



# SPEC® CFP2006 Result

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## Hewlett-Packard Company

SPECfp®\_rate2006 = 45.1

HP Integrity rx3600  
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp\_rate\_base2006 = 43.9

CPU2006 license: 03

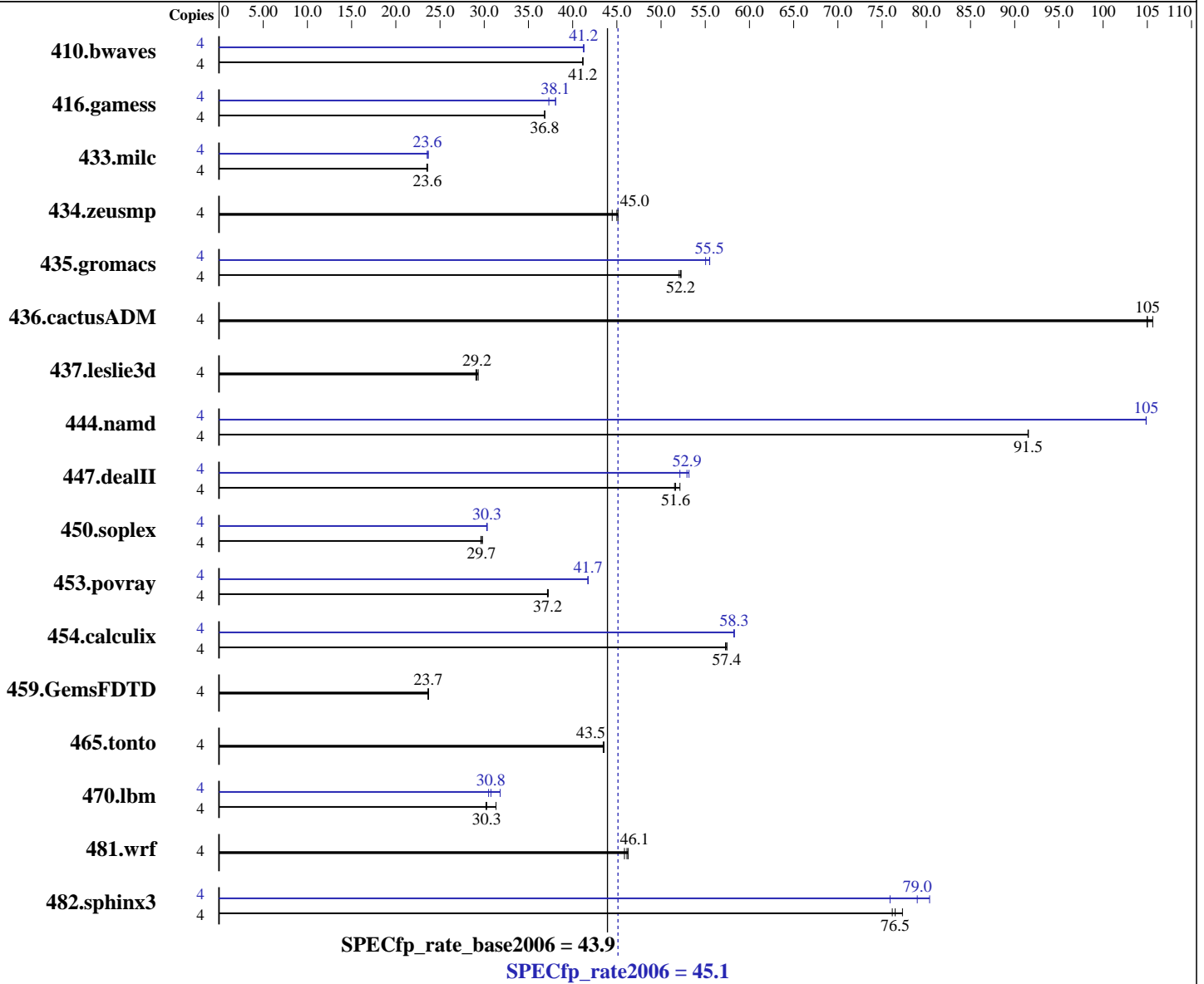
Test date: Nov-2006

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2006

Tested by: Hewlett-Packard Company

Software Availability: Nov-2006



### Hardware

CPU Name: Dual-Core Intel Itanium 2 9040  
 CPU Characteristics: 1.6GHz/18MB, 533MHz FSB  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1-2 chips  
 Primary Cache: 16 KB I + 16 KB D on chip per core  
 Secondary Cache: 1 MB I + 256 KB D on chip per core

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### Software

Operating System: Red Hat Enterprise Linux AS release 4 (Update 4)  
 Compiler: Intel C++ Compiler for Itanium version 9.1 (Build 20060818)  
 Intel Fortran90 Compiler for Itanium version 9.1 (Build 20060818)  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-user  
 Base Pointers: 64-bit

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L3 Cache: 9 MB I+D on chip per core  
Other Cache: None  
Memory: 16 GB (8x2GB DIMMs, AD124A 8-DIMM memory carrier)  
Disk Subsystem: 2x73GB 10K RPM SAS (mirrored)  
Other Hardware: None

Peak Pointers: 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	4	1321	41.2	<u>1321</u>	<u>41.2</u>	1321	41.2	4	<u>1318</u>	<u>41.2</u>	1318	41.2	1317	41.3		
416.gamess	4	2126	36.8	<u>2126</u>	<u>36.8</u>	2126	36.8	4	2057	38.1	2099	37.3	<u>2058</u>	<u>38.1</u>		
433.milc	4	1562	23.5	<u>1558</u>	<u>23.6</u>	1557	23.6	4	1558	23.6	<u>1558</u>	<u>23.6</u>	1550	23.7		
434.zeusmp	4	806	45.1	<u>809</u>	<u>45.0</u>	818	44.5	4	806	45.1	<u>809</u>	<u>45.0</u>	818	44.5		
435.gromacs	4	547	52.3	<u>547</u>	<u>52.2</u>	549	52.0	4	519	55.0	<u>515</u>	<u>55.5</u>	515	55.5		
436.cactusADM	4	<u>455</u>	<u>105</u>	455	105	453	106	4	<u>455</u>	<u>105</u>	455	105	453	106		
437.leslie3d	4	<u>1289</u>	<u>29.2</u>	1294	29.1	1282	29.3	4	<u>1289</u>	<u>29.2</u>	1294	29.1	1282	29.3		
444.namd	4	351	91.5	<u>350</u>	<u>91.5</u>	350	91.5	4	<u>306</u>	<u>105</u>	306	105	306	105		
447.dealII	4	878	52.1	<u>886</u>	<u>51.6</u>	888	51.5	4	<u>865</u>	<u>52.9</u>	878	52.1	861	53.2		
450.soplex	4	1119	29.8	1126	29.6	<u>1124</u>	<u>29.7</u>	4	<u>1101</u>	<u>30.3</u>	1102	30.3	1099	30.3		
453.povray	4	573	37.2	<u>573</u>	<u>37.2</u>	571	37.2	4	<u>510</u>	<u>41.7</u>	510	41.7	510	41.7		
454.calculix	4	574	57.4	576	57.3	<u>575</u>	<u>57.4</u>	4	567	58.2	566	58.3	<u>566</u>	<u>58.3</u>		
459.GemsFDTD	4	<u>1794</u>	<u>23.7</u>	1795	23.6	1791	23.7	4	<u>1794</u>	<u>23.7</u>	1795	23.6	1791	23.7		
465.tonto	4	904	43.5	<u>905</u>	<u>43.5</u>	906	43.5	4	904	43.5	<u>905</u>	<u>43.5</u>	906	43.5		
470.lbm	4	<u>1815</u>	<u>30.3</u>	1820	30.2	1754	31.3	4	1802	30.5	<u>1787</u>	<u>30.8</u>	1728	31.8		
481.wrf	4	966	46.3	<u>968</u>	<u>46.1</u>	974	45.9	4	966	46.3	<u>968</u>	<u>46.1</u>	974	45.9		
482.sphinx3	4	1024	76.2	<u>1019</u>	<u>76.5</u>	1008	77.3	4	1027	75.9	970	80.4	<u>987</u>	<u>79.0</u>		

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

## Operating System Notes

stacksize set to unlimited prior to run

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

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## Base Compiler Invocation (Continued)

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\_LINUX -DSPEC\_CPU\_CASE\_FLAG  
 482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

-fast -IPF\_fp\_relaxed -ansi-alias

C++ benchmarks:

-fast -IPF\_fp\_relaxed -ansi-alias

Fortran benchmarks:

-fast -IPF\_fp\_relaxed

Benchmarks using both Fortran and C:

-fast -IPF\_fp\_relaxed -ansi-alias

## Peak Compiler Invocation

C benchmarks:

icc

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## Peak Compiler Invocation (Continued)

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:

433.milc: -fast -IPF\_fp\_relaxed -ansi-alias -fno-alias

470.lbm: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-ansi-alias

482.sphinx3: Same as 470.lbm

C++ benchmarks:

444.namd: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-no-prefetch -fno-alias

447.dealIII: -fast -IPF\_fp\_relaxed -ansi-alias -no-alias-args

450.soplex: -fast -IPF\_fp\_relaxed -ansi-alias -inline-factor=150

453.povray: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-ansi-alias

Fortran benchmarks:

410.bwaves: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed

416.gamess: -fast -IPF\_fp\_relaxed -inline-factor=150

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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## Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

435.gromacs: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-fno-alias -inline-factor=150

436.cactusADM: basepeak = yes

454.calculix: -fast -IPF\_fp\_relaxed -fno-alias

481.wrf: basepeak = yes

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

[http://www.spec.org/cpu2006/flags/IPF\\_intel91\\_flags.html](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.html)

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

[http://www.spec.org/cpu2006/flags/IPF\\_intel91\\_flags.xml](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.xml)

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

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