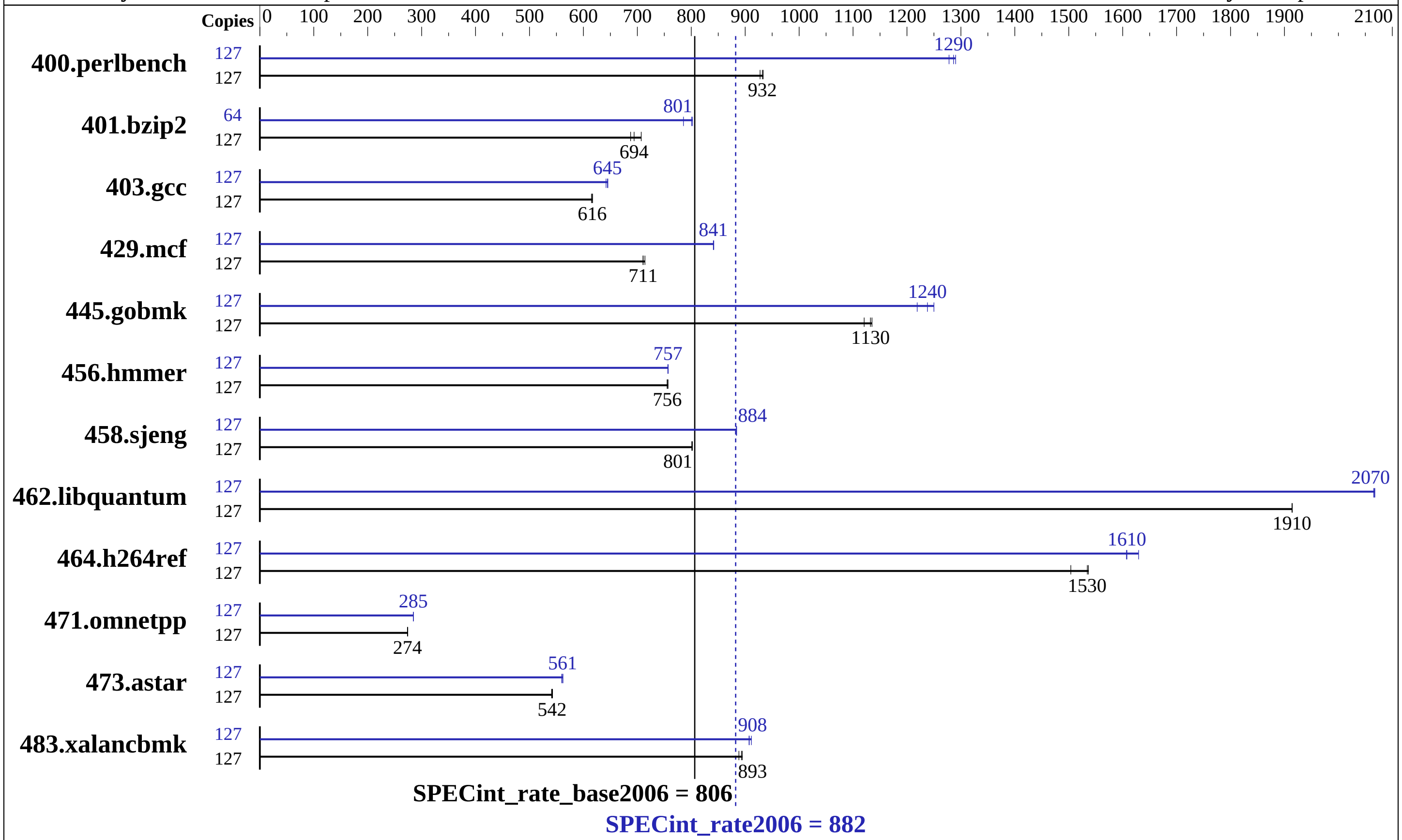
SPEC® CINT2006 Result

Fujitsu
SPARC Enterprise M8000

SPECint®_rate2006 = 882

SPECint_rate_base2006 = 806

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Oracle Corporation
Test date: Nov-2010
Hardware Availability: Dec-2010
Software Availability: Sep-2010



Hardware

CPU Name:	SPARC64 VII+
CPU Characteristics:	
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	64 cores, 16 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 4 CMUs; each CMU contains 2 or 4 CPU chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	512 GB (128 x 4 GB, 8-way interleaved)
Disk Subsystem:	698 GB mirrored partition on 12 x 146 GB 15K RPM SAS disks in each of 2 StorageTek 2530 Array (24 total disk, 12 in each array)
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

	Base							Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	127	1338	928	1329	933	**1332**	**932**	127	971	1280	**965**	**1290**	962	1290
401.bzip2	127	1783	687	1733	707	**1766**	**694**	64	786	785	770	802	**771**	**801**
403.gcc	127	**1659**	**616**	1657	617	1663	615	127	**1586**	**645**	1584	645	1593	642
429.mcf	127	1622	714	**1629**	**711**	1630	711	127	**1377**	**841**	1376	842	1377	841
445.gobmk	127	1189	1120	1174	1140	**1177**	**1130**	127	1066	1250	1093	1220	**1076**	**1240**
456.hmmer	127	1565	757	**1568**	**756**	1569	755	127	1566	757	**1566**	**757**	1565	757
458.sjeng	127	**1917**	**801**	1918	801	1916	802	127	1739	884	**1739**	**884**	1738	884
462.libquantum	127	**1375**	**1910**	1374	1910	1375	1910	127	1273	2070	1274	2070	**1273**	**2070**
464.h264ref	127	**1832**	**1530**	1829	1540	1869	1500	127	**1748**	**1610**	1725	1630	1749	1610
471.omnetpp	127	2894	274	2901	274	**2899**	**274**	127	2789	285	**2789**	**285**	2790	285
473.astar	127	1643	543	**1645**	**542**	1648	541	127	1586	562	**1588**	**561**	1593	560
483.xalancbmk	127	979	895	**981**	**893**	986	888	127	961	912	**965**	**908**	966	907

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).

 /etc/system parameters
    autoup=600
       Causes pages older than the listed number of seconds to
       be written by fsflush.
    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)

```
      lpg_alloc_prefer=1
          Indicates that extra effort should be taken to ensure
          that pages are created in the nearby lgroup (NUMA location).
  The "webconsole" service was turned off using
      svcadm disable webconsole
  The system had 75 GB of swap space.
```

Platform Notes

```
Memory is 8-way interleaved by filling all slots with
the same capacity DIMMs.

This result is measured on a SPARC Enterprise M8000 server from
Oracle.  The SPARC Enterprise M8000 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 -fma=fused -xipo=2 -xpagesize=4M -xalias_level=std -ll2amm`

C++ benchmarks:
`-fast -fma=fused -xipo=2 -xpagesize=4M -xalias_level=compatible -xdepend -library=stlport4 -lfast`

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Base Other Flags

C benchmarks:
-xjobs=32 -V -#

C++ benchmarks:
-xjobs=32 -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 -xpagesize=4M
-M /usr/lib/ld/map.bssalign -fma=fused -xipo=1
-xalias_level=std -xrestrict -Xc -xO4 -xprefetch=latx:0.5
-lfast

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

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xipo=2 -xalias_level=std -xprefetch=no
-xarch=sparcfmaf -ll2amm

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch_auto_type=indirect_array_access
-xchip=generic -xlinkopt -W2,-Apf:llist=3
-W2,-Apf:noinnerllist -lfast

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Peak Optimization Flags (Continued)

445.gobmk: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -fma=fused -xalias_level=std -xrestrict -xlinkopt -xprefetch=no%auto -xunroll=6 -lfast -ll2amm

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

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

462.libquantum: -fast -xpagesize=4M -fma=fused -xipo=2 -xprefetch=no -lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -xipo=2 -xarch=sparcfmaf -xalias_level=std -xprefetch=no -ll2amm

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -xalias_level=compatible -xdepend -library=stlport4 -fma=fused -xipo=2 -Qoption cg -Qlp-av=0 -xO4 -lfast

473.astar: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -xalias_level=compatible -xdepend -library=stlport4 -M /usr/lib/ld/map.bssalign -fma=fused -xipo=2 -xprefetch=no%auto -lfast -lbsdmalloc

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

Peak Other Flags

C benchmarks:
-xjobs=32 -V -#

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Peak Other Flags (Continued)

C++ benchmarks:
`-xjobs=32 -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.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.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
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