SPEC® CINT2006 Result
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Huawei

Huawei CH220 (Intel Xeon E5-2667 v2)

$SPECint®2006 =$ 68.2
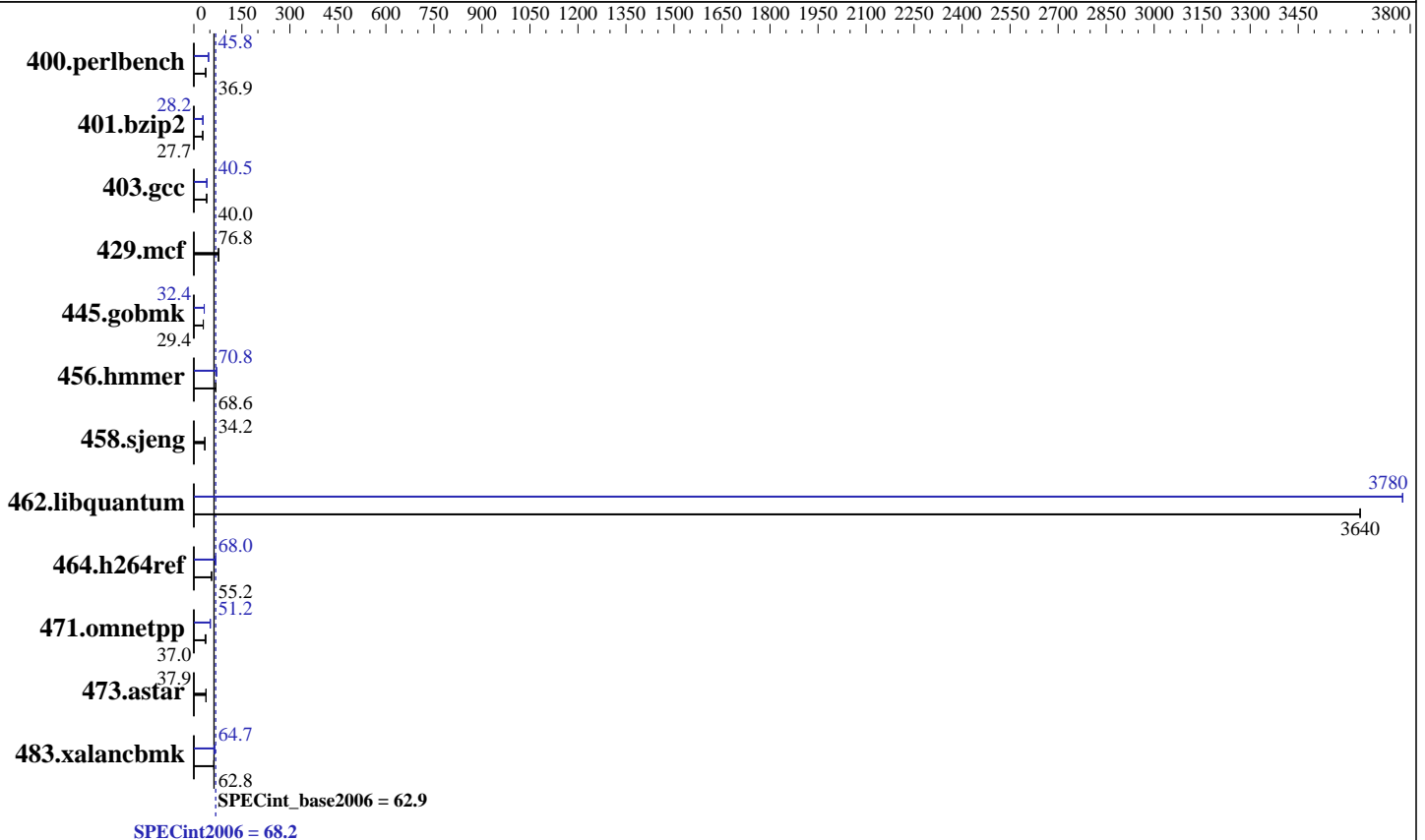
$SPECint\_base2006 =$ 62.9

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

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

Benchmark	Result
400.perlbench	45.8 / 36.9
401.bzip2	28.2 / 27.7
403.gcc	40.5 / 40.0
429.mcf	76.8
445.gobmk	32.4 / 29.4
456.hmmer	70.8 / 68.6
458.sjeng	34.2
462.libquantum	3780 / 3640
464.h264ref	68.0 / 55.2
471.omnetpp	51.2 / 37.0
473.astar	37.9
483.xalancbmk	64.7 / 62.8

SPECint_base2006 = 62.9

SPECint2006 = 68.2

Hardware

CPU Name:	Intel Xeon E5-2667 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 4.00 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip
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:	1 x 300 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 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**265**	**36.9**	265	36.9	264	37.0	214	45.6	**213**	**45.8**	213	45.9
401.bzip2	349	27.7	349	27.6	**349**	**27.7**	342	28.2	**342**	**28.2**	342	28.2
403.gcc	202	39.9	**201**	**40.0**	201	40.0	**199**	**40.5**	198	40.7	199	40.5
429.mcf	117	77.7	119	76.8	**119**	**76.8**	117	77.7	119	76.8	**119**	**76.8**
445.gobmk	357	29.4	**357**	**29.4**	357	29.3	324	32.4	324	32.4	**324**	**32.4**
456.hmmer	137	68.3	**136**	**68.6**	136	68.7	132	70.6	132	70.8	**132**	**70.8**
458.sjeng	354	34.2	**354**	**34.2**	354	34.2	354	34.2	**354**	**34.2**	354	34.2
462.libquantum	5.69	3640	5.69	3640	**5.69**	**3640**	5.49	3780	5.49	3780	**5.49**	**3780**
464.h264ref	402	55.1	400	55.4	**401**	**55.2**	325	68.0	**326**	**68.0**	326	67.8
471.omnetpp	**169**	**37.0**	168	37.3	178	35.1	121	51.7	**122**	**51.2**	123	50.9
473.astar	186	37.8	**185**	**37.9**	184	38.1	186	37.8	**185**	**37.9**	184	38.1
483.xalancbmk	**110**	**62.8**	110	62.9	111	62.2	106	64.8	**107**	**64.7**	107	64.6

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

```
    BIOS configuration:
    Set Power Efficiency Mode to Custom
    Set Hyper-Threading to Disabled
    Sysinfo program /spec/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on localhost.localdomain Sat Sep  6 14:59:37 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 E5-2667 v2 @ 3.30GHz
         2 "physical id"s (chips)
         16 "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  : 8
         physical 0: cores 1 2 3 4 8 9 10 11
         physical 1: cores 1 2 3 4 8 9 10 11
      cache size : 25600 KB
```

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Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:        264478184 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.localdomain 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 Sep 5 19:55

SPEC is set to: /spec
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext4  265G   15G  237G   6% /

Additional information from dmidecode:
  Memory:
   10x Hynix HMT42GR7AFR4C-RD 16 GB 1867 MHz 2 rank
   6x Samsung M393B2G70DB0-CMA 16 GB 1867 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64"
OMP_NUM_THREADS = "16"

 Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory
 using RHEL 6.1
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Base Compiler Invocation

C benchmarks:
    icc -m64

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Base Compiler Invocation (Continued)

C++ benchmarks:
    `icpc -m64`

Base Portability Flags

    400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
      401.bzip2: `-DSPEC_CPU_LP64`
       403.gcc: `-DSPEC_CPU_LP64`
      429.mcf: `-DSPEC_CPU_LP64`
    445.gobmk: `-DSPEC_CPU_LP64`
    456.hmmer: `-DSPEC_CPU_LP64`
     458.sjeng: `-DSPEC_CPU_LP64`
  462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
   464.h264ref: `-DSPEC_CPU_LP64`
   471.omnetpp: `-DSPEC_CPU_LP64`
     473.astar: `-DSPEC_CPU_LP64`
 483.xalancbmk: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
    `-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32`

C++ benchmarks:
    `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32`
    `-Wl,-z,muldefs -L/smartheap -lsmartheap64`

Base Other Flags

C benchmarks:

      403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
    `icc -m64`

   400.perlbench: `icc -m32`

    445.gobmk: `icc -m32`

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Peak Compiler Invocation (Continued)

> 464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):
> `icpc -m32`

> 473.astar: `icpc -m64`

Peak Portability Flags

>   400.perlbench: `-DSPEC_CPU_LINUX_IA32`
>   401.bzip2: `-DSPEC_CPU_LP64`
>   403.gcc: `-DSPEC_CPU_LP64`
>   429.mcf: `-DSPEC_CPU_LP64`
>   456.hmmer: `-DSPEC_CPU_LP64`
>   458.sjeng: `-DSPEC_CPU_LP64`
>   462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
>   473.astar: `-DSPEC_CPU_LP64`
>   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)`
>   `-opt-prefetch -ansi-alias`

>   401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
>   `-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32`
>   `-opt-prefetch -ansi-alias`

>   403.gcc: `-xAVX -ipo -O3 -no-prec-div -inline-calloc`
>   `-opt-malloc-options=3 -auto-ilp32`

>   429.mcf: `basepeak = yes`

>   445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
>   `-ansi-alias`

>   456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
>   `-ansi-alias`

>   458.sjeng: `basepeak = yes`

>   462.libquantum: `-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`
>   `-auto-p32`

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Peak Optimization Flags (Continued)

    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)
                 -opt-ra-region-strategy=block   -ansi-alias
                 -Wl,-z,muldefs -L/smartheap -lsmartheap

      473.astar: basepeak = yes

   483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
                  -Wl,-z,muldefs -L/smartheap -lsmartheap

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/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-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.xml

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

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