SPEC® CINT2006 Result
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Fujitsu

PRIMERGY RX2540 M1, Intel Xeon E5-2698 v3, 2.3 GHz

SPECint®_rate2006 = 1290

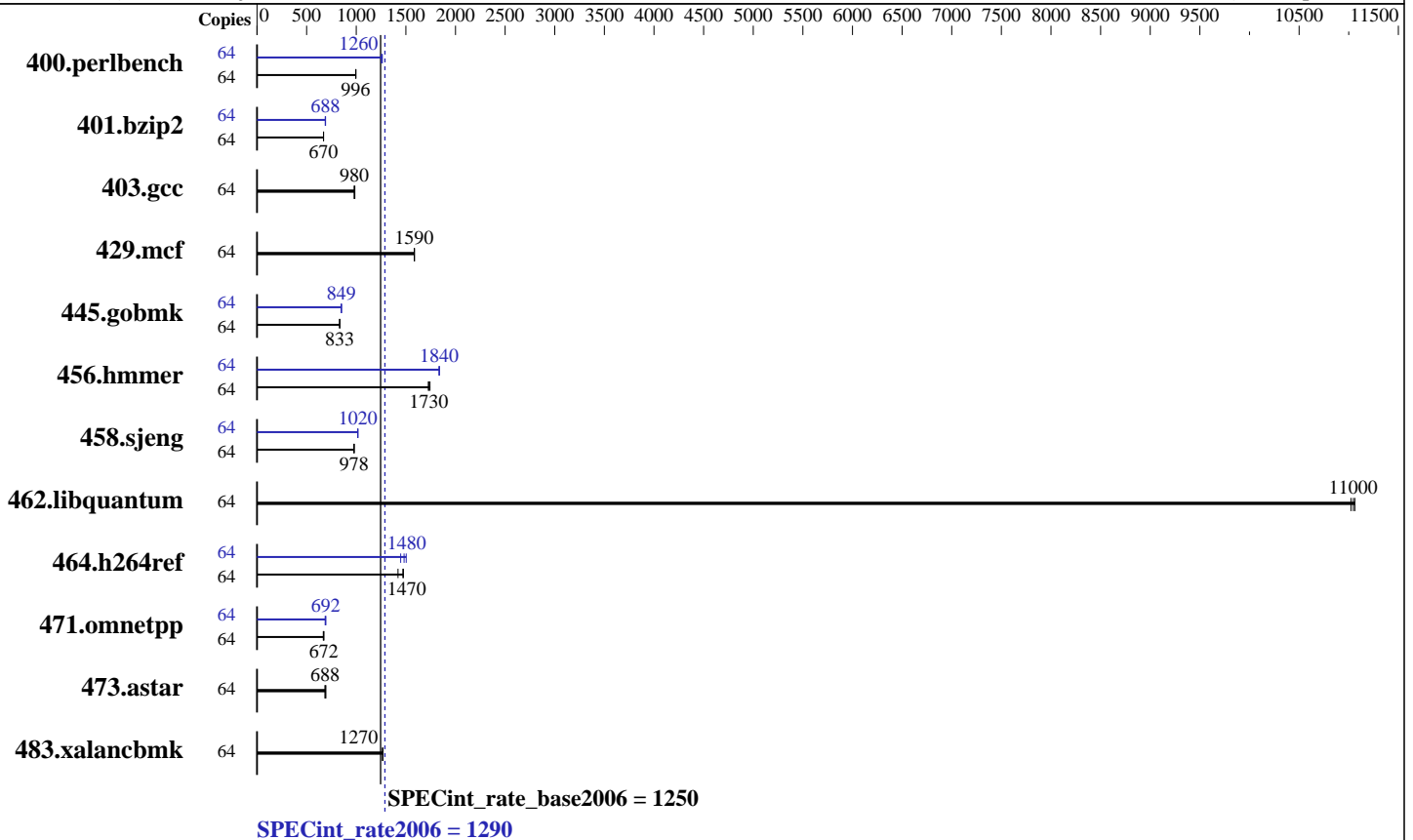SPECint_rate_base2006 = 1250

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

Test date: Nov-2014
Hardware Availability: Sep-2014
Software Availability: Sep-2014

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Hardware

CPU Name:	Intel Xeon E5-2698 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	32 cores, 2 chips, 16 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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:	40 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.0 (Maipo) Kernel 3.10.0-123.8.1.el7.x86_64
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	xfs
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	64	**628**	**996**	629	995	628	996	64	**497**	**1260**	499	1250	495	1260
401.bzip2	64	920	671	**922**	**670**	922	670	64	897	688	894	691	**897**	**688**
403.gcc	64	**526**	**980**	523	986	526	980	64	**526**	**980**	523	986	526	980
429.mcf	64	368	1590	**368**	**1590**	368	1590	64	368	1590	**368**	**1590**	368	1590
445.gobmk	64	**806**	**833**	806	833	806	833	64	**791**	**849**	789	851	791	849
456.hmmer	64	343	1740	346	1730	**345**	**1730**	64	326	1830	325	1840	**325**	**1840**
458.sjeng	64	791	979	792	977	**792**	**978**	64	763	1020	762	1020	**762**	**1020**
462.libquantum	64	**120**	**11000**	120	11000	120	11100	64	**120**	**11000**	120	11000	120	11100
464.h264ref	64	960	1480	997	1420	**964**	**1470**	64	942	1500	**956**	**1480**	978	1450
471.omnetpp	64	**595**	**672**	599	668	594	673	64	**578**	**692**	578	692	583	687
473.astar	64	647	694	656	685	**653**	**688**	64	647	694	656	685	**653**	**688**
483.xalancbmk	64	349	1270	**349**	**1270**	348	1270	64	349	1270	**349**	**1270**	348	1270

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"

Platform Notes

    BIOS configuration:
    Energy Performance = Performance
    Utilization Profile = Unbalanced
    QPI snoop mode: Cluster on Die
        COD Enable = Enabled, Early Snoop = Disabled
    CPU C1E Support = Disabled
    QPI Link Frequency Select = 6.4 GT/s

General Notes

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

    Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
    memory using RedHat EL 7.0
    Filesystem page cache cleared with:

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General Notes (Continued)

```
echo 1>        /proc/sys/vm/drop_caches
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 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks:
     icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Base Portability Flags

     400.perlbench: -DSPEC_CPU_LINUX_IA32
     462.libquantum: -DSPEC_CPU_LINUX
     483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
     -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:
     -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
     -L/sh -lsmartheap

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
     icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

   400.perlbench: icc -m64

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Peak Compiler Invocation (Continued)

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

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: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias`

456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xCORE-AVX2(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`

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Peak Optimization Flags (Continued)

464.h264ref: `-xCORE-AVX2(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: `-xCORE-AVX2(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/sh -lsmartheap`

473.astar: basepeak = yes

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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml

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

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