



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 424

PRIMERGY RX2540 M1, Intel Xeon E5-2623 v3, 3.0 GHz

SPECint\_rate\_base2006 = 410

CPU2006 license: 19

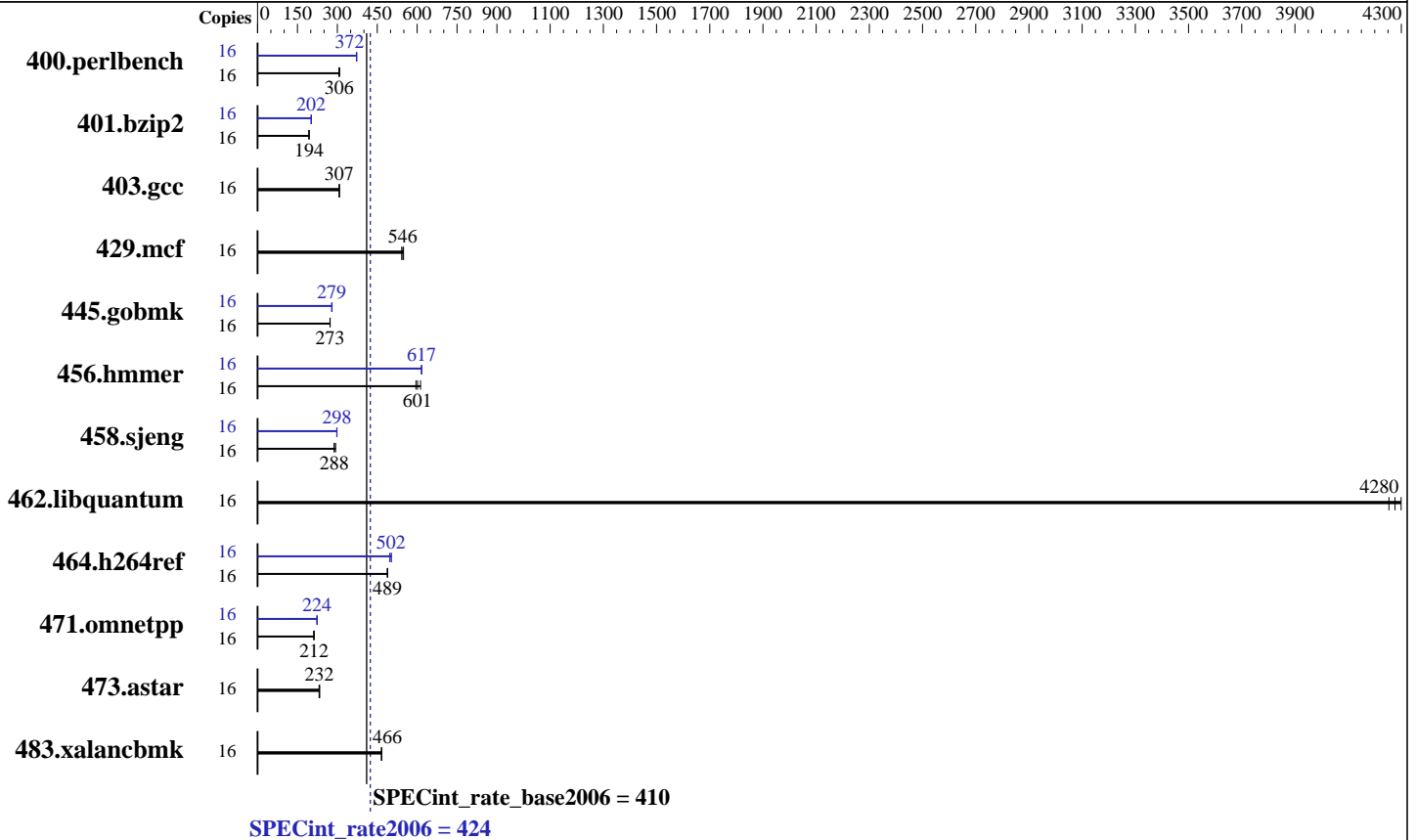
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2623 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chip  
 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 PC4-2133P-R, running at 1866 MHz)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)  
 2.6.32-431.23.3.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 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 V10.0



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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	16	<b>510</b>	<b>306</b>	506	309	511	306	16	421	372	419	373	<b>420</b>	<b>372</b>
401.bzip2	16	799	193	798	194	<b>798</b>	<b>194</b>	16	766	202	<b>764</b>	<b>202</b>	764	202
403.gcc	16	418	308	<b>420</b>	<b>307</b>	420	307	16	418	308	<b>420</b>	<b>307</b>	420	307
429.mcf	16	266	549	<b>267</b>	<b>546</b>	269	542	16	266	549	<b>267</b>	<b>546</b>	269	542
445.gobmk	16	615	273	<b>616</b>	<b>273</b>	617	272	16	602	279	599	280	<b>601</b>	<b>279</b>
456.hmmr	16	<b>248</b>	<b>601</b>	244	613	251	595	16	242	617	<b>242</b>	<b>617</b>	242	616
458.sjeng	16	660	293	<b>671</b>	<b>288</b>	672	288	16	650	298	648	299	<b>649</b>	<b>298</b>
462.libquantum	16	77.9	4250	77.1	4300	<b>77.5</b>	<b>4280</b>	16	77.9	4250	77.1	4300	<b>77.5</b>	<b>4280</b>
464.h264ref	16	726	488	<b>724</b>	<b>489</b>	724	489	16	<b>705</b>	<b>502</b>	704	503	713	497
471.omnetpp	16	471	212	<b>471</b>	<b>212</b>	474	211	16	448	223	<b>447</b>	<b>224</b>	446	224
473.astar	16	486	231	<b>484</b>	<b>232</b>	481	234	16	486	231	<b>484</b>	<b>232</b>	481	234
483.xalancbmk	16	<b>237</b>	<b>466</b>	237	466	237	466	16	<b>237</b>	<b>466</b>	237	466	237	466

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"

## Platform Notes

BIOS configuration:  
Energy Performance = Performance  
QPI snoop mode: Early Snoop  
COD Enable = Disabled, Early Snoop = Enabled  
CPU C1E Support = Disabled

## General Notes

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

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  
Filesystem page cache cleared with:

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## General Notes (Continued)

```
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

For information about Fujitsu please visit: <http://www.fujitsu.com>

## 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:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3

C++ benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmarthearp

## Base Other Flags

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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32

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## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m64`  
401.bzip2: `icc -m64`  
456.hmmer: `icc -m64`  
458.sjeng: `icc -m64`

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: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3`  
456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`  
458.sjeng: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32`

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## Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/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-revB.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.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-revB.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.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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