



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®2006 = 22.7

PowerEdge M600 (Intel Xeon L5240, 3.00GHz)

SPECfp_base2006 = 19.4

CPU2006 license: 55

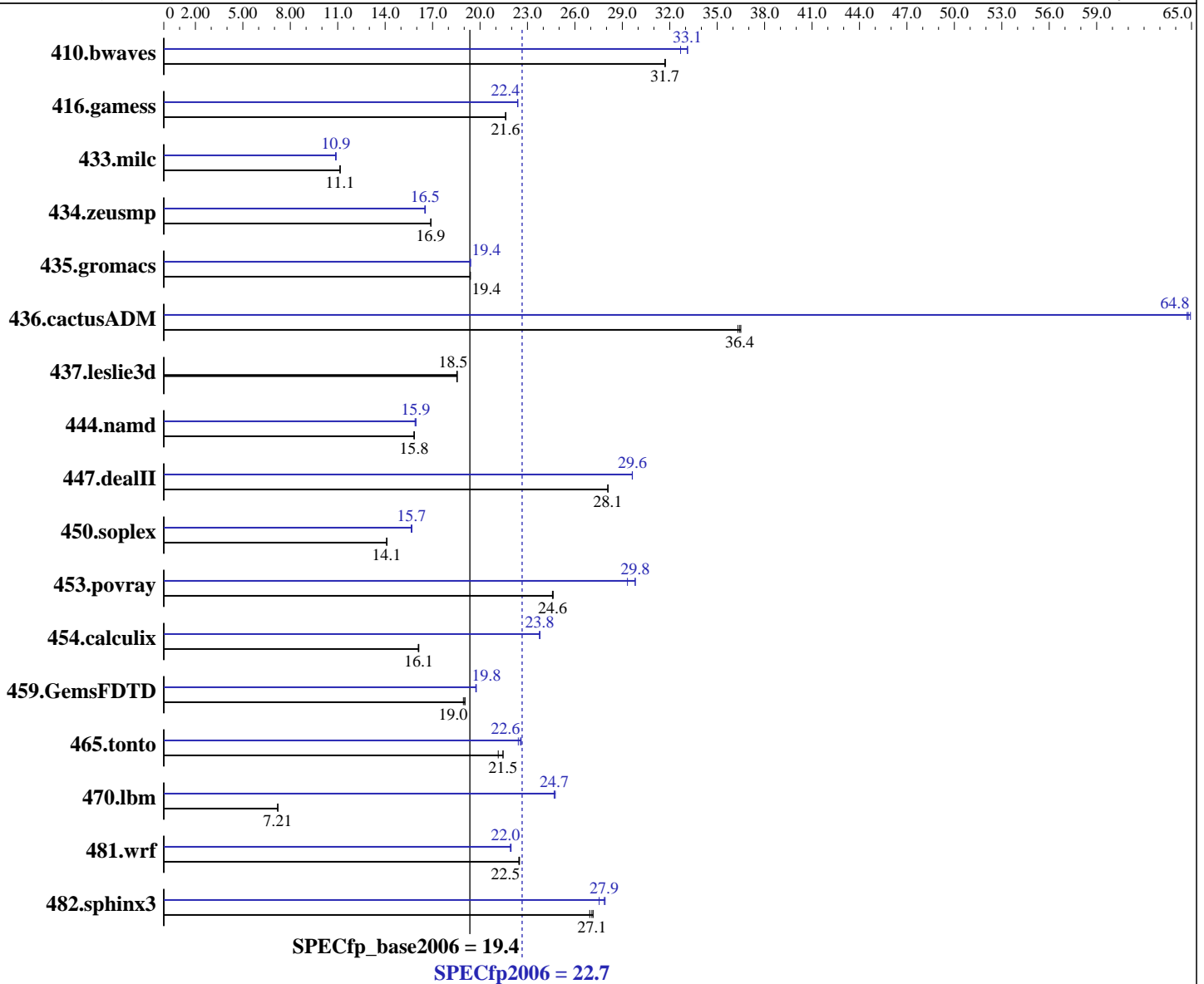
Test date: Aug-2008

Test sponsor: Dell Inc.

Hardware Availability: May-2008

Tested by: Dell Inc.

Software Availability: May-2008



Hardware

CPU Name: Intel Xeon L5240
 CPU Characteristics:
 CPU MHz: 3000
 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

Continued on next page

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

Continued on next page



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L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 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	<u>429</u>	<u>31.7</u>	428	31.7	429	31.7	416	32.7	410	33.1	<u>410</u>	<u>33.1</u>
416.gamess	<u>905</u>	<u>21.6</u>	905	21.6	906	21.6	874	22.4	875	22.4	<u>875</u>	<u>22.4</u>
433.milc	824	11.1	823	11.2	<u>823</u>	<u>11.1</u>	845	10.9	842	10.9	<u>843</u>	<u>10.9</u>
434.zeusmp	<u>539</u>	<u>16.9</u>	539	16.9	539	16.9	551	16.5	550	16.5	<u>551</u>	<u>16.5</u>
435.gromacs	<u>368</u>	<u>19.4</u>	368	19.4	368	19.4	<u>368</u>	<u>19.4</u>	368	19.4	368	19.4
436.cactusADM	329	36.3	327	36.5	<u>328</u>	<u>36.4</u>	185	64.7	<u>184</u>	<u>64.8</u>	184	64.9
437.leslie3d	506	18.6	<u>507</u>	<u>18.5</u>	507	18.5	506	18.6	<u>507</u>	<u>18.5</u>	507	18.5
444.namd	506	15.8	<u>507</u>	<u>15.8</u>	507	15.8	<u>503</u>	<u>15.9</u>	505	15.9	503	15.9
447.dealII	407	28.1	407	28.1	<u>407</u>	<u>28.1</u>	386	29.6	386	29.6	<u>386</u>	<u>29.6</u>
450.soplex	591	14.1	<u>591</u>	<u>14.1</u>	592	14.1	<u>532</u>	<u>15.7</u>	533	15.6	532	15.7
453.povray	216	24.6	<u>216</u>	<u>24.6</u>	216	24.6	178	29.8	<u>178</u>	<u>29.8</u>	181	29.3
454.calculix	<u>512</u>	<u>16.1</u>	512	16.1	513	16.1	<u>347</u>	<u>23.8</u>	347	23.8	347	23.8
459.GemsFDTD	560	18.9	<u>557</u>	<u>19.0</u>	557	19.0	538	19.7	<u>537</u>	<u>19.8</u>	537	19.8
465.tonto	<u>459</u>	<u>21.5</u>	459	21.5	465	21.2	439	22.4	435	22.6	<u>436</u>	<u>22.6</u>
470.lbm	1907	7.20	<u>1907</u>	<u>7.21</u>	1903	7.22	555	24.8	557	24.7	<u>556</u>	<u>24.7</u>
481.wrf	496	22.5	<u>497</u>	<u>22.5</u>	497	22.5	509	22.0	<u>509</u>	<u>22.0</u>	510	21.9
482.sphinx3	718	27.2	<u>720</u>	<u>27.1</u>	723	26.9	698	27.9	708	27.5	<u>700</u>	<u>27.9</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 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:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revD.20090713.xml>

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

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

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