SPEC® CINT2006 Result
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Oracle Corporation

SPECint®_rate2006 = 705

Sun Blade X3-2B (Intel Xeon E5-2690 2.9GHz)
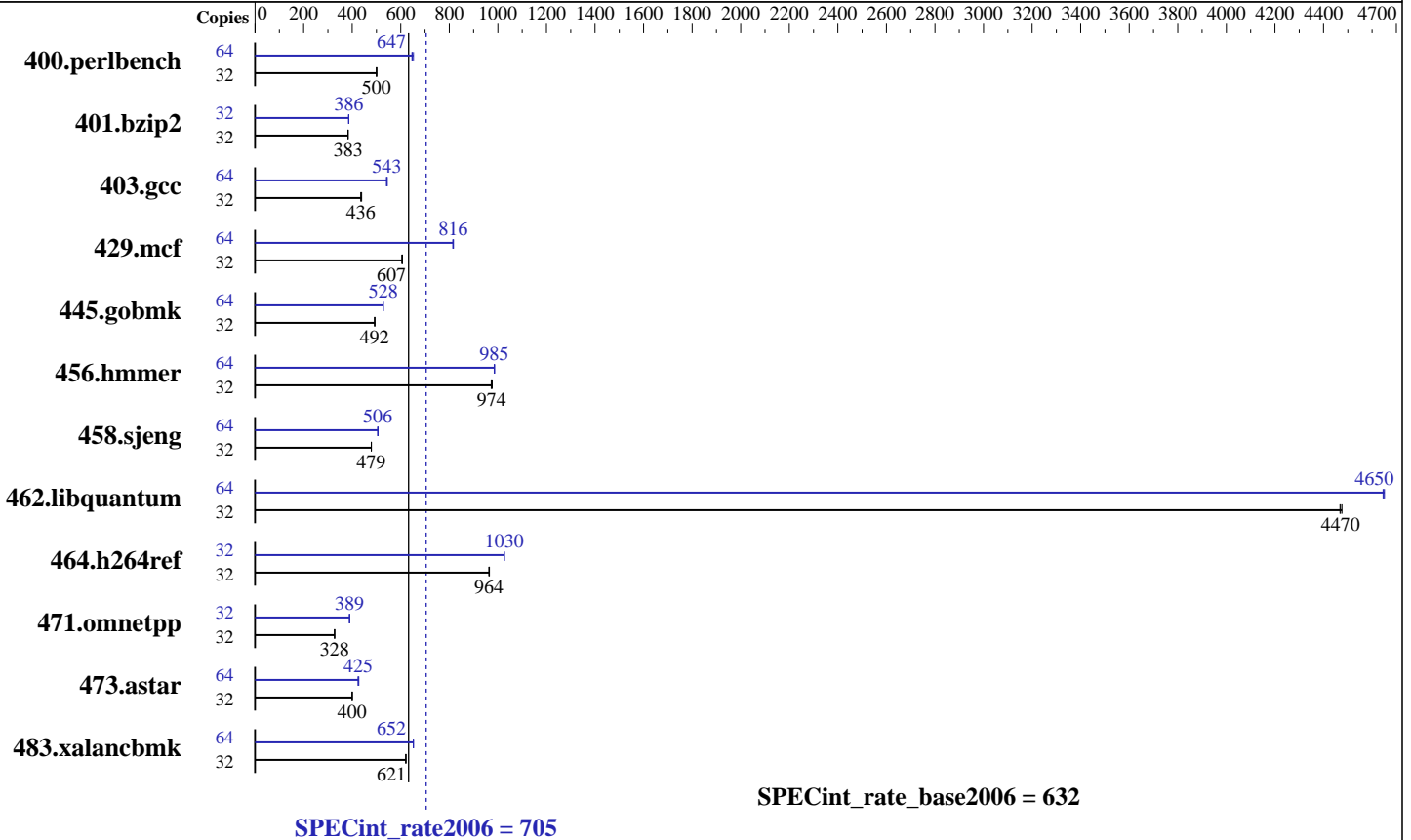
SPECint_rate_base2006 = 632

CPU2006 license: 6

Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Mar-2012

Hardware Availability: Apr-2012

Software Availability: Jun-2012

SPECint_rate_base2006 = 632

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Hardware

CPU Name: Intel Xeon E5-2690

CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz

CPU MHz: 2900

FPU: Integrated

CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core

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: 20 MB I+D on chip per chip

Other Cache: None

Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)

Disk Subsystem: 3 x 300 GB 10K RPM SAS

Other Hardware: None

Software

Operating System: Oracle Solaris 11 11/11 (SRU 02)

Compiler: C/C++: Version 12.3 of Oracle Solaris Studio (patch update 1, tested with nightly build 20120313)

Auto Parallel: No

File System: zfs (with raidz)

System State: Default

Base Pointers: 64-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V9.01

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SPECint_rate_base2006 =   632

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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	623	502	626	499	**625**	**500**	64	958	652	968	646	**966**	**647**
401.bzip2	32	806	383	807	383	**806**	**383**	32	799	386	**800**	**386**	802	385
403.gcc	32	**590**	**436**	587	439	592	435	64	**948**	**543**	952	541	947	544
429.mcf	32	**481**	**607**	483	604	481	607	64	**715**	**816**	717	814	714	817
445.gobmk	32	682	492	680	494	**682**	**492**	64	1272	528	**1272**	**528**	1272	528
456.hmmer	32	307	973	306	977	**307**	**974**	64	606	985	605	987	**606**	**985**
458.sjeng	32	**809**	**479**	809	479	808	479	64	**1531**	**506**	1532	505	1530	506
462.libquantum	32	148	4480	148	4470	**148**	**4470**	64	285	4650	285	4650	**285**	**4650**
464.h264ref	32	734	965	735	963	**735**	**964**	32	690	1030	**690**	**1030**	691	1030
471.omnetpp	32	**610**	**328**	611	328	610	328	32	**514**	**389**	514	389	514	389
473.astar	32	562	399	561	400	**561**	**400**	64	1059	424	1051	427	**1057**	**425**
483.xalancbmk	32	356	621	355	622	**356**	**621**	64	678	652	677	652	**677**	**652**

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 10000  (shell): increases stack

/etc/system parameters
    autoup=1000
    zfs:zfs_arc_max=0x400000000
    zfs:zfs_arc_min=0x400000000
    ncsize=0x10000
    lpg_alloc_prefer=1

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

Platform Notes

```
Default BIOS Settings were used, except:
  Energy Performance set to Performance

Oracle's Sun Blade X3-2B was formerly known as the Sun Blade X6270 M3

Sysinfo program /benchpool/data1/cpu2006v1.2/Docs/sysinfo
: 6775  2011-08-16 #f7622badcf24e01c368b1db4377c
running on bur398-85 Fri Mar 30 15:33:02 2012

This section contains SUT (System Under Test) info as seen by
```

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Platform Notes (Continued)

```
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 E5-2690 0 @ 2.90GHz
 x86 (GenuineIntel 206D7 family 6 model 45 step 7 clock 2893 MHz)

/usr/sbin/psrinfo -p:   2 chips
/usr/sbin/psrinfo -pv | grep "core has" | wc -l:  16 cores
/usr/sbin/psrinfo | wc -l: 32 threads

/usr/sbin/prtconf | grep "Memory size:": 131038 Megabytes

/etc/release:
                         Oracle Solaris 11 11/11 X86
uname -a:
SunOS bur398-85 5.11 11.0 i86pc i386 i86pc

disk: df -h
Filesystem              Size   Used  Available Capacity  Mounted on
benchpool/data1         545G   25G      521G     5%      /benchpool/data1

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
OMP_NUM_THREADS = "1"
```

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
```

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Base Portability Flags (Continued)

```
   456.hmmer: -DSPEC_CPU_LP64
   458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_LP64
  464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_SOLARIS
```

Base Optimization Flags

C benchmarks:

```
    -g -fast -xipo=2 -m64 -xaddr32 -xpagesize=2M -xalias_level=std
```

C++ benchmarks:

```
    -fast -xipo=2 -m32 -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
  483.xalancbmk: -DSPEC_CPU_SOLARIS
```

Peak Optimization Flags

C benchmarks:

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

     401.bzip2: -g -xprofile=collect:./feedback(pass 1)
                 -xprofile=use:./feedback(pass 2) -fast -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 -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 -xipo=2 -m32
-xpagesize_heap=2M -xpagesize_stack=4k -xalias_level=std

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

456.hmmer: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m64
-xpagesize=4k -xalias_level=strong

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

462.libquantum: -g -fast -xtarget=nehalem -xipo=2 -m64 -xpagesize=2M
-xalias_level=std -xunroll=8

464.h264ref: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -m32
-xpagesize=2M -xalias_level=strong

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xalias_level=compatible -library=stlport4
-L/benchpool/data1/cpu2006v1.2/SmartHeap_9/lib/ -R/benchpool/data1/cpu2006v1.2/SmartHeap_9/lib/ -lsma

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

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2
-xpagesize=2M -xunroll=8 -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.html
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.20120425.html

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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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