



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp®_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

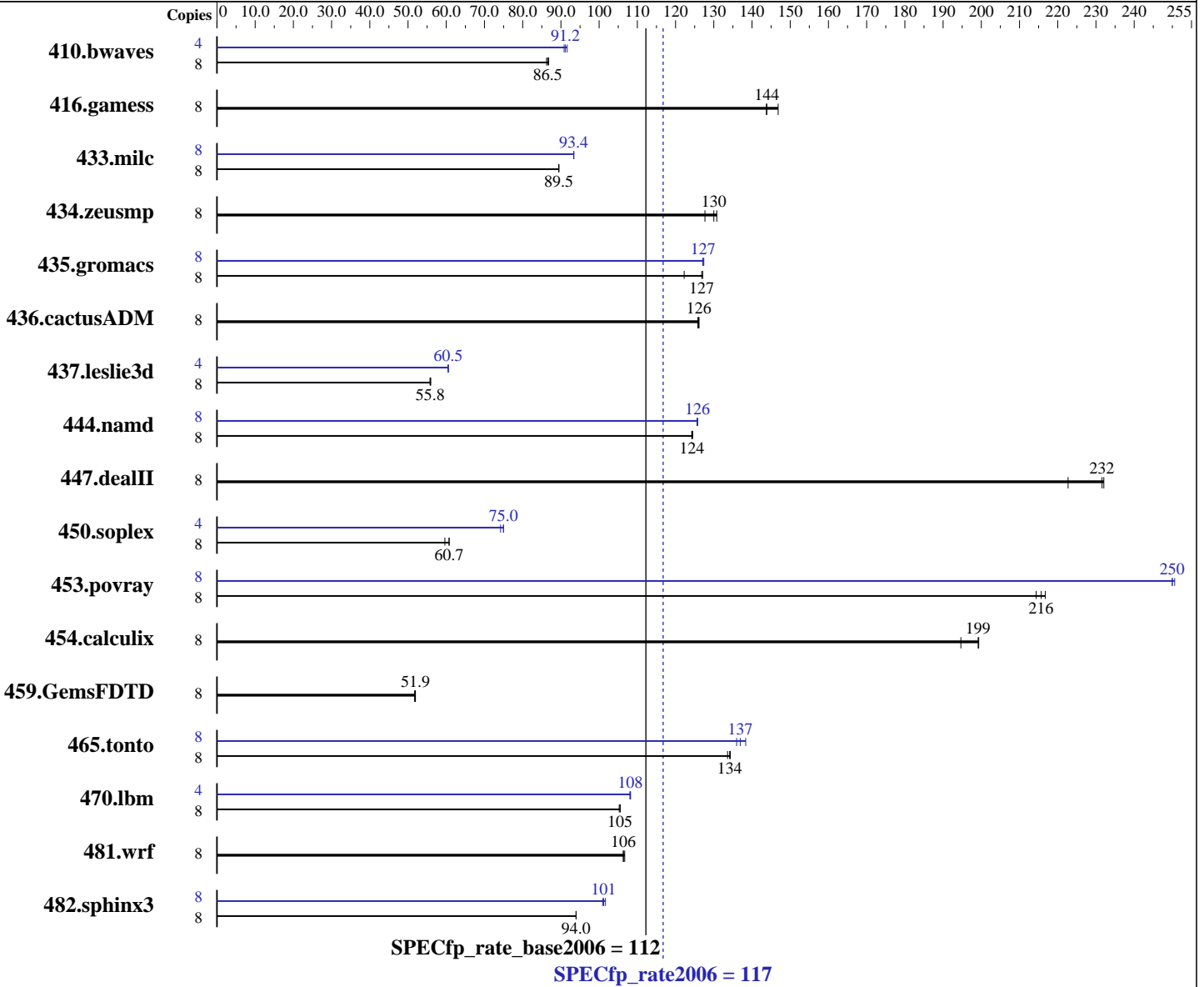
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: May-2011

Hardware Availability: Mar-2011

Software Availability: Dec-2010



Hardware

CPU Name: Intel Xeon E3-1280
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

Test date: May-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2010

L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB 2Rx8 PC3-10600E-9, ECC)
 Disk Subsystem: 1 x 250 GB 7.2 K SATA
 Other Hardware: None

Peak Pointers: 32/64-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	8	1260	86.3	1252	86.8	<u>1257</u>	<u>86.5</u>	4	598	90.8	593	91.6	<u>596</u>	<u>91.2</u>
416.gamess	8	1067	147	1089	144	<u>1089</u>	<u>144</u>	8	1067	147	1089	144	<u>1089</u>	<u>144</u>
433.milc	8	<u>821</u>	<u>89.5</u>	821	89.5	821	89.4	8	<u>787</u>	<u>93.4</u>	787	93.3	786	93.4
434.zeusmp	8	<u>560</u>	<u>130</u>	557	131	570	128	8	<u>560</u>	<u>130</u>	557	131	570	128
435.gromacs	8	449	127	467	122	<u>450</u>	<u>127</u>	8	<u>449</u>	<u>127</u>	448	127	449	127
436.cactusADM	8	758	126	<u>758</u>	<u>126</u>	760	126	8	758	126	<u>758</u>	<u>126</u>	760	126
437.leslie3d	8	1344	56.0	<u>1348</u>	<u>55.8</u>	1348	55.8	4	621	60.5	<u>621</u>	<u>60.5</u>	622	60.5
444.namd	8	516	124	<u>516</u>	<u>124</u>	515	124	8	511	126	<u>510</u>	<u>126</u>	510	126
447.dealII	8	<u>395</u>	<u>232</u>	411	223	394	232	8	<u>395</u>	<u>232</u>	411	223	394	232
450.soplex	8	1119	59.6	1098	60.8	<u>1099</u>	<u>60.7</u>	4	450	74.2	<u>445</u>	<u>75.0</u>	445	75.0
453.povray	8	<u>197</u>	<u>216</u>	196	217	199	214	8	170	250	170	251	<u>170</u>	<u>250</u>
454.calculix	8	331	199	<u>331</u>	<u>199</u>	339	195	8	331	199	<u>331</u>	<u>199</u>	339	195
459.GemsFDTD	8	1641	51.7	1634	51.9	<u>1635</u>	<u>51.9</u>	8	1641	51.7	1634	51.9	<u>1635</u>	<u>51.9</u>
465.tonto	8	<u>587</u>	<u>134</u>	586	134	589	134	8	569	138	<u>575</u>	<u>137</u>	579	136
470.lbm	8	<u>1042</u>	<u>105</u>	1042	106	1044	105	4	<u>508</u>	<u>108</u>	508	108	509	108
481.wrf	8	838	107	<u>840</u>	<u>106</u>	840	106	8	838	107	<u>840</u>	<u>106</u>	840	106
482.sphinx3	8	1659	94.0	<u>1659</u>	<u>94.0</u>	1659	94.0	8	1534	102	1545	101	<u>1541</u>	<u>101</u>

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

Submit Notes

numactl was used to bind copies to the cores
 The config file option 'submit' was used.

Operating System Notes

```
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
echo 3600 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

Test date: May-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2010

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling

General Notes

Binaries compiled on RHEL5.5

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

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_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

Test date: May-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2010

Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -ansi-alias`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -static -ansi-alias`

Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m64`

450.soplex: `icpc -m32`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

Peak 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`
 453.povray: `-DSPEC_CPU_LP64`
 454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
 459.GemsFDTD: `-DSPEC_CPU_LP64`
 465.tonto: `-DSPEC_CPU_LP64`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

Test date: May-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2010

Peak Portability Flags (Continued)

470.lbm: -DSPEC_CPU_LP64

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
-ansi-alias -opt-prefetch -auto-ilp32

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECfp_rate2006 = 117

ProLiant ML110 G7 (3.50 GHz Intel Xeon E3-1280)

SPECfp_rate_base2006 = 112

CPU2006 license: 3

Test date: May-2011

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2010

Peak Optimization Flags (Continued)

465.tonto (continued):

`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

Benchmarks using both Fortran and C:

435.gromacs: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-static -auto-ilp32`

436.cactusADM: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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 20:26:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 24 May 2011.