SPEC® CINT2006 Result

Fujitsu

PRIMERGY BX2560 M1, Intel Xeon E5-2620 v3, 2.4 GHz

SPECint®_rate2006 =   530

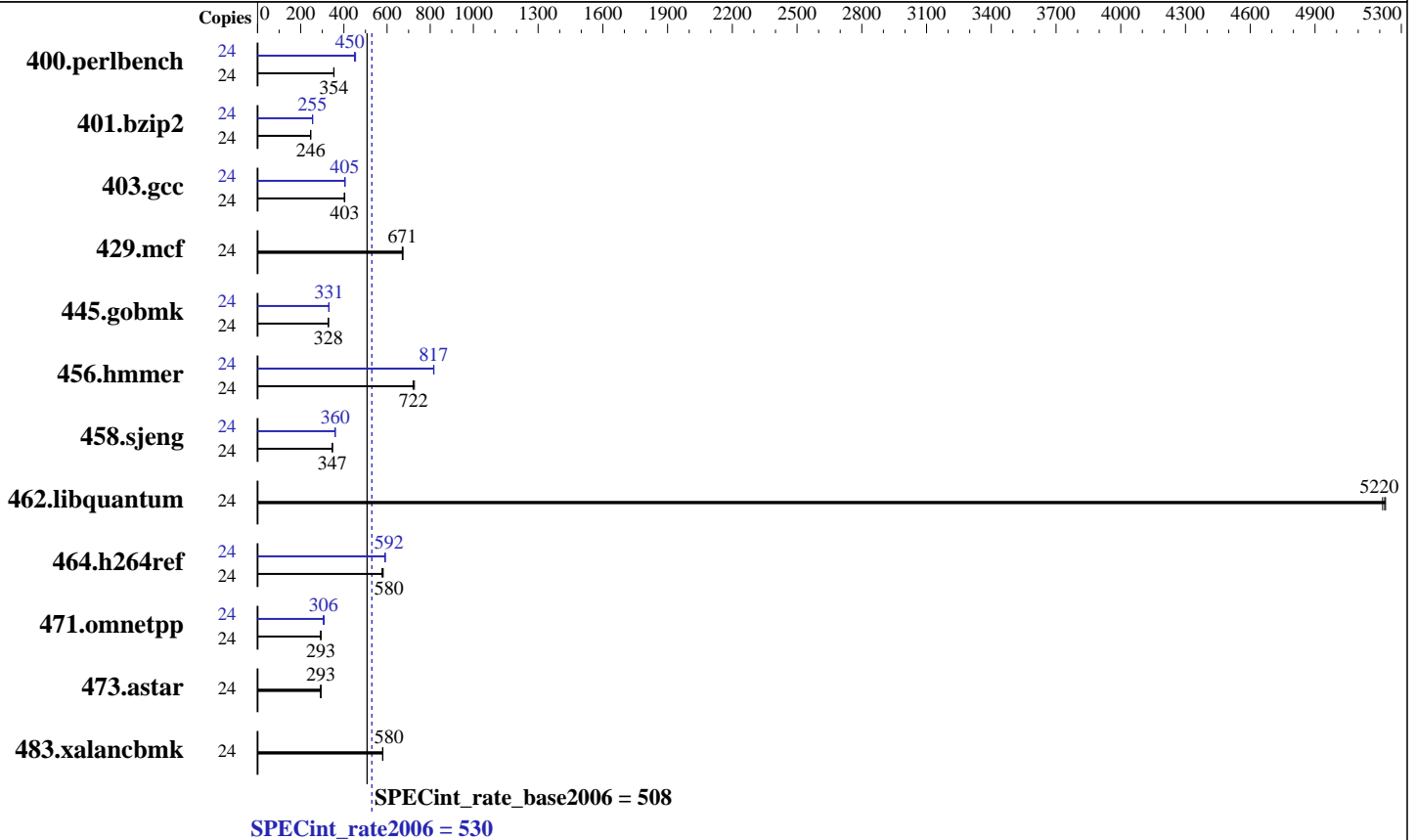SPECint_rate_base2006 =   508

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Feb-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Copies

Benchmark	Base	Peak
400.perlbench	354	450
401.bzip2	246	255
403.gcc	403	405
429.mcf	671	
445.gobmk	328	331
456.hmmer	722	817
458.sjeng	347	360
462.libquantum	5220	
464.h264ref	580	592
471.omnetpp	293	306
473.astar	293	
483.xalancbmk	580	

All copies = 24

SPECint_rate_base2006 = 508

SPECint_rate2006 = 530

Hardware

CPU Name: Intel Xeon E5-2620 v3

CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz

CPU MHz: 2400

FPU: Integrated

CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip

Other Cache: None

Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)

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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	665	353	**662**	**354**	662	354	24	**522**	**450**	516	454	522	449
401.bzip2	24	940	246	943	246	**941**	**246**	24	908	255	910	255	**909**	**255**
403.gcc	24	478	404	**479**	**403**	481	402	24	478	404	476	406	**478**	**405**
429.mcf	24	**326**	**671**	325	674	326	671	24	**326**	**671**	325	674	326	671
445.gobmk	24	**767**	**328**	768	328	767	328	24	762	330	**761**	**331**	761	331
456.hmmer	24	**310**	**722**	308	727	311	721	24	274	817	275	816	**274**	**817**
458.sjeng	24	837	347	**838**	**347**	838	347	24	808	359	807	360	**807**	**360**
462.libquantum	24	95.4	5210	95.1	5230	**95.2**	**5220**	24	95.4	5210	95.1	5230	**95.2**	**5220**
464.h264ref	24	921	577	912	582	**916**	**580**	24	898	592	**898**	**592**	900	590
471.omnetpp	24	510	294	**511**	**293**	513	292	24	486	309	491	305	**491**	**306**
473.astar	24	**574**	**293**	577	292	573	294	24	**574**	**293**	577	292	573	294
483.xalancbmk	24	286	579	**285**	**580**	285	581	24	286	579	**285**	**580**	285	581

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: Early Snoop
        COD Enable = Disabled, Early Snoop = Enabled
    CPU C1E Support = Disabled

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:
    echo 1>   /proc/sys/vm/drop_caches

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General Notes (Continued)

```
 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: `-xCORE-AVX2 -ipo -O3 -no-prec-div`

           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

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