SPEC® CFP2006 Result

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Hewlett-Packard Company

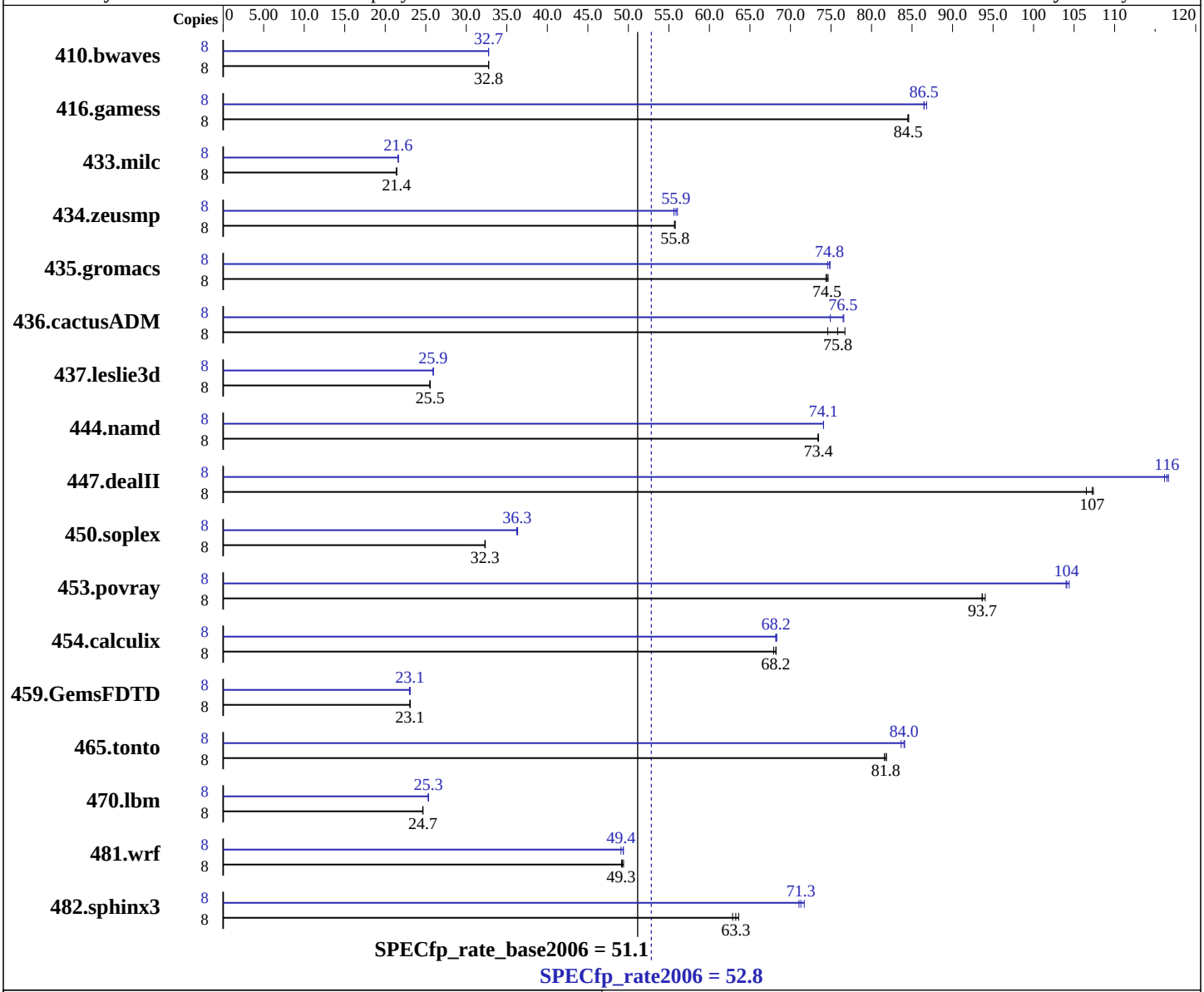
ProLiant DL580 G4
(3.2 GHz, Intel Xeon processor 7130M)

SPECfp®_rate2006 = 52.8

SPECfp_rate_base2006 = 51.1

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

Test date: Aug-2007
Hardware Availability: Aug-2006
Software Availability: May-2007



Hardware

CPU Name:	Intel Xeon 7130M
CPU Characteristics:	3.2 GHz, 800 MHz system bus
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core

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Software

Operating System:	SuSE LinuxEnterprise Server 10 (x86_64) kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for IA32/EM64T applications, Version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023 Intel Fortran Compiler for applications running on IA32/Intel 64, Version 10.0 Build 20070426 Package ID: l_fc_p_10.0.023
Auto Parallel:	No

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L3 Cache:	8 MB I+D on chip per chip	File System:	ext2
Other Cache:	None	System State:	Multi-user run level 3
Memory:	32 GB (16x2 GB PC2-3200R)	Base Pointers:	64-bit
Disk Subsystem:	1x72 GB 15 K SAS	Peak Pointers:	32/64-bit
Other Hardware:	None	Other Software:	None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3321	32.7	**3319**	**32.8**	3318	32.8	8	**3320**	**32.7**	3318	32.8	3321	32.7
416.gamess	8	1852	84.6	**1853**	**84.5**	1854	84.5	8	1804	86.8	1811	86.5	**1811**	**86.5**
433.milc	8	**3433**	**21.4**	3431	21.4	3434	21.4	8	**3398**	**21.6**	3399	21.6	3398	21.6
434.zeusmp	8	1308	55.7	**1306**	**55.8**	1305	55.8	8	1299	56.1	1309	55.6	**1303**	**55.9**
435.gromacs	8	768	74.4	**767**	**74.5**	765	74.7	8	766	74.6	763	74.9	**763**	**74.8**
436.cactusADM	8	1246	76.7	**1261**	**75.8**	1281	74.6	8	1248	76.6	1276	74.9	**1250**	**76.5**
437.leslie3d	8	**2945**	**25.5**	2942	25.6	2950	25.5	8	2901	25.9	2899	25.9	**2901**	**25.9**
444.namd	8	**874**	**73.4**	874	73.4	873	73.5	8	**866**	**74.1**	866	74.1	866	74.1
447.dealII	8	852	107	859	107	**854**	**107**	8	785	117	788	116	**786**	**116**
450.soplex	8	**2065**	**32.3**	2062	32.3	2065	32.3	8	1836	36.3	**1839**	**36.3**	1842	36.2
453.povray	8	455	93.6	453	94.0	**454**	**93.7**	8	409	104	408	104	**409**	**104**
454.calculix	8	967	68.2	972	67.9	**968**	**68.2**	8	**967**	**68.2**	966	68.3	968	68.2
459.GemsFDTD	8	3682	23.1	3680	23.1	**3681**	**23.1**	8	**3681**	**23.1**	3693	23.0	3680	23.1
465.tonto	8	965	81.6	962	81.9	**963**	**81.8**	8	936	84.1	941	83.7	**937**	**84.0**
470.lbm	8	4464	24.6	4458	24.7	**4459**	**24.7**	8	4342	25.3	4340	25.3	**4340**	**25.3**
481.wrf	8	1808	49.4	**1814**	**49.3**	1818	49.2	8	**1810**	**49.4**	1820	49.1	1809	49.4
482.sphinx3	8	**2465**	**63.3**	2451	63.6	2480	62.9	8	2175	71.7	**2187**	**71.3**	2195	71.0

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

Platform Notes

BIOS configuration:
 Power Regulator Disabled
 Adjacent Sector Prefetch Enabled
 Hardware Prefetcher Enabled
 Hyper-Threading Technology Disabled

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:
-xP -ipo -O3 -static -no-prec-div

C++ benchmarks:
-xP -ipo -O3 -static -no-prec-div

Fortran benchmarks:
-xP -ipo -O3 -static -no-prec-div

Benchmarks using both Fortran and C:
-xP -ipo -O3 -static -no-prec-div

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.0.023/bin/icc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

433.milc: `icc`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/10.0.023/bin/icpc -L/opt/intel/cc/10.0.023/lib -I/opt/intel/cc/10.0.023/include`

Fortran benchmarks (except as noted below):
`ifort`

437.leslie3d: `/opt/intel/fc/10.0.023/bin/ifort -L/opt/intel/fc/10.0.023/lib -I/opt/intel/fc/10.0.023/include`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -fno-alias`

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -no-scalar-rep -prefetch`

482.sphinx3: `-xP -ipo -O3 -static -no-prec-div -unroll2`

C++ benchmarks:

444.namd: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -fno-alias -auto-ilp32`

447.dealII: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -ansi-alias -no-scalar-rep`

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Peak Optimization Flags (Continued)

450.soplex: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div`

453.povray: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-xP -ipo -O3 -static -no-prec-div`

416.gamess: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -Ob0 -ansi-alias -no-scalar-rep`

434.zeusmp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div`

437.leslie3d: `Same as 434.zeusmp`

459.GemsFDTD: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -Ob0`

465.tonto: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll4`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -fno-alias`

436.cactusADM: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xP -ipo -O3 -static -no-prec-div -unroll2 -auto-ilp32`

454.calculix: `-xP -ipo -O3 -static -no-prec-div -auto-ilp32`

481.wrf: `Same as 454.calculix`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/hp-ic10-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/hp-ic10-flags.xml`

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

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