SPEC® CINT2006 Result
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Supermicro

SuperServer 6028R-TR
(X10DRI , Intel Xeon E5-2670 v3)

SPECint®_rate2006 =   1010

SPECint_rate_base2006 =   969

CPU2006 license: 001176
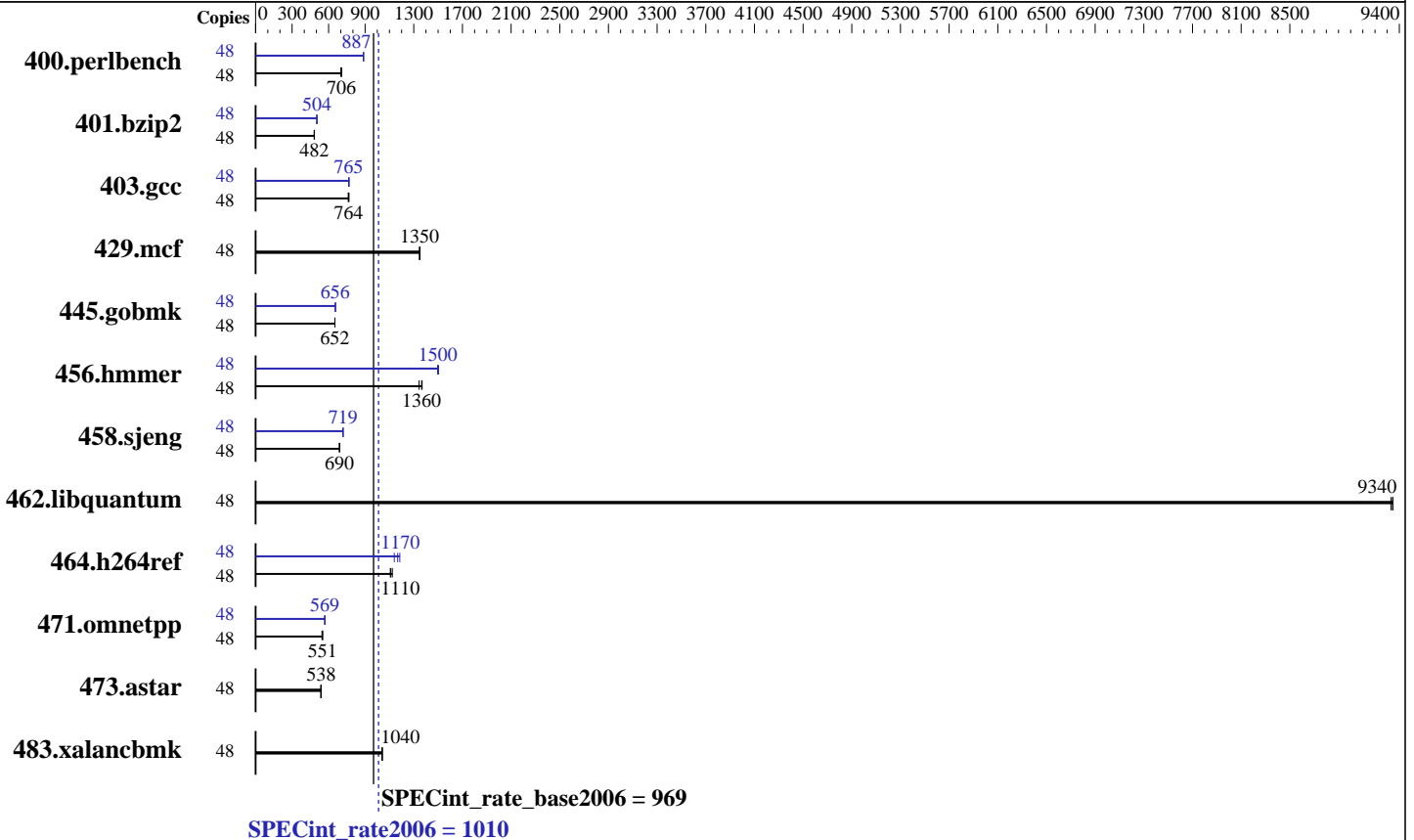
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014

Copies

Benchmark	Copies	Peak	Base
400.perlbench	48	887	706
401.bzip2	48	504	482
403.gcc	48	765	764
429.mcf	48		1350
445.gobmk	48	656	652
456.hmmer	48	1500	1360
458.sjeng	48	719	690
462.libquantum	48		9340
464.h264ref	48	1170	1110
471.omnetpp	48	569	551
473.astar	48		538
483.xalancbmk	48		1040

SPECint_rate_base2006 = 969

SPECint_rate2006 = 1010

Hardware

CPU Name: Intel Xeon E5-2670 v3

CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz

CPU MHz: 2300

FPU: Integrated

CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core

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: 30 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 2000 GB SATA III, 7200 RPM

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0, Kernel 3.10.0-123.e17.x86_64

Compiler: C/C++: Version 15.0.0.090 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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	663	707	**_664_**	**_706_**	669	701	48	528	888	530	885	**_529_**	**_887_**
401.bzip2	48	961	482	958	484	**_961_**	**_482_**	48	919	504	920	503	**_919_**	**_504_**
403.gcc	48	508	761	**_506_**	**_764_**	503	768	48	505	765	502	769	**_505_**	**_765_**
429.mcf	48	324	1350	**_325_**	**_1350_**	325	1350	48	324	1350	**_325_**	**_1350_**	325	1350
445.gobmk	48	772	652	**_772_**	**_652_**	773	652	48	768	656	768	655	**_768_**	**_656_**
456.hmmer	48	**_328_**	**_1360_**	327	1370	333	1340	48	299	1500	**_299_**	**_1500_**	298	1500
458.sjeng	48	**_842_**	**_690_**	842	690	843	689	48	808	719	**_808_**	**_719_**	808	719
462.libquantum	48	107	9330	106	9350	**_106_**	**_9340_**	48	107	9330	106	9350	**_106_**	**_9340_**
464.h264ref	48	959	1110	945	1120	**_956_**	**_1110_**	48	932	1140	896	1190	**_910_**	**_1170_**
471.omnetpp	48	**_545_**	**_551_**	550	546	545	551	48	**_527_**	**_569_**	525	571	529	567
473.astar	48	629	536	**_626_**	**_538_**	626	539	48	629	536	**_626_**	**_538_**	626	539
483.xalancbmk	48	**_318_**	**_1040_**	318	1040	319	1040	48	**_318_**	**_1040_**	318	1040	319	1040

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 Settings:
    COD Enable = Enable
    Early Snoop = Disable
    Enforce POR = Disable

General Notes

    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/home/Trial/SPEC2K6/SPEC2006-V12/libs/32:/home/Trial/SPEC2K6/SPEC2006-V12/libs/64:/home/Trial/SPEC2K6/SPEC2006-V12/sh"

    Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
    memory using RedHat EL 7.0
    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/transparent_hugepage/enabled
    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>
```

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
    -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
    -opt-mem-layout-trans=3 -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
```

```
        401.bzip2: icc -m64
```

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Peak Compiler Invocation (Continued)

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 -opt-mem-layout-trans=3`

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

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`

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Peak Optimization Flags (Continued)

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/Supermicro-Platform-Settings-V1.2-revE.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/Supermicro-Platform-Settings-V1.2-revE.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Dec 4 10:08:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 3 December 2014.