SPEC® CINT2006 Result

Supermicro

SuperServer 1027GR-TSF (X9DRG-HF, Intel Xeon E5-2620, 2.0GHz)

SPECint®_rate2006 =   390

SPECint_rate_base2006 =   372
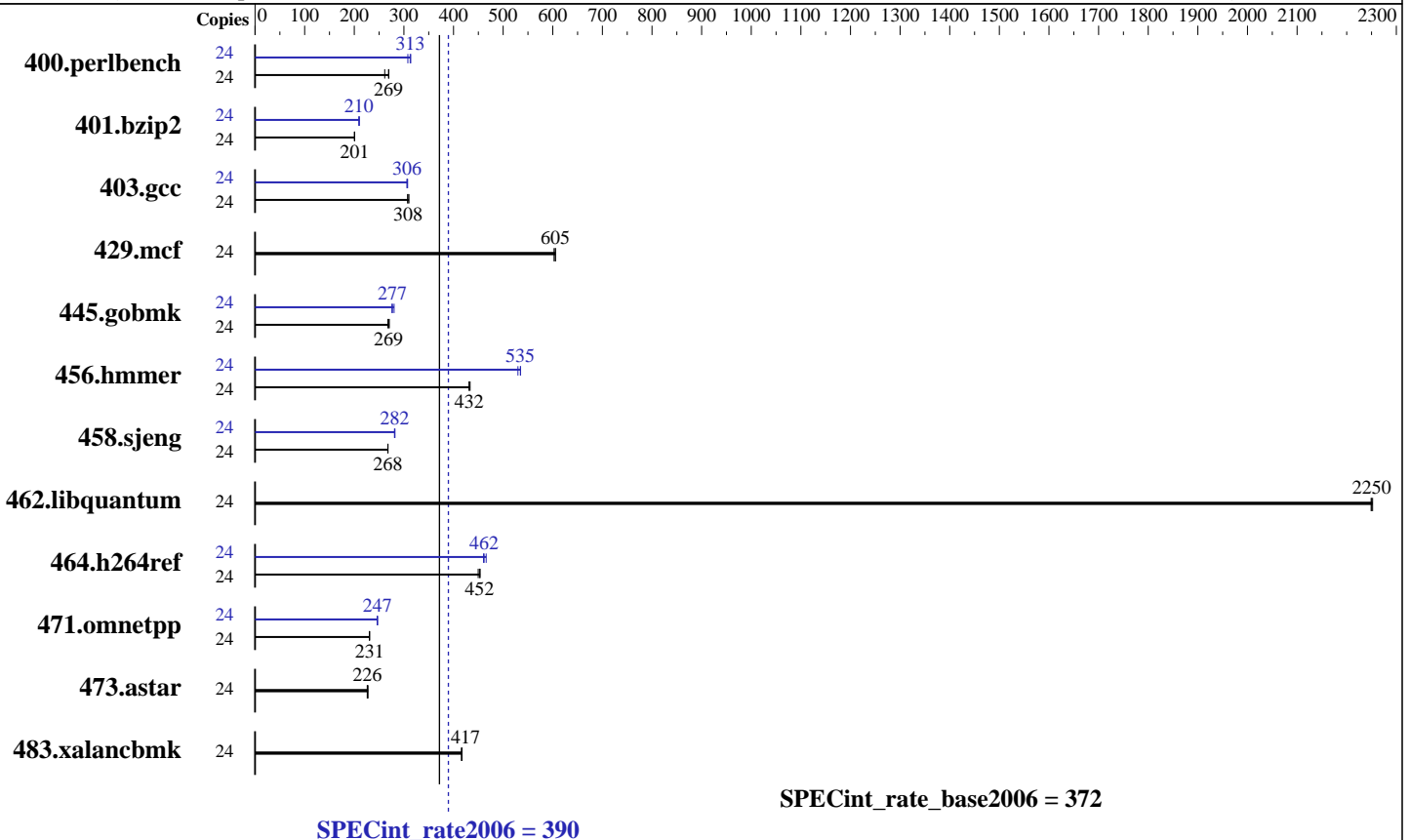
CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Jan-2011

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Hardware

CPU Name:	Intel Xeon E5-2620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz:	2000
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:	64 GB (8 x 8 GB 2Rx8 PC3-12800R-11, ECC, operate @ 1600MHz)
Disk Subsystem:	1 x 1 TB SATA II, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.1 (Santiago) 2.6.32-131.0.15.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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	870	270	**871**	**269**	897	261	24	747	314	761	308	**750**	**313**
401.bzip2	24	1154	201	**1155**	**201**	1156	200	24	1103	210	1106	209	**1105**	**210**
403.gcc	24	**627**	**308**	628	307	623	310	24	631	306	**630**	**306**	628	307
429.mcf	24	362	605	363	603	**362**	**605**	24	362	605	363	603	**362**	**605**
445.gobmk	24	**935**	**269**	940	268	930	271	24	913	276	**909**	**277**	898	280
456.hmmer	24	**519**	**432**	517	433	519	431	24	418	535	423	530	**419**	**535**
458.sjeng	24	**1084**	**268**	1084	268	1085	268	24	1034	281	1030	282	**1031**	**282**
462.libquantum	24	221	2250	**221**	**2250**	221	2250	24	221	2250	**221**	**2250**	221	2250
464.h264ref	24	**1174**	**452**	1171	454	1181	450	24	1140	466	**1151**	**462**	1153	460
471.omnetpp	24	650	231	651	230	**650**	**231**	24	607	247	**608**	**247**	610	246
473.astar	24	740	228	745	226	**744**	**226**	24	740	228	745	226	**744**	**226**
483.xalancbmk	24	**397**	**417**	398	416	397	417	24	**397**	**417**	398	416	397	417

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

```
Sysinfo program /home/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Mon Apr  2 02:26:48 2012

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2620 0 @ 2.00GHz
      2 "physical id"s (chips)
      24 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 6
      siblings  : 12
```

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Platform Notes (Continued)

```
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
    cache size : 15360 KB

  From /proc/meminfo
     MemTotal:       65949756 kB
     HugePages_Total:        0
     Hugepagesize:        2048 kB

  /usr/bin/lsb_release -d
     Red Hat Enterprise Linux Server release 6.1 (Santiago)

  From /etc/*release* /etc/*version*
     redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
     system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

  uname -a:
     Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
     15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Apr 2 02:12

  SPEC is set to: /home/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/mapper/VolGroup-lv_home
                    ext4    162G   22G  132G  15% /home

  Additional information from dmidecode:
    Memory:
      8x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1333 MHz 1 rank

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 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>
```

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Tested by:	Supermicro	**Software Availability:**	Jan-2011

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:
```
-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
```

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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: `-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-linux64.20111122.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-linux64.20111122.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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