



# SPEC® CINT2006 Result

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## Fujitsu

**SPECint®2006 = 54.6**

PRIMERGY CX250 S2, Intel Xeon E5-2695 v2, 2.40 GHz

**SPECint\_base2006 = 50.7**

CPU2006 license: 19

Test date: Nov-2013

Test sponsor: Fujitsu

Hardware Availability: Sep-2013

Tested by: Fujitsu

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2695 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 2 chips, 12 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: 30 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx8 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 2.6.32-358.11.1.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 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 V10.0



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	325	30.0	<b><u>326</u></b>	<b><u>30.0</u></b>	326	29.9	274	35.7	<b><u>273</u></b>	<b><u>35.7</u></b>	273	35.8
401.bzip2	453	21.3	<b><u>452</u></b>	<b><u>21.3</u></b>	451	21.4	447	21.6	<b><u>447</u></b>	<b><u>21.6</u></b>	448	21.6
403.gcc	<b><u>259</u></b>	<b><u>31.1</u></b>	259	31.1	259	31.1	<b><u>253</u></b>	<b><u>31.9</u></b>	252	31.9	253	31.8
429.mcf	151	60.2	152	59.9	<b><u>152</u></b>	<b><u>59.9</u></b>	151	60.2	152	59.9	<b><u>152</u></b>	<b><u>59.9</u></b>
445.gobmk	469	22.3	<b><u>470</u></b>	<b><u>22.3</u></b>	470	22.3	418	25.1	<b><u>418</u></b>	<b><u>25.1</u></b>	418	25.1
456.hammer	172	54.3	<b><u>169</u></b>	<b><u>55.1</u></b>	169	55.2	172	54.3	<b><u>169</u></b>	<b><u>55.1</u></b>	169	55.2
458.sjeng	450	26.9	450	26.9	<b><u>450</u></b>	<b><u>26.9</u></b>	438	27.6	438	27.6	<b><u>438</u></b>	<b><u>27.6</u></b>
462.libquantum	5.30	3910	5.90	3510	<b><u>5.90</u></b>	<b><u>3510</u></b>	5.30	3910	5.90	3510	<b><u>5.90</u></b>	<b><u>3510</u></b>
464.h264ref	<b><u>523</u></b>	<b><u>42.3</u></b>	524	42.3	523	42.3	423	52.3	<b><u>425</u></b>	<b><u>52.1</u></b>	426	52.0
471.omnetpp	<b><u>193</u></b>	<b><u>32.4</u></b>	190	32.9	194	32.1	141	44.4	139	44.8	<b><u>140</u></b>	<b><u>44.7</u></b>
473.astar	<b><u>242</u></b>	<b><u>29.0</u></b>	243	28.9	241	29.1	<b><u>242</u></b>	<b><u>29.0</u></b>	243	28.9	241	29.1
483.xalancbmk	130	52.9	131	52.5	<b><u>131</u></b>	<b><u>52.6</u></b>	130	52.9	131	52.5	<b><u>131</u></b>	<b><u>52.6</u></b>

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.

## Operating System Notes

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

## Platform Notes

BIOS configuration:  
Energy Performance = Performance  
Utilization Profile = Unbalanced

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact,1,0"  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"  
OMP\_NUM\_THREADS = "24"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

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## General Notes (Continued)

For information about Fujitsu please visit: <http://www.fujitsu.com>

## 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.xalanbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32  
  
C++ benchmarks:  
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs  
-L/sh -lsmartheap64

## Base Other Flags

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



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**Software Availability:** Sep-2013

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

## 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\_LP64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(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: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias

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## Peak Optimization Flags (Continued)

456.hmmcr: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: -xAVX(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: -xAVX(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/sh -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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml>

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

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