SPEC® CINT2006 Result
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Supermicro

SuperServer 1027GR-TSF (X9DRG-HF, Intel Xeon E5-2660, 3.0GHz)

$SPECint^{®}_rate2006 = $ 581

$SPECint_rate_base2006 = $ 556

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Oct-2011

Copies 0 100 250 400 550 700 850 1000 1150 1300 1450 1600 1750 1900 2050 2200 2350 2500 2650 2800 2950 3100 3250 3450

Benchmark	Copies	base	peak
400.perlbench	32	404	463
401.bzip2	32	300	313
403.gcc	32	457	453
429.mcf	32	862	
445.gobmk	32	416	431
456.hmmer	32	658	803
458.sjeng	32	416	439
462.libquantum	32	3410	
464.h264ref	32	720	732
471.omnetpp	32	327	347
473.astar	32	332	
483.xalancbmk	32	599	

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Hardware

CPU Name: Intel Xeon E5-2660

CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz

CPU MHz: 2200

FPU: Integrated

CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 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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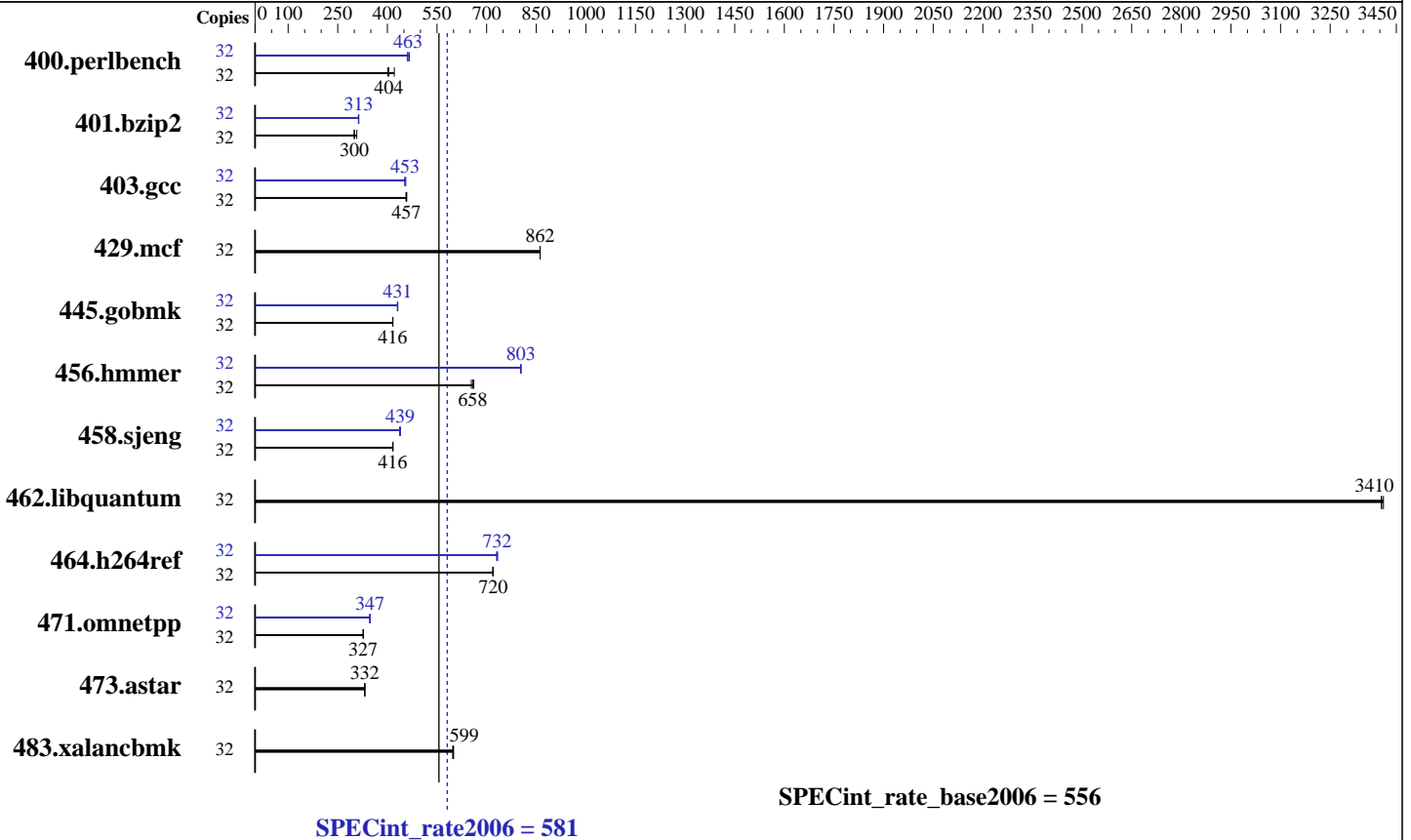SPECint_rate_base2006 = 556

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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	32	743	421	780	401	**774**	**404**	32	679	460	670	466	**676**	**463**
401.bzip2	32	1004	308	**1028**	**300**	1031	300	32	989	312	985	313	**985**	**313**
403.gcc	32	**563**	**457**	562	459	565	456	32	569	453	**568**	**453**	565	456
429.mcf	32	339	862	339	862	**339**	**862**	32	339	862	339	862	**339**	**862**
445.gobmk	32	805	417	806	416	**806**	**416**	32	778	432	780	430	**779**	**431**
456.hmmer	32	**453**	**658**	452	661	457	654	32	371	805	**372**	**803**	372	803
458.sjeng	32	928	417	930	416	**930**	**416**	32	881	439	886	437	**882**	**439**
462.libquantum	32	195	3400	194	3410	**195**	**3410**	32	195	3400	194	3410	**195**	**3410**
464.h264ref	32	986	718	**984**	**720**	984	720	32	970	730	**968**	**732**	966	733
471.omnetpp	32	611	327	612	327	**612**	**327**	32	576	347	**576**	**347**	577	347
473.astar	32	676	332	**677**	**332**	678	331	32	676	332	**677**	**332**	678	331
483.xalancbmk	32	368	600	**369**	**599**	370	598	32	368	600	**369**	**599**	370	598

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 Fri Apr 13 09:08:35 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 E5-2660 0 @ 2.20GHz
          2 "physical id"s (chips)
          32 "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 : 8
          siblings : 16

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Platform Notes (Continued)

```
     physical 0: cores 0 1 2 3 4 5 6 7
     physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 20480 KB

From /proc/meminfo
   MemTotal:        65948756 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 13 09:03

SPEC is set to: /home/cpu2006
   Filesystem     Type     Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_home
                   ext4    162G   59G   95G  39% /home

Additional information from dmidecode:
  Memory:
   8x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1600 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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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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