SPEC® CINT2006 Result
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Sugon

I620-G10 (Intel Xeon E5-2670 v2, 2.50 GHz)

$SPECint^{®}\_rate2006 =$ 812

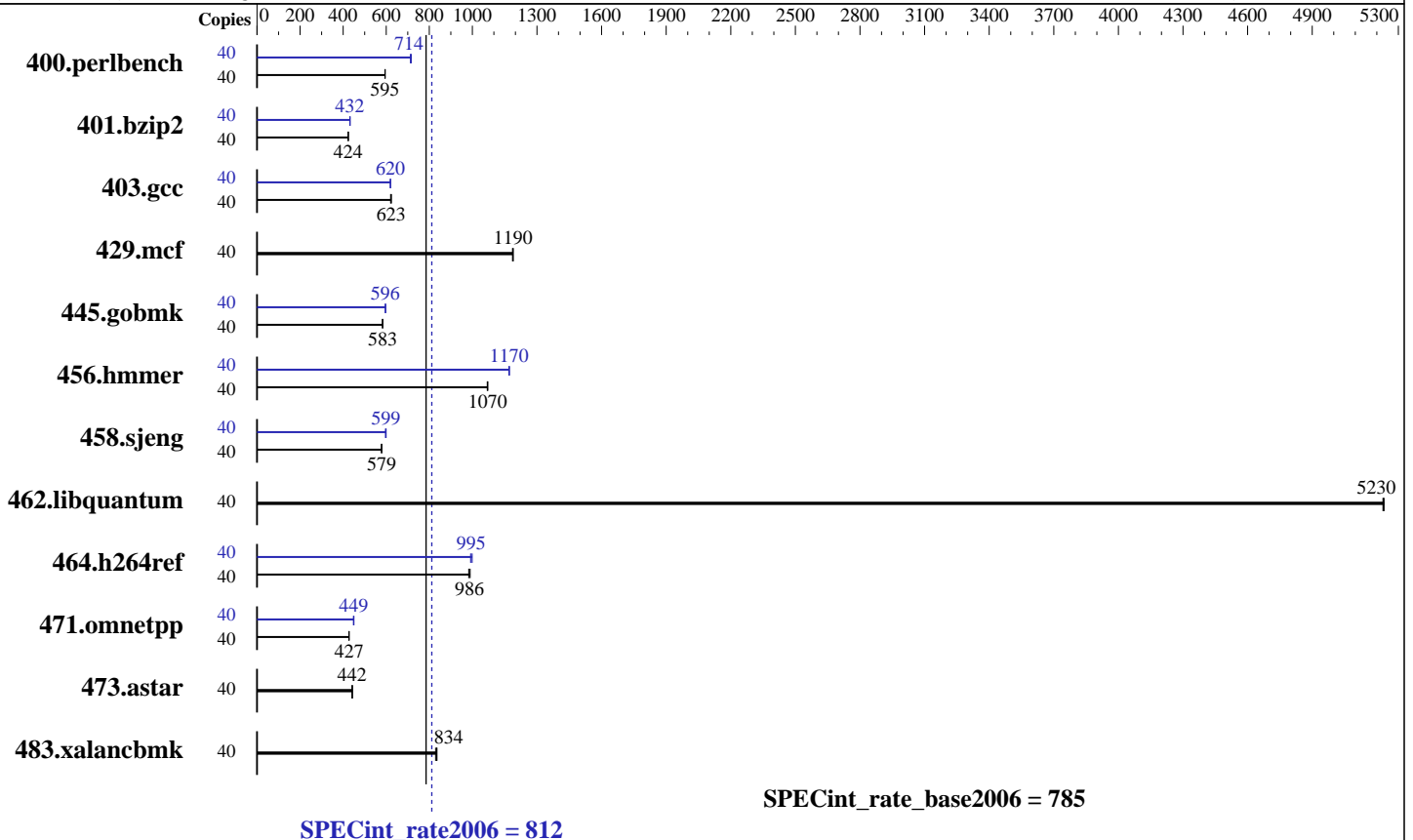$SPECint\_rate\_base2006 =$ 785

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Nov-2013

Hardware Availability: Nov-2013

Software Availability: Nov-2013

Copies

Benchmark	Peak	Base
400.perlbench	40 / 714	40 / 595
401.bzip2	40 / 432	40 / 424
403.gcc	40 / 620	40 / 623
429.mcf		40 / 1190
445.gobmk	40 / 596	40 / 583
456.hmmer	40 / 1170	40 / 1070
458.sjeng	40 / 599	40 / 579
462.libquantum		40 / 5230
464.h264ref	40 / 995	40 / 986
471.omnetpp	40 / 449	40 / 427
473.astar		40 / 442
483.xalancbmk		40 / 834

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Hardware

CPU Name: Intel Xeon E5-2670 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz

CPU MHz: 2500

FPU: Integrated

CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 MB I+D on chip per chip

Other Cache: None

Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 4 x 450 GB SAS 10K RPM, RAID0

Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP3 (x86_64) 3.0.76-0.11-default

Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux

Auto Parallel: No

File System: ext3

System State: Run level 3 (Full multiuser with network)

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	40	**657**	**595**	657	595	658	594	40	**548**	**714**	545	717	548	713
401.bzip2	40	**911**	**424**	911	424	911	424	40	895	431	**894**	**432**	893	432
403.gcc	40	516	624	519	620	**517**	**623**	40	**520**	**620**	519	620	520	619
429.mcf	40	307	1190	307	1190	**307**	**1190**	40	307	1190	307	1190	**307**	**1190**
445.gobmk	40	719	583	720	583	**719**	**583**	40	704	596	702	597	**704**	**596**
456.hmmer	40	349	1070	348	1070	**349**	**1070**	40	318	1170	319	1170	**319**	**1170**
458.sjeng	40	836	579	**837**	**579**	837	578	40	812	596	**808**	**599**	807	599
462.libquantum	40	158	5230	159	5230	**158**	**5230**	40	158	5230	159	5230	**158**	**5230**
464.h264ref	40	900	983	894	990	**898**	**986**	40	886	999	892	992	**890**	**995**
471.omnetpp	40	585	427	**585**	**427**	585	427	40	555	450	**557**	**449**	558	448
473.astar	40	636	441	**636**	**442**	634	443	40	636	441	**636**	**442**	634	443
483.xalancbmk	40	333	829	**331**	**834**	330	836	40	333	829	**331**	**834**	330	836

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 Configuration:
    Intel Virtualization technology set to disabled
    Power Technology set to performance
    Turbo boost set to enabled
    DDR Speed set to force 1866
    Sysinfo program /home/spec/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on linux-tn7k Sat Nov 16 01:12:48 2013

    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 E5-2670 v2 @ 2.50GHz
         2 "physical id"s (chips)
         40 "processors"
```

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Platform Notes (Continued)

```
    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 : 10
       siblings  : 20
       physical 0: cores 0 1 2 3 4 8 9 10 11 12
       physical 1: cores 0 1 2 3 4 8 9 10 11 12
    cache size : 25600 KB

  From /proc/meminfo
    MemTotal:       264516912 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

  /usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 11 (x86_64)

  From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 11 (x86_64)
       VERSION = 11
       PATCHLEVEL = 3

  uname -a:
    Linux linux-tn7k 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
    (ccab990) x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Nov 16 00:56 last=S

  SPEC is set to: /home/spec
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/md126p1    ext3  784G   77G  668G  11% /home/spec

  Additional information from dmidecode:
    BIOS American Megatrends Inc. 3.0a 10/10/2013
    Memory:
     16x   16 GB
     16x Hynix Semiconducto HMT42GR7AFR4C 16 GB 1866 MHz

 (End of data from sysinfo program)
There is a error in sysinfo output. There are only 16 DIMMs in this
system. The cause of this error is the sysinfo itself. The sysinfo
of revsion 6818 can't identify the correct memory information.
The memory information should be:
    Memory:
     16x Hynix Semiconducto HMT42GR7AFR4C 16 GB 1866 MHz
```

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General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/spec/libs/32:/home/spec/libs/64:/home/spec/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:
 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:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xSSE4.2 -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
```

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

Peak Optimization Flags

C benchmarks:

    400.perlbench: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

        429.mcf: basepeak = yes

    445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                -ansi-alias -opt-mem-layout-trans=3

    456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

        458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                -unroll4 -auto-ilp32

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: `-xSSE4.2(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: `-xSSE4.2(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/Sugon-Platform-Settings-V1.2-IVB.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/Sugon-Platform-Settings-V1.2-IVB.xml

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

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