



# SPEC® CFP2006 Result

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## Hewlett-Packard Company

SPECfp®2006 = 16.0

HP Integrity rx4640  
(1.6GHz/24MB Dual-Core Intel Itanium 2)

SPECfp\_base2006 = 15.4

CPU2006 license: 03

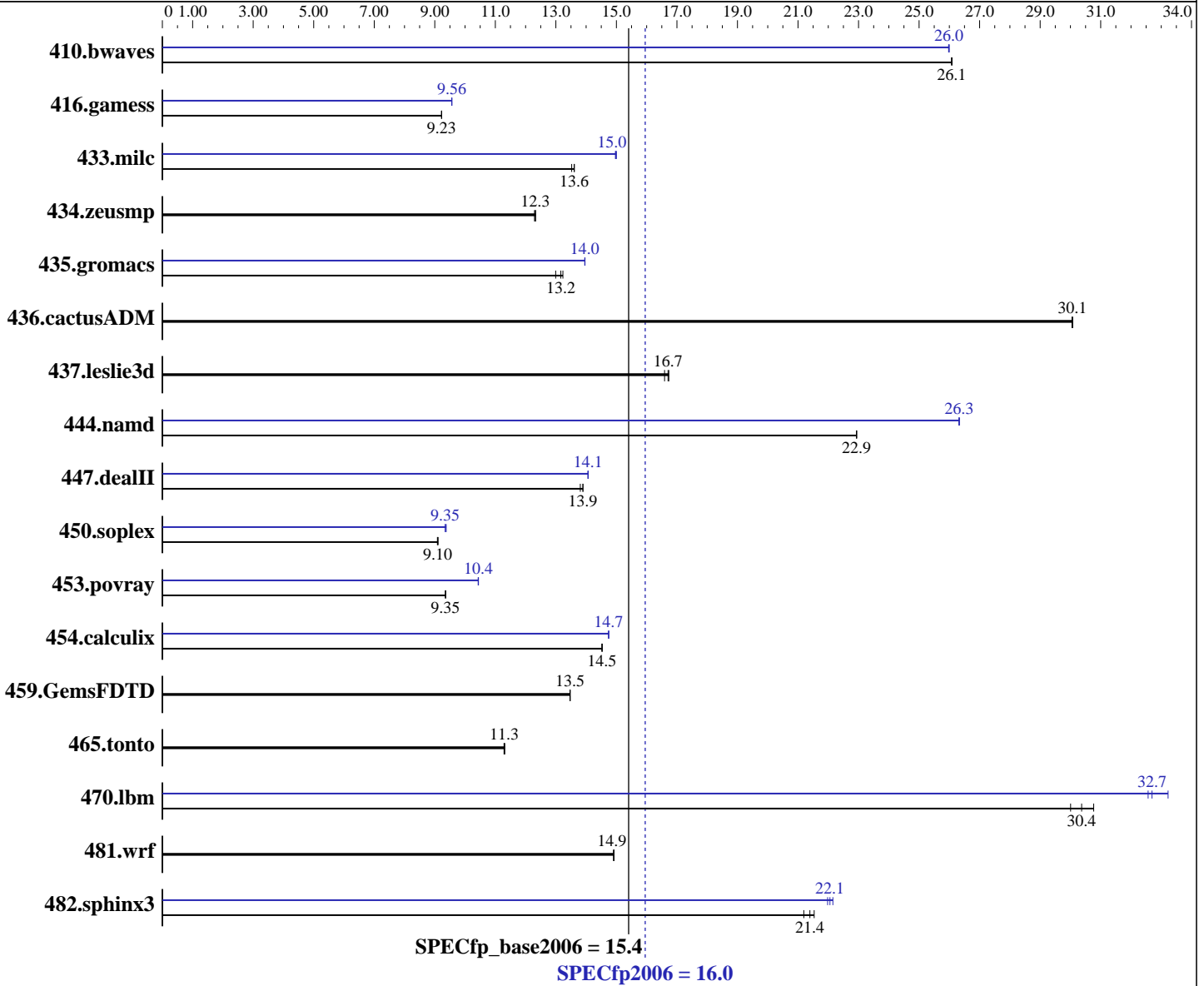
Test date: Oct-2006

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2006

Tested by: Hewlett-Packard Company

Software Availability: Nov-2006



### Hardware

CPU Name: Dual-Core Intel Itanium 2 9050  
 CPU Characteristics: 1.6GHz/24MB, 400MHz FSB  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1-4 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: 12 MB I+D on chip per core  
Other Cache: None  
Memory: 32 GB (16x2GB DIMMs)  
Disk Subsystem: 36GB 15K RPM SCSI  
Other Hardware: None

Peak Pointers: 64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b>521</b>	<b>26.1</b>	521	26.1	521	26.1	523	26.0	523	26.0	<b>523</b>	<b>26.0</b>
416.gamess	<b>2122</b>	<b>9.23</b>	2123	9.22	2122	9.23	2047	9.56	2048	9.56	<b>2047</b>	<b>9.56</b>
433.milc	679	13.5	<b>675</b>	<b>13.6</b>	675	13.6	<b>613</b>	<b>15.0</b>	612	15.0	613	15.0
434.zeusmp	738	12.3	740	12.3	<b>739</b>	<b>12.3</b>	738	12.3	740	12.3	<b>739</b>	<b>12.3</b>
435.gromacs	<b>542</b>	<b>13.2</b>	540	13.2	549	13.0	<b>511</b>	<b>14.0</b>	512	14.0	511	14.0
436.cactusADM	397	30.1	<b>397</b>	<b>30.1</b>	398	30.1	397	30.1	<b>397</b>	<b>30.1</b>	398	30.1
437.leslie3d	<b>563</b>	<b>16.7</b>	562	16.7	567	16.6	<b>563</b>	<b>16.7</b>	562	16.7	567	16.6
444.namd	350	22.9	350	22.9	<b>350</b>	<b>22.9</b>	305	26.3	305	26.3	<b>305</b>	<b>26.3</b>
447.dealII	<b>823</b>	<b>13.9</b>	823	13.9	829	13.8	813	14.1	<b>813</b>	<b>14.1</b>	813	14.1
450.soplex	918	9.09	916	9.11	<b>917</b>	<b>9.10</b>	889	9.38	<b>892</b>	<b>9.35</b>	892	9.35
453.povray	569	9.36	569	9.35	<b>569</b>	<b>9.35</b>	509	10.4	<b>510</b>	<b>10.4</b>	510	10.4
454.calculix	568	14.5	<b>568</b>	<b>14.5</b>	568	14.5	560	14.7	559	14.7	<b>560</b>	<b>14.7</b>
459.GemsFDTD	788	13.5	<b>788</b>	<b>13.5</b>	788	13.5	788	13.5	<b>788</b>	<b>13.5</b>	788	13.5
465.tonto	872	11.3	870	11.3	<b>871</b>	<b>11.3</b>	872	11.3	870	11.3	<b>871</b>	<b>11.3</b>
470.lbm	447	30.8	<b>452</b>	<b>30.4</b>	458	30.0	414	33.2	<b>420</b>	<b>32.7</b>	422	32.6
481.wrf	749	14.9	<b>749</b>	<b>14.9</b>	749	14.9	749	14.9	<b>749</b>	<b>14.9</b>	749	14.9
482.sphinx3	905	21.5	<b>911</b>	<b>21.4</b>	920	21.2	880	22.2	887	22.0	<b>884</b>	<b>22.1</b>

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

system was booted uniprocessor by setting "maxcpus=0"  
kernel parameter in elilo.conf

## 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

Continued on next page



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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.dealII: -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

Continued on next page



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

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