SPEC® CINT2006 Result

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Oracle Corporation

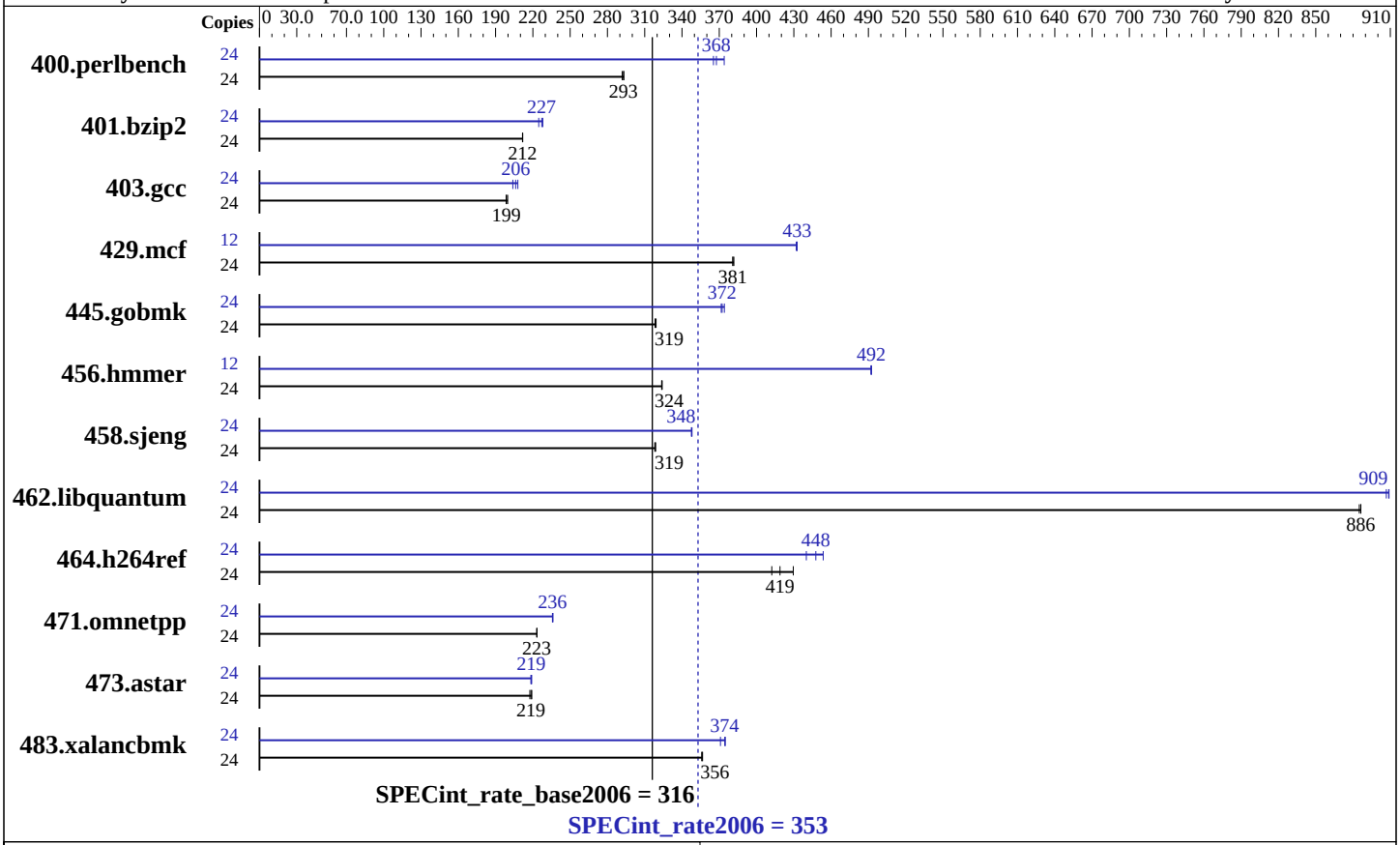
Sun Fire X4170 M2 (Intel Xeon X5670 2.93GHz)

SPECint®_rate2006 = 353

SPECint_rate_base2006 = 316

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

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



Hardware

CPU Name:	Intel Xeon X5670
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
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 300 GB, SAS, 10000 RPM
Other Hardware:	None

Software

Operating System:	Oracle Solaris 10 10/09
Compiler:	Oracle Solaris Studio Express 6/10
Auto Parallel:	No
File System:	zfs
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	24	803	292	**800**	**293**	800	293	24	**638**	**368**	627	374	642	365
401.bzip2	24	1093	212	1094	212	**1094**	**212**	24	**1020**	**227**	1031	225	1016	228
403.gcc	24	973	198	967	200	**972**	**199**	24	**937**	**206**	948	204	929	208
429.mcf	24	575	381	**575**	**381**	573	382	12	253	433	**253**	**433**	253	432
445.gobmk	24	**790**	**319**	789	319	791	318	24	678	372	673	374	**676**	**372**
456.hmmer	24	691	324	692	324	**692**	**324**	12	**227**	**492**	227	492	228	492
458.sjeng	24	911	319	913	318	**912**	**319**	24	836	348	834	348	**835**	**348**
462.libquantum	24	**561**	**886**	562	885	561	886	24	547	909	548	907	**547**	**909**
464.h264ref	24	1236	430	**1268**	**419**	1288	412	24	1171	454	**1186**	**448**	1207	440
471.omnetpp	24	672	223	**672**	**223**	672	223	24	636	236	635	236	**636**	**236**
473.astar	24	769	219	**771**	**219**	774	218	24	**770**	**219**	771	218	769	219
483.xalancbmk	24	465	356	464	357	**465**	**356**	24	446	371	**442**	**374**	442	375

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.
```

Operating System Notes

```
ulimit -s unlimited  (shell)

/etc/system parameters
   tune_t_fsflushr=10
   autoup=900
   zfs:zfs_arc_max = 0x10000000
   lpg_alloc_prefer=1
```

Platform Notes

```
  Default BIOS settings used except:
    C-State                  : Disabled
    Data Reuse Optimization  : Disabled
```

Base Compiler Invocation

C benchmarks:

```
cc
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
CC

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 -xtarget=nehalem -xipo=2 -xpagesize=2M
-M /usr/lib/ld/map.bssalign

C++ benchmarks:
-fast -xtarget=nehalem -xipo=2 -xpagesize=2M -xvector=simd
-xalias_level=compatible
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap
-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_SOLARIS
462.libquantum: -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 -xtarget=nehalem
-xipo=1 -m64 -xalias_level=std -lbsdmalloc -lumem

401.bzip2: -fast -xtarget=nehalem -xipo=2 -m64 -xpagesize=2M
-xalias_level=std -lumem

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -xpagesize=2M -W2,-Rujam -W2,-Rtile

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -m32 -xpagesize=2M -xalias_level=strong
-xprefetch=no%auto -lbsdmalloc

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

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -m64

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -m64 -xpagesize=2M -xalias_level=strong

462.libquantum: -fast -xtarget=nehalem -xipo=2 -m64 -xalias_level=std

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

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -xpagesize=2M -library=stlport4

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Peak Optimization Flags (Continued)

471.omnetpp (continued):
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap

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

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=nehalem
-xipo=2 -xunroll=2 -xpagesize=2M -xalias_level=compatible
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap
-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.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.xml

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