SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

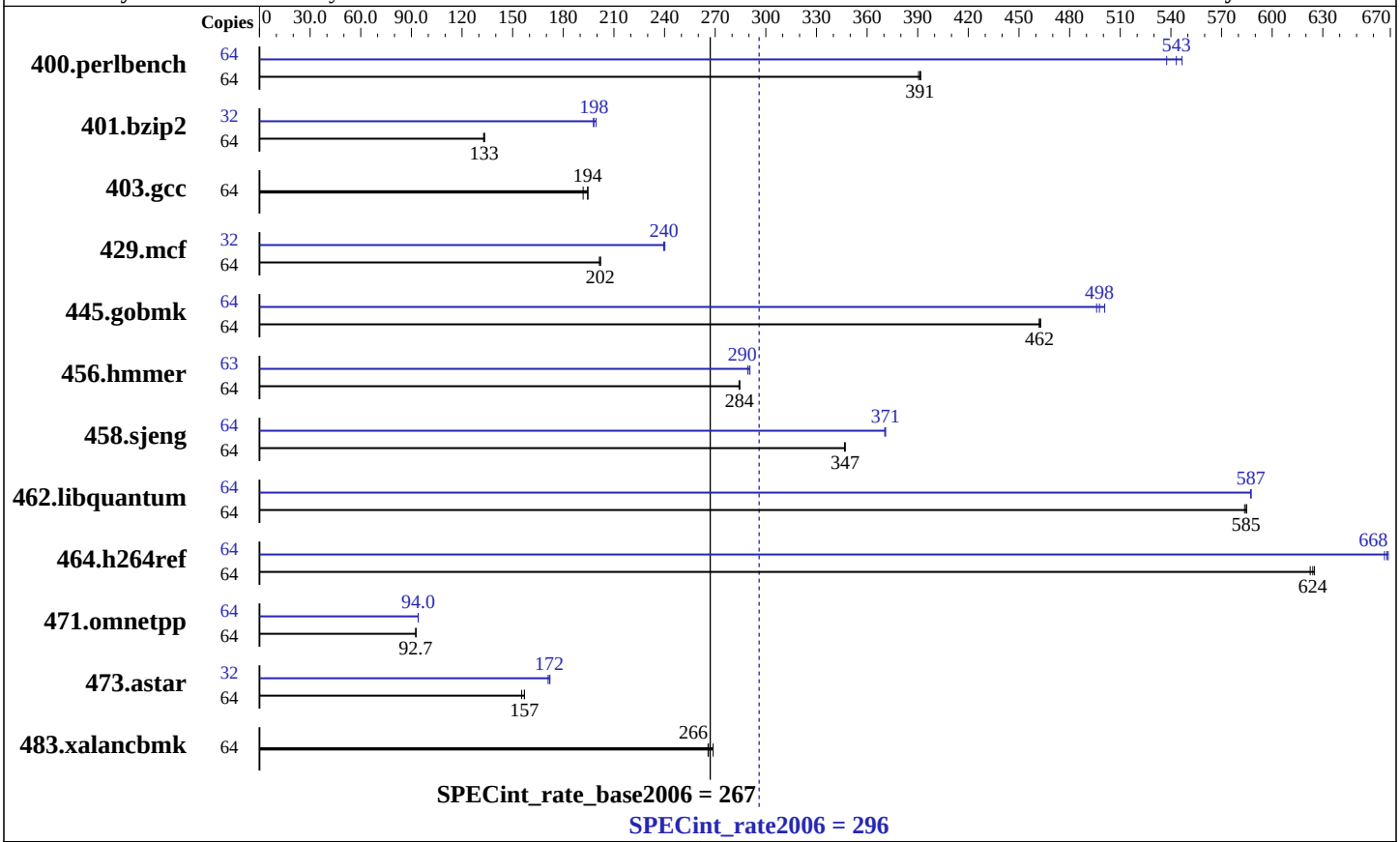
Fujitsu SPARC Enterprise M5000

SPECint®_rate2006 = 296

SPECint_rate_base2006 = 267

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Sun Microsystems

Test date: Sep-2009
Hardware Availability: Nov-2009
Software Availability: Oct-2009



Hardware

CPU Name:	SPARC64 VII
CPU Characteristics:	
CPU MHz:	2530
FPU:	Integrated
CPU(s) enabled:	32 cores, 8 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 4 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:	128 GB (64 x 2 GB), 8-way interleaved
Disk Subsystem:	536 GB (zfs 8 x 3-way mirrors) on 24x 73GB 15000RPM FC-AL disks in 2x SE3510 enclosures
Other Hardware:	None

Software

Operating System:	Solaris 10 10/09 (s10s_u8wos_06)
Compiler:	Sun Studio 12 Update 1 plus patches (see notes)
Auto Parallel:	No
File System:	zfs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

Fujitsu SPARC Enterprise M5000

SPECint_rate2006 = 296

SPECint_rate_base2006 = 267

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Sun Microsystems

Test date: Sep-2009
Hardware Availability: Nov-2009
Software Availability: Oct-2009

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	1601	390	**1598**	**391**	1596	392	64	1163	537	1144	547	**1151**	**543**
401.bzip2	64	4630	133	4651	133	**4640**	**133**	32	1561	198	**1558**	**198**	1548	199
403.gcc	64	2647	195	2687	192	**2651**	**194**	64	2647	195	2687	192	**2651**	**194**
429.mcf	64	**2890**	**202**	2889	202	2898	201	32	1215	240	1218	240	**1217**	**240**
445.gobmk	64	**1452**	**462**	1450	463	1453	462	64	1341	501	1354	496	**1349**	**498**
456.hmmer	64	**2099**	**284**	2099	285	2102	284	63	**2025**	**290**	2023	291	2032	289
458.sjeng	64	2234	347	**2232**	**347**	2232	347	64	2088	371	**2088**	**371**	2090	370
462.libquantum	64	2272	584	2267	585	**2268**	**585**	64	2258	587	2257	587	**2257**	**587**
464.h264ref	64	**2269**	**624**	2266	625	2275	623	64	2118	669	2125	667	**2120**	**668**
471.omnetpp	64	**4316**	**92.7**	4313	92.7	4319	92.6	64	4252	94.1	**4253**	**94.0**	4255	94.0
473.astar	64	**2863**	**157**	2892	155	2862	157	32	1305	172	1314	171	**1308**	**172**
483.xalancbmk	64	**1660**	**266**	1662	266	1643	269	64	**1660**	**266**	1662	266	1643	269

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

Compiler Invocation Notes

```
Sun Studio 12 Update 1 was used, plus patch 119963-17

Sun Studio compiler patches are available at
  http://developers.sun.com/sunstudio/downloads/patches/ss12u1_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

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


System Tunables (/etc/system parameters):

tune_t_fsflushr=10
    Controls how many seconds elapse between runs of the
```

Continued on next page

Operating System Notes (Continued)

```
    page flush daemon, fsflush.
autoup=600
    Causes pages older than the listed number of seconds to
    be written by fsflush.
zfs:zfs_arc_max = 0x10000000
    Control the amount of memory used by ZFS for caching
lpg_alloc_prefer=1
    Prefer local pages, even if not easily available

Other System Settings:

The webconsole service was turned off using
    svcadm disable webconsole

The system had 50 GB of swap space
```

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 M5000
Server.  The Sun SPARC Enterprise M5000 and the Fujitsu
SPARC Enterprise M5000 are electrically equivalent.
```

General Notes

```
Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "64"
SUNW_MP_PROCBIND = "true"
SUNW_MP_THR_IDLE = "SPIN"
(Although these variables were set prior to the run
they did not affect performance, since the benchmarks
were compiled in serial mode.)
```

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 -xarch=sparcfmaf
-xalias_level=std -ll2amm

C++ benchmarks:
-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M -xarch=sparcfmaf
-xalias_level=compatible -library=stlport4 -lfast

Base Other Flags

C benchmarks:
-xjobs=32 -V -#

C++ benchmarks:
-xjobs=32 -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 -xpagesize=4M
-M /usr/lib/ld/map.bssalign -fma=fused -xipo=2
-xalias_level=std -xrestrict -xprefetch=no%auto -Xc
-lfast

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

403.gcc: basepeak = yes

429.mcf: -fast -xpagesize=4M -xipo=2 -xalias_level=std -xrestrict
-xprefetch=no -lfast

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xarch=sparcfmaf -xalias_level=std -xrestrict
-ll2amm

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

458.sjeng: Same as 456.hmmer

462.libquantum: -fast -xpagesize=4M -xipo=2 -xprefetch=no -fma=fused
-lbsdmalloc

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

C++ benchmarks:

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

Continued on next page

Peak Optimization Flags (Continued)

483.xalancbmk: `basepeak = yes`

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-Studio12-12u1-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`

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.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 04:14:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 October 2009.