



SPEC[®] CINT2006 Result

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Sun Microsystems

SPECint[®]_rate2006 = 253

Sun Fire X4170 (Intel Xeon X5570 2.93GHz)

SPECint_rate_base2006 = 220

CPU2006 license: 6

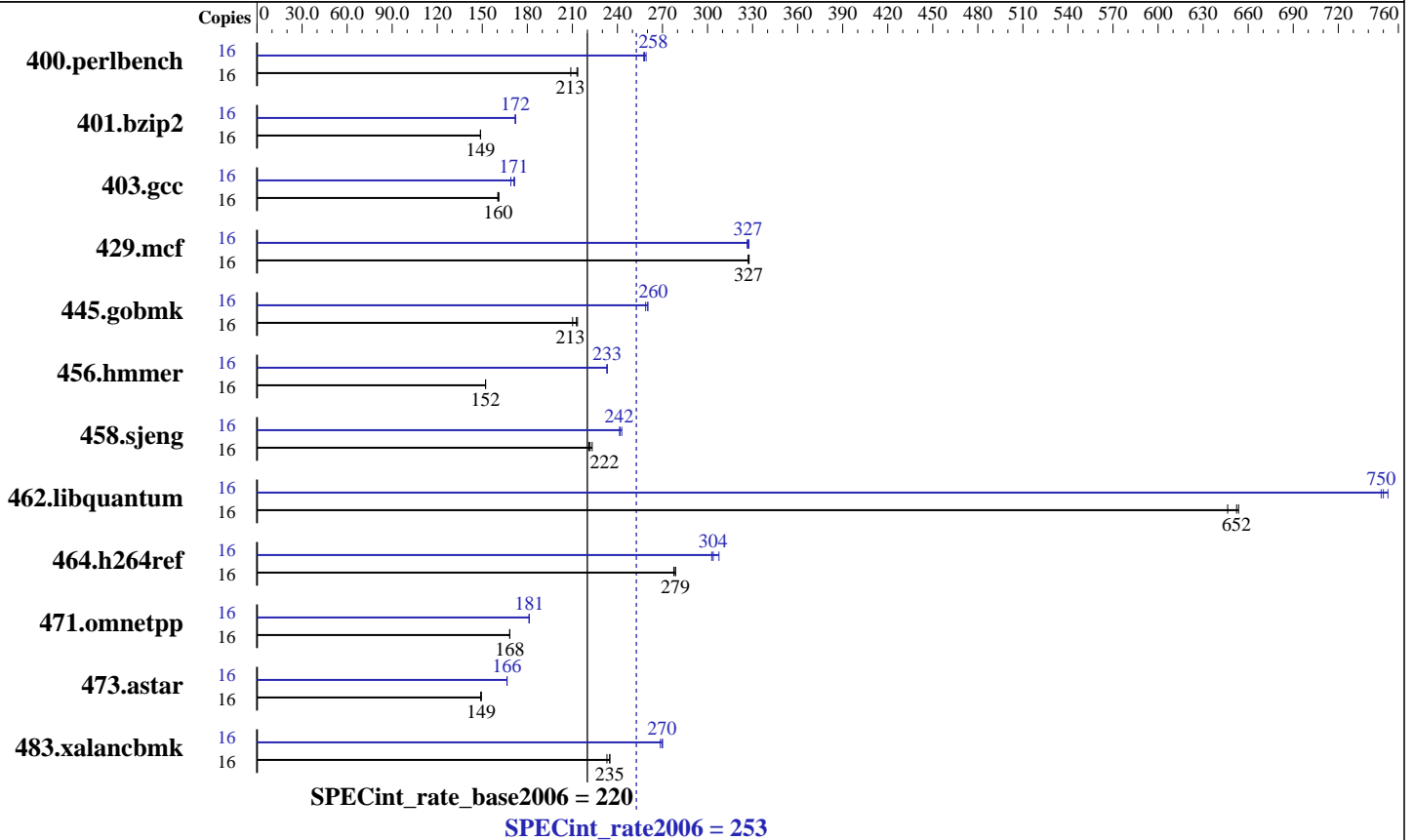
Test date: Apr-2009

Test sponsor: Sun Microsystems

Hardware Availability: Apr-2009

Tested by: Sun Microsystems

Software Availability: Jun-2009



Hardware

CPU Name: Intel Xeon X5570
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 or 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 x 4 GB DDR3-1333)
 Disk Subsystem: 1 x 146 GB, SAS, 10 K RPM
 Other Hardware: None

Software

Operating System: OpenSolaris 2008.11
 Compiler: Sun Studio 12 Update 1 (internal build 39.0)
 Auto Parallel: No
 File System: zfs with gzip compression
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 9.01 for x64



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	734	213	748	209	732	214	16	607	258	603	259	606	258
401.bzip2	16	1037	149	1038	149	1037	149	16	898	172	898	172	897	172
403.gcc	16	800	161	803	160	803	160	16	753	171	762	169	751	172
429.mcf	16	446	327	445	328	446	327	16	446	327	445	328	447	326
445.gobmk	16	799	210	786	213	789	213	16	645	260	645	260	649	259
456.hammer	16	981	152	981	152	981	152	16	640	233	641	233	640	233
458.sjeng	16	867	223	876	221	873	222	16	797	243	801	242	802	241
462.libquantum	16	513	646	508	652	507	654	16	440	753	443	749	442	750
464.h264ref	16	1276	278	1270	279	1271	279	16	1169	303	1166	304	1151	308
471.omnetpp	16	594	168	594	168	594	168	16	552	181	552	181	551	181
473.astar	16	752	149	754	149	753	149	16	675	166	675	167	675	166
483.xalancbmk	16	470	235	474	233	470	235	16	409	270	411	269	409	270

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, along with 'pbind', to assign processes to cores.

Operating System Notes

```
ulimit -s 131072 (shell): increases stack
/etc/system parameters
  tune_t_fsflushr=10
  autoup=900
  set lpg_alloc_prefer=1
  set zfs:zfs_arc_max = 0x10000000
```

Platform Notes

Default BIOS settings used except:
Intel VT-d: Disabled. VT-d, if enabled, supports remapping of I/O DMA transfers for virtualization.

Base Compiler Invocation

C benchmarks:
/data1/SUNWspro.b39/SUNWspro/bin/cc

C++ benchmarks:
/data1/SUNWspro.b39/SUNWspro/bin/CC



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Base Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_IA32
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -xpagesize=2M -M /usr/lib/ld/map.bssalign

C++ benchmarks:
-fast -xipo=2 -xpagesize=2M -xvector=simd -xalias_level=compatible
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmarheap
-library=stlport4

Base Other Flags

C benchmarks:
-V -# -xjobs=16

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

Peak Compiler Invocation

C benchmarks:
/data1/SUNWspro.b39/SUNWspro/bin/cc

C++ benchmarks:
/data1/SUNWspro.b39/SUNWspro/bin/CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_IA32
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS



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Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xvector=simd -xalias_level=std -lbsdmalloc
-lumem

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=strong -lumem

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=std

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=std -M /usr/lib/ld/map.bssalign

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -m64 -xpagesize=2M
-xrestrict -xalias_level=strong -xdepend -lmvec

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xalias_level=strong -xpagesize=2M

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xvector=simd -xrestrict -xalias_level=std

462.libquantum: -fast -xipo=2 -m64 -xpagesize=2M -xvector=simd

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=strong

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap
-library=stlport4

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap_mt64
-xalias_level=compatible -library=stlport4

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Peak Optimization Flags (Continued)

```
483.xalanbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xunroll=8
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap
-library=stlport4
```

Peak Other Flags

C benchmarks:
-V -# -xjobs=16

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

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

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090710.00.html

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

http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090710.00.xml

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

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