



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp®_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

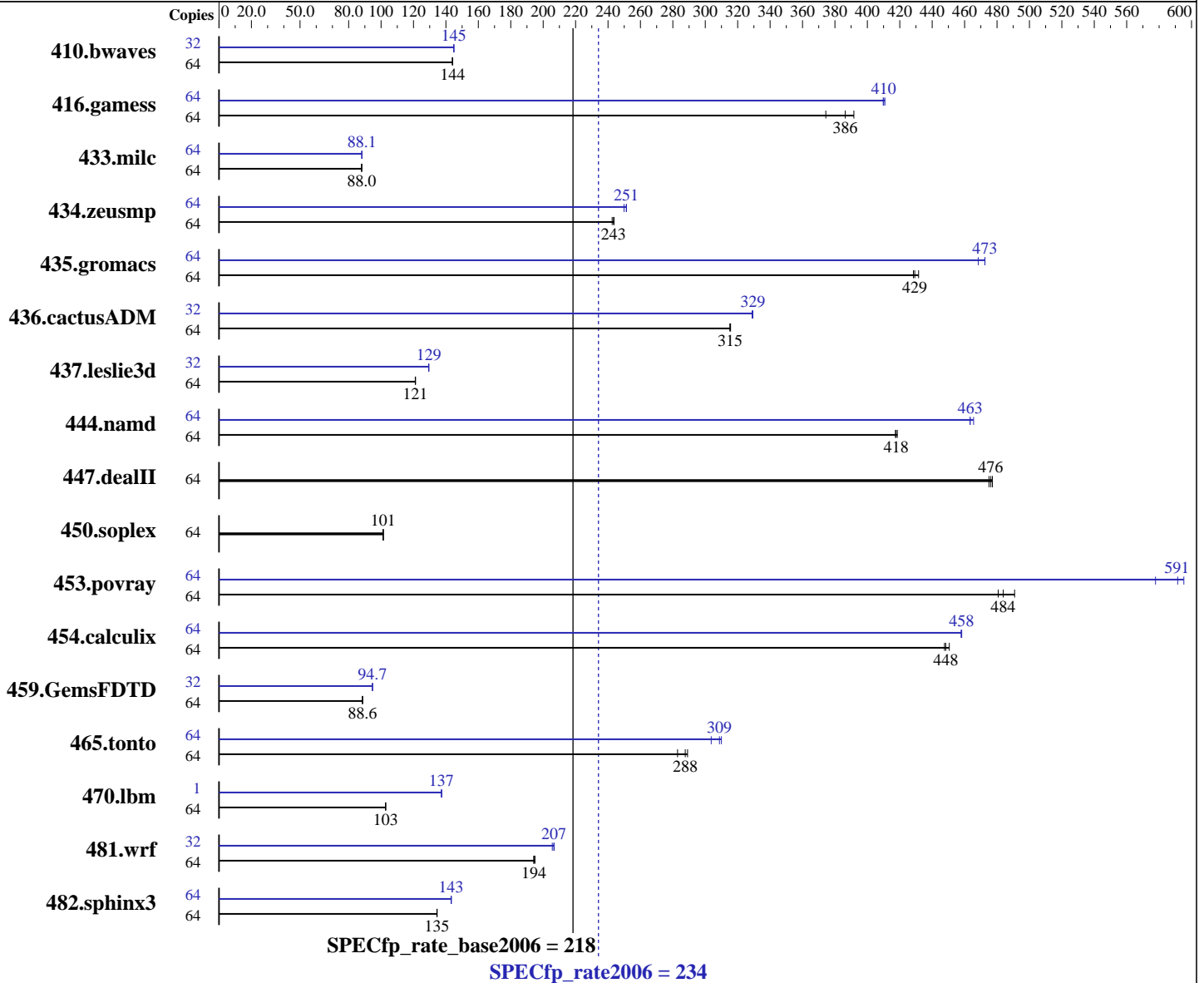
Test date: Sep-2009

Test sponsor: Sun Microsystems

Hardware Availability: Nov-2009

Tested by: Sun Microsystems

Software Availability: Oct-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2530
 FPU: Integrated
 CPU(s) enabled: 32 cores, 8 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 4 CPUMs; each CPUM contains 2 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5632 KB I+D on chip per chip

Continued on next page

Software

Operating System: Solaris 10 10/09 (s10s_u8wos_06)
 Compiler: Sun Studio 12 Update 1 plus patches (see notes)
 Auto Parallel: Yes
 File System: zfs
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: None



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Sep-2009
Hardware Availability: Nov-2009
Software Availability: Oct-2009

L3 Cache: None
Other Cache: None
Memory: 128 GB (64 x 2 GB), 8-way interleaved
Disk Subsystem: 536 GB (zfs 8 x 3-way mirrors) on
24 x 73GB 15000RPM FC-AL disks
in 2 x SE3510 enclosures
Other Hardware: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	64	6043	144	6034	144	6035	144	32	3001	145	3002	145	3001	145
416.gamess	64	3199	392	3347	374	3243	386	64	3058	410	3050	411	3056	410
433.milc	64	6674	88.0	6676	88.0	6672	88.1	64	6665	88.2	6667	88.1	6665	88.1
434.zeusmp	64	2393	243	2401	243	2390	244	64	2318	251	2317	251	2331	250
435.gromacs	64	1065	429	1067	428	1059	432	64	967	473	967	473	976	468
436.cactusADM	64	2423	316	2425	315	2426	315	32	1163	329	1161	329	1161	329
437.leslie3d	64	4968	121	4966	121	4961	121	32	2324	129	2323	129	2325	129
444.namd	64	1230	417	1227	418	1229	418	64	1108	463	1103	466	1108	463
447.dealII	64	1538	476	1541	475	1534	477	64	1538	476	1541	475	1534	477
450.soplex	64	5262	101	5273	101	5270	101	64	5262	101	5273	101	5270	101
453.povray	64	694	491	704	484	708	481	64	589	578	572	595	576	591
454.calculix	64	1172	451	1180	448	1178	448	64	1152	458	1152	458	1153	458
459.GemsFDTD	64	7677	88.5	7667	88.6	7666	88.6	32	3584	94.7	3587	94.7	3587	94.7
465.tonto	64	2226	283	2179	289	2189	288	64	2040	309	2032	310	2074	304
470.lbm	64	8553	103	8555	103	8553	103	1	100	137	100	137	100	137
481.wrf	64	3667	195	3681	194	3679	194	32	1738	206	1730	207	1729	207
482.sphinx3	64	9272	135	9269	135	9279	134	64	8712	143	8710	143	8698	143

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

Compiler Invocation Notes

Sun Studio 12 Update 1 was used, plus patch 119963-17

Sun Studio compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12u1_patches.jsp

Submit Notes

Processes were assigned to specific processors using 'pbind' commands. The config file option 'submit' was used, along with a list of processors in the 'BIND' variable, to generate the pbind commands. (For details, please see the config file.)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Oct-2009

Operating System Notes

ulimit -s 131072 was used to allow the stack to grow up to 131072 KB (aka 128 MB). Note that saying "131072" is preferable to "unlimited", because there is a tradeoff between space for the stack vs. space for the heap.

System Tunables (/etc/system parameters):

tune_t_fsflushr=10

Controls how many seconds elapse between runs of the page flush daemon, fsflush.

autoup=600

Causes pages older than the listed number of seconds to be written by fsflush.

zfs:zfs_arc_max = 0x10000000

Control the amount of memory used by ZFS for caching

lpg_alloc_prefer=1

Prefer local pages, even if not easily available

Other System Settings:

The webconsole service was turned off using
svcadm disable webconsole

The system had 50 GB of swap space

Platform Notes

Memory is 8-way interleaved by filling all slots with the same capacity DIMMs.

This result is measured on a Sun SPARC Enterprise M5000 Server. The Sun SPARC Enterprise M5000 and the Fujitsu SPARC Enterprise M5000 are electrically equivalent.

General Notes

Environment variables set by runspec before the start of the run:

OMP_NUM_THREADS = "64"

SUNW_MP_PROCBIND = "true"

SUNW_MP_THR_IDLE = "SPIN"

447.dealII (peak): "apache_stdctx_4_2_1" src.alt was used.

447.dealII (base): "apache_stdctx_4_2_1" src.alt was used.



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Oct-2009

Base Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Fortran benchmarks:

f90

Benchmarks using both Fortran and C:

cc f90

Base Optimization Flags

C benchmarks:

-fast -fma=fused -xipo=2 -xpagesize=4M -xalias_level=std
-xprefetch_auto_type=indirect_array_access -xprefetch_level=3

C++ benchmarks:

-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=compatible -xprefetch=latx:0.5 -library=no%Cstd
-I/export/home/apache/stdcxx-4.2.1/include
-I/export/home/apache/stdcxx-4.2.1/build/include
-L/export/home/apache/stdcxx-4.2.1/build/lib
-R/export/home/apache/stdcxx-4.2.1/build/lib -lstd8d

Fortran benchmarks:

-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2

Benchmarks using both Fortran and C:

-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xprefetch_level=2

Base Other Flags

C benchmarks:

-xjobs=32 -V -#

C++ benchmarks:

-xjobs=32 -verbose=diags,version

Fortran benchmarks:

-xjobs=32 -V -v

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Oct-2009

Base Other Flags (Continued)

Benchmarks using both Fortran and C:
-xjobs=32 -V -# -v

Peak Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Fortran benchmarks:

f90

Benchmarks using both Fortran and C:

cc f90

Peak Optimization Flags

C benchmarks:

433.milc: -fast -xpagesize=4M -fma=fused -xipo=2 -xprefetch_level=2
-fsimple=1 -xprefetch_auto_type=indirect_array_access
-W2,-Ainline:rs=400 -xalias_level=std

470.lbm: -fast -xpagesize=4M -xprefetch_level=3 -xipo=2 -fma=fused
-xvector -xarch=generic -xautopar -xreduction

482.sphinx3: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xipo=2 -xinline= -xprefetch=no%auto
-xalias_level=strong -lfast -ll2amm

C++ benchmarks:

444.namd: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -library=stlport4 -fma=fused
-xipo=2 -xprefetch=no%auto -xlinkopt=2

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -library=stlport4 -xipo=2

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Oct-2009

Peak Optimization Flags (Continued)

453.povray (continued):

-xlinkopt=2

Fortran benchmarks:

410.bwaves: -fast -xpagesize=4M -fma=fused -xipo=2 -xprefetch_level=2

416.gamess: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xipo=2 -xprefetch=no%auto

434.zeusmp: -fast -xpagesize=4M -fma=fused -xipo=2 -xprefetch_level=1
-ll2amm

437.leslie3d: -fast -xpagesize=4M -xprefetch=no

459.GemsFDTD: -fast -xpagesize=4M -fma=fused -fsimple=1 -xprefetch=no

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch=no -lfast -ll2amm

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xpagesize=4M -fma=fused -xipo=2 -xchip=generic -xinline=
-fsimple=0

436.cactusADM: -fast(cc) -fast(f90) -xpagesize=4M -fma=fused -xipo=2
-xprefetch=latx:0.7 -fsimple=1

454.calculix: -fast(cc) -fast(f90) -xpagesize=4M -fma=fused -xipo=2
-xprefetch_level=1 -xalias_level=std
-xprefetch_auto_type=indirect_array_access

481.wrf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-xpagesize=4M -xipo=2 -xprefetch_level=2

Peak Other Flags

C benchmarks:

-xjobs=32 -V -#

C++ benchmarks:

-xjobs=32 -verbose=diags,version

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems

SPECfp_rate2006 = 234

Sun SPARC Enterprise M5000

SPECfp_rate_base2006 = 218

CPU2006 license: 6

Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Oct-2009

Peak Other Flags (Continued)

Fortran benchmarks:

-xjobs=32 -V -v

Benchmarks using both Fortran and C:

-xjobs=32 -V -# -v

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.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 04:24:10 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 28 October 2009.