SPEC® CINT2006 Result

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Oracle Corporation

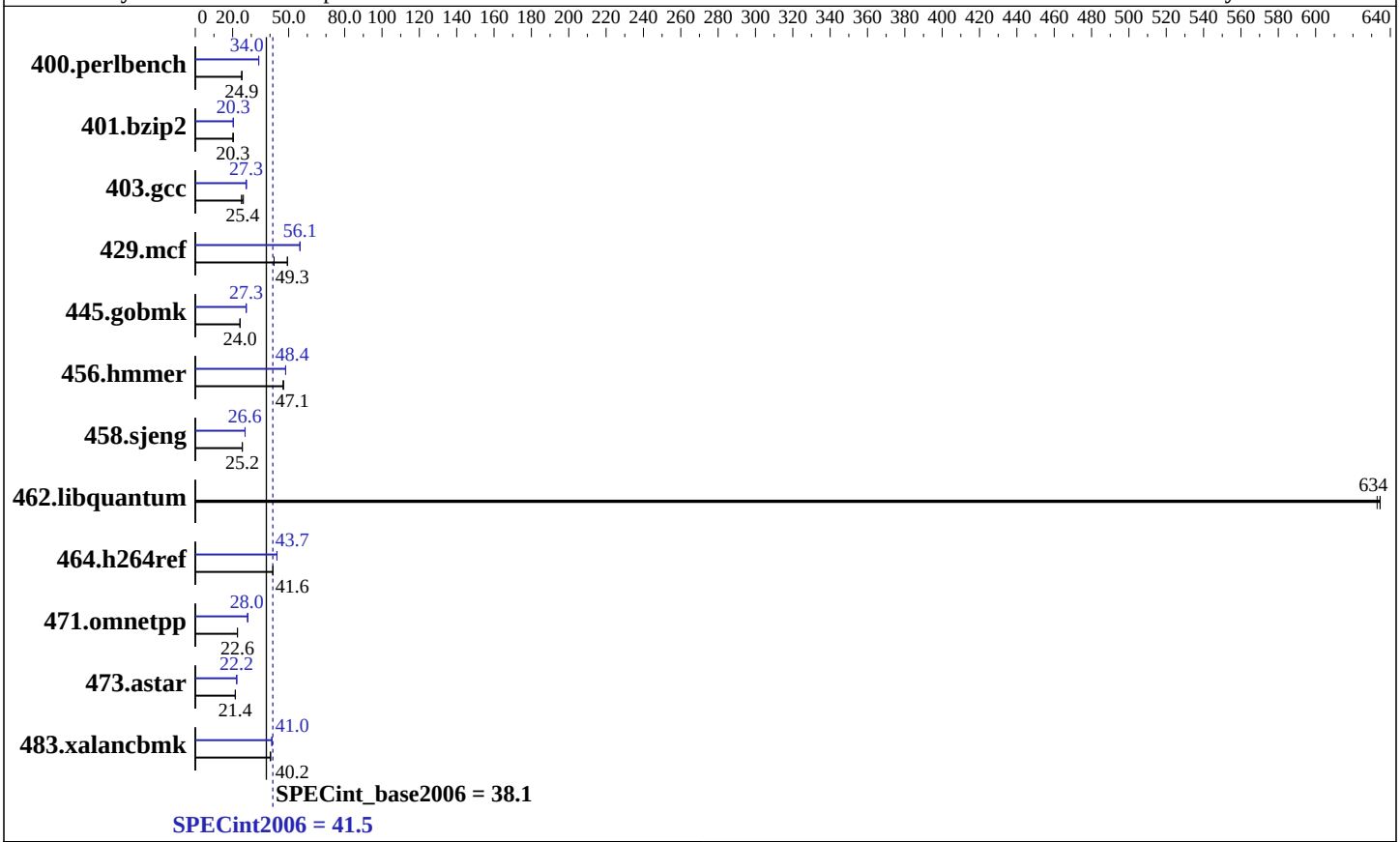
Sun Fire X4270 M2 (Intel Xeon X5680 3.33GHz)

SPECint®2006 = 41.5

SPECint_base2006 = 38.1

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Aug-2010
Hardware Availability: Aug-2010
Software Availability: Jun-2010



Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB DDR3-1333 CL9, 2 Rank, ECC)
Disk Subsystem:	1 x 1 TB, SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Oracle Solaris 10 10/09
Compiler:	Oracle Solaris Studio Express 6/10
Auto Parallel:	Yes
File System:	ufs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 9.01 for x64

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	392	24.9	**392**	**24.9**	392	24.9	**288**	**34.0**	288	34.0	288	33.9
401.bzip2	476	20.3	**476**	**20.3**	476	20.3	**474**	**20.3**	474	20.4	474	20.3
403.gcc	**318**	**25.4**	326	24.7	312	25.8	**295**	**27.3**	296	27.2	294	27.4
429.mcf	216	42.2	**185**	**49.3**	185	49.3	162	56.1	**163**	**56.1**	163	56.0
445.gobmk	**438**	**24.0**	437	24.0	438	24.0	384	27.3	**385**	**27.3**	385	27.2
456.hmmer	198	47.2	198	47.1	**198**	**47.1**	**193**	**48.4**	193	48.4	193	48.4
458.sjeng	481	25.2	**481**	**25.2**	481	25.2	**454**	**26.6**	454	26.6	453	26.7
462.libquantum	**32.7**	**634**	32.7	633	32.7	635	**32.7**	**634**	32.7	633	32.7	635
464.h264ref	533	41.5	532	41.6	**532**	**41.6**	506	43.7	**506**	**43.7**	506	43.8
471.omnetpp	**277**	**22.6**	277	22.6	277	22.6	223	28.0	**223**	**28.0**	223	28.1
473.astar	327	21.5	328	21.4	**328**	**21.4**	317	22.1	317	22.2	**317**	**22.2**
483.xalancbmk	**172**	**40.2**	171	40.4	172	40.2	168	41.0	**168**	**41.0**	168	41.0

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

Operating System Notes

```
ulimit -s 131072  (shell): increases stack

/etc/system parameters
   tune_t_fsflushr=10
   autoup=900
   lpg_alloc_prefer=1
```

Platform Notes

```
  Default BIOS settings used except:
    Hardware Prefetch            : Enabled
    Adjacent Cache Line Prefetch : Enabled
    Data Reuse Optimization      : Disabled
    Intel C-STATE technology     : Disabled
```

General Notes

```
Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "12"
SUNW_MP_PROCBIND = "23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0"
SUNW_MP_THR_IDLE = "SPIN"
```

Base Compiler Invocation

C benchmarks:
```
cc
```

C++ benchmarks:
```
CC
```

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS`
464.h264ref: `-DSPEC_CPU_LP64`
471.omnetpp: `-DSPEC_CPU_LP64`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS`

Base Optimization Flags

C benchmarks:
```
-fast -xipo=2 -m64 -xpagesize=2M -xprefetch -xalias_level=std
-xautopar -xreduction
```

C++ benchmarks:
```
-fast -xipo=2 -m64 -xpagesize=2M -xprefetch=no%auto
-xalias_level=compatible
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap64
-library=stlport4
```

Base Other Flags

C benchmarks:
```
-V -# -xjobs=24
```

C++ benchmarks:
```
-verbose=diags,version -xjobs=24
```

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_X64 -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=1 -m64
-xalias_level=std -xpagesize=2M -xprefetch=no%auto
-lbsdmalloc

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=std -xprefetch=no%auto -lumem

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xaddr32=yes -m64 -xalias_level=std
-xprefetch=no%auto

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xalias_level=std

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

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

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=strong -xrestrict
-xprefetch=no%auto

Continued on next page

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

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

C++ benchmarks:

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

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=compatible -library=stlport4
-xrestrict
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap64

483.xalancbmk: -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 -lsmartheap64
-library=stlport4

Peak Other Flags

C benchmarks:
-V -# -xjobs=24

C++ benchmarks:
-verbose=diags,version -xjobs=24

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio-x86_64.20100901.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio-x86_64.20100901.xml

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