SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu Limited

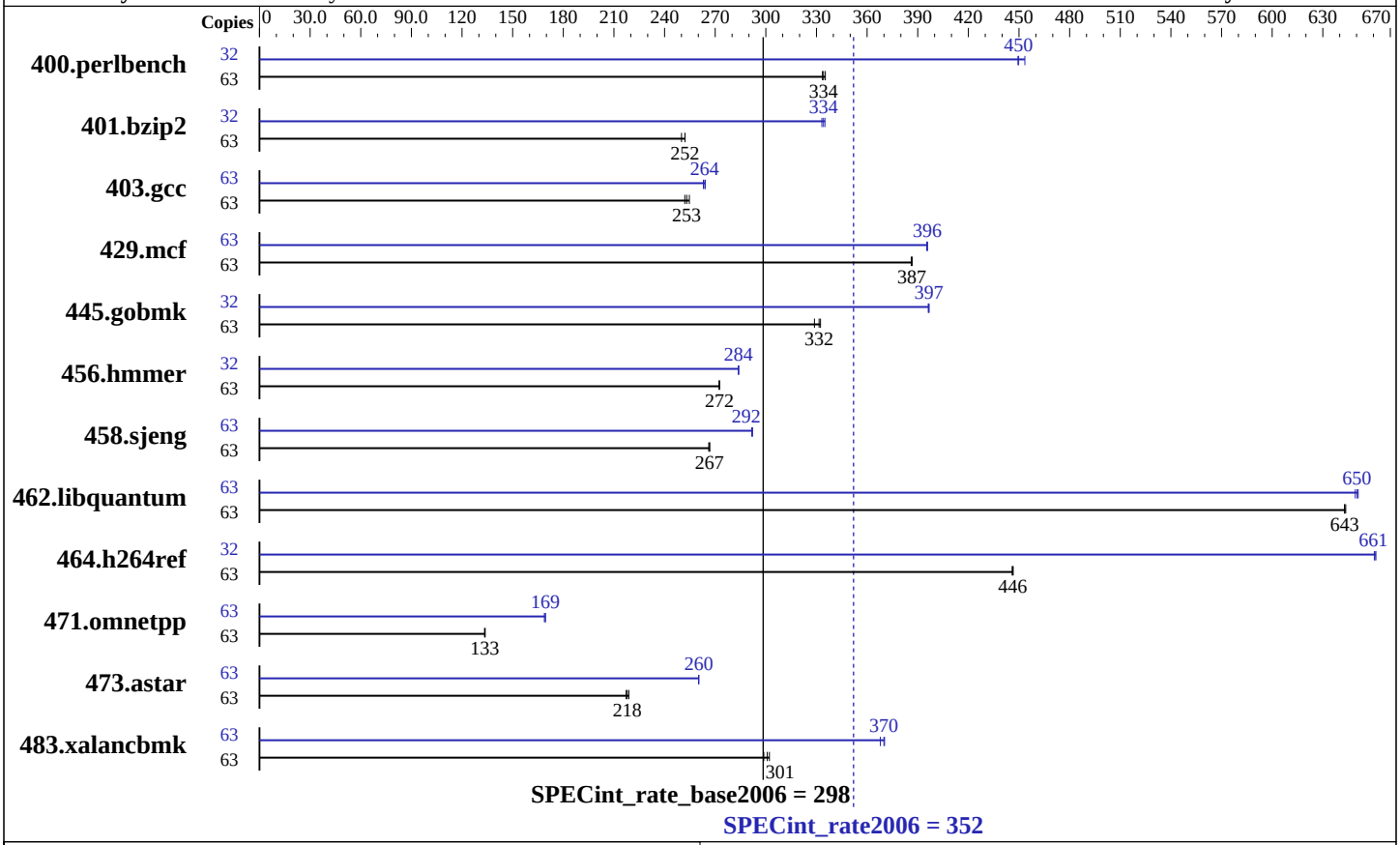
Fujitsu SPARC Enterprise M8000

SPECint®_rate2006 = 352

SPECint_rate_base2006 = 298

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

Test date: Apr-2007
Hardware Availability: Apr-2007
Software Availability: Jul-2007



Hardware

CPU Name:	SPARC64 VI
CPU Characteristics:	
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 4 CMUs; each CMU contains 2 or 4 chips
Primary Cache:	128 KB I + 128 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:	400 GB RAID 0 created by Solaris Volume Manager with 12x 36GB 15,000 RPM Seagate ST336754FC FC-AL disks
Other Hardware:	None

Software

Operating System:	Solaris 10 7/07 (build s10s_u4wos_03)
Compiler:	Sun Studio 12 (build 44.0)
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	63	**1842**	**334**	1845	334	1836	335	32	689	453	696	449	**695**	**450**
401.bzip2	63	2411	252	**2412**	**252**	2431	250	32	927	333	**924**	**334**	922	335
403.gcc	63	2012	252	**2003**	**253**	1991	255	63	1928	263	1920	264	**1922**	**264**
429.mcf	63	1488	386	1486	387	**1486**	**387**	63	1452	396	**1452**	**396**	1453	395
445.gobmk	63	**1993**	**332**	1988	332	2010	329	32	847	396	**846**	**397**	846	397
456.hmmer	63	2157	273	2159	272	**2157**	**272**	32	1052	284	**1052**	**284**	1052	284
458.sjeng	63	2864	266	**2859**	**267**	2858	267	63	2610	292	**2611**	**292**	2614	292
462.libquantum	63	**2030**	**643**	2028	644	2031	643	63	2005	651	**2007**	**650**	2011	649
464.h264ref	63	3122	447	**3124**	**446**	3126	446	32	**1072**	**661**	1071	661	1072	661
471.omnetpp	63	**2949**	**133**	2952	133	2944	134	63	2333	169	**2325**	**169**	2325	169
473.astar	63	2036	217	**2029**	**218**	2021	219	63	**1699**	**260**	1700	260	1699	260
483.xalancbmk	63	1455	299	1439	302	**1445**	**301**	63	1174	370	1182	368	**1175**	**370**

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".

These shell commands request use of local 4MB pages:
      export LD_PRELOAD=madv.so.1:mpss.so.1
      export MPSSHEAP=4MB
      export MPSSSTACK=4MB
      export MADV=access_lwp
'access_lwp' means that the next light weight
process to touch the specified address range
will access it the most heavily.

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=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=1
       Set maximum percent memory for file system cache
    tune_t_fsflushr=3
       Controls how many seconds elapse between runs of the
       page flush daemon, fsflush.
```

Continued on next page

Operating System Notes (Continued)

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

Platform Notes

```
"CMU" = CPU/Memory Unit; each holds 2 or 4 CPU chips.

Memory was 8-way interleaved by filling all slots with
the same capacity DIMMs.

This result was measured using a Sun SPARC Enterprise
M8000 Server.  Note that the Fujitsu SPARC Enterprise
M8000 and Sun SPARC Enterprise M8000 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 -xcache=128/64/2:6144/256/12 -xipo=2 -xpagesize=4M
-xprefetch_level=2 -lbsdmalloc
```

C++ benchmarks:
```
-xdepend -library=stlport4 -fast -fma=fused
-xcache=128/64/2:6144/256/12 -xipo=2 -xpagesize=4M -xprefetch_level=2
-lbsdmalloc
```

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
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=std -Xc -xipo=2 -xrestrict -fma=fused
-xprefetch=latx:5 -lfast

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=strong -fma=fused -xprefetch=latx:5

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M -xipo=2
-xalias_level=std -xprefetch_level=2 -xarch=v8plusb
-fma=fused -ll2amm

429.mcf: -fast -xcache=128/64/2:6144/256/12 -xpagesize=4M -xipo=2
-xprefetch_level=2 -xrestrict -xalias_level=std
-W2,-Apf:llist=3 -W2,-Apf:noinnerllist -xprefetch=latx:5

Continued on next page

Peak Optimization Flags (Continued)

429.mcf (continued):
-lfast

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=std -xrestrict -fma=fused

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M -xipo=2
-fma=fused

458.sjeng: Same as 456.hmmer

462.libquantum: -fast -xcache=128/64/2:6144/256/12 -xpagesize=4M -xipo=2
-xprefetch_level=2 -fma=fused -xprefetch=latx:3
-lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M -xipo=2
-xalias_level=std -xarch=v8plusb -ll2amm

C++ benchmarks:

471.omnetpp: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-Qoption cg -Qlp-av=0 -fma=fused -lfast

473.astar: -xdepend -library=stlport4 -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-fma=fused -xprefetch=latx:5 -lfast

483.xalancbmk: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:6144/256/12 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-fma=fused -xprefetch=latx:5 -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-Studio12.20090714.02.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.02.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 v1.0.1.
Report generated on Tue Jul 22 11:13:27 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 May 2007.