SPEC® CINT2006 Result
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Huawei

Huawei RH2288 V2 (Intel Xeon E5-2630)

SPECint®_rate2006 = 222

SPECint_rate_base2006 = 213

CPU2006 license: 3175	**Test date:** Jul-2012
Test sponsor: Huawei	**Hardware Availability:** Mar-2012
Tested by: Huawei	**Software Availability:** Dec-2011

SPECint_rate_base2006 = 213

SPECint_rate2006 = 222

400.perlbench	12	180
	12	152
401.bzip2	12	123
	12	119
403.gcc	12	172
	12	173
429.mcf	12	336
445.gobmk	12	160
	12	156
456.hmmer	12	313
	12	260
458.sjeng	12	157
	12	157
462.libquantum	12	1240
464.h264ref	12	268
	12	261
471.omnetpp	12	142
	12	135
473.astar	12	129
483.xalancbmk	12	233

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:	6 cores, 1 chip, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1 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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (8 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:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

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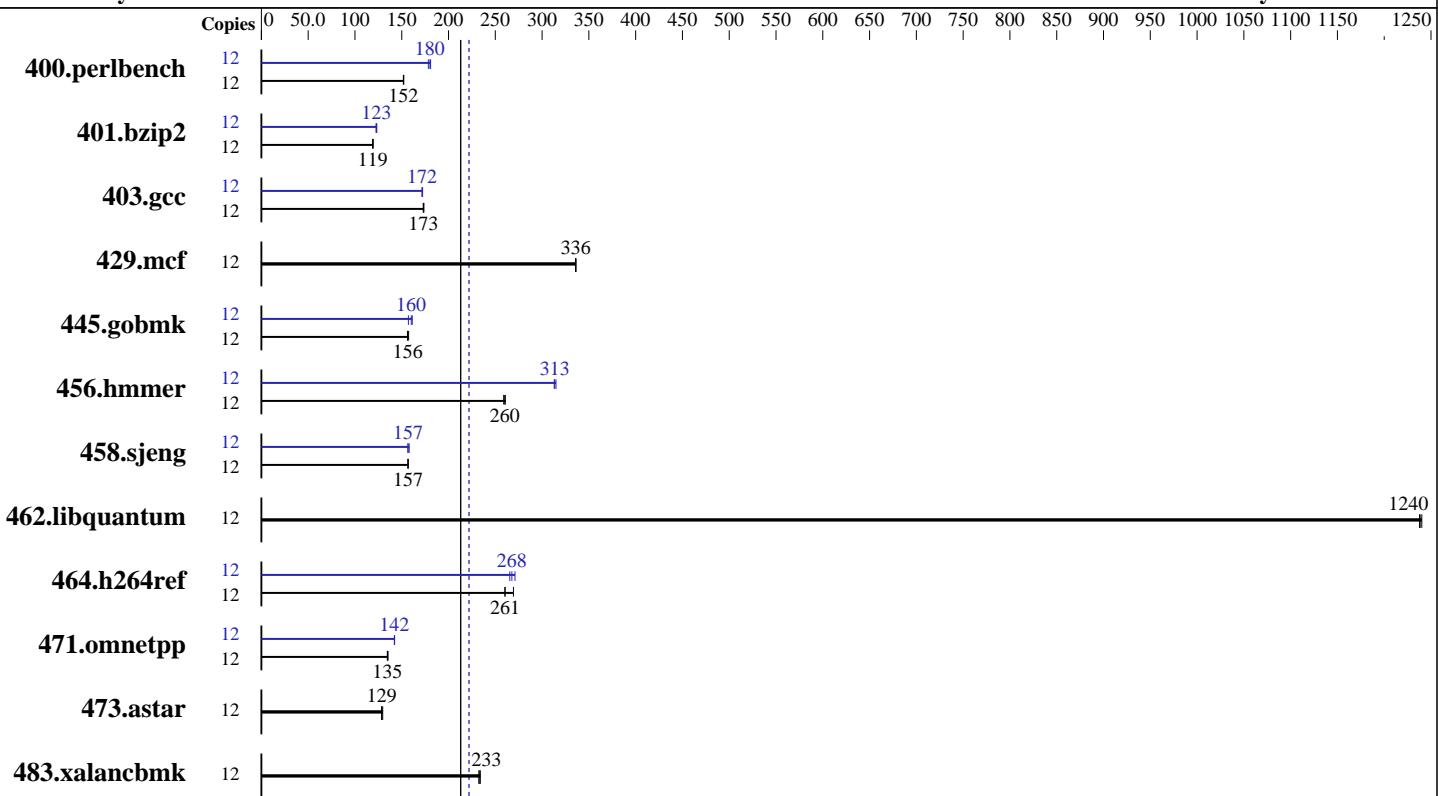**Test sponsor:** Huawei
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	**_771_**	**_152_**	771	152	773	152		12	**_651_**	**_180_**	657	178	648	181
401.bzip2	12	**_973_**	**_119_**	969	119	974	119		12	**_940_**	**_123_**	940	123	945	123
403.gcc	12	558	173	556	174	**_558_**	**_173_**		12	**_562_**	**_172_**	561	172	562	172
429.mcf	12	**_326_**	**_336_**	326	336	325	336		12	**_326_**	**_336_**	326	336	325	336
445.gobmk	12	**_805_**	**_156_**	806	156	800	157		12	**_786_**	**_160_**	801	157	781	161
456.hmmer	12	432	259	**_430_**	**_260_**	429	261		12	**_357_**	**_313_**	356	315	358	313
458.sjeng	12	926	157	**_926_**	**_157_**	927	157		12	927	157	**_926_**	**_157_**	919	158
462.libquantum	12	200	1240	**_201_**	**_1240_**	201	1240		12	200	1240	**_201_**	**_1240_**	201	1240
464.h264ref	12	986	269	1021	260	**_1019_**	**_261_**		12	1000	265	980	271	**_992_**	**_268_**
471.omnetpp	12	557	135	554	135	**_556_**	**_135_**		12	527	142	**_527_**	**_142_**	528	142
473.astar	12	650	130	**_655_**	**_129_**	655	129		12	650	130	**_655_**	**_129_**	655	129
483.xalancbmk	12	354	234	**_356_**	**_233_**	356	233		12	354	234	**_356_**	**_233_**	356	233

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"
    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>
    Select only test related files when installing the operating system

Platform Notes

    BIOS configuration:
    Set Power Efficiency Mode to Performance
    Baseboard Management Controller used to adjust the fan speed to 100%
    Sysinfo program /spec/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on BH622-RH6.2 Sun Jul 1 01:12:48 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

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Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2630 0 @ 2.30GHz
      1 "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  : 12
      physical 0: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       65937116 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 BH622-RH6.2 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 Jul 1 01:07

SPEC is set to: /spec
   Filesystem     Type     Size   Used Avail Use% Mounted on
   /dev/sda1      ext4     197G    21G  166G  12% /

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

General Notes

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

 Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory
 using RHEL 6.1
```

Base Compiler Invocation

C benchmarks:
    icc -m32

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Base Compiler Invocation (Continued)

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/smartheap -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: -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

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/smartheap -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-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revE.20120703.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-revE.20120703.xml

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

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