



SPEC® CINT2006 Result

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Fujitsu Limited

SPECint®_rate2006 = 264

Fujitsu SPARC Enterprise M5000

SPECint_rate_base2006 = 232

CPU2006 license: 19

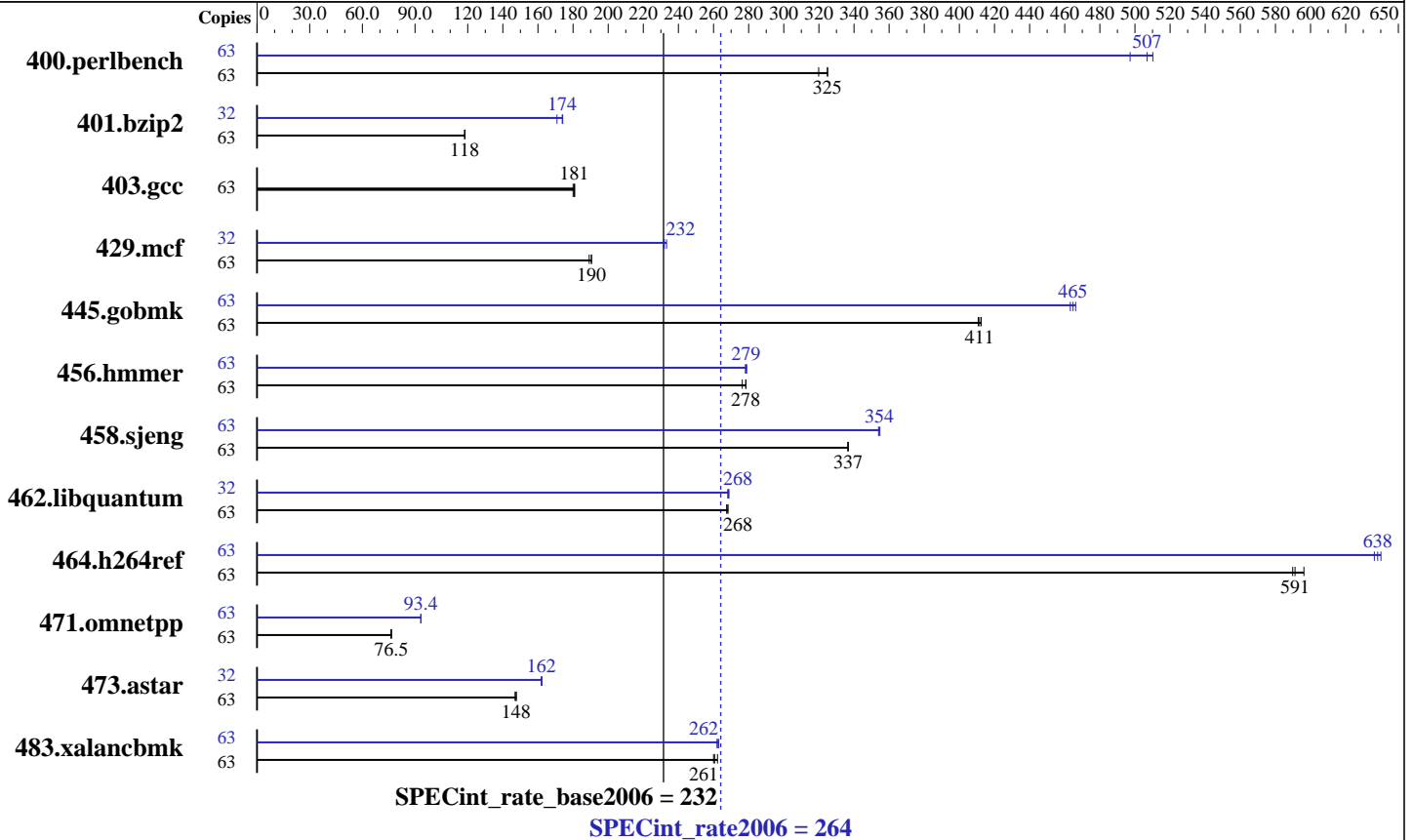
Test date: Jun-2008

Test sponsor: Fujitsu Limited

Hardware Availability: Jul-2008

Tested by: Sun Microsystems

Software Availability: Jul-2008



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 32 cores, 8 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 4 CPUM; each CPUM contains 2 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 128 GB (64 x 2 GB)
 Disk Subsystem: 158 GB RAID 0 Solaris Volume
 3 x Seagate 73 GB 10000 RPM
 Stripe interlace 512 Kbytes
 Other Hardware: None

Software

Operating System: Solaris 10 5/08 with patch 137111-03
 Compiler: Sun Studio 12 with patches
 124867-06, 124861-07, 124863-05
 (see patch information below)
 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	63	1895	325	1894	325	1924	320	63	1238	497	1214	507	1206	510
401.bzip2	63	5141	118	5131	118	5141	118	32	1808	171	1774	174	1777	174
403.gcc	63	2817	180	2803	181	2807	181	63	2817	180	2803	181	2807	181
429.mcf	63	3016	190	3037	189	3017	190	32	1258	232	1251	233	1259	232
445.gobmk	63	1602	412	1606	411	1609	411	63	1427	463	1422	465	1418	466
456.hammer	63	2112	278	2127	276	2111	278	63	2114	278	2108	279	2110	279
458.sjeng	63	2264	337	2265	336	2264	337	63	2149	355	2154	354	2151	354
462.libquantum	63	4877	268	4880	267	4866	268	32	2470	268	2467	269	2473	268
464.h264ref	63	2358	591	2338	596	2364	590	63	2184	638	2191	636	2178	640
471.omnetpp	63	5150	76.5	5156	76.4	5143	76.6	63	4224	93.2	4216	93.4	4214	93.4
473.astar	63	3009	147	2995	148	2997	148	32	1387	162	1387	162	1384	162
483.xalancbmk	63	1668	261	1672	260	1658	262	63	1653	263	1659	262	1658	262

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

Compiler Invocation Notes

Sun Studio compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12_patches.jsp

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

Environment Variable Settings:

```
ulimit -s 131072 was used to limit the space consumed
by the stack (making more space available for the heap)
```

System Tunables (/etc/system parameters):

```
tune_t_fsflushr=10
Controls how many seconds elapse between runs of the
page flush daemon, fsflush.
autoup=600
Causes pages older than the listed number of seconds to
be written by fsflush.
```

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Operating System Notes (Continued)

bufhwm=3000

Memory byte limit for caching I/O buffers

segmap_percent=1

Set maximum percent memory for file system cache

lpg_alloc_prefer=1

Set lgroup page allocation to strongly prefer local pages

Other System Settings:

The webconsole service was turned off using
svcadm disable webconsole

Platform Notes

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

This result is measured on a Sun SPARC Enterprise M5000 Server. Note that the Sun SPARC Enterprise M5000 and Fujitsu SPARC Enterprise M5000 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 -xprefetch_level=1
-xalias_level=std -l12amm

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Base Optimization Flags (Continued)

C++ benchmarks:

-xdepend -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xalias_level=compatible -lfast

Base Other Flags

C benchmarks:

-xjobs=16 -V -#

C++ benchmarks:

-xjobs=16 -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
-xalias_level=std -xipo=2 -xrestrict -fma=fused -lfast

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

403.gcc: basepeak = yes

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Peak Optimization Flags (Continued)

429.mcf: -fast -xpagesize=4M -xipo=2 -xprefetch=no -xrestrict
-xalias_level=std -lfast

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -xrestrict -fma=fused -ll2amm

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

458.sjeng: Same as 456.hmmer

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

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

C++ benchmarks:

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

473.astar: -xdepend -library=stlport4 -fast -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-fma=fused -lfast

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

Peak Other Flags

C benchmarks:

-xjobs=16 -V -#

C++ benchmarks:

-xjobs=16 -verbose=diags,version



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090713.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090713.xml>

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

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