SPEC® CINT2006 Result

Huawei

Huawei RH2285H V2 (Intel Xeon E5-2450)

SPECint®_rate2006 =   549

SPECint_rate_base2006 =   533

CPU2006 license: 3175		**Test date:** May-2013	
Test sponsor: Huawei		**Hardware Availability:** May-2013	
Tested by: Huawei		**Software Availability:** Feb-2013	

Copies

- 400.perlbench: 32 / 480 (peak); 32 / 408 (base)
- 401.bzip2: 32 / 290
- 403.gcc: 32 / 418 (peak); 32 / 418 (base)
- 429.mcf: 32 / 743
- 445.gobmk: 32 / 424 (peak); 32 / 412 (base)
- 456.hmmer: 32 / 759 (peak); 32 / 708 (base)
- 458.sjeng: 32 / 424 (peak); 32 / 416 (base)
- 462.libquantum: 32 / 3440
- 464.h264ref: 32 / 722 (peak); 32 / 712 (base)
- 471.omnetpp: 32 / 314 (peak); 32 / 300 (base)
- 473.astar: 32 / 307
- 483.xalancbmk: 32 / 527
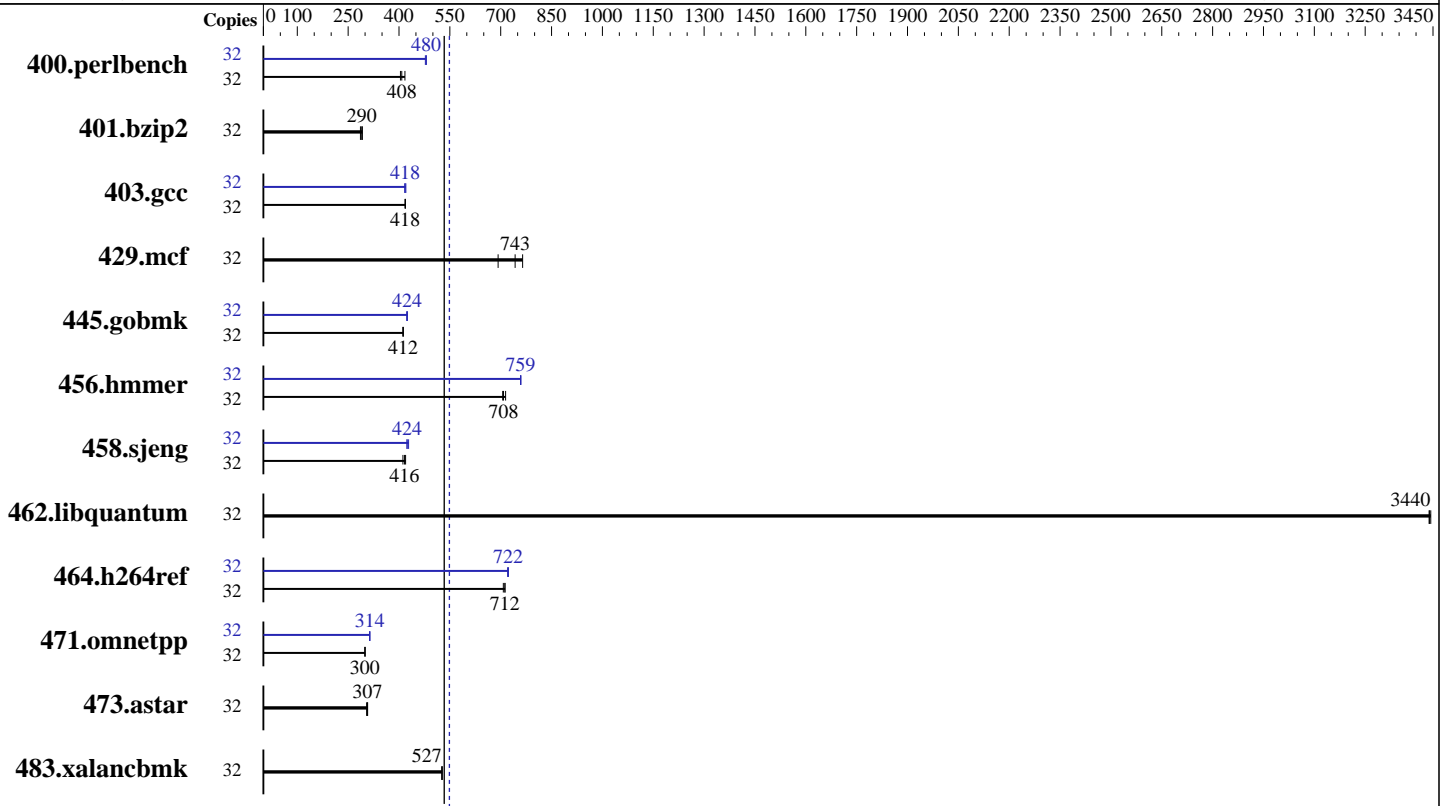
SPECint_rate_base2006 = 533

SPECint_rate2006 = 549

Hardware

CPU Name:	Intel Xeon E5-2450
CPU Characteristics:	Intel Turbo Boost Technology up to 2.90 GHz
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (6 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 300 GB SAS, 10K RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.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:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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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	32	749	418	773	404	**766**	**408**	32	**651**	**480**	654	478	651	480
401.bzip2	32	1057	292	**1065**	**290**	1079	286	32	1057	292	**1065**	**290**	1079	286
403.gcc	32	**616**	**418**	615	419	616	418	32	**616**	**418**	613	420	618	417
429.mcf	32	382	765	**393**	**743**	422	692	32	382	765	**393**	**743**	422	692
445.gobmk	32	**815**	**412**	813	413	815	412	32	**792**	**424**	790	425	794	423
456.hmmer	32	418	714	423	706	**421**	**708**	32	393	760	394	759	**394**	**759**
458.sjeng	32	923	419	941	412	**930**	**416**	32	904	428	915	423	**912**	**424**
462.libquantum	32	193	3440	193	3440	**193**	**3440**	32	193	3440	193	3440	**193**	**3440**
464.h264ref	32	1001	708	993	713	**994**	**712**	32	**981**	**722**	983	721	980	723
471.omnetpp	32	**667**	**300**	668	299	666	300	32	637	314	**637**	**314**	638	314
473.astar	32	**733**	**307**	738	305	731	308	32	**733**	**307**	738	305	731	308
483.xalancbmk	32	420	526	**419**	**527**	419	527	32	420	526	**419**	**527**	419	527

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

```
Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on speccpu Sun May 26 19:52:02 2013

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 E5-2450 0 @ 2.10GHz
      2 "physical id"s (chips)
      32 "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  : 16
```

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Platform Notes (Continued)

```
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 20480 KB

 From /proc/meminfo
    MemTotal:        49383832 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /usr/bin/lsb_release -d
    Red Hat Enterprise Linux Server release 6.4 (Santiago)

 From /etc/*release* /etc/*version*
    redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

 uname -a:
    Linux speccpu 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 May 26 19:47

 SPEC is set to: /spec
    Filesystem     Type    Size  Used Avail Use% Mounted on
    /dev/mapper/ddf1_4c53492020202020201000005b19e5d20447114711f8bdfdbdp1
                   ext4    241G  6.5G  222G   3% /

 Additional information from dmidecode:

 (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"

 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
 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/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

    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
     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: basepeak = yes

      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

  483.xalancbmk: basepeak = yes
```

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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.20121120.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.20121120.xml

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

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