



SPEC[®] CINT2006 Result

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Oracle Corporation

SPECint[®]_rate2006 = 364

Sun Fire X4270 M2 (Intel Xeon X5680 3.33GHz)

SPECint_rate_base2006 = 336

CPU2006 license: 6

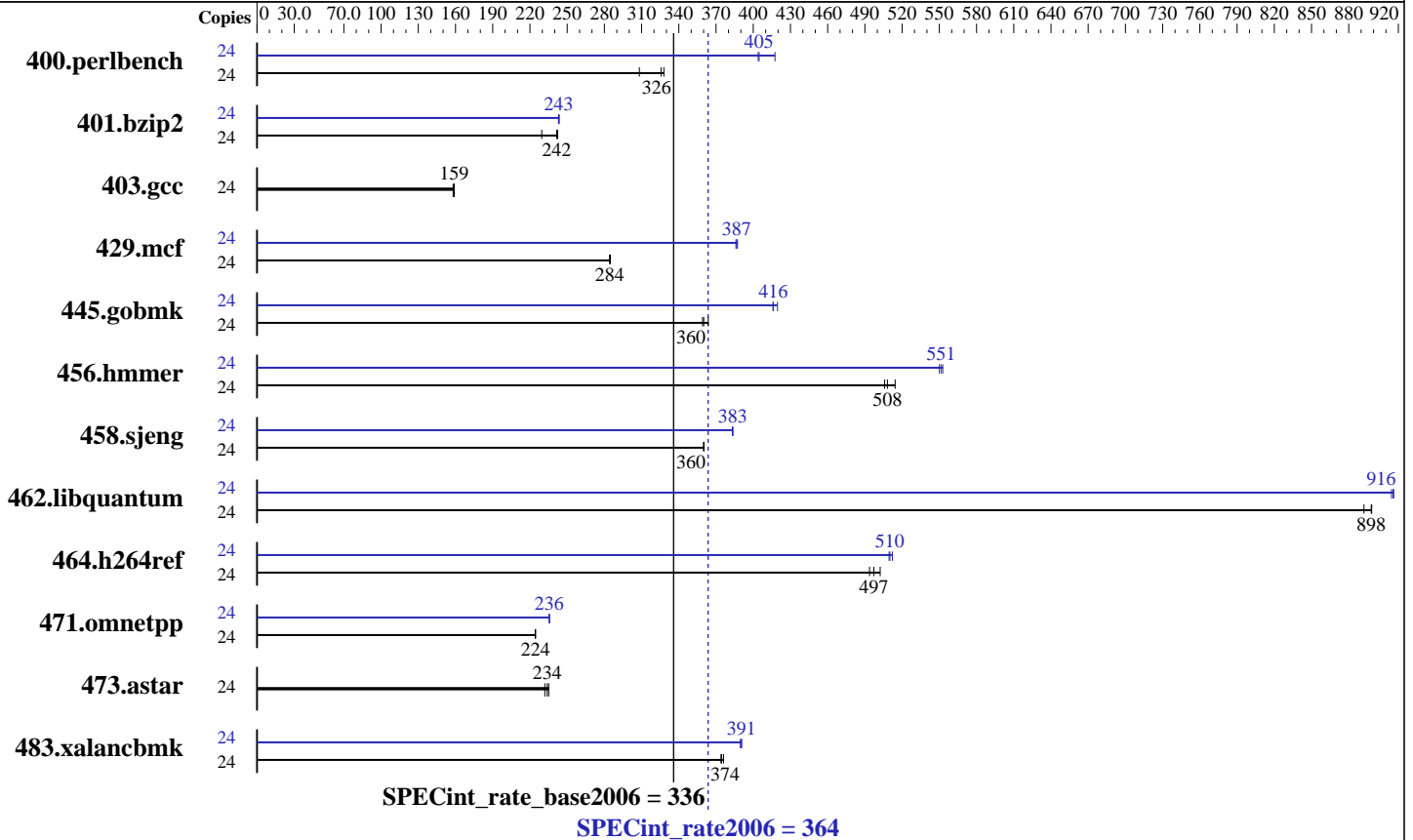
Test date: Jul-2010

Test sponsor: Oracle Corporation

Hardware Availability: Aug-2010

Tested by: Oracle Corporation

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



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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

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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

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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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