SPEC® CINT2006 Result

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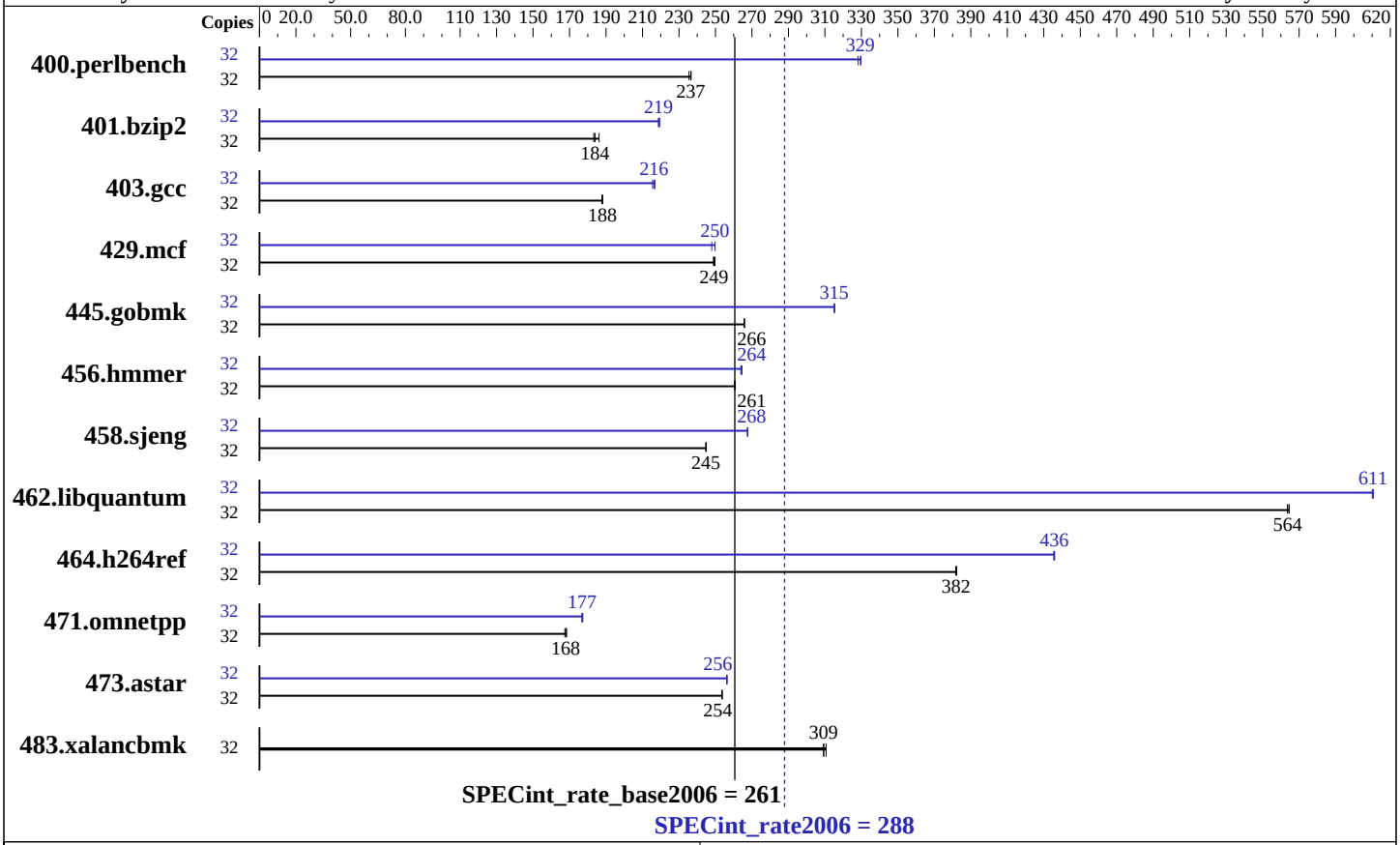
Sun Microsystems
Sun Fire E6900

SPECint®_rate2006 = 288

SPECint_rate_base2006 = 261

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Mar-2007
Hardware Availability: Apr-2007
Software Availability: May-2007



Hardware

CPU Name:	UltraSPARC IV+
CPU Characteristics:	
CPU MHz:	1950
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per chip
L3 Cache:	32 MB I+D off chip per chip
Other Cache:	None
Memory:	64 GB, 8-way interleaved (64 x 1 GB)
Disk Subsystem:	System: Sun StoreTek D240 Media Tray (2x73GB) SPEC: Sun StorageTek 6140 (5x146GB 10K FC-AL RAID5)
Other Hardware:	None

Software

Operating System:	Solaris 10 11/06
Compiler:	Sun Studio 12 (pre-release build 43)
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	1328	235	1321	237	**1322**	**237**	32	953	328	**949**	**329**	948	330
401.bzip2	32	1659	186	**1679**	**184**	1685	183	32	**1411**	**219**	1412	219	1407	219
403.gcc	32	1372	188	**1370**	**188**	1369	188	32	1188	217	1195	216	**1191**	**216**
429.mcf	32	1173	249	1168	250	**1171**	**249**	32	1177	248	1168	250	**1169**	**250**
445.gobmk	32	1263	266	**1263**	**266**	1262	266	32	1064	315	1066	315	**1065**	**315**
456.hmmer	32	1146	260	1145	261	**1145**	**261**	32	1128	265	1131	264	**1130**	**264**
458.sjeng	32	1581	245	1582	245	**1582**	**245**	32	1446	268	**1447**	**268**	1448	267
462.libquantum	32	**1176**	**564**	1177	564	1174	565	32	**1086**	**611**	1086	611	1087	610
464.h264ref	32	**1855**	**382**	1855	382	1852	382	32	1624	436	**1625**	**436**	1626	435
471.omnetpp	32	1188	168	1194	167	**1191**	**168**	32	1128	177	**1130**	**177**	1132	177
473.astar	32	**886**	**254**	885	254	886	254	32	877	256	876	256	**876**	**256**
483.xalancbmk	32	**714**	**309**	711	311	714	309	32	**714**	**309**	711	311	714	309

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" except
for peak runs of 403.gcc, 456.hmmer, and 483.xalancbmk.

"ulimit -s unlimited"
   Allows stack to grow until system limit.

/etc/system parameters

   tune_t_fsflushr=3
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   autoup=900
      Causes pages older than the listed number of seconds to
      be written by fsflush.
   bufhwm=3000
      Sets a memory byte limit for caching I/O buffers.
   segmap_percent=1
      Sets the maximum percent of memory for file system cache.
```

Base Compiler Invocation

C benchmarks:

```
/export/ptmp/keeper/build43.0/SUNWspro/bin/cc
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
/export/ptmp/keeper/build43.0/SUNWspro/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 -xpagesize=4M -xprefetch_level=2 -xalias_level=std

C++ benchmarks:
-library=stlport4 -xdepend -fast -xipo=2 -xpagesize=4M
-xprefetch_level=1 -xalias_level=compatible -lfast

Base Other Flags

C benchmarks:
-xjobs=24 -V

C++ benchmarks:
-xjobs=24 -verbose=version

Peak Compiler Invocation

C benchmarks:
/export/ptmp/keeper/build43.0/SUNWspro/bin/cc

C++ benchmarks:
/export/ptmp/keeper/build43.0/SUNWspro/bin/CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
403.gcc: -DSPEC_CPU_SOLARIS

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Peak Portability Flags (Continued)

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

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

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xprefetch_level=2

429.mcf: -fast -xpagesize=4M -xprefetch_level=2 -xipo=2 -xrestrict
-xalias_level=std -lfast

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

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

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

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

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -ll2amm

C++ benchmarks:

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

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Peak Optimization Flags (Continued)

473.astar: `-library=stlport4 -xdepend -fast -xpagesize=4M -xipo=2 -xprefetch_level=2 -xprefetch_auto_type=indirect_array_access -xalias_level=compatible -xrestrict -lfast`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-xjobs=24 -V`

C++ benchmarks:
`-xjobs=24 -verbose=version`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.01.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.01.xml`

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