SPEC® CFP2006 Result

SGI

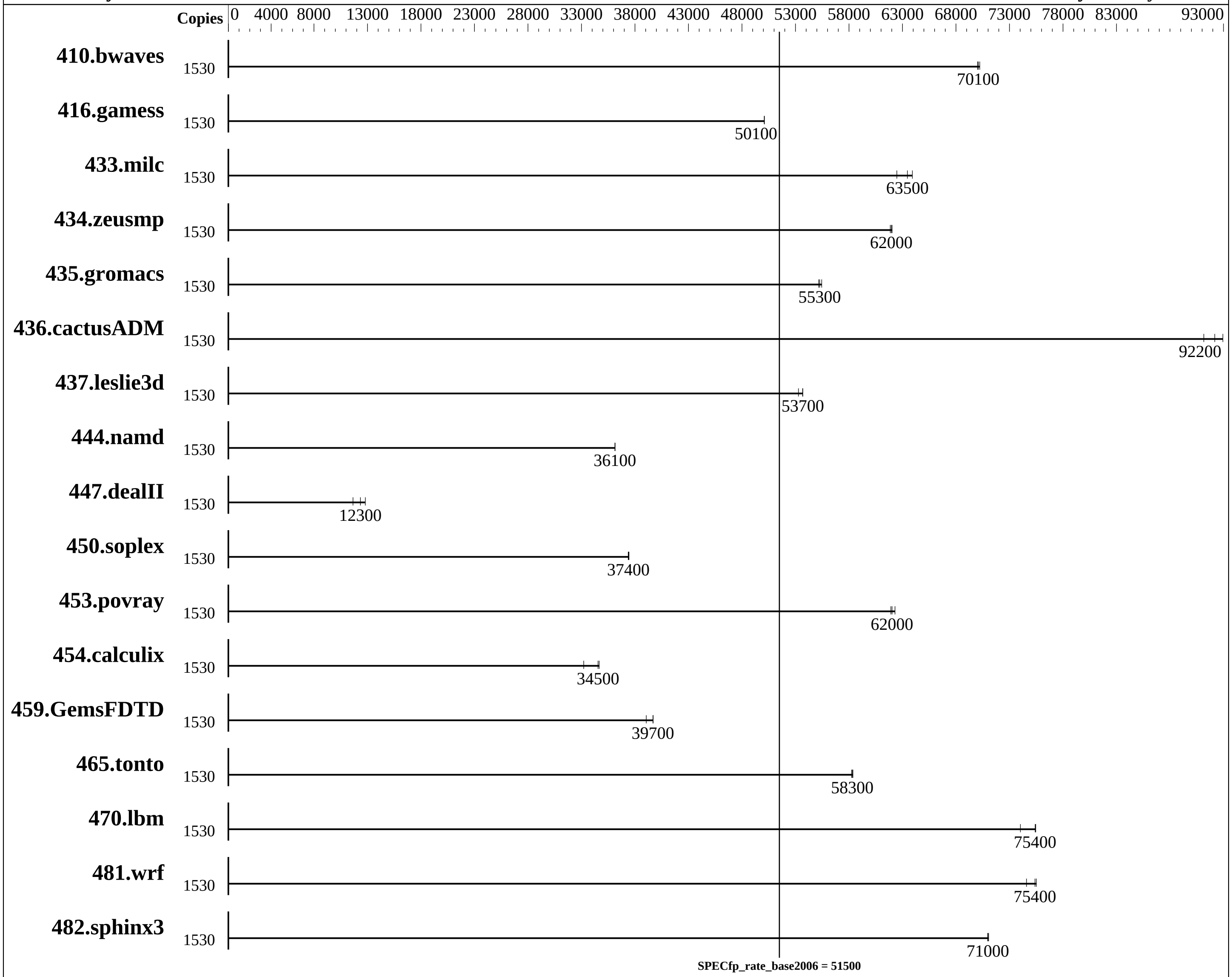
(Test Sponsor: Japan Advanced Institute of Science and Technology)

SGI UV 3000 (Intel Xeon E5-4655 v3, 2.90 GHz)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 51500

CPU2006 license: 4		**Test date:**	Aug-2016
Test sponsor:	Japan Advanced Institute of Science and Technology	**Hardware Availability:**	Sep-2015
Tested by:	SGI	**Software Availability:**	May-2016



Hardware

CPU Name:	Intel Xeon E5-4655 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz:	2900
FPU:	Integrated
CPU(s) enabled:	1536 cores, 256 chips, 6 cores/chip
CPU(s) orderable:	4-256 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:	SUSE Linux Enterprise Server 12 (x86_64) SP1, Kernel 3.12.48-52.27-default
Compiler:	C/C++: Version 16.0.2.181 of Intel C++ Studio XE for Linux; Fortran: Version 16.0.2.181 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	tmpfs
System State:	Run level 3 (multi-user)

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L3 Cache:	30 MB I+D on chip per chip	Base Pointers:	32/64-bit
Other Cache:	None	Peak Pointers:	Not Applicable
Memory:	32 TB (2048 x 16 GB 2Rx4 PC4-2133P-R)	Other Software:	None
Disk Subsystem:	32640 GB tmpfs		
Other Hardware:	NUMAlink6 routers		

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	1530	**297**	**70100**	296	70200	297	70000							
416.gamess	1530	**598**	**50100**	598	50100	598	50100							
433.milc	1530	**221**	**63500**	225	62500	220	63900							
434.zeusmp	1530	225	61900	**225**	**62000**	224	62000							
435.gromacs	1530	**198**	**55300**	197	55500	198	55200							
436.cactusADM	1530	**198**	**92200**	197	92900	201	91200							
437.leslie3d	1530	268	53700	**268**	**53700**	270	53300							
444.namd	1530	**340**	**36100**	340	36100	340	36100							
447.dealII	1530	1367	12800	**1418**	**12300**	1503	11600							
450.soplex	1530	341	37400	341	37400	**341**	**37400**							
453.povray	1530	**131**	**62000**	131	62300	131	61900							
454.calculix	1530	**365**	**34500**	364	34700	380	33200							
459.GemsFDTD	1530	416	39100	**409**	**39700**	409	39700							
465.tonto	1530	**258**	**58300**	258	58200	258	58400							
470.lbm	1530	284	74000	**279**	**75400**	279	75500							
481.wrf	1530	226	75500	**227**	**75400**	229	74600							
482.sphinx3	1530	420	71000	420	71000	**420**	**71000**							

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

Submit Notes

```
The dplace mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate dplace commands to bind each copy to a specific processor.
Benchmark copies were launched in a staggered fashion to minimize kernel contention
associated with synchronized launches.
For details, please see the config file.
```

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"

The tmpfs filesystem was set up with:
  mkdir -p /mnt/shm/cpu2006-sgi-ic16
  mount -t tmpfs -o rw,size=32640g,mpol=bind:1-255 tmpfs /mnt/shm/cpu2006-sgi-ic16
```

Platform Notes

```
Intel Hyperthreading set to Disabled
The dmidecode output is in error - There were 2048 memory DIMMs running at 2133.
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/mnt/shm/cpu2006-sgi-ic16/libs/32:/mnt/shm/cpu2006-sgi-ic16/libs/64:/mnt/shm/cpu2006-sgi-ic16/sh"

 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1 > /proc/sys/vm/drop_caches
```

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

Base Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
```

Benchmarks using both Fortran and C:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

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

http://www.spec.org/cpu2006/flags/SGI-UV3000-Platform-Flags.20160906.html
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html

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

http://www.spec.org/cpu2006/flags/SGI-UV3000-Platform-Flags.20160906.xml
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Sep 6 16:56:29 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 September 2016.