SPEC® CINT2006 Result
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Fujitsu

PRIMERGY TX140 S1p, Intel Xeon E3-1220 v2, 3.10 GHz

SPECint®_rate2006 =   159
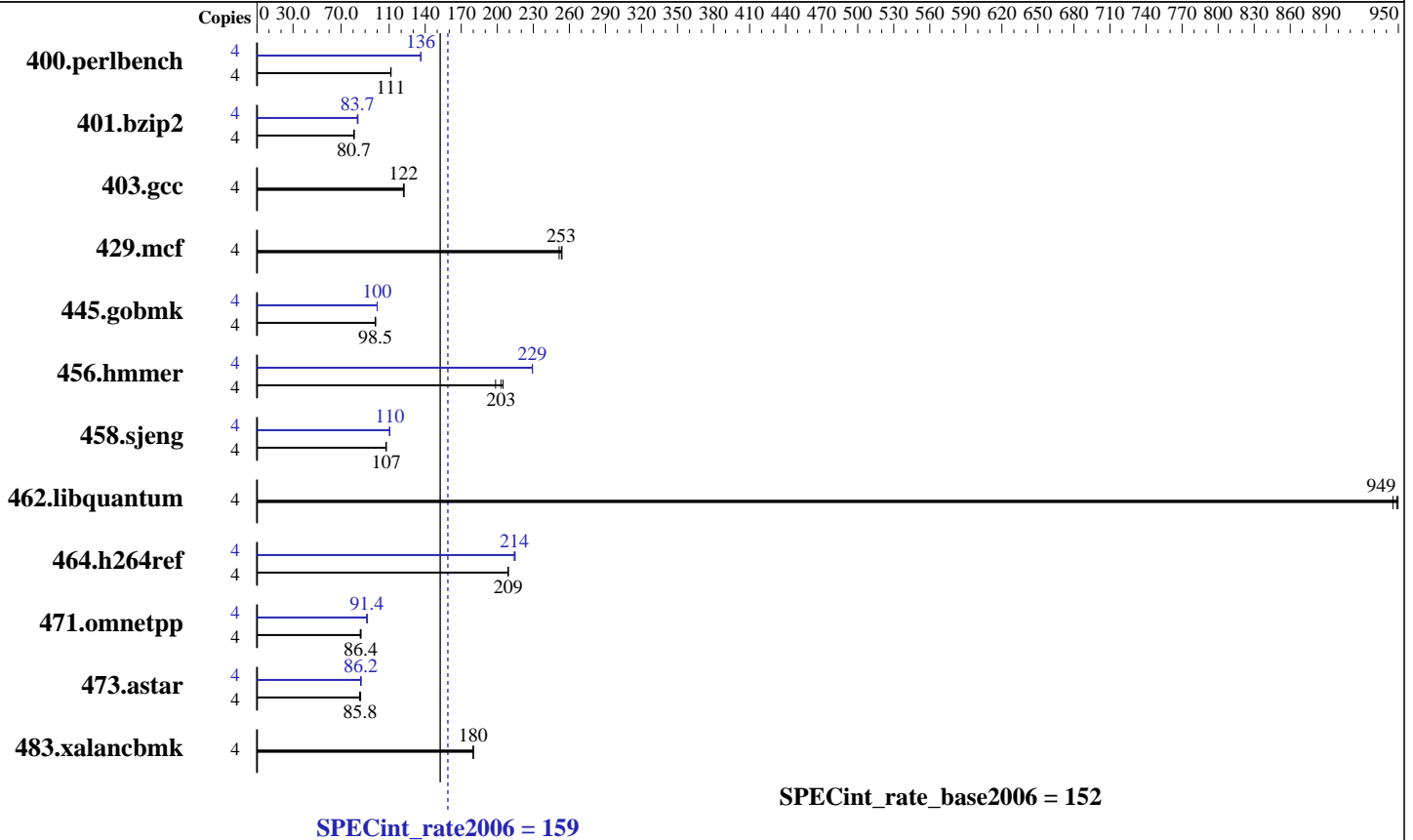
SPECint_rate_base2006 =   152

CPU2006 license: 19	**Test date:** May-2012
Test sponsor: Fujitsu	**Hardware Availability:** May-2012
Tested by: Fujitsu	**Software Availability:** Feb-2012

Copies 0 30.0 70.0 110 140 170 200 230 260 290 320 350 380 410 440 470 500 530 560 590 620 650 680 710 740 770 800 830 860 890 950

- 400.perlbench — 4: 136, 4: 111
- 401.bzip2 — 4: 83.7, 4: 80.7
- 403.gcc — 4: 122
- 429.mcf — 4: 253
- 445.gobmk — 4: 100, 4: 98.5
- 456.hmmer — 4: 229, 4: 203
- 458.sjeng — 4: 110, 4: 107
- 462.libquantum — 4: 949
- 464.h264ref — 4: 214, 4: 209
- 471.omnetpp — 4: 91.4, 4: 86.4
- 473.astar — 4: 86.2, 4: 85.8
- 483.xalancbmk — 4: 180

SPECint_rate_base2006 = 152

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Hardware

CPU Name:	Intel Xeon E3-1220 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.5 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 PC3-12800E-11, ECC)
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.0

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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	350	112	351	111	**351**	**111**	4	287	136	286	136	**286**	**136**
401.bzip2	4	**478**	**80.7**	479	80.5	477	81.0	4	**461**	**83.7**	462	83.5	459	84.0
403.gcc	4	263	122	**264**	**122**	264	122	4	263	122	**264**	**122**	264	122
429.mcf	4	**144**	**253**	144	254	145	251	4	**144**	**253**	144	254	145	251
445.gobmk	4	**426**	**98.5**	426	98.4	425	98.8	4	420	100	**419**	**100**	419	100
456.hmmer	4	188	199	182	205	**184**	**203**	4	163	229	**163**	**229**	163	229
458.sjeng	4	**450**	**107**	450	107	450	107	4	439	110	438	110	**438**	**110**
462.libquantum	4	87.3	950	**87.4**	**949**	87.7	945	4	87.3	950	**87.4**	**949**	87.7	945
464.h264ref	4	423	209	424	209	**423**	**209**	4	413	214	**413**	**214**	412	215
471.omnetpp	4	289	86.5	291	85.9	**289**	**86.4**	4	**273**	**91.4**	272	91.9	273	91.4
473.astar	4	326	86.3	**327**	**85.8**	328	85.5	4	**326**	**86.2**	326	86.2	324	86.8
483.xalancbmk	4	**153**	**180**	153	180	153	180	4	**153**	**180**	153	180	153	180

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl 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"

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"

Binaries compiled on a system with 2x E5-2650 CPU + 96 GB
memory using RHEL6.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
This result was measured on the PRIMERGY TX140 S1p. The PRIMERGY TX140 S1p
and the PRIMERGY TX120 S3p are electronically equivalent.
For information about Fujitsu please visit: http://www.fujitsu.com

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Hardware Availability: May-2012
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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 -m32

    400.perlbench: icc -m64

    401.bzip2: icc -m64

    456.hmmer: icc -m64

    458.sjeng: icc -m64

C++ benchmarks:
    icpc -m32

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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
```

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: basepeak = yes

             429.mcf: basepeak = yes

           445.gobmk: -xAVX(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: basepeak = yes

          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

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Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.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.20120320.xml

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