SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint®_rate2006 = 1080

SPECint_rate_base2006 = 1040

CPU2006 license:	3175	**Test date:**	Nov-2014
Test sponsor:	Huawei	**Hardware Availability:**	Sep-2014
Tested by:	Huawei	**Software Availability:**	Sep-2014

Copies 0 300 750 1200 1650 2100 2550 3000 3450 3900 4350 4800 5250 5700 6150 6600 7050 7500 7950 8400 8850 9300 9900

- 400.perlbench: 48 / 978, 48 / 780
- 401.bzip2: 48 / 541, 48 / 517
- 403.gcc: 48 / 807, 48 / 806
- 429.mcf: 48 / 1400
- 445.gobmk: 48 / 727, 48 / 722
- 456.hmmer: 48 / 1610, 48 / 1480
- 458.sjeng: 48 / 796, 48 / 762
- 462.libquantum: 48 / 9830
- 464.h264ref: 48 / 1280, 48 / 1280
- 471.omnetpp: 48 / 582, 48 / 563
- 473.astar: 48 / 576
- 483.xalancbmk: 48 / 1090

SPECint_rate_base2006 = 1040

SPECint_rate2006 = 1080

Hardware

CPU Name:	Intel Xeon E5-2680 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip, 2 threads/core
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 PC4-2133P-R)
Disk Subsystem:	1 x 500 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.0

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint_rate2006 = 1080

SPECint_rate_base2006 = 1040

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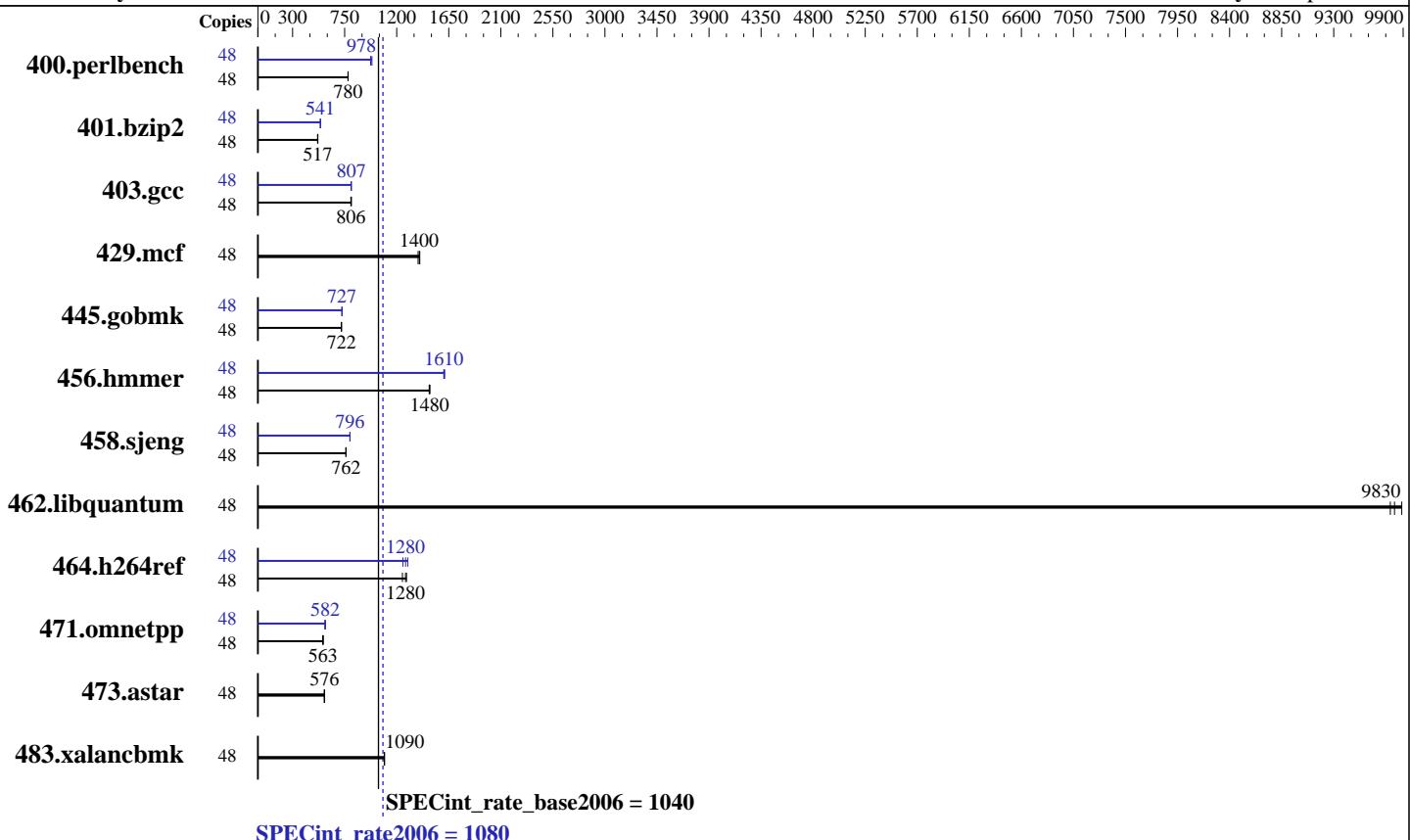**Test sponsor:** Huawei
Tested by: Huawei

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	**602**	**780**	602	779	601	780	48	481	975	476	986	**479**	**978**
401.bzip2	48	**896**	**517**	897	516	893	519	48	856	541	858	540	**857**	**541**
403.gcc	48	481	804	478	808	**479**	**806**	48	479	807	**479**	**807**	479	807
429.mcf	48	**314**	**1400**	316	1380	313	1400	48	**314**	**1400**	316	1380	313	1400
445.gobmk	48	**697**	**722**	698	722	697	722	48	**692**	**727**	693	726	692	728
456.hmmer	48	301	1490	**302**	**1480**	302	1480	48	277	1610	**278**	**1610**	279	1610
458.sjeng	48	762	762	**763**	**762**	763	761	48	**730**	**796**	729	796	730	796
462.libquantum	48	101	9890	102	9790	**101**	**9830**	48	101	9890	102	9790	**101**	**9830**
464.h264ref	48	**832**	**1280**	850	1250	827	1280	48	**832**	**1280**	820	1300	847	1250
471.omnetpp	48	**533**	**563**	536	560	531	565	48	518	579	**516**	**582**	514	584
473.astar	48	584	577	**585**	**576**	588	573	48	584	577	**585**	**576**	588	573
483.xalancbmk	48	**303**	**1090**	303	1090	303	1090	48	**303**	**1090**	303	1090	303	1090

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

BIOS configuration:
Set Power Efficiency Mode to Custom
Set Snoop Mode to COD
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Fri Nov 14 10:35:34 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 E5-2680 v3 @ 2.50GHz
      2 "physical id"s (chips)
      48 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint_rate2006 =   1080

SPECint_rate_base2006 = 1040

Platform Notes (Continued)

```
    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 8 9 10 11 12 13
       physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
    cache size : 15360 KB

 From /proc/meminfo
    MemTotal:       263717272 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux Server"
       VERSION="7.0 (Maipo)"
       ID="rhel"
       ID_LIKE="fedora"
       VERSION_ID="7.0"
       PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
       ANSI_COLOR="0;31"
       CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
    redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
    system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

 uname -a:
    Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
    EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Nov 14 10:34

 SPEC is set to: /spec
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda1       xfs   440G  194G  246G  45% /
 Additional information from dmidecode:

    Warning: Use caution when you interpret this section. The 'dmidecode' program
    reads system data which is "intended to allow hardware to be accurately
    determined", but the intent may not be met, as there are frequent changes to
    hardware, firmware, and the "DMTF SMBIOS" standard.

  BIOS Insyde Corp. 1.13 08/12/2014
  Memory:
   8x NO DIMM NO DIMM   3 rank
   8x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz
   8x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz

 (End of data from sysinfo program)
```

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint_rate2006 = 1080

SPECint_rate_base2006 = 1040

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

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

General Notes

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

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/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>
```

Base Compiler Invocation

C benchmarks:
```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

C++ benchmarks:
```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
    -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
    -opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

```
        403.gcc: -Dalloca=_alloca
```

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint_rate2006 = 1080

SPECint_rate_base2006 = 1040

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

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

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

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: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2 -ipo -O3 -no-prec-div`

429.mcf: `basepeak = yes`

445.gobmk: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-unroll4 -auto-ilp32`

Continued on next page

Huawei

Huawei RH2288 V3 (Intel Xeon E5-2680 v3)

SPECint_rate2006 = 1080

SPECint_rate_base2006 = 1040

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

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

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/sh -lsmartheap

473.astar: basepeak = yes

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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.1.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.1.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Dec 3 10:30:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 December 2014.