



# SPEC® CINT2006 Result

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## Oracle Corporation

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

SPECint®\_rate2006 = 401

SPECint\_rate\_base2006 = 384

CPU2006 license: 6

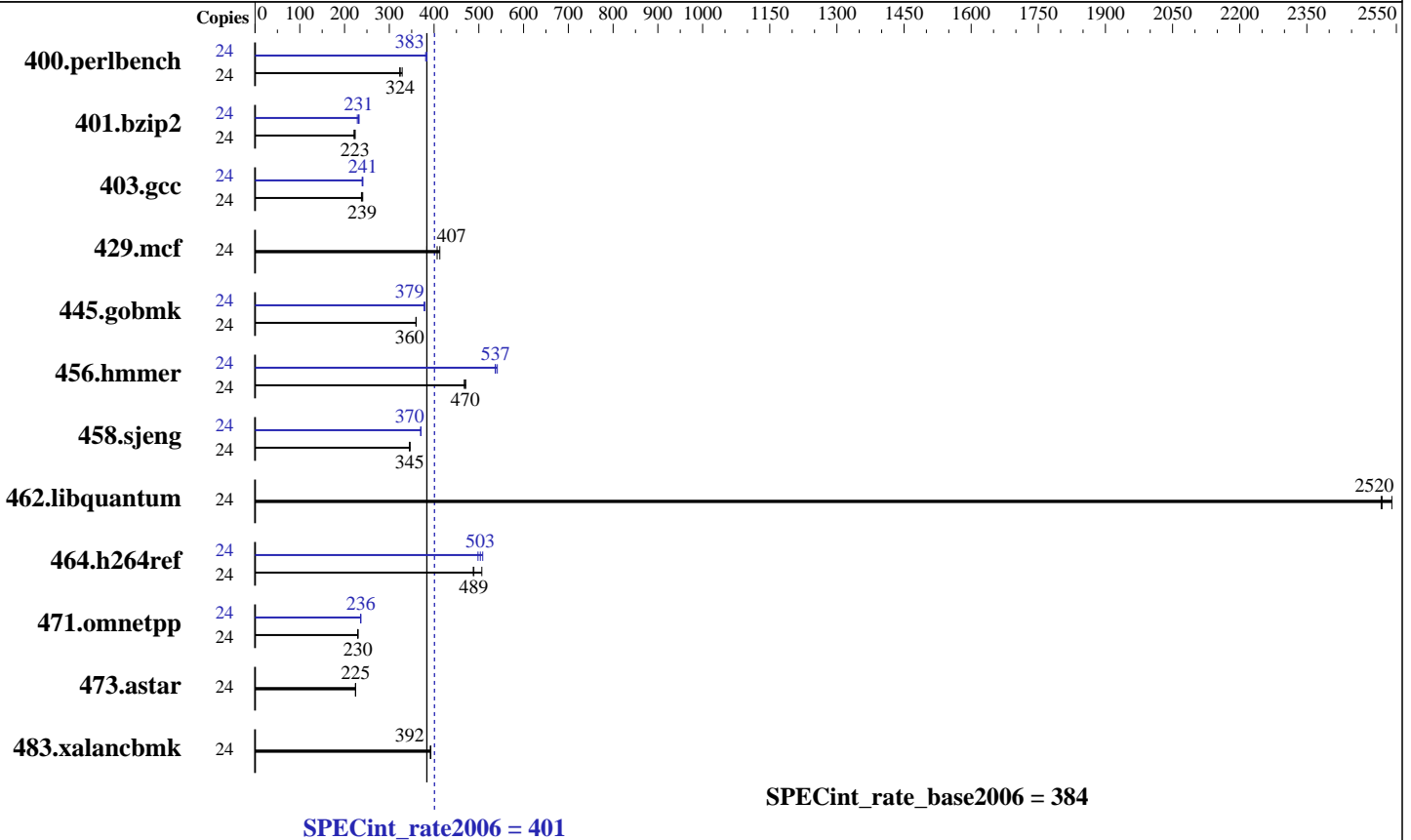
Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Dec-2011

Hardware Availability: Mar-2011

Software Availability: Oct-2011



### 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: No  
 File System: ext4  
 System State: Run level 5 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



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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     | 713         | 329        | 725        | 323         | <u>723</u>  | <u>324</u> | 24     | 615        | 381        | 611         | 384         | <u>612</u>  | <u>383</u> |
| 401.bzip2      | 24     | <u>1037</u> | <u>223</u> | 1048       | 221         | 1037        | 223        | 24     | 1013       | 229        | <u>1001</u> | <u>231</u>  | 996         | 232        |
| 403.gcc        | 24     | 813         | 238        | 803        | 241         | <u>808</u>  | <u>239</u> | 24     | 807        | 239        | <u>803</u>  | <u>241</u>  | 803         | 241        |
| 429.mcf        | 24     | <u>538</u>  | <u>407</u> | 570        | 384         | 530         | 413        | 24     | <u>538</u> | <u>407</u> | 570         | 384         | 530         | 413        |
| 445.gobmk      | 24     | 700         | 360        | <u>700</u> | <u>360</u>  | 699         | 360        | 24     | <u>665</u> | <u>379</u> | 665         | 379         | 666         | 378        |
| 456.hammer     | 24     | 479         | 467        | 476        | 471         | <u>477</u>  | <u>470</u> | 24     | 417        | 537        | <u>417</u>  | <u>537</u>  | 414         | 541        |
| 458.sjeng      | 24     | 842         | 345        | 838        | 346         | <u>841</u>  | <u>345</u> | 24     | 784        | 370        | <u>784</u>  | <u>370</u>  | 784         | 371        |
| 462.libquantum | 24     | 196         | 2540       | <u>197</u> | <u>2520</u> | 198         | 2520       | 24     | 196        | 2540       | <u>197</u>  | <u>2520</u> | 198         | 2520       |
| 464.h264ref    | 24     | 1089        | 488        | 1048       | 507         | <u>1086</u> | <u>489</u> | 24     | 1044       | 509        | 1066        | 498         | <u>1055</u> | <u>503</u> |
| 471.omnetpp    | 24     | 654         | 229        | <u>653</u> | <u>230</u>  | 652         | 230        | 24     | 635        | 236        | 636         | 236         | <u>635</u>  | <u>236</u> |
| 473.astar      | 24     | 750         | 225        | <u>750</u> | <u>225</u>  | 751         | 224        | 24     | 750        | 225        | <u>750</u>  | <u>225</u>  | 751         | 224        |
| 483.xalancbmk  | 24     | <u>422</u>  | <u>392</u> | 422        | 393         | 423         | 392        | 24     | <u>422</u> | <u>392</u> | 422         | 393         | 423         | 392        |

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"  
Filesystem page cache cleared with:  
echo 1> /proc/sys/vm/drop\_caches  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

## 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:  
LD\_LIBRARY\_PATH = "/home/cpu2006v1.2/libs/32:/home/cpu2006v1.2/libs/64"

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



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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 -opt-mem-layout-trans=3`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/smartheap -lsmartheap`

## 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`

C++ benchmarks:

`icpc -m32`



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## 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)
               -auto-ilp32

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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias -opt-mem-layout-trans=3

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

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

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

473.astar: basepeak = yes

```

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## Peak Optimization Flags (Continued)

483.xalanbmk: 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-ic12.1-official-linux64.20111122.html>

[http://www.spec.org/cpu2006/flags/Oracle-platform-x86\\_64.CPUv1.2-RevA.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](http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.xml)

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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