



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 20.0

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

SPECfp_rate_base2006 = 19.5

CPU2006 license: 3

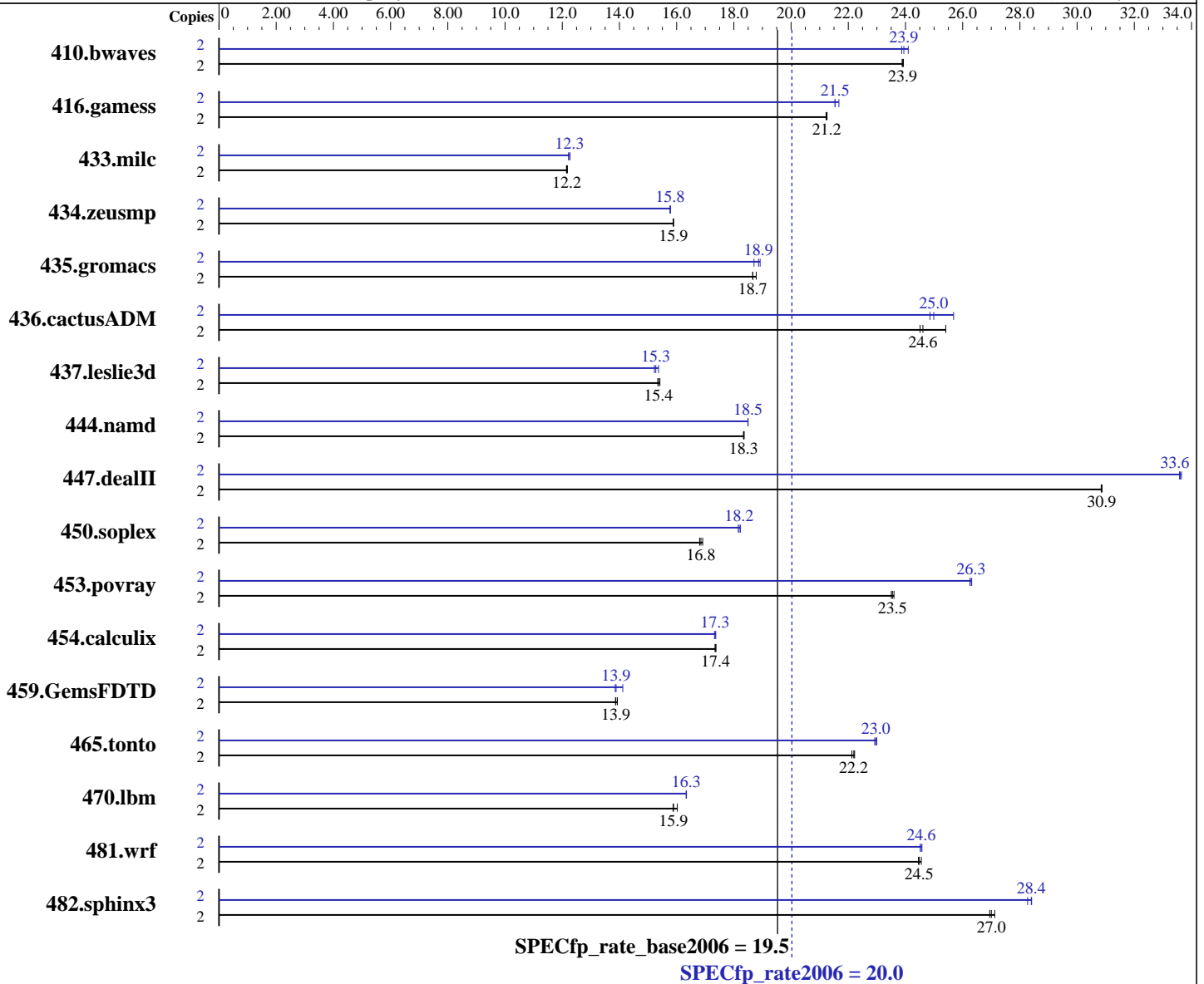
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon 7130M
 CPU Characteristics: 3.2 GHz, 800 MHz system bus
 CPU MHz: 3200
 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: 8 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	1138	23.9	<u>1137</u>	<u>23.9</u>	1136	23.9	2	<u>1135</u>	<u>23.9</u>	1139	23.9	1128	24.1		
416.gamess	2	1845	21.2	1842	21.3	<u>1843</u>	<u>21.2</u>	2	1807	21.7	1818	21.5	<u>1818</u>	<u>21.5</u>		
433.milc	2	1512	12.1	<u>1510</u>	<u>12.2</u>	1507	12.2	2	1503	12.2	1496	12.3	<u>1498</u>	<u>12.3</u>		
434.zeusmp	2	<u>1146</u>	<u>15.9</u>	1145	15.9	1146	15.9	2	1153	15.8	1154	15.8	<u>1154</u>	<u>15.8</u>		
435.gromacs	2	<u>765</u>	<u>18.7</u>	760	18.8	765	18.7	2	763	18.7	755	18.9	<u>757</u>	<u>18.9</u>		
436.cactusADM	2	975	24.5	<u>971</u>	<u>24.6</u>	941	25.4	2	<u>956</u>	<u>25.0</u>	962	24.9	931	25.7		
437.leslie3d	2	1220	15.4	<u>1223</u>	<u>15.4</u>	1225	15.3	2	<u>1231</u>	<u>15.3</u>	1235	15.2	1223	15.4		
444.namd	2	874	18.4	<u>875</u>	<u>18.3</u>	875	18.3	2	<u>867</u>	<u>18.5</u>	867	18.5	867	18.5		
447.dealII	2	<u>741</u>	<u>30.9</u>	741	30.9	742	30.8	2	680	33.6	<u>681</u>	<u>33.6</u>	681	33.6		
450.soplex	2	<u>990</u>	<u>16.8</u>	993	16.8	986	16.9	2	919	18.2	<u>917</u>	<u>18.2</u>	915	18.2		
453.povray	2	451	23.6	453	23.5	<u>452</u>	<u>23.5</u>	2	<u>405</u>	<u>26.3</u>	404	26.3	405	26.3		
454.calculix	2	950	17.4	<u>950</u>	<u>17.4</u>	952	17.3	2	<u>951</u>	<u>17.3</u>	950	17.4	952	17.3		
459.GemsFDTD	2	1531	13.9	1524	13.9	<u>1529</u>	<u>13.9</u>	2	1503	14.1	1532	13.9	<u>1529</u>	<u>13.9</u>		
465.tonto	2	886	22.2	<u>887</u>	<u>22.2</u>	889	22.1	2	856	23.0	<u>857</u>	<u>23.0</u>	859	22.9		
470.lbm	2	1715	16.0	1731	15.9	<u>1729</u>	<u>15.9</u>	2	<u>1682</u>	<u>16.3</u>	1681	16.3	1683	16.3		
481.wrf	2	<u>913</u>	<u>24.5</u>	910	24.6	914	24.5	2	909	24.6	911	24.5	<u>910</u>	<u>24.6</u>		
482.sphinx3	2	1447	26.9	1437	27.1	<u>1444</u>	<u>27.0</u>	2	1379	28.3	1372	28.4	<u>1373</u>	<u>28.4</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

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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