



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu

SPECint<sup>®</sup>2006 = **65.6**

PRIMERGY CX2570 M1, Intel Xeon E5-2697 v3, 2.6 GHz

SPECint\_base2006 = **62.8**

CPU2006 license: 19

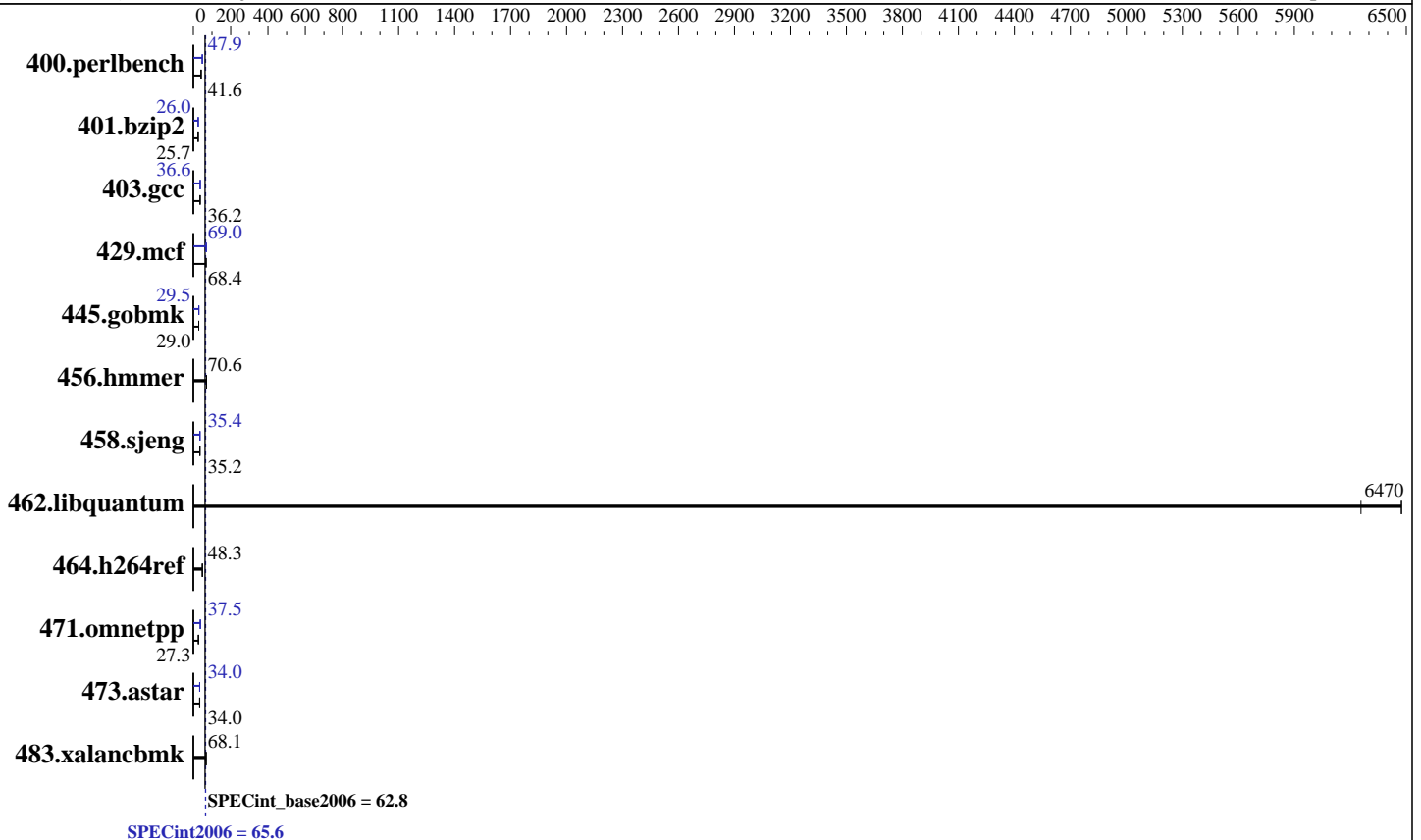
Test date: Nov-2014

Test sponsor: Fujitsu

Hardware Availability: Sep-2014

Tested by: Fujitsu

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2697 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 28 cores, 2 chips, 14 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 35 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)  
 Kernel 3.10.0-123.8.1.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: Yes  
 File System: xfs  
 System State: Run level 3 (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	<b><u>235</u></b>	<b><u>41.6</u></b>	236	41.4	235	41.6	204	47.9	205	47.8	<b><u>204</u></b>	<b><u>47.9</u></b>
401.bzip2	<b><u>375</u></b>	<b><u>25.7</u></b>	374	25.8	376	25.7	371	26.0	371	26.0	<b><u>371</u></b>	<b><u>26.0</u></b>
403.gcc	<b><u>223</u></b>	<b><u>36.2</u></b>	222	36.2	223	36.1	<b><u>220</u></b>	<b><u>36.6</u></b>	220	36.6	219	36.7
429.mcf	<b><u>133</u></b>	<b><u>68.4</u></b>	133	68.4	136	67.2	<b><u>132</u></b>	<b><u>69.0</u></b>	133	68.5	132	69.0
445.gobmk	<b><u>362</u></b>	<b><u>29.0</u></b>	362	29.0	363	28.9	356	29.5	355	29.5	<b><u>355</u></b>	<b><u>29.5</u></b>
456.hammer	132	70.7	133	70.4	<b><u>132</u></b>	<b><u>70.6</u></b>	132	70.7	133	70.4	<b><u>132</u></b>	<b><u>70.6</u></b>
458.sjeng	344	35.2	<b><u>344</u></b>	<b><u>35.2</u></b>	344	35.1	<b><u>342</u></b>	<b><u>35.4</u></b>	342	35.4	342	35.3
462.libquantum	<b><u>3.20</u></b>	<b><u>6470</u></b>	3.20	6470	3.31	6260	<b><u>3.20</u></b>	<b><u>6470</u></b>	3.20	6470	3.31	6260
464.h264ref	460	48.1	457	48.4	<b><u>458</u></b>	<b><u>48.3</u></b>	460	48.1	457	48.4	<b><u>458</u></b>	<b><u>48.3</u></b>
471.omnetpp	231	27.1	229	27.3	<b><u>229</u></b>	<b><u>27.3</u></b>	166	37.7	170	36.7	<b><u>167</u></b>	<b><u>37.5</u></b>
473.astar	209	33.6	<b><u>207</u></b>	<b><u>34.0</u></b>	204	34.4	207	33.9	206	34.1	<b><u>206</u></b>	<b><u>34.0</u></b>
483.xalancbmk	101	68.1	<b><u>101</u></b>	<b><u>68.1</u></b>	101	68.1	101	68.1	<b><u>101</u></b>	<b><u>68.1</u></b>	101	68.1

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  
QPI snoop mode: Cluster on Die  
COD Enable = Enabled, Early Snoop = Disabled  
CPU ClE Support = Disabled

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"  
OMP\_NUM\_THREADS = "28"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

This result was measured on the PRIMERGY CX2550 M1. The PRIMERGY CX2550 M1

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## General Notes (Continued)

and the PRIMERGY CX2570 M1 are electronically equivalent.  
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.hmmmer: -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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xCORE-AVX2 -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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## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## 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  
464.h264ref: -DSPEC\_CPU\_LP64  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc  
-opt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel  
-opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias

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## Peak Optimization Flags (Continued)

456.hmmr: basepeak = yes

458.sjeng: -xCORE-AVX2(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: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-auto-p32 -Wl,-z,muldefs -L/sh -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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.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).

Tested with SPEC CPU2006 v1.2.

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