



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 63.0

PowerEdge 1950 (Intel Xeon X5355, 2.66 GHz)

SPECfp_rate_base2006 = 59.6

CPU2006 license: 55

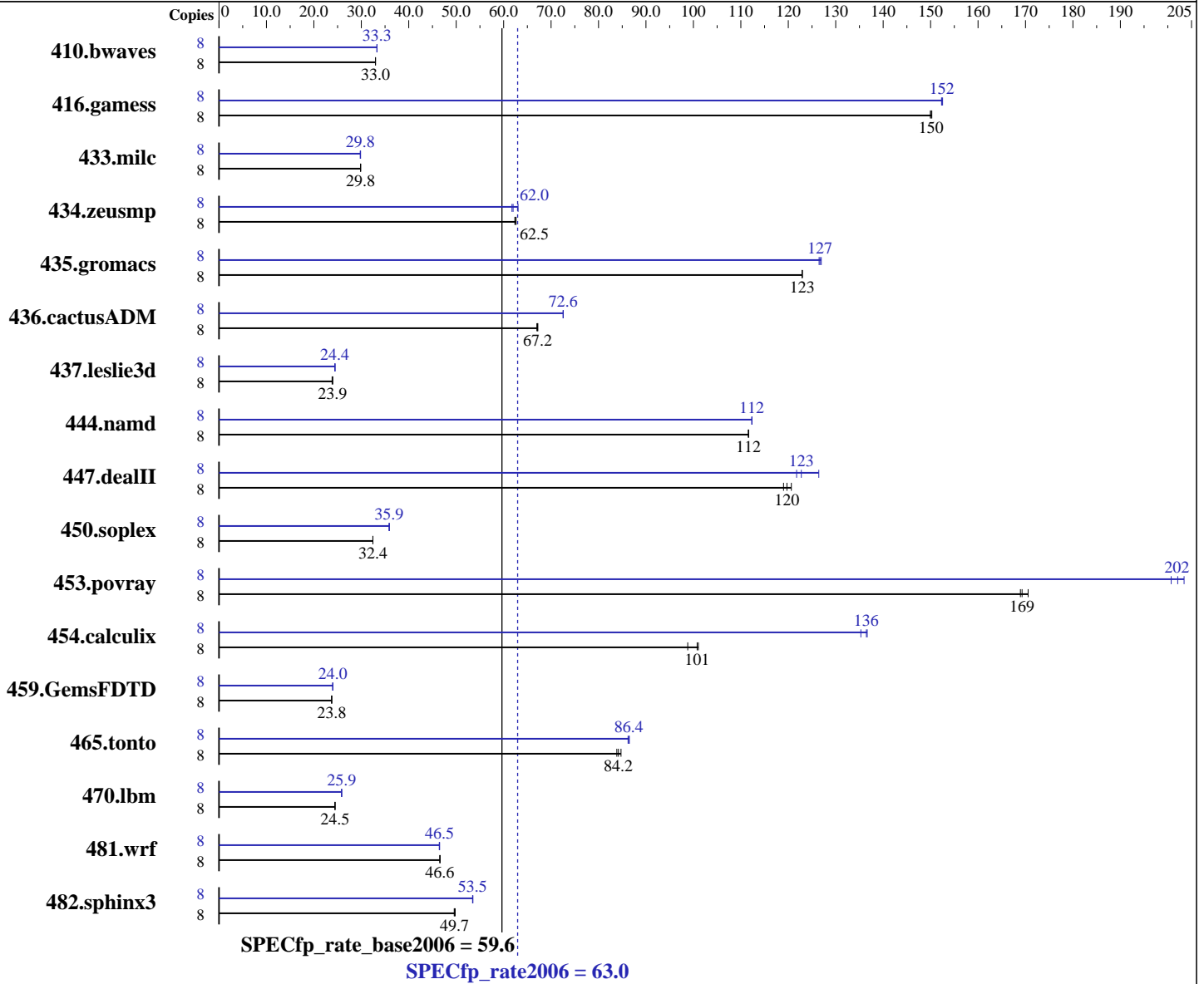
Test date: Sep-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5355
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 2666
 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
 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	3295	33.0	3297	33.0	<u>3296</u>	<u>33.0</u>	8	3262	33.3	3266	33.3	<u>3266</u>	<u>33.3</u>
416.gamess	8	<u>1043</u>	<u>150</u>	1045	150	1042	150	8	1027	153	1028	152	<u>1028</u>	<u>152</u>
433.milc	8	<u>2461</u>	<u>29.8</u>	2461	29.8	2460	29.9	8	2467	29.8	<u>2463</u>	<u>29.8</u>	2460	29.9
434.zeusmp	8	<u>1165</u>	<u>62.5</u>	1167	62.4	1163	62.6	8	<u>1174</u>	<u>62.0</u>	1155	63.0	1179	61.8
435.gromacs	8	464	123	465	123	<u>465</u>	<u>123</u>	8	450	127	452	126	<u>451</u>	<u>127</u>
436.cactusADM	8	1422	67.2	1427	67.0	<u>1424</u>	<u>67.2</u>	8	1318	72.5	1318	72.6	<u>1318</u>	<u>72.6</u>
437.leslie3d	8	3138	24.0	3155	23.8	<u>3140</u>	<u>23.9</u>	8	<u>3077</u>	<u>24.4</u>	3077	24.4	3075	24.5
444.namd	8	<u>575</u>	<u>112</u>	575	112	575	112	8	<u>571</u>	<u>112</u>	571	112	571	112
447.dealII	8	<u>764</u>	<u>120</u>	769	119	759	121	8	<u>746</u>	<u>123</u>	752	122	724	126
450.soplex	8	<u>2056</u>	<u>32.4</u>	2056	32.4	2057	32.4	8	1858	35.9	1860	35.9	<u>1859</u>	<u>35.9</u>
453.povray	8	250	171	<u>251</u>	<u>169</u>	252	169	8	209	203	212	201	<u>211</u>	<u>202</u>
454.calculix	8	653	101	<u>655</u>	<u>101</u>	668	98.8	8	488	135	483	137	<u>484</u>	<u>136</u>
459.GemsFDTD	8	<u>3574</u>	<u>23.8</u>	3574	23.8	3572	23.8	8	3540	24.0	<u>3538</u>	<u>24.0</u>	3538	24.0
465.tonto	8	<u>935</u>	<u>84.2</u>	929	84.7	939	83.9	8	910	86.5	<u>911</u>	<u>86.4</u>	913	86.2
470.lbm	8	<u>4494</u>	<u>24.5</u>	4495	24.5	4494	24.5	8	4252	25.8	4252	25.9	<u>4252</u>	<u>25.9</u>
481.wrf	8	<u>1919</u>	<u>46.6</u>	1917	46.6	1920	46.5	8	<u>1923</u>	<u>46.5</u>	1921	46.5	1925	46.4
482.sphinx3	8	3132	49.8	3145	49.6	<u>3140</u>	<u>49.7</u>	8	2913	53.5	2917	53.5	<u>2916</u>	<u>53.5</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.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



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

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