



# SPEC® CINT2006 Result

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## Fujitsu

**SPECint®2006 = 29.0**

PRIMERGY RX350 S8, Intel Xeon E5-2603 v2, 1.80 GHz

**SPECint\_base2006 = 27.9**

CPU2006 license: 19

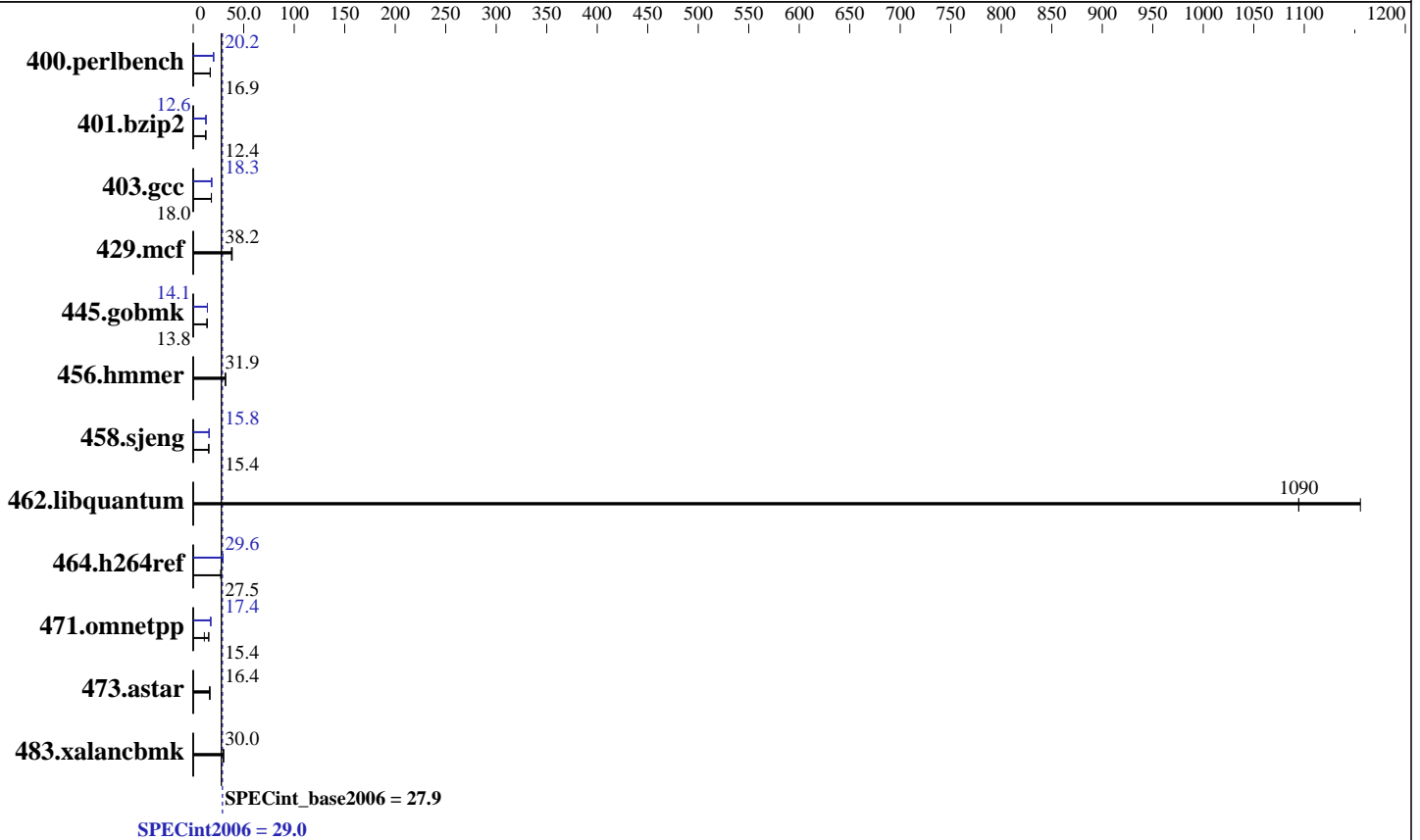
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2603 v2  
 CPU Characteristics: 1800  
 CPU MHz: 1800  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 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	577	16.9	<b>578</b>	<b>16.9</b>	578	16.9	483	20.2	<b>484</b>	<b>20.2</b>	484	20.2
401.bzip2	776	12.4	<b>775</b>	<b>12.4</b>	775	12.5	763	12.6	764	12.6	<b>763</b>	<b>12.6</b>
403.gcc	447	18.0	<b>447</b>	<b>18.0</b>	448	18.0	441	18.3	<b>440</b>	<b>18.3</b>	440	18.3
429.mcf	240	37.9	<b>239</b>	<b>38.2</b>	236	38.6	240	37.9	<b>239</b>	<b>38.2</b>	236	38.6
445.gobmk	762	13.8	763	13.8	<b>763</b>	<b>13.8</b>	<b>746</b>	<b>14.1</b>	746	14.1	746	14.1
456.hammer	292	31.9	292	31.9	<b>292</b>	<b>31.9</b>	292	31.9	292	31.9	<b>292</b>	<b>31.9</b>
458.sjeng	787	15.4	786	15.4	<b>787</b>	<b>15.4</b>	<b>767</b>	<b>15.8</b>	767	15.8	767	15.8
462.libquantum	18.9	1090	<b>18.9</b>	<b>1090</b>	17.9	1160	18.9	1090	<b>18.9</b>	<b>1090</b>	17.9	1160
464.h264ref	807	27.4	805	27.5	<b>805</b>	<b>27.5</b>	750	29.5	748	29.6	<b>748</b>	<b>29.6</b>
471.omnetpp	406	15.4	<b>406</b>	<b>15.4</b>	567	11.0	361	17.3	359	17.4	<b>360</b>	<b>17.4</b>
473.astar	<b>429</b>	<b>16.4</b>	430	16.3	423	16.6	<b>429</b>	<b>16.4</b>	430	16.3	423	16.6
483.xalancbmk	230	30.0	<b>230</b>	<b>30.0</b>	230	30.0	230	30.0	<b>230</b>	<b>30.0</b>	230	30.0

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,compact,1,0"  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"  
OMP\_NUM\_THREADS = "8"

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>  
This result was measured on the PRIMERGY RX350 S8. The PRIMERGY RX350 S8

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## General Notes (Continued)

and the PRIMERGY TX300 S8 are electronically equivalent.  
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.hmmmer: -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.hmmr: 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: basepeak = yes

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.20130924.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>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.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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