



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 106

PRIMERGY BX920 S3, Intel Xeon E5-2407, 2.20 GHz

SPECint\_rate\_base2006 = 102

CPU2006 license: 19

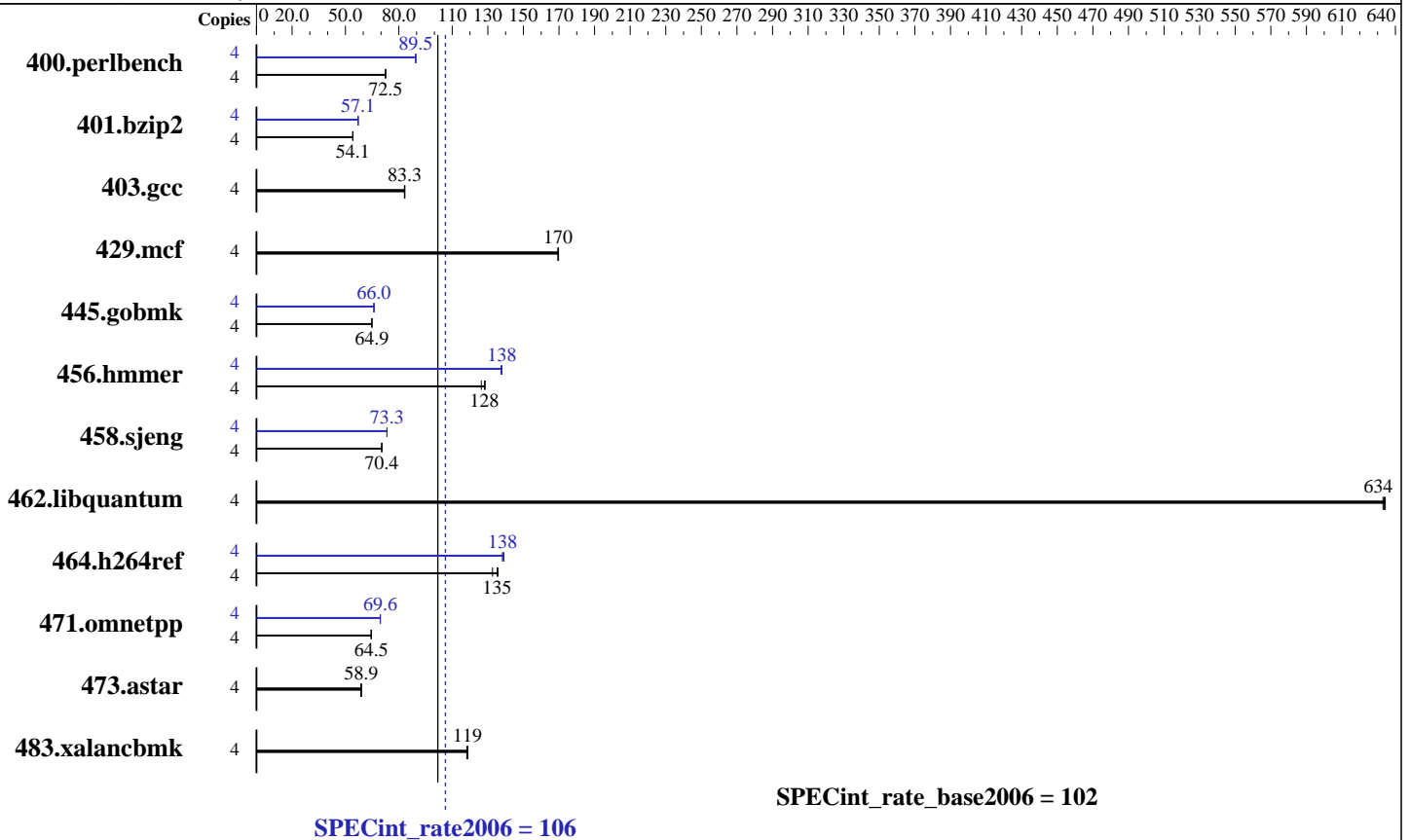
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2012

Hardware Availability: May-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2407  
 CPU Characteristics:  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 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: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.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 3 (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	4	<u>539</u>	<u>72.5</u>	539	72.5	538	72.6	4	436	89.6	<u>437</u>	<u>89.5</u>	437	89.4
401.bzip2	4	712	54.2	<u>713</u>	<u>54.1</u>	713	54.1	4	676	57.1	<u>676</u>	<u>57.1</u>	676	57.1
403.gcc	4	386	83.4	<u>387</u>	<u>83.3</u>	387	83.1	4	386	83.4	<u>387</u>	<u>83.3</u>	387	83.1
429.mcf	4	215	170	<u>215</u>	<u>170</u>	215	169	4	215	170	<u>215</u>	<u>170</u>	215	169
445.gobmk	4	648	64.8	646	64.9	<u>647</u>	<u>64.9</u>	4	635	66.1	636	66.0	<u>636</u>	<u>66.0</u>
456.hammer	4	<u>291</u>	<u>128</u>	295	126	290	129	4	271	138	<u>271</u>	<u>138</u>	272	137
458.sjeng	4	687	70.5	<u>687</u>	<u>70.4</u>	688	70.4	4	660	73.3	<u>660</u>	<u>73.3</u>	660	73.4
462.libquantum	4	131	633	131	634	<u>131</u>	<u>634</u>	4	131	633	131	634	<u>131</u>	<u>634</u>
464.h264ref	4	667	133	652	136	<u>654</u>	<u>135</u>	4	640	138	<u>640</u>	<u>138</u>	637	139
471.omnetpp	4	387	64.5	388	64.5	<u>388</u>	<u>64.5</u>	4	<u>359</u>	<u>69.6</u>	359	69.7	360	69.5
473.astar	4	<u>477</u>	<u>58.9</u>	476	59.0	479	58.6	4	<u>477</u>	<u>58.9</u>	476	59.0	479	58.6
483.xalancbmk	4	233	119	<u>233</u>	<u>119</u>	234	118	4	233	119	<u>233</u>	<u>119</u>	234	118

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"

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"

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

C benchmarks:  
icc -m32

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## Base Compiler Invocation (Continued)

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: basepeak = yes

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/Fujitsu-Platform.20120320.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.20120320.xml>

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

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