SPEC® CINT2006 Result

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Oracle Corporation

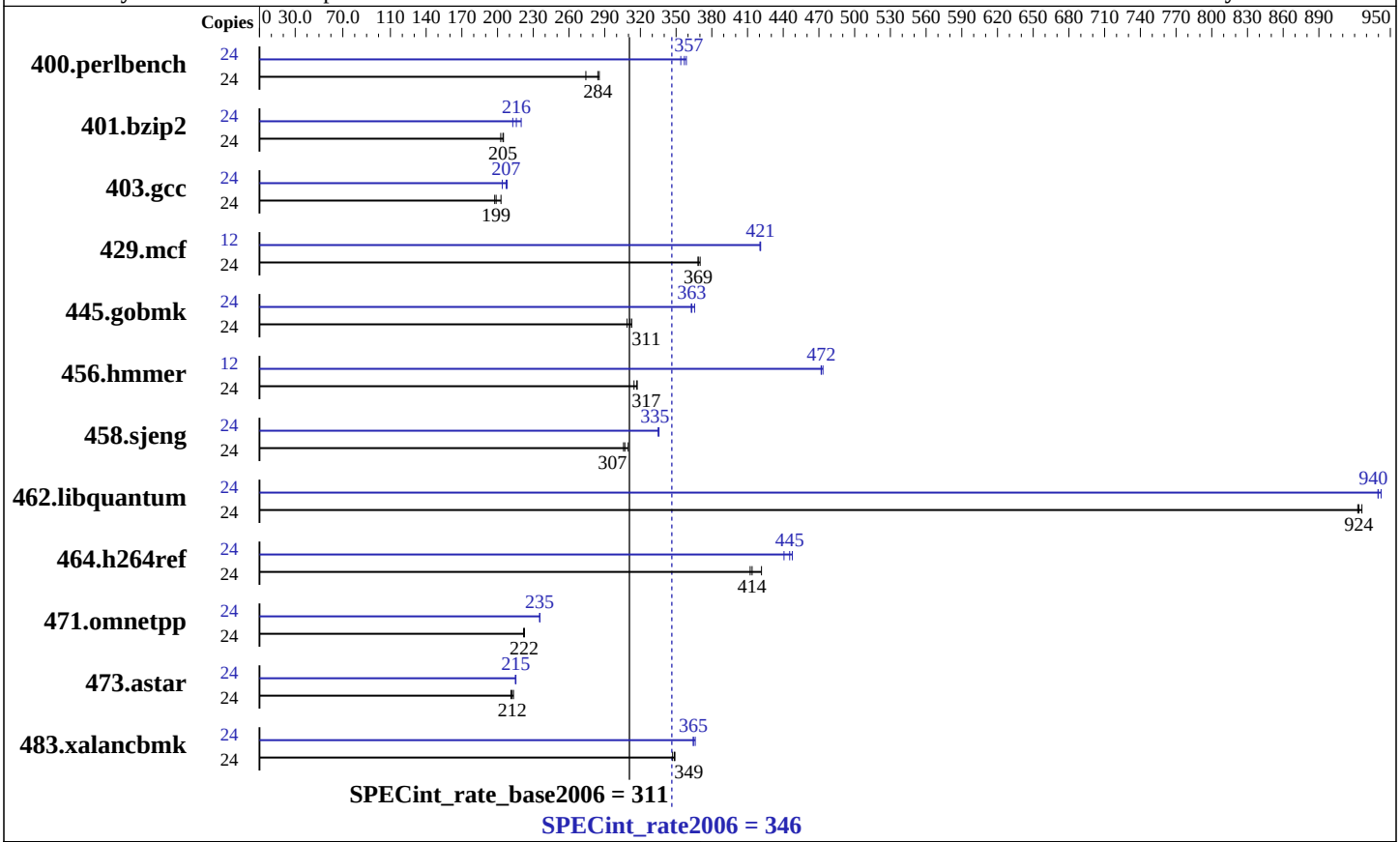
Sun Fire X2270 M2 (Intel Xeon X5670 2.93GHz)

SPECint®_rate2006 = 346

SPECint_rate_base2006 = 311

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

Test date: Mar-2010
Hardware Availability: May-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 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:	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	855	274	821	285	**825**	**284**	24	662	354	**657**	**357**	654	359
401.bzip2	24	1143	203	1130	205	**1132**	**205**	24	1088	213	**1073**	**216**	1053	220
403.gcc	24	952	203	**972**	**199**	978	198	24	947	204	928	208	**932**	**207**
429.mcf	24	591	370	594	369	**594**	**369**	12	260	420	260	421	**260**	**421**
445.gobmk	24	805	313	815	309	**808**	**311**	24	694	363	689	366	**693**	**363**
456.hmmer	24	706	317	**706**	**317**	712	315	12	237	473	**237**	**472**	237	472
458.sjeng	24	**946**	**307**	950	306	938	310	24	**867**	**335**	865	336	867	335
462.libquantum	24	**538**	**924**	539	923	537	926	24	**529**	**940**	529	940	528	942
464.h264ref	24	1288	412	**1283**	**414**	1259	422	24	1205	441	**1192**	**445**	1186	448
471.omnetpp	24	676	222	674	223	**675**	**222**	24	637	235	**637**	**235**	637	236
473.astar	24	790	213	798	211	**794**	**212**	24	**782**	**215**	782	215	784	215
483.xalancbmk	24	474	349	**475**	**349**	477	347	24	452	366	**454**	**365**	454	364

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
```

Base Compiler Invocation

C benchmarks:
cc

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
-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

Continued on next page

Peak Optimization Flags (Continued)

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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