SPEC® CINT2006 Result

Huawei

Huawei BH622 V2 (Intel Xeon E5-2630)

SPECint®_rate2006 =   436
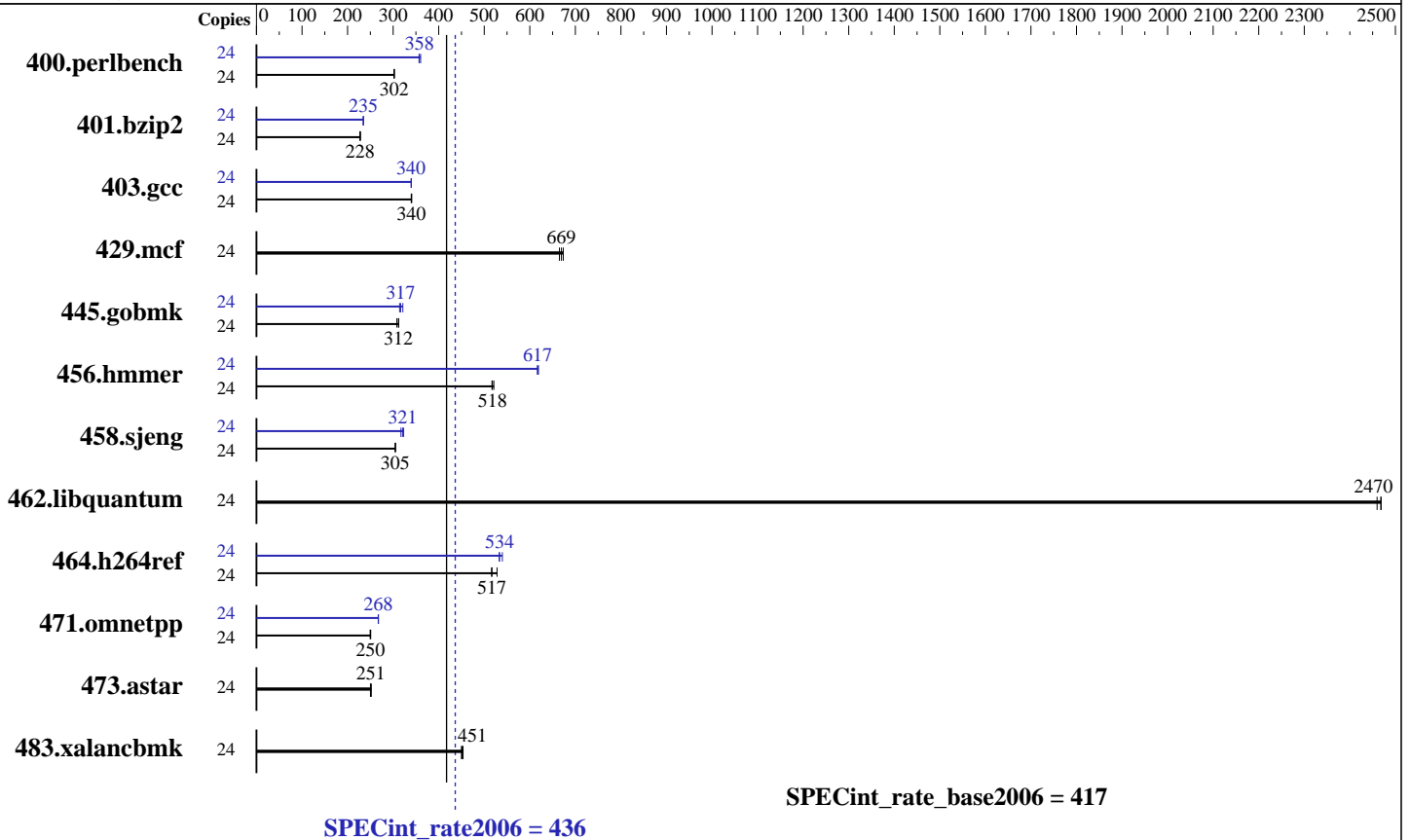
SPECint_rate_base2006 = 417

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

Test date: May-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Benchmark	Copies	Result (peak)	Result (base)
400.perlbench	24 / 24	358	302
401.bzip2	24 / 24	235	228
403.gcc	24 / 24	340	340
429.mcf	24	669	
445.gobmk	24 / 24	317	312
456.hmmer	24 / 24	617	518
458.sjeng	24 / 24	321	305
462.libquantum	24	2470	
464.h264ref	24 / 24	534	517
471.omnetpp	24 / 24	268	250
473.astar	24	251	
483.xalancbmk	24	451	

SPECint_rate_base2006 = 417

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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: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 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: ext3
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	24	774	303	777	302	**776**	**302**	24	651	360	657	357	**655**	**358**
401.bzip2	24	1015	228	**1017**	**228**	1021	227	24	988	234	**987**	**235**	987	235
403.gcc	24	567	341	**568**	**340**	569	340	24	568	340	569	340	**569**	**340**
429.mcf	24	325	673	**327**	**669**	329	665	24	325	673	**327**	**669**	329	665
445.gobmk	24	817	308	807	312	**807**	**312**	24	801	314	**795**	**317**	784	321
456.hmmer	24	430	521	433	517	**432**	**518**	24	**363**	**617**	362	619	363	616
458.sjeng	24	952	305	953	305	**953**	**305**	24	899	323	**906**	**321**	916	317
462.libquantum	24	**201**	**2470**	201	2470	202	2460	24	**201**	**2470**	201	2470	202	2460
464.h264ref	24	1029	516	**1027**	**517**	1006	528	24	**995**	**534**	984	540	997	533
471.omnetpp	24	**599**	**250**	598	251	601	250	24	560	268	561	267	**561**	**268**
473.astar	24	**672**	**251**	669	252	673	250	24	**672**	**251**	669	252	673	250
483.xalancbmk	24	**367**	**451**	365	453	368	450	24	**367**	**451**	365	453	368	450

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 RH62-yjp2 Wed May  2 19:36:12 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

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2630 0 @ 2.30GHz
      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
   caution.)
      cpu cores : 6
      siblings  : 12
```

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Platform Notes (Continued)

```
      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:       132133108 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 RH62-yjp2 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 May 2 18:19

  SPEC is set to: /spec
    Filesystem     Type     Size  Used Avail Use% Mounted on
    /dev/sda1      ext3     270G   33G  224G  13% /

  Additional information from dmidecode:
    Memory:
    16x 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 1x Core i7-860 CPU + 8GB
  memory using RHEL5.5
  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>
```

Base Compiler Invocation

C benchmarks:
     icc -m32

C++ benchmarks:
     icpc -m32

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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
```

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
```

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Peak Portability Flags (Continued)

```
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

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-revD.20120509.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-revD.20120509.xml

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

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