



SPEC® CFP2006 Result

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Hewlett-Packard Company

SPECfp®_rate2006 = 252

ProLiant SL390s G7
(3.33 GHz, Intel Xeon X5680)

SPECfp_rate_base2006 = 244

CPU2006 license: 3

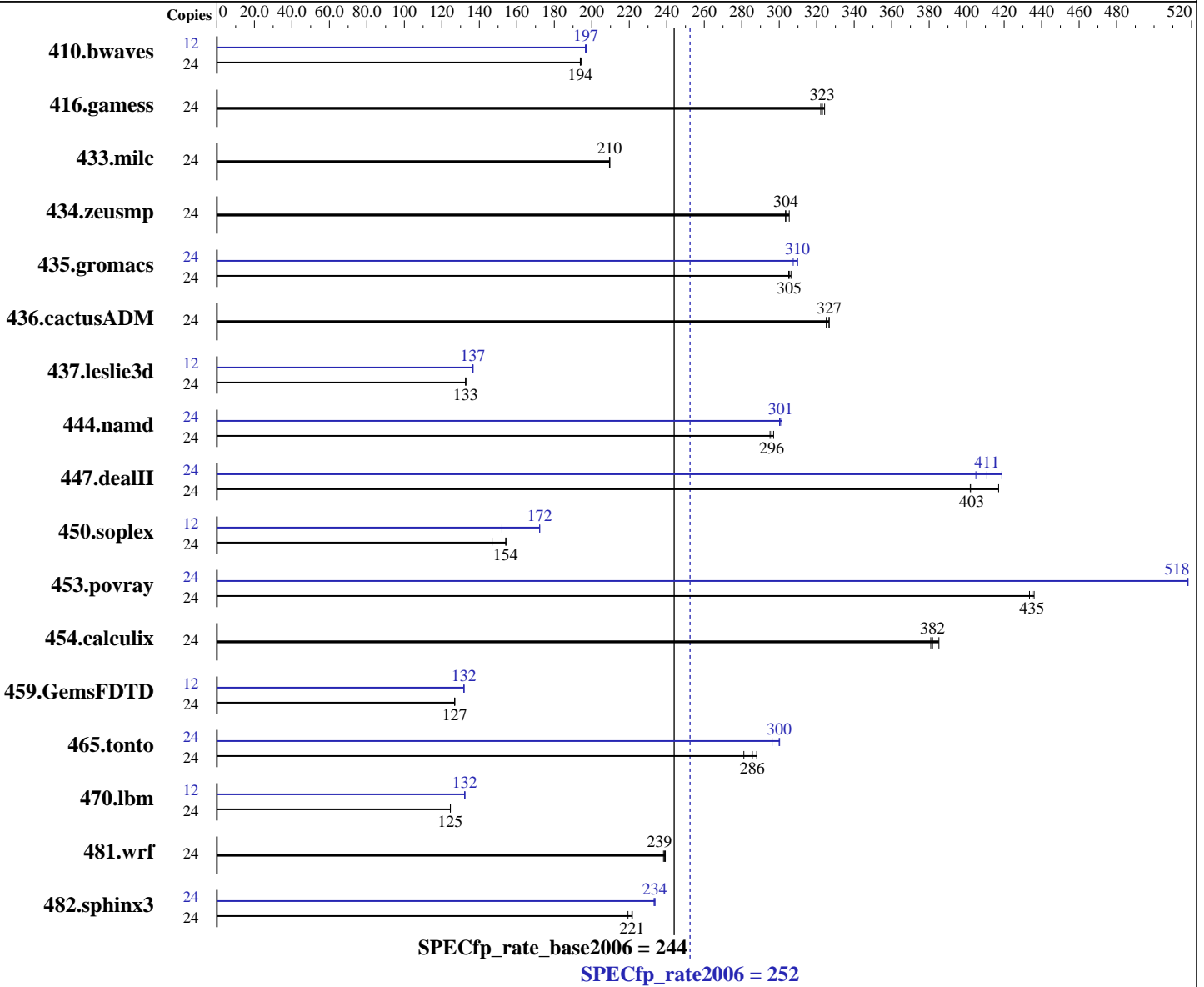
Test date: Nov-2010

Test sponsor: Hewlett-Packard Company

Hardware Availability: Oct-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 with patch RHSA-2009:1670, Kernel 2.6.18-164.9.1.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)

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 120 GB 5.4 K SATA
Other Hardware: None

Base Pointers: 64-bit
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	1682	194	1679	194	<u>1682</u>	<u>194</u>	12	829	197	828	197	<u>828</u>	<u>197</u>
416.gamess	24	1449	324	1459	322	<u>1455</u>	<u>323</u>	24	1449	324	1459	322	<u>1455</u>	<u>323</u>
433.milc	24	1052	209	<u>1052</u>	<u>210</u>	1051	210	24	1052	209	<u>1052</u>	<u>210</u>	1051	210
434.zeusmp	24	715	305	720	303	<u>720</u>	<u>304</u>	24	715	305	720	303	<u>720</u>	<u>304</u>
435.gromacs	24	562	305	560	306	<u>561</u>	<u>305</u>	24	557	307	<u>553</u>	<u>310</u>	553	310
436.cactusADM	24	878	327	<u>878</u>	<u>327</u>	882	325	24	878	327	<u>878</u>	<u>327</u>	882	325
437.leslie3d	24	<u>1700</u>	<u>133</u>	1699	133	1700	133	12	826	137	<u>826</u>	<u>137</u>	825	137
444.namd	24	652	295	<u>650</u>	<u>296</u>	648	297	24	641	300	639	301	<u>640</u>	<u>301</u>
447.dealII	24	658	417	<u>682</u>	<u>403</u>	683	402	24	678	405	656	419	<u>668</u>	<u>411</u>
450.soplex	24	1363	147	1298	154	<u>1299</u>	<u>154</u>	12	658	152	581	172	<u>581</u>	<u>172</u>
453.povray	24	295	434	293	436	<u>294</u>	<u>435</u>	24	247	518	246	518	<u>246</u>	<u>518</u>
454.calculix	24	514	385	520	381	<u>519</u>	<u>382</u>	24	514	385	520	381	<u>519</u>	<u>382</u>
459.GemsFDTD	24	<u>2007</u>	<u>127</u>	2008	127	2007	127	12	966	132	966	132	<u>966</u>	<u>132</u>
465.tonto	24	<u>827</u>	<u>286</u>	820	288	840	281	24	797	296	<u>787</u>	<u>300</u>	787	300
470.lbm	24	2647	125	2648	125	<u>2648</u>	<u>125</u>	12	1248	132	<u>1247</u>	<u>132</u>	1246	132
481.wrf	24	1125	238	<u>1122</u>	<u>239</u>	1120	239	24	1125	238	<u>1122</u>	<u>239</u>	1120	239
482.sphinx3	24	2133	219	<u>2113</u>	<u>221</u>	2111	222	24	2006	233	2001	234	<u>2003</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
Data Reuse set to Disabled



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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

Benchmarks using both Fortran and C:

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



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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.deallI: -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:

433.milc: basepeak = yes

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

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Peak Optimization Flags (Continued)

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.dealIII: -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: basepeak = yes

434.zeusmp: basepeak = yes

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

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: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes



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

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.html>

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

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

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.xml>

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

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