



SPEC[®] CINT2006 Result

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Sun Microsystems

SPECint[®]_rate2006 = 260

Sun Fire X2270 (Intel Xeon X5570 2.93GHz)

SPECint_rate_base2006 = 223

CPU2006 license: 6

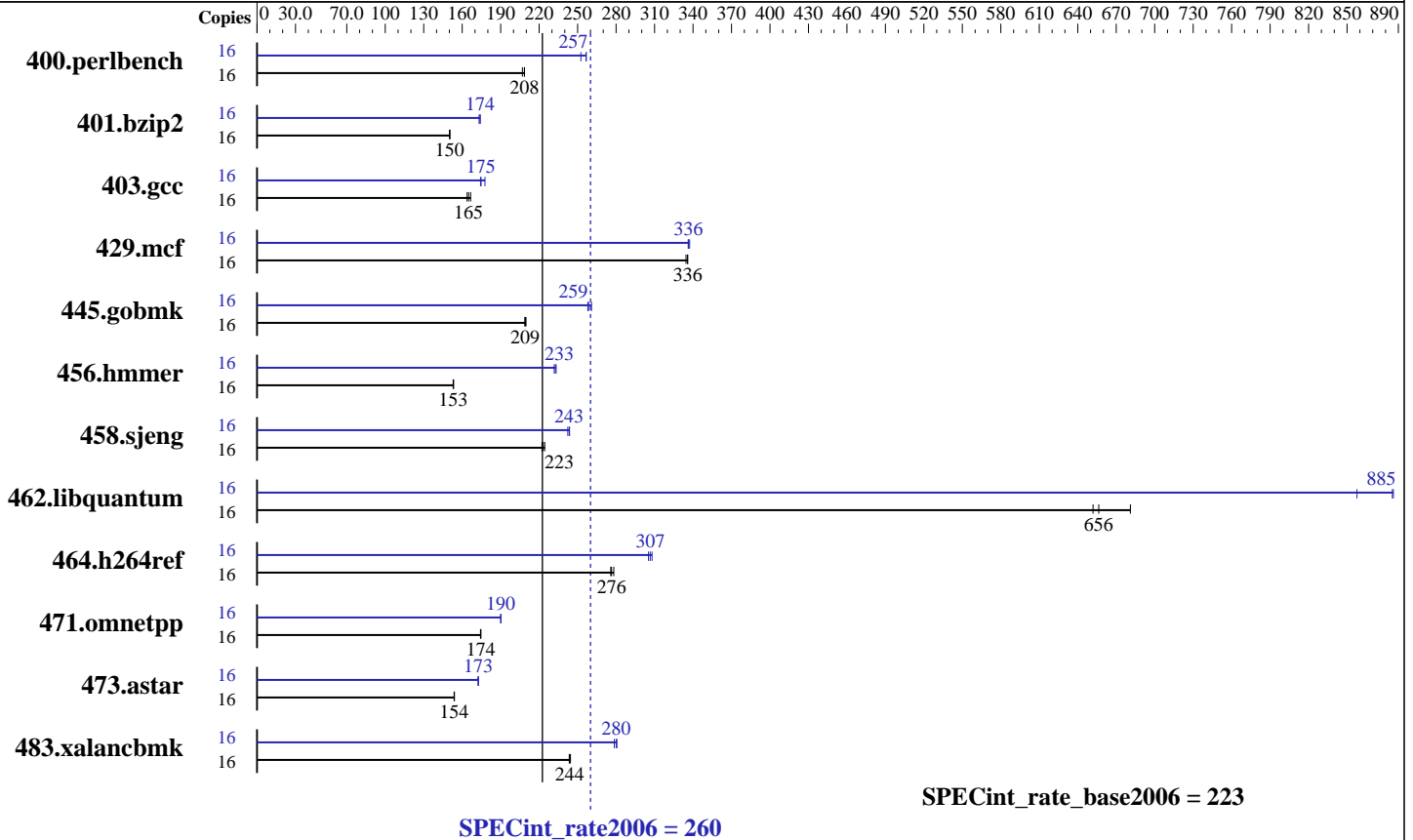
Test date: Mar-2009

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 1 TB, SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: OpenSolaris 2008.11
 Compiler: Sun Studio 12 Update 1 (backend build 20090309)
 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	755	207	750	208	749	209	16	609	257	609	257	619	253
401.bzip2	16	1027	150	1028	150	1027	150	16	887	174	887	174	892	173
403.gcc	16	781	165	786	164	773	167	16	725	178	739	174	737	175
429.mcf	16	435	336	436	335	435	336	16	434	336	434	336	433	337
445.gobmk	16	800	210	804	209	802	209	16	643	261	649	259	651	258
456.hammer	16	975	153	974	153	976	153	16	644	232	642	233	640	233
458.sjeng	16	863	224	871	222	867	223	16	794	244	795	243	799	242
462.libquantum	16	505	656	487	681	509	652	16	387	858	374	885	374	886
464.h264ref	16	1273	278	1281	276	1284	276	16	1160	305	1150	308	1155	307
471.omnetpp	16	574	174	573	175	573	174	16	526	190	525	190	526	190
473.astar	16	730	154	730	154	731	154	16	651	172	651	173	651	173
483.xalancbmk	16	453	244	453	243	452	244	16	393	281	394	280	396	279

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:
/data1/20090309_ceres_x86/bin/cc

C++ benchmarks:
/data1/20090309_ceres_x86/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:
/data1/20090309_ceres_x86/bin/cc

C++ benchmarks:
/data1/20090309_ceres_x86/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: -xprofile=collect:./feedback(pass 1)
                 -xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
                 -xvector=simd

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

```

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Peak Optimization Flags (Continued)

473.astar (continued):

-xalias_level=compatible -library=stlport4

483.xalancbmk: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -xipo=2

-xpagesize=2M -xunroll=8 -xvector=simd

-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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