# SPEC® CINT2006 Result
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## Oracle Corporation

Sun Blade X6270 M2 Server Module (Intel Xeon X5675 3.06 GHz)

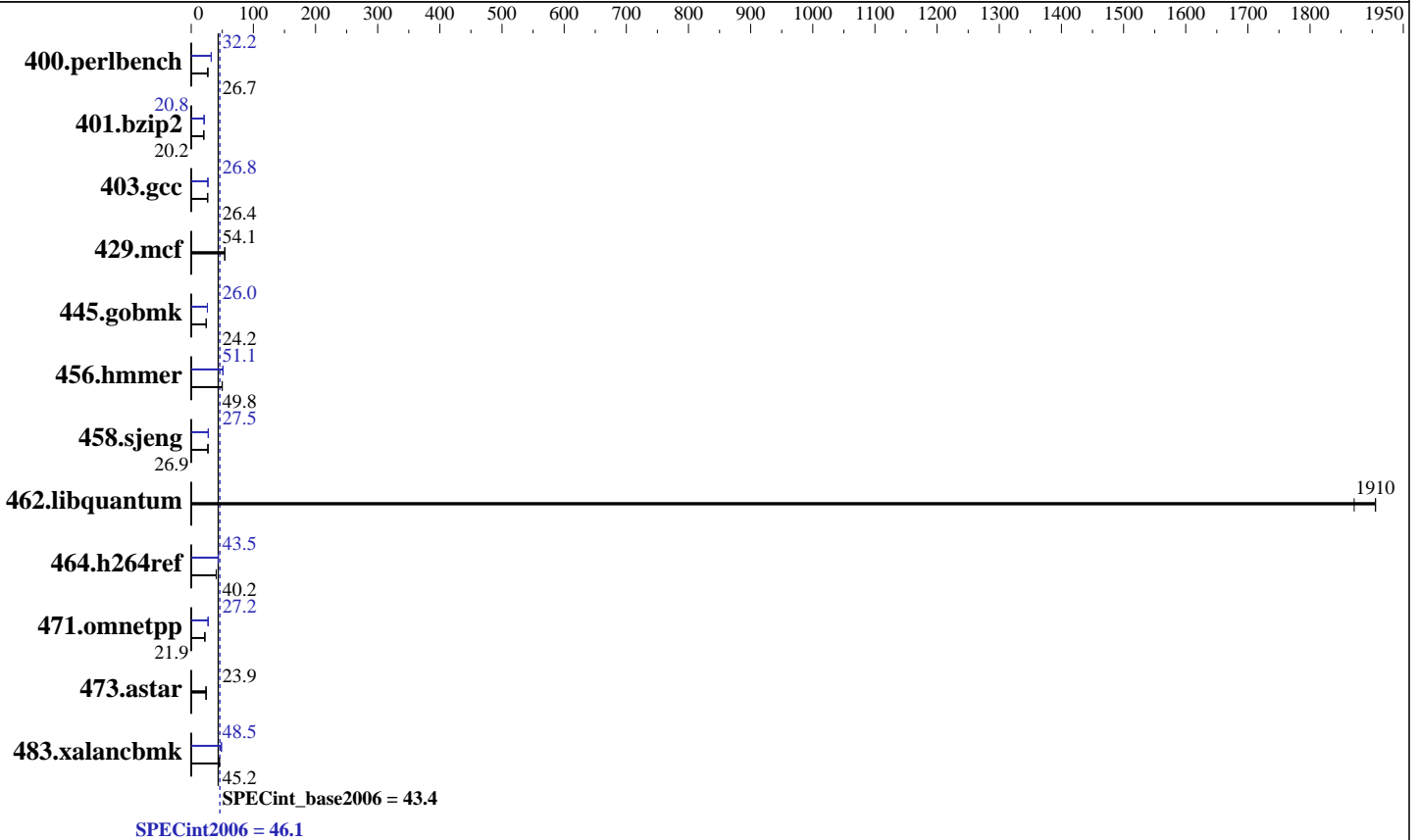SPECint®2006 = 46.1

SPECint_base2006 = 43.4

**CPU2006 license:** 6     **Test date:** Dec-2011

**Test sponsor:** Oracle Corporation     **Hardware Availability:** Mar-2011

**Tested by:** Oracle Corporation     **Software Availability:** Oct-2011



| Benchmark | Peak | Base |
|---|---|---|
| 400.perlbench | 32.2 | 26.7 |
| 401.bzip2 | 20.8 | 20.2 |
| 403.gcc | 26.8 | 26.4 |
| 429.mcf | | 54.1 |
| 445.gobmk | 26.0 | 24.2 |
| 456.hmmer | 51.1 | 49.8 |
| 458.sjeng | 27.5 | 26.9 |
| 462.libquantum | | 1910 |
| 464.h264ref | 43.5 | 40.2 |
| 471.omnetpp | 27.2 | 21.9 |
| 473.astar | | 23.9 |
| 483.xalancbmk | 48.5 | 45.2 |

SPECint_base2006 = 43.4

SPECint2006 = 46.1

## 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 300 GB 10000 RPM SAS2

**Other Hardware:** None

## Software

**Operating System:** Oracle Linux 6.1
kernel 2.6.32-100.34.1.el6uek.x86_64

**Compiler:** C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux

**Auto Parallel:** Yes

**File System:** ext4

**System State:** Run level 5 (multi-user)

**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 | 365 | 26.7 | 368 | 26.6 | **366** | **26.7** | 303 | 32.3 | 304 | 32.2 | **303** | **32.2** |
| 401.bzip2 | 478 | 20.2 | 479 | 20.1 | **478** | **20.2** | **465** | **20.8** | 464 | 20.8 | 465 | 20.8 |
| 403.gcc | 306 | 26.3 | 305 | 26.4 | **305** | **26.4** | 300 | 26.8 | **300** | **26.8** | 300 | 26.8 |
| 429.mcf | 169 | 54.0 | **169** | **54.1** | 169 | 54.1 | 169 | 54.0 | **169** | **54.1** | 169 | 54.1 |
| 445.gobmk | **434** | **24.2** | 436 | 24.1 | 433 | 24.2 | 403 | 26.1 | **403** | **26.0** | 404 | 26.0 |
| 456.hmmer | 187 | 49.9 | 187 | 49.8 | **187** | **49.8** | 183 | 51.1 | **183** | **51.1** | 183 | 50.9 |
| 458.sjeng | 450 | 26.9 | 448 | 27.0 | **450** | **26.9** | 440 | 27.5 | **441** | **27.5** | 442 | 27.3 |
| 462.libquantum | **10.9** | **1910** | 10.9 | 1910 | 11.1 | 1870 | **10.9** | **1910** | 10.9 | 1910 | 11.1 | 1870 |
| 464.h264ref | 550 | 40.3 | 551 | 40.2 | **550** | **40.2** | 510 | 43.4 | 509 | 43.5 | **509** | **43.5** |
| 471.omnetpp | **285** | **21.9** | 286 | 21.9 | 285 | 21.9 | 230 | 27.2 | 230 | 27.1 | **230** | **27.2** |
| 473.astar | 295 | 23.8 | 293 | 24.0 | **294** | **23.9** | 295 | 23.8 | 293 | 24.0 | **294** | **23.9** |
| 483.xalancbmk | 153 | 45.0 | **153** | **45.2** | 151 | 45.6 | **142** | **48.5** | 143 | 48.3 | 142 | 48.6 |

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

## Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

## Platform Notes

```
Load Default BIOS Settings and then change the following
  Hardware Prefetch Enabled
  Adjacent Cache Line Prefetch Enabled
  L1 Data Prefetch Enabled
```

## General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006v1.2/libs/32:/home/cpu2006v1.2/libs/64"
OMP_NUM_THREADS = "12"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
```

## Base Compiler Invocation

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

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# Base Compiler Invocation (Continued)

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
          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 -parallel -opt-prefetch -auto-p32

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/smartheap -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

    445.gobmk: icc -m32

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# Peak Compiler Invocation (Continued)

        464.h264ref: `icc -m32`

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

        473.astar: `icpc -m64`

# Peak Portability Flags

        400.perlbench: `-DSPEC_CPU_LINUX_IA32`
        401.bzip2: `-DSPEC_CPU_LP64`
        403.gcc: `-DSPEC_CPU_LP64`
        429.mcf: `-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_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)
                `-opt-prefetch -ansi-alias`

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

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

        429.mcf: basepeak = yes

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

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

        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`

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# Peak Optimization Flags (Continued)

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) -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)
-opt-ra-region-strategy=block            -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

# 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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.xml

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

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