SPEC® CINT2006 Result
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Oracle Corporation

Sun Fire X2270 M2 (Intel Xeon E5620 2.4 GHz)

$SPECint®2006 =$ 31.7

$SPECint\_base2006 =$ 29.4

Benchmark	Base	Peak
400.perlbench	20.7	24.0
401.bzip2	15.7	15.7
403.gcc	19.9	22.5
429.mcf	36.1	40.3
445.gobmk	19.4	21.0
456.hmmer	37.4	38.5
458.sjeng	20.7	21.4
462.libquantum	451	
464.h264ref	29.3	32.3
471.omnetpp	18.5	23.2
473.astar	16.3	17.0
483.xalancbmk	30.0	

SPECint_base2006 = 29.4

SPECint2006 = 31.7

Hardware

CPU Name:	Intel Xeon E5620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.66 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 or 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, running at 1066 MHz)
Disk Subsystem:	1 x 1 TB, SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Oracle Enterprise Linux Server release 5.5 kernel 2.6.18-194.el5
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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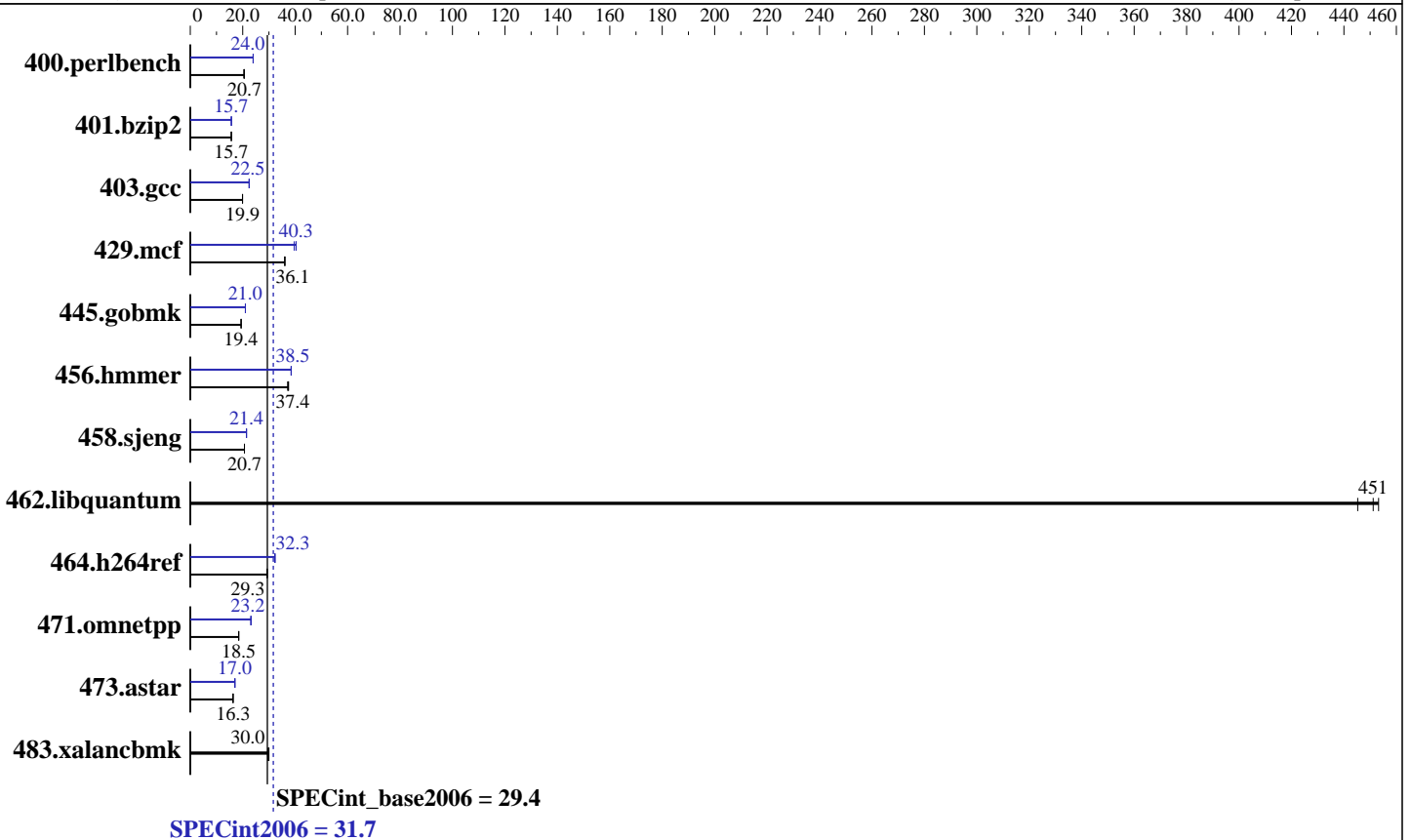| SPECint2006 =	31.7
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CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Nov-2010
Hardware Availability: Jun-2010
Software Availability: Apr-2010

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	479	20.4	**473**	**20.7**	473	20.7	407	24.0	408	24.0	**407**	**24.0**
401.bzip2	616	15.7	**616**	**15.7**	616	15.7	616	15.7	**616**	**15.7**	616	15.7
403.gcc	**404**	**19.9**	404	19.9	404	19.9	358	22.5	359	22.4	**358**	**22.5**
429.mcf	**253**	**36.1**	253	36.0	253	36.1	230	39.6	226	40.4	**226**	**40.3**
445.gobmk	**541**	**19.4**	541	19.4	541	19.4	499	21.0	499	21.0	**499**	**21.0**
456.hmmer	249	37.5	251	37.1	**250**	**37.4**	243	38.5	242	38.5	**242**	**38.5**
458.sjeng	586	20.7	585	20.7	**586**	**20.7**	**564**	**21.4**	565	21.4	564	21.4
462.libquantum	46.5	445	**45.9**	**451**	45.7	453	46.5	445	**45.9**	**451**	45.7	453
464.h264ref	**756**	**29.3**	758	29.2	753	29.4	**685**	**32.3**	686	32.3	685	32.3
471.omnetpp	338	18.5	**338**	**18.5**	339	18.5	270	23.2	**270**	**23.2**	271	23.1
473.astar	431	16.3	**430**	**16.3**	430	16.3	**412**	**17.0**	412	17.0	413	17.0
483.xalancbmk	**230**	**30.0**	230	30.0	233	29.6	**230**	**30.0**	230	30.0	233	29.6

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
 OMP_NUM_THREADS set to number of cores
 KMP_AFFINITY set to granularity=fine,scatter
```

Platform Notes

```
Default BIOS Settings were used.
```

Base Compiler Invocation

C benchmarks:
```
icc -m64
```

C++ benchmarks:
```
icpc -m64
```

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
    401.bzip2: -DSPEC_CPU_LP64
      403.gcc: -DSPEC_CPU_LP64
      429.mcf: -DSPEC_CPU_LP64
```

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Base Portability Flags (Continued)

```
       445.gobmk: -DSPEC_CPU_LP64
       456.hmmer: -DSPEC_CPU_LP64
       458.sjeng: -DSPEC_CPU_LP64
   462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
      464.h264ref: -DSPEC_CPU_LP64
      471.omnetpp: -DSPEC_CPU_LP64
        473.astar: -DSPEC_CPU_LP64
   483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:

```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

C++ benchmarks:

```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L(path to library) -lsmartheap64
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m64
```

```
    400.perlbench: icc -m32
```

```
          429.mcf: icc -m32
```

```
      445.gobmk: icc -m32
```

```
      464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m64
```

```
      471.omnetpp: icpc -m32
```

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Peak Portability Flags

```
      400.perlbench: -DSPEC_CPU_LINUX_IA32
          401.bzip2: -DSPEC_CPU_LP64
            403.gcc: -DSPEC_CPU_LP64
         456.hmmer: -DSPEC_CPU_LP64
          458.sjeng: -DSPEC_CPU_LP64
      462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
          473.astar: -DSPEC_CPU_LP64
      483.xalancbmk: -DSPEC_CPU_LP64 -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) -static(pass 2)
                     -prof-use(pass 2) -ansi-alias -opt-prefetch

          401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                     -O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)
                     -auto-ilp32 -opt-prefetch -ansi-alias

            403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
                     -opt-malloc-options=3 -auto-ilp32

            429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

          445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                     -ipo -no-prec-div -ansi-alias

          456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
                     -ansi-alias -auto-ilp32

          458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                     -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                     -prof-use(pass 2) -unroll4

     462.libquantum: basepeak = yes

         464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                     -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                     -prof-use(pass 2) -unroll2 -ansi-alias
```

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(path to library) -lsmartheap
```

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Peak Optimization Flags (Continued)

473.astar: `-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=routine -Wl,-z,muldefs`
`-L`(path to library) `-lsmartheap64`

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-ic11.1-linux64-revE-pathfix-smartheap.20101027.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-ic11.1-linux64-revE-pathfix-smartheap.20101027.xml
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.xml

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