



SPEC® CINT2006 Result

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Fujitsu

PRIMERGY TX100 S3p, Intel Xeon E3-1220 v2, 3.10 GHz

SPECint®2006 = 51.7

SPECint_base2006 = 48.7

CPU2006 license: 19

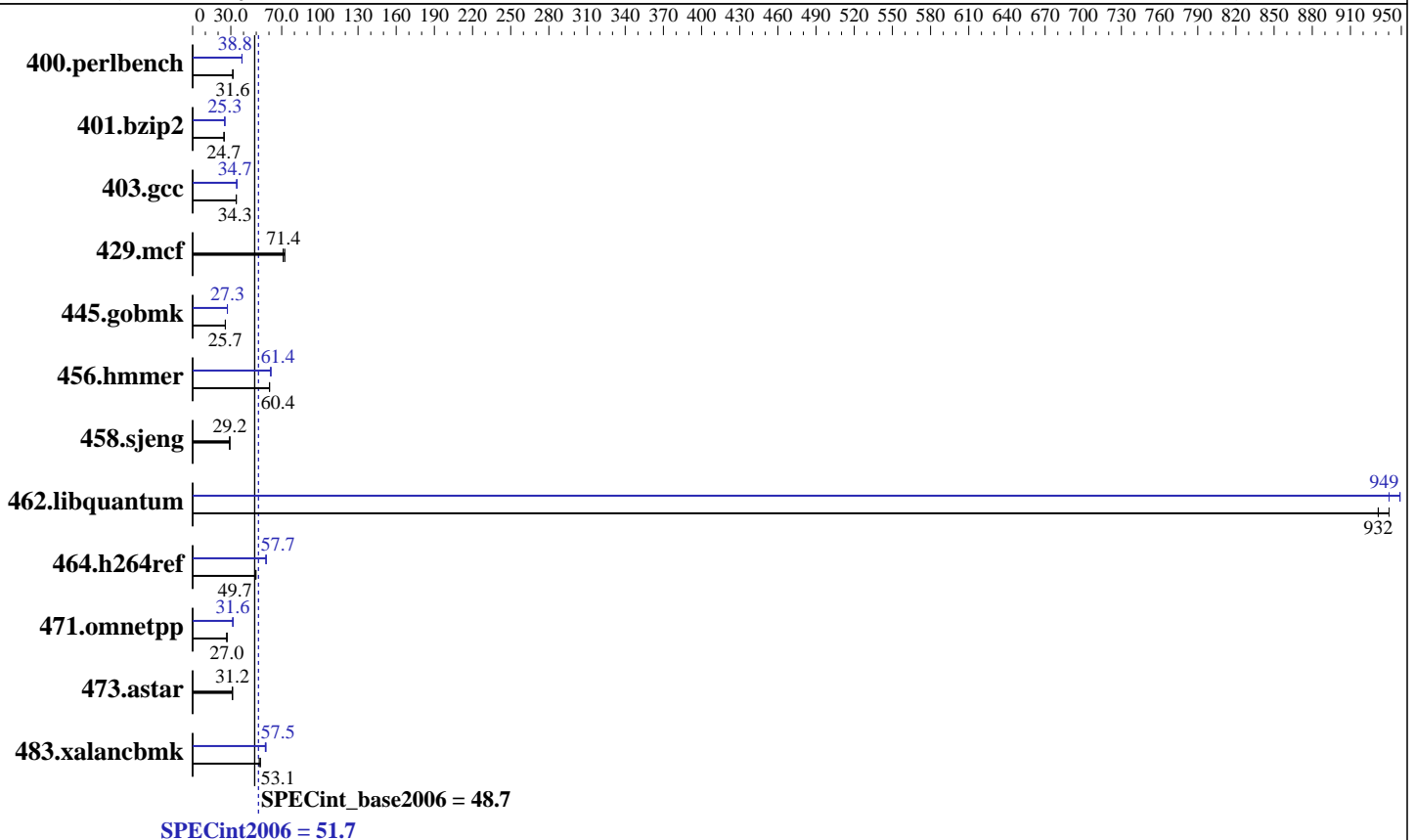
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



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: 16 GB (2 x 8 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: Yes
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	310	31.6	<u>309</u>	<u>31.6</u>	308	31.7	<u>252</u>	<u>38.8</u>	<u>252</u>	<u>38.8</u>	<u>252</u>	<u>38.8</u>
401.bzip2	390	24.7	<u>390</u>	<u>24.7</u>	391	24.7	<u>382</u>	<u>25.3</u>	<u>382</u>	<u>25.3</u>	382	25.3
403.gcc	234	34.3	<u>235</u>	<u>34.3</u>	235	34.2	<u>232</u>	<u>34.7</u>	<u>232</u>	<u>34.7</u>	232	34.7
429.mcf	126	72.5	128	71.2	<u>128</u>	<u>71.4</u>	126	72.5	128	71.2	<u>128</u>	<u>71.4</u>
445.gobmk	408	25.7	<u>408</u>	<u>25.7</u>	408	25.7	<u>384</u>	<u>27.3</u>	<u>384</u>	<u>27.3</u>	<u>384</u>	<u>27.3</u>
456.hammer	<u>154</u>	<u>60.4</u>	154	60.4	154	60.4	<u>152</u>	<u>61.5</u>	<u>152</u>	<u>61.4</u>	<u>152</u>	<u>61.4</u>
458.sjeng	415	29.2	<u>415</u>	<u>29.2</u>	415	29.2	<u>415</u>	<u>29.2</u>	<u>415</u>	<u>29.2</u>	415	29.2
462.libquantum	22.0	940	22.2	932	<u>22.2</u>	<u>932</u>	<u>21.8</u>	<u>949</u>	22.0	940	<u>21.8</u>	<u>949</u>
464.h264ref	445	49.7	446	49.6	<u>445</u>	<u>49.7</u>	<u>383</u>	<u>57.7</u>	<u>383</u>	<u>57.7</u>	383	57.7
471.omnetpp	<u>231</u>	<u>27.0</u>	234	26.8	231	27.0	<u>198</u>	<u>31.6</u>	197	31.7	198	31.6
473.astar	225	31.2	<u>225</u>	<u>31.2</u>	223	31.4	<u>225</u>	<u>31.2</u>	<u>225</u>	<u>31.2</u>	223	31.4
483.xalancbmk	<u>130</u>	<u>53.1</u>	132	52.3	130	53.2	<u>121</u>	<u>57.1</u>	<u>120</u>	<u>57.6</u>	<u>120</u>	<u>57.5</u>

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

Operating System Notes

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

Platform Notes

BIOS configuration:
Intel HT Technology = Disable

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"
OMP_NUM_THREADS = "4"

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
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Base Compiler Invocation

C benchmarks:
icc -m64

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/opt/SmartHeap/lib64 -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

400.perlbench: icc -m32

445.gobmk: icc -m32

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Peak Compiler Invocation (Continued)

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
473.astar: `-DSPEC_CPU_LP64`
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) -opt-prefetch -ansi-alias`

401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias`

403.gcc: `-xAVX -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias`

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

458.sjeng: `basepeak = yes`

462.libquantum: `-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32`

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Peak Optimization Flags (Continued)

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)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap

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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