



SPEC[®] CFP2006 Result

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Hewlett-Packard Company

SPECfp[®]_rate2006 = 254

ProLiant DL380 G7
(3.33 GHz, Intel Xeon X5680)

SPECfp_rate_base2006 = 247

CPU2006 license: 3

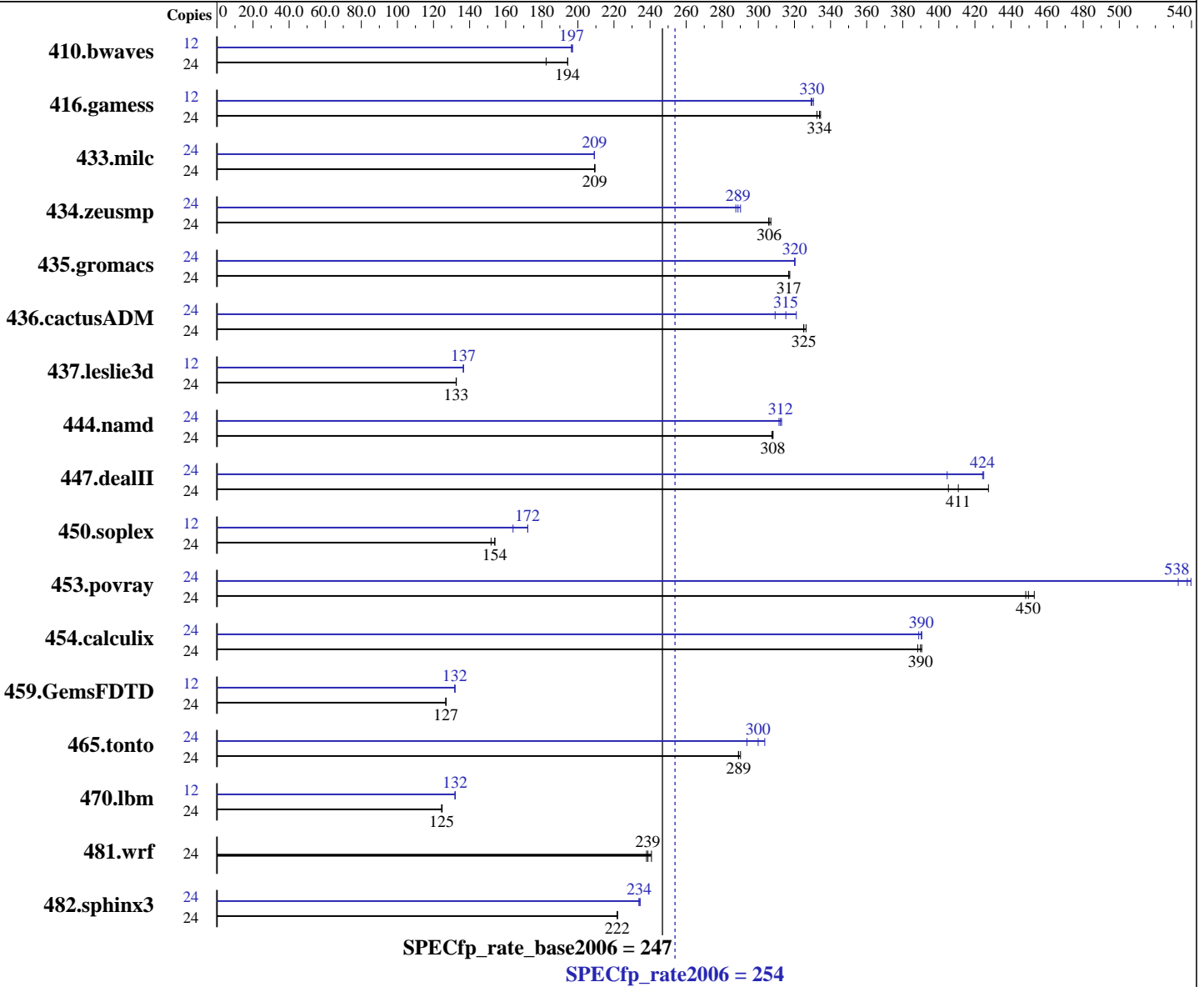
Test date: Apr-2010

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jun-2010

Tested by: Hewlett-Packard Company

Software Availability: Sep-2009



Hardware

CPU Name: Intel Xeon X5680
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3333
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: Red Hat Enterprise Linux Server release 5.4, Advanced Platform Kernel 2.6.18-164.el5
 Compiler: Intel C++ and Fortran Compiler 11.1 for Linux Build 20090827 Package ID: L_cproc_p_11.1.056, L_cprof_p_11.1.056
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12x4 GB PC33-10600R CL9)
Disk Subsystem: 2 x 146 GB 10 K SAS
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.18

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	24	1788	182	1678	194	<u>1679</u>	<u>194</u>	12	830	196	827	197	<u>829</u>	<u>197</u>		
416.gamess	24	1413	332	<u>1408</u>	<u>334</u>	1405	334	12	714	329	<u>713</u>	<u>330</u>	711	331		
433.milc	24	1052	209	<u>1053</u>	<u>209</u>	1053	209	24	1054	209	<u>1053</u>	<u>209</u>	1053	209		
434.zeusmp	24	<u>714</u>	<u>306</u>	712	307	715	306	24	<u>756</u>	<u>289</u>	753	290	760	288		
435.gromacs	24	<u>541</u>	<u>317</u>	541	317	540	317	24	<u>535</u>	<u>320</u>	535	320	535	320		
436.cactusADM	24	<u>882</u>	<u>325</u>	882	325	879	326	24	<u>910</u>	<u>315</u>	927	309	893	321		
437.leslie3d	24	1702	133	<u>1702</u>	<u>133</u>	1701	133	12	<u>826</u>	<u>137</u>	825	137	826	137		
444.namd	24	625	308	<u>625</u>	<u>308</u>	626	307	24	618	311	<u>616</u>	<u>312</u>	615	313		
447.dealII	24	642	428	677	405	<u>668</u>	<u>411</u>	24	679	405	<u>647</u>	<u>424</u>	646	425		
450.soplex	24	1318	152	<u>1300</u>	<u>154</u>	1300	154	12	610	164	<u>581</u>	<u>172</u>	581	172		
453.povray	24	<u>284</u>	<u>450</u>	285	448	282	453	24	240	533	237	540	<u>237</u>	<u>538</u>		
454.calculix	24	<u>508</u>	<u>390</u>	507	391	510	388	24	<u>507</u>	<u>390</u>	509	389	507	391		
459.GemsFDTD	24	<u>2007</u>	<u>127</u>	2005	127	2008	127	12	<u>966</u>	<u>132</u>	966	132	965	132		
465.tonto	24	<u>817</u>	<u>289</u>	817	289	814	290	24	804	294	<u>787</u>	<u>300</u>	778	304		
470.lbm	24	2642	125	<u>2646</u>	<u>125</u>	2649	124	12	1250	132	<u>1249</u>	<u>132</u>	1249	132		
481.wrf	24	1113	241	1126	238	<u>1123</u>	<u>239</u>	24	1113	241	1126	238	<u>1123</u>	<u>239</u>		
482.sphinx3	24	<u>2108</u>	<u>222</u>	2109	222	2108	222	24	1994	235	2000	234	<u>1999</u>	<u>234</u>		

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.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling
Memory Speed with 2 DIMMs per Channel set to 1333Mhz Maximum

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Platform Notes (Continued)

Data Reuse set to Disabled

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Peak Compiler Invocation

C benchmarks (except as noted below):

`icc`

`482.sphinx3: icc -m32`

C++ benchmarks (except as noted below):

`icpc`

`450.soplex: /opt/intel/Compiler/11.1/056/bin/intel64/icpc -m32`

Fortran benchmarks (except as noted below):

`ifort`

`437.leslie3d: ifort -m32`

Benchmarks using both Fortran and C:

`icc ifort`

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`
 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`
 470.lbm: `-DSPEC_CPU_LP64`
 481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

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Peak Optimization Flags (Continued)

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -opt-prefetch

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -auto

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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-ic11.1-linux64-revF.20100511.html>
<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100511.01.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.20100511.xml>
<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100511.01.xml>

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For other inquiries, please contact webmaster@spec.org.

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