



SPEC® CINT2006 Result

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Oracle Corporation

SPECint®2006 = 60.5

Sun Fire X4-2 (Intel Xeon E5-2697 v2 2.7GHz)

SPECint_base2006 = 47.9

CPU2006 license: 6

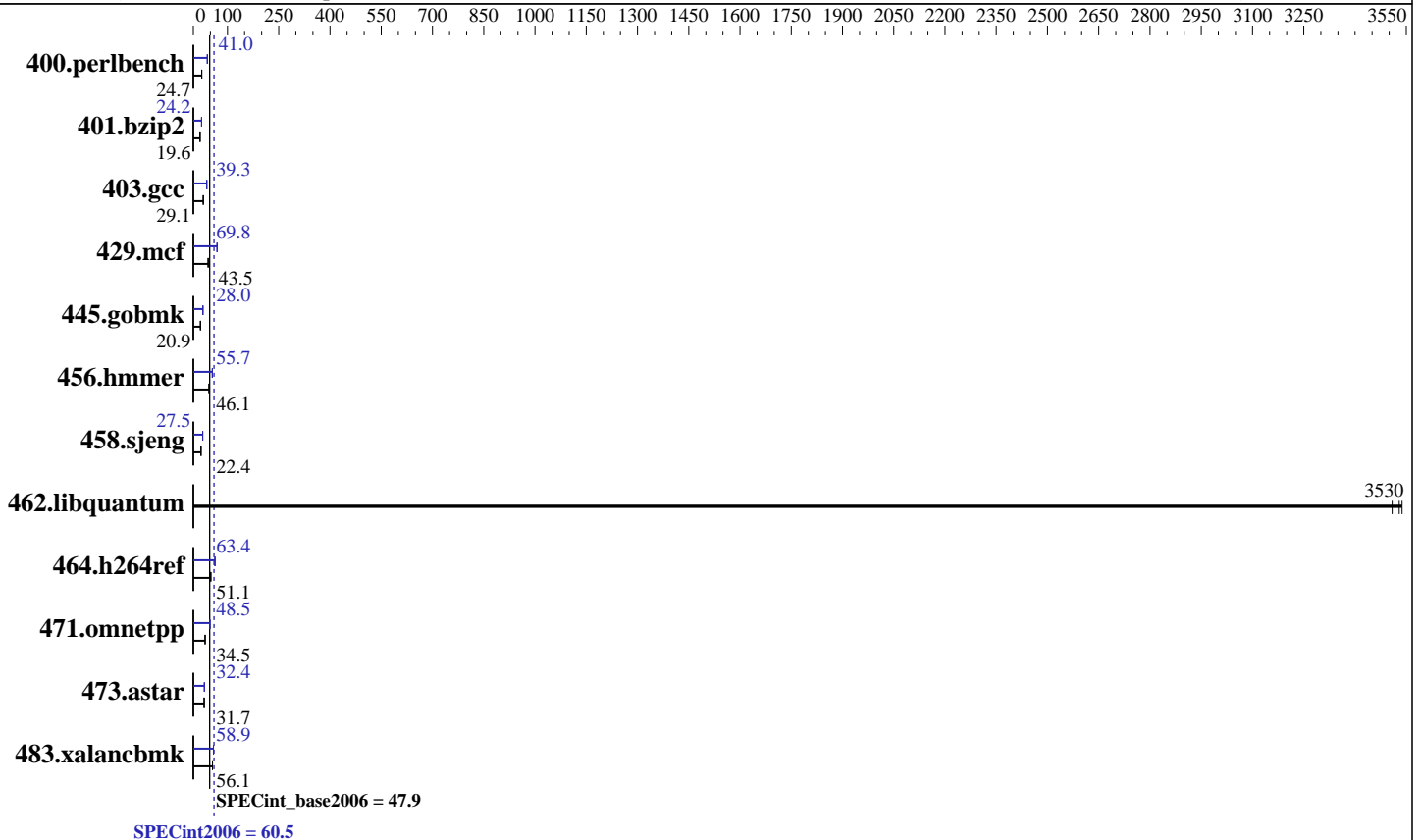
Test date: Sep-2013

Test sponsor: Oracle Corporation

Hardware Availability: Sep-2013

Tested by: Oracle Corporation

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2697 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
 CPU(s) orderable: 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1 x 600 GB SAS, 10K RPM
 Other Hardware: None

Software

Operating System: Solaris 11.1 (SRU 11)
 Compiler: C/C++: Version 12.3 of Oracle Solaris Studio 10/13 Patch Set (tested with nightly build 20130822)
 Auto Parallel: Yes
 File System: zfs
 System State: Default
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	398	24.6	396	24.7	396	24.7	238	41.0	238	41.0	238	41.1
401.bzip2	491	19.7	493	19.6	493	19.6	399	24.2	399	24.2	399	24.2
403.gcc	276	29.1	276	29.1	277	29.1	204	39.4	205	39.3	205	39.3
429.mcf	210	43.5	210	43.4	209	43.6	132	69.3	131	69.8	131	69.8
445.gobmk	503	20.9	503	20.9	504	20.8	374	28.0	374	28.0	374	28.0
456.hammer	202	46.1	202	46.1	202	46.1	168	55.7	168	55.7	168	55.7
458.sjeng	540	22.4	540	22.4	540	22.4	440	27.5	440	27.5	440	27.5
462.libquantum	5.86	3540	5.91	3510	5.87	3530	5.86	3540	5.91	3510	5.87	3530
464.h264ref	433	51.1	433	51.1	433	51.1	349	63.4	349	63.4	349	63.4
471.omnetpp	181	34.5	181	34.6	182	34.3	129	48.6	129	48.3	129	48.5
473.astar	221	31.7	222	31.7	221	31.7	217	32.4	217	32.4	217	32.4
483.xalancbmk	123	56.1	123	56.1	123	56.1	117	58.9	117	58.9	117	59.0

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 to bind processes to CPU threads with pbind(1)

Operating System Notes

```
ulimit -s unlimited (shell): increases stack
/etc/system parameters
  autoup=1000
  tune_t_fsflushr=10
```

gzip compression set using "zfs set compression=gzip <zfs-filesystem>"

Platform Notes

Default BIOS Settings were used except:
Hyper-Threading (HT) Technology was Disabled

```
Sysinfo program /export/home/cpu2006v1.2/Docs/sysinfo
: 6775 2011-08-16 #f7622badcf24e01c368b1db4377c
running on bur398-85 Sun Sep 1 03:28:11 2013
```

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /usr/sbin/psrinfo -pv
Intel(r) Xeon(r) CPU E5-2697 v2 @ 2.70GHz
Continued on next page
```



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Platform Notes (Continued)

x86 (GenuineIntel 306E4 family 6 model 62 step 4 clock 2693 MHz)

```
/usr/sbin/psrinfo -p: 2 chips
/usr/sbin/psrinfo | wc -l: 24 threads
```

```
/usr/sbin/prtconf | grep "Memory size:": 262087 Megabytes
```

```
/etc/release:
Oracle Solaris 11.1 X86
```

```
uname -a:
SunOS bur398-85 5.11 11.1 i86pc i386 i86pc
```

```
disk: df -h
Filesystem      Size  Used  Available Capacity  Mounted on
rpool/export/home 547G  48G   420G      11%  /export/home
```

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

```
MTEXCLUSIVE = "Y"
OMP_NUM_THREADS = "24"
SUNW_MP_PROCBIND = "scatter"
SUNW_MP_THR_IDLE = "spin"
```

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_SOLARIS_X64 -DSPEC_CPU_LP64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64
464.h264ref: -DSPEC_CPU_LP64
```

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Base Portability Flags (Continued)

471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:

-g -fast -xtarget=ivybridge -xipo=2 -m64 -xpagesize=2M -xautopar
-xreduction

C++ benchmarks:

-g -fast -xtarget=ivybridge -xipo=2 -m64 -xpagesize=2M
-xalias_level=compatible -library=stlport4 -lfast

Peak Compiler Invocation

C benchmarks:

cc

C++ benchmarks:

CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_X64 -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m64 -xpagesize=2M -xalias_level=std -lbsdmalloc
-xprefetch=no%auto

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

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Peak Optimization Flags (Continued)

403.gcc: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m32 -xpagesize=2M -xalias_level=std
-W2,-Abuiltin_opt:calloc_no_support=on

429.mcf: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m32 -xpagesize=4K -xalias_level=std -W2,-Asac

445.gobmk: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xtarget=sandybridge -m64 -xpagesize=2M -xrestrict
-xalias_level=strong

456.hmmer: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m64 -xpagesize=2M -xalias_level=strong
-xprefetch=no%auto

458.sjeng: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m64 -xpagesize=2M -xalias_level=std

462.libquantum: basepeak = yes

464.h264ref: Same as 401.bzip2

C++ benchmarks:

471.omnetpp: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m32 -xpagesize=2M -xalias_level=compatible
-library=stlport4 -lfast

473.astar: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m64 -xpagesize=2M -xalias_level=compatible
-xrestrict -library=stlport4 -lfast

483.xalancbmk: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=ivybridge
-xipo=2 -m64 -xpagesize=2M -library=stlport4 -lfast

The flags files that were used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-x86_64.20130924.html

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.20120425.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-x86_64.20130924.xml

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.20120425.xml



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

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