



SPEC® CINT2006 Result

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Fujitsu Limited

SPECint®2006 = 11.9

Fujitsu SPARC Enterprise M8000

SPECint_base2006 = 10.5

CPU2006 license: 19

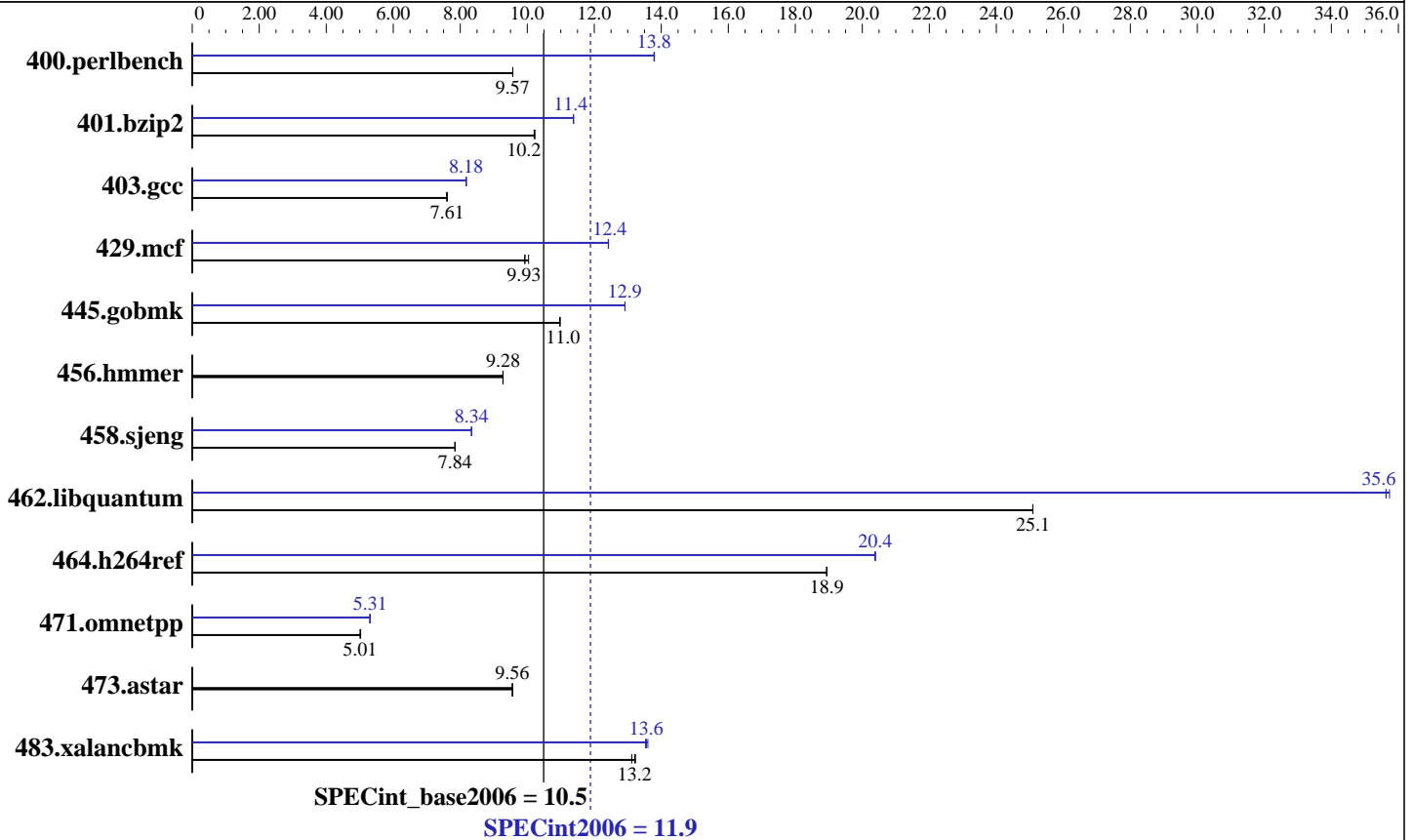
Test date: Jul-2008

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: 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: Fujitsu 73 GB 10000 RPM SAS
 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: 32/64-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	1021	9.57	1021	9.57	<u>1021</u>	<u>9.57</u>	709	13.8	708	13.8	<u>709</u>	<u>13.8</u>
401.bzip2	<u>944</u>	<u>10.2</u>	946	10.2	944	10.2	848	11.4	848	11.4	<u>848</u>	<u>11.4</u>
403.gcc	1060	7.59	<u>1058</u>	<u>7.61</u>	1058	7.61	984	8.18	<u>984</u>	<u>8.18</u>	984	8.18
429.mcf	908	10.0	<u>918</u>	<u>9.93</u>	919	9.93	734	12.4	734	12.4	<u>734</u>	<u>12.4</u>
445.gobmk	956	11.0	955	11.0	<u>956</u>	<u>11.0</u>	812	12.9	812	12.9	<u>812</u>	<u>12.9</u>
456.hmmer	1006	9.27	<u>1006</u>	<u>9.28</u>	1006	9.28	1006	9.27	<u>1006</u>	<u>9.28</u>	1006	9.28
458.sjeng	<u>1543</u>	<u>7.84</u>	1543	7.84	1541	7.85	<u>1451</u>	<u>8.34</u>	1451	8.34	1452	8.33
462.libquantum	826	25.1	<u>826</u>	<u>25.1</u>	826	25.1	580	35.7	<u>581</u>	<u>35.6</u>	582	35.6
464.h264ref	1169	18.9	1168	18.9	<u>1168</u>	<u>18.9</u>	1086	20.4	<u>1086</u>	<u>20.4</u>	1085	20.4
471.omnetpp	1243	5.03	1247	5.01	<u>1247</u>	<u>5.01</u>	<u>1177</u>	<u>5.31</u>	1177	5.31	1180	5.30
473.astar	735	9.56	734	9.56	<u>734</u>	<u>9.56</u>	735	9.56	734	9.56	<u>734</u>	<u>9.56</u>
483.xalancbmk	522	13.2	526	13.1	<u>522</u>	<u>13.2</u>	510	13.5	507	13.6	<u>509</u>	<u>13.6</u>

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 processor to use 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
```

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Operating System Notes (Continued)

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.

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 -ll2amm

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: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch_level=3 -W2,-Apf:llist=3
-W2,-Apf:noinnerllist -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3

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Peak Optimization Flags (Continued)

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

456.hmmr: basepeak = yes

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

462.libquantum: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xchip=ultra3cu -xprefetch_level=2

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xprefetch=no -l12amm

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: basepeak = yes

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-gccfss4.2.20090713.00.html>

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

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090713.00.xml>



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