SPEC® CINT2006 Result

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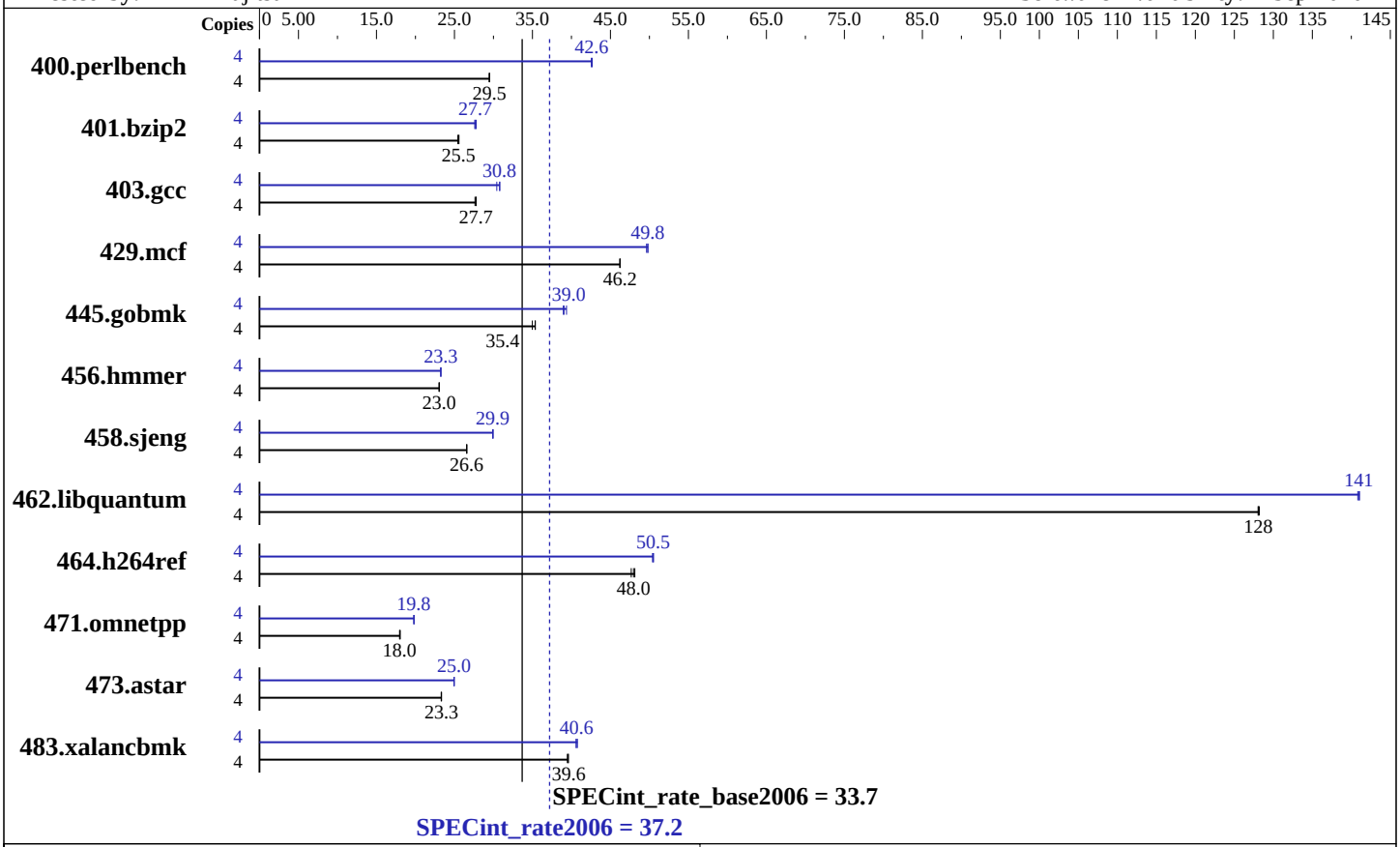
Oracle Corporation
SPARC Enterprise M3000

SPECint®_rate2006 = 37.2

SPECint_rate_base2006 = 33.7

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

Test date: Jan-2011
Hardware Availability: Apr-2011
Software Availability: Sep-2010



Hardware

CPU Name:	SPARC64 VII+
CPU Characteristics:	
CPU MHz:	2860
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	5632 KB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (8 x 4 GB, 2-way interleaved)
Disk Subsystem:	1 x 300 GB 10,000 RPM SAS
Other Hardware:	None

Software

Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

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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	4	1327	29.4	**1325**	**29.5**	1324	29.5	4	916	42.7	**918**	**42.6**	918	42.6
401.bzip2	4	**1513**	**25.5**	1518	25.4	1509	25.6	4	1389	27.8	1399	27.6	**1394**	**27.7**
403.gcc	4	1165	27.6	1159	27.8	**1160**	**27.7**	4	1058	30.4	1045	30.8	**1046**	**30.8**
429.mcf	4	789	46.2	789	46.2	**789**	**46.2**	4	732	49.8	**733**	**49.8**	735	49.6
445.gobmk	4	1187	35.4	1199	35.0	**1187**	**35.4**	4	**1075**	**39.0**	1066	39.4	1077	39.0
456.hmmer	4	1620	23.0	**1619**	**23.0**	1619	23.1	4	1605	23.3	**1605**	**23.3**	1605	23.3
458.sjeng	4	1821	26.6	1822	26.6	**1822**	**26.6**	4	**1617**	**29.9**	1618	29.9	1616	30.0
462.libquantum	4	647	128	646	128	**647**	**128**	4	589	141	**588**	**141**	588	141
464.h264ref	4	1839	48.1	**1846**	**48.0**	1857	47.7	4	**1754**	**50.5**	1752	50.5	1757	50.4
471.omnetpp	4	**1390**	**18.0**	1385	18.1	1392	18.0	4	**1262**	**19.8**	1262	19.8	1263	19.8
473.astar	4	1203	23.3	**1203**	**23.3**	1205	23.3	4	1126	24.9	**1125**	**25.0**	1124	25.0
483.xalancbmk	4	**697**	**39.6**	699	39.5	697	39.6	4	**679**	**40.6**	680	40.6	677	40.8

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

Compiler Invocation Notes

```
Oracle Solaris Studio 12.2 is distributed with mandatory OS patches
 118683-05  119963-20  120753-08
Oracle Solaris Studio 12.2 and patches are available at
 http://oracle.com/goto/solarisstudio
```

Submit Notes

```
Processes were assigned to specific processors using 'pbind'
commands.  The config file option 'submit' was used, along
with a list of processors in the 'BIND' variable, to generate
the pbind commands.  (For details, please see the config file.)
```

Operating System Notes

```
ulimit -s 131072 was used to limit the space
consumed by the stack (and therefore make more
space available to the heap).

System Tunables:
(/etc/system parameters)

    tune_t_fsflushr=10
       Controls how many seconds elapse between runs of the
       page flush daemon, fsflush.
```

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Operating System Notes (Continued)

```
      autoup=600
         Causes pages older than the listed number of seconds to
         be written by fsflush.
      bufhwm=3000
         Memory byte limit for caching I/O buffers.
      segmap_percent=1
         Set maximum percent memory for file system cache.

   Other System Settings:

       The "webconsole" service was turned off using
           svcadm disable webconsole
```

Platform Notes

```
    Memory is 2-way interleaved by filling all slots with
    the same capacity DIMMs.

   This result is measured on a SPARC Enterprise M3000 server from
   Fujitsu.  The SPARC Enterprise M3000 server from Oracle and from
   Fujitsu are electrically equivalent.
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-fast -xO4 -fma=fused -xipo=2 -xpagesize=4M -xalias_level=std
-xunroll=12 -xprefetch=latx:0.5 -ll2amm

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Base Optimization Flags (Continued)

C++ benchmarks:
-library=stlport4 -M /usr/lib/ld/map.bssalign -fast -xO4 -fma=fused
-xipo=2 -xpagesize=4M -xdepend -xalias_level=compatible -xunroll=8
-xprefetch=no%auto -lfast

Base Other Flags

C benchmarks:
-xjobs=2 -V -#

C++ benchmarks:
-xjobs=2 -verbose=diags,version

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
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 -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2 -xO4
-xalias_level=std -xrestrict -Xc -xprefetch=no%auto
-lfast -ll2amm -lbsdmalloc

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xO4 -xchip=generic -xalias_level=strong

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Peak Optimization Flags (Continued)

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO4 -xalias_level=std
-xprefetch=latx:0.5 -xunroll=2 -ll2amm

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2
-xchip=generic -xprefetch_auto_type=indirect_array_access
-xprefetch=latx:0.1 -W2,-Apf:llist=3 -W2,-Apf:noinnerllist
-Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3 -lfast -lbsdmalloc

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xalias_level=std
-xrestrict -xprefetch=latx:1 -xunroll=12 -lfast

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xprefetch_level=2
-xunroll=12

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO4 -xinline= -xprefetch=no%auto
-xunroll=9 -ll2amm

462.libquantum: -fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2
-xchip=generic -xprefetch=no%auto -xunroll=10 -lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xvector -xalias_level=std
-xprefetch=latx:1.2 -ll2amm

C++ benchmarks:

471.omnetpp: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible
-M /usr/lib/ld/map.bssalign -xipo=1 -xO4
-Qoption cg -Qlp-av=0 -xprefetch=latx:1.2 -xunroll=5
-lfast -lbsdmalloc

473.astar: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible
-M /usr/lib/ld/map.bssalign -xlinkopt -xprefetch=latx:0.1
-xunroll=10 -lfast

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Peak Optimization Flags (Continued)

483.xalancbmk: `-library=stlport4 -xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused`
`-xpagesize=4M -xalias_level=compatible -xipo=2 -xO4`
`-xprefetch=no%auto -lfast`

Peak Other Flags

C benchmarks:
`-xjobs=2 -V -#`

C++ benchmarks:
`-xjobs=2 -verbose=diags,version`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.20110413.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.20110413.xml`

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