	73.0	8	1037	75.9	**1036**	**76.0**	1035	76.0
470.lbm	8	**4403**	**25.0**	4413	24.9	4371	25.1	8	**4306**	**25.5**	4303	25.5	4306	25.5
481.wrf	8	**1875**	**47.7**	1864	47.9	1883	47.4	8	**1875**	**47.7**	1864	47.9	1883	47.4
482.sphinx3	8	**2488**	**62.7**	2490	62.6	2487	62.7	8	**2183**	**71.4**	2187	71.3	2181	71.5

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)

```
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.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 11:00:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 June 2007.