



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu

SPECint<sup>®</sup>\_rate2006 = 280

## CELSIUS M720 (Intel Xeon E5-1650)

SPECint\_rate\_base2006 = 269

CPU2006 license: 19

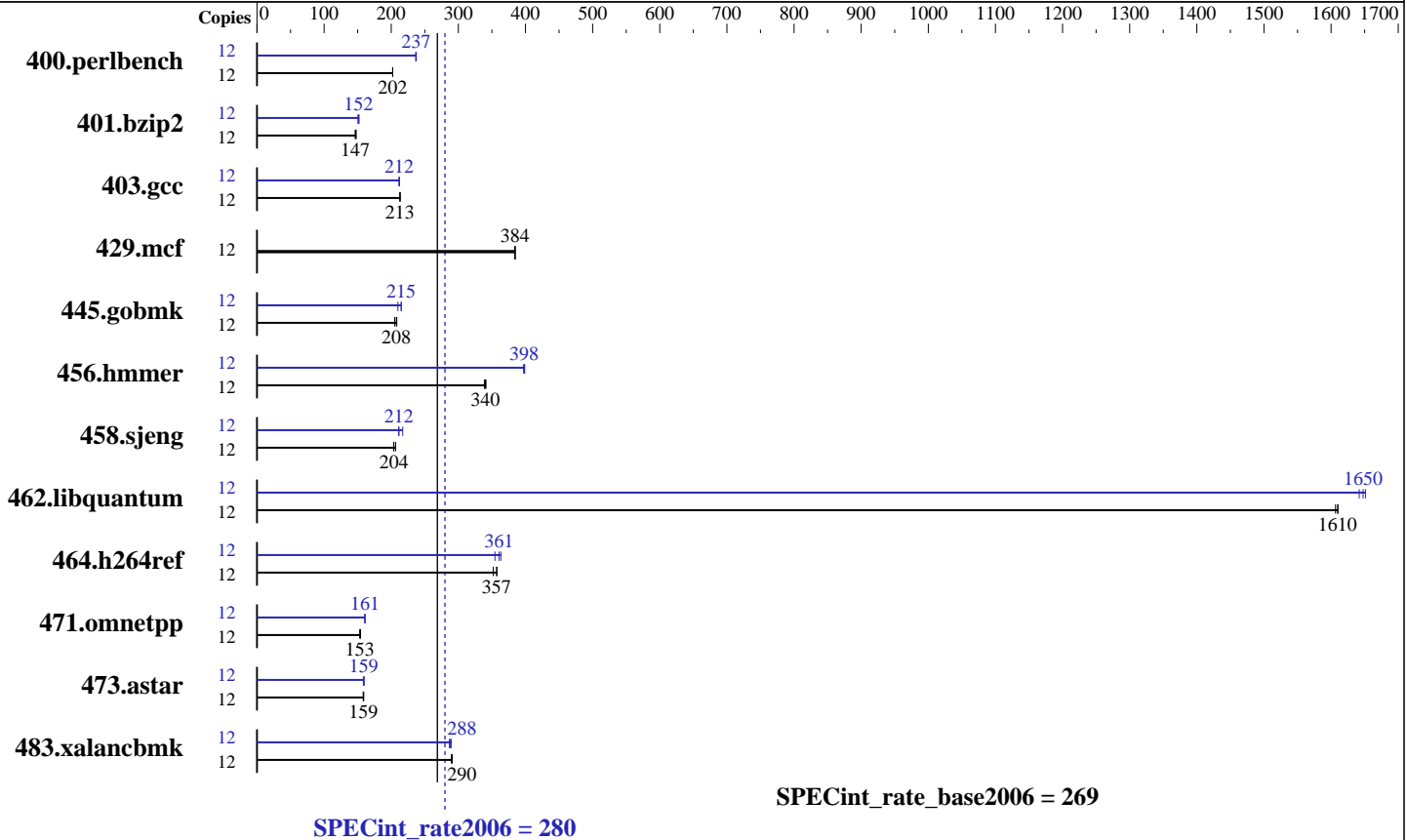
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-1650  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 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: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 32 GB (8 x 4 GB 2Rx8 PC3-12800E-11, ECC)  
 Disk Subsystem: 1 x SATA III, 500 GB, 7200 rpm  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.1, 2.6.32-131.0.15.el6.x86\_64  
 Compiler: C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: ReiserFS  
 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	12	580	202	<b><u>580</u></b>	<b><u>202</u></b>	580	202	12	494	237	496	237	<b><u>495</u></b>	<b><u>237</u></b>
401.bzip2	12	784	148	791	146	<b><u>790</u></b>	<b><u>147</u></b>	12	762	152	<b><u>764</u></b>	<b><u>152</u></b>	770	150
403.gcc	12	454	213	453	213	<b><u>454</u></b>	<b><u>213</u></b>	12	455	212	<b><u>456</u></b>	<b><u>212</u></b>	456	212
429.mcf	12	285	384	284	385	<b><u>285</u></b>	<b><u>384</u></b>	12	285	384	284	385	<b><u>285</u></b>	<b><u>384</u></b>
445.gobmk	12	604	208	614	205	<b><u>607</u></b>	<b><u>208</u></b>	12	<b><u>586</u></b>	<b><u>215</u></b>	586	215	600	210
456.hammer	12	<b><u>329</u></b>	<b><u>340</u></b>	330	339	328	341	12	<b><u>281</u></b>	<b><u>398</u></b>	281	399	282	397
458.sjeng	12	703	207	713	204	<b><u>712</u></b>	<b><u>204</u></b>	12	<b><u>687</u></b>	<b><u>212</u></b>	688	211	669	217
462.libquantum	12	155	1610	154	1610	<b><u>154</u></b>	<b><u>1610</u></b>	12	<b><u>151</u></b>	<b><u>1650</u></b>	151	1640	151	1650
464.h264ref	12	<b><u>744</u></b>	<b><u>357</u></b>	754	352	743	357	12	<b><u>736</u></b>	<b><u>361</u></b>	731	363	749	354
471.omnetpp	12	<b><u>489</u></b>	<b><u>153</u></b>	486	154	489	153	12	<b><u>466</u></b>	<b><u>161</u></b>	467	161	466	161
473.astar	12	533	158	530	159	<b><u>531</u></b>	<b><u>159</u></b>	12	528	159	<b><u>529</u></b>	<b><u>159</u></b>	531	159
483.xalancbmk	12	286	290	<b><u>285</u></b>	<b><u>290</u></b>	285	291	12	286	290	289	287	<b><u>288</u></b>	<b><u>288</u></b>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

### Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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 settings:  
Frequency Floor Override = Enabled

### General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/work/cpu2006/libs/32:/work/cpu2006/libs/64"

Binaries compiled on a system with  
Red Hat Enterprise Linux Server release 6.1 (Santiago)  
Added glibc-static-2.12-1.25.el6.x86\_64.rpm  
to enable static linking



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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 -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 -lsmartheap

## 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

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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)  
-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:

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## Peak Optimization Flags (Continued)

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

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/Intel-ic12.1-official-linux64.20111122.html>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.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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