



# SPEC® CINT2006 Result

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## Fujitsu

### SPECint®\_rate2006 = 65.1

PRIMERGY RX300 S6, Intel Xeon E5603, 1.60 GHz

### SPECint\_rate\_base2006 = 61.0

CPU2006 license: 19

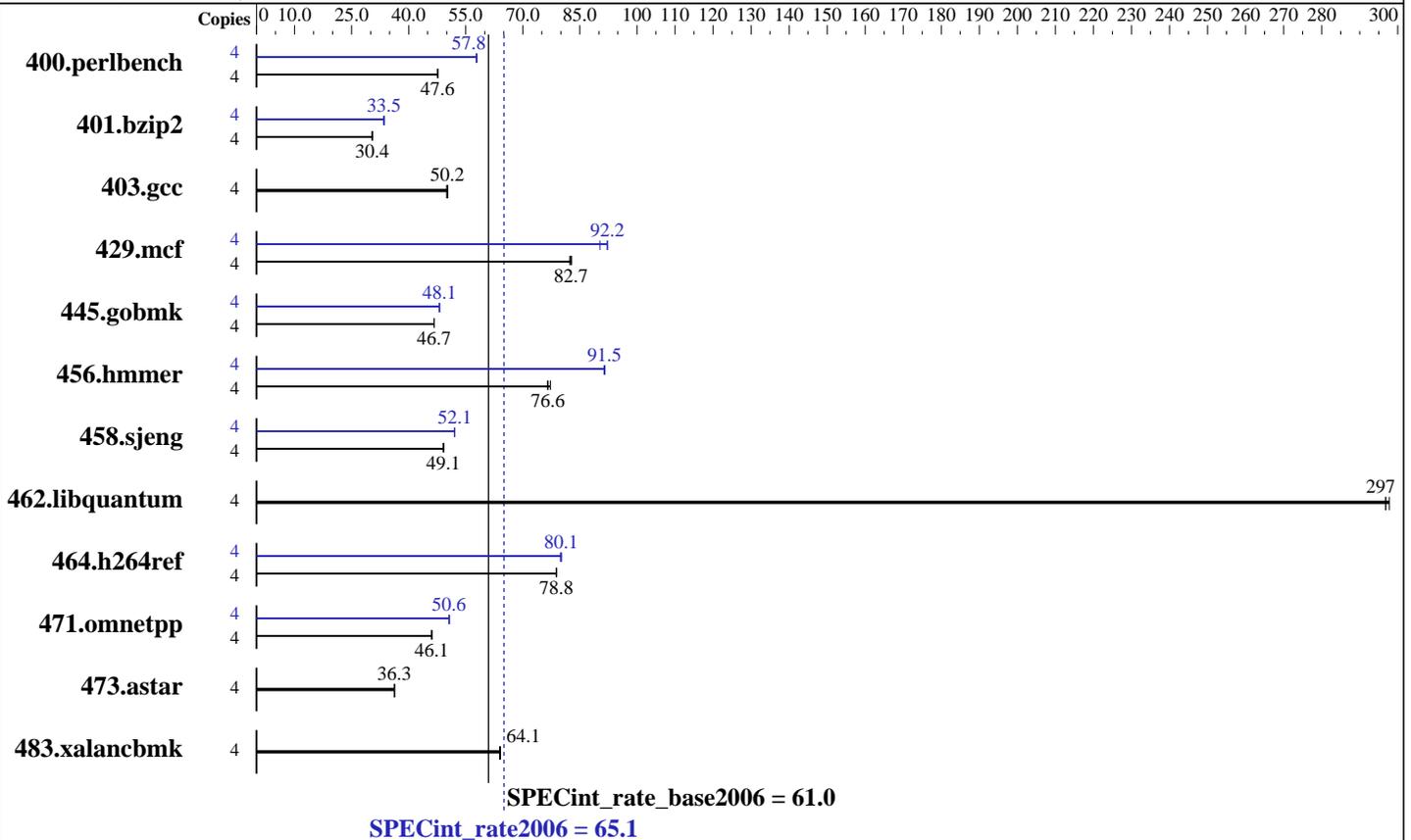
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Feb-2011

Software Availability: Nov-2010



### Hardware

CPU Name: Intel Xeon E5603  
 CPU Characteristics:  
 CPU MHz: 1600  
 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: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
 Other Hardware: --

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) with SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Compiler XE for applications running on IA-32, Version 12.0.0.082 Build 20101006  
 Auto Parallel: No  
 File System: ext3  
 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	819	47.7	821	47.6	<b>820</b>	<b>47.6</b>	4	<b>676</b>	<b>57.8</b>	675	57.9	676	57.8
401.bzip2	4	1266	30.5	<b>1268</b>	<b>30.4</b>	1272	30.4	4	1151	33.5	1153	33.5	<b>1152</b>	<b>33.5</b>
403.gcc	4	644	50.0	641	50.2	<b>642</b>	<b>50.2</b>	4	644	50.0	641	50.2	<b>642</b>	<b>50.2</b>
429.mcf	4	443	82.3	<b>441</b>	<b>82.7</b>	441	82.8	4	404	90.3	<b>396</b>	<b>92.2</b>	395	92.2
445.gobmk	4	<b>899</b>	<b>46.7</b>	898	46.7	899	46.7	4	<b>873</b>	<b>48.1</b>	872	48.1	873	48.1
456.hammer	4	<b>487</b>	<b>76.6</b>	488	76.5	483	77.3	4	408	91.4	<b>408</b>	<b>91.5</b>	408	91.6
458.sjeng	4	<b>985</b>	<b>49.1</b>	984	49.2	985	49.1	4	930	52.0	<b>929</b>	<b>52.1</b>	929	52.1
462.libquantum	4	279	297	278	298	<b>279</b>	<b>297</b>	4	279	297	278	298	<b>279</b>	<b>297</b>
464.h264ref	4	1123	78.9	1123	78.8	<b>1123</b>	<b>78.8</b>	4	1108	79.9	1104	80.2	<b>1105</b>	<b>80.1</b>
471.omnetpp	4	<b>543</b>	<b>46.1</b>	543	46.0	542	46.1	4	494	50.6	<b>494</b>	<b>50.6</b>	493	50.7
473.astar	4	774	36.3	<b>775</b>	<b>36.3</b>	775	36.2	4	774	36.3	<b>775</b>	<b>36.3</b>	775	36.2
483.xalancbmk	4	432	63.9	<b>431</b>	<b>64.1</b>	431	64.1	4	432	63.9	<b>431</b>	<b>64.1</b>	431	64.1

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.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
Large pages were not enabled for this run

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable

## General Notes

This result was measured on the PRIMERGY RX300 S6. The PRIMERGY TX300 S6 and the PRIMERGY RX300 S6 are electronically equivalent.

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 SP1 with Binutils 2.18.50.0.7.20080502



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## Base Compiler Invocation

C benchmarks:  
icc -m32  
  
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  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT  
  
C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/smartheap -lsmartheap  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

## 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

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## Peak Compiler Invocation (Continued)

C++ benchmarks:  
icpc -m32

## 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)

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: -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 -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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

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## Peak Optimization Flags (Continued)

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

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.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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