



# SPEC<sup>®</sup> CINT2006 Result

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Fujitsu Limited

SPECint<sup>®</sup>\_rate2006 = 78.5

Fujitsu SPARC Enterprise T5120

SPECint\_rate\_base2006 = 73.0

CPU2006 license: 19

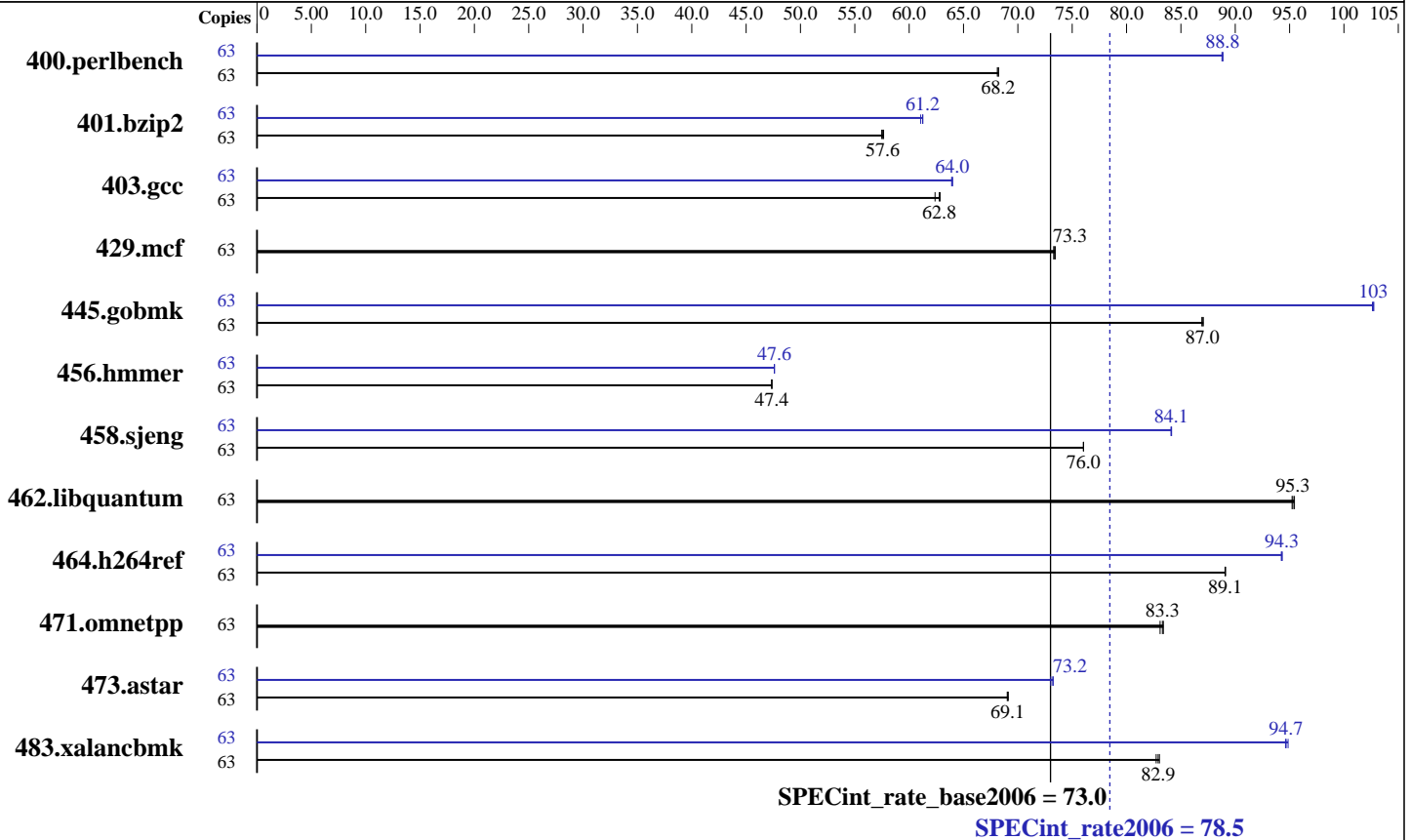
Test sponsor: Fujitsu Limited

Tested by: Sun Microsystems

Test date: Sep-2007

Hardware Availability: Oct-2007

Software Availability: Sep-2007



### Hardware

CPU Name: UltraSPARC T2  
 CPU Characteristics:  
 CPU MHz: 1417  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 1 chip, 8 cores/chip, 8 threads/core  
 CPU(s) orderable: 1 chip  
 Primary Cache: 16 KB I + 8 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 64 GB (16 x 4 GB)  
 Disk Subsystem: 275 GB Solaris Volume Manager  
 RAID 0, interlace 384KB, on  
 5 x SUN72G 10K RPM SAS disks;  
 ufs fragment size 8192 bytes  
 Other Hardware: None

### Software

Operating System: Solaris 10 8/07 (build s10s\_u4wos\_12b)  
 Compiler: Sun Studio 12 (patch build 2007/08/30)  
 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	<b>9026</b>	<b>68.2</b>	9023	68.2	9037	68.1	63	<b>6929</b>	<b>88.8</b>	6926	88.9	6933	88.8
401.bzip2	63	10578	57.5	10546	57.6	<b>10561</b>	<b>57.6</b>	63	9956	61.1	9925	61.3	<b>9927</b>	<b>61.2</b>
403.gcc	63	8070	62.8	<b>8080</b>	<b>62.8</b>	8130	62.4	63	<b>7929</b>	<b>64.0</b>	7936	63.9	7925	64.0
429.mcf	63	<b>7835</b>	<b>73.3</b>	7823	73.4	7838	73.3	63	<b>7835</b>	<b>73.3</b>	7823	73.4	7838	73.3
445.gobmk	63	<b>7598</b>	<b>87.0</b>	7602	86.9	7591	87.1	63	6440	103	6432	103	<b>6433</b>	<b>103</b>
456.hammer	63	12412	47.4	12409	47.4	<b>12409</b>	<b>47.4</b>	63	<b>12348</b>	<b>47.6</b>	12350	47.6	12348	47.6
458.sjeng	63	10025	76.0	<b>10026</b>	<b>76.0</b>	10026	76.0	63	9059	84.1	9065	84.1	<b>9063</b>	<b>84.1</b>
462.libquantum	63	<b>13697</b>	<b>95.3</b>	13708	95.2	13676	95.4	63	<b>13697</b>	<b>95.3</b>	13708	95.2	13676	95.4
464.h264ref	63	15647	89.1	<b>15650</b>	<b>89.1</b>	15655	89.1	63	14794	94.2	<b>14786</b>	<b>94.3</b>	14782	94.3
471.omnetpp	63	4739	83.1	4722	83.4	<b>4727</b>	<b>83.3</b>	63	4739	83.1	4722	83.4	<b>4727</b>	<b>83.3</b>
473.astar	63	6399	69.1	<b>6403</b>	<b>69.1</b>	6407	69.0	63	6037	73.3	<b>6041</b>	<b>73.2</b>	6056	73.0
483.xalancbmk	63	5255	82.7	<b>5243</b>	<b>82.9</b>	5236	83.0	63	<b>4591</b>	<b>94.7</b>	4594	94.6	4583	94.9

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

## Operating System Notes

Processes were bound to cores using "submit" and "pbind".

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.

The "webconsole" service was turned off using  
svcadm disable webconsole

## Platform Notes

This result was measured on a Sun SPARC Enterprise T5220. All of these are electronically equivalent:

- Sun SPARC Enterprise T5120
- Sun SPARC Enterprise T5220
- Fujitsu SPARC Enterprise T5120
- Fujitsu SPARC Enterprise T5220

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## Platform Notes (Continued)

This result was run with 5 internal disks. The correct number of disks should have been 4 or fewer for the T5120. The number of disks has a minor effect on T5120 SPEC CPU2006 scores - typically well under 1%. New results have been submitted using 4 or fewer disks.

## 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:

-g -fast -xipo=2 -xpagesize=4M -xprefetch\_level=2 -xalias\_level=std

C++ benchmarks:

-g0 -library=stlport4 -fast -xipo=2 -xpagesize=4M -xdepend  
-xprefetch\_level=1 -xalias\_level=compatible

## Base Other Flags

C benchmarks:

-xjobs=32 -V

C++ benchmarks:

-xjobs=32 -verbose=diags,version

## Peak Compiler Invocation

C benchmarks:

cc

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## Peak Compiler Invocation (Continued)

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: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xalias\_level=std -xipo=2 -Xc -xrestrict -lfast

401.bzip2: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xalias\_level=strong

403.gcc: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xalias\_level=std -xprefetch\_level=2

429.mcf: basepeak = yes

445.gobmk: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xalias\_level=std -xrestrict

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

458.sjeng: Same as 456.hmmer

462.libquantum: basepeak = yes

464.h264ref: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xipo=2 -xalias\_level=std

C++ benchmarks:

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## Peak Optimization Flags (Continued)

471.omnetpp: basepeak = yes

473.astar: -g0 -library=stlport4 -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize\_heap=4M  
-xpagesize\_stack=64K -xdepend -xalias\_level=compatible  
-xipo=2 -xarch=v8plusb -lfast -lbsdmalloc

483.xalancbmk: -g0 -library=stlport4 -fast -xpagesize=4M -xdepend  
-xalias\_level=compatible -xipo=2 -xprefetch\_level=2 -lfast

## Peak Other Flags

C benchmarks:

-xjobs=32 -V

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/Sun-Solaris-Studio12.20090714.html>

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

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.1.

Report generated on Tue Jul 22 14:09:11 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 1 November 2007.