SPEC® CINT2006 Result

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Supermicro

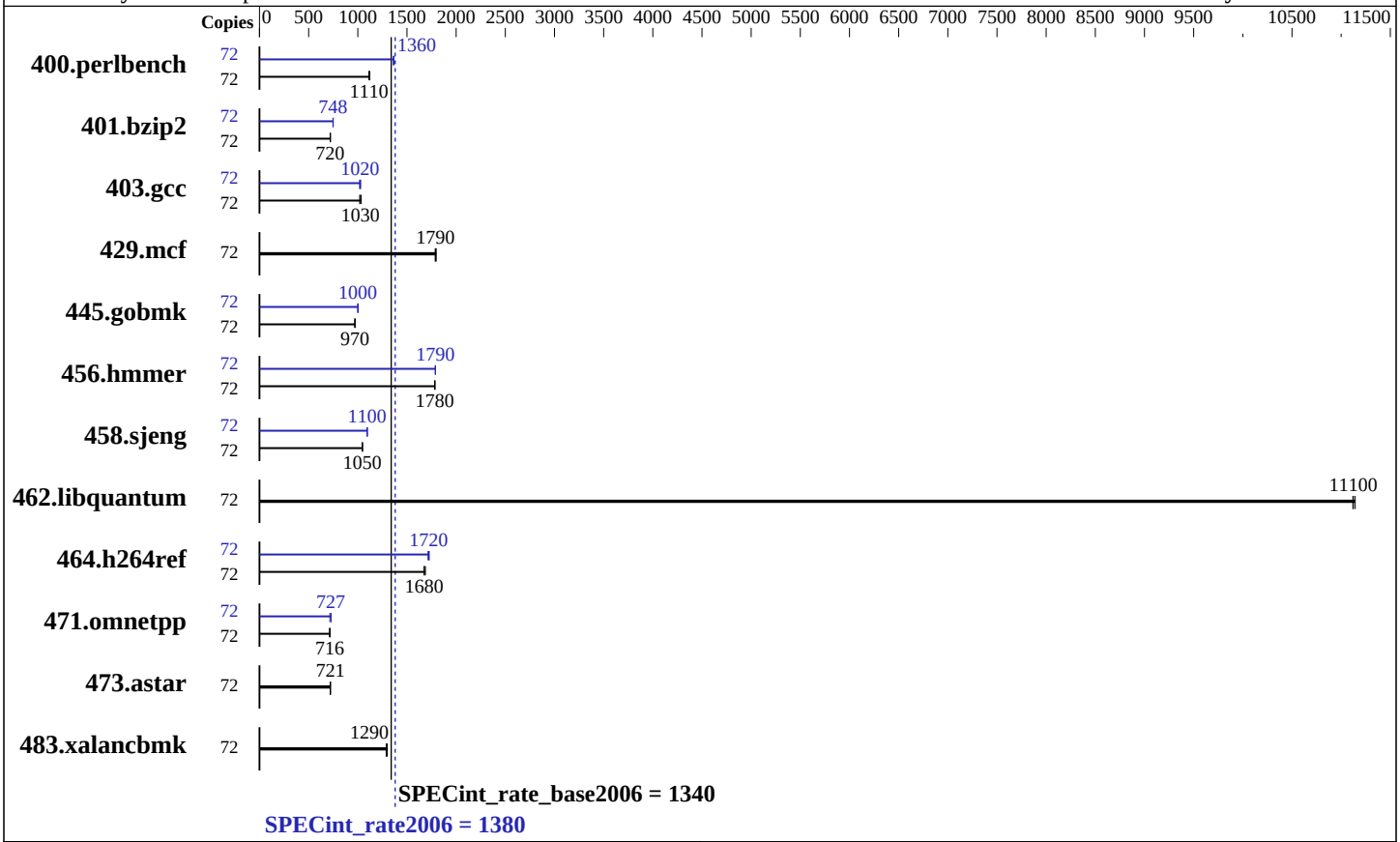
SuperServer 2018TP-DTFR
(X10DRT-PIBF , Intel Xeon E5-2699 v3)

SPECint®_rate2006 = 1380

SPECint_rate_base2006 = 1340

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Aug-2014
Hardware Availability: Sep-2014
Software Availability: Nov-2013



Hardware

CPU Name:	Intel Xeon E5-2699 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	36 cores, 2 chips, 18 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:	45 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 1 TB SATA III, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.5, Kernel 2.6.32-431.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 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							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	72	627	1120	**631**	**1110**	632	1110	72	515	1370	517	1360	**515**	**1360**
401.bzip2	72	962	722	**965**	**720**	967	719	72	929	748	926	750	**929**	**748**
403.gcc	72	560	1030	569	1020	**564**	**1030**	72	563	1030	569	1020	**566**	**1020**
429.mcf	72	**366**	**1790**	368	1790	365	1800	72	**366**	**1790**	368	1790	365	1800
445.gobmk	72	**778**	**970**	777	972	779	970	72	753	1000	**755**	**1000**	756	1000
456.hmmer	72	377	1780	376	1780	**377**	**1780**	72	376	1790	375	1790	**375**	**1790**
458.sjeng	72	**832**	**1050**	832	1050	833	1050	72	795	1100	**795**	**1100**	797	1090
462.libquantum	72	134	11100	**134**	**11100**	134	11100	72	134	11100	**134**	**11100**	134	11100
464.h264ref	72	**950**	**1680**	944	1690	952	1670	72	**925**	**1720**	923	1730	930	1710
471.omnetpp	72	631	713	628	717	**628**	**716**	72	629	716	617	729	**619**	**727**
473.astar	72	**701**	**721**	700	722	702	720	72	**701**	**721**	700	722	702	720
483.xalancbmk	72	386	1290	382	1300	**384**	**1290**	72	386	1290	382	1300	**384**	**1290**

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:
 Enforce POR set to Disabled
 Memory Frequency set to 2133
 COD Enable set to Enabled
 Early Snoop set to Disabled
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/Trial/SPEC2006_v11/libs/32:/home/Trial/SPEC2006_v11/libs/64:/home/Trial/SPEC2006_v11/sh"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 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>
```

Base Compiler Invocation

C benchmarks:
`icc -m32`

C++ benchmarks:
`icpc -m32`

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`

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

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

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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-ic14.0-official-linux64.20140128.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-ic14.0-official-linux64.20140128.xml`
`http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.xml`

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For other inquiries, please contact webmaster@spec.org.

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