



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®2006 = 54.5

PRIMERGY BX924 S4, Intel Xeon E5-2695 v2, 2.40 GHz

SPECint\_base2006 = 50.2

CPU2006 license: 19

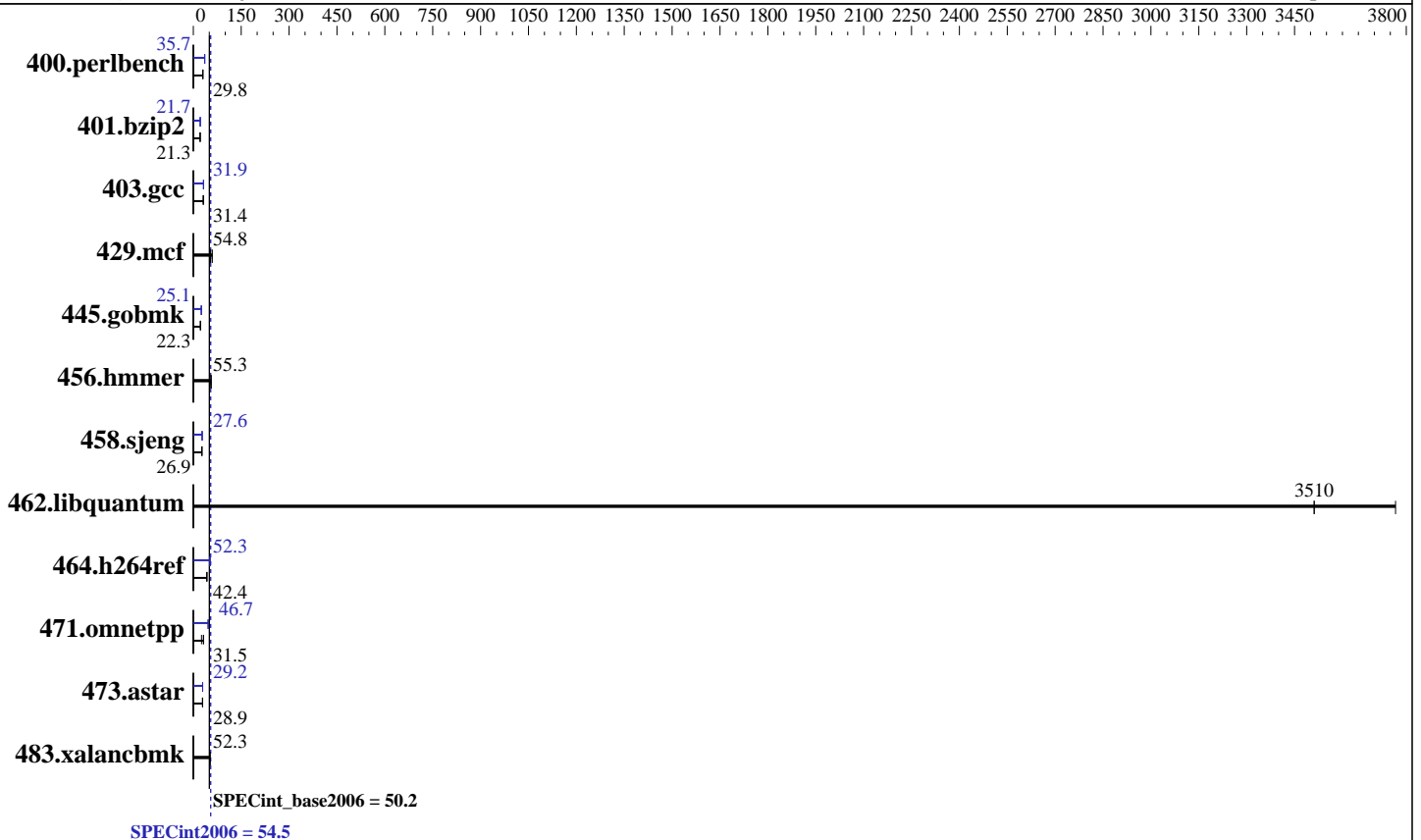
Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-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 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x SATA, 450 GB, 15000 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 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	327	29.9	<b><u>327</u></b>	<b><u>29.8</u></b>	328	29.8	<b><u>274</u></b>	<b><u>35.7</u></b>	274	35.7	274	35.6
401.bzip2	452	21.3	<b><u>452</u></b>	<b><u>21.3</u></b>	453	21.3	<b><u>445</u></b>	<b><u>21.7</u></b>	<b><u>445</u></b>	<b><u>21.7</u></b>	445	21.7
403.gcc	256	31.4	<b><u>257</u></b>	<b><u>31.4</u></b>	257	31.3	<b><u>252</u></b>	<b><u>31.9</u></b>	252	31.9	252	31.9
429.mcf	<b><u>166</u></b>	<b><u>54.8</u></b>	169	53.8	153	59.6	<b><u>166</u></b>	<b><u>54.8</u></b>	169	53.8	153	59.6
445.gobmk	470	22.3	469	22.4	<b><u>470</u></b>	<b><u>22.3</u></b>	<b><u>418</u></b>	<b><u>25.1</u></b>	419	25.1	<b><u>418</u></b>	<b><u>25.1</u></b>
456.hammer	168	55.7	169	55.2	<b><u>169</u></b>	<b><u>55.3</u></b>	<b><u>168</u></b>	<b><u>55.7</u></b>	169	55.2	<b><u>169</u></b>	<b><u>55.3</u></b>
458.sjeng	<b><u>450</u></b>	<b><u>26.9</u></b>	450	26.9	450	26.9	<b><u>438</u></b>	<b><u>27.6</u></b>	<b><u>438</u></b>	<b><u>27.7</u></b>	<b><u>438</u></b>	<b><u>27.6</u></b>
462.libquantum	<b><u>5.90</u></b>	<b><u>3510</u></b>	5.50	3770	5.90	3510	<b><u>5.90</u></b>	<b><u>3510</u></b>	5.50	3770	5.90	3510
464.h264ref	522	42.4	521	42.5	<b><u>522</u></b>	<b><u>42.4</u></b>	<b><u>423</u></b>	<b><u>52.3</u></b>	423	52.3	<b><u>423</u></b>	<b><u>52.3</u></b>
471.omnetpp	244	25.6	<b><u>198</u></b>	<b><u>31.5</u></b>	194	32.2	<b><u>135</u></b>	<b><u>46.4</u></b>	<b><u>134</u></b>	<b><u>46.7</u></b>	134	46.8
473.astar	242	29.0	<b><u>242</u></b>	<b><u>28.9</u></b>	243	28.9	<b><u>242</u></b>	<b><u>29.0</u></b>	<b><u>239</u></b>	<b><u>29.3</u></b>	<b><u>240</u></b>	<b><u>29.2</u></b>
483.xalancbmk	133	51.8	<b><u>132</u></b>	<b><u>52.3</u></b>	131	52.6	<b><u>133</u></b>	<b><u>51.8</u></b>	<b><u>132</u></b>	<b><u>52.3</u></b>	131	52.6

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,scatter,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.xalancbmk: -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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## 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.hmmmer: -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.hmmmer: 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: -xAVX -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-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>  
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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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