



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 695

PRIMERGY RX200 S7, Intel Xeon E5-2690, 2.90 GHz

SPECint\_rate\_base2006 = 667

CPU2006 license: 19

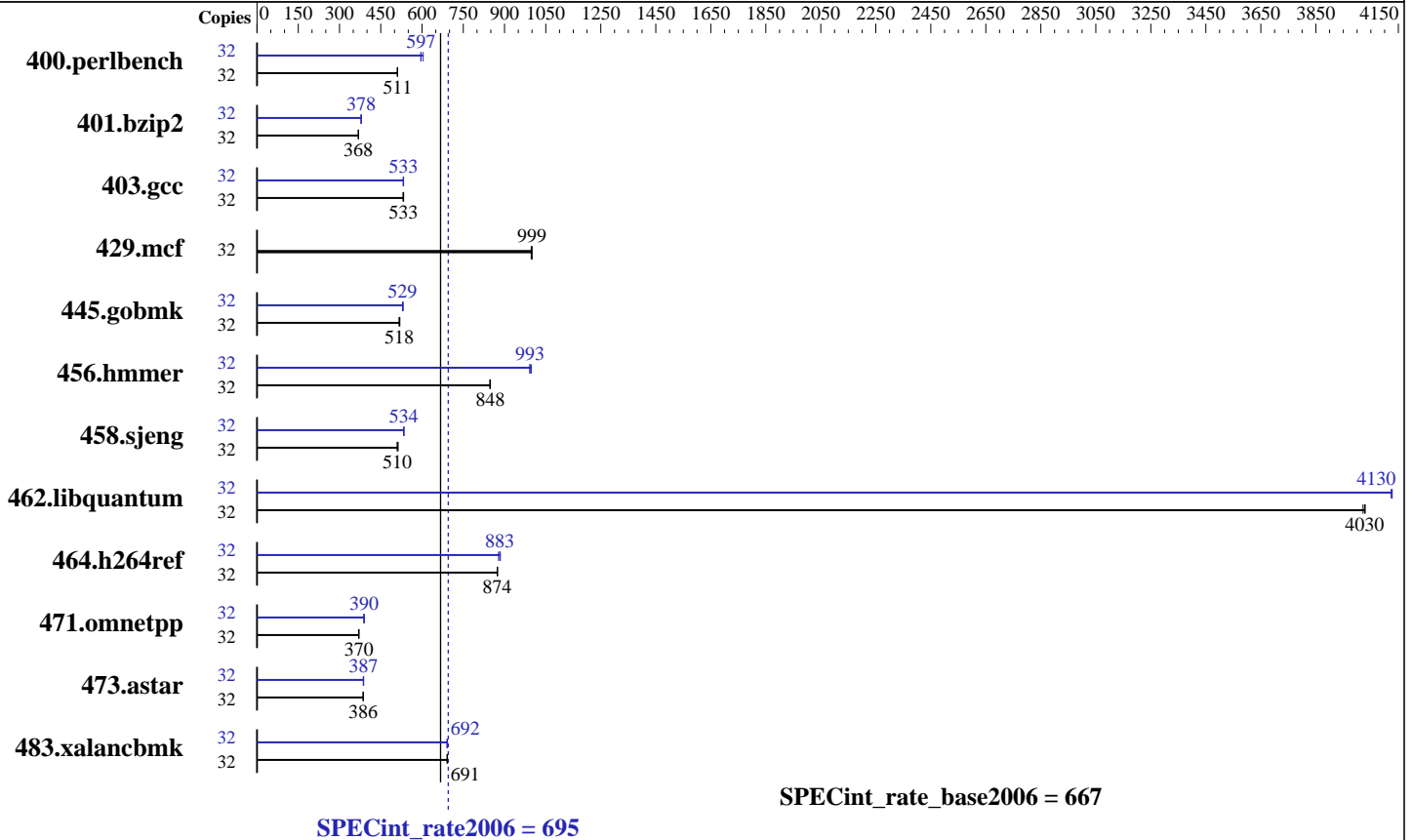
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2012

Hardware Availability: Mar-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2690  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 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 12.1.2.273 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 10 (Multi-Core)



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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	32	<b>612</b>	<b>511</b>	612	511	613	510	32	525	596	<b>524</b>	<b>597</b>	517	604
401.bzip2	32	836	369	839	368	<b>838</b>	<b>368</b>	32	<b>816</b>	<b>378</b>	814	380	816	378
403.gcc	32	483	533	<b>484</b>	<b>533</b>	485	531	32	485	531	<b>484</b>	<b>533</b>	483	533
429.mcf	32	293	997	<b>292</b>	<b>999</b>	292	1000	32	293	997	<b>292</b>	<b>999</b>	292	1000
445.gobmk	32	<b>648</b>	<b>518</b>	650	517	646	519	32	635	529	<b>634</b>	<b>529</b>	631	532
456.hammer	32	352	849	<b>352</b>	<b>848</b>	353	846	32	299	998	301	991	<b>301</b>	<b>993</b>
458.sjeng	32	<b>759</b>	<b>510</b>	755	513	759	510	32	725	534	726	534	<b>725</b>	<b>534</b>
462.libquantum	32	165	4020	165	4030	<b>165</b>	<b>4030</b>	32	<b>161</b>	<b>4130</b>	161	4120	161	4130
464.h264ref	32	810	875	<b>810</b>	<b>874</b>	811	874	32	<b>802</b>	<b>883</b>	800	885	807	878
471.omnetpp	32	540	370	<b>540</b>	<b>370</b>	540	370	32	515	388	513	390	<b>513</b>	<b>390</b>
473.astar	32	581	387	583	386	<b>581</b>	<b>386</b>	32	<b>581</b>	<b>387</b>	581	386	579	388
483.xalancbmk	32	<b>319</b>	<b>691</b>	319	693	319	691	32	320	691	<b>319</b>	<b>692</b>	319	692

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"

## General Notes

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

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>  
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## Base Compiler Invocation

C benchmarks:  
icc -m32

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## Base Compiler Invocation (Continued)

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 -opt-mem-layout-trans=3  
C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmarheap

## Base Other Flags

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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m64  
403.gcc: icc -m32  
429.mcf: icc -m32  
445.gobmk: icc -m32  
462.libquantum: icc -m32  
464.h264ref: icc -m32  
C++ benchmarks:  
icpc -m32



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## 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)  
-auto-ilp32  
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: -xSSE4.2 -ipo -O3 -no-prec-div  
429.mcf: basepeak = yes  
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3  
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3  
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)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/opt/SmartHeap/lib -lsmarheap  
473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/opt/SmartHeap/lib -lsmarheap

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## Peak Optimization Flags (Continued)

483.xalancbmk: Same as 473.astar

## 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).

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 06:52:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 10 April 2012.