



SPEC® CINT2006 Result

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Fujitsu

SPECint®2006 = 12.9

Fujitsu SPARC Enterprise M4000

SPECint_base2006 = 12.1

CPU2006 license: 19

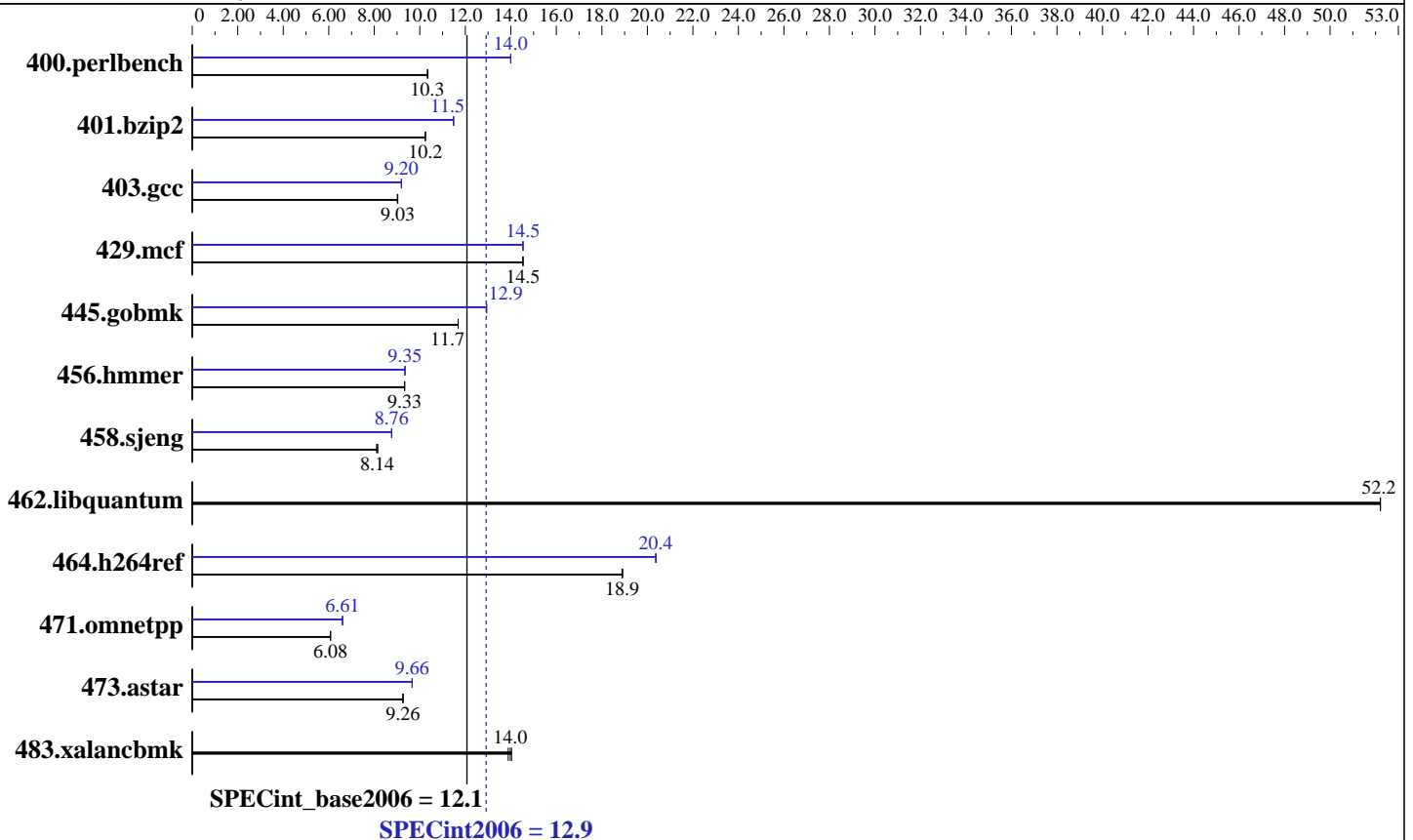
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2009

Hardware Availability: Nov-2009

Software Availability: Jul-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2530
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 2 CPUMs; each CPUM contains 2 CPU chips
 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: 64 GB (32 x 2 GB), 8-way interleaved
 Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
 Other Hardware: None

Software

Operating System: Solaris 10 5/09 with patches 119963-16, 120753-07, 118683-03
 Compiler: Sun Studio 12 Update 1
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	945	10.3	<u>945</u>	<u>10.3</u>	944	10.4	698	14.0	<u>698</u>	<u>14.0</u>	698	14.0
401.bzip2	<u>942</u>	<u>10.2</u>	943	10.2	942	10.2	840	11.5	841	11.5	<u>840</u>	<u>11.5</u>
403.gcc	891	9.03	<u>892</u>	<u>9.03</u>	893	9.01	875	9.20	876	9.18	<u>875</u>	<u>9.20</u>
429.mcf	628	14.5	<u>628</u>	<u>14.5</u>	627	14.5	627	14.5	628	14.5	<u>627</u>	<u>14.5</u>
445.gobmk	<u>898</u>	<u>11.7</u>	898	11.7	898	11.7	811	12.9	<u>811</u>	<u>12.9</u>	811	12.9
456.hammer	1000	9.33	1000	9.33	<u>1000</u>	<u>9.33</u>	998	9.35	<u>998</u>	<u>9.35</u>	998	9.35
458.sjeng	1494	8.10	<u>1487</u>	<u>8.14</u>	1485	8.15	1381	8.76	<u>1381</u>	<u>8.76</u>	1381	8.76
462.libquantum	397	52.2	<u>397</u>	<u>52.2</u>	397	52.2	397	52.2	<u>397</u>	<u>52.2</u>	397	52.2
464.h264ref	<u>1171</u>	<u>18.9</u>	1172	18.9	1170	18.9	1085	20.4	1087	20.4	<u>1086</u>	<u>20.4</u>
471.omnetpp	<u>1028</u>	<u>6.08</u>	1028	6.08	1030	6.07	<u>946</u>	<u>6.61</u>	948	6.59	946	6.61
473.astar	758	9.26	758	9.26	<u>758</u>	<u>9.26</u>	<u>726</u>	<u>9.66</u>	726	9.67	727	9.66
483.xalancbmk	<u>494</u>	<u>14.0</u>	492	14.0	497	13.9	<u>494</u>	<u>14.0</u>	492	14.0	497	13.9

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/ss12u1_patches.jsp

Submit Notes

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

Operating System Notes

Shell Environments:

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.

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 Fujitsu SPARC Enterprise M4000 Server. Note that the Fujitsu SPARC Enterprise M4000 and Sun SPARC Enterprise M4000 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=2

-xalias_level=std -M /usr/lib/ld/map.bssalign -ll2amm

C++ benchmarks:

-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2

-xalias_level=compatible -library=stlport4 -M /usr/lib/ld/map.bssalign

-lfast



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Base Other Flags

C benchmarks:
-xjobs=8 -V -#

C++ benchmarks:
-xjobs=8 -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 -xipo=2 -xalias_level=std -xrestrict -Xc
-lfast

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

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xarch=sparcvis2 -xalias_level=std
-xprefetch_auto_type=indirect_array_access
-xprefetch_level=2 -l12amm

429.mcf: -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2
-xalias_level=std -M /usr/lib/ld/map.bssalign -l12amm

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Peak Optimization Flags (Continued)

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

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

458.sjeng: Same as 456.hmmer

462.libquantum: basepeak = yes

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xarch=sparcvis2
-xprefetch=no -ll2amm

C++ benchmarks:

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

473.astar: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=stlport4
-M /usr/lib/ld/map.bssalign -xipo=2 -xprefetch=no%auto
-xarch=v8plusb -lfast -lbsdmalloc

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

-xjobs=8 -V -#

C++ benchmarks:

-xjobs=8 -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-Studio12-12u1-and-gccfss4.2.r4.html>

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

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.xml>



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For other inquiries, please contact webmaster@spec.org.

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