SPEC® CINT2006 Result

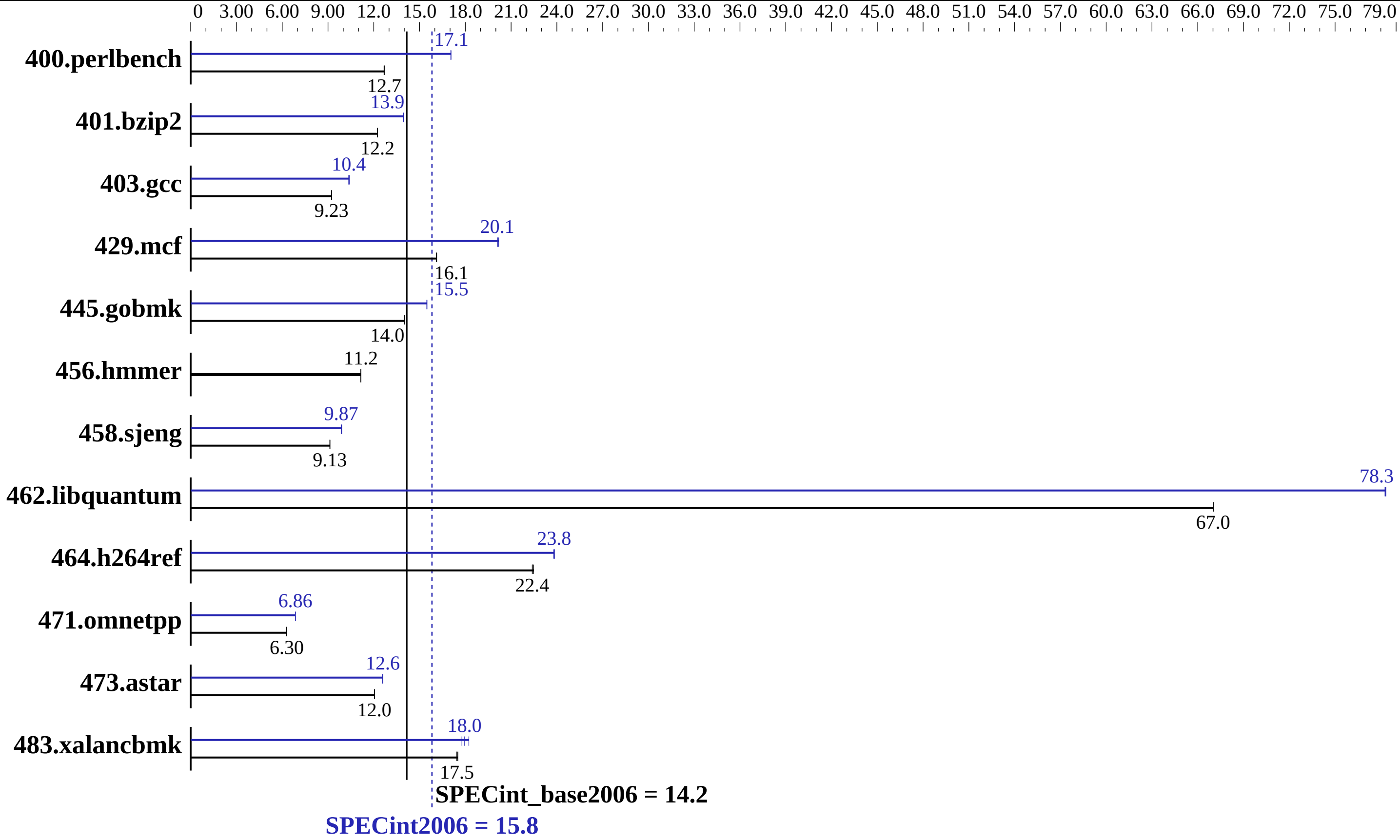
Fujitsu
SPARC Enterprise M8000

SPECint®2006 = 15.8

SPECint_base2006 = 14.2

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

Test date: Oct-2010
Hardware Availability: Dec-2010
Software Availability: Sep-2010



Hardware

CPU Name:	SPARC64 VII+
CPU Characteristics:	
CPU MHz:	3000
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 CPU chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	512 GB (128 x 4 GB, 8-way interleaved)
Disk Subsystem:	4 x 300 GB 10,000 RPM SAS
Other Hardware:	None

Software

Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
Auto Parallel:	No
File System:	zfs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

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Results Table

	Base						Peak					
Benchmark	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	**770**	**12.7**	771	12.7	770	12.7	573	17.1	573	17.0	**573**	**17.1**
401.bzip2	788	12.2	**788**	**12.2**	788	12.2	**692**	**13.9**	692	13.9	692	13.9
403.gcc	872	9.23	**872**	**9.23**	872	9.23	**777**	**10.4**	774	10.4	777	10.4
429.mcf	**566**	**16.1**	566	16.1	566	16.1	452	20.2	454	20.1	**454**	**20.1**
445.gobmk	**748**	**14.0**	748	14.0	748	14.0	**678**	**15.5**	678	15.5	678	15.5
456.hmmer	**836**	**11.2**	836	11.2	836	11.2	**836**	**11.2**	836	11.2	836	11.2
458.sjeng	1327	9.12	1326	9.13	**1326**	**9.13**	1226	9.87	**1225**	**9.87**	1222	9.90
462.libquantum	309	67.0	309	67.0	**309**	**67.0**	**265**	**78.3**	265	78.3	265	78.3
464.h264ref	989	22.4	**988**	**22.4**	985	22.5	**929**	**23.8**	931	23.8	928	23.8
471.omnetpp	992	6.30	**992**	**6.30**	995	6.28	911	6.86	**911**	**6.86**	911	6.86
473.astar	583	12.0	**583**	**12.0**	583	12.0	559	12.6	557	12.6	**557**	**12.6**
483.xalancbmk	**395**	**17.5**	396	17.4	394	17.5	388	17.8	**384**	**18.0**	378	18.2

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

Compiler Invocation Notes

```
Oracle Solaris Studio 12.2 is distributed with mandatory OS patches
 118683-05  119963-20  120753-08
Oracle Solaris Studio 12.2 and patches are available at
 http://oracle.com/goto/solarisstudio
```

Submit Notes

```
The config file option 'submit' was used.  Processes were assigned to
specific processors using 'pbind' commands.  The list of processors to use
was provided in the 'BIND' variable, to generate the pbind commands.
(For details, please see the config file.)
```

Operating System Notes

```
Shell Environments:

    ulimit -s 131072 was used to limit the space consumed
    by the stack.(making more space available for the heap)

 System Tunables (/etc/system parameters):

 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
```

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Operating System Notes (Continued)

```
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
```

Platform Notes

```
Memory is 8-way interleaved by filling each CMU's slots with the same
capacity DIMMs.

This result is measured on a SPARC Enterprise M8000 server from
Fujitsu.  The SPARC Enterprise M8000 server from Oracle and from
Fujitsu 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 -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`

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 -xipo=2 -xalias_level=std -xprefetch_level=1 -xrestrict -lfast`

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

403.gcc: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xipo=2 -xalias_level=std -xO4 -xchip=generic -xunroll=7 -ll2amm`

429.mcf: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xipo=2 -xprefetch=latx:0.5 -xprefetch_level=3 -xprefetch_auto_type=indirect_array_access -xchip=generic -xlinkopt -xunroll=7 -W2,-Apf:llist=3 -W2,-Apf:noinnerllist -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3 -lfast`

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Peak Optimization Flags (Continued)

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

456.hmmer: basepeak = yes

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xO4 -xlinkopt -xunroll=2

462.libquantum: -fast -xpagesize=4M -xalias_level=std -xipo=2
-xprefetch=no%auto -xO4 -xarch=generic -xcache=generic
-xlinkopt=2 -xunroll=8

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

C++ benchmarks:

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

473.astar: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -fma=fused -xipo=2
-xprefetch_level=2 -xprefetch=latx:0.5 -lfast

483.xalancbmk: -xdepend -library=stlport4 -fast -xpagesize=4M
-xalias_level=compatible -fma=fused -xipo=2
-xprefetch=no%auto -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/Oracle-Solaris-Studio12.2-SPARC.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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