



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®2006 = 49.9

PRIMERGY RX350 S7, Intel Xeon E5-2665, 2.40 GHz

SPECint\_base2006 = 46.6

CPU2006 license: 19

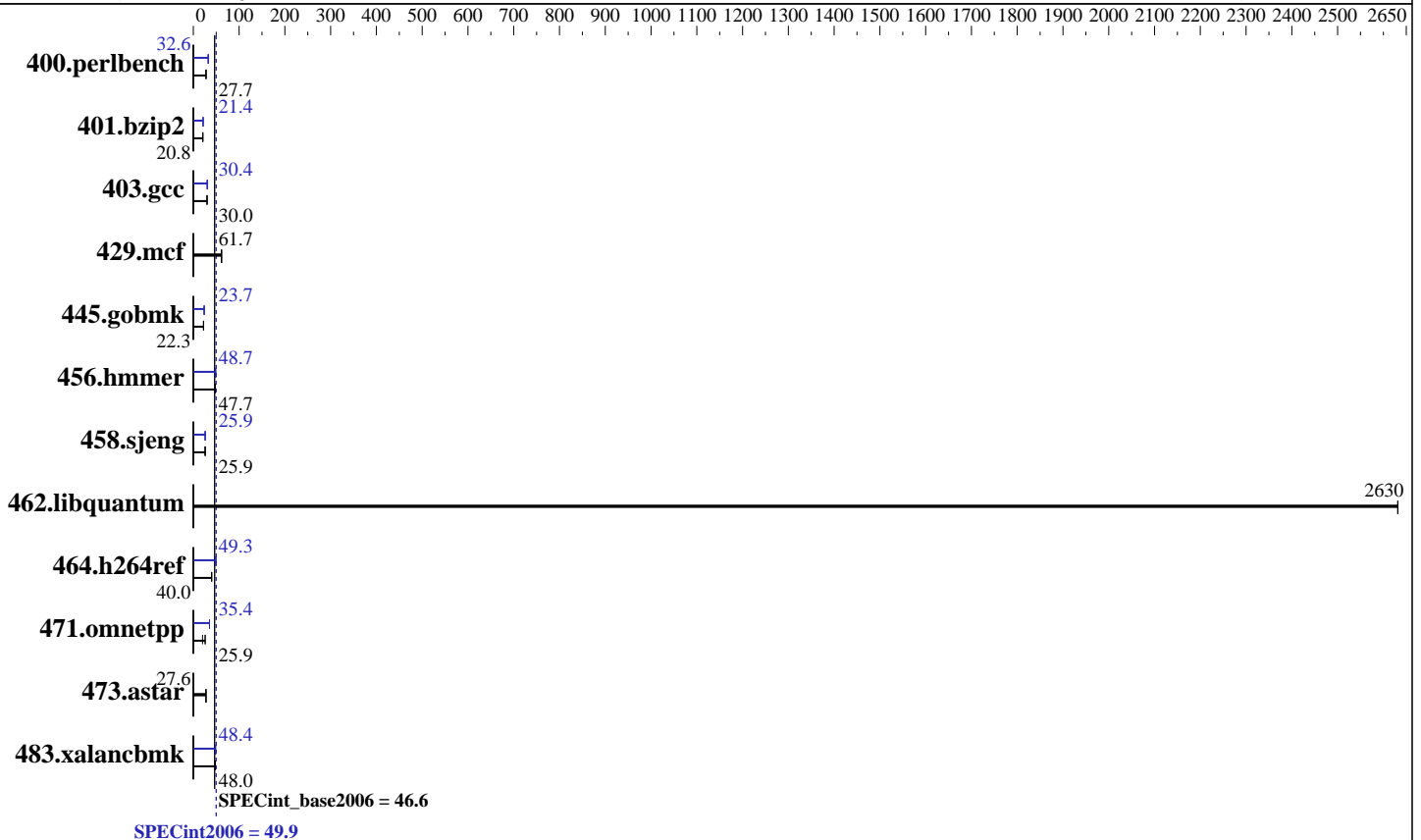
Test date: Mar-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2665  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz  
 CPU MHz: 2400  
 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	351	27.8	<b><u>352</u></b>	<b><u>27.7</u></b>	352	27.7	300	32.6	<b><u>300</u></b>	<b><u>32.6</u></b>	299	32.7
401.bzip2	465	20.8	<b><u>465</u></b>	<b><u>20.8</u></b>	465	20.8	<b><u>451</u></b>	<b><u>21.4</u></b>	451	21.4	451	21.4
403.gcc	268	30.0	268	30.0	<b><u>268</u></b>	<b><u>30.0</u></b>	265	30.4	<b><u>265</u></b>	<b><u>30.4</u></b>	265	30.4
429.mcf	147	61.9	149	61.2	<b><u>148</u></b>	<b><u>61.7</u></b>	147	61.9	149	61.2	<b><u>148</u></b>	<b><u>61.7</u></b>
445.gobmk	<b><u>470</u></b>	<b><u>22.3</u></b>	470	22.3	469	22.4	442	23.7	442	23.7	<b><u>442</u></b>	<b><u>23.7</u></b>
456.hammer	196	47.7	<b><u>196</u></b>	<b><u>47.7</u></b>	195	47.7	<b><u>192</u></b>	<b><u>48.7</u></b>	192	48.7	192	48.7
458.sjeng	468	25.9	468	25.9	<b><u>468</u></b>	<b><u>25.9</u></b>	467	25.9	<b><u>467</u></b>	<b><u>25.9</u></b>	468	25.8
462.libquantum	7.87	2630	7.87	2630	<b><u>7.87</u></b>	<b><u>2630</u></b>	7.87	2630	7.87	2630	<b><u>7.87</u></b>	<b><u>2630</u></b>
464.h264ref	<b><u>553</u></b>	<b><u>40.0</u></b>	551	40.2	555	39.9	449	49.3	452	49.0	<b><u>449</u></b>	<b><u>49.3</u></b>
471.omnetpp	241	25.9	<b><u>242</u></b>	<b><u>25.9</u></b>	311	20.1	177	35.4	177	35.3	<b><u>177</u></b>	<b><u>35.4</u></b>
473.astar	<b><u>254</u></b>	<b><u>27.6</u></b>	254	27.7	254	27.6	<b><u>254</u></b>	<b><u>27.6</u></b>	254	27.7	254	27.6
483.xalancbmk	144	48.1	144	48.0	<b><u>144</u></b>	<b><u>48.0</u></b>	143	48.4	<b><u>143</u></b>	<b><u>48.4</u></b>	141	48.9

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"

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  
This result was measured on the PRIMERGY RX350 S7. The PRIMERGY RX350 S7 and the PRIMERGY TX300 S7 are electronically equivalent.  
For information about Fujitsu please visit: <http://www.fujitsu.com>



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## 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:  
-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

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## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

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`

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## Peak Optimization Flags (Continued)

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

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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