SPEC® CINT2006 Result
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Fujitsu

CELSIUS W510, Intel Xeon E3-1220

$SPECint^{®}\_rate2006 =$ 135

$SPECint\_rate\_base2006 =$ 128
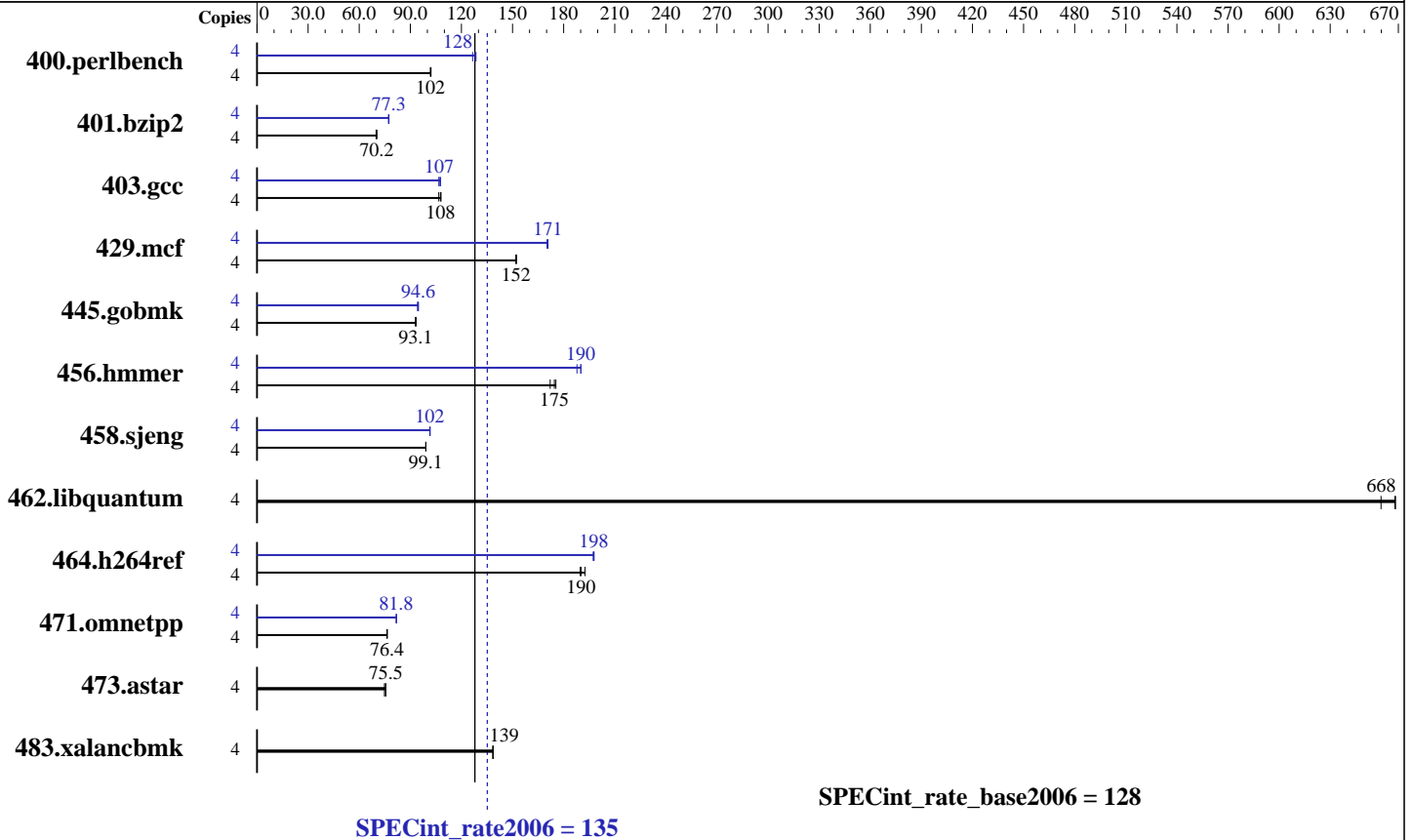
CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Apr-2011
Hardware Availability: Apr-2011
Software Availability: Jan-2011

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Hardware

CPU Name:	Intel Xeon E3-1220
CPU Characteristics:	Intel Turbo Boost Technology up to 3.4 GHz
CPU MHz:	3100
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 (2 x 4 GB 2Rx8 PC3-10600U-9, non-ECC)
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++ Compiler XE for applications running on Intel 64 Version 12.0.2.137 Build 20110112
Auto Parallel:	No
File System:	ext3
System State:	Run Level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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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	4	**384**	**102**	383	102	384	102	4	309	127	**305**	**128**	304	129
401.bzip2	4	552	69.9	**550**	**70.2**	549	70.4	4	500	77.2	**499**	**77.3**	498	77.5
403.gcc	4	298	108	**299**	**108**	302	107	4	**301**	**107**	302	107	299	108
429.mcf	4	**240**	**152**	240	152	240	152	4	214	170	**214**	**171**	214	171
445.gobmk	4	451	93.0	**451**	**93.1**	449	93.4	4	**444**	**94.6**	443	94.8	445	94.2
456.hmmer	4	217	172	**214**	**175**	213	175	4	196	190	199	188	**196**	**190**
458.sjeng	4	**488**	**99.1**	488	99.1	488	99.1	4	**477**	**102**	477	101	476	102
462.libquantum	4	126	660	**124**	**668**	124	668	4	126	660	**124**	**668**	124	668
464.h264ref	4	460	193	**465**	**190**	467	190	4	447	198	**448**	**198**	449	197
471.omnetpp	4	327	76.4	**327**	**76.4**	328	76.3	4	306	81.8	**306**	**81.8**	305	81.9
473.astar	4	**372**	**75.5**	375	74.8	372	75.6	4	**372**	**75.5**	375	74.8	372	75.6
483.xalancbmk	4	199	139	199	138	**199**	**139**	4	199	139	199	138	**199**	**139**

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

Submit Notes

    The config file option 'submit' was used.
     numactl was used to bind copies to the cores

Operating System Notes

     'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
     Huge pages were not configured for this run

Base Compiler Invocation

C benchmarks:
      icc -m32

C++ benchmarks:
      icpc -m32

Base Portability Flags

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

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Base Optimization Flags

C benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/smartheap/ia32 -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc  -m32
```

```
400.perlbench: icc -m64
```

```
401.bzip2: icc -m64
```

```
456.hmmer: icc -m64
```

```
458.sjeng: icc -m64
```

C++ benchmarks:
```
icpc -m32
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
   401.bzip2: -DSPEC_CPU_LP64
   456.hmmer: -DSPEC_CPU_LP64
   458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

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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)
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
                 -auto-ilp32 -ansi-alias
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

        403.gcc: -xAVX -ipo -O3 -no-prec-div
                 -B /usr/share/libhugetlbfs/ -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) -ansi-alias
                 -auto-ilp32

      445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                 -ansi-alias -auto-ilp32

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

      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
                 -auto-ilp32
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

   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
```

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) -ansi-alias
                 -opt-ra-region-strategy=block -Wl,-z,muldefs
                 -L/opt/smartheap/ia32 -lsmartheap

      473.astar: basepeak = yes

   483.xalancbmk: basepeak = yes
```

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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/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/Platform.xml`

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

Tested with SPEC CPU2006 v1.1.
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