



SPEC[®] CINT2006 Result

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Fujitsu Limited

SPECint[®]2006 = 10.8

Fujitsu SPARC Enterprise M4000

SPECint_base2006 = 9.29

CPU2006 license: 19

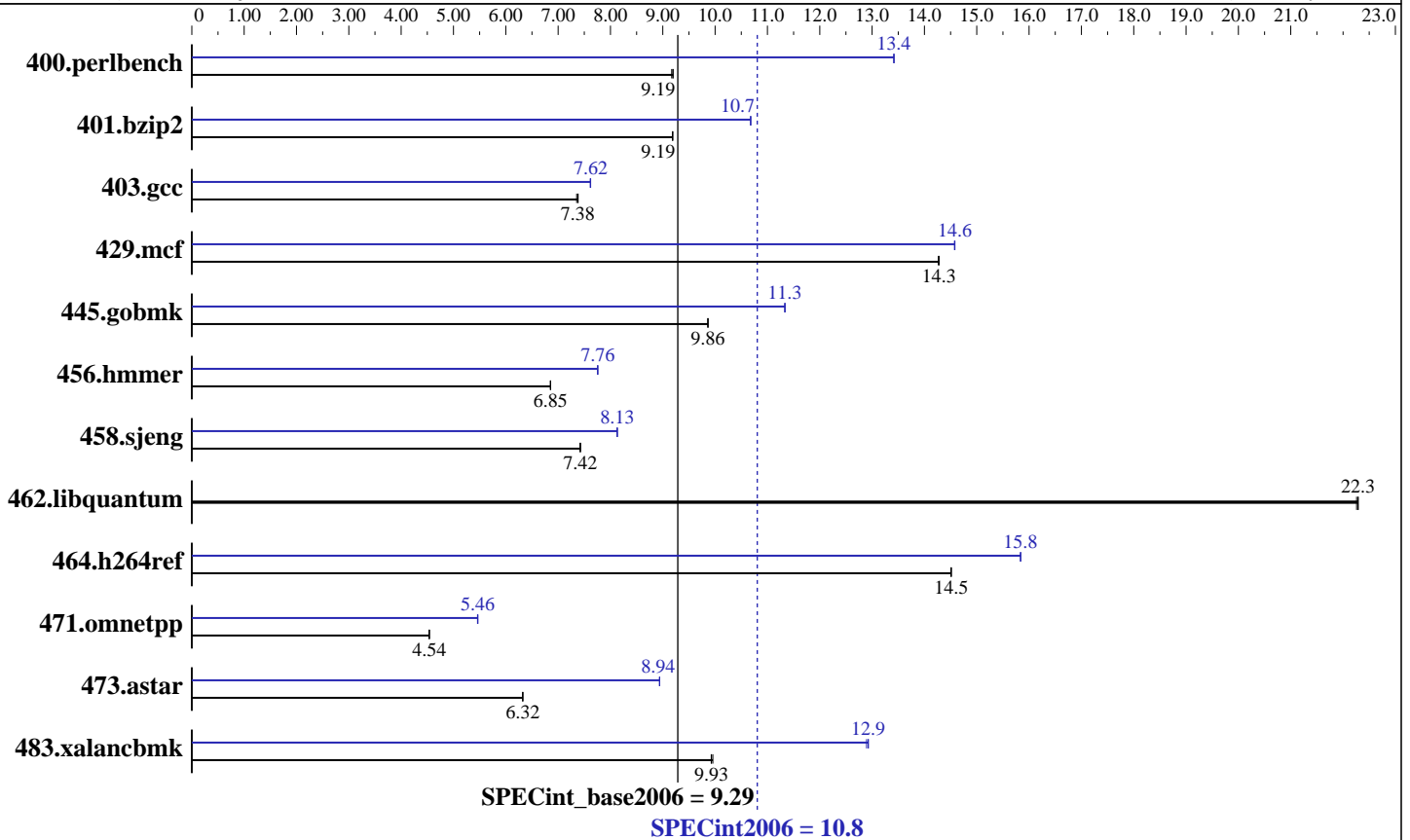
Test date: Mar-2007

Test sponsor: Fujitsu Limited

Hardware Availability: May-2007

Tested by: Fujitsu Limited

Software Availability: May-2007



Hardware

CPU Name: SPARC64 VI
 CPU Characteristics:
 CPU MHz: 2150
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 1 or 2 CPUM; each CPUM contains 2 CPU chips
 Primary Cache: 128 KB I + 128 KB D on chip per core
 Secondary Cache: 5 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (16 x 1 GB, see notes for details)
 Disk Subsystem: 73 GB 10,000 RPM Fujitsu MAY2073RC SAS
 Other Hardware: None

Software

Operating System: Solaris 10 11/06
 Compiler: Sun Studio 12 (Early Access)
 Auto Parallel: No
 File System: ufs
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-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	1062	9.20	1063	9.19	1065	9.17	728	13.4	728	13.4	728	13.4
401.bzip2	1050	9.19	1050	9.19	1050	9.19	904	10.7	904	10.7	904	10.7
403.gcc	1095	7.35	1091	7.38	1090	7.38	1056	7.62	1056	7.62	1057	7.61
429.mcf	639	14.3	639	14.3	639	14.3	626	14.6	625	14.6	625	14.6
445.gobmk	1064	9.86	1064	9.86	1064	9.86	925	11.3	926	11.3	925	11.3
456.hammer	1361	6.85	1361	6.85	1361	6.85	1203	7.76	1203	7.76	1203	7.76
458.sjeng	1629	7.43	1630	7.42	1631	7.42	1488	8.13	1488	8.13	1489	8.13
462.libquantum	931	22.3	930	22.3	930	22.3	931	22.3	930	22.3	930	22.3
464.h264ref	1525	14.5	1525	14.5	1526	14.5	1397	15.8	1397	15.8	1397	15.8
471.omnetpp	1379	4.53	1376	4.54	1377	4.54	1143	5.47	1144	5.46	1145	5.46
473.astar	1110	6.33	1110	6.32	1110	6.32	785	8.94	785	8.94	785	8.94
483.xalancbmk	693	9.96	695	9.93	695	9.93	535	12.9	534	12.9	534	12.9

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

Operating System Notes

```
Shell Environment:
Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=4MB
MPSSSTACK=4MB
MADV=access_lwp
LD_PRELOAD=mpss.so.1:adv.so.1
```

```
The run was bound to processor #27 using the "psrset" command
psrset -c processor id...: creates a set
psrset -e set_id command: runs command on a set
```

```
System Tunables:
(/etc/system parameters)
maxphys=4194304
  Defines the maximum size of I/O requests, in bytes.
maxpgio=1024
  Defines the maximum number of page I/O requests that can
  be queued by the paging system.
tune_t_fsflushr=1
  Controls how many seconds elapse between runs of the
  page flush daemon, fsflush.
autoup=60
  Causes pages older than the listed number of seconds to
  be written by fsflush.
bufhwm=3000
  Memory byte limit for caching I/O buffers
```

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Operating System Notes (Continued)

segmap_percent=1
Set maximum percent memory for file system cache

Platform Notes

"CPUM" = CPU Module; each module holds two CPU chips.

Memory was 8-way interleaved by filling same capacity DIMMs in every other slot.

This result was measured on a Fujitsu SPARC Enterprise M4000 Server. Note that the Fujitsu SPARC Enterprise M4000 and Sun SPARC Enterprise M4000 are electrically equivalent.

Base Compiler Invocation

C benchmarks:
/opt/SUNWspr012_EA070303/bin/cc

C++ benchmarks:
/opt/SUNWspr012_EA070303/bin/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 -xipo=2 -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused -xprefetch_level=2

C++ benchmarks:
-library=stlport4 -fast -xipo=2 -xtarget=sparc64vi -xarch=sparcfmaf
-fma=fused -Qoption cg -fma=fused -xprefetch_level=2



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Peak Compiler Invocation

C benchmarks:
/opt/SUNWspr012_EA070303/bin/cc

C++ benchmarks:
/opt/SUNWspr012_EA070303/bin/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 -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused -xprefetch_level=2 -xalias_level=std
-xrestrict -lfast

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused -xalias_level=strong

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused -xalias_level=std

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused -xprefetch_level=3 -W2,-Apf:l1list=3
-W2,-Apf:noninnerl1list

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Wc,-fma=fused

456.hmmer: Same as 403.gcc

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Peak Optimization Flags (Continued)

458.sjeng: Same as 445.gobmk

462.libquantum: basepeak = yes

464.h264ref: Same as 403.gcc

C++ benchmarks:

471.omnetpp: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Qoption cg -fma=fused

473.astar: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Qoption cg -fma=fused -xalias_level=compatible -lfast

483.xalancbmk: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
-Qoption cg -fma=fused -lfast

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>

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

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