SPEC® CINT2006 Result

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Huawei

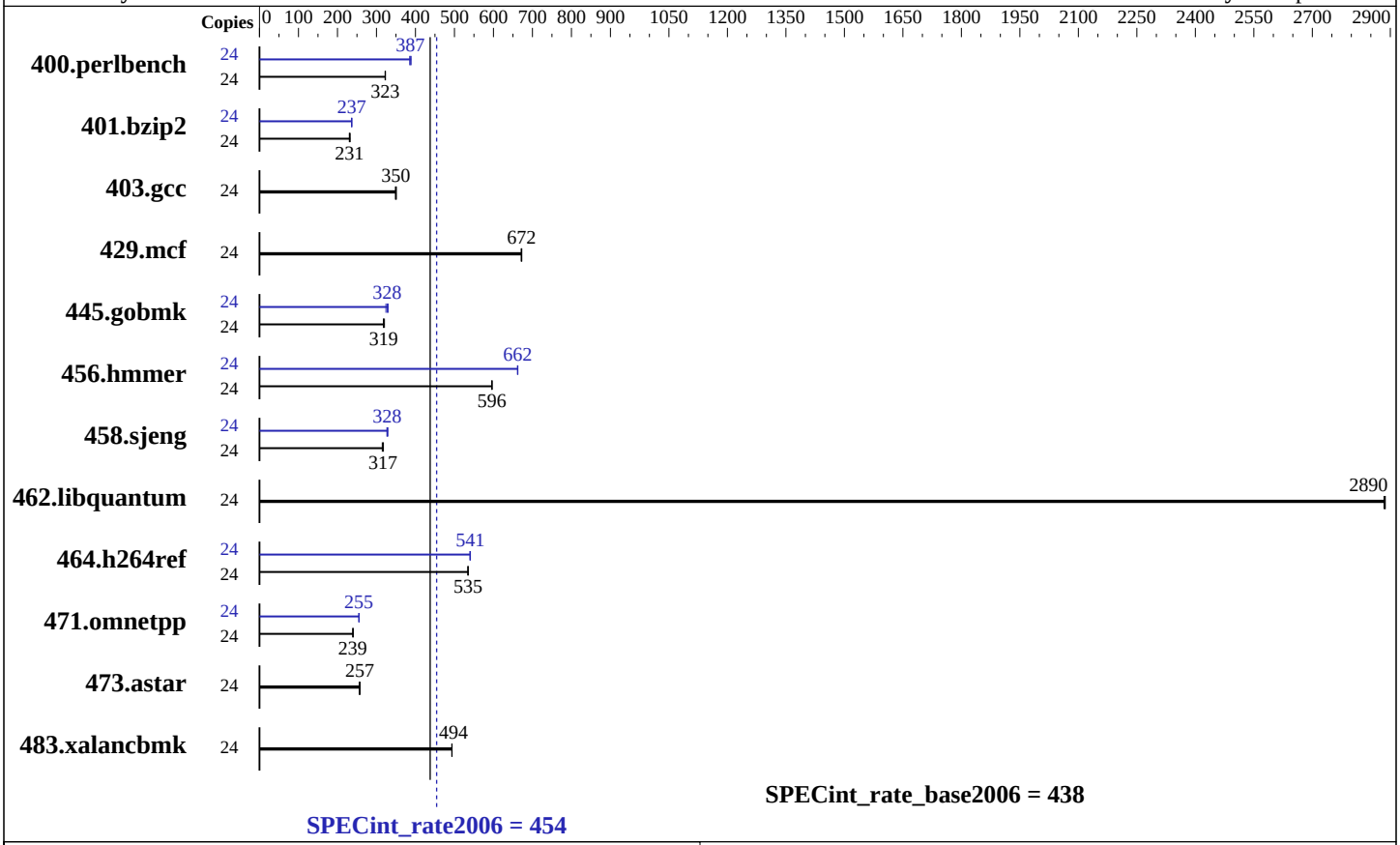
Huawei RH1288 V2 (Intel Xeon E5-2630L v2)

SPECint®_rate2006 = 454

SPECint_rate_base2006 = 438

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

Test date: Nov-2014
Hardware Availability: Sep-2013
Software Availability: Sep-2013



Hardware

CPU Name:	Intel Xeon E5-2630L v2
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx8 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 6.5 (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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**726**	**323**	726	323	728	322	24	603	389	**606**	**387**	609	385
401.bzip2	24	995	233	1005	231	**1004**	**231**	24	980	236	**979**	**237**	978	237
403.gcc	24	550	351	554	349	**552**	**350**	24	550	351	554	349	**552**	**350**
429.mcf	24	326	671	325	673	**326**	**672**	24	326	671	325	673	**326**	**672**
445.gobmk	24	792	318	**790**	**319**	785	321	24	763	330	777	324	**768**	**328**
456.hmmer	24	376	596	**375**	**596**	375	596	24	338	662	338	663	**338**	**662**
458.sjeng	24	922	315	914	318	**917**	**317**	24	**886**	**328**	889	327	882	329
462.libquantum	24	172	2890	172	2880	**172**	**2890**	24	172	2890	172	2880	**172**	**2890**
464.h264ref	24	**993**	**535**	992	535	994	534	24	982	541	**983**	**541**	984	540
471.omnetpp	24	624	241	**627**	**239**	627	239	24	589	255	587	255	**588**	**255**
473.astar	24	**655**	**257**	653	258	659	256	24	**655**	**257**	653	258	659	256
483.xalancbmk	24	336	493	335	494	**335**	**494**	24	336	493	335	494	**335**	**494**

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
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on wbspeccpu Sat Nov  8 06:20:01 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 E5-2630L v2 @ 2.40GHz
      2 "physical id"s (chips)
      24 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
```

Continued on next page

Platform Notes (Continued)

```
      caution.)
         cpu cores : 6
         siblings  : 12
         physical 0: cores 0 1 2 3 4 5
         physical 1: cores 0 1 2 3 4 5
      cache size : 15360 KB

   From /proc/meminfo
      MemTotal:       99010148 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 wbspeccpu 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 Oct 30 15:36

   SPEC is set to: /spec
      Filesystem     Type  Size  Used Avail Use% Mounted on
      /dev/sda1      ext4  270G   56G  200G  22% /

   Additional information from dmidecode:
     BIOS Insyde Corp. RMIBV629 05/12/2014
     Memory:
      4x Hynix HMT41GR7MFR8C-PB 8 GB 1600 MHz 2 rank
      8x Micron 18JSF1G72PDZ-1G6E 8 GB 1600 MHz 2 rank
      12x NO DIMM NO DIMM

   (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:/spec/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.:
```

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General Notes (Continued)

```
numactl --interleave=all runspec <etc>
```

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`

Continued on next page

Peak Compiler Invocation (Continued)

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

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

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Peak Optimization Flags (Continued)

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`

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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