SPEC® CINT2006 Result
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Fujitsu Siemens Computers

SPECint®_rate2006 =   146

CELSIUS R650, Intel Xeon X5470 processor
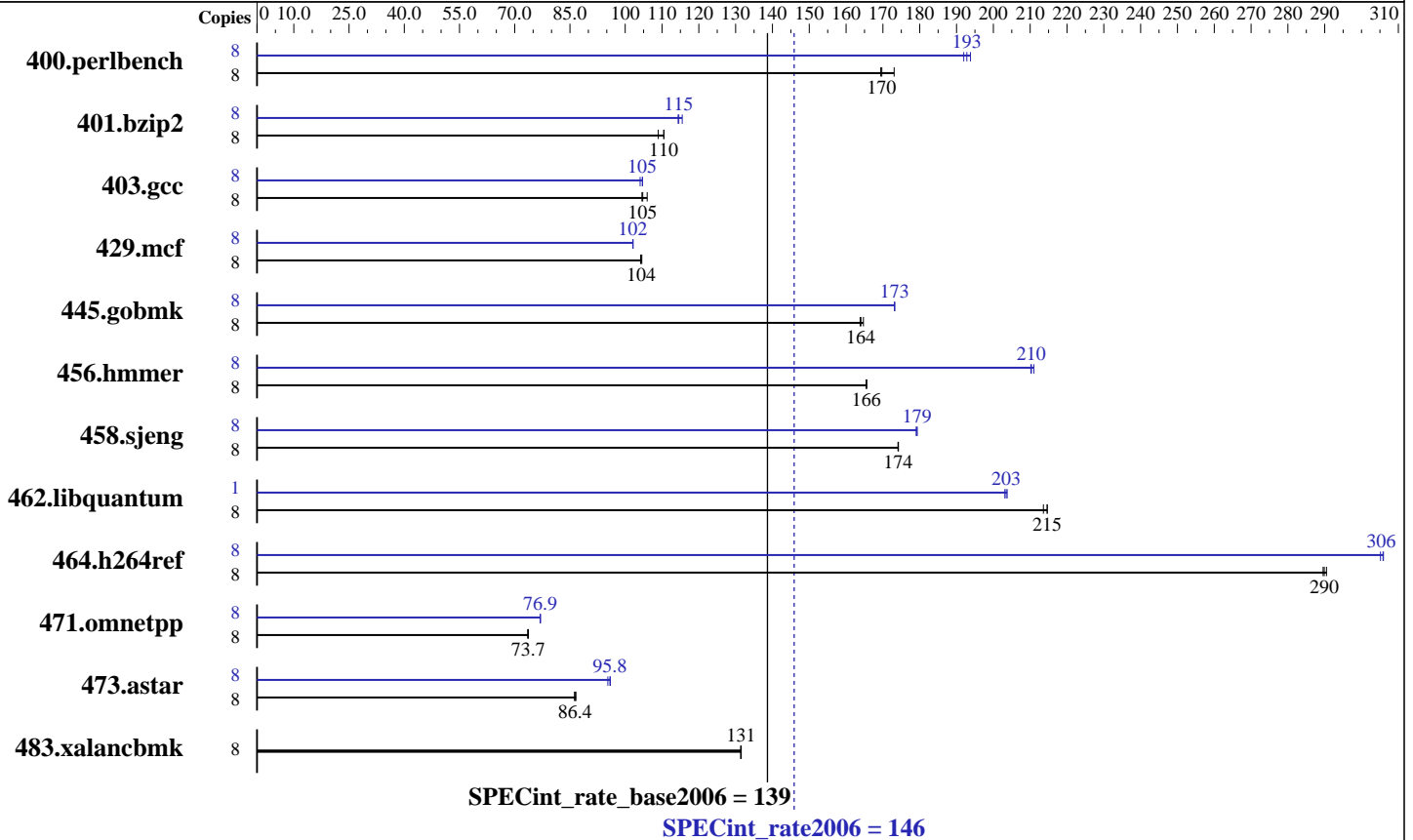
SPECint_rate_base2006 =   139

CPU2006 license: 22

Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Sep-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008

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Hardware

CPU Name: Intel Xeon X5470

CPU Characteristics:

CPU MHz: 3333

FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip

CPU(s) orderable: 1,2 chips

Primary Cache: 32 KB I + 32 KB D on chip per core

Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

L3 Cache: None

Other Cache: None

Memory: 8 GB (8x1 GB DDR2 5300F, 2 rank, CL5-5-5, 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 11.0 for Linux Build 20080730, Package ID l_cproc_b_11.0.042

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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	452	173	461	169	**461**	**170**	8	407	192	**405**	**193**	403	194
401.bzip2	8	**699**	**110**	708	109	698	111	8	**674**	**115**	668	115	675	114
403.gcc	8	**615**	**105**	608	106	616	105	8	615	105	**615**	**105**	619	104
429.mcf	8	**699**	**104**	698	105	700	104	8	714	102	**715**	**102**	715	102
445.gobmk	8	512	164	510	165	**512**	**164**	8	485	173	**485**	**173**	485	173
456.hmmer	8	**451**	**166**	451	166	451	165	8	354	211	**355**	**210**	355	210
458.sjeng	8	556	174	**556**	**174**	556	174	8	540	179	**540**	**179**	541	179
462.libquantum	8	772	215	776	214	**772**	**215**	1	102	204	**102**	**203**	102	203
464.h264ref	8	609	290	**611**	**290**	611	290	8	579	306	580	305	**579**	**306**
471.omnetpp	8	680	73.5	**679**	**73.7**	678	73.7	8	**650**	**76.9**	650	76.9	649	77.0
473.astar	8	648	86.6	651	86.2	**650**	**86.4**	8	**586**	**95.8**	589	95.3	585	96.0
483.xalancbmk	8	420	132	**420**	**131**	420	131	8	420	132	**420**	**131**	420	131

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.
     taskset has been used to bind processes to CPUs
```

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 (default).
```

Platform Notes

```
    BIOS configuration:
    Enhanced Speedstep Technology = Disable
    C1 Enhanced Mode = Disable
    Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable
    SnoopFilter = Enable
```

General Notes

```
    For information about Fujitsu Siemens Computers please see:
     All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
     for peak, are compiled in 64-bit mode
     taskset was used to bind processes to cores except
     for 462.libquantum peak
     OMP_NUM_THREADS set to number of processors
     KMP_AFFINITY set to "physical,0"
     KMP_STACKSIZE set to 64M
```

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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:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
    -opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
    -xSSE4.1 -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/11.0/042/bin/intel64/icc
            -L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
            -I/opt/intel/Compiler/11.0/042/ipp/em64t/include

    456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
            -L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
            -I/opt/intel/Compiler/11.0/042/ipp/em64t/include

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Peak Compiler Invocation (Continued)

C++ benchmarks:
    icpc

Peak Portability Flags

        400.perlbench: `-DSPEC_CPU_LINUX_IA32`
            401.bzip2: `-DSPEC_CPU_LP64`
            456.hmmer: `-DSPEC_CPU_LP64`
        462.libquantum: `-DSPEC_CPU_LINUX`
        483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

        400.perlbench: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -ansi-alias -opt-prefetch`

            401.bzip2: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -opt-prefetch -ansi-alias`

            403.gcc: `-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc`
                `-opt-malloc-options=3`

            429.mcf: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -opt-prefetch`

            445.gobmk: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo`
                `-no-prec-div -ansi-alias`

            456.hmmer: `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2`
                `-ansi-alias`

            458.sjeng: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -unroll4`

        462.libquantum: `-xSSE4.1 -ipo -O3 -no-prec-div -static`
                `-opt-malloc-options=3 -parallel -par-runtime-control`
                `-opt-prefetch`

            464.h264ref: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -unroll2 -ansi-alias`

C++ benchmarks:

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Peak Optimization Flags (Continued)

471.omnetpp: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
`-no-prec-div -ansi-alias -opt-ra-region-strategy=block`
`-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

473.astar: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
`-no-prec-div -ansi-alias -opt-ra-region-strategy=routine`
`-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

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-ic11.0-int-linux64-revA.20090713.08.html
http://www.spec.org/cpu2006/flags/FSC-SLES10-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.08.xml
http://www.spec.org/cpu2006/flags/FSC-SLES10-Platform.xml

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

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