SPEC® CFP2006 Result

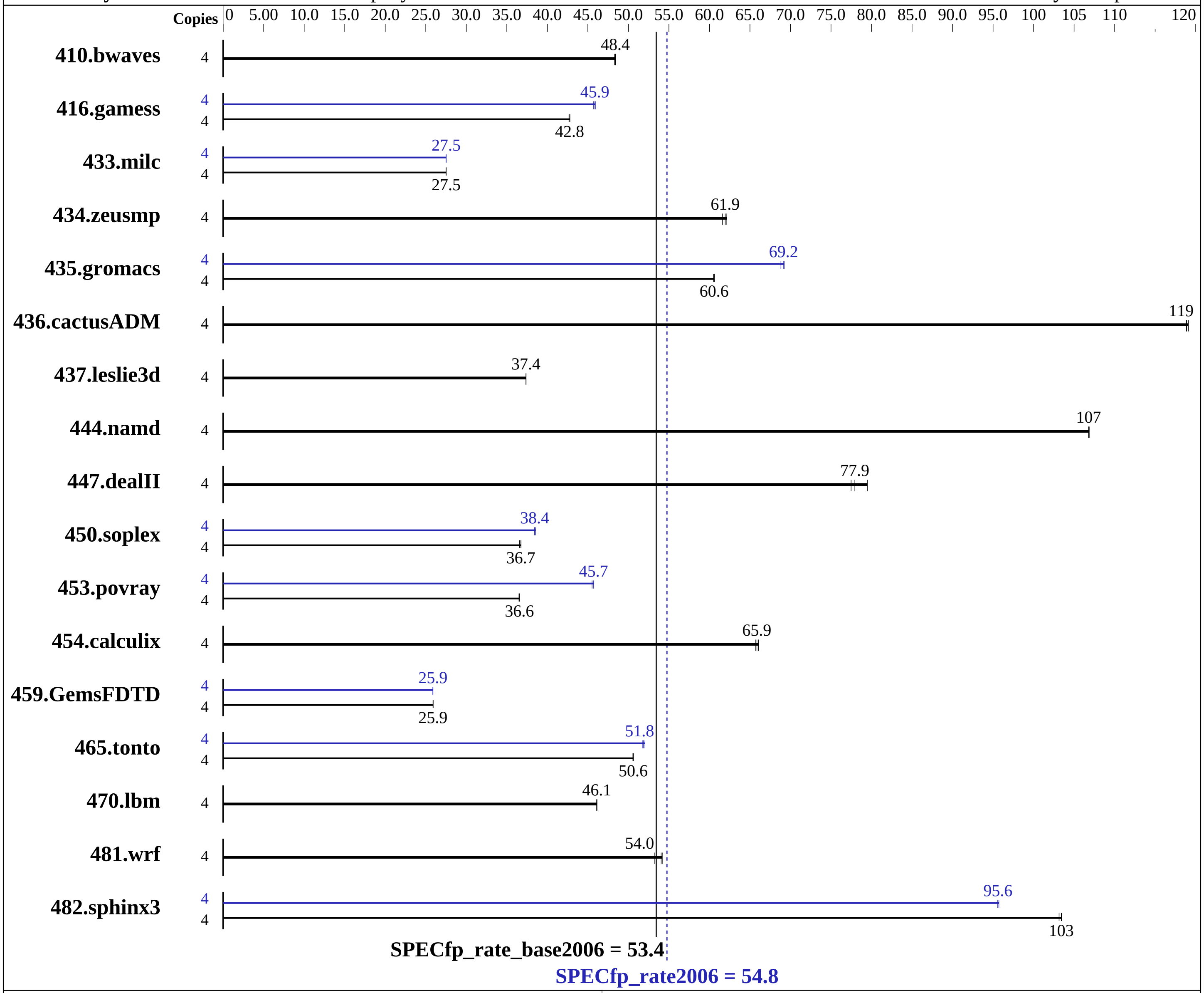
Hewlett-Packard Company

HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)

SPECfp®_rate2006 = 54.8

SPECfp_rate_base2006 = 53.4

CPU2006 license:	03	**Test date:**	Sep-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Nov-2007
Tested by:	Hewlett-Packard Company	**Software Availability:**	Sep-2007



Hardware

CPU Name:	Dual-Core Intel Itanium 9140M
CPU Characteristics:	1.66GHz/18MB, 667MHz FSB
CPU MHz:	1666
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip, 2 threads/core
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:	HPUX11i-MCOE B.11.31 (LR)
Compiler:	HP C/aC++ Developer's Bundle C.11.31.03 HP Fortran90 Compiler B.11.31.03
Auto Parallel:	No
File System:	vxfs
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	MicroQuill Smartheap 8.1

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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:	73GB 10K RPM SAS
Other Hardware:	None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1126	48.3	**1123**	**48.4**	1123	48.4	4	1126	48.3	**1123**	**48.4**	1123	48.4
416.gamess	4	1830	42.8	1835	42.7	**1832**	**42.8**	4	**1707**	**45.9**	1705	45.9	1713	45.7
433.milc	4	**1335**	**27.5**	1335	27.5	1334	27.5	4	**1334**	**27.5**	1334	27.5	1335	27.5
434.zeusmp	4	**588**	**61.9**	591	61.6	586	62.1	4	**588**	**61.9**	591	61.6	586	62.1
435.gromacs	4	**471**	**60.6**	471	60.6	472	60.5	4	415	68.8	**413**	**69.2**	413	69.2
436.cactusADM	4	402	119	401	119	**402**	**119**	4	402	119	401	119	**402**	**119**
437.leslie3d	4	**1006**	**37.4**	1006	37.4	1006	37.4	4	**1006**	**37.4**	1006	37.4	1006	37.4
444.namd	4	300	107	**300**	**107**	300	107	4	300	107	**300**	**107**	300	107
447.dealII	4	**587**	**77.9**	576	79.5	591	77.5	4	**587**	**77.9**	576	79.5	591	77.5
450.soplex	4	**908**	**36.7**	912	36.6	908	36.8	4	865	38.5	**868**	**38.4**	868	38.4
453.povray	4	582	36.6	583	36.5	**582**	**36.6**	4	467	45.5	**465**	**45.7**	465	45.7
454.calculix	4	**501**	**65.9**	500	66.1	503	65.7	4	**501**	**65.9**	500	66.1	503	65.7
459.GemsFDTD	4	1639	25.9	1638	25.9	**1639**	**25.9**	4	1639	25.9	1640	25.9	**1639**	**25.9**
465.tonto	4	**778**	**50.6**	777	50.6	779	50.6	4	756	52.0	761	51.7	**759**	**51.8**
470.lbm	4	1192	46.1	1193	46.1	**1192**	**46.1**	4	1192	46.1	1193	46.1	**1192**	**46.1**
481.wrf	4	**827**	**54.0**	840	53.2	825	54.2	4	**827**	**54.0**	840	53.2	825	54.2
482.sphinx3	4	756	103	**754**	**103**	754	103	4	815	95.7	**815**	**95.6**	816	95.6

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

Operating System Notes

```
The system had the September 2007 HP-UX 11i v3 Mission Critical
Operating Environment (MCOE) and compilers installed, along with
the following patches:

PHSS_36349  linker + fdp cumulative patch
PHSS_36351  Math Library Cumulative Patch
PHSS_36352  Integrity Unwind Library
PHSS_36350  aC++ Runtime (A.06.15)
PHSS_36354  assembler patch

The following kernel tunables were set, in addition to the defaults
set by the Mission Critical OE:

maxdsiz=3221225472
```

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Operating System Notes (Continued)

```
maxssiz=401604608
maxrsessiz=41943040
```

Base Compiler Invocation

C benchmarks:
`/opt/ansic/bin/cc -Ae`

C++ benchmarks:
`/opt/aCC/bin/aCC -Aa`

Fortran benchmarks:
`/opt/fortran90/bin/f90`

Benchmarks using both Fortran and C:
`/opt/ansic/bin/cc -Ae /opt/fortran90/bin/f90`

Base Portability Flags

453.povray: `-DSPEC_CPU_NEED_INVHYP`
481.wrf: `-DNOUNDERSCORE +noppu`

Base Optimization Flags

C benchmarks:
`+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N`

C++ benchmarks:
`+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N`

Fortran benchmarks:
`+Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N`

Benchmarks using both Fortran and C:
`+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N`

Peak Compiler Invocation

C benchmarks:
`/opt/ansic/bin/cc -Ae`

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Peak Compiler Invocation (Continued)

C++ benchmarks:
`/opt/aCC/bin/aCC -Aa`

Fortran benchmarks:
`/opt/fortran90/bin/f90`

Benchmarks using both Fortran and C:
`/opt/ansic/bin/cc -Ae /opt/fortran90/bin/f90`

Peak Portability Flags

453.povray: `-DSPEC_CPU_NEED_INVHYP`
481.wrf: `-DNOUNDERSCORE +noppu`

Peak Optimization Flags

C benchmarks:

433.milc: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap -Wl,-N`

470.lbm: `basepeak = yes`

482.sphinx3: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `basepeak = yes`

450.soplex: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap -Wl,-N`

453.povray: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

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Peak Optimization Flags (Continued)

416.gamess: `+Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Odataprefetch=direct -Wl,-N`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Odataprefetch=direct -Wl,-N`

465.tonto: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Odataprefetch=direct`

Benchmarks using both Fortran and C:

435.gromacs: `+Oprofile=collect:all`(pass 1) `+Oprofile=use`(pass 2) `+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap`

436.cactusADM: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.1.
Report generated on Tue Jul 22 14:19:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 November 2007.