



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 15.5

PowerEdge M600 (Intel Xeon E5205, 1.86 GHz)

SPECfp_base2006 = 13.4

CPU2006 license: 55

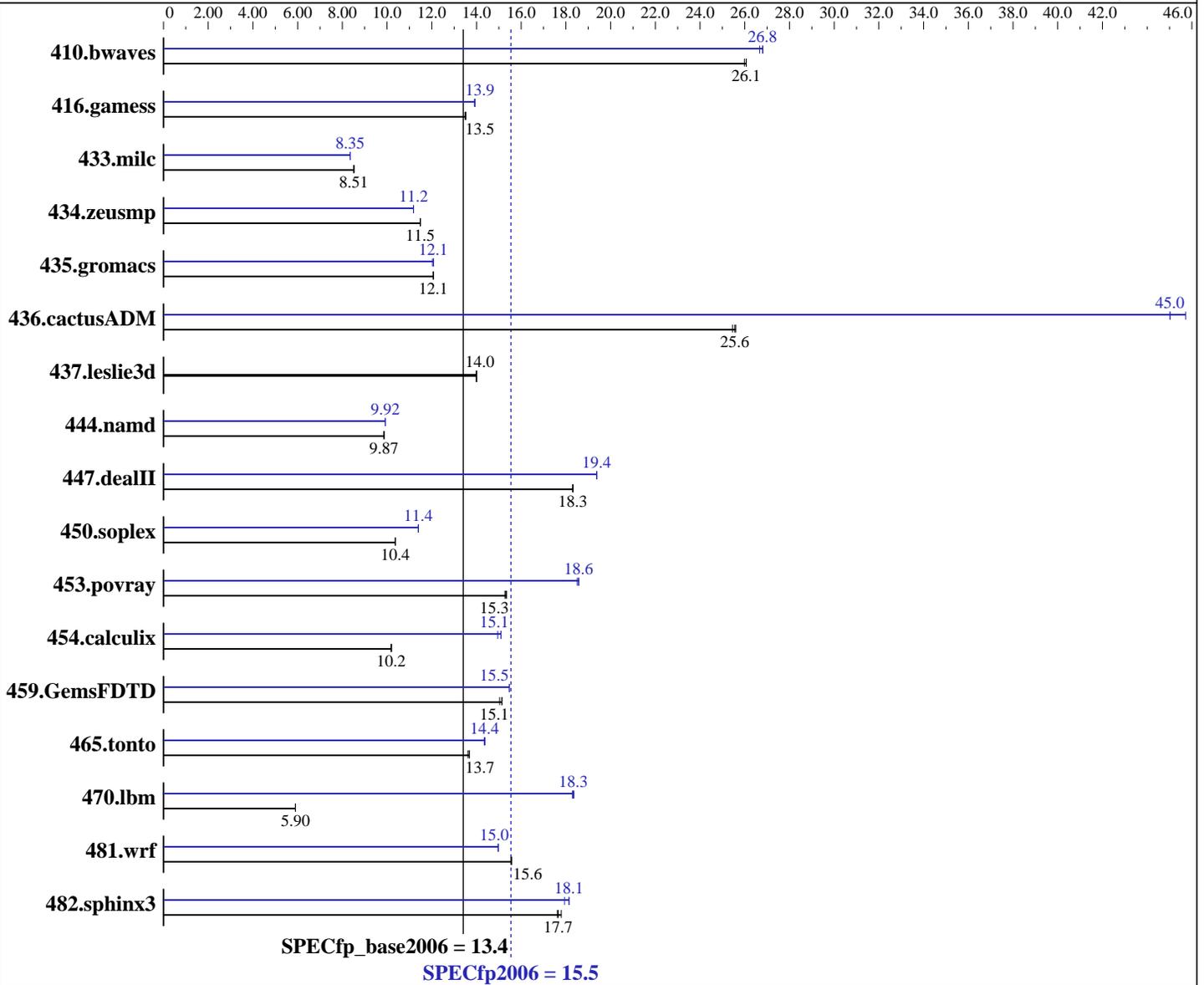
Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: Feb-2008

Tested by: Dell Inc.

Software Availability: May-2008



Hardware

CPU Name: Intel Xeon E5205
 CPU Characteristics:
 CPU MHz: 1866
 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 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 80 GB 5400 RPM SATA
Other Hardware: None

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	523	26.0	<u>521</u>	<u>26.1</u>	521	26.1	507	26.8	510	26.7	<u>507</u>	<u>26.8</u>
416.gamess	<u>1449</u>	<u>13.5</u>	1452	13.5	1448	13.5	<u>1405</u>	<u>13.9</u>	1405	13.9	1407	13.9
433.milc	<u>1078</u>	<u>8.51</u>	1079	8.51	1077	8.52	<u>1099</u>	<u>8.35</u>	1099	8.35	1100	8.35
434.zeusmp	792	11.5	<u>792</u>	<u>11.5</u>	792	11.5	<u>814</u>	<u>11.2</u>	813	11.2	814	11.2
435.gromacs	<u>592</u>	<u>12.1</u>	592	12.1	591	12.1	<u>591</u>	<u>12.1</u>	594	12.0	591	12.1
436.cactusADM	<u>468</u>	<u>25.6</u>	469	25.5	467	25.6	<u>265</u>	<u>45.0</u>	265	45.0	261	45.7
437.leslie3d	<u>672</u>	<u>14.0</u>	671	14.0	672	14.0	<u>672</u>	<u>14.0</u>	671	14.0	672	14.0
444.namd	<u>813</u>	<u>9.87</u>	813	9.86	812	9.87	808	9.93	<u>808</u>	<u>9.92</u>	809	9.91
447.dealII	625	18.3	<u>625</u>	<u>18.3</u>	625	18.3	590	19.4	<u>590</u>	<u>19.4</u>	591	19.4
450.soplex	804	10.4	<u>804</u>	<u>10.4</u>	805	10.4	732	11.4	<u>732</u>	<u>11.4</u>	731	11.4
453.povray	<u>347</u>	<u>15.3</u>	348	15.3	347	15.3	<u>287</u>	<u>18.6</u>	288	18.5	286	18.6
454.calculix	811	10.2	809	10.2	<u>810</u>	<u>10.2</u>	546	15.1	<u>547</u>	<u>15.1</u>	552	15.0
459.GemsFDTD	701	15.1	706	15.0	<u>701</u>	<u>15.1</u>	<u>686</u>	<u>15.5</u>	686	15.5	686	15.5
465.tonto	719	13.7	<u>720</u>	<u>13.7</u>	723	13.6	685	14.4	686	14.3	<u>685</u>	<u>14.4</u>
470.lbm	2328	5.90	2330	5.90	<u>2329</u>	<u>5.90</u>	748	18.4	<u>750</u>	<u>18.3</u>	751	18.3
481.wrf	717	15.6	<u>717</u>	<u>15.6</u>	719	15.5	<u>746</u>	<u>15.0</u>	745	15.0	746	15.0
482.sphinx3	1095	17.8	1106	17.6	<u>1104</u>	<u>17.7</u>	<u>1075</u>	<u>18.1</u>	1074	18.2	1086	17.9

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 stack size to unlimited prior to run

General Notes

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M



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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 -parallel

C++ benchmarks:

-fast -parallel

Fortran benchmarks:

-fast -parallel

Benchmarks using both Fortran and C:

-fast -parallel



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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:

ifort

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
437.leslie3d: -DSPEC_CPU_LP64
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
```

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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.dealIII: -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 -parallel

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: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

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 -parallel -prefetch -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>



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

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<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml>

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

Tested with SPEC CPU2006 v1.1.
Report generated on Tue Jul 22 19:12:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 September 2008.