SPEC® CINT2006 Result
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Oracle Corporation

Sun Fire X2270 M2 (Intel Xeon X5675 3.06 GHz)

$SPECint®_rate2006 = $ 386

$SPECint_rate_base2006 = $ 361

CPU2006 license: 6

Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Feb-2011

Hardware Availability: Mar-2011

Software Availability: Nov-2010

Copies

Benchmark	Copies	Value
400.perlbench	24	389
400.perlbench	24	311
401.bzip2	24	221
401.bzip2	24	211
403.gcc	24	251
403.gcc	24	249
429.mcf	12	386
429.mcf	24	306
445.gobmk	24	383
445.gobmk	24	359
456.hmmer	12	521
456.hmmer	24	461
458.sjeng	24	375
458.sjeng	24	348
462.libquantum	24	1850
464.h264ref	24	505
471.omnetpp	24	238
471.omnetpp	24	231
473.astar	24	224
483.xalancbmk	24	352

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Hardware

CPU Name:	Intel Xeon X5675
CPU Characteristics:	Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz:	3067
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 1 TB, SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Oracle Linux 5.5
	kernel 2.6.18-194.el5
Compiler:	Intel C++ Compiler XE for applications running on IA-32
	Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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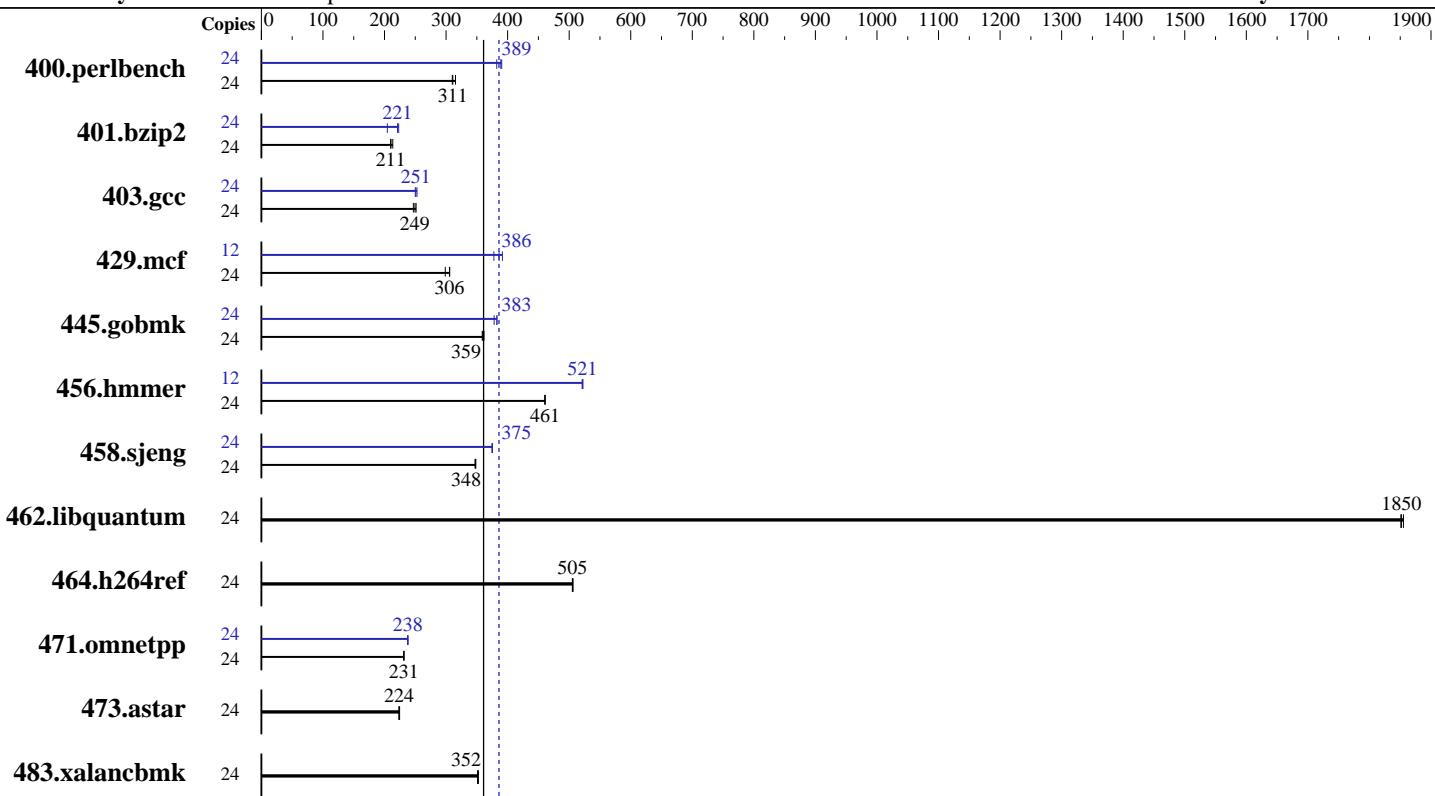
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	756	310	744	315	**754**	**311**	24	613	382	601	390	**603**	**389**
401.bzip2	24	**1100**	**211**	1103	210	1085	213	24	1132	205	1038	223	**1047**	**221**
403.gcc	24	769	251	**774**	**249**	782	247	24	764	253	**770**	**251**	773	250
429.mcf	24	733	299	**716**	**306**	715	306	12	290	378	**283**	**386**	279	392
445.gobmk	24	702	359	**700**	**359**	696	362	24	**658**	**383**	666	378	658	383
456.hmmer	24	**486**	**461**	486	461	486	460	12	**215**	**521**	214	522	215	521
458.sjeng	24	834	348	836	347	**836**	**348**	24	**775**	**375**	774	375	775	375
462.libquantum	24	**269**	**1850**	269	1850	268	1860	24	**269**	**1850**	269	1850	268	1860
464.h264ref	24	1049	506	1051	505	**1051**	**505**	24	1049	506	1051	505	**1051**	**505**
471.omnetpp	24	648	231	647	232	**648**	**231**	24	**630**	**238**	630	238	631	238
473.astar	24	754	224	750	225	**753**	**224**	24	754	224	750	225	**753**	**224**
483.xalancbmk	24	**471**	**352**	471	351	470	352	24	**471**	**352**	471	351	470	352

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.
    numactl was used to bind copies to the cores
```

Operating System Notes

```
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
    Hugepages was enabled with the following:
      'nodev   /mnt/hugepages   hugetlbfs  defaults   0 0' added to /etc/fstab
      echo 10800 > /proc/sys/vm/nr_hugepages
      export HUGETLB_MORECORE=yes
      export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

```
  Load Default BIOS Settings and then change the following
    Data Reuse Optimization Disabled
```

General Notes

```
    Binaries were compiled on RHEL5.5 with Binutils binutils-2.17.50.0.6-14.el5
```

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Base Compiler Invocation

C benchmarks:
```
icc  -m32
```

C++ benchmarks:
```
icpc -m32
```

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc  -m32
```

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

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Peak Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m32

Peak Portability Flags

```
  400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
      401.bzip2: -DSPEC_CPU_LP64
      456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LINUX
  483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
  400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                 -opt-prefetch -auto-ilp32 -ansi-alias
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

        403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
                 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

        429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                 -ansi-alias -auto-ilp32

      445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                 -ansi-alias -auto-ilp32

      456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                 -unroll4 -auto-ilp32
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

  462.libquantum: basepeak = yes
```

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Peak Optimization Flags (Continued)

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.html
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.xml
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 16:21:31 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 March 2011.