SPEC® CFP2006 Result

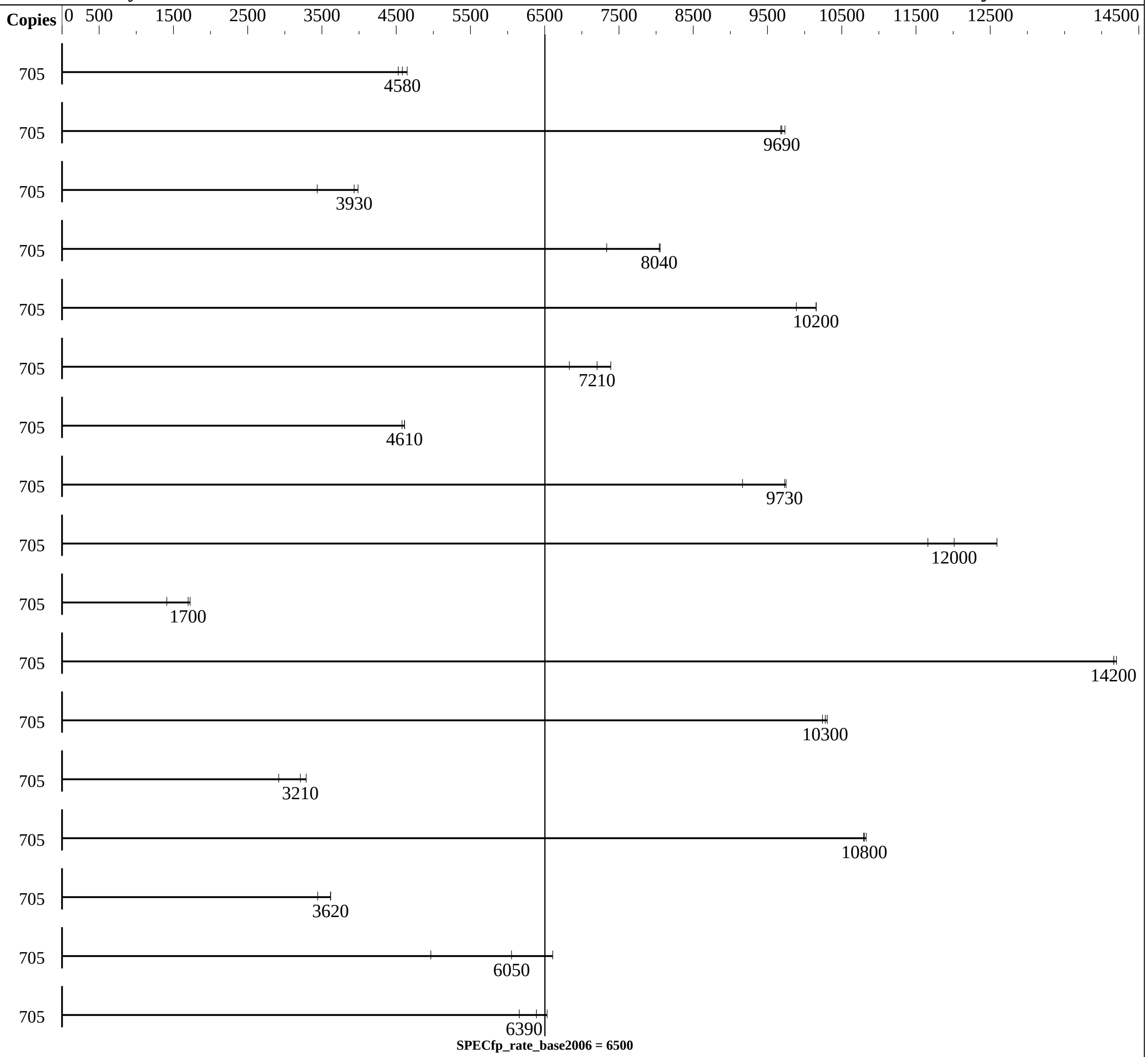
Sun Microsystems

Sun Blade 6048 Chassis (48 x X6440 Blades)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 6500

CPU2006 license:	6	**Test date:**	Jun-2009
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Jan-2009
Tested by:	Sun Microsystems	**Software Availability:**	Jun-2009



Hardware

CPU Name:	AMD Opteron 8384
CPU Characteristics:	
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	768 cores, 192 chips, 4 cores/chip
CPU(s) orderable:	4 to 192 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core

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Software

Operating System:	OpenSolaris 2008.11
Compiler:	Sun Studio 12 Update 1
Auto Parallel:	No
File System:	NFSv3
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	Apache C++ Standard Library V4.2.1

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L3 Cache:	6 MB I+D on chip per chip
Other Cache:	None
Memory:	1536 GB (16*2GB DDR2-667 CL5 ECC Reg per blade)
Disk Subsystem:	48 x 250GB 7200RPM SATA via NFS
Other Hardware:	See additional details below

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	705	2061	4650	2116	4530	**2090**	**4580**							
416.gamess	705	**1424**	**9690**	1418	9740	1426	9680							
433.milc	705	**1645**	**3930**	1883	3440	1624	3990							
434.zeusmp	705	**798**	**8040**	875	7330	796	8060							
435.gromacs	705	509	9890	**496**	**10200**	496	10200							
436.cactusADM	705	1140	7390	1233	6830	**1169**	**7210**							
437.leslie3d	705	1447	4580	**1437**	**4610**	1437	4610							
444.namd	705	617	9160	**581**	**9730**	580	9750							
447.dealII	705	**671**	**12000**	692	11700	641	12600							
450.soplex	705	4167	1410	3409	1720	**3464**	**1700**							
453.povray	705	**265**	**14200**	264	14200	265	14200							
454.calculix	705	564	10300	**566**	**10300**	568	10200							
459.GemsFDTD	705	2563	2920	**2331**	**3210**	2275	3290							
465.tonto	705	643	10800	**642**	**10800**	641	10800							
470.lbm	705	2813	3440	2677	3620	**2679**	**3620**							
481.wrf	705	1586	4970	**1301**	**6050**	1192	6610							
482.sphinx3	705	2231	6160	**2151**	**6390**	2103	6530							

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

Compiler Invocation Notes

```
The Apache C++ Standard Library V4.2.1 was installed from
http://stdcxx.apache.org/download.html using:
    alias gmake=specmake
    gmake BUILDTYPE=8D CONFIG=sunpro.config
```

Submit Notes

```
The config file option 'submit' was used, along with submit.pl to
distribute jobs to all Sun Blade X6440 server modules.
It also uses 'pbind' to bind processes to cores.
```

Operating System Notes

```
ulimit -s 131072  (shell): increases stack
/etc/system parameters on all nodes
    tune_t_fsflushr=10
    autoup=900
    set lpg_alloc_prefer=1
   The following /etc/system settings were changed on the node that was running runspec:
    set maxusers=2048
    set rlim_fd_cur=1000
```

Platform Notes

```
Sun Blade 6048 Chassis may be ordered with up to 48 Sun Blade server modules.
Test configuration contains 48 Sun Blade X6440 server modules. Each
Sun Blade X6440 server modules has 4 chips.

Default BIOS settings used.
```

General Notes

```
447.dealII (base): "apache_stdcxx_4_2_1" src.alt was used.

 The NFS server used was a Sun Fire X4540 containing 48 x 250GB 7200RPM SATA disks.
 Connections to the clients were via gigabit ethernet.
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64
436.cactusADM: -DSPEC_CPU_LP64
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
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_WORDS_LITTLEENDIAN
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M -xalias_level=std

C++ benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M -xalias_level=compatible
-library=no%Cstd -I/data1/stdcxx-4.2.1/include
-I/data1/stdcxx-4.2.1/build/include -L/data1/stdcxx-4.2.1/build/lib
-R/data1/stdcxx-4.2.1/build/lib -lstd8D

Fortran benchmarks:
-fast -xipo=2 -m64 -xpagesize=2M

Benchmarks using both Fortran and C:
-fast(cc) -xipo=2 -m64 -xpagesize=2M -xalias_level=std -fast(f90)

Base Other Flags

C benchmarks:
-V -# -xjobs=16

C++ benchmarks:
-verbose=diags,version -xjobs=16

Fortran benchmarks:
-V -v -xjobs=16

Benchmarks using both Fortran and C:
-V -# -xjobs=16 -v

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

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.html
http://www.spec.org/cpu2006/flags/Sun-Blade-6048.html

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

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.xml
http://www.spec.org/cpu2006/flags/Sun-Blade-6048.xml

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

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