SPEC® CINT2006 Result

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Fujitsu

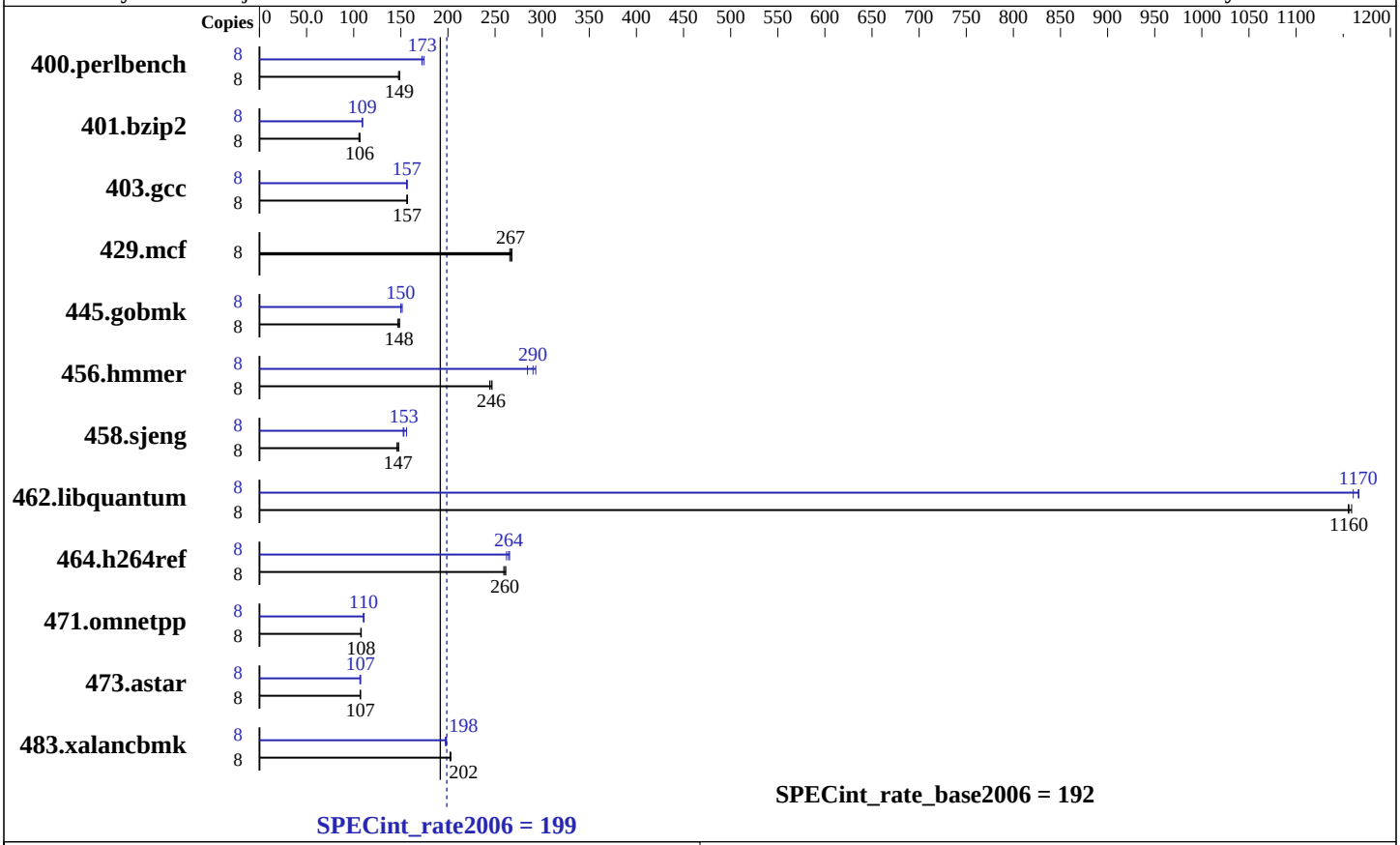
CELSIUS C620 (Intel Xeon E3-1280 v2)

SPECint®_rate2006 = 199

SPECint_rate_base2006 = 192

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

Test date: Aug-2012
Hardware Availability: Jul-2012
Software Availability: Dec-2011



Hardware

CPU Name:	Intel Xeon E3-1280 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 4.00 GHz
CPU MHz:	3600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
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:	16 GB (4 x 4 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem:	1 x SATA III, 500 GB, 7200 rpm
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2, 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ReiserFS
System State:	Run level 3 (multi - user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap 10 (Multi-Core)

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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	8	526	149	530	148	**526**	**149**	8	**453**	**173**	453	172	447	175
401.bzip2	8	731	106	**726**	**106**	725	107	8	**707**	**109**	706	109	707	109
403.gcc	8	**411**	**157**	412	156	410	157	8	411	157	**411**	**157**	413	156
429.mcf	8	**274**	**267**	275	266	272	268	8	**274**	**267**	275	266	272	268
445.gobmk	8	565	149	572	147	**567**	**148**	8	554	151	559	150	**559**	**150**
456.hmmer	8	302	247	**303**	**246**	305	244	8	**257**	**290**	262	284	255	293
458.sjeng	8	663	146	655	148	**658**	**147**	8	635	153	**632**	**153**	620	156
462.libquantum	8	143	1160	143	1160	**143**	**1160**	8	142	1170	143	1160	**142**	**1170**
464.h264ref	8	683	259	**680**	**260**	677	261	8	**670**	**264**	667	265	675	262
471.omnetpp	8	463	108	465	107	**463**	**108**	8	450	111	**453**	**110**	453	110
473.astar	8	**525**	**107**	525	107	524	107	8	523	107	**525**	**107**	527	107
483.xalancbmk	8	273	202	272	203	**273**	**202**	8	278	198	280	197	**279**	**198**

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 to generate taskset commands
to bind each copy to a specific processor.
For details, please see the config file.
```

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

Platform Notes

```
Sysinfo program /work/cpu2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on rhiannon Fri Aug  3 16:47:39 2012

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E3-1280 V2 @ 3.60GHz
      1 "physical id"s (chips)
      8 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 4
      siblings  : 8
```

Continued on next page

Platform Notes (Continued)

```
        physical 0: cores 0 1 2 3
     cache size : 8192 KB

  From /proc/meminfo
     MemTotal:       16262140 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     Red Hat Enterprise Linux Server release 6.2 (Santiago)

  From /etc/*release* /etc/*version*
     redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
     system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

  uname -a:
     Linux rhiannon 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Aug 3 16:37

  SPEC is set to: /work/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda2      ext4    193G   48G  136G  26% /work

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/work/cpu2006/libs/32:/work/cpu2006/libs/64"

  Binaries were compiled on a system with
  with 2 x E5-2650 CPU + 96 GB memory using RHEL 6.2.
  Filesystem page cache cleared with:
  echo 1>       /proc/sys/vm/drop_caches
```

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

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

403.gcc: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

462.libquantum: icc -m32

464.h264ref: icc -m32

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64

Continued on next page

Peak Portability Flags (Continued)

456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xSSE4.2(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

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

464.h264ref: -xSSE4.2(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: -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/opt/SmartHeap/lib -lsmartheap

473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3 -Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap

Continued on next page

Peak Optimization Flags (Continued)

483.xalancbmk: Same as 473.astar

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.xml

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