SPEC® CFP2006 Result

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Hewlett-Packard Company

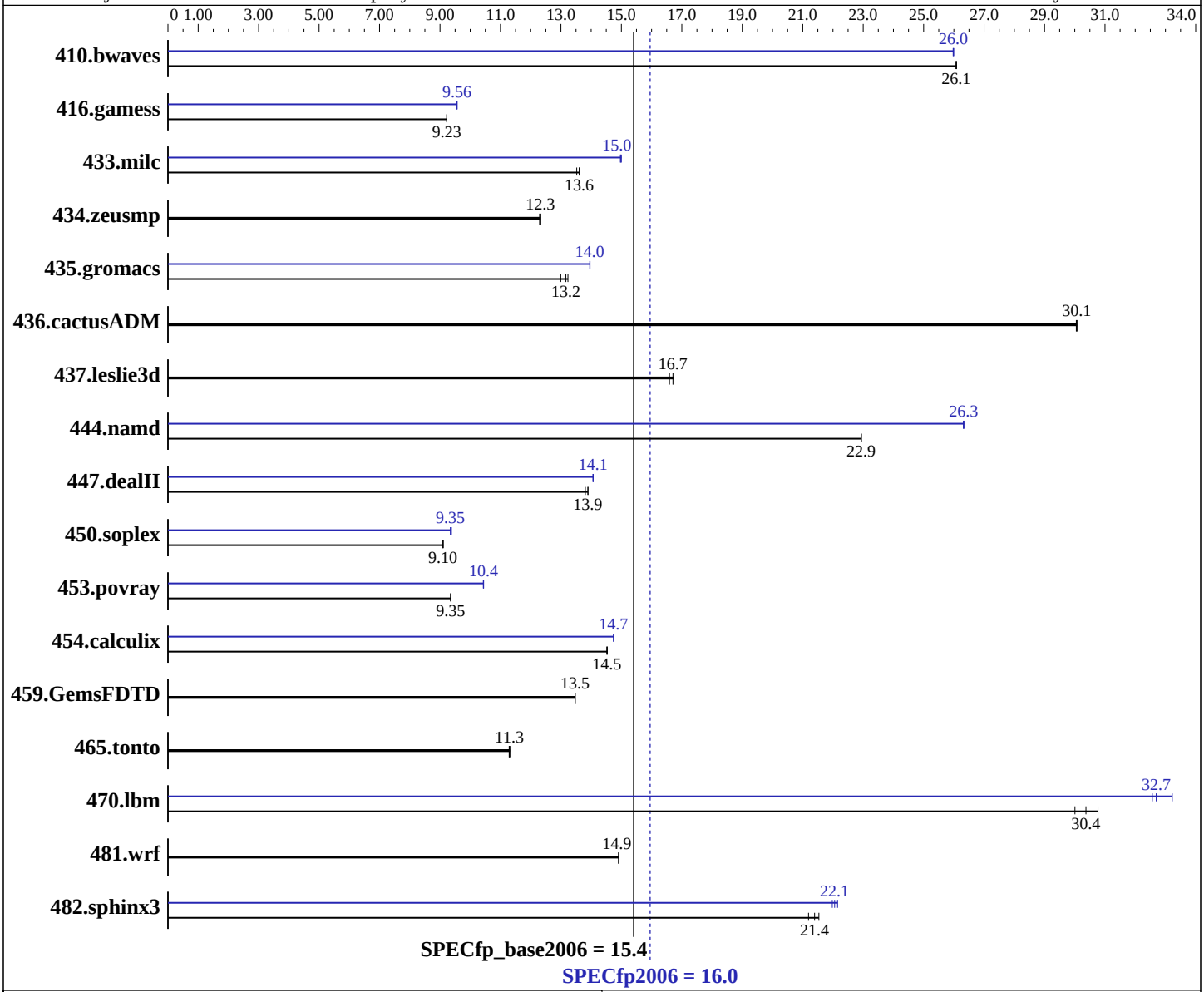
HP Integrity rx4640
(1.6GHz/24MB Dual-Core Intel Itanium 2)

SPECfp®2006 = 16.0

SPECfp_base2006 = 15.4

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Oct-2006
Hardware Availability: Sep-2006
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	**521**	**26.1**	521	26.1	521	26.1	523	26.0	523	26.0	**523**	**26.0**
416.gamess	**2122**	**9.23**	2123	9.22	2122	9.23	2047	9.56	2048	9.56	**2047**	**9.56**
433.milc	679	13.5	**675**	**13.6**	675	13.6	**613**	**15.0**	612	15.0	613	15.0
434.zeusmp	738	12.3	740	12.3	**739**	**12.3**	738	12.3	740	12.3	**739**	**12.3**
435.gromacs	**542**	**13.2**	540	13.2	549	13.0	**511**	**14.0**	512	14.0	511	14.0
436.cactusADM	397	30.1	**397**	**30.1**	398	30.1	397	30.1	**397**	**30.1**	398	30.1
437.leslie3d	**563**	**16.7**	562	16.7	567	16.6	**563**	**16.7**	562	16.7	567	16.6
444.namd	350	22.9	350	22.9	**350**	**22.9**	305	26.3	305	26.3	**305**	**26.3**
447.dealII	**823**	**13.9**	823	13.9	829	13.8	813	14.1	**813**	**14.1**	813	14.1
450.soplex	918	9.09	916	9.11	**917**	**9.10**	889	9.38	**892**	**9.35**	892	9.35
453.povray	569	9.36	569	9.35	**569**	**9.35**	509	10.4	**510**	**10.4**	510	10.4
454.calculix	568	14.5	**568**	**14.5**	568	14.5	560	14.7	559	14.7	**560**	**14.7**
459.GemsFDTD	788	13.5	**788**	**13.5**	788	13.5	788	13.5	**788**	**13.5**	788	13.5
465.tonto	872	11.3	870	11.3	**871**	**11.3**	872	11.3	870	11.3	**871**	**11.3**
470.lbm	447	30.8	**452**	**30.4**	458	30.0	414	33.2	**420**	**32.7**	422	32.6
481.wrf	749	14.9	**749**	**14.9**	749	14.9	749	14.9	**749**	**14.9**	749	14.9
482.sphinx3	905	21.5	**911**	**21.4**	920	21.2	880	22.2	887	22.0	**884**	**22.1**

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

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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

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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`

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

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