



SPEC® CINT2006 Result

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Sun Microsystems

SPECint®_rate2006 = 637

Sun SPARC Enterprise M8000

SPECint_rate_base2006 = 565

CPU2006 license: 6

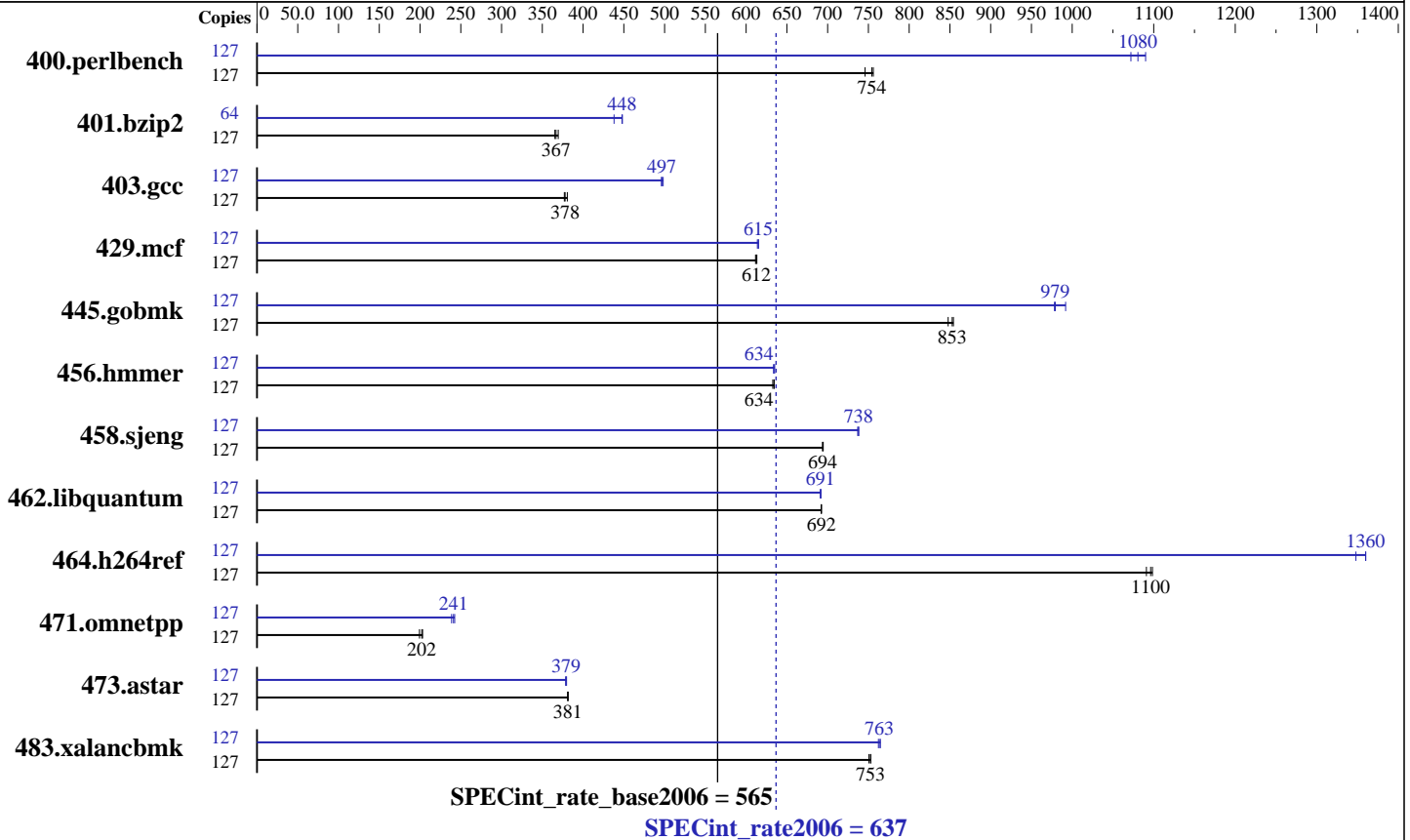
Test date: Jun-2008

Test sponsor: Sun Microsystems

Hardware Availability: Jul-2008

Tested by: Sun Microsystems

Software Availability: Jul-2008



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2520
 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 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 256 GB (128 x 2 GB)
 Disk Subsystem: 805 GB RAID 0 Solaris Volume
 12 x Fujitsu 73 GB 10000 RPM SAS
 Stripe interlace size 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	127	1663	746	1645	754	1641	756	127	1157	1070	1148	1080	1138	1090
401.bzip2	127	3354	365	3316	370	3341	367	64	1410	438	1378	448	1379	448
403.gcc	127	2686	381	2705	378	2712	377	127	2061	496	2052	498	2058	497
429.mcf	127	1889	613	1894	612	1891	612	127	1883	615	1887	614	1883	615
445.gobmk	127	1562	853	1571	848	1559	854	127	1343	992	1360	979	1362	978
456.hammer	127	1873	633	1868	634	1868	634	127	1870	634	1866	635	1869	634
458.sjeng	127	2212	695	2215	694	2215	694	127	2082	738	2083	738	2085	737
462.libquantum	127	3802	692	3801	692	3801	692	127	3804	692	3807	691	3807	691
464.h264ref	127	2559	1100	2564	1100	2576	1090	127	2067	1360	2085	1350	2066	1360
471.omnetpp	127	3983	199	3908	203	3926	202	127	3293	241	3273	242	3326	239
473.astar	127	2340	381	2338	381	2336	382	127	2351	379	2348	380	2355	379
483.xalancbmk	127	1164	753	1167	751	1164	753	127	1146	765	1148	763	1150	762

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

System Tunables (/etc/system parameters):

```
tune_t_fsflushr=10
    Controls how many seconds elapse between runs of the
    page flush daemon, fsflush.
autoup=300
    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=3
    Set maximum percent memory for file system cache
```

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Operating System Notes (Continued)

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 M8000 Server.
Note that the Sun SPARC Enterprise M8000 and Fujitsu SPARC Enterprise
M8000 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

C++ benchmarks:

-xdepend -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M

-xprefetch_level=2 -xalias_level=compatible -lfast



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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 -fma=fused
-xalias_level=std -xipo=2 -xprefetch_level=2 -xrestrict
-lfast

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

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

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

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Peak Optimization Flags (Continued)

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

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -fma=fused -xchip=ultra3cu -xpagesize=4m

462.libquantum: -fast -xpagesize=4M -xipo=2 -xprefetch=latx:3 -fma=fused
-xpagesize=64K -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 -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

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 other inquiries, please contact webmaster@spec.org.

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