SPEC® CINT2006 Result

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Fujitsu

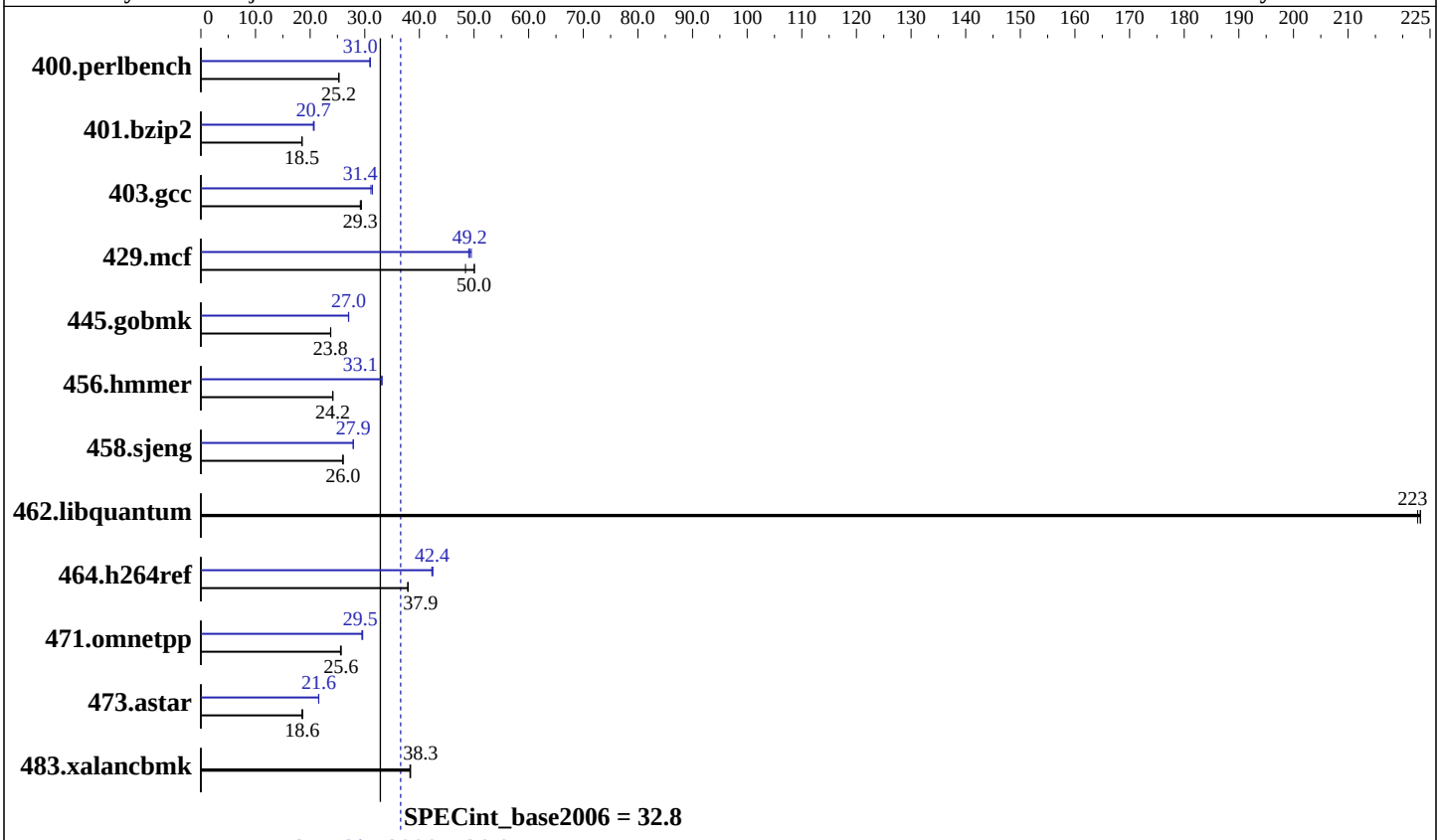
CELSIUS M470, Intel Xeon W5580

SPECint®2006 = 36.6

SPECint_base2006 = 32.8

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon W5580
CPU Characteristics:	Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz:	3200
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:	12 GB (6x2 GB PC3 10600E, 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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
Auto Parallel:	Yes
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	387	25.2	386	25.3	**387**	**25.2**	315	31.0	316	30.9	**315**	**31.0**
401.bzip2	522	18.5	521	18.5	**522**	**18.5**	465	20.7	469	20.6	**467**	**20.7**
403.gcc	274	29.4	**275**	**29.3**	276	29.2	256	31.4	**257**	**31.4**	259	31.1
429.mcf	188	48.4	182	50.1	**182**	**50.0**	184	49.5	**185**	**49.2**	186	49.0
445.gobmk	442	23.7	**442**	**23.8**	441	23.8	388	27.1	**388**	**27.0**	388	27.0
456.hmmer	387	24.1	386	24.2	**386**	**24.2**	282	33.1	**282**	**33.1**	281	33.1
458.sjeng	465	26.0	**465**	**26.0**	466	26.0	**434**	**27.9**	434	27.9	433	27.9
462.libquantum	93.0	223	92.8	223	**92.8**	**223**	93.0	223	92.8	223	**92.8**	**223**
464.h264ref	**584**	**37.9**	584	37.9	584	37.9	**522**	**42.4**	523	42.3	521	42.5
471.omnetpp	**244**	**25.6**	245	25.6	243	25.7	**212**	**29.5**	212	29.5	211	29.6
473.astar	379	18.5	377	18.6	**378**	**18.6**	326	21.5	**325**	**21.6**	325	21.6
483.xalancbmk	180	38.4	180	38.3	**180**	**38.3**	180	38.4	180	38.3	**180**	**38.3**

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:
Hyper-Threading Technology = Disabled
Memory speed set to "Max Performance" (Switch in "Advanced Memory Options")

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
For information about Fujitsu please visit:
http://www.fujitsu.com

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

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 -parallel -par-runtime-control -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`

Continued on next page

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) -auto-ilp32 -opt-prefetch -ansi-alias

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

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 -auto-ilp32

462.libquantum: basepeak = yes

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 -L/spec/cpu2006.1.1/lib -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 -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.20090710.05.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.20090710.05.xml`

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