SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

$SPECfp®\_rate2006 = 520$

$SPECfp\_rate\_base2006 = 508$

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

Test date: Apr-2010
Hardware Availability: Jul-2010
Software Availability: Mar-2010

Copies		
410.bwaves	32	618
416.gamess	32	345
	32	335
433.milc	32	414
	32	424
434.zeusmp	32	517
435.gromacs	32	576
	32	517
436.cactusADM	32	1180
437.leslie3d	32	521
444.namd	32	886
447.dealII	32	681
450.soplex	32	286
	32	277
453.povray	32	415
	32	327
454.calculix	32	566
459.GemsFDTD	32	364
	32	361
465.tonto	32	481
	32	482
470.lbm	32	376
481.wrf	32	533
482.sphinx3	32	641
	32	641

SPECfp_rate_base2006 = 508
SPECfp_rate2006 = 520

Hardware

CPU Name: Intel Itanium 9350
CPU Characteristics: Intel Turbo Boost Technology up to 1.86 GHz
CPU MHz: 1730
FPU: Integrated
CPU(s) enabled: 32 cores, 8 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable: 4, 8 chips
Primary Cache: 16 KB I + 16 KB D on chip per core
Secondary Cache: 512 KB I + 256 KB D on chip per core

Continued on next page

Software

Operating System: HP-UX 11i v3 Data Center Operating Environment B.11.31.1003
Compiler: HP C/aC++ Developer's Bundle C.11.31.05
HP Fortran 90 Compiler B.11.31.11
Auto Parallel: No
File System: vxfs
System State: Multi-user
Base Pointers: 32-bit
Peak Pointers: 32-bit

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

SPECfp_rate2006 =   520

SPECfp_rate_base2006 =   508

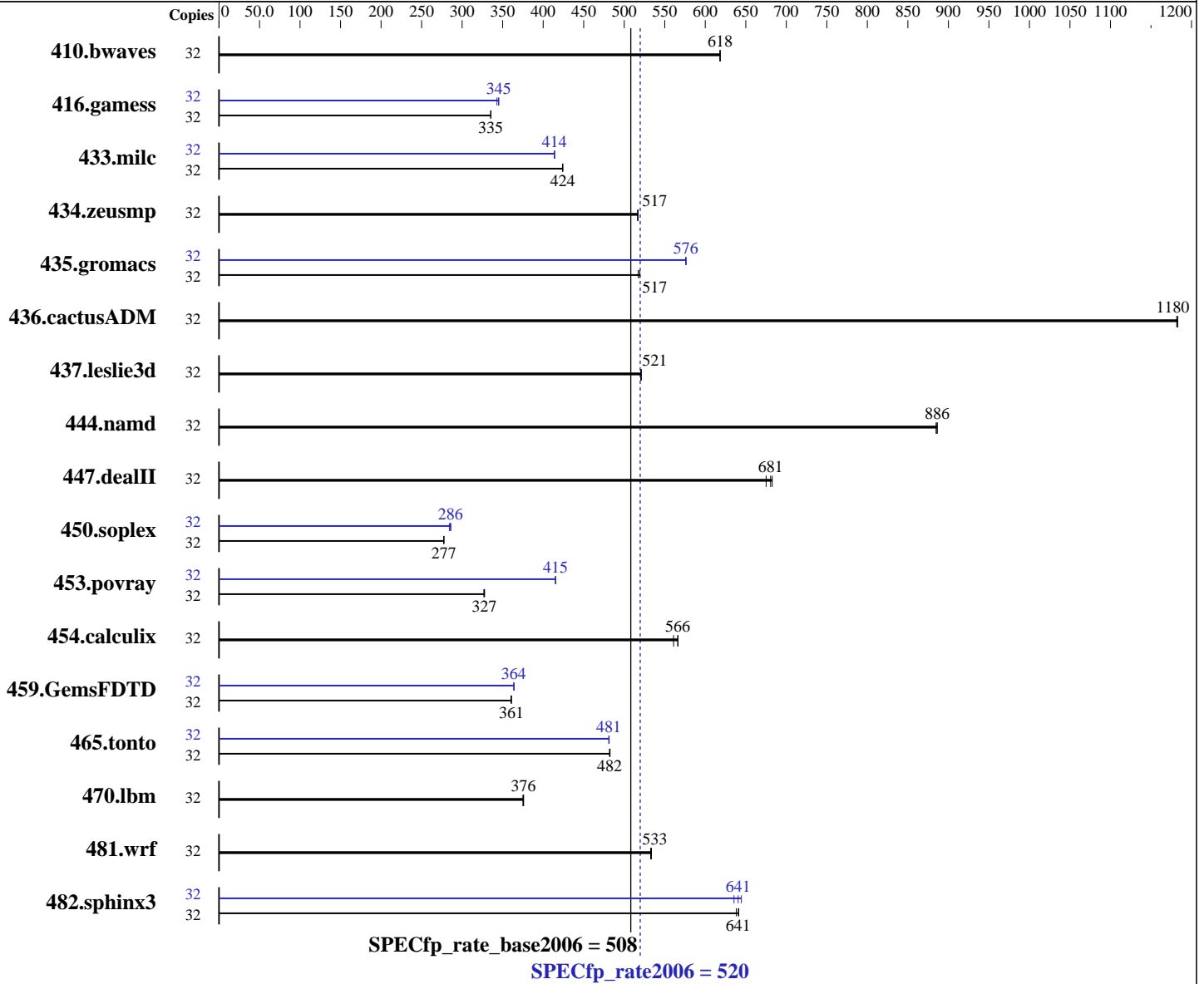|	
CPU2006 license: 03	**Test date:** Apr-2010
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Jul-2010
Tested by: Hewlett-Packard Company	**Software Availability:** Mar-2010

L3 Cache:	6 MB I+D on chip per core	Other Software:	MallocNextGen B.11.31.0903.02
Other Cache:	None		
Memory:	512 GB (64 x 8GB 2Rx4 PC3-10600R)		
Disk Subsystem:	4 x 73 GB 15K RPM SAS (1 OS, 3 SPEC)		
Other Hardware:	None		

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	32	703	618	**703**	**618**	704	618	32	703	618	**703**	**618**	704	618
416.gamess	32	1868	335	1869	335	**1868**	**335**	32	1815	345	1827	343	**1816**	**345**
433.milc	32	692	424	693	424	**693**	**424**	32	710	414	**709**	**414**	709	414
434.zeusmp	32	563	517	564	517	**563**	**517**	32	563	517	564	517	**563**	**517**
435.gromacs	32	442	517	440	519	**442**	**517**	32	396	576	397	576	**397**	**576**
436.cactusADM	32	323	1180	**323**	**1180**	324	1180	32	323	1180	**323**	**1180**	324	1180
437.leslie3d	32	**577**	**521**	577	521	578	521	32	**577**	**521**	577	521	578	521
444.namd	32	290	885	**290**	**886**	290	886	32	290	885	**290**	**886**	290	886
447.dealII	32	542	675	**538**	**681**	536	683	32	542	675	**538**	**681**	536	683
450.soplex	32	963	277	**962**	**277**	961	278	32	939	284	933	286	**934**	**286**
453.povray	32	521	327	**520**	**327**	519	328	32	410	415	410	415	**410**	**415**
454.calculix	32	471	561	**466**	**566**	466	566	32	471	561	**466**	**566**	466	566
459.GemsFDTD	32	941	361	943	360	**941**	**361**	32	933	364	**933**	**364**	933	364
465.tonto	32	653	483	653	482	**653**	**482**	32	655	481	654	481	**654**	**481**
470.lbm	32	1170	376	1173	375	**1170**	**376**	32	1170	376	1173	375	**1170**	**376**
481.wrf	32	**670**	**533**	671	533	670	534	32	**670**	**533**	671	533	670	534
482.sphinx3	32	977	638	**973**	**641**	972	641	32	981	635	**974**	**641**	968	645

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

Submit Notes

```
The config file option 'submit' was used.
The following config file entry was used to bind
processes to cores using the HP-UX "mpsched" utility:
submit = let "MYCPU=\$SPECCOPYNUM*2" ;mpsched -c \$MYCPU $command
```

Operating System Notes

```
The following kernel tunables were set, in addition to the
defaults set by the Base Operating Environment:

filecache_max=25%
filecache_min=25%
maxdsiz=3221225472
fcache_fb_policy=1
```

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

$SPECfp_rate2006 = $ 520

$SPECfp_rate_base2006 = $ 508

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

Test date: Apr-2010
Hardware Availability: Jul-2010
Software Availability: Mar-2010

Operating System Notes (Continued)

```
base_pagesize=64
pagezero_daemon_enabled=0
vxfs_ifree_timelag=-1
maxssiz=0x17f00000
lcpu_attr=0
numa_policy=4
```

Platform Notes

```
Use of Hardware Threading by the OS was disabled via kctune
```

Base Compiler Invocation

C benchmarks:
```
/opt/ansic/bin/cc -AC99
```

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

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

Benchmarks using both Fortran and C:
```
/opt/ansic/bin/cc -AC99 /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,-aarchive_shared -Wl,+pd,64M
-Wl,+pi,64K -Wl,-N
```

C++ benchmarks:
```
+Ofaster +Otype_safety=ansi -Wl,-aarchive_shared -Wl,+pd,64M
-Wl,+pi,64K -Wl,-N -lmallocng
```

Fortran benchmarks:
```
+Ofaster -Wl,-aarchive_shared -Wl,+pd,64M -Wl,+pi,64K -Wl,-N
```

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

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

$SPECfp_rate2006 = $ 520

$SPECfp_rate_base2006 = $ 508

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

Test date: Apr-2010
Hardware Availability: Jul-2010
Software Availability: Mar-2010

Peak Compiler Invocation

C benchmarks:
        /opt/ansic/bin/cc -AC99

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

Fortran benchmarks:
        /opt/fortran90/bin/f90

Benchmarks using both Fortran and C:
        /opt/ansic/bin/cc -AC99 /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: Same as 433.milc

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 -lmallocng

        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 -Wl,-N -lmallocng

Fortran benchmarks:

Hewlett-Packard Company

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

$SPECfp_rate2006 = $ 520

$SPECfp_rate_base2006 = $ 508

CPU2006 license: 03		**Test date:**	Apr-2010
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Jul-2010
Tested by:	Hewlett-Packard Company	**Software Availability:**	Mar-2010

Peak Optimization Flags (Continued)

```
    410.bwaves: basepeak = yes

    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: Same as 459.GemsFDTD
```

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 -Wl,-N

    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/Itanium-HPUX-1003-flags.20100511.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Itanium-HPUX-1003-flags.20100511.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 07:05:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 May 2010.