



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 26.3

ProLiant DL380 G5
(2.66 GHz, Intel Xeon processor 5150)

SPECfp_rate_base2006 = 24.1

CPU2006 license: 3

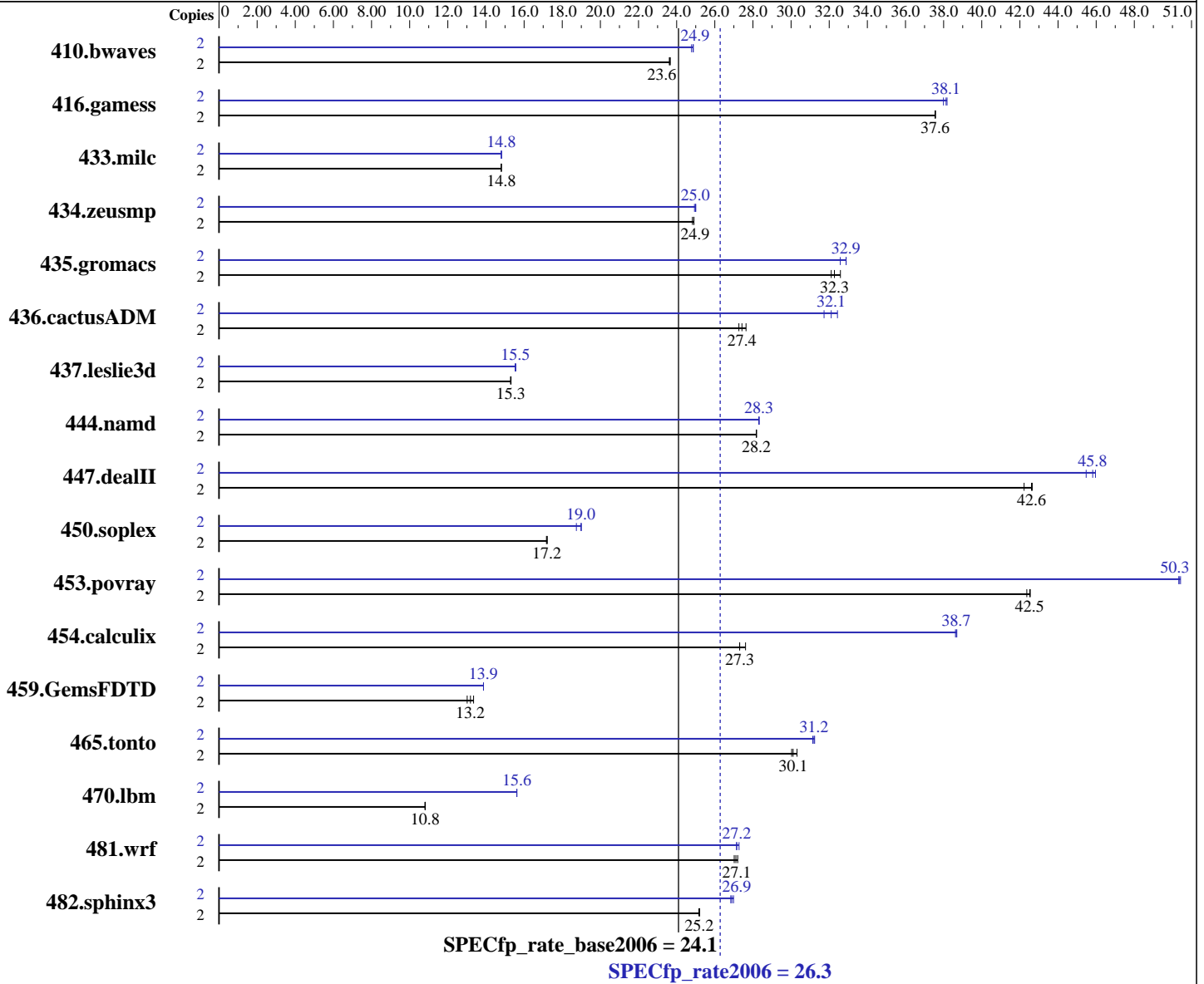
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jun-2006

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon 5150
 CPU Characteristics: 2.66 GHz, 2x4 MB L2 shared, 1333 MHz system bus
 CPU MHz: 2666
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 or 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip

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Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1
 kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1
 Build 20070725
 Auto Parallel: No
 File System: ext2
 System State: Multi-user run level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB PC2-5300F CL5)
Disk Subsystem: 1x72 GB 10 K SAS
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: binutils-2.17.50

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	2	1151	23.6	<u>1150</u>	<u>23.6</u>	1148	23.7	2	1093	24.9	<u>1093</u>	<u>24.9</u>	1097	24.8		
416.gamess	2	<u>1043</u>	<u>37.6</u>	1043	37.5	1042	37.6	2	1026	38.2	1031	38.0	<u>1027</u>	<u>38.1</u>		
433.milc	2	1240	14.8	1240	14.8	<u>1240</u>	<u>14.8</u>	2	1241	14.8	<u>1239</u>	<u>14.8</u>	1239	14.8		
434.zeusmp	2	733	24.8	<u>731</u>	<u>24.9</u>	731	24.9	2	<u>728</u>	<u>25.0</u>	728	25.0	730	24.9		
435.gromacs	2	438	32.6	445	32.1	<u>442</u>	<u>32.3</u>	2	434	32.9	438	32.6	<u>434</u>	<u>32.9</u>		
436.cactusADM	2	865	27.6	<u>871</u>	<u>27.4</u>	877	27.3	2	<u>744</u>	<u>32.1</u>	753	31.7	737	32.4		
437.leslie3d	2	<u>1228</u>	<u>15.3</u>	1230	15.3	1227	15.3	2	1211	15.5	<u>1209</u>	<u>15.5</u>	1208	15.6		
444.namd	2	569	28.2	<u>569</u>	<u>28.2</u>	569	28.2	2	<u>566</u>	<u>28.3</u>	567	28.3	566	28.3		
447.dealII	2	<u>537</u>	<u>42.6</u>	542	42.2	536	42.6	2	<u>499</u>	<u>45.8</u>	498	46.0	503	45.5		
450.soplex	2	<u>970</u>	<u>17.2</u>	969	17.2	971	17.2	2	878	19.0	<u>879</u>	<u>19.0</u>	890	18.7		
453.povray	2	250	42.5	<u>250</u>	<u>42.5</u>	251	42.4	2	211	50.4	<u>211</u>	<u>50.3</u>	211	50.3		
454.calculix	2	<u>604</u>	<u>27.3</u>	604	27.3	598	27.6	2	426	38.7	<u>427</u>	<u>38.7</u>	427	38.6		
459.GemsFDTD	2	1630	13.0	1589	13.4	<u>1609</u>	<u>13.2</u>	2	1530	13.9	<u>1530</u>	<u>13.9</u>	1530	13.9		
465.tonto	2	649	30.3	<u>654</u>	<u>30.1</u>	655	30.0	2	630	31.2	632	31.1	<u>631</u>	<u>31.2</u>		
470.lbm	2	2539	10.8	<u>2541</u>	<u>10.8</u>	2545	10.8	2	1760	15.6	1759	15.6	<u>1759</u>	<u>15.6</u>		
481.wrf	2	<u>824</u>	<u>27.1</u>	827	27.0	821	27.2	2	819	27.3	823	27.1	<u>823</u>	<u>27.2</u>		
482.sphinx3	2	<u>1547</u>	<u>25.2</u>	1549	25.2	1546	25.2	2	<u>1449</u>	<u>26.9</u>	1452	26.8	1445	27.0		

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
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 200M

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode



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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/HP-Intel-ic10.1-linux-flags.html>

You can also download the XML flags source by saving the following link:
<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-flags.xml>

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