



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = 56.8

PowerEdge 1950 (Intel Xeon E5335, 2.00 GHz)

SPECfp_rate_base2006 = 53.5

CPU2006 license: 55

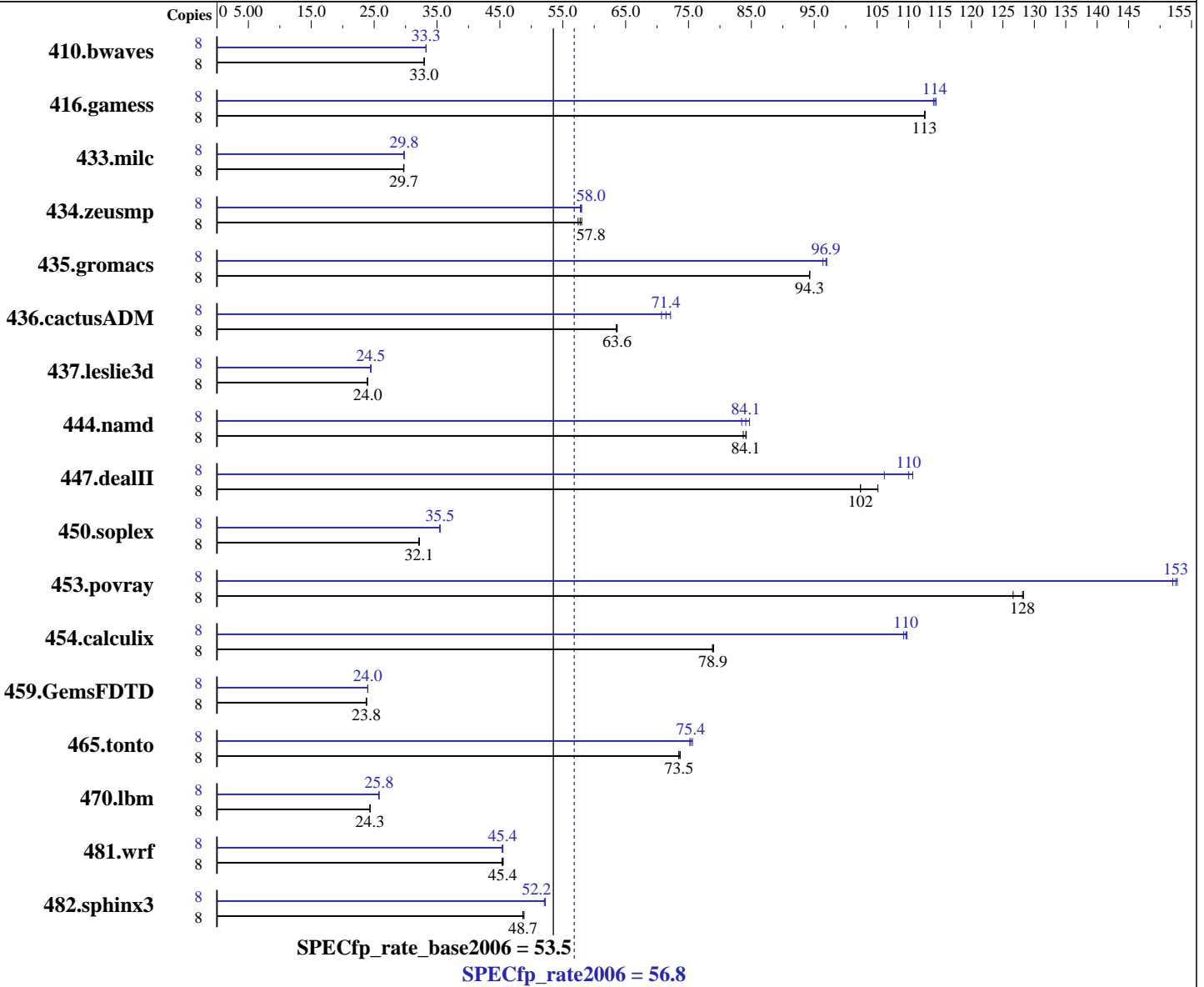
Test date: Sep-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5335
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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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: None
Other Cache: None
Memory: 16 GB (8x2 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 73 GB SAS 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	<u>3298</u>	<u>33.0</u>	3299	33.0	3298	33.0	8	<u>3269</u>	<u>33.3</u>	3271	33.2	3268	33.3
416.gamess	8	<u>1392</u>	<u>113</u>	1392	113	1391	113	8	1369	114	1375	114	<u>1372</u>	<u>114</u>
433.milc	8	<u>2472</u>	<u>29.7</u>	2474	29.7	2469	29.7	8	2465	29.8	2470	29.7	<u>2468</u>	<u>29.8</u>
434.zeusmp	8	<u>1260</u>	<u>57.8</u>	1267	57.4	1255	58.0	8	1259	57.8	1255	58.0	<u>1256</u>	<u>58.0</u>
435.gromacs	8	606	94.2	606	94.3	<u>606</u>	<u>94.3</u>	8	593	96.4	589	97.0	<u>590</u>	<u>96.9</u>
436.cactusADM	8	1505	63.5	1502	63.7	<u>1502</u>	<u>63.6</u>	8	<u>1339</u>	<u>71.4</u>	1325	72.1	1352	70.7
437.leslie3d	8	3135	24.0	3147	23.9	<u>3138</u>	<u>24.0</u>	8	<u>3074</u>	<u>24.5</u>	3078	24.4	3069	24.5
444.namd	8	762	84.2	766	83.7	<u>763</u>	<u>84.1</u>	8	769	83.5	<u>763</u>	<u>84.1</u>	757	84.7
447.dealII	8	894	102	871	105	<u>894</u>	<u>102</u>	8	862	106	827	111	<u>832</u>	<u>110</u>
450.soplex	8	2072	32.2	<u>2076</u>	<u>32.1</u>	2077	32.1	8	1880	35.5	<u>1881</u>	<u>35.5</u>	1882	35.4
453.povray	8	336	127	332	128	<u>332</u>	<u>128</u>	8	280	152	<u>279</u>	<u>153</u>	279	153
454.calculix	8	838	78.8	<u>836</u>	<u>78.9</u>	835	79.0	8	<u>602</u>	<u>110</u>	601	110	604	109
459.GemsFDTD	8	<u>3570</u>	<u>23.8</u>	3572	23.8	3566	23.8	8	<u>3539</u>	<u>24.0</u>	3537	24.0	3539	24.0
465.tonto	8	1068	73.7	<u>1071</u>	<u>73.5</u>	1072	73.5	8	1047	75.2	<u>1044</u>	<u>75.4</u>	1041	75.6
470.lbm	8	4514	24.3	4514	24.4	<u>4514</u>	<u>24.3</u>	8	4265	25.8	<u>4265</u>	<u>25.8</u>	4264	25.8
481.wrf	8	1963	45.5	<u>1966</u>	<u>45.4</u>	1970	45.4	8	1964	45.5	1970	45.4	<u>1967</u>	<u>45.4</u>
482.sphinx3	8	3205	48.6	<u>3202</u>	<u>48.7</u>	3192	48.8	8	2995	52.1	2986	52.2	<u>2986</u>	<u>52.2</u>

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:
Adjacent Cache Line Prefetch = Disabled (default Enabled)
Hardware Prefetcher = Disabled (default Enabled)



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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.lelie3d: -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



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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) -fast -fno-alias
-auto-ilp32
```

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Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3

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 -auto-ilp32

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

481.wrf: -fast -auto-ilp32



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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.20090714.17.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.20090714.17.xml>

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