



# SPEC<sup>®</sup> CFP2006 Result

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## Hewlett-Packard Company

ProLiant BL20p G4  
(2.66 GHz, Intel Xeon processor X5355)

SPECfp<sup>®</sup>2006 = 14.4

SPECfp\_base2006 = 14.3

CPU2006 license: 3

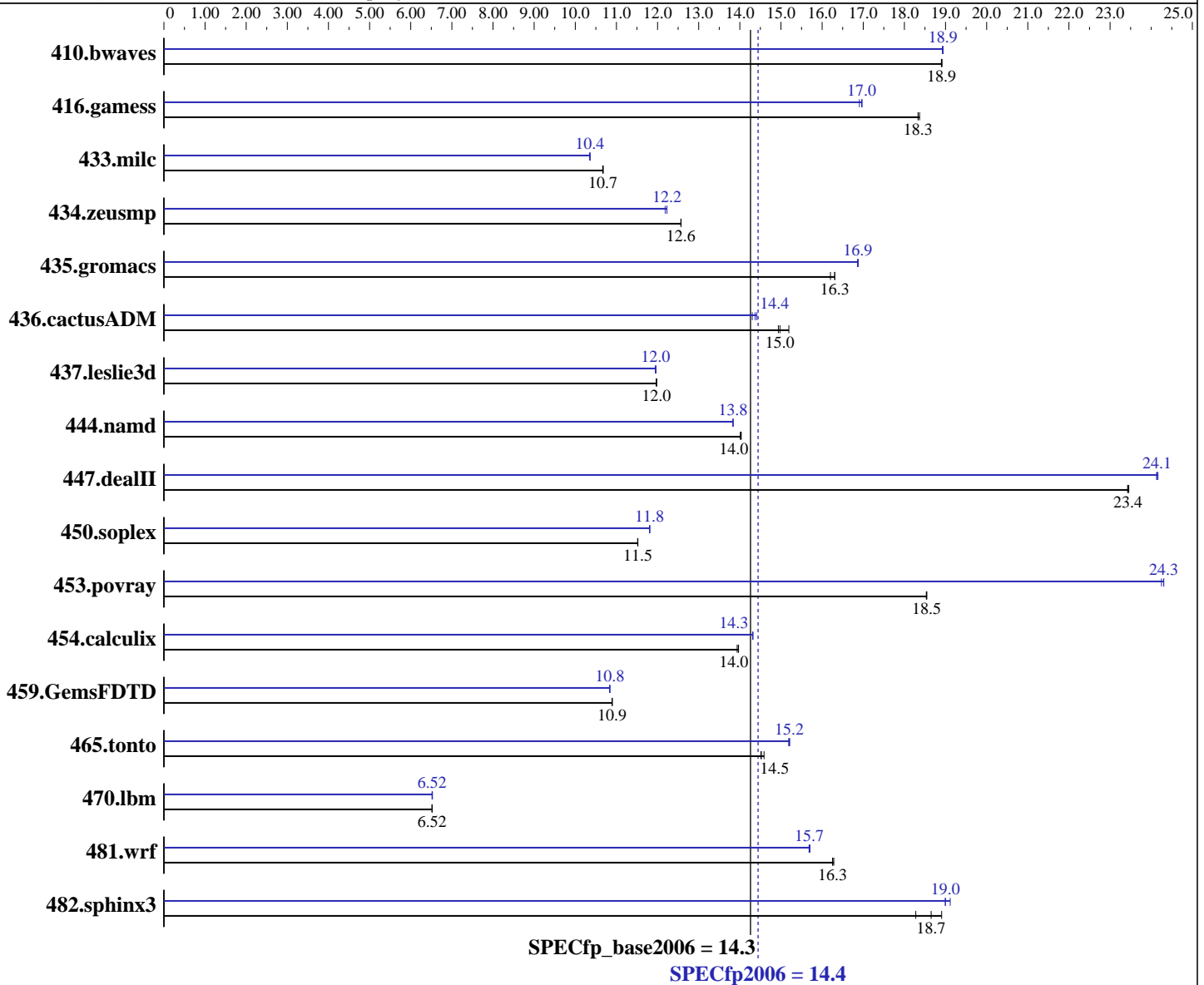
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jan-2007

Hardware Availability: Jan-2007

Software Availability: Nov-2006



### Hardware

CPU Name: Intel Xeon X5355  
 CPU Characteristics:  
 CPU MHz: 2666  
 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  
 Package ID l\_cc\_c\_9.1.045 Build no 20061101  
 Intel Fortran Compiler for Intel EM64T-based applications, Version 9.1  
 Package ID l\_fc\_c\_9.1.040 Build no 20061101  
 Auto Parallel: No

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L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x2 GB PC2-5300 CL5)  
Disk Subsystem: 2x72 GB SAS, 10 K RPM  
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    | <u>719</u>  | <u>18.9</u> | 719        | 18.9        | 719         | 18.9        | 718        | 18.9        | <u>718</u>  | <u>18.9</u> | 718         | 18.9        |
| 416.gamess    | <u>1068</u> | <u>18.3</u> | 1066       | 18.4        | 1068        | 18.3        | 1154       | 17.0        | 1158        | 16.9        | <u>1154</u> | <u>17.0</u> |
| 433.milc      | <u>860</u>  | <u>10.7</u> | 861        | 10.7        | 859         | 10.7        | 887        | 10.4        | 886         | 10.4        | <u>886</u>  | <u>10.4</u> |
| 434.zeusmp    | <u>724</u>  | <u>12.6</u> | 724        | 12.6        | 724         | 12.6        | 744        | 12.2        | 747         | 12.2        | <u>744</u>  | <u>12.2</u> |
| 435.gromacs   | <u>438</u>  | <u>16.3</u> | 438        | 16.3        | 441         | 16.2        | 423        | 16.9        | <u>423</u>  | <u>16.9</u> | 423         | 16.9        |
| 436.cactusADM | 787         | 15.2        | <u>798</u> | <u>15.0</u> | 800         | 14.9        | 836        | 14.3        | 829         | 14.4        | <u>832</u>  | <u>14.4</u> |
| 437.leslie3d  | 785         | 12.0        | 785        | 12.0        | <u>785</u>  | <u>12.0</u> | <u>787</u> | <u>12.0</u> | 786         | 12.0        | 787         | 11.9        |
| 444.namd      | 572         | 14.0        | 571        | 14.0        | <u>572</u>  | <u>14.0</u> | 580        | 13.8        | <u>580</u>  | <u>13.8</u> | 580         | 13.8        |
| 447.dealII    | <u>488</u>  | <u>23.4</u> | 488        | 23.4        | 488         | 23.5        | 474        | 24.1        | <u>474</u>  | <u>24.1</u> | 473         | 24.2        |
| 450.soplex    | 724         | 11.5        | 724        | 11.5        | <u>724</u>  | <u>11.5</u> | <u>706</u> | <u>11.8</u> | 706         | 11.8        | 706         | 11.8        |
| 453.povray    | 287         | 18.5        | 287        | 18.5        | <u>287</u>  | <u>18.5</u> | <u>219</u> | <u>24.3</u> | 219         | 24.3        | 219         | 24.2        |
| 454.calculix  | 592         | 13.9        | 591        | 14.0        | <u>591</u>  | <u>14.0</u> | 576        | 14.3        | 577         | 14.3        | <u>576</u>  | <u>14.3</u> |
| 459.GemsFDTD  | 974         | 10.9        | 974        | 10.9        | <u>974</u>  | <u>10.9</u> | 979        | 10.8        | 979         | 10.8        | <u>979</u>  | <u>10.8</u> |
| 465.tonto     | 678         | 14.5        | 675        | 14.6        | <u>678</u>  | <u>14.5</u> | 647        | 15.2        | <u>647</u>  | <u>15.2</u> | 648         | 15.2        |
| 470.lbm       | 2107        | 6.52        | 2108       | 6.52        | <u>2108</u> | <u>6.52</u> | 2105       | 6.53        | <u>2107</u> | <u>6.52</u> | 2108        | 6.52        |
| 481.wrf       | 687         | 16.3        | <u>687</u> | <u>16.3</u> | 686         | 16.3        | 711        | 15.7        | 712         | 15.7        | <u>712</u>  | <u>15.7</u> |
| 482.sphinx3   | 1031        | 18.9        | 1066       | 18.3        | <u>1045</u> | <u>18.7</u> | 1020       | 19.1        | 1026        | 19.0        | <u>1026</u> | <u>19.0</u> |

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.  
Environment stack size set to 'unlimited'  
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 -auto\_ilp32

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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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