SPEC® CINT2006 Result

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Fujitsu

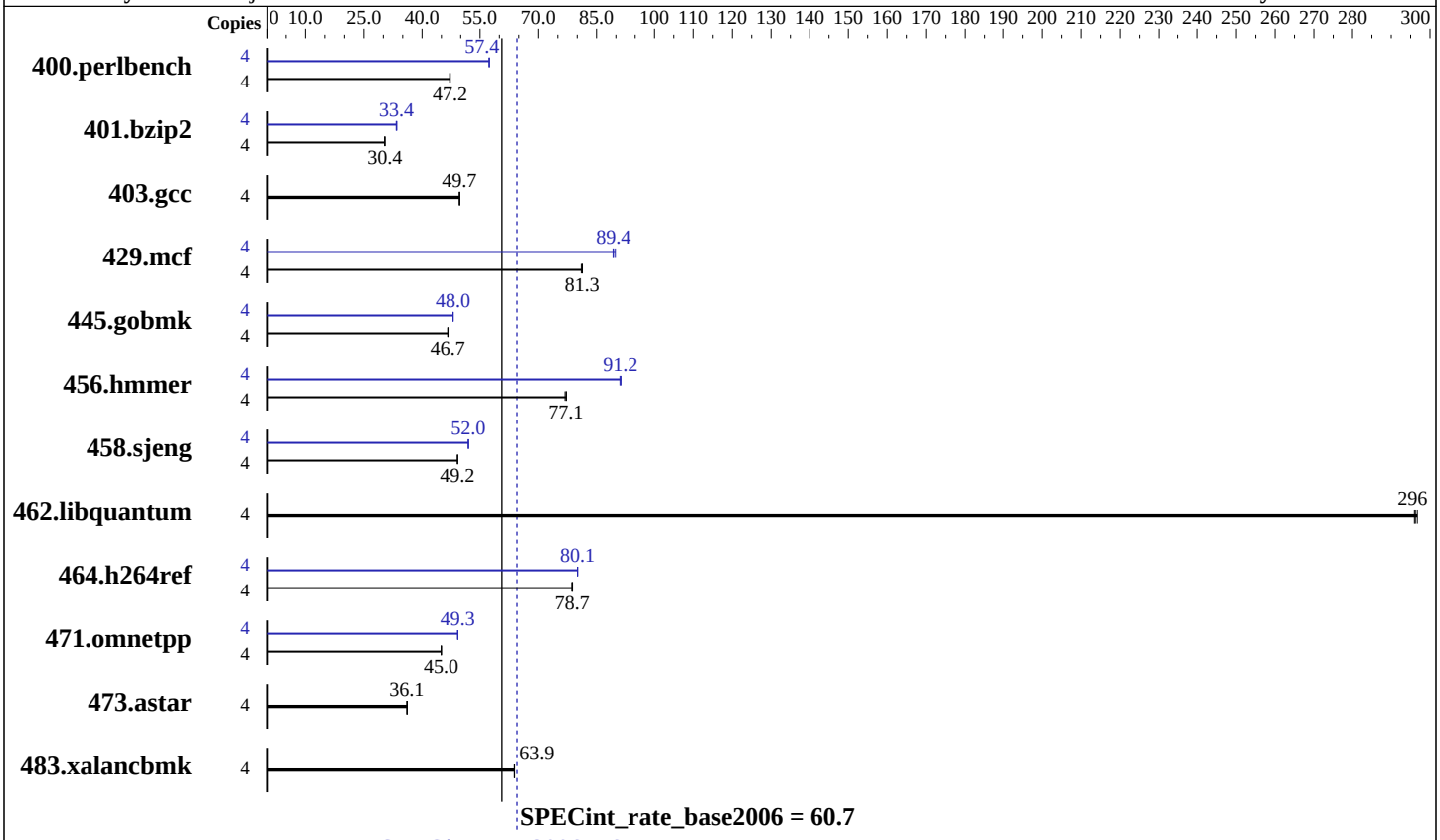
PRIMERGY BX920 S2, Intel Xeon E5603, 1.60 GHz

SPECint®_rate2006 = 64.5

SPECint_rate_base2006 = 60.7

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

Test date: Jan-2011
Hardware Availability: Feb-2011
Software Availability: Jan-2011



Hardware

CPU Name:	Intel Xeon E5603
CPU Characteristics:	
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (3 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)
Disk Subsystem:	1 x SAS, 300 GB, 10000 RPM
Other Hardware:	--

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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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	829	47.1	826	47.3	**828**	**47.2**	4	681	57.4	**681**	**57.4**	681	57.4
401.bzip2	4	**1270**	**30.4**	1268	30.4	1272	30.3	4	**1155**	**33.4**	1159	33.3	1154	33.4
403.gcc	4	**648**	**49.7**	647	49.7	649	49.6	4	**648**	**49.7**	647	49.7	649	49.6
429.mcf	4	450	81.1	**449**	**81.3**	448	81.3	4	406	89.9	**408**	**89.4**	409	89.3
445.gobmk	4	898	46.7	899	46.7	**899**	**46.7**	4	874	48.0	873	48.0	**874**	**48.0**
456.hmmer	4	486	76.9	483	77.2	**484**	**77.1**	4	409	91.3	**409**	**91.2**	410	91.0
458.sjeng	4	984	49.2	**984**	**49.2**	984	49.2	4	932	52.0	**931**	**52.0**	931	52.0
462.libquantum	4	**280**	**296**	280	296	279	297	4	**280**	**296**	280	296	279	297
464.h264ref	4	**1125**	**78.7**	1126	78.6	1124	78.8	4	1106	80.1	**1106**	**80.1**	1105	80.1
471.omnetpp	4	**556**	**45.0**	556	45.0	556	45.0	4	**508**	**49.3**	507	49.3	508	49.2
473.astar	4	776	36.2	778	36.1	**778**	**36.1**	4	776	36.2	778	36.1	**778**	**36.1**
483.xalancbmk	4	**432**	**63.9**	432	63.9	432	63.9	4	**432**	**63.9**	432	63.9	432	63.9

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.
 numactl was used to bind copies to the cores
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
Hugepages were not configured on the system
```

Platform Notes

```
BIOS configuration:
Data Reuse Optimization = Disable
Performance/Power Setting = Traditional
```

General Notes

```
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5
```

Base Compiler Invocation

C benchmarks:

```
icc  -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: icc -m32
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: icc -m32

445.gobmk: icc -m32

462.libquantum: icc -m32
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

464.h264ref: icc -m32

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Peak Compiler Invocation (Continued)

C++ benchmarks (except as noted below):
icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

471.omnetpp: icpc -m32

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)

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: -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 -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

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

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Peak Optimization Flags (Continued)

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/smartheap -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.xml`

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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 16:23:31 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 March 2011.