



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

**SPECint®2006 = 60.6**

### CELSIUS R920 (2x Intel Xeon E5-2687W)

**SPECint\_base2006 = 55.7**

CPU2006 license: 19

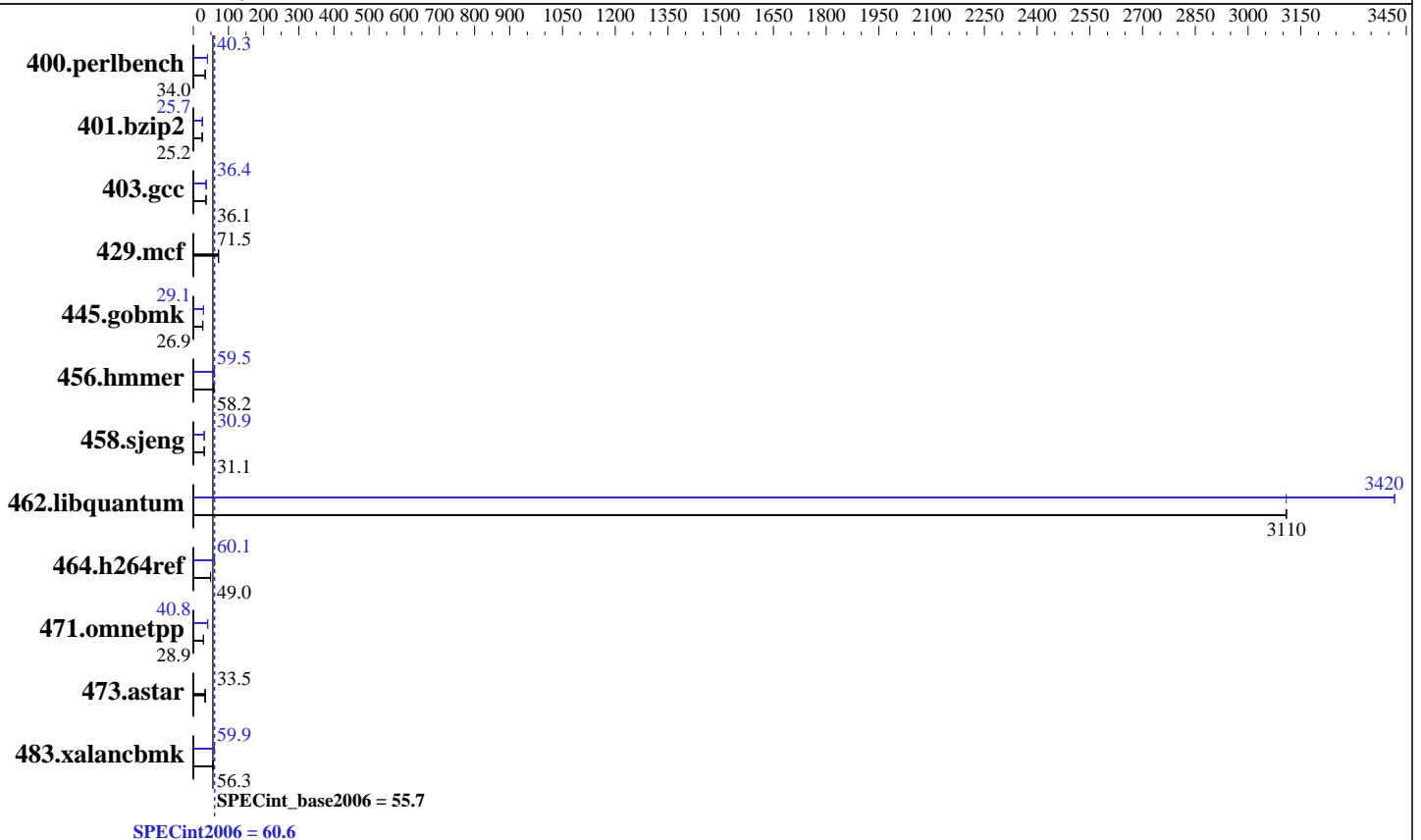
Test date: Mar-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Xeon E5-2687W  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3100  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip  
 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: 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: 1 x SATA III, 500 GB, 7200 rpm  
 Other Hardware: None

#### Software

Operating System: Red Hat Enterprise Linux Server release 6.1, 2.6.32-131.0.15.el6.x86\_64  
 Compiler: C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi - user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap 10 (Multi-Core)



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECint2006 = 60.6

CELSIUS R920 (2x Intel Xeon E5-2687W)

SPECint\_base2006 = 55.7

CPU2006 license: 19  
Test sponsor: Fujitsu  
Tested by: Fujitsu

Test date: Mar-2012  
Hardware Availability: Mar-2012  
Software Availability: Dec-2011

## Results Table

| Benchmark      | Base               |                    |                   |                    |                   |                    | Peak               |                    |                    |                    |                   |                    |
|----------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|
|                | Seconds            | Ratio              | Seconds           | Ratio              | Seconds           | Ratio              | Seconds            | Ratio              | Seconds            | Ratio              | Seconds           | Ratio              |
| 400.perlbench  | <b><u>288</u></b>  | <b><u>34.0</u></b> | 287               | 34.0               | 288               | 33.9               | <b><u>242</u></b>  | <b><u>40.3</u></b> | 242                | 40.3               | 243               | 40.3               |
| 401.bzip2      | <b><u>383</u></b>  | <b><u>25.2</u></b> | 382               | 25.3               | 383               | 25.2               | <b><u>375</u></b>  | <b><u>25.8</u></b> | <b><u>375</u></b>  | <b><u>25.7</u></b> | 375               | 25.7               |
| 403.gcc        | 223                | 36.1               | <b><u>223</u></b> | <b><u>36.1</u></b> | 223               | 36.0               | <b><u>221</u></b>  | <b><u>36.5</u></b> | <b><u>221</u></b>  | <b><u>36.4</u></b> | 221               | 36.4               |
| 429.mcf        | <b><u>128</u></b>  | <b><u>71.5</u></b> | 128               | 71.2               | 127               | 72.0               | <b><u>128</u></b>  | <b><u>71.5</u></b> | 128                | 71.2               | 127               | 72.0               |
| 445.gobmk      | <b><u>391</u></b>  | <b><u>26.9</u></b> | 391               | 26.8               | 391               | 26.9               | <b><u>361</u></b>  | <b><u>29.1</u></b> | <b><u>361</u></b>  | <b><u>29.1</u></b> | 361               | 29.1               |
| 456.hammer     | 161                | 58.1               | <b><u>160</u></b> | <b><u>58.2</u></b> | 160               | 58.2               | <b><u>157</u></b>  | <b><u>59.5</u></b> | <b><u>157</u></b>  | <b><u>59.6</u></b> | <b><u>157</u></b> | <b><u>59.5</u></b> |
| 458.sjeng      | <b><u>389</u></b>  | <b><u>31.1</u></b> | 389               | 31.1               | 389               | 31.1               | <b><u>392</u></b>  | <b><u>30.9</u></b> | <b><u>391</u></b>  | <b><u>30.9</u></b> | 391               | 31.0               |
| 462.libquantum | <b><u>6.66</u></b> | <b><u>3110</u></b> | 6.67              | 3110               | 6.66              | 3110               | <b><u>6.67</u></b> | <b><u>3110</u></b> | <b><u>6.06</u></b> | <b><u>3420</u></b> | 6.06              | 3420               |
| 464.h264ref    | <b><u>452</u></b>  | <b><u>49.0</u></b> | 452               | 49.0               | 451               | 49.1               | <b><u>369</u></b>  | <b><u>60.0</u></b> | <b><u>368</u></b>  | <b><u>60.1</u></b> | 366               | 60.4               |
| 471.omnetpp    | 215                | 29.0               | 217               | 28.8               | <b><u>216</u></b> | <b><u>28.9</u></b> | <b><u>155</u></b>  | <b><u>40.3</u></b> | <b><u>153</u></b>  | <b><u>40.8</u></b> | 153               | 40.9               |
| 473.astar      | 207                | 34.0               | 210               | 33.5               | <b><u>209</u></b> | <b><u>33.5</u></b> | <b><u>207</u></b>  | <b><u>34.0</u></b> | <b><u>210</u></b>  | <b><u>33.5</u></b> | <b><u>209</u></b> | <b><u>33.5</u></b> |
| 483.xalancbmk  | <b><u>123</u></b>  | <b><u>56.3</u></b> | 124               | 55.8               | 123               | 56.3               | <b><u>115</u></b>  | <b><u>59.9</u></b> | 116                | 59.7               | 115               | 60.0               |

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

BIOS settings:  
Frequency Floor Override = Enabled  
Hyper-Threading Technology = Disabled

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/work/cpu2006/libs/32:/work/cpu2006/libs/64"  
OMP\_NUM\_THREADS = "16"

Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

Binaries compiled on a system with  
Red Hat Enterprise Linux Server release 6.1 (Santiago)  
Added glibc-static-2.12-1.25.el6.x86\_64.rpm  
to enable static linking



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECint2006 = 60.6

CELSIUS R920 (2x Intel Xeon E5-2687W)

SPECint\_base2006 = 55.7

CPU2006 license: 19  
Test sponsor: Fujitsu  
Tested by: Fujitsu

Test date: Mar-2012  
Hardware Availability: Mar-2012  
Software Availability: Dec-2011

## 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  
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/opt/SmartHeap/lib64 -lsmartheap64

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECint2006 = 60.6**

**CELSIUS R920 (2x Intel Xeon E5-2687W)**

**SPECint\_base2006 = 55.7**

**CPU2006 license:** 19

**Test date:** Mar-2012

**Test sponsor:** Fujitsu

**Hardware Availability:** Mar-2012

**Tested by:** Fujitsu

**Software Availability:** Dec-2011

## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

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: `-xAVX -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`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECint2006 = 60.6

CELSIUS R920 (2x Intel Xeon E5-2687W)

SPECint\_base2006 = 55.7

CPU2006 license: 19

Test date: Mar-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011

## Peak Optimization Flags (Continued)

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

462.libquantum: -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch  
-auto-p32

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/opt/SmartHeap/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/opt/SmartHeap/lib -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/Fujitsu-Platform.20120313.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/Fujitsu-Platform.20120313.xml>



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECint2006 = 60.6

CELSIUS R920 (2x Intel Xeon E5-2687W)

SPECint\_base2006 = 55.7

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 03:39:22 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 28 March 2012.