



SPEC® CINT2006 Result

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Fujitsu

SPECint®2006 = 36.8

CELSIUS W280, Intel Core i7-870

SPECint_base2006 = 33.6

CPU2006 license: 19

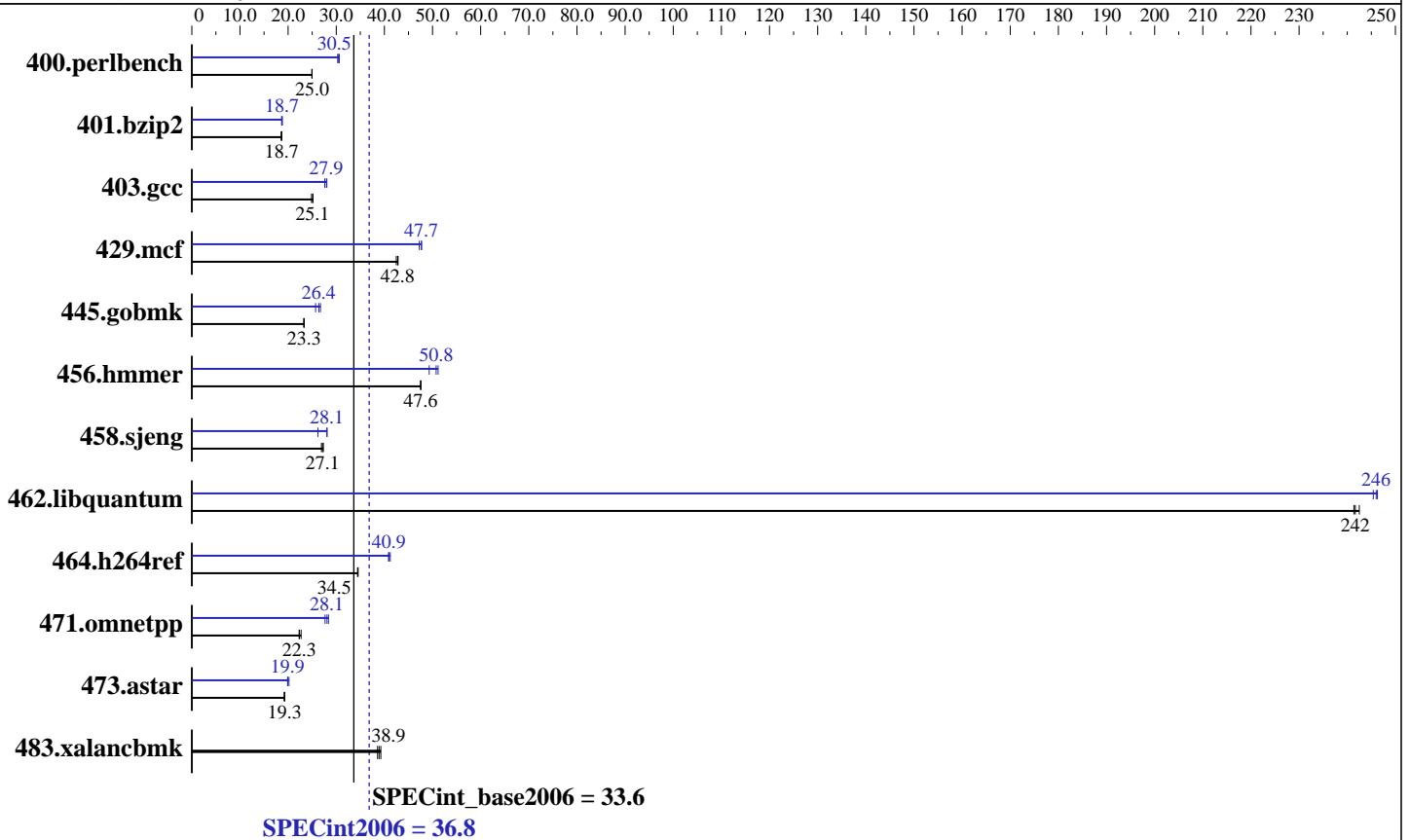
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2010

Hardware Availability: Feb-2010

Software Availability: Oct-2009



Hardware

CPU Name: Intel Core i7-870
 CPU Characteristics: Intel Turbo Boost Technology up to 3.6 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 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: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (2x4 GB PC3-10600U, 2 rank, CL9)
 Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), kernel 2.6.27.19-5-default
 Compiler: Intel C++ Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: 1_cproc_p_11.1.059
 Auto Parallel: Yes
 File System: ext3
 System State: Multi-User Run Level 3
 Base Pointers: 64-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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	392	24.9	391	25.0	<u>391</u>	<u>25.0</u>	323	30.3	319	30.6	<u>320</u>	<u>30.5</u>
401.bzip2	520	18.6	517	18.7	<u>517</u>	<u>18.7</u>	<u>516</u>	<u>18.7</u>	513	18.8	517	18.6
403.gcc	324	24.9	<u>321</u>	<u>25.1</u>	320	25.2	<u>288</u>	<u>27.9</u>	292	27.6	287	28.1
429.mcf	213	42.8	<u>213</u>	<u>42.8</u>	215	42.5	191	47.7	<u>191</u>	<u>47.7</u>	193	47.2
445.gobmk	450	23.3	<u>450</u>	<u>23.3</u>	450	23.3	393	26.7	408	25.7	<u>398</u>	<u>26.4</u>
456.hammer	<u>196</u>	<u>47.6</u>	196	47.6	196	47.5	189	49.3	182	51.2	<u>184</u>	<u>50.8</u>
458.sjeng	449	26.9	<u>446</u>	<u>27.1</u>	443	27.3	431	28.1	462	26.2	<u>431</u>	<u>28.1</u>
462.libquantum	85.4	243	<u>85.7</u>	<u>242</u>	85.8	241	84.1	246	<u>84.2</u>	<u>246</u>	84.4	245
464.h264ref	<u>642</u>	<u>34.5</u>	641	34.5	643	34.4	541	40.9	<u>541</u>	<u>40.9</u>	537	41.2
471.omnetpp	<u>280</u>	<u>22.3</u>	275	22.7	280	22.3	<u>223</u>	<u>28.1</u>	226	27.7	220	28.4
473.astar	364	19.3	<u>364</u>	<u>19.3</u>	366	19.2	348	20.2	353	19.9	<u>353</u>	<u>19.9</u>
483.xalancbmk	179	38.6	176	39.3	<u>177</u>	<u>38.9</u>	179	38.6	176	39.3	<u>177</u>	<u>38.9</u>

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

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

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

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Base Portability Flags (Continued)

456.hmmer: -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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32



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Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
456.hmmer: -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: -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 -static(pass 2) -prof-use(pass 2)
-auto-ilp32 -opt-prefetch -ansi-alias
403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3 -auto-ilp32
429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -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
462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch
-par-schedule-static=32768 -ansi-alias
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: -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

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Peak Optimization Flags (Continued)

471.omnetpp (continued):

`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap`

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 -Wl,-z,muldefs`

`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

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-ic11.1-linux64-revD.20100119.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20100119.xml>

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For other inquiries, please contact webmaster@spec.org.

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