



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = 53.7

PowerEdge 6850 (Intel Xeon 7130M, 3.20 GHz)

SPECfp_rate_base2006 = 51.2

CPU2006 license: 55

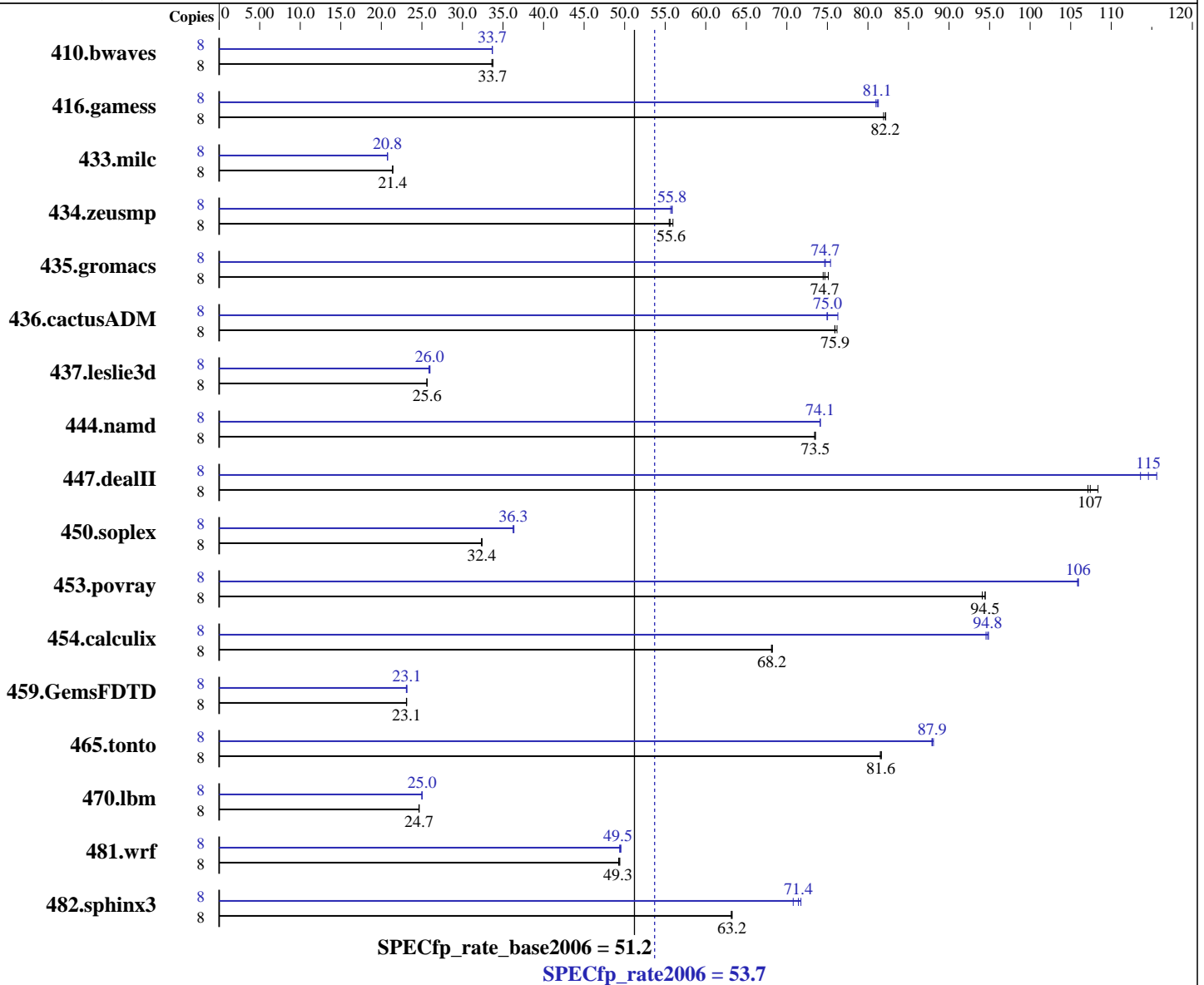
Test date: Sep-2007

Test sponsor: Dell Inc.

Hardware Availability: Aug-2006

Tested by: Dell Inc.

Software Availability: Nov-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 SP1
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (16 x 1 GB ECC 400 MHz DDR2 SDRAM)
Disk Subsystem: 2 x 36 GB SCSI 15k RPM
Other Hardware: None

Other Software: SmartHeap library V8.1

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3223	33.7	3234	33.6	3221	33.8	8	3229	33.7	3227	33.7	3227	33.7
416.gamess	8	1912	81.9	1907	82.2	1906	82.2	8	1934	81.0	1930	81.1	1927	81.3
433.milc	8	3432	21.4	3433	21.4	3432	21.4	8	3539	20.8	3538	20.8	3538	20.8
434.zeusmp	8	1301	56.0	1309	55.6	1312	55.5	8	1308	55.7	1304	55.8	1303	55.9
435.gromacs	8	760	75.1	765	74.7	767	74.5	8	764	74.7	758	75.4	765	74.7
436.cactusADM	8	1259	75.9	1259	75.9	1255	76.2	8	1274	75.0	1276	75.0	1253	76.3
437.leslie3d	8	2935	25.6	2934	25.6	2933	25.6	8	2892	26.0	2906	25.9	2898	26.0
444.namd	8	873	73.5	873	73.5	874	73.4	8	866	74.1	866	74.1	866	74.1
447.dealII	8	854	107	845	108	852	107	8	792	116	799	115	806	114
450.soplex	8	2059	32.4	2059	32.4	2062	32.4	8	1840	36.3	1840	36.3	1835	36.4
453.povray	8	451	94.5	452	94.1	451	94.5	8	402	106	402	106	402	106
454.calculix	8	968	68.2	967	68.2	969	68.1	8	696	94.9	696	94.8	698	94.6
459.GemsFDTD	8	3676	23.1	3672	23.1	3672	23.1	8	3677	23.1	3667	23.1	3669	23.1
465.tonto	8	965	81.6	966	81.5	964	81.7	8	894	88.1	895	87.9	896	87.9
470.lbm	8	4462	24.6	4458	24.7	4457	24.7	8	4393	25.0	4397	25.0	4394	25.0
481.wrf	8	1811	49.3	1809	49.4	1814	49.3	8	1810	49.4	1804	49.5	1806	49.5
482.sphinx3	8	2465	63.2	2469	63.1	2466	63.2	8	2183	71.4	2173	71.7	2203	70.8

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

Platform Notes

BIOS Settings:
Logical Processor = Disabled (default Enabled)

General Notes

This result was measured on the Dell PowerEdge 6800.
The PowerEdge 6800 and PowerEdge 6850 are electronically equivalent.



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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:

-xP -ipo -O3 -no-prec-div -static

C++ benchmarks:

-xP -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xP -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xP -ipo -O3 -no-prec-div -static



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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.deallI: -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) -xP -ipo -O3
-no-prec-div -static -fno-alias -auto-ilp32
```

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Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll2 -scalar-rep- -prefetch
-opt-malloc-options=3

482.sphinx3: -xP -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xP -ipo -O3 -no-prec-div -static -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -ansi-alias
-scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -prefetch -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3
-no-prec-div -static -unroll2 -prefetch -auto-ilp32

454.calculix: -xP -ipo -O3 -no-prec-div -static -unroll-aggressive
-auto-ilp32

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Peak Optimization Flags (Continued)

481.wrf: -xP -ipo -O3 -no-prec-div -static -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.20090714.25.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.20090714.25.xml>

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For other inquiries, please contact webmaster@spec.org.

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