SPEC® CINT2006 Result
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Huawei

Huawei RH2485 V2 (Intel Xeon E5-4627 v2)

SPECint®_rate2006 = 1290

SPECint_rate_base2006 = 1250

CPU2006 license: 3175	**Test date:** Sep-2014
Test sponsor: Huawei	**Hardware Availability:** Apr-2014
Tested by: Huawei	**Software Availability:** Nov-2013

Copies scale: 0 300 600 900 1300 1700 2100 2500 2900 3300 3700 4100 4500 4900 5300 5700 6100 6500 6900 7300 7700 8100 9000

Benchmark	Copies	Value
400.perlbench	32 / 32	1180 / 956
401.bzip2	32 / 32	634 / 619
403.gcc	32	938
429.mcf	32	1910
445.gobmk	32 / 32	857 / 846
456.hmmer	32 / 32	1900 / 1790
458.sjeng	32 / 32	949 / 918
462.libquantum	32	8900
464.h264ref	32 / 32	1860 / 1820
471.omnetpp	32 / 32	635 / 623
473.astar	32	703
483.xalancbmk	32	1430

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Hardware

CPU Name:	Intel Xeon E5-4627 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip
CPU(s) orderable:	2,4 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:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (32 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem:	1 x 500 GB SATA, 7200 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 14.0.0.080 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 V10.0

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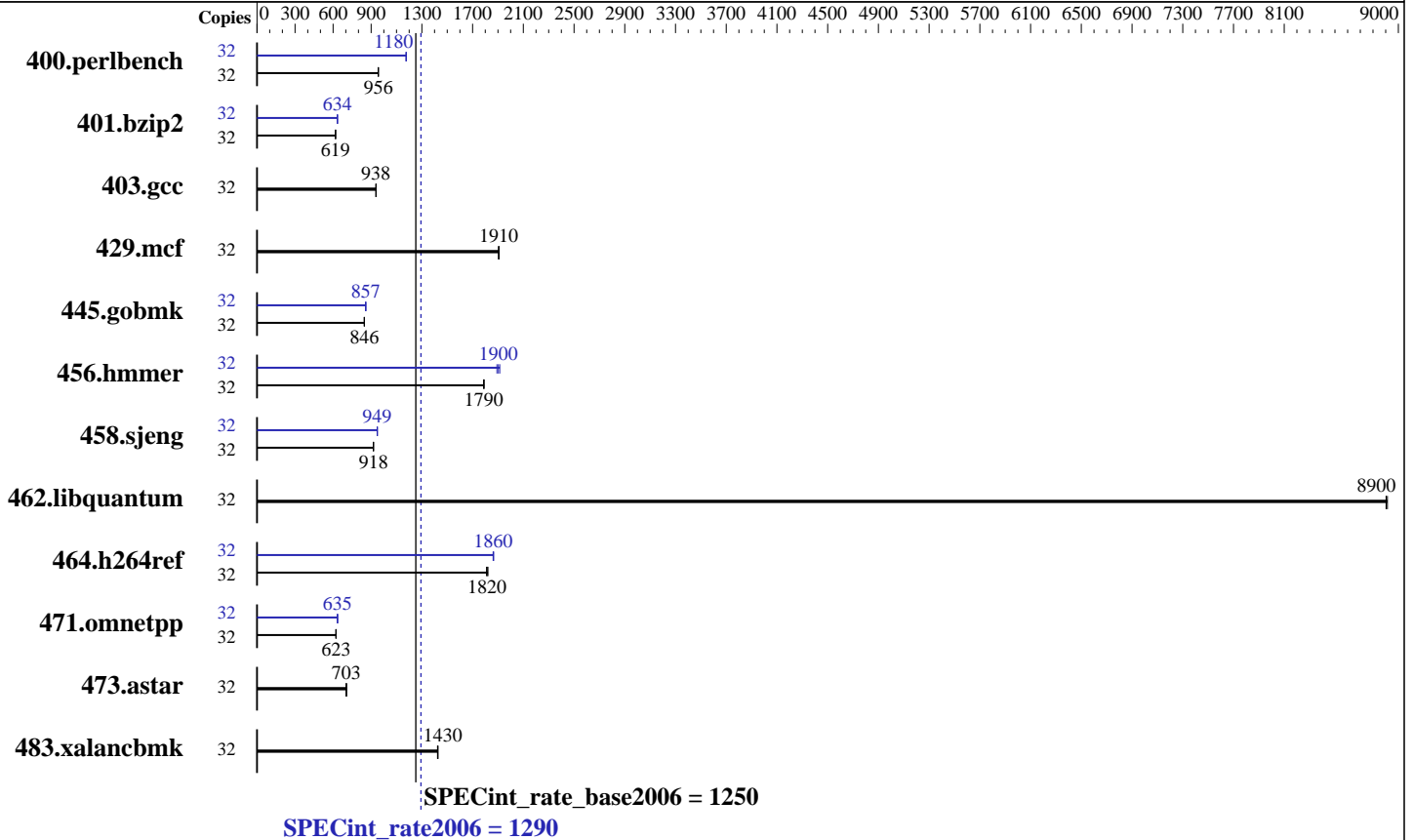SPECint_rate_base2006 = 1250

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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	327	957	**327**	**956**	327	956	32	266	1180	**266**	**1180**	266	1180
401.bzip2	32	499	619	**499**	**619**	498	620	32	**487**	**634**	486	635	487	634
403.gcc	32	**275**	**938**	274	940	275	938	32	**275**	**938**	274	940	275	938
429.mcf	32	**153**	**1910**	153	1910	153	1900	32	**153**	**1910**	153	1910	153	1900
445.gobmk	32	397	846	397	846	**397**	**846**	32	**392**	**857**	391	859	392	856
456.hmmer	32	167	1790	**167**	**1790**	167	1790	32	**157**	**1900**	156	1910	158	1890
458.sjeng	32	422	918	**422**	**918**	421	919	32	408	948	408	949	**408**	**949**
462.libquantum	32	74.4	8910	74.5	8900	**74.5**	**8900**	32	74.4	8910	74.5	8900	**74.5**	**8900**
464.h264ref	32	389	1820	**390**	**1820**	391	1810	32	380	1860	**380**	**1860**	380	1870
471.omnetpp	32	321	623	321	623	**321**	**623**	32	315	636	316	633	**315**	**635**
473.astar	32	**320**	**703**	318	707	320	703	32	**320**	**703**	318	707	320	703
483.xalancbmk	32	155	1430	155	1420	**155**	**1430**	32	155	1430	155	1420	**155**	**1430**

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 /spec14/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on localhost.localdomain Sun Sep 7 18:09:30 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 E5-4627 v2 @ 3.30GHz
          4 "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 : 8

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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
      physical 2: cores 0 1 2 3 4 5 6 7
      physical 3: cores 0 1 2 3 4 5 6 7
   cache size : 16384 KB

From /proc/meminfo
   MemTotal:       529228328 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.localdomain 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 7 11:47

SPEC is set to: /spec14
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext4  411G  158G  233G  41% /

Additional information from dmidecode:
  BIOS Insyde Corp. OARYV388 04/23/2014
  Memory:
   16x Micron 36JSF2G72PZ-1G9E1 16 GB 1866 MHz 2 rank
   16x NO DIMM NO DIMM
   16x Samsung M393B2G70DB0-CMA 16 GB 1866 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec14/libs/32:/spec14/libs/64:/spec14/sh"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 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/sh -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: basepeak = yes

           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/sh -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-ic14.0-official-linux64.20140128.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-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.xml

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