



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 57.2

ProLiant BL480c
(3.33 GHz, Intel Xeon X5260)

SPECfp_rate_base2006 = 51.0

CPU2006 license: 3

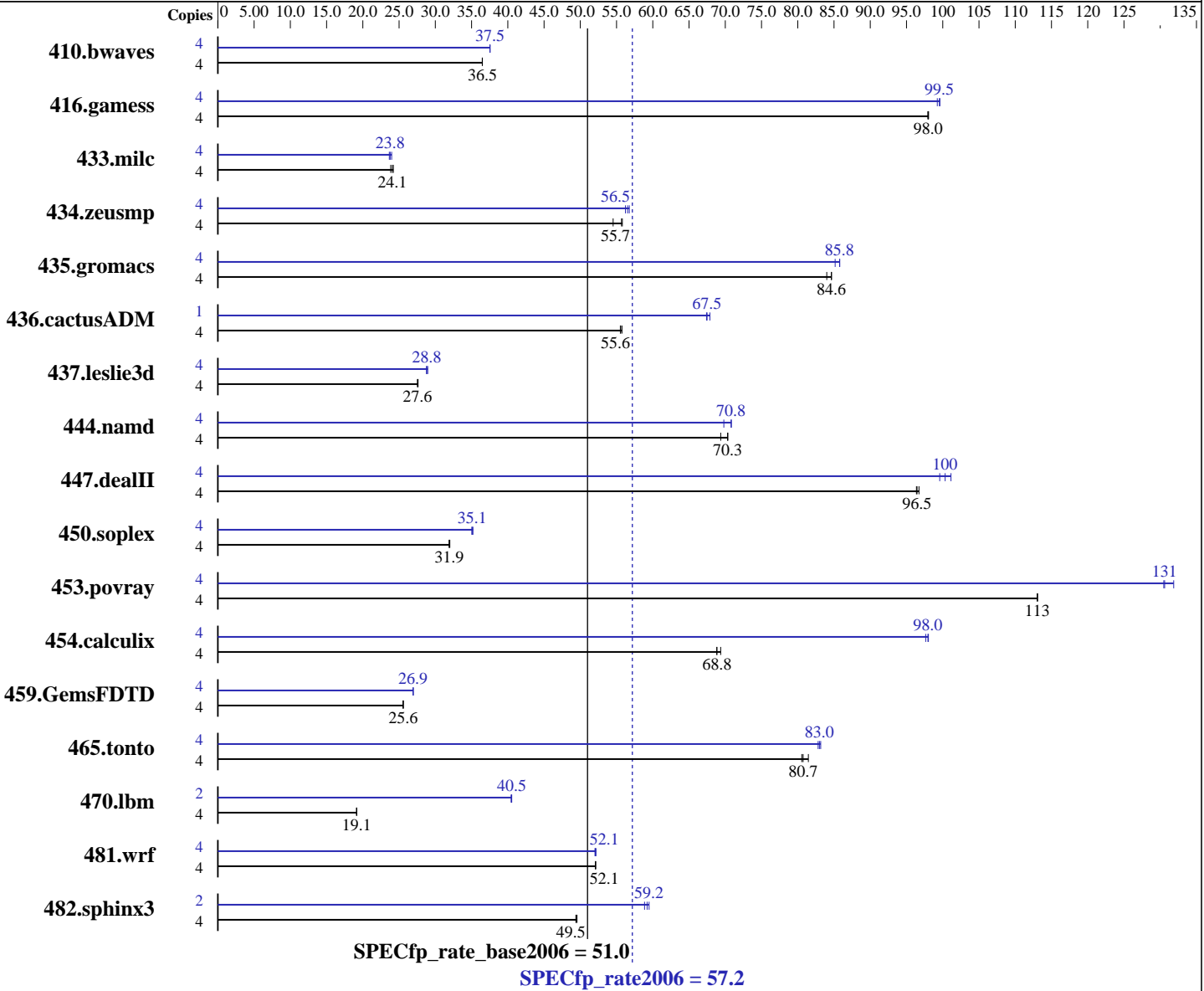
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5260
 CPU Characteristics: 3.33 GHz, 6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 3333
 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) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler for applications running on IA-32 and Intel 64, Version 10.1 Build 20070913 Package ID: 1_cc_p_10.1.008 Intel Fortran Compiler for applications running on IA-32 and Intel 64, Version 10.1 Build 20070913 Package ID: 1_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB PC2-5300F CL5)
Disk Subsystem: 1x72 GB 15 K SAS
Other Hardware: None

System State: Multi-user run level 3
Base Pointers: 64-bit
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	4	1490	36.5	1490	36.5	1490	36.5	4	1449	37.5	1448	37.5	1448	37.5
416.gamess	4	799	98.0	799	98.0	800	97.9	4	789	99.2	786	99.6	787	99.5
433.milc	4	1517	24.2	1526	24.1	1540	23.8	4	1553	23.7	1545	23.8	1532	24.0
434.zeusmp	4	654	55.7	668	54.5	652	55.8	4	647	56.2	641	56.8	644	56.5
435.gromacs	4	337	84.6	337	84.7	340	84.0	4	335	85.2	333	85.8	333	85.8
436.cactusADM	4	857	55.7	861	55.5	860	55.6	1	177	67.4	176	67.9	177	67.5
437.leslie3d	4	1365	27.6	1365	27.6	1361	27.6	4	1307	28.8	1305	28.8	1299	29.0
444.namd	4	462	69.4	456	70.4	456	70.3	4	453	70.8	460	69.8	453	70.8
447.dealII	4	474	96.5	473	96.7	475	96.4	4	460	99.6	456	100	452	101
450.soplex	4	1042	32.0	1046	31.9	1045	31.9	4	952	35.0	948	35.2	951	35.1
453.povray	4	188	113	188	113	188	113	4	163	130	161	132	163	131
454.calculix	4	479	68.8	476	69.4	479	68.8	4	337	98.0	338	97.6	337	98.0
459.GemsFDTD	4	1659	25.6	1662	25.5	1659	25.6	4	1575	27.0	1575	26.9	1576	26.9
465.tonto	4	483	81.5	488	80.7	489	80.6	4	474	83.0	473	83.2	475	82.8
470.lbm	4	2870	19.1	2870	19.1	2870	19.1	2	678	40.5	679	40.4	678	40.5
481.wrf	4	857	52.1	857	52.1	858	52.1	4	856	52.2	858	52.1	859	52.0
482.sphinx3	4	1579	49.4	1574	49.5	1576	49.5	2	658	59.2	655	59.5	662	58.9

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 stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

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):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/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
```

```
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

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 -parallel -auto-ilp32

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

481.wrf: -fast -auto-ilp32

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-fp-flags.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-fp-flags.xml>

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