SPEC® CINT2006 Result

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Fujitsu Limited

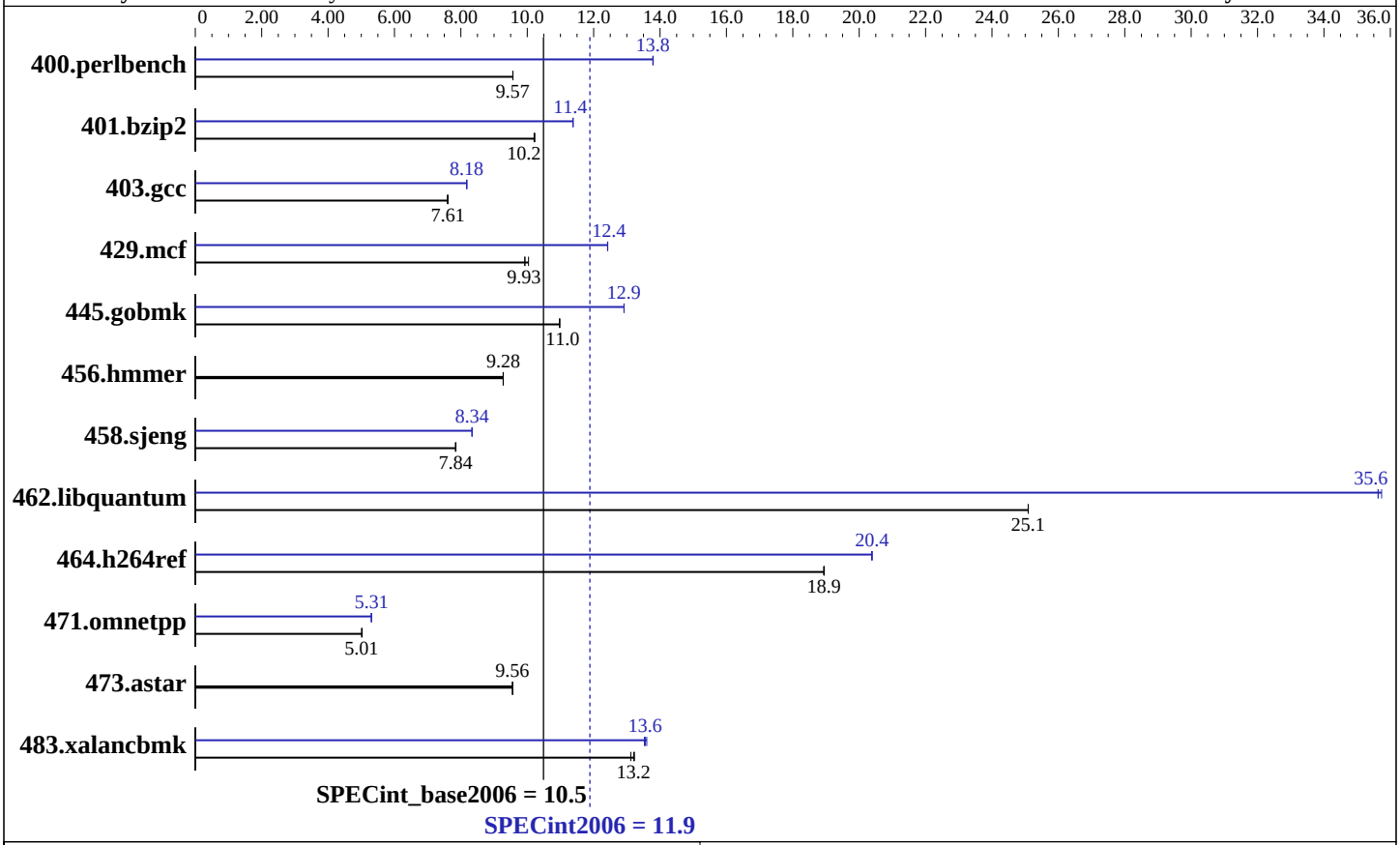
Fujitsu SPARC Enterprise M8000

SPECint®2006 = 11.9

SPECint_base2006 = 10.5

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

Test date: Jul-2008
Hardware Availability: Jul-2008
Software Availability: Jul-2008



Hardware

CPU Name:	SPARC64 VII
CPU Characteristics:	
CPU MHz:	2520
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 chips
Primary Cache:	64 KB I + 64 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:	Fujitsu 73 GB 10000 RPM SAS
Other Hardware:	None

Software

Operating System:	Solaris 10 5/08 with Patch 137111-03
Compiler:	Sun Studio 12 with patches 124867-06, 124861-07, 124863-05 (see patch information below)
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	None

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	1021	9.57	1021	9.57	**1021**	**9.57**	709	13.8	708	13.8	**709**	**13.8**
401.bzip2	**944**	**10.2**	946	10.2	944	10.2	848	11.4	848	11.4	**848**	**11.4**
403.gcc	1060	7.59	**1058**	**7.61**	1058	7.61	984	8.18	**984**	**8.18**	984	8.18
429.mcf	908	10.0	**918**	**9.93**	919	9.93	734	12.4	734	12.4	**734**	**12.4**
445.gobmk	956	11.0	955	11.0	**956**	**11.0**	812	12.9	812	12.9	**812**	**12.9**
456.hmmer	1006	9.27	**1006**	**9.28**	1006	9.28	1006	9.27	**1006**	**9.28**	1006	9.28
458.sjeng	**1543**	**7.84**	1543	7.84	1541	7.85	**1451**	**8.34**	1451	8.34	1452	8.33
462.libquantum	826	25.1	**826**	**25.1**	826	25.1	580	35.7	**581**	**35.6**	582	35.6
464.h264ref	1169	18.9	1168	18.9	**1168**	**18.9**	1086	20.4	**1086**	**20.4**	1085	20.4
471.omnetpp	1243	5.03	1247	5.01	**1247**	**5.01**	**1177**	**5.31**	1177	5.31	1180	5.30
473.astar	735	9.56	734	9.56	**734**	**9.56**	735	9.56	734	9.56	**734**	**9.56**
483.xalancbmk	522	13.2	526	13.1	**522**	**13.2**	510	13.5	507	13.6	**509**	**13.6**

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

Compiler Invocation Notes

```
Sun Studio compiler patches are available at
    http://developers.sun.com/sunstudio/downloads/patches/ss12_patches.jsp
```

Submit Notes

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

Operating System Notes

```
System Tunables (/etc/system parameters):

tune_t_fsflushr=10
    Controls how many seconds elapse between runs of the
    page flush daemon, fsflush.
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=3
```

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Operating System Notes (Continued)

```
    Set maximum percent memory for file system cache
lpg_alloc_prefer=1
    Set lgroup page allocation to strongly prefer local pages

Other System Settings:

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

Platform Notes

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

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

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

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xprefetch=no -fma=fused
-ll2amm

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch_level=3 -W2,-Apf:llist=3
-W2,-Apf:noinnerllist -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3

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Peak Optimization Flags (Continued)

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

456.hmmer: basepeak = yes

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xchip=ultra3cu

462.libquantum: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xchip=ultra3cu -xprefetch_level=2

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

C++ benchmarks:

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

473.astar: basepeak = yes

483.xalancbmk: -xdepend -library=stlport4 -fast -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch=no -fma=fused
-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-and-gccfss4.2.20090713.00.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090713.00.xml

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For other inquiries, please contact webmaster@spec.org.

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