SPEC® CFP2006 Result

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Hewlett-Packard Company

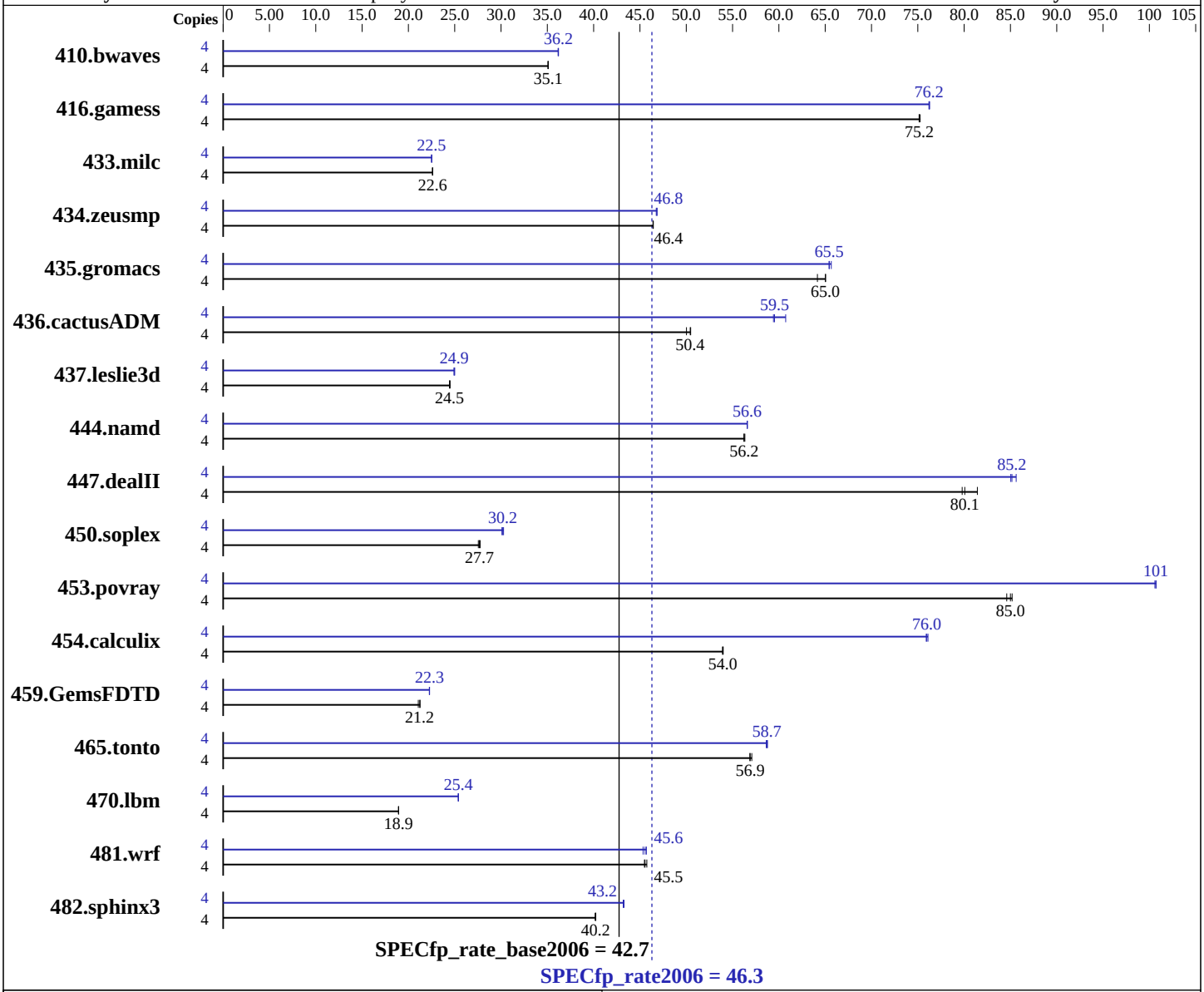
ProLiant DL380 G5
(2.66 GHz, Intel Xeon processor 5150)

SPECfp®_rate2006 = 46.3

SPECfp_rate_base2006 = 42.7

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Aug-2007
Hardware Availability: Jun-2006
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:	4 cores, 2 chips, 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	4	1549	35.1	**1549**	**35.1**	1549	35.1	4	**1502**	**36.2**	1503	36.2	1501	36.2
416.gamess	4	**1042**	**75.2**	1041	75.3	1042	75.1	4	**1028**	**76.2**	1028	76.2	1027	76.3
433.milc	4	1624	22.6	**1624**	**22.6**	1623	22.6	4	1631	22.5	**1631**	**22.5**	1632	22.5
434.zeusmp	4	**784**	**46.4**	784	46.4	784	46.4	4	777	46.8	**777**	**46.8**	778	46.8
435.gromacs	4	**439**	**65.0**	439	65.0	445	64.2	4	**436**	**65.5**	435	65.7	437	65.4
436.cactusADM	4	956	50.0	**948**	**50.4**	947	50.5	4	804	59.4	787	60.7	**803**	**59.5**
437.leslie3d	4	1535	24.5	**1538**	**24.5**	1538	24.4	4	**1507**	**24.9**	1504	25.0	1509	24.9
444.namd	4	571	56.2	**570**	**56.2**	570	56.3	4	567	56.6	**567**	**56.6**	567	56.6
447.dealII	4	**571**	**80.1**	574	79.8	562	81.4	4	538	85.0	534	85.6	**537**	**85.2**
450.soplex	4	1202	27.7	**1206**	**27.7**	1211	27.6	4	**1105**	**30.2**	1108	30.1	1102	30.3
453.povray	4	252	84.6	250	85.2	**250**	**85.0**	4	**211**	**101**	211	101	212	101
454.calculix	4	611	54.0	**612**	**54.0**	612	53.9	4	**434**	**76.0**	434	76.1	435	75.9
459.GemsFDTD	4	2014	21.1	**1999**	**21.2**	1996	21.3	4	1907	22.3	**1905**	**22.3**	1904	22.3
465.tonto	4	692	56.9	690	57.1	**692**	**56.9**	4	671	58.6	**670**	**58.7**	670	58.8
470.lbm	4	**2902**	**18.9**	2902	18.9	2902	18.9	4	**2165**	**25.4**	2164	25.4	2165	25.4
481.wrf	4	**981**	**45.5**	977	45.7	982	45.5	4	978	45.7	986	45.3	**981**	**45.6**
482.sphinx3	4	1941	40.2	**1938**	**40.2**	1938	40.2	4	1805	43.2	1801	43.3	**1804**	**43.2**

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
```

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

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.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

Continued on next page

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

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

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