



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 18.3

ProLiant DL580 G4
(3.0 GHz, Intel Xeon processor 7120M)

SPECfp_rate_base2006 = 17.9

CPU2006 license: 3

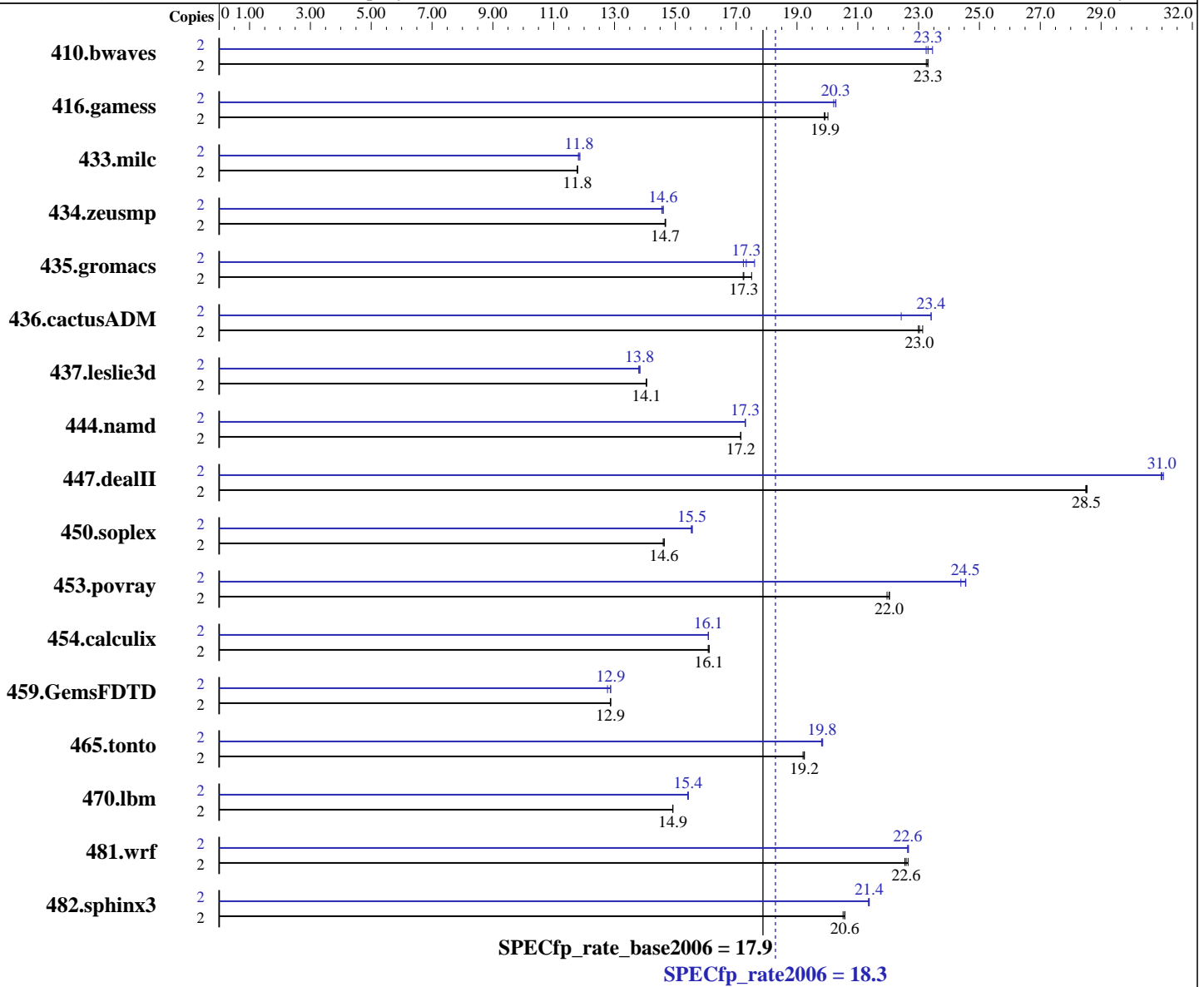
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon 7120M
 CPU Characteristics: 3.0 GHz, 800 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 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 Intel 64, Version 10.0
 Build 20070426 Package ID: l_fc_p_10.0.023
 Auto Parallel: No

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (16x2 GB PC2-3200R)
Disk Subsystem: 1x72 GB 15 K SAS
Other Hardware: None

File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	2	1166	23.3	<u>1166</u>	<u>23.3</u>	1169	23.3	2	1159	23.5	<u>1166</u>	<u>23.3</u>	1169	23.2		
416.gamess	2	1956	20.0	1968	19.9	<u>1965</u>	<u>19.9</u>	2	1938	20.2	<u>1931</u>	<u>20.3</u>	1931	20.3		
433.milc	2	1559	11.8	<u>1558</u>	<u>11.8</u>	1558	11.8	2	<u>1551</u>	<u>11.8</u>	1554	11.8	1548	11.9		
434.zeusmp	2	1241	14.7	<u>1240</u>	<u>14.7</u>	1240	14.7	2	1250	14.6	1246	14.6	<u>1247</u>	<u>14.6</u>		
435.gromacs	2	829	17.2	816	17.5	<u>828</u>	<u>17.3</u>	2	828	17.2	811	17.6	<u>824</u>	<u>17.3</u>		
436.cactusADM	2	1040	23.0	1033	23.1	<u>1038</u>	<u>23.0</u>	2	1021	23.4	<u>1021</u>	<u>23.4</u>	1066	22.4		
437.leslie3d	2	<u>1338</u>	<u>14.1</u>	1339	14.0	1338	14.1	2	<u>1360</u>	<u>13.8</u>	1363	13.8	1359	13.8		
444.namd	2	935	17.2	935	17.1	<u>935</u>	<u>17.2</u>	2	<u>927</u>	<u>17.3</u>	927	17.3	927	17.3		
447.dealII	2	<u>802</u>	<u>28.5</u>	802	28.5	803	28.5	2	737	31.1	<u>738</u>	<u>31.0</u>	739	31.0		
450.soplex	2	1140	14.6	1142	14.6	<u>1140</u>	<u>14.6</u>	2	1072	15.6	1074	15.5	<u>1073</u>	<u>15.5</u>		
453.povray	2	483	22.0	<u>483</u>	<u>22.0</u>	484	22.0	2	<u>434</u>	<u>24.5</u>	436	24.4	433	24.6		
454.calculix	2	<u>1025</u>	<u>16.1</u>	1024	16.1	1026	16.1	2	1026	16.1	1025	16.1	<u>1026</u>	<u>16.1</u>		
459.GemsFDTD	2	1650	12.9	1648	12.9	<u>1649</u>	<u>12.9</u>	2	1662	12.8	1648	12.9	<u>1649</u>	<u>12.9</u>		
465.tonto	2	<u>1023</u>	<u>19.2</u>	1025	19.2	1023	19.2	2	992	19.8	<u>993</u>	<u>19.8</u>	994	19.8		
470.lbm	2	1842	14.9	<u>1842</u>	<u>14.9</u>	1842	14.9	2	1783	15.4	<u>1782</u>	<u>15.4</u>	1781	15.4		
481.wrf	2	986	22.7	<u>989</u>	<u>22.6</u>	991	22.5	2	986	22.7	<u>986</u>	<u>22.6</u>	987	22.6		
482.sphinx3	2	<u>1895</u>	<u>20.6</u>	1900	20.5	1894	20.6	2	1826	21.3	<u>1824</u>	<u>21.4</u>	1823	21.4		

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



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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:
-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



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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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