SPEC® CINT2006 Result

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Sun Microsystems

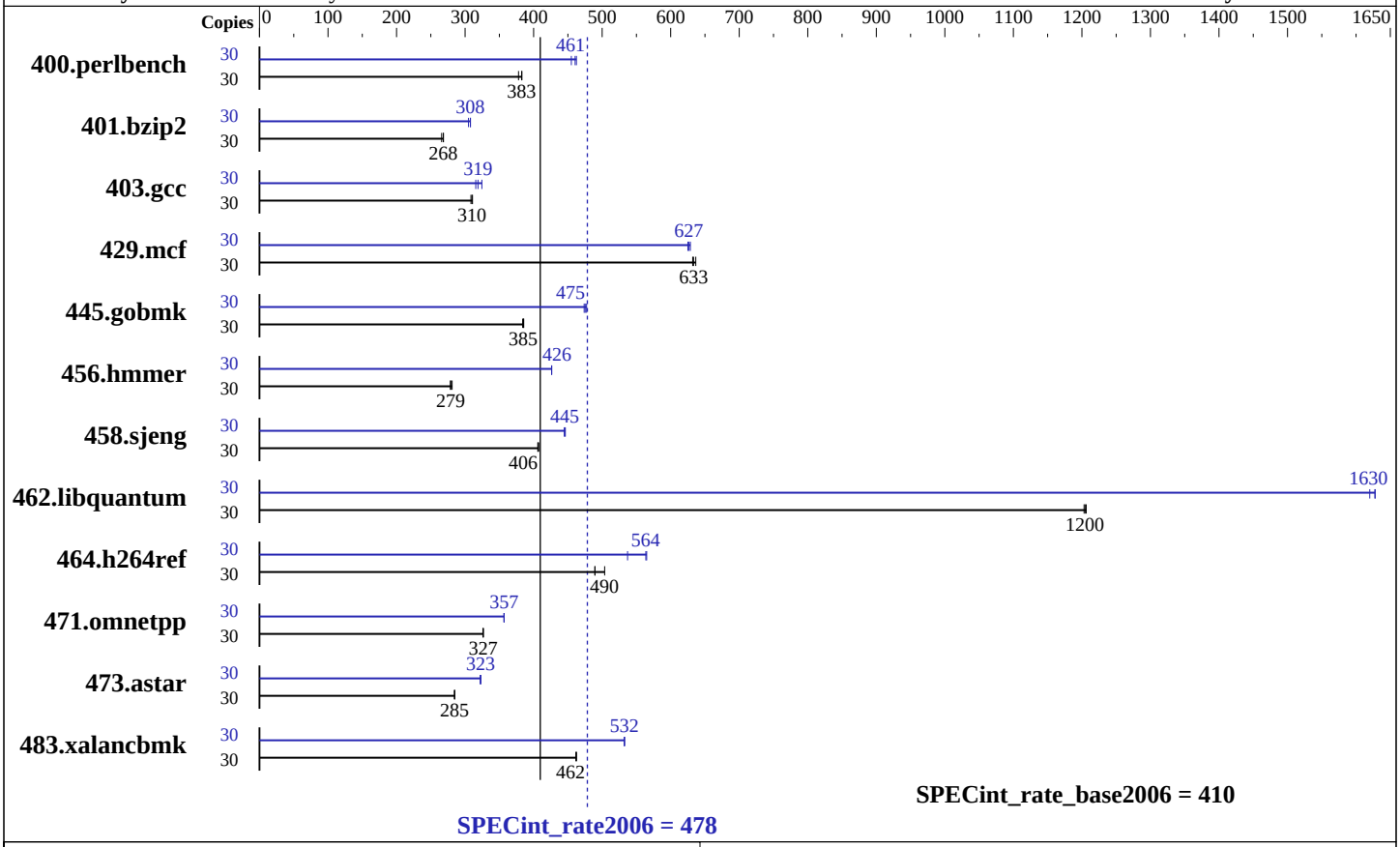
Sun Blade X6275 (Intel Xeon X5570 2.93GHz)

SPECint®_rate2006 = 478

SPECint_rate_base2006 = 410

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

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Jun-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	16 cores, 4 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 or 2 Sun Blade X6275 Nodes
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (2 x 6 x 4 GB DDR3-1333)
Disk Subsystem:	48 x SATA 250 GB 7200 RPM via NFS for SPEC CPU2006
Other Hardware:	None

Software

Operating System:	OpenSolaris 2008.11
Compiler:	Sun Studio 12 Update 1 (backend build 20090309)
Auto Parallel:	No
File System:	NFSv3 (See additional details below)
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 9.01 for x64

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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	30	775	378	**766**	**383**	766	383	30	644	455	**636**	**461**	634	462
401.bzip2	30	1089	266	1079	268	**1079**	**268**	30	949	305	940	308	**941**	**308**
403.gcc	30	783	309	777	311	**779**	**310**	30	744	325	**757**	**319**	765	316
429.mcf	30	430	637	**432**	**633**	433	632	30	435	629	438	625	**437**	**627**
445.gobmk	30	816	386	820	384	**817**	**385**	30	659	477	664	474	**662**	**475**
456.hmmer	30	996	281	**1003**	**279**	1005	278	30	**657**	**426**	656	426	657	426
458.sjeng	30	**893**	**406**	891	407	894	406	30	**815**	**445**	816	445	813	446
462.libquantum	30	**516**	**1200**	515	1210	517	1200	30	382	1630	**382**	**1630**	384	1620
464.h264ref	30	1357	489	**1356**	**490**	1318	504	30	1236	537	1175	565	**1178**	**564**
471.omnetpp	30	574	327	**574**	**327**	575	326	30	525	357	**525**	**357**	526	357
473.astar	30	739	285	**740**	**285**	740	285	30	**653**	**323**	652	323	654	322
483.xalancbmk	30	448	462	448	462	**448**	**462**	30	389	532	388	533	**389**	**532**

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

Submit Notes

```
The config file option 'submit' was used, along with submit.pl to
distribute jobs across the two nodes in this blade and to bind (using
'pbind" mechanism), to assign processes to cores.
```

Operating System Notes

```
ulimit -s 131072  (shell): increases stack
/etc/system parameters
   tune_t_fsflushr=10
   autoup=900
   set lpg_alloc_prefer=1
```

Platform Notes

```
  Default BIOS settings used except:
  Hyper-Threading Technology set to Enabled,
  Intel VT-d: Disabled.  VT-d, if enabled, supports
  remapping of I/O DMA transfers for virtualization.
```

General Notes

```
NFS for file system: NFS server, Sun Fire X4540 equipped with
ethternet connection.
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Base Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_IA32
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:
-fast -xipo=2 -xpagesize=2M -M /usr/lib/ld/map.bssalign

C++ benchmarks:
-fast -xipo=2 -xpagesize=2M -xvector=simd -xalias_level=compatible
-L/ctmp0/gnana/SmartHeap_9/lib -R/ctmp0/gnana/SmartHeap_9/lib -lsmartheap
-library=stlport4

Base Other Flags

C benchmarks:
-V -# -xjobs=16

C++ benchmarks:
-verbose=diags,version -xjobs=16

Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_IA32
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
-xpagesize=2M -xvector=simd -xalias_level=std -lbsdmalloc
-lumem

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xalias_level=strong -lumem

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

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=std -M /usr/lib/ld/map.bssalign

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -m64 -xpagesize=2M
-xrestrict -xalias_level=strong -xdepend -lmvec

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xalias_level=strong -xpagesize=2M

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M -xvector=simd -xrestrict -xalias_level=std

462.libquantum: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xvector=simd

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xalias_level=strong

C++ benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M
-L/ctmp0/gnana/SmartHeap_9/lib -R/ctmp0/gnana/SmartHeap_9/lib -lsmartheap
-library=stlport4

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=2M
-L/ctmp0/gnana/SmartHeap_9/lib -R/ctmp0/gnana/SmartHeap_9/lib -lsmartheap_mt64
-xalias_level=compatible -library=stlport4

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xunroll=8 -xvector=simd
-L/ctmp0/gnana/SmartHeap_9/lib -R/ctmp0/gnana/SmartHeap_9/lib -lsmartheap
-library=stlport4

Peak Other Flags

C benchmarks:
-V -# -xjobs=16

C++ benchmarks:
-verbose=diags,version -xjobs=16

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090710.00.html
http://www.spec.org/cpu2006/flags/Sun-X6275.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Sun-OpenSolaris-Studio-x86_64.20090710.00.xml
http://www.spec.org/cpu2006/flags/Sun-X6275.xml

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

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