SPEC® CINT2006 Result

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Oracle Corporation

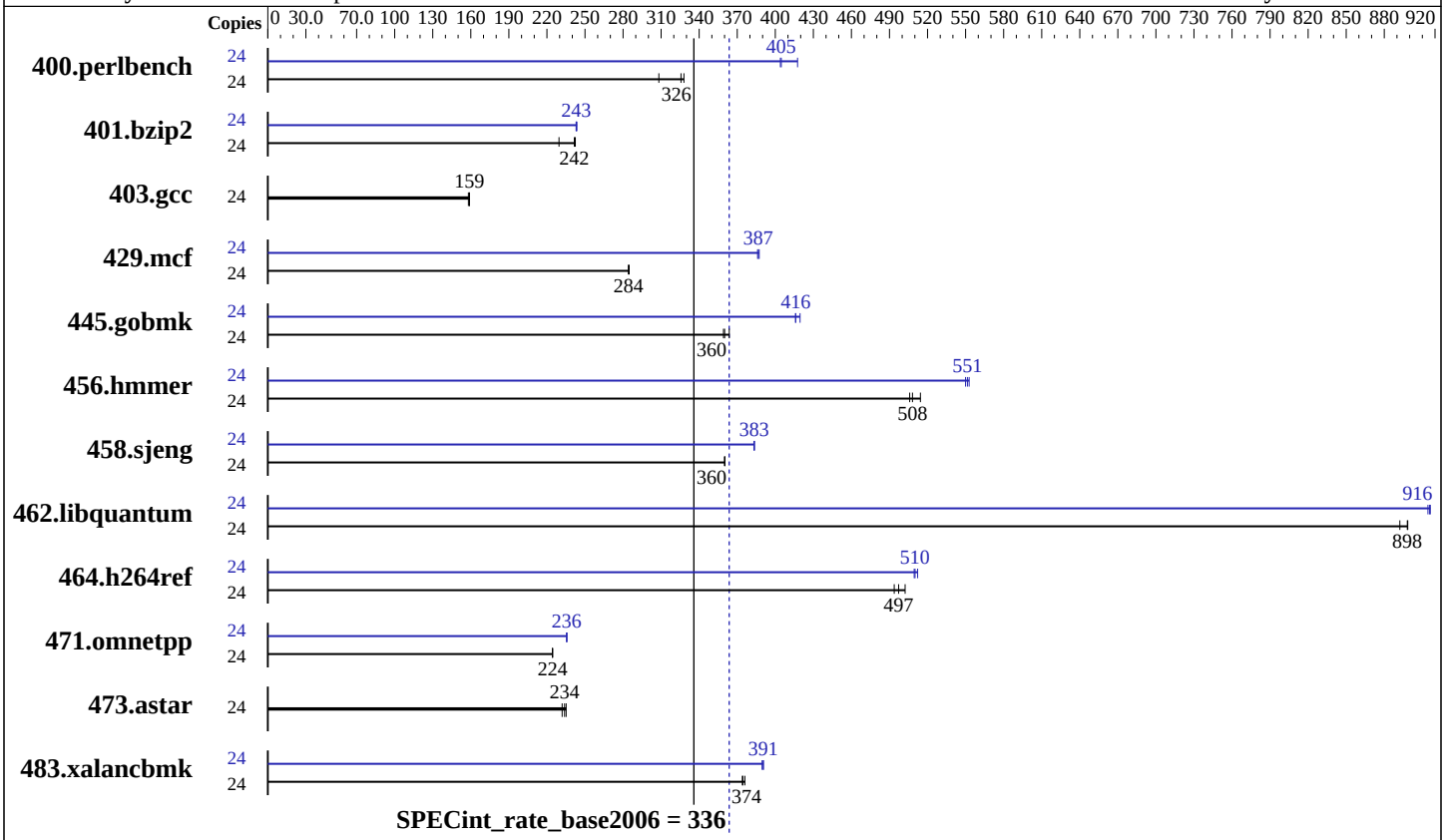
Sun Fire X4270 M2 (Intel Xeon X5680 3.33GHz)

SPECint®_rate2006 = 364

SPECint_rate_base2006 = 336

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

Test date: Jul-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:	No
File System:	ufs
System State:	Default
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 9.01 for x64

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	761	308	715	328	**720**	**326**	24	580	404	562	418	**579**	**405**
401.bzip2	24	1009	230	955	242	**959**	**242**	24	**953**	**243**	953	243	951	244
403.gcc	24	**1216**	**159**	1216	159	1222	158	24	**1216**	**159**	1216	159	1222	158
429.mcf	24	768	285	**770**	**284**	770	284	24	**566**	**387**	565	387	567	386
445.gobmk	24	692	364	**699**	**360**	701	359	24	600	420	**605**	**416**	605	416
456.hmmer	24	435	514	443	506	**441**	**508**	24	407	550	405	553	**406**	**551**
458.sjeng	24	806	360	807	360	**806**	**360**	24	758	383	757	384	**757**	**383**
462.libquantum	24	553	899	**554**	**898**	557	892	24	543	916	**543**	**916**	544	914
464.h264ref	24	1076	494	1057	502	**1068**	**497**	24	1042	509	**1041**	**510**	1037	512
471.omnetpp	24	669	224	668	224	**668**	**224**	24	636	236	**636**	**236**	637	235
473.astar	24	717	235	**720**	**234**	726	232	24	717	235	**720**	**234**	726	232
483.xalancbmk	24	443	374	440	376	**442**	**374**	24	424	391	**424**	**391**	425	390

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 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:
SUNW_MP_PROCBIND = "TRUE"
SUNW_MP_THR_IDLE = "SPIN"
```

Base Compiler Invocation

C benchmarks:
```
cc
```

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

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
-fast -xipo=2 -m64 -xaddr32=yes -xpagesize=2M
```

C++ benchmarks:
```
-fast -xipo=2 -xpagesize=2M -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
```

Continued on next page

Peak Compiler Invocation (Continued)

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_X64 -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64
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 -xipo=1 -m64
-xalias_level=std -lbsdmalloc

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

403.gcc: basepeak = yes

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

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

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

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

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

Continued on next page

Peak Optimization Flags (Continued)

C++ benchmarks:

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

473.astar: basepeak = yes

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -xunroll=2
-xpagesize=2M -xalias_level=compatible -library=stlport4
-m32
-L/data1/SmartHeap_9/lib -R/data1/SmartHeap_9/lib -lsmartheap

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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