SPEC® CINT2006 Result
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Huawei

Huawei RH2288 V2 (Intel Xeon E5-2667)

SPECint®_rate2006 =   525
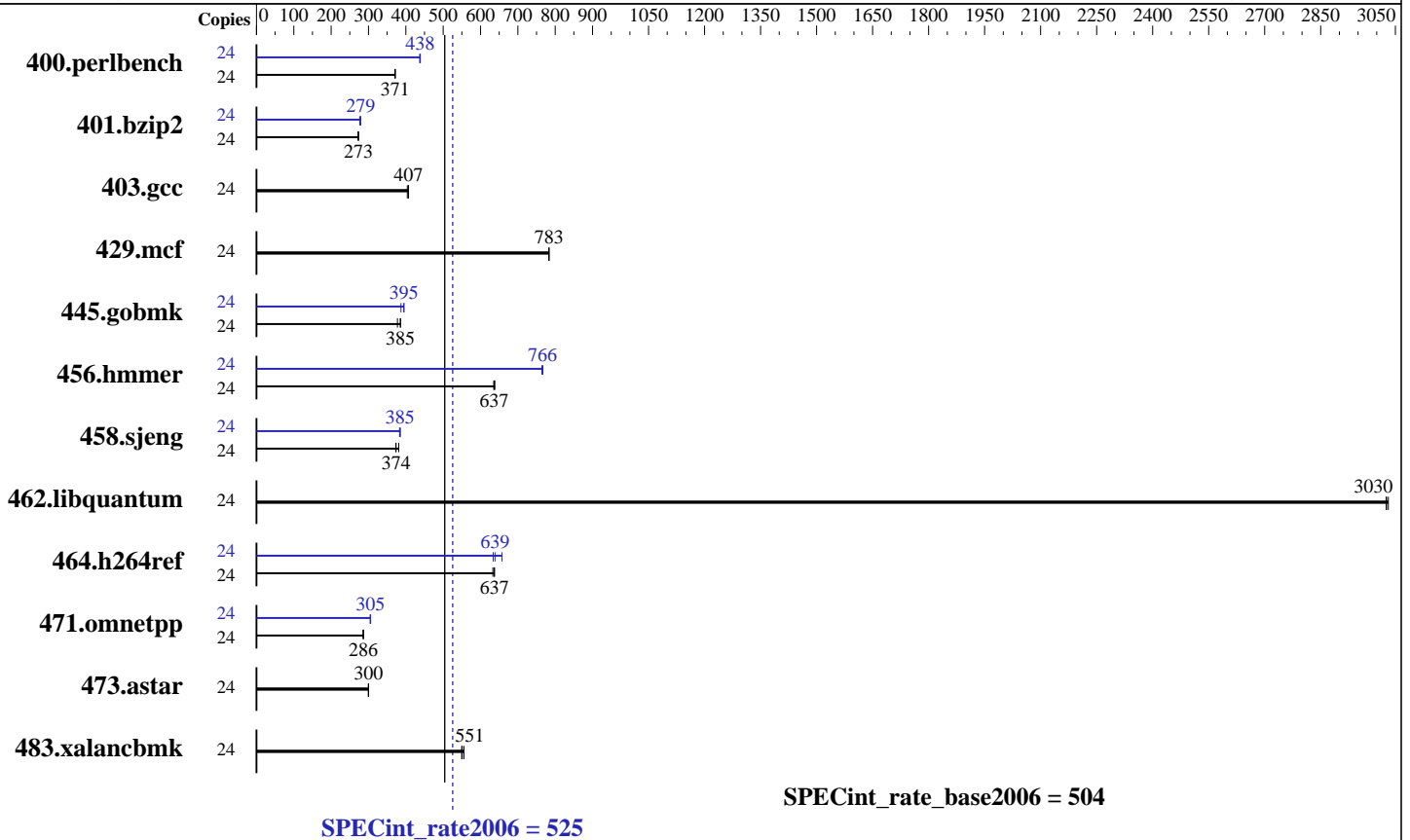
SPECint_rate_base2006 = 504

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

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

Copies

Benchmark	Copies	Base	Peak
400.perlbench	24	371	438
401.bzip2	24	273	279
403.gcc	24	407	
429.mcf	24	783	
445.gobmk	24	385	395
456.hmmer	24	637	766
458.sjeng	24	374	385
462.libquantum	24	3030	
464.h264ref	24	637	639
471.omnetpp	24	286	305
473.astar	24	300	
483.xalancbmk	24	551	

SPECint_rate_base2006 = 504

SPECint_rate2006 = 525

Hardware

CPU Name: Intel Xeon E5-2667
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 2900
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)
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	Base						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	631	371	**631**	**371**	632	371	24	534	439	**535**	**438**	536	437
401.bzip2	24	848	273	850	273	**849**	**273**	24	838	276	**830**	**279**	829	279
403.gcc	24	478	404	**475**	**407**	474	407	24	478	404	**475**	**407**	474	407
429.mcf	24	280	783	**280**	**783**	279	784	24	280	783	**280**	**783**	279	784
445.gobmk	24	652	386	**654**	**385**	667	378	24	**638**	**395**	637	395	651	387
456.hmmer	24	**352**	**637**	352	635	351	638	24	293	764	**292**	**766**	292	767
458.sjeng	24	762	381	778	373	**777**	**374**	24	**755**	**385**	758	383	755	385
462.libquantum	24	164	3030	**164**	**3030**	164	3030	24	164	3030	**164**	**3030**	164	3030
464.h264ref	24	839	633	833	637	**834**	**637**	24	838	634	808	658	**831**	**639**
471.omnetpp	24	**524**	**286**	524	286	525	286	24	491	306	**492**	**305**	492	305
473.astar	24	**561**	**300**	561	300	563	299	24	**561**	**300**	561	300	563	299
483.xalancbmk	24	**301**	**551**	298	556	301	550	24	**301**	**551**	298	556	301	550

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"
    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>
    Select only test related files when installing the operating system

Platform Notes

    BIOS configuration:
    Set Power Efficiency Mode to Performance
    Baseboard Management Controller used to adjust the fan speed to 100%
    Sysinfo program /spec/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on RH62-rebuild Sat Jul 28 14:05:22 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

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Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2667 0 @ 2.90GHz
      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
      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:       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 RH62-rebuild 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 Jul 28 14:00

SPEC is set to: /spec
   Filesystem     Type     Size  Used Avail Use% Mounted on
   /dev/sda1      ext4     289G   85G  190G  31% /

Additional information from dmidecode:

(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"
 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
```

Base Compiler Invocation

C benchmarks:
```
     icc  -m32
```

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Base Compiler Invocation (Continued)

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/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

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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/smartheap -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-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revE.20120703.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-revE.20120703.xml

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For other inquiries, please contact webmaster@spec.org.

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