SPEC® CINT2006 Result
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Huawei

Huawei RH2288 V2 (Intel Xeon E5-2690)

SPECint®_rate2006 = 696

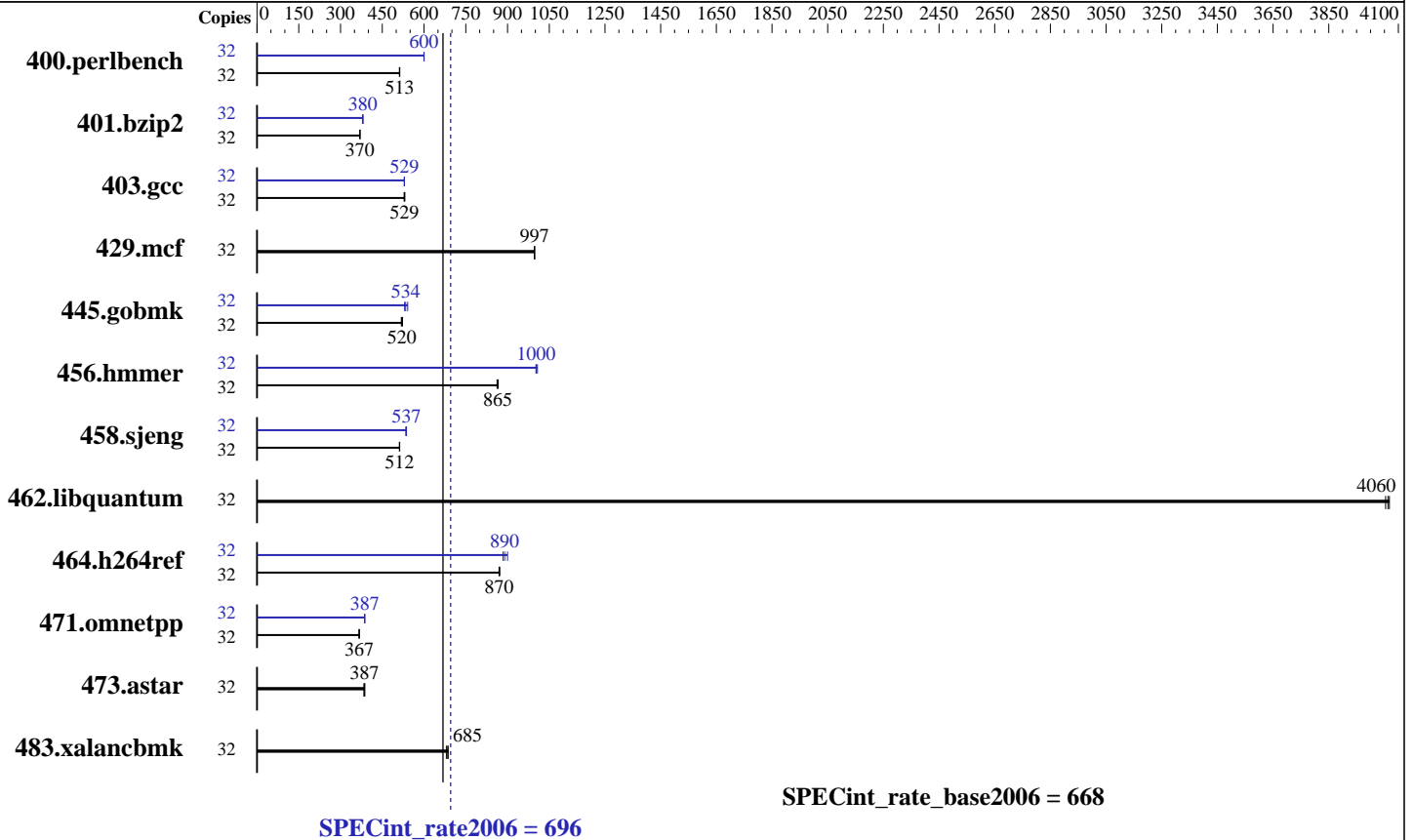SPECint_rate_base2006 = 668

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

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

	Copies	
400.perlbench	32	600
	32	513
401.bzip2	32	380
	32	370
403.gcc	32	529
	32	529
429.mcf	32	997
445.gobmk	32	534
	32	520
456.hmmer	32	1000
	32	865
458.sjeng	32	537
	32	512
462.libquantum	32	4060
464.h264ref	32	890
	32	870
471.omnetpp	32	387
	32	367
473.astar	32	387
483.xalancbmk	32	685

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Hardware

CPU Name: Intel Xeon E5-2690
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2900
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: 128 GB (16 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 6.2 (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: 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	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	610	513	**610**	**513**	611	511	32	**521**	**600**	521	600	521	600
401.bzip2	32	**835**	**370**	835	370	836	369	32	**812**	**380**	811	381	815	379
403.gcc	32	485	531	487	529	**487**	**529**	32	487	529	486	530	**487**	**529**
429.mcf	32	293	997	293	996	**293**	**997**	32	293	997	293	996	**293**	**997**
445.gobmk	32	642	523	**646**	**520**	648	518	32	620	541	633	530	**629**	**534**
456.hmmer	32	345	866	**345**	**865**	346	862	32	296	1010	**298**	**1000**	298	1000
458.sjeng	32	**756**	**512**	757	511	755	513	32	**722**	**537**	721	537	725	534
462.libquantum	32	**163**	**4060**	164	4050	163	4070	32	**163**	**4060**	164	4050	163	4070
464.h264ref	32	815	869	812	872	**814**	**870**	32	**796**	**890**	801	884	787	900
471.omnetpp	32	546	367	544	368	**545**	**367**	32	**517**	**387**	516	387	518	386
473.astar	32	580	387	585	384	**581**	**387**	32	580	387	585	384	**581**	**387**
483.xalancbmk	32	**322**	**685**	322	687	325	680	32	**322**	**685**	322	687	325	680

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 RH2288-RH6.2 Thu May 3 17:44:12 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 E5-2690 0 @ 2.90GHz
        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:       132124032 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 BH622-RH6.2 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 3 17:42

 SPEC is set to: /spec
    Filesystem      Type      Size   Used Avail Use% Mounted on
    /dev/sda1       ext4      197G   83G  104G  45% /

 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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