SPEC® CINT2006 Result

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Huawei

Huawei BH622 V2 (Intel Xeon E5-2630)

SPECint®2006 = 43.2
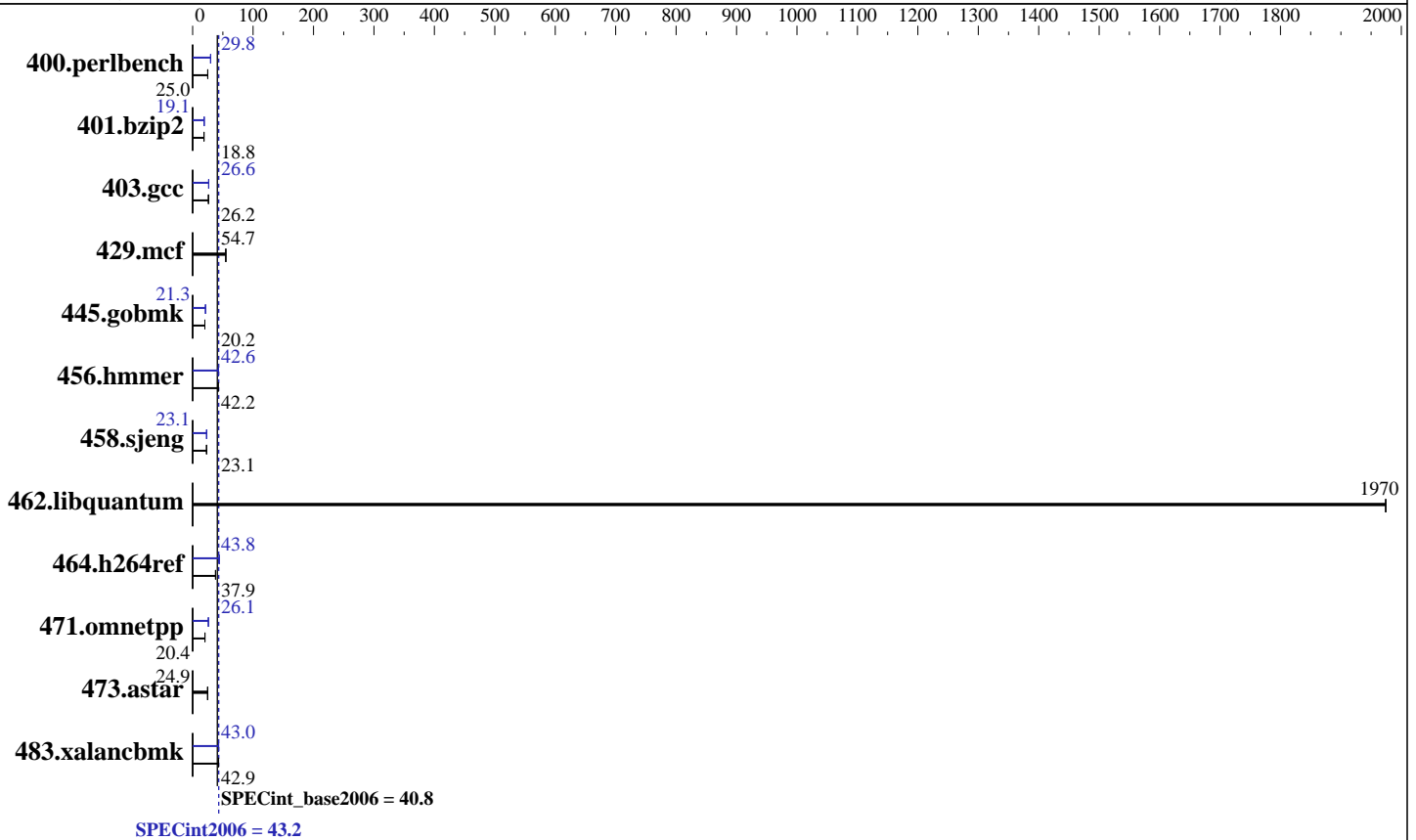
SPECint_base2006 = 40.8

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

Test date: Apr-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Benchmark results:

Benchmark	Peak	Base
400.perlbench	29.8	25.0
401.bzip2	19.1	18.8
403.gcc	26.6	26.2
429.mcf		54.7
445.gobmk	21.3	20.2
456.hmmer	42.6	42.2
458.sjeng	23.1	23.1
462.libquantum		1970
464.h264ref	43.8	37.9
471.omnetpp	26.1	20.4
473.astar	24.9	
483.xalancbmk	43.0	42.9

SPECint_base2006 = 40.8
SPECint2006 = 43.2

Hardware

CPU Name: Intel Xeon E5-2630
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz)
Disk Subsystem: 1 x 300 GB SAS, 10K RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
2.6.32-220.el6.x86_64
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: ext3
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 Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**391**	**25.0**	391	25.0	390	25.0	329	29.7	**328**	**29.8**	328	29.8
401.bzip2	515	18.7	**514**	**18.8**	514	18.8	**506**	**19.1**	506	19.1	506	19.1
403.gcc	307	26.2	308	26.2	**307**	**26.2**	303	26.6	**303**	**26.6**	303	26.6
429.mcf	167	54.7	**167**	**54.7**	165	55.2	167	54.7	**167**	**54.7**	165	55.2
445.gobmk	519	20.2	**519**	**20.2**	519	20.2	493	21.3	**493**	**21.3**	493	21.3
456.hmmer	**221**	**42.2**	221	42.3	222	42.0	219	42.6	**219**	**42.6**	219	42.6
458.sjeng	**525**	**23.1**	524	23.1	525	23.0	**523**	**23.1**	523	23.1	523	23.1
462.libquantum	10.5	1970	**10.5**	**1970**	10.5	1970	10.5	1970	**10.5**	**1970**	10.5	1970
464.h264ref	585	37.9	583	38.0	**585**	**37.9**	**505**	**43.8**	503	44.0	506	43.7
471.omnetpp	**307**	**20.4**	308	20.3	307	20.4	240	26.0	**240**	**26.1**	240	26.1
473.astar	282	24.9	**282**	**24.9**	284	24.7	282	24.9	**282**	**24.9**	284	24.7
483.xalancbmk	161	43.0	**161**	**42.9**	161	42.8	161	43.0	161	42.9	**161**	**43.0**

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:
        Intel Hyper-Threading set to Disabled
        Sysinfo program /spec/config/sysinfo.rev6800
        $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
        running on RH62-yjp2 Sat Apr 28 18:30:48 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 E5-2630 0 @ 2.30GHz
              2 "physical id"s (chips)
              12 "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 : 6
              siblings : 6
              physical 0: cores 0 1 2 3 4 5
              physical 1: cores 0 1 2 3 4 5
           cache size : 15360 KB

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Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       132133108 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux RH62-yjp2 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Apr 28 18:27

SPEC is set to: /spec
   Filesystem     Type     Size  Used Avail Use% Mounted on
   /dev/sda1      ext3     270G   33G  224G  13% /

Additional information from dmidecode:
   Memory:
   16x Samsung M393B1K70DH0-CK0 8 GB 1600 MHz 2 rank
```

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 = "12"

 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
```

Base Compiler Invocation

C benchmarks:
```
icc  -m64
```

C++ benchmarks:
```
icpc -m64
```

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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:
```
    -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
    -xAVX -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
```

```
     464.h264ref: icc -m32
```

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

```
        473.astar: icpc -m64
```

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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: -xAVX(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: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                       -ansi-alias

          456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                       -ansi-alias

           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

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

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: `-xAVX -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-revD.20120509.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-revD.20120509.xml

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

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