SPEC® CINT2006 Result

Fujitsu

CELSIUS M470, Intel Xeon W3565

$SPECint^®2006 =$ 35.4
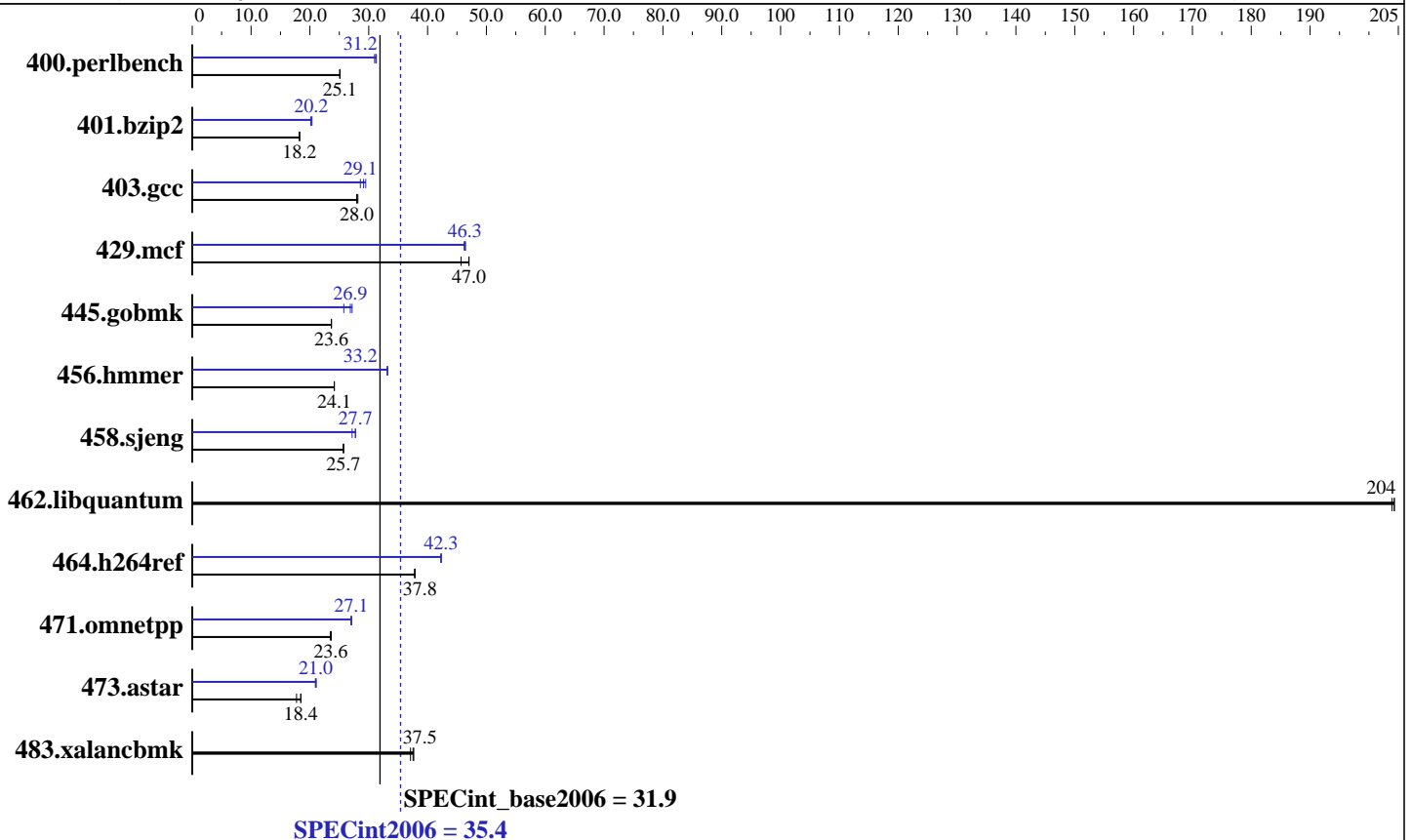
$SPECint\_base2006 =$ 31.9

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

Test date: Nov-2009
Hardware Availability: Nov-2009
Software Availability: Feb-2009

Benchmark	Result
400.perlbench	31.2 / 25.1
401.bzip2	20.2 / 18.2
403.gcc	29.1 / 28.0
429.mcf	46.3 / 47.0
445.gobmk	26.9 / 23.6
456.hmmer	33.2 / 24.1
458.sjeng	27.7 / 25.7
462.libquantum	204
464.h264ref	42.3 / 37.8
471.omnetpp	27.1 / 23.6
473.astar	21.0 / 18.4
483.xalancbmk	37.5

SPECint_base2006 = 31.9
SPECint2006 = 35.4

Hardware

CPU Name:	Intel Xeon W3565
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, ECC, running at 1066 MHz)
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 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	390	25.1	389	25.1	**389**	**25.1**	312	31.3	**313**	**31.2**	315	31.0
401.bzip2	**529**	**18.2**	529	18.2	529	18.2	479	20.1	**477**	**20.2**	474	20.4
403.gcc	286	28.2	288	28.0	**288**	**28.0**	282	28.6	273	29.5	**276**	**29.1**
429.mcf	200	45.7	**194**	**47.0**	194	47.0	197	46.2	**197**	**46.3**	196	46.5
445.gobmk	443	23.7	444	23.6	**444**	**23.6**	**390**	**26.9**	386	27.2	407	25.8
456.hmmer	387	24.1	**387**	**24.1**	386	24.2	**281**	**33.2**	281	33.2	281	33.2
458.sjeng	**471**	**25.7**	470	25.7	471	25.7	**436**	**27.7**	445	27.2	436	27.7
462.libquantum	102	204	101	204	**101**	**204**	102	204	101	204	**101**	**204**
464.h264ref	585	37.8	584	37.9	**585**	**37.8**	523	42.3	**523**	**42.3**	523	42.3
471.omnetpp	265	23.6	266	23.5	**265**	**23.6**	**231**	**27.1**	231	27.1	232	27.0
473.astar	**381**	**18.4**	396	17.7	380	18.5	333	21.1	335	20.9	**334**	**21.0**
483.xalancbmk	186	37.1	**184**	**37.5**	183	37.7	186	37.1	**184**	**37.5**	183	37.7

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 stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

Platform Notes

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

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX

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Base Portability Flags (Continued)

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`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`

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Peak Portability Flags (Continued)

```
  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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$SPECint2006 = $ 35.4

$SPECint_base2006 = $ 31.9

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.20090915.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.20090915.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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