SPEC® CINT2006 Result
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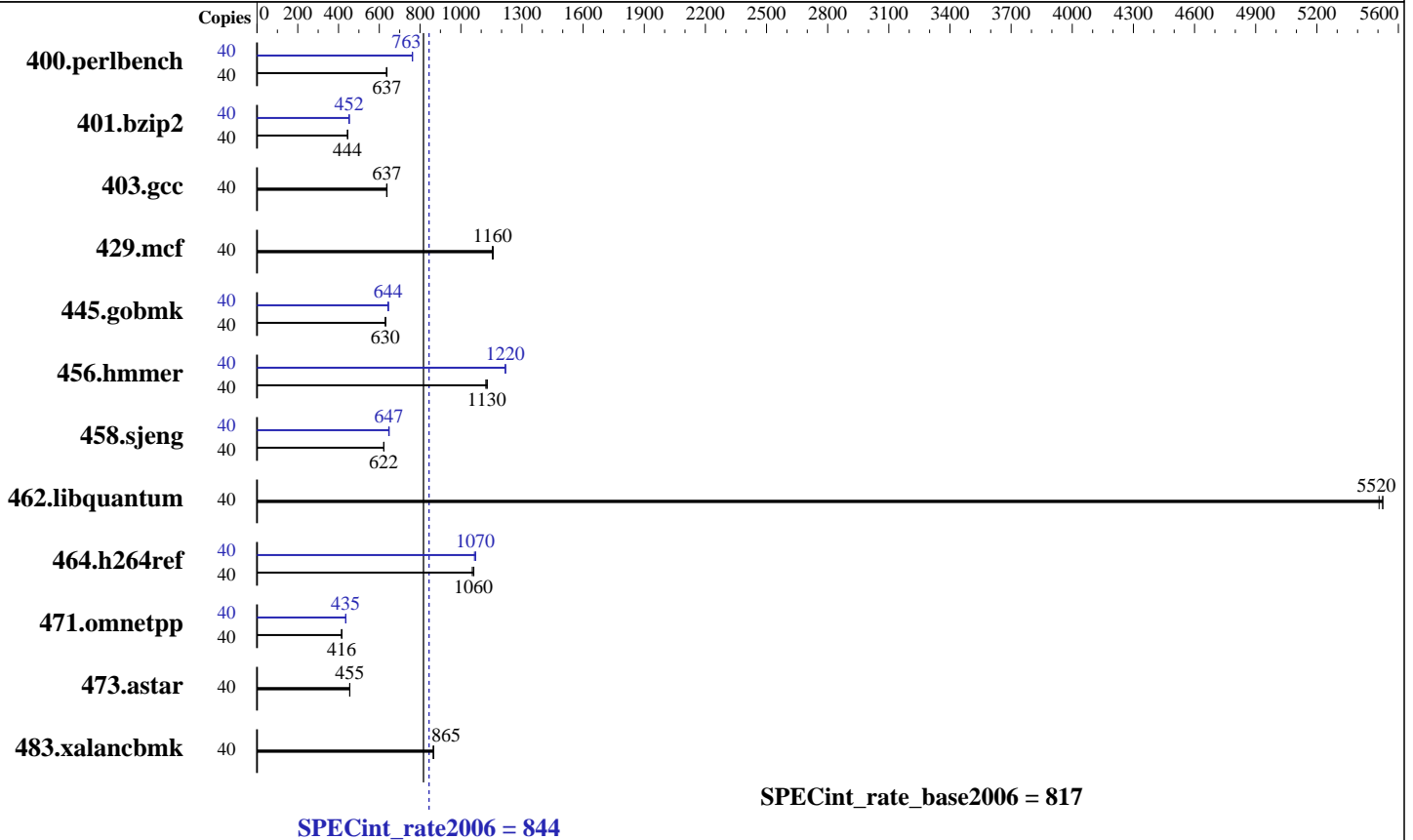
Huawei
Huawei CH140

$SPECint®\_rate2006 =$ 844

$SPECint\_rate\_base2006 =$ 817

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

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

SPECint_rate2006 = 844

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Benchmark	Copies	Base	Peak
400.perlbench	40	637	763
401.bzip2	40	444	452
403.gcc	40	637	
429.mcf	40	1160	
445.gobmk	40	630	644
456.hmmer	40	1130	1220
458.sjeng	40	622	647
462.libquantum	40	5520	
464.h264ref	40	1060	1070
471.omnetpp	40	416	435
473.astar	40	455	
483.xalancbmk	40	865	

Hardware

CPU Name: Intel Xeon E5-2680 v2
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 2800
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: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13,ECC)
Disk Subsystem: 1 X 500 GB SATA 7200RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
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: ext3
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 Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	40	613	638	616	635	**613**	**637**	40	**512**	**763**	513	762	512	763
401.bzip2	40	868	445	869	444	**868**	**444**	40	855	452	852	453	**854**	**452**
403.gcc	40	506	636	505	638	**506**	**637**	40	506	636	505	638	**506**	**637**
429.mcf	40	315	1160	316	1150	**316**	**1160**	40	315	1160	316	1150	**316**	**1160**
445.gobmk	40	666	630	665	631	**666**	**630**	40	650	646	654	642	**652**	**644**
456.hmmer	40	**331**	**1130**	330	1130	332	1120	40	306	1220	**306**	**1220**	306	1220
458.sjeng	40	778	622	777	623	**778**	**622**	40	746	648	**748**	**647**	749	646
462.libquantum	40	151	5510	150	5520	**150**	**5520**	40	151	5510	150	5520	**150**	**5520**
464.h264ref	40	**834**	**1060**	838	1060	832	1060	40	**826**	**1070**	830	1070	825	1070
471.omnetpp	40	**601**	**416**	602	415	601	416	40	**574**	**435**	573	436	575	435
473.astar	40	618	455	**617**	**455**	616	456	40	618	455	**617**	**455**	616	456
483.xalancbmk	40	319	864	318	867	**319**	**865**	40	319	864	318	867	**319**	**865**

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:
       Set Power Efficiency Mode to Performance
       Sysinfo program /spec/config/sysinfo.rev6818
       $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
       running on localhost Fri Jun 6 12:21:55 2014

       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 E5-2680 v2 @ 2.80GHz
             2 "physical id"s (chips)
             40 "processors"
          cores, siblings (Caution: counting these is hw and system dependent. The
          following excerpts from /proc/cpuinfo might not be reliable. Use with
          caution.)

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Platform Notes (Continued)

```
      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:        132114848 kB
   HugePages_Total:         0
   Hugepagesize:         2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 6 12:18

SPEC is set to: /spec
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext3  455G  132G  301G  31% /

Additional information from dmidecode:
  BIOS Insyde Corp. OARYV388 04/23/2014
  Memory:
   8x Samsung M393B2G70BH0-CMA 16 GB 1866 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

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

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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:
    -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

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: -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: basepeak = yes

      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

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
```

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Peak Optimization Flags (Continued)

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/Huawei-Platform-Settings-V1.0-IVB-RevG.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/Huawei-Platform-Settings-V1.0-IVB-RevG.xml

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

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