



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sun Microsystems Sun Blade T6320

SPECint®\_rate2006 = 96.7

SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6

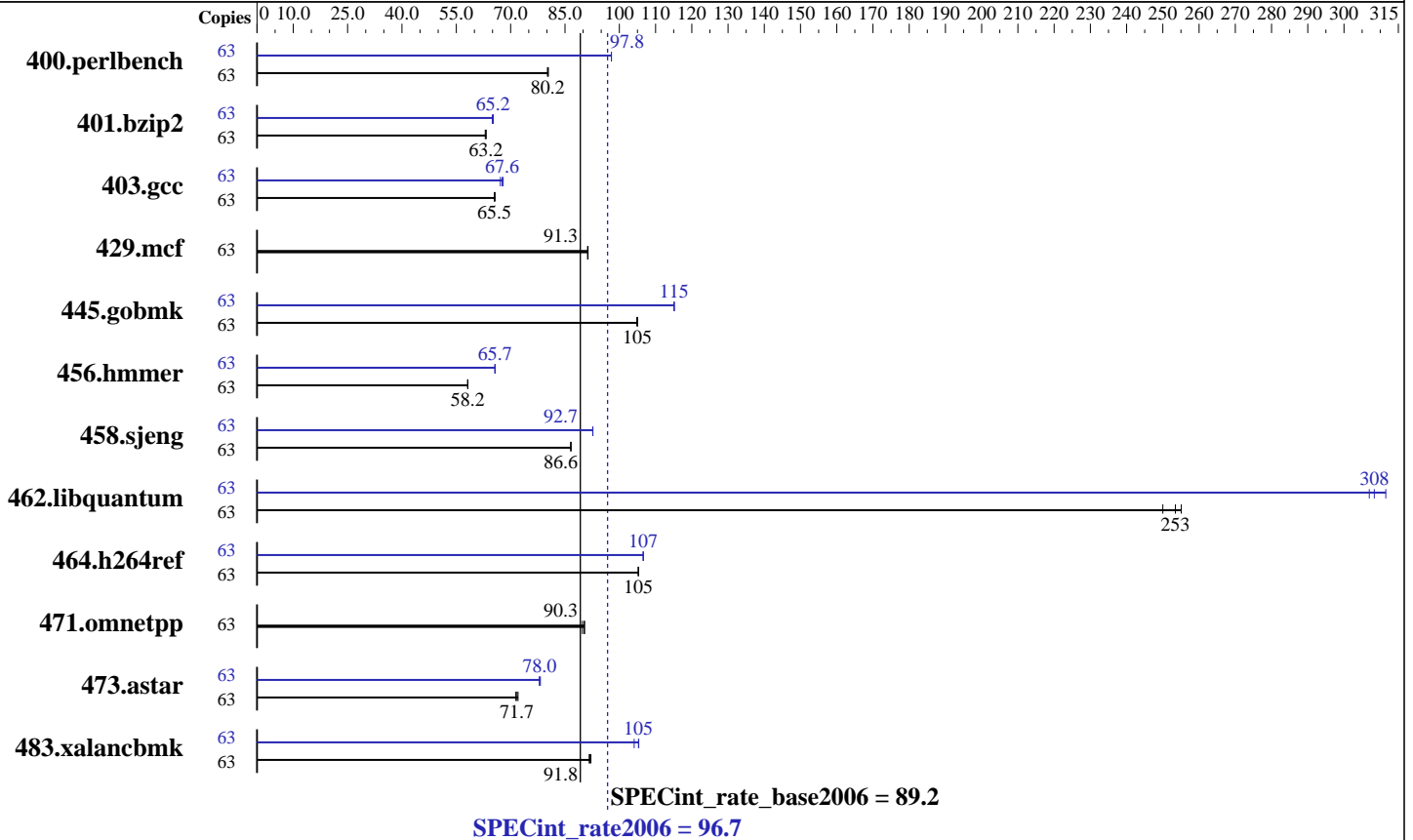
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Mar-2009

Hardware Availability: Jul-2009

Software Availability: Jun-2009



### Hardware

CPU Name: UltraSPARC T2  
 CPU Characteristics: 1582  
 CPU MHz: 1582  
 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: 1 x 146 GB Sun 10K RPM SAS  
 Other Hardware: None

### Software

Operating System: Solaris 10 10/08  
 Compiler: Sun Studio 12 Update 1 and gccfss V4.2.1  
 (see additional detail below)  
 Auto Parallel: No  
 File System: ufs  
 System State: Default  
 Base Pointers: 32-bit  
 Peak Pointers: 32-bit  
 Other Software: None



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Blade T6320

SPECint\_rate2006 = 96.7  
SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6  
Test sponsor: Sun Microsystems  
Tested by: Sun Microsystems

Test date: Mar-2009  
Hardware Availability: Jul-2009  
Software Availability: Jun-2009

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	63	7655	80.4	7676	80.2	<b>7672</b>	<b>80.2</b>	63	6292	97.8	6294	97.8	<b>6293</b>	<b>97.8</b>
401.bzip2	63	<b>9621</b>	<b>63.2</b>	9652	63.0	9618	63.2	63	<b>9327</b>	<b>65.2</b>	9323	65.2	9363	64.9
403.gcc	63	7719	65.7	<b>7738</b>	<b>65.5</b>	7743	65.5	63	7465	67.9	<b>7497</b>	<b>67.6</b>	7552	67.2
429.mcf	63	6296	91.3	6288	91.4	<b>6294</b>	<b>91.3</b>	63	6296	91.3	6288	91.4	<b>6294</b>	<b>91.3</b>
445.gobmk	63	<b>6293</b>	<b>105</b>	6305	105	6292	105	63	<b>5741</b>	<b>115</b>	5741	115	5740	115
456.hammer	63	10107	58.2	10103	58.2	<b>10106</b>	<b>58.2</b>	63	8947	65.7	<b>8948</b>	<b>65.7</b>	8948	65.7
458.sjeng	63	8799	86.6	8802	86.6	<b>8800</b>	<b>86.6</b>	63	8222	92.7	8226	92.7	<b>8226</b>	<b>92.7</b>
462.libquantum	63	5117	255	5221	250	<b>5150</b>	<b>253</b>	63	<b>4233</b>	<b>308</b>	4252	307	4190	312
464.h264ref	63	13250	105	13242	105	<b>13247</b>	<b>105</b>	63	13081	107	<b>13077</b>	<b>107</b>	13076	107
471.omnetpp	63	4355	90.4	<b>4360</b>	<b>90.3</b>	4384	89.8	63	4355	90.4	<b>4360</b>	<b>90.3</b>	4384	89.8
473.astar	63	6139	72.0	6192	71.4	<b>6164</b>	<b>71.7</b>	63	<b>5670</b>	<b>78.0</b>	5655	78.2	5675	77.9
483.xalancbmk	63	<b>4733</b>	<b>91.8</b>	4717	92.1	4742	91.7	63	<b>4129</b>	<b>105</b>	4126	105	4176	104

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

## Compiler Invocation Notes

This result was measured with pre-release build 36.0 of Sun Studio 12 Update 1

Peak also uses "GCC for SPARC Systems 4.2.1", which combines gcc with the Sun Code Generator for SPARC systems. It is invoked as "gcc", and accepts source code compatible with GCC 4.2.

For more information, including support, see <http://cooltools.sunsource.net/gcc/>

## Submit Notes

A processor set was created using  
psrset -c 1-63  
and the runspec process was placed into the set using  
psrset -e 1  
The config file option 'submit' was used to select specific processors within the set, along with the pbind command.

## Operating System Notes

ulimit -s 131072 was used to allow the stack to grow up to 131072 KB (aka 128 MB). Note that saying "131072" is preferable to "unlimited", because there is a tradeoff

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Blade T6320

SPECint\_rate2006 = 96.7  
SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6  
Test sponsor: Sun Microsystems  
Tested by: Sun Microsystems

Test date: Mar-2009  
Hardware Availability: Jul-2009  
Software Availability: Jun-2009

## Operating System Notes (Continued)

between space for the stack vs. space for the heap.

```

/etc/system parameters
  autoup=600
    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=1
    Set maximum percent memory for file system cache
  tune_t_fsflushr=10
    Controls how many seconds elapse between runs of the
    page flush daemon, fsflush.
  tsb_rss_factor=128
    Suggests that the the size of the TSB (Translation Storage Buffer)
    may be increased if it is more than 25% (128/512) full. Doing so
    may reduce TSB traps, at the cost of additional kernel memory.

```

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

The system had 68 GB of swap space.

## 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=no%auto -xalias_level=std
-M /usr/lib/ld/map.bssalign

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Blade T6320

SPECint\_rate2006 = 96.7  
SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6  
Test sponsor: Sun Microsystems  
Tested by: Sun Microsystems

Test date: Mar-2009  
Hardware Availability: Jul-2009  
Software Availability: Jun-2009

## Base Optimization Flags (Continued)

C++ benchmarks:  
-g0 -library=stlport4 -fast -xipo=2 -xpagesize=4M -xprefetch=no%auto  
-xdepend -xalias\_level=compatible -M /usr/lib/ld/map.bssalign

## Base Other Flags

C benchmarks:  
-xjobs=32 -V -#  
C++ benchmarks:  
-xjobs=32 -verbose=diags,version

## Peak Compiler Invocation

C benchmarks (except as noted below):  
cc  
403.gcc: gcc  
456.hmmcr: gcc  
C++ benchmarks:  
CC

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_SOLARIS\_SPARC  
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  
-xprefetch=no%auto -M /usr/lib/ld/map.bssalign  
-xalias\_level=std -xipo=2 -Xc -xrestrict -lfast  
401.bzip2: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-M /usr/lib/ld/map.bssalign -xalias\_level=strong

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Blade T6320

SPECint\_rate2006 = 96.7  
SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6  
Test sponsor: Sun Microsystems  
Tested by: Sun Microsystems

Test date: Mar-2009  
Hardware Availability: Jul-2009  
Software Availability: Jun-2009

## Peak Optimization Flags (Continued)

403.gcc: -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xprefetch=no%auto -Wl,-M,/usr/lib/ld/map.bssalign -xipo=2  
-xalias\_level=std

429.mcf: basepeak = yes

445.gobmk: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xprefetch=no%auto -M /usr/lib/ld/map.bssalign  
-xalias\_level=std -xrestrict

456.hmmcr: -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-Wl,-M,/usr/lib/ld/map.bssalign -xipo=2 -xalias\_level=std

458.sjeng: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xipo=2

462.libquantum: -g -fast -xpagesize=4M -xprefetch\_level=3  
-xprefetch\_auto\_type=indirect\_array\_access  
-M /usr/lib/ld/map.bssalign -xipo=2 -xalias\_level=std

464.h264ref: -g -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M  
-xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xipo=2  
-xalias\_level=std

C++ benchmarks:

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 -xprefetch=no%auto -xdepend  
-xalias\_level=compatible -M /usr/lib/ld/map.bssalign  
-xipo=2 -xarch=v8plusb -lfast -lbsdmalloc

483.xalancbmk: -g0 -library=stlport4 -fast -xpagesize=4M  
-xprefetch=no%auto -xdepend -xalias\_level=compatible  
-M /usr/lib/ld/map.bssalign -xipo=2 -lfast

## Peak Other Flags

C benchmarks (except as noted below):  
-xjobs=32 -V -#

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Blade T6320

SPECint\_rate2006 = 96.7  
SPECint\_rate\_base2006 = 89.2

CPU2006 license: 6  
Test sponsor: Sun Microsystems  
Tested by: Sun Microsystems

Test date: Mar-2009  
Hardware Availability: Jul-2009  
Software Availability: Jun-2009

## Peak Other Flags (Continued)

403.gcc: -v

456.hmmr: -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-Studio12-12u1-and-gccfss4.2.r3.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.r3.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 03:23:41 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 5 August 2009.