SPEC® CINT2006 Result
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Huawei

Huawei BH622 v2 (Intel Xeon E5-2695 v2)

SPECint®2006 =   56.0

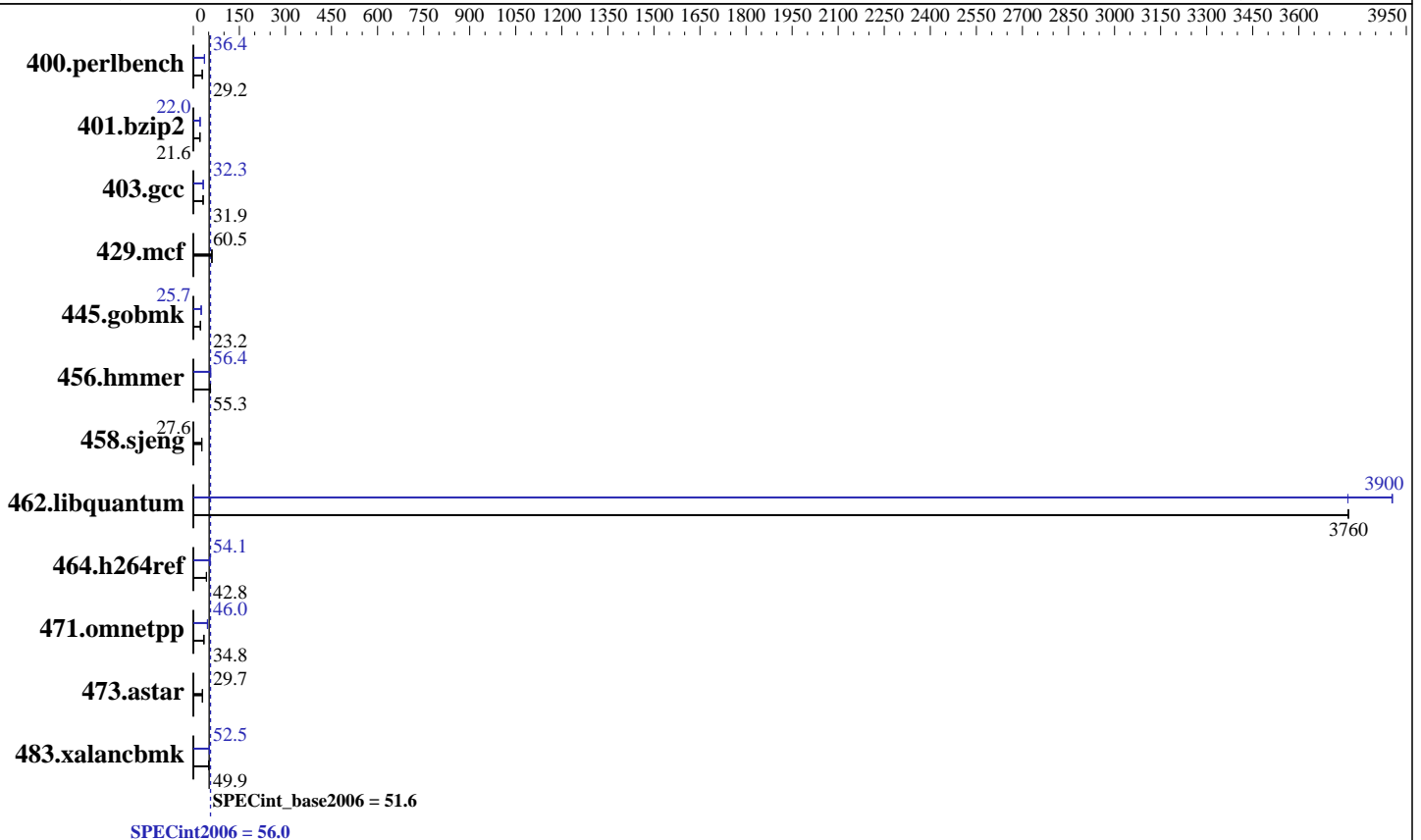SPECint_base2006 =   51.6

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Sep-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013

Benchmark	Peak	Base
400.perlbench	36.4	29.2
401.bzip2	22.0	21.6
403.gcc	32.3	31.9
429.mcf	60.5	
445.gobmk	25.7	23.2
456.hmmer	56.4	55.3
458.sjeng	27.6	
462.libquantum	3900	3760
464.h264ref	54.1	42.8
471.omnetpp	46.0	34.8
473.astar	29.7	
483.xalancbmk	52.5	49.9

SPECint_base2006 = 51.6

SPECint2006 = 56.0

Hardware

CPU Name: Intel Xeon E5-2695 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz

CPU MHz: 2400

FPU: Integrated

CPU(s) enabled: 24 cores, 2 chips, 12 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: 30 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 SAS, 10000 RPM

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	334	29.2	**335**	**29.2**	335	29.2	**268**	**36.4**	269	36.3	268	36.4
401.bzip2	448	21.6	447	21.6	**447**	**21.6**	**439**	**22.0**	439	22.0	436	22.1
403.gcc	252	32.0	253	31.9	**253**	**31.9**	249	32.3	**249**	**32.3**	250	32.3
429.mcf	150	61.0	**151**	**60.5**	152	60.1	150	61.0	**151**	**60.5**	152	60.1
445.gobmk	455	23.0	**453**	**23.2**	453	23.2	408	25.7	408	25.7	**408**	**25.7**
456.hmmer	**169**	**55.3**	169	55.3	169	55.2	165	56.5	166	56.2	**166**	**56.4**
458.sjeng	438	27.6	**438**	**27.6**	438	27.6	438	27.6	**438**	**27.6**	438	27.6
462.libquantum	5.51	3760	**5.51**	**3760**	5.51	3760	**5.31**	**3900**	5.31	3910	5.51	3760
464.h264ref	518	42.7	517	42.8	**517**	**42.8**	**409**	**54.1**	409	54.1	409	54.2
471.omnetpp	179	34.9	188	33.3	**180**	**34.8**	136	46.0	135	46.3	**136**	**46.0**
473.astar	236	29.8	236	29.7	**236**	**29.7**	236	29.8	236	29.7	**236**	**29.7**
483.xalancbmk	138	50.0	**138**	**49.9**	139	49.7	132	52.4	131	52.6	**132**	**52.5**

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
Baseboard Management Controller used to adjust the fan speed to 100%
Set Hyper-Threading to Disabled
Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost Sat Sep 20 11:29:46 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 E5-2695 v2 @ 2.40GHz
      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 : 12
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
```

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Platform Notes (Continued)

```
      cache size : 30720 KB

  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 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 20 11:21

  SPEC is set to: /spec
     Filesystem      Type  Size  Used Avail Use% Mounted on
     /dev/sda2       ext4  272G   33G  226G  13% /

  Additional information from dmidecode:
    Memory:
     4x Hynix HMT42GR7AFR4C-RD 16 GB 1867 MHz 2 rank
     12x 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 = "24"

 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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