



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 16.7

ProLiant DL580 G4
(2.6 GHz, Intel Xeon processor 7110M)

SPECfp_rate_base2006 = 16.4

CPU2006 license: 3

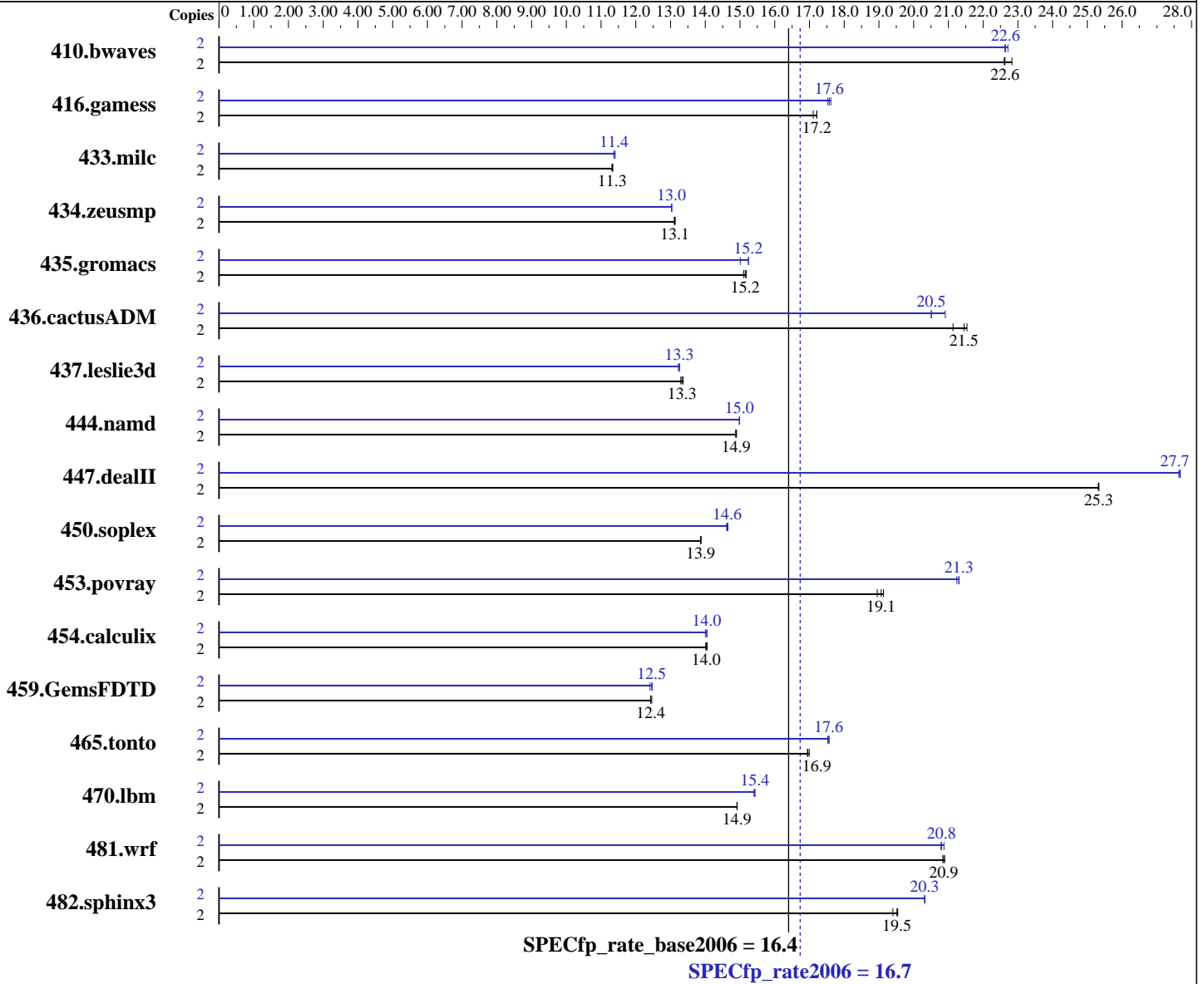
Test date: Aug-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon 7110M
 CPU Characteristics: 2.6 GHz, 800 MHz system bus
 CPU MHz: 2600
 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	1191	22.8	1202	22.6	<u>1201</u>	<u>22.6</u>	2	1197	22.7	1201	22.6	<u>1200</u>	<u>22.6</u>
416.gamess	2	2289	17.1	<u>2275</u>	<u>17.2</u>	2275	17.2	2	2234	17.5	2223	17.6	<u>2229</u>	<u>17.6</u>
433.milc	2	1623	11.3	<u>1621</u>	<u>11.3</u>	1619	11.3	2	1609	11.4	<u>1614</u>	<u>11.4</u>	1615	11.4
434.zeusmp	2	1389	13.1	1386	13.1	<u>1387</u>	<u>13.1</u>	2	1396	13.0	<u>1397</u>	<u>13.0</u>	1397	13.0
435.gromacs	2	<u>943</u>	<u>15.2</u>	945	15.1	941	15.2	2	951	15.0	<u>937</u>	<u>15.2</u>	937	15.2
436.cactusADM	2	<u>1114</u>	<u>21.5</u>	1131	21.1	1110	21.5	2	1143	20.9	<u>1165</u>	<u>20.5</u>	1166	20.5
437.leslie3d	2	<u>1410</u>	<u>13.3</u>	1414	13.3	1407	13.4	2	<u>1419</u>	<u>13.3</u>	1421	13.2	1418	13.3
444.namd	2	1076	14.9	<u>1077</u>	<u>14.9</u>	1078	14.9	2	1070	15.0	1071	15.0	<u>1070</u>	<u>15.0</u>
447.dealII	2	904	25.3	903	25.3	<u>903</u>	<u>25.3</u>	2	827	27.7	828	27.6	<u>827</u>	<u>27.7</u>
450.soplex	2	1203	13.9	1202	13.9	<u>1203</u>	<u>13.9</u>	2	1141	14.6	1138	14.7	<u>1140</u>	<u>14.6</u>
453.povray	2	556	19.1	561	19.0	<u>558</u>	<u>19.1</u>	2	<u>499</u>	<u>21.3</u>	501	21.2	499	21.3
454.calculix	2	1174	14.1	<u>1176</u>	<u>14.0</u>	1177	14.0	2	1178	14.0	<u>1175</u>	<u>14.0</u>	1175	14.0
459.GemsFDTD	2	<u>1707</u>	<u>12.4</u>	1703	12.5	1708	12.4	2	1701	12.5	1710	12.4	<u>1703</u>	<u>12.5</u>
465.tonto	2	1158	17.0	<u>1161</u>	<u>16.9</u>	1161	16.9	2	<u>1121</u>	<u>17.6</u>	1120	17.6	1123	17.5
470.lbm	2	1842	14.9	<u>1842</u>	<u>14.9</u>	1843	14.9	2	<u>1781</u>	<u>15.4</u>	1784	15.4	1781	15.4
481.wrf	2	1072	20.8	<u>1071</u>	<u>20.9</u>	1069	20.9	2	1070	20.9	<u>1074</u>	<u>20.8</u>	1075	20.8
482.sphinx3	2	<u>1997</u>	<u>19.5</u>	1995	19.5	2009	19.4	2	1919	20.3	<u>1918</u>	<u>20.3</u>	1918	20.3

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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