



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu

### SPECint<sup>®</sup>\_rate2006 = 274

## CELSIUS R670, Intel Xeon W5590

### SPECint\_rate\_base2006 = 255

CPU2006 license: 19

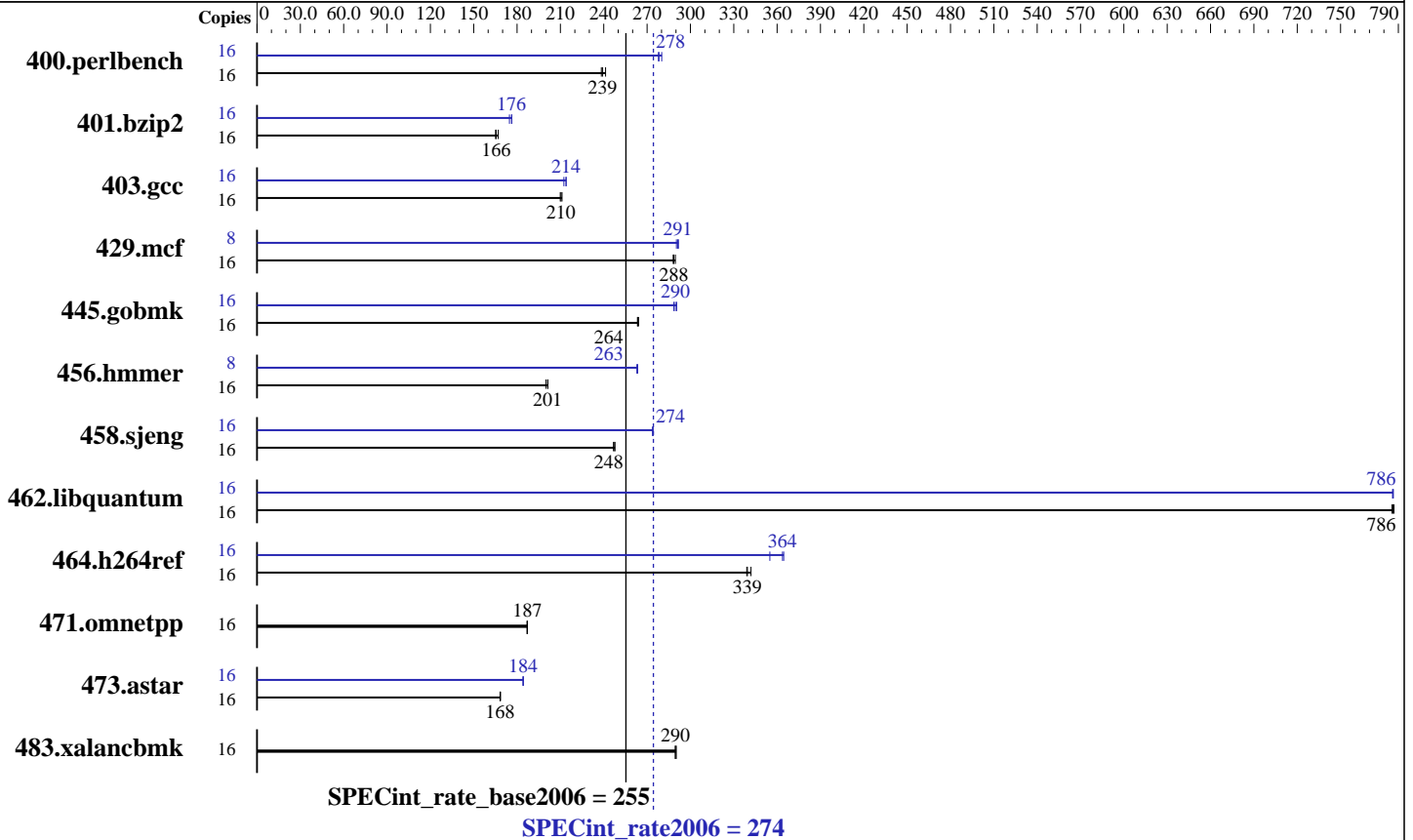
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2009

Hardware Availability: Aug-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon W5590  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.6 GHz  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12x4 GB PC3 10600R, 2 rank, CL9-9-9, ECC)  
 Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm  
 Other Hardware: None

### Software

Operating System: SuSe Linux Enterprise Server 10 (x86\_64) SP2, kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.080  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-User Run Level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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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	648	241	<b><u>653</u></b>	<b><u>239</u></b>	656	238	16	563	278	558	280	<b><u>562</u></b>	<b><u>278</u></b>
401.bzip2	16	925	167	935	165	<b><u>933</u></b>	<b><u>166</u></b>	16	<b><u>876</u></b>	<b><u>176</u></b>	884	175	876	176
403.gcc	16	610	211	614	210	<b><u>612</u></b>	<b><u>210</u></b>	16	606	212	<b><u>602</u></b>	<b><u>214</u></b>	602	214
429.mcf	16	507	288	504	290	<b><u>506</u></b>	<b><u>288</u></b>	8	251	290	250	292	<b><u>251</u></b>	<b><u>291</u></b>
445.gobmk	16	635	264	<b><u>637</u></b>	<b><u>264</u></b>	637	263	16	578	290	<b><u>580</u></b>	<b><u>290</u></b>	582	289
456.hammer	16	<b><u>742</u></b>	<b><u>201</u></b>	742	201	747	200	8	283	263	<b><u>284</u></b>	<b><u>263</u></b>	284	263
458.sjeng	16	785	247	<b><u>782</u></b>	<b><u>248</u></b>	782	248	16	706	274	707	274	<b><u>707</u></b>	<b><u>274</u></b>
462.libquantum	16	422	786	<b><u>422</u></b>	<b><u>786</u></b>	421	787	16	421	787	<b><u>422</u></b>	<b><u>786</u></b>	422	786
464.h264ref	16	1044	339	1036	342	<b><u>1043</u></b>	<b><u>339</u></b>	16	971	365	<b><u>973</u></b>	<b><u>364</u></b>	998	355
471.omnetpp	16	<b><u>534</u></b>	<b><u>187</u></b>	534	187	535	187	16	<b><u>534</u></b>	<b><u>187</u></b>	534	187	535	187
473.astar	16	667	169	668	168	<b><u>667</u></b>	<b><u>168</u></b>	16	<b><u>610</u></b>	<b><u>184</u></b>	610	184	610	184
483.xalancbmk	16	380	290	381	290	<b><u>381</u></b>	<b><u>290</u></b>	16	380	290	381	290	<b><u>381</u></b>	<b><u>290</u></b>

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

BIOS configuration:  
Memory speed set to "Max Performance" (Switch in "Advanced Memory Options")

## General Notes

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

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## 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 -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/Compiler/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
473.astar: -DSPEC\_CPU\_LP64  
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) -static(pass 2)  
-prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -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=routine -auto-ilp32  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

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## Peak Optimization Flags (Continued)

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-ic11.0-int-linux64-revA.20090818.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090818.00.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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