



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 46.3

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

SPECfp_rate_base2006 = 42.7

CPU2006 license: 3

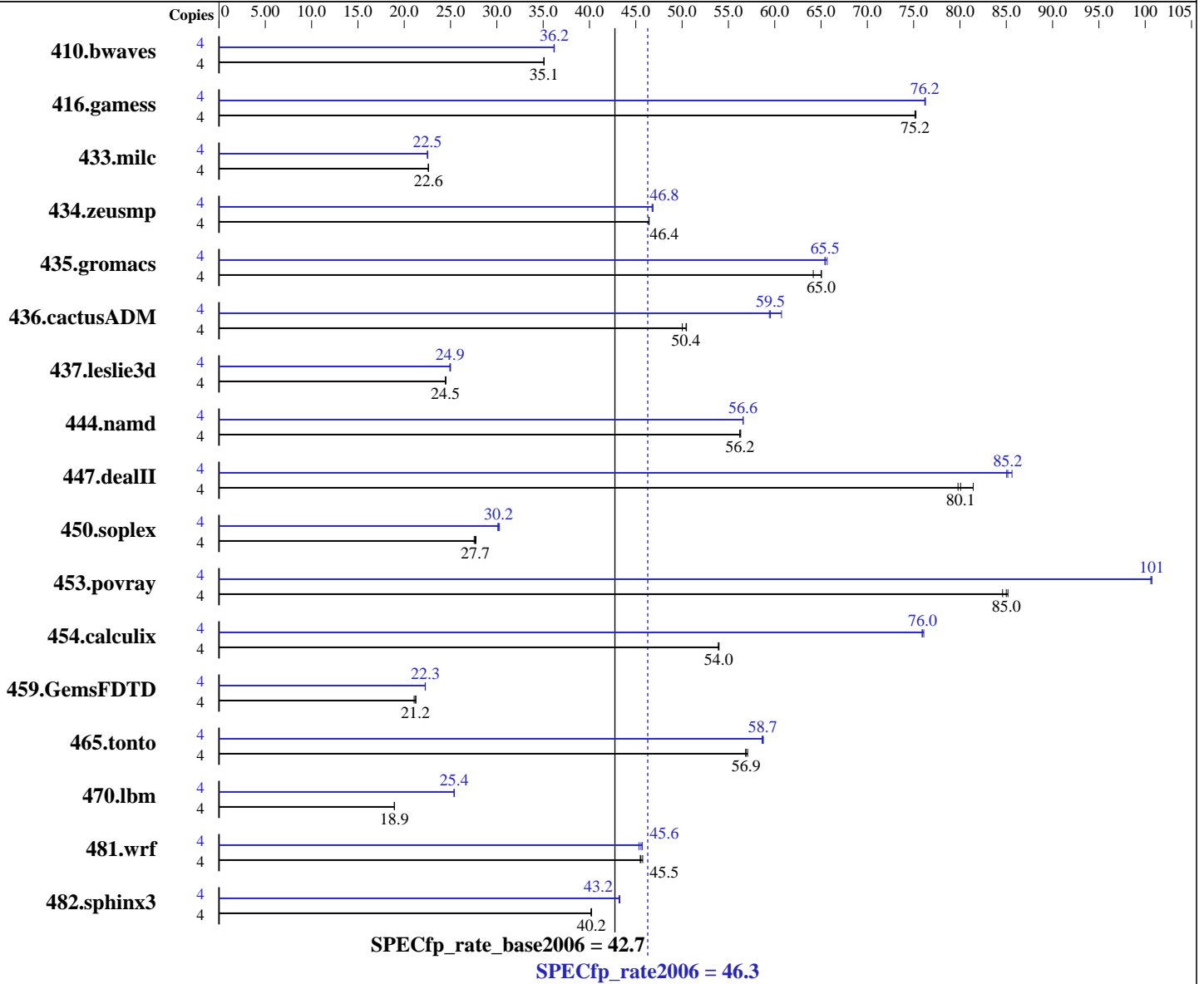
Test date: Aug-2007

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: 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 2.6.16.46-0.12-2mp
 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	<u>1549</u>	<u>35.1</u>	1549	35.1	4	<u>1502</u>	<u>36.2</u>	1503	36.2	1501	36.2
416.gamess	4	<u>1042</u>	<u>75.2</u>	1041	75.3	1042	75.1	4	<u>1028</u>	<u>76.2</u>	1028	76.2	1027	76.3
433.milc	4	1624	22.6	<u>1624</u>	<u>22.6</u>	1623	22.6	4	1631	22.5	<u>1631</u>	<u>22.5</u>	1632	22.5
434.zeusmp	4	<u>784</u>	<u>46.4</u>	784	46.4	784	46.4	4	777	46.8	<u>777</u>	<u>46.8</u>	778	46.8
435.gromacs	4	<u>439</u>	<u>65.0</u>	439	65.0	445	64.2	4	<u>436</u>	<u>65.5</u>	435	65.7	437	65.4
436.cactusADM	4	956	50.0	<u>948</u>	<u>50.4</u>	947	50.5	4	804	59.4	787	60.7	<u>803</u>	<u>59.5</u>
437.leslie3d	4	1535	24.5	<u>1538</u>	<u>24.5</u>	1538	24.4	4	<u>1507</u>	<u>24.9</u>	1504	25.0	1509	24.9
444.namd	4	571	56.2	<u>570</u>	<u>56.2</u>	570	56.3	4	567	56.6	<u>567</u>	<u>56.6</u>	567	56.6
447.dealII	4	<u>571</u>	<u>80.1</u>	574	79.8	562	81.4	4	538	85.0	534	85.6	<u>537</u>	<u>85.2</u>
450.soplex	4	1202	27.7	<u>1206</u>	<u>27.7</u>	1211	27.6	4	<u>1105</u>	<u>30.2</u>	1108	30.1	1102	30.3
453.povray	4	252	84.6	250	85.2	<u>250</u>	<u>85.0</u>	4	<u>211</u>	<u>101</u>	211	101	212	101
454.calculix	4	611	54.0	<u>612</u>	<u>54.0</u>	612	53.9	4	<u>434</u>	<u>76.0</u>	434	76.1	435	75.9
459.GemsFDTD	4	2014	21.1	<u>1999</u>	<u>21.2</u>	1996	21.3	4	1907	22.3	<u>1905</u>	<u>22.3</u>	1904	22.3
465.tonto	4	692	56.9	690	57.1	<u>692</u>	<u>56.9</u>	4	671	58.6	<u>670</u>	<u>58.7</u>	670	58.8
470.lbm	4	<u>2902</u>	<u>18.9</u>	2902	18.9	2902	18.9	4	<u>2165</u>	<u>25.4</u>	2164	25.4	2165	25.4
481.wrf	4	<u>981</u>	<u>45.5</u>	977	45.7	982	45.5	4	978	45.7	986	45.3	<u>981</u>	<u>45.6</u>
482.sphinx3	4	1941	40.2	<u>1938</u>	<u>40.2</u>	1938	40.2	4	1805	43.2	1801	43.3	<u>1804</u>	<u>43.2</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 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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