SPEC® CFP2006 Result

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Dell Inc.

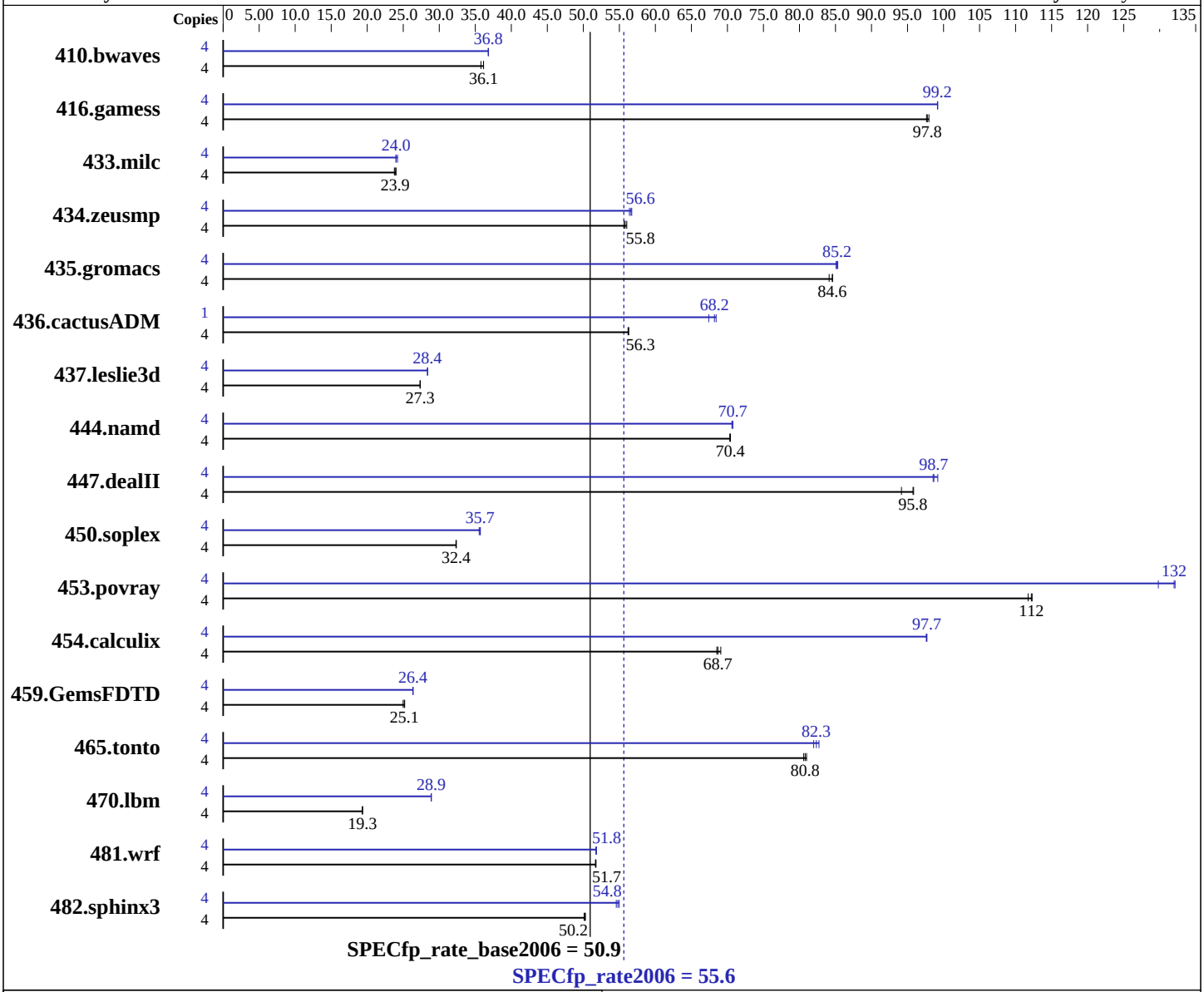
PowerEdge 2900 III (Intel Xeon X5260, 3.33 GHz)

SPECfp®_rate2006 = 55.6

SPECfp_rate_base2006 = 50.9

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: May-2008



Hardware

CPU Name:	Intel Xeon X5260
CPU Characteristics:	
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
Compiler:	Intel C++ and Fortran Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015, l_fc_p_10.1.015
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB, DDR2-667 MHz, CL5, Reg, Dual Rank)
Disk Subsystem: 2 x 73 GB GB 15000 RPM SAS
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1504	36.2	**1504**	**36.1**	1519	35.8	4	1478	36.8	1476	36.8	**1476**	**36.8**
416.gamess	4	799	98.0	802	97.6	**801**	**97.8**	4	**790**	**99.2**	790	99.2	789	99.2
433.milc	4	1545	23.8	1530	24.0	**1538**	**23.9**	4	1516	24.2	**1530**	**24.0**	1531	24.0
434.zeusmp	4	650	56.0	654	55.7	**652**	**55.8**	4	645	56.4	642	56.7	**643**	**56.6**
435.gromacs	4	338	84.6	**338**	**84.6**	340	84.1	4	336	85.1	**335**	**85.2**	335	85.3
436.cactusADM	4	850	56.2	849	56.3	**849**	**56.3**	1	177	67.4	**175**	**68.2**	175	68.4
437.leslie3d	4	1373	27.4	1376	27.3	**1375**	**27.3**	4	**1325**	**28.4**	1324	28.4	1325	28.4
444.namd	4	**456**	**70.4**	456	70.4	456	70.3	4	454	70.6	453	70.8	**454**	**70.7**
447.dealII	4	**478**	**95.8**	486	94.2	477	95.8	4	461	99.2	**464**	**98.7**	464	98.6
450.soplex	4	**1031**	**32.4**	1032	32.3	1031	32.4	4	939	35.5	**935**	**35.7**	934	35.7
453.povray	4	**190**	**112**	189	112	190	112	4	164	130	161	132	**161**	**132**
454.calculix	4	**480**	**68.7**	478	69.1	482	68.5	4	338	97.7	338	97.6	**338**	**97.7**
459.GemsFDTD	4	1699	25.0	1684	25.2	**1688**	**25.1**	4	1611	26.3	**1610**	**26.4**	1610	26.4
465.tonto	4	488	80.6	486	81.0	**487**	**80.8**	4	476	82.7	480	82.0	**478**	**82.3**
470.lbm	4	2843	19.3	**2842**	**19.3**	2842	19.3	4	1903	28.9	**1903**	**28.9**	1902	28.9
481.wrf	4	863	51.8	864	51.7	**864**	**51.7**	4	**863**	**51.8**	863	51.8	862	51.8
482.sphinx3	4	1550	50.3	1556	50.1	**1553**	**50.2**	4	**1423**	**54.8**	1429	54.6	1418	55.0

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
The config file option 'submit' was used.
```

General Notes

```
All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex,
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
taskset was used to bind processes to cores except
for 436.cactusADM peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

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 (except as noted below):
`/opt/intel/cc/10.1.015/bin/icc -L/opt/intel/cc/10.1.015/lib -I/opt/intel/cc/10.1.015/include`

433.milc: `icc`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/10.1.015/bin/icpc -L/opt/intel/cc/10.1.015/lib -I/opt/intel/cc/10.1.015/include`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `/opt/intel/fc/10.1.015/bin/ifort -L/opt/intel/fc/10.1.015/lib -I/opt/intel/fc/10.1.015/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`

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`

Continued on next page

Peak Optimization Flags (Continued)

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

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

481.wrf: -fast -auto-ilp32

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revD.20090713.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revD.20090713.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml

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