



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®2006 = 37.7

PRIMERGY RX200 S7, Intel Xeon E5-2650L, 1.80 GHz

SPECint\_base2006 = 35.0

CPU2006 license: 19

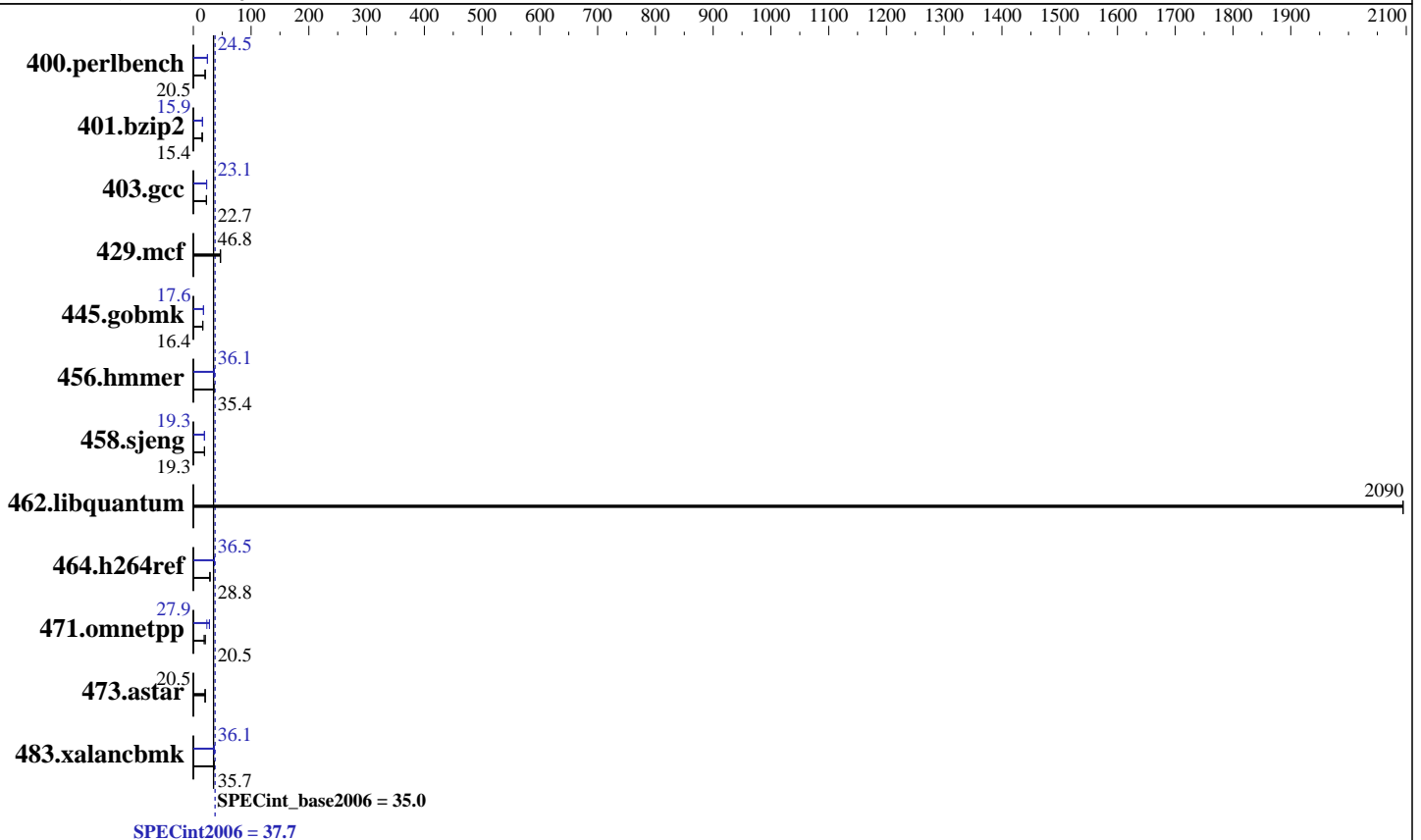
Test date: Feb-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2650L  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.30 GHz  
 CPU MHz: 1800  
 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 PC3L-12800R-11, ECC)  
 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: 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 V9.01



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	475	20.6	<b><u>476</u></b>	<b><u>20.5</u></b>	477	20.5	399	24.5	<b><u>399</u></b>	<b><u>24.5</u></b>	400	24.4
401.bzip2	627	15.4	<b><u>626</u></b>	<b><u>15.4</u></b>	626	15.4	607	15.9	<b><u>607</u></b>	<b><u>15.9</u></b>	608	15.9
403.gcc	<b><u>354</u></b>	<b><u>22.7</u></b>	354	22.7	354	22.7	349	23.1	350	23.0	<b><u>349</u></b>	<b><u>23.1</u></b>
429.mcf	193	47.4	195	46.7	<b><u>195</u></b>	<b><u>46.8</u></b>	193	47.4	195	46.7	<b><u>195</u></b>	<b><u>46.8</u></b>
445.gobmk	640	16.4	641	16.4	<b><u>640</u></b>	<b><u>16.4</u></b>	595	17.6	595	17.6	<b><u>595</u></b>	<b><u>17.6</u></b>
456.hammer	<b><u>263</u></b>	<b><u>35.4</u></b>	263	35.4	263	35.4	<b><u>258</u></b>	<b><u>36.1</u></b>	259	36.1	258	36.1
458.sjeng	626	19.3	<b><u>625</u></b>	<b><u>19.3</u></b>	625	19.3	<b><u>625</u></b>	<b><u>19.3</u></b>	629	19.2	625	19.4
462.libquantum	<b><u>9.89</u></b>	<b><u>2090</u></b>	9.89	2090	9.89	2090	<b><u>9.89</u></b>	<b><u>2090</u></b>	9.89	2090	9.89	2090
464.h264ref	773	28.6	766	28.9	<b><u>769</u></b>	<b><u>28.8</u></b>	<b><u>606</u></b>	<b><u>36.5</u></b>	606	36.5	606	36.5
471.omnetpp	337	18.6	304	20.6	<b><u>304</u></b>	<b><u>20.5</u></b>	267	23.4	223	28.0	<b><u>224</u></b>	<b><u>27.9</u></b>
473.astar	342	20.6	343	20.5	<b><u>343</u></b>	<b><u>20.5</u></b>	342	20.6	343	20.5	<b><u>343</u></b>	<b><u>20.5</u></b>
483.xalancbmk	195	35.4	<b><u>193</u></b>	<b><u>35.7</u></b>	193	35.8	191	36.1	<b><u>191</u></b>	<b><u>36.1</u></b>	191	36.1

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 configuration:  
Intel HT Technology = Disable  
Frequency Floor Override = Enable

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"  
OMP\_NUM\_THREADS = "16"

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

C benchmarks:  
icc -m64

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## Base Compiler Invocation (Continued)

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/smartheap -lsmartheap64

## Base Other Flags

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

## Peak Compiler Invocation

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

400.perlbench: icc -m32

445.gobmk: icc -m32

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## Peak Compiler Invocation (Continued)

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: -xSSE4.2 -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

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

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## Peak Optimization Flags (Continued)

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)  
-opt-ra-region-strategy=block -ansi-alias  
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/smartheap -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/Fujitsu-Platform.20120320.html>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

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

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.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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