SPEC® CINT2006 Result

Supermicro

SuperServer SYS-8027R-7RFT+ (X9QR7-TF+, Intel E5-4650)

$SPECint^{\circledR}\_rate2006 =$ 1220

$SPECint\_rate\_base2006 =$ 1170

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

SPECint_rate_base2006 = 1170

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Hardware

CPU Name:	Intel Xeon E5-4650
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (32 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 500 GB SAS, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server Release 6.2, Kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 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 V9.01

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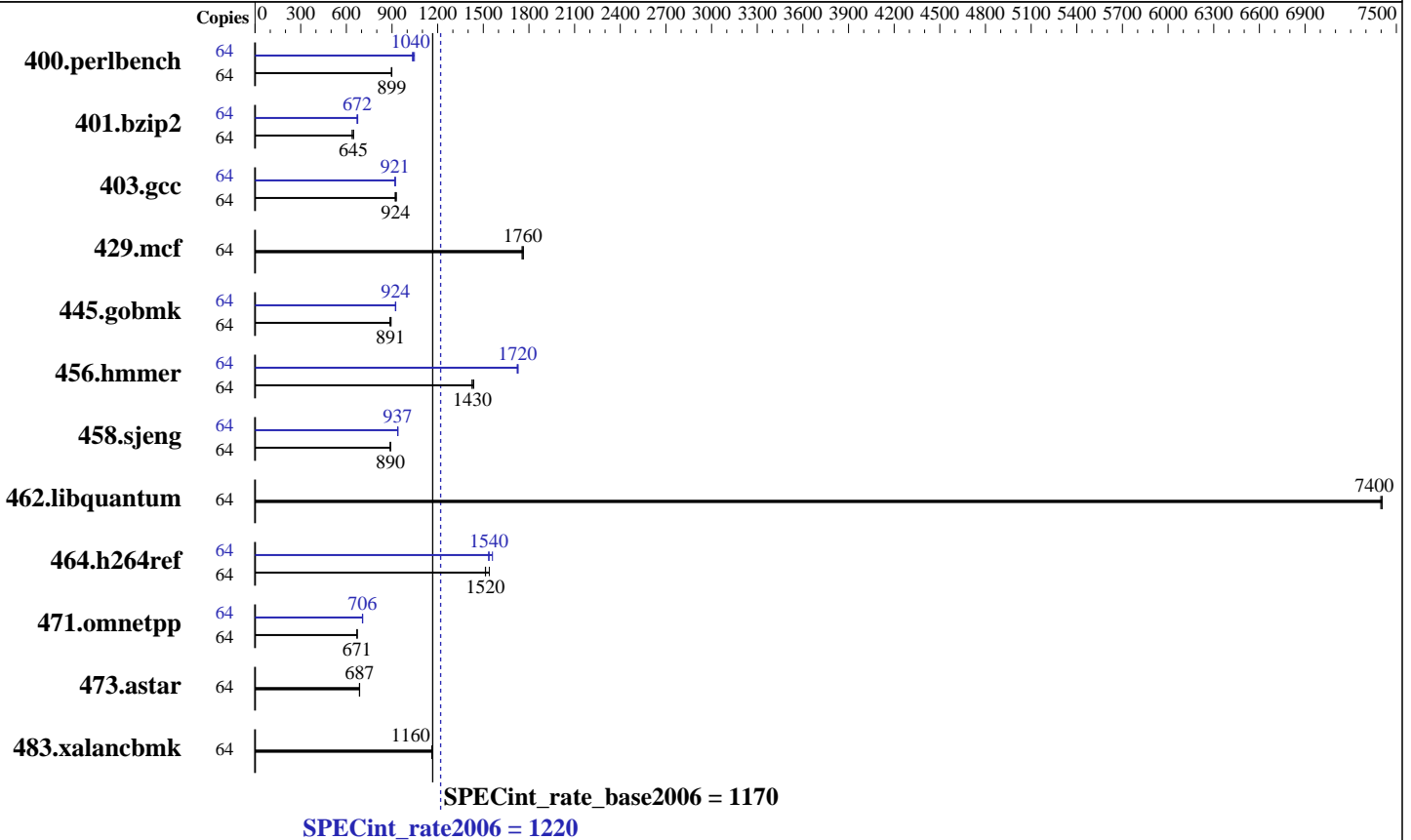SPECint_rate_base2006 = 1170

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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	698	895	**696**	**899**	696	899	64	**601**	**1040**	604	1030	597	1050
401.bzip2	64	954	647	**957**	**645**	969	637	64	915	675	**919**	**672**	920	671
403.gcc	64	555	929	560	921	**558**	**924**	64	559	922	**560**	**921**	560	919
429.mcf	64	333	1750	331	1760	**332**	**1760**	64	333	1750	331	1760	**332**	**1760**
445.gobmk	64	**754**	**891**	751	894	757	887	64	726	925	728	922	**727**	**924**
456.hmmer	64	419	1430	**418**	**1430**	415	1440	64	347	1720	**346**	**1720**	345	1730
458.sjeng	64	870	890	**870**	**890**	872	889	64	824	939	826	937	**826**	**937**
462.libquantum	64	179	7410	179	7400	**179**	**7400**	64	179	7410	179	7400	**179**	**7400**
464.h264ref	64	**935**	**1520**	920	1540	936	1510	64	**921**	**1540**	908	1560	923	1530
471.omnetpp	64	597	670	596	671	**596**	**671**	64	565	708	**567**	**706**	567	706
473.astar	64	**654**	**687**	654	687	655	686	64	**654**	**687**	654	687	655	686
483.xalancbmk	64	**380**	**1160**	380	1160	379	1160	64	**380**	**1160**	380	1160	379	1160

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

```
    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
    Filesystem page cache cleared with:
    echo 1>      /proc/sys/vm/drop_caches
    runspec command invoked through numactl i.e.:
    numactl --interleave=all runspec <etc>
```

General Notes

```
    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/home/cpu2006v120/libs/32:/home/cpu2006v120/libs/64"
```

Base Compiler Invocation

C benchmarks:
```
    icc -m32
```

C++ benchmarks:
```
    icpc -m32
```

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Base Portability Flags

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

Base Optimization Flags

C benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-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  -m32
```

```
400.perlbench: icc -m64
```

```
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
```

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Peak Portability Flags (Continued)

462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(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: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div`

429.mcf: `basepeak = yes`

445.gobmk: `-xAVX(pass 2)` `-prof-gen(pass 1)` `-prof-use(pass 2)`
`-ansi-alias -opt-mem-layout-trans=3`

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

458.sjeng: `-xAVX(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: `-xAVX(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: `-xAVX(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`

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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-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml

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

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