



SPEC® CINT2006 Result

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Fujitsu

SPECint®_rate2006 = 64.1

PRIMERGY RX100 S7p, Intel Pentium G640, 2.80 GHz

SPECint_rate_base2006 = 61.5

CPU2006 license: 19

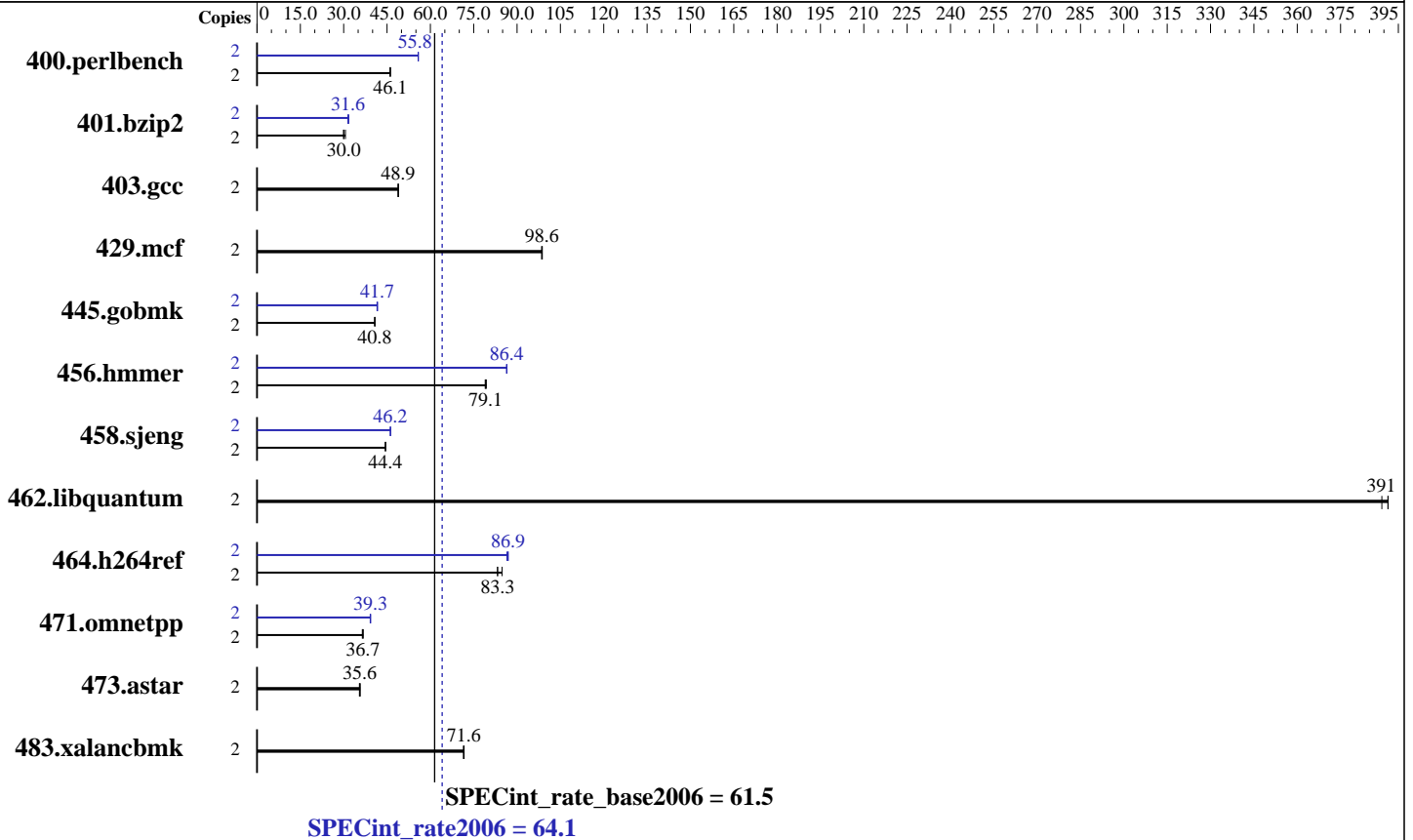
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Pentium G640
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC, running at 1067 MHz and CL7)
 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	2	<u>424</u>	<u>46.1</u>	424	46.0	423	46.2	2	<u>350</u>	<u>55.8</u>	350	55.8	350	55.8
401.bzip2	2	<u>643</u>	<u>30.0</u>	631	30.6	644	30.0	2	<u>612</u>	<u>31.6</u>	608	31.7	613	31.5
403.gcc	2	329	48.9	<u>330</u>	<u>48.9</u>	330	48.8	2	329	48.9	<u>330</u>	<u>48.9</u>	330	48.8
429.mcf	2	<u>185</u>	<u>98.6</u>	185	98.5	185	98.7	2	<u>185</u>	<u>98.6</u>	185	98.5	185	98.7
445.gobmk	2	514	40.8	515	40.7	<u>514</u>	<u>40.8</u>	2	<u>503</u>	<u>41.7</u>	505	41.5	503	41.7
456.hammer	2	<u>236</u>	<u>79.1</u>	236	79.0	235	79.4	2	216	86.5	216	86.4	<u>216</u>	<u>86.4</u>
458.sjeng	2	<u>545</u>	<u>44.4</u>	544	44.5	545	44.4	2	524	46.2	<u>524</u>	<u>46.2</u>	524	46.2
462.libquantum	2	106	391	106	389	<u>106</u>	<u>391</u>	2	106	391	106	389	<u>106</u>	<u>391</u>
464.h264ref	2	532	83.2	522	84.8	<u>532</u>	<u>83.3</u>	2	509	86.9	512	86.5	<u>509</u>	<u>86.9</u>
471.omnetpp	2	343	36.4	<u>341</u>	<u>36.7</u>	340	36.7	2	319	39.2	318	39.3	<u>318</u>	<u>39.3</u>
473.astar	2	393	35.7	396	35.4	<u>395</u>	<u>35.6</u>	2	393	35.7	396	35.4	<u>395</u>	<u>35.6</u>
483.xalancbmk	2	<u>193</u>	<u>71.6</u>	193	71.4	193	71.7	2	<u>193</u>	<u>71.6</u>	193	71.4	193	71.7

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 1x E3-1270v2 CPU + 32 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>
```

For information about Fujitsu please visit: <http://www.fujitsu.com>

Base Compiler Invocation

C benchmarks:
icc -m32

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Base Compiler Invocation (Continued)

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: -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: 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.astar: basepeak = yes

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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 other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.

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