



SPEC® CINT2006 Result

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Fujitsu

SPECint®2006 = 38.1

CELSIUS W410, Intel Core i3-2100

SPECint_base2006 = 36.8

CPU2006 license: 19

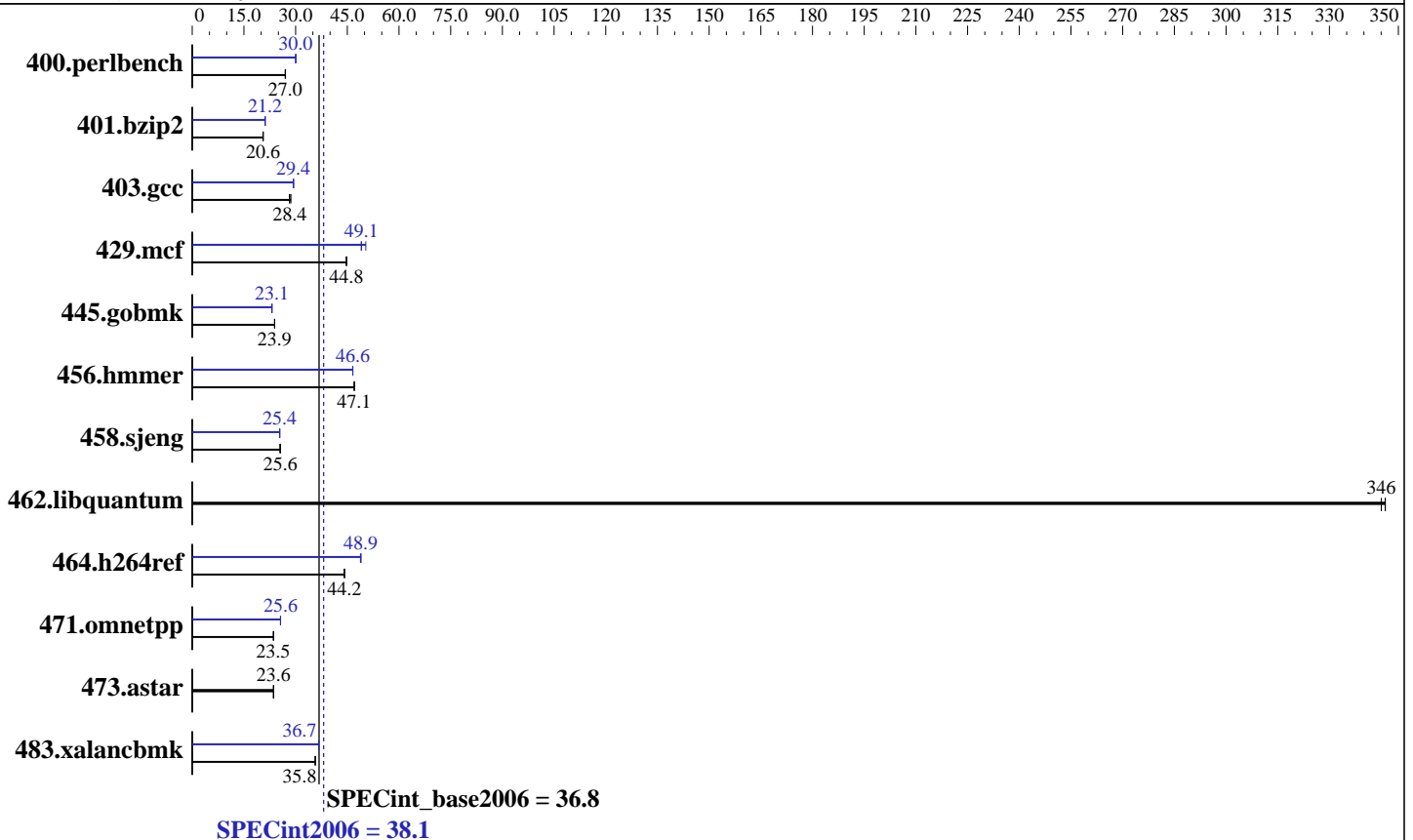
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2011

Hardware Availability: Mar-2011

Software Availability: Jan-2011



Hardware

CPU Name: Intel Core i3-2100
 CPU Characteristics:
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)
 Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, kernel 2.6.32.12-0.6-default
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2.137 Build 20110112
 Auto Parallel: Yes
 File System: ext3
 System State: Run Level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	361	27.1	<u>361</u>	<u>27.0</u>	362	27.0	325	30.0	325	30.0	<u>325</u>	<u>30.0</u>
401.bzip2	469	20.6	469	20.6	<u>469</u>	<u>20.6</u>	456	21.2	456	21.2	<u>456</u>	<u>21.2</u>
403.gcc	286	28.2	281	28.6	<u>284</u>	<u>28.4</u>	274	29.4	<u>274</u>	<u>29.4</u>	274	29.4
429.mcf	203	44.8	204	44.7	<u>204</u>	<u>44.8</u>	186	49.0	181	50.4	<u>186</u>	<u>49.1</u>
445.gobmk	439	23.9	439	23.9	<u>439</u>	<u>23.9</u>	454	23.1	<u>454</u>	<u>23.1</u>	453	23.1
456.hmmmer	198	47.1	<u>198</u>	<u>47.1</u>	199	47.0	<u>200</u>	<u>46.6</u>	200	46.6	200	46.6
458.sjeng	472	25.6	476	25.4	<u>473</u>	<u>25.6</u>	476	25.4	477	25.4	<u>477</u>	<u>25.4</u>
462.libquantum	60.0	345	<u>59.8</u>	<u>346</u>	59.8	346	60.0	345	<u>59.8</u>	<u>346</u>	59.8	346
464.h264ref	<u>501</u>	<u>44.2</u>	501	44.2	501	44.2	<u>453</u>	<u>48.9</u>	453	48.8	452	49.0
471.omnetpp	265	23.5	265	23.6	<u>265</u>	<u>23.5</u>	<u>244</u>	<u>25.6</u>	244	25.6	244	25.6
473.astar	297	23.6	<u>297</u>	<u>23.6</u>	298	23.5	297	23.6	<u>297</u>	<u>23.6</u>	298	23.5
483.xalancbmk	194	35.6	193	35.8	<u>193</u>	<u>35.8</u>	<u>188</u>	<u>36.7</u>	188	36.7	188	36.7

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 stack size to unlimited prior to run
Hugepages were enabled by:
mount -t hugetlbfs nodev /mnt/hugepages
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

BIOS settings:
Hyper-Threading Technology = Disabled

General Notes

OMP_NUM_THREADS set to number of cores

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64



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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
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:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/smartheap/intel64 -lsmartheap64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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

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Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

456.hmmmer: -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_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-auto-ilp32 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

456.hmmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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Peak Optimization Flags (Continued)

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs
-L/opt/smartheap/ia32 -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/opt/smartheap/ia32 -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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-ic12.0-linux64-revB.html>
http://www.spec.org/cpu2006/flags/Fujitsu_CELSIUS_Platform.html

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>
http://www.spec.org/cpu2006/flags/Fujitsu_CELSIUS_Platform.xml



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

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