



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = 62.9

PowerEdge 6850 (Intel Xeon 7140M, 3.40 GHz)

SPECfp_rate_base2006 = 60.0

CPU2006 license: 55

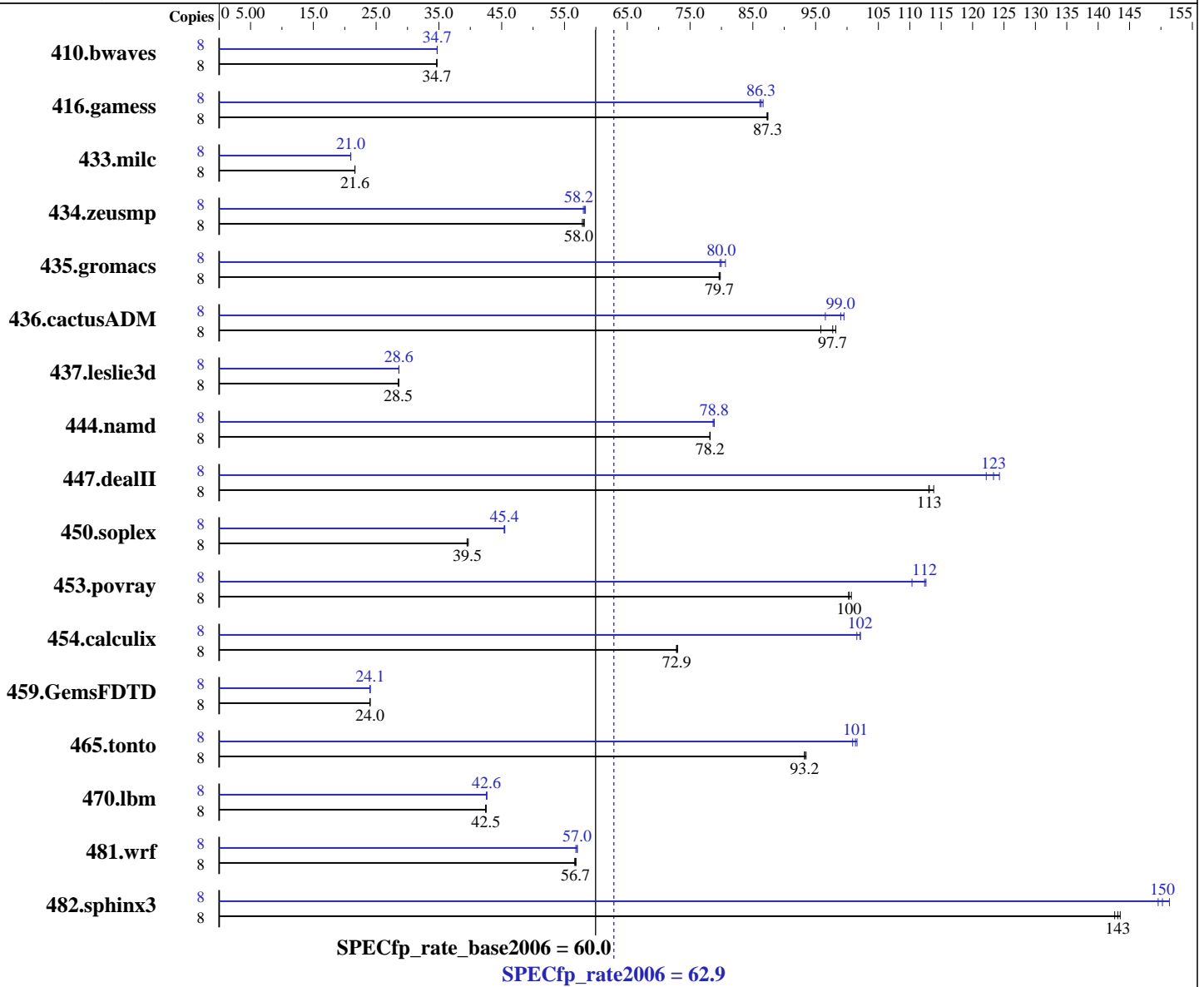
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2007

Hardware Availability: Aug-2006

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon 7140M
 CPU Characteristics: 800 MHz system bus
 CPU MHz: 3400
 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: 16 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	3138	34.6	3134	34.7	3136	34.7	8	3132	34.7	3131	34.7	3129	34.7		
416.gamess	8	1792	87.4	1793	87.3	1795	87.3	8	1819	86.1	1814	86.3	1808	86.6		
433.milc	8	3395	21.6	3396	21.6	3397	21.6	8	3503	21.0	3506	20.9	3502	21.0		
434.zeusmp	8	1252	58.2	1259	57.8	1255	58.0	8	1255	58.0	1251	58.2	1248	58.3		
435.gromacs	8	716	79.8	717	79.7	717	79.6	8	708	80.6	716	79.8	714	80.0		
436.cactusADM	8	998	95.8	973	98.2	978	97.7	8	961	99.5	990	96.5	966	99.0		
437.leslie3d	8	2626	28.6	2635	28.5	2635	28.5	8	2626	28.6	2627	28.6	2626	28.6		
444.namd	8	821	78.1	820	78.2	821	78.2	8	814	78.9	814	78.8	815	78.7		
447.dealII	8	804	114	809	113	810	113	8	736	124	742	123	749	122		
450.soplex	8	1681	39.7	1690	39.5	1688	39.5	8	1469	45.4	1466	45.5	1469	45.4		
453.povray	8	425	100	423	101	424	100	8	378	113	379	112	386	110		
454.calculix	8	906	72.8	906	72.9	904	73.0	8	646	102	650	102	646	102		
459.GemsFDTD	8	3534	24.0	3532	24.0	3531	24.0	8	3533	24.0	3529	24.1	3529	24.1		
465.tonto	8	842	93.5	844	93.2	844	93.2	8	777	101	775	102	780	101		
470.lbm	8	2585	42.5	2586	42.5	2591	42.4	8	2578	42.6	2581	42.6	2581	42.6		
481.wrf	8	1578	56.6	1575	56.7	1572	56.8	8	1567	57.0	1567	57.0	1573	56.8		
482.sphinx3	8	1093	143	1089	143	1086	144	8	1030	151	1043	150	1038	150		

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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