



SPEC® CINT2006 Result

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Fujitsu

PRIMERGY TX120 S3p, Intel Xeon E3-1220 v2, 3.10 GHz

SPECint®_rate2006 = 159

SPECint_rate_base2006 = 152

CPU2006 license: 19

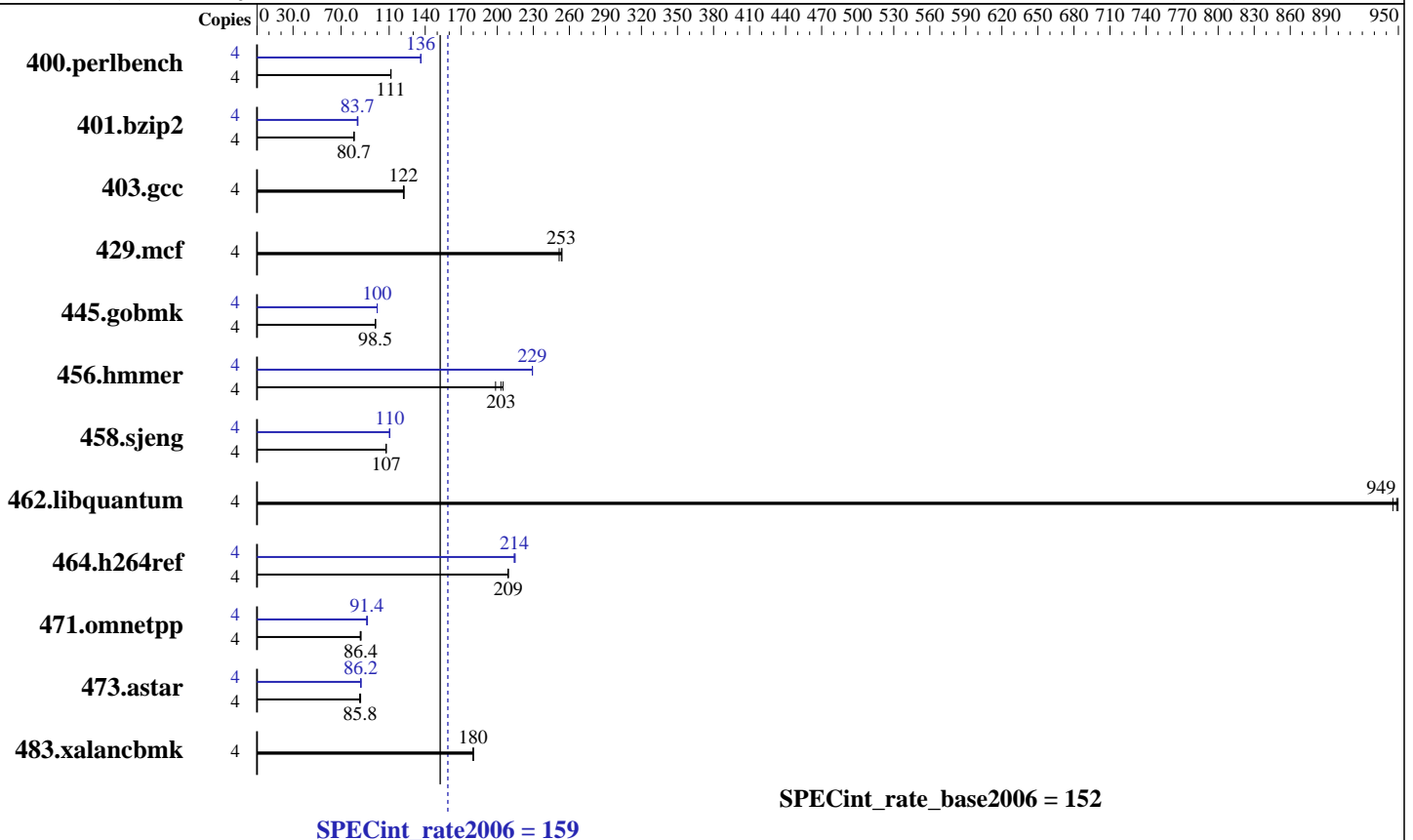
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



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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 | Base | | | | | | | Peak | | | | | | |
|----------------|--------|------------|-------------|-------------|-------------|------------|-------------|--------|------------|-------------|-------------|------------|------------|------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 350 | 112 | 351 | 111 | <u>351</u> | <u>111</u> | 4 | 287 | 136 | 286 | 136 | <u>286</u> | <u>136</u> |
| 401.bzip2 | 4 | <u>478</u> | <u>80.7</u> | 479 | 80.5 | 477 | 81.0 | 4 | <u>461</u> | <u>83.7</u> | 462 | 83.5 | 459 | 84.0 |
| 403.gcc | 4 | 263 | 122 | <u>264</u> | <u>122</u> | 264 | 122 | 4 | 263 | 122 | <u>264</u> | <u>122</u> | 264 | 122 |
| 429.mcf | 4 | <u>144</u> | <u>253</u> | 144 | 254 | 145 | 251 | 4 | <u>144</u> | <u>253</u> | 144 | 254 | 145 | 251 |
| 445.gobmk | 4 | <u>426</u> | <u>98.5</u> | 426 | 98.4 | 425 | 98.8 | 4 | 420 | 100 | <u>419</u> | <u>100</u> | 419 | 100 |
| 456.hammer | 4 | 188 | 199 | 182 | 205 | <u>184</u> | <u>203</u> | 4 | 163 | 229 | <u>163</u> | <u>229</u> | 163 | 229 |
| 458.sjeng | 4 | <u>450</u> | <u>107</u> | 450 | 107 | 450 | 107 | 4 | 439 | 110 | 438 | 110 | <u>438</u> | <u>110</u> |
| 462.libquantum | 4 | 87.3 | 950 | <u>87.4</u> | <u>949</u> | 87.7 | 945 | 4 | 87.3 | 950 | <u>87.4</u> | <u>949</u> | 87.7 | 945 |
| 464.h264ref | 4 | 423 | 209 | 424 | 209 | <u>423</u> | <u>209</u> | 4 | 413 | 214 | <u>413</u> | <u>214</u> | 412 | 215 |
| 471.omnetpp | 4 | 289 | 86.5 | 291 | 85.9 | <u>289</u> | <u>86.4</u> | 4 | <u>273</u> | <u>91.4</u> | 272 | 91.9 | 273 | 91.4 |
| 473.astar | 4 | 326 | 86.3 | <u>327</u> | <u>85.8</u> | 328 | 85.5 | 4 | <u>326</u> | <u>86.2</u> | 326 | 86.2 | 324 | 86.8 |
| 483.xalancbmk | 4 | <u>153</u> | <u>180</u> | 153 | 180 | 153 | 180 | 4 | <u>153</u> | <u>180</u> | 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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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 -lsmarheap
473.aster: -xAVX -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs
-L/opt/SmartHeap/lib -lsmarheap

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Peak Optimization Flags (Continued)

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 06:34:19 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 June 2012.