



# SPEC® CFP2006 Result

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## Hewlett-Packard Company

SPECfp®2006 = 10.8

ProLiant ML350 G5  
(1.86 GHz, Intel Xeon processor E5320)

SPECfp\_base2006 = 10.7

CPU2006 license: 3

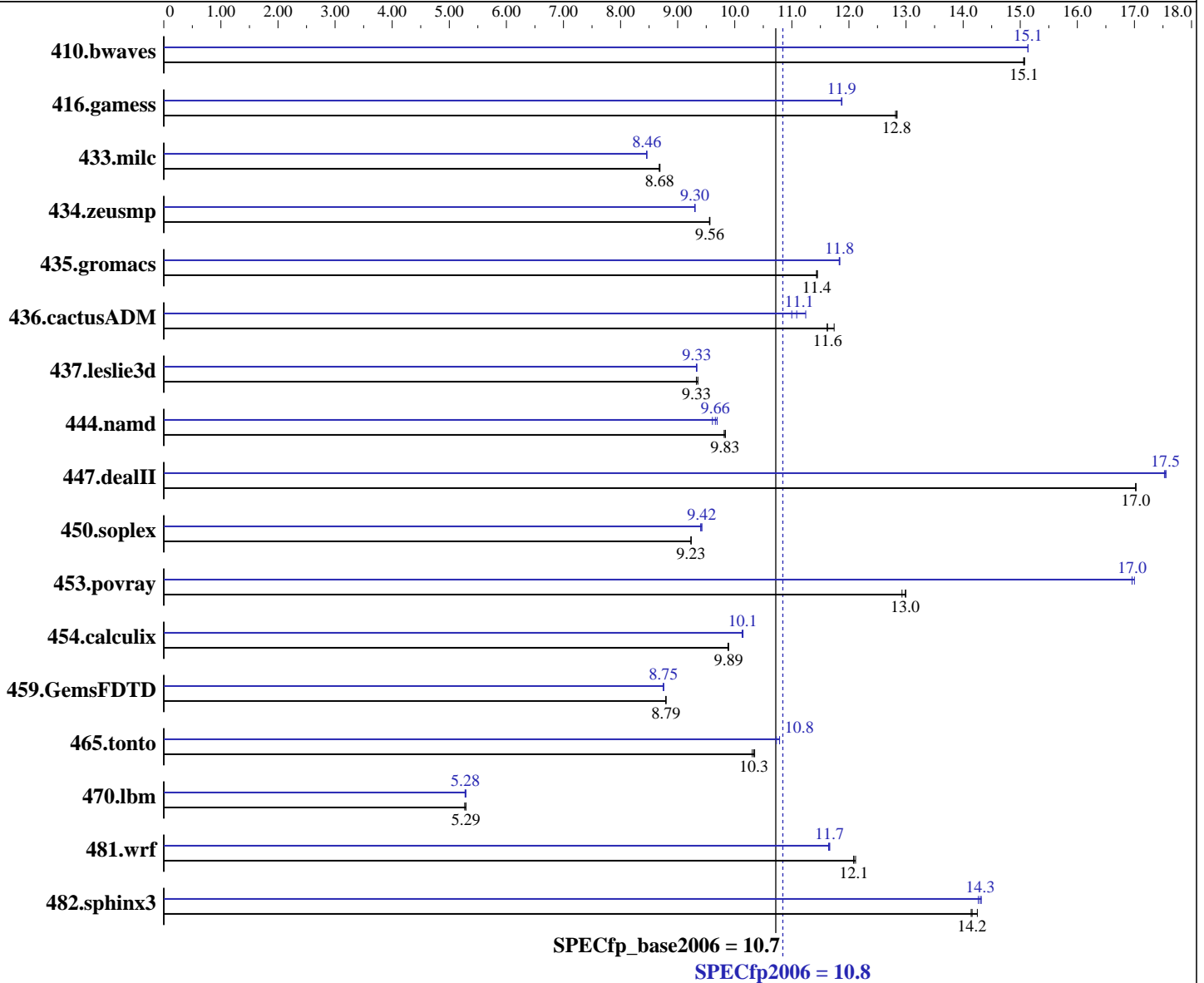
Test date: Feb-2007

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2006

Tested by: Hewlett-Packard Company

Software Availability: Nov-2006



### Hardware

CPU Name: Intel Xeon E5320  
 CPU Characteristics: 1.86 GHz, 2x4 MB L2 shared, 1066 MHz system bus  
 CPU MHz: 1860  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64) kernel 2.6.16.21-0.8-default  
 Compiler: Intel C++ Compiler for Intel EM64T-based applications, Version 9.1 Build 20061101, Package ID: 1\_cc\_c\_9.1.045  
 Intel Fortran Compiler for Intel EM64T-based applications, Version 9.1 Build 20061101, Package ID: 1\_fc\_c\_9.1.040  
 Auto Parallel: No

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L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB PC2-5300F CL5)  
Disk Subsystem: 4x36 GB 10 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	901	15.1	<b>902</b>	<b>15.1</b>	902	15.1	898	15.1	898	15.1	<b>898</b>	<b>15.1</b>
416.gamess	1528	12.8	1525	12.8	<b>1525</b>	<b>12.8</b>	1650	11.9	<b>1649</b>	<b>11.9</b>	1648	11.9
433.milc	1058	8.68	1056	8.69	<b>1057</b>	<b>8.68</b>	1086	8.46	1085	8.46	<b>1085</b>	<b>8.46</b>
434.zeusmp	952	9.56	<b>952</b>	<b>9.56</b>	951	9.57	<b>978</b>	<b>9.30</b>	978	9.30	978	9.30
435.gromacs	625	11.4	624	11.4	<b>624</b>	<b>11.4</b>	603	11.8	604	11.8	<b>603</b>	<b>11.8</b>
436.cactusADM	1018	11.7	<b>1028</b>	<b>11.6</b>	1029	11.6	1086	11.0	<b>1078</b>	<b>11.1</b>	1063	11.2
437.leslie3d	<b>1007</b>	<b>9.33</b>	1008	9.33	1005	9.36	<b>1007</b>	<b>9.33</b>	1007	9.34	1008	9.33
444.namd	817	9.81	<b>816</b>	<b>9.83</b>	815	9.84	828	9.69	835	9.61	<b>830</b>	<b>9.66</b>
447.dealII	672	17.0	672	17.0	<b>672</b>	<b>17.0</b>	652	17.6	653	17.5	<b>652</b>	<b>17.5</b>
450.soplex	903	9.23	903	9.23	<b>903</b>	<b>9.23</b>	<b>885</b>	<b>9.42</b>	887	9.40	885	9.42
453.povray	411	12.9	409	13.0	<b>410</b>	<b>13.0</b>	313	17.0	<b>314</b>	<b>17.0</b>	314	17.0
454.calculix	835	9.88	<b>834</b>	<b>9.89</b>	834	9.89	813	10.1	814	10.1	<b>813</b>	<b>10.1</b>
459.GemsFDTD	1206	8.80	1207	8.79	<b>1207</b>	<b>8.79</b>	1212	8.76	<b>1212</b>	<b>8.75</b>	1213	8.75
465.tonto	951	10.3	<b>952</b>	<b>10.3</b>	955	10.3	<b>912</b>	<b>10.8</b>	912	10.8	917	10.7
470.lbm	2596	5.29	2608	5.27	<b>2598</b>	<b>5.29</b>	2596	5.29	<b>2601</b>	<b>5.28</b>	2604	5.28
481.wrf	<b>924</b>	<b>12.1</b>	924	12.1	922	12.1	959	11.6	<b>958</b>	<b>11.7</b>	958	11.7
482.sphinx3	1368	14.2	<b>1377</b>	<b>14.2</b>	1378	14.1	1361	14.3	<b>1363</b>	<b>14.3</b>	1366	14.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Platform Notes

Power Regulator set to Static High Performance Mode in BIOS.  
Adjacent Sector Prefetch Disabled in BIOS.  
"/usr/bin/taskset" used to bind processes to CPUs.  
"ulimit -s unlimited" set  
Single processor kernel used

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

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:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

-prof\_gen(pass 1) -prof\_use(pass 2) -fast -auto\_ilp32

C++ benchmarks:

-prof\_gen(pass 1) -prof\_use(pass 2) -fast -auto\_ilp32

Fortran benchmarks:

-prof\_gen(pass 1) -prof\_use(pass 2) -fast

Benchmarks using both Fortran and C:

-prof\_gen(pass 1) -prof\_use(pass 2) -fast -auto\_ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/hp-ic91-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/hp-ic91-flags.xml>



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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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