SPEC® CINT2006 Result

Cisco Systems

Cisco UCS B200 M3 (Intel Xeon E5-2650 v2 @ 2.60 GHz)

$SPECint^{®}_rate2006 = $ **689**

$SPECint_rate_base2006 = $ **662**

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Oct-2013

Hardware Availability: Sep-2013

Software Availability: Sep-2013

SPECint_rate2006 = 689

SPECint_rate_base2006 = 662

Hardware		Software	
CPU Name:	Intel Xeon E5-2650 v2	Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.el6.x86_64
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz		
CPU MHz:	2600	Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
FPU:	Integrated		
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core	Auto Parallel:	No
CPU(s) orderable:	1,2 chips	File System:	ext4
Primary Cache:	32 KB I + 32 KB D on chip per core	System State:	Run level 3 (multi-user)
Secondary Cache:	256 KB I+D on chip per core	Base Pointers:	32-bit
L3 Cache:	20 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Microquill SmartHeap V10.0
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-14900R-11, ECC)		
Disk Subsystem:	1 X 600GB SAS, 15K RPM		
Other Hardware:	None		

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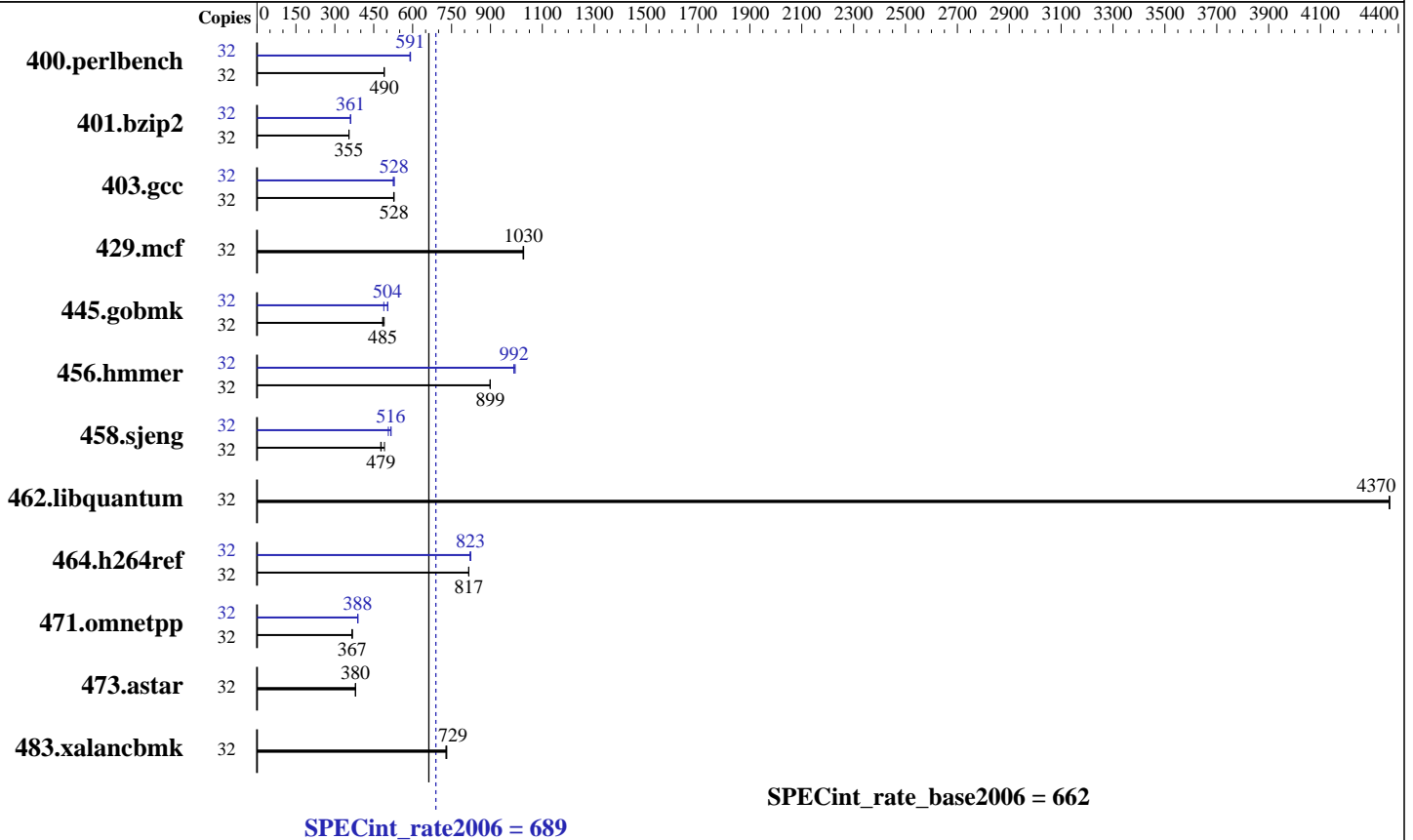SPECint_rate2006 =   689

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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	**638**	**490**	637	490	638	490	32	**529**	**591**	530	590	528	592
401.bzip2	32	872	354	871	355	**871**	**355**	32	**856**	**361**	854	361	857	360
403.gcc	32	489	527	488	528	**488**	**528**	32	491	525	**488**	**528**	487	529
429.mcf	32	285	1030	284	1030	**284**	**1030**	32	285	1030	284	1030	**284**	**1030**
445.gobmk	32	**692**	**485**	685	490	692	485	32	687	489	666	504	**666**	**504**
456.hmmer	32	332	898	**332**	**899**	332	899	32	**301**	**992**	300	995	301	990
458.sjeng	32	**809**	**479**	788	491	812	477	32	765	506	**750**	**516**	750	517
462.libquantum	32	152	4360	**152**	**4370**	152	4370	32	152	4360	**152**	**4370**	152	4370
464.h264ref	32	867	817	**867**	**817**	868	816	32	859	824	**860**	**823**	862	821
471.omnetpp	32	**546**	**367**	546	366	544	368	32	**515**	**388**	515	388	514	389
473.astar	32	592	379	591	380	**592**	**380**	32	592	379	591	380	**592**	**380**
483.xalancbmk	32	303	729	**303**	**729**	302	732	32	303	729	**303**	**729**	302	732

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 Settings:
    Intel HT Technology = Enabled
    CPU performance set to HPC
    Power Technology set to Custom
    CPU Power State C6 set to Enabled
    CPU Power State C1 Enhanced set to Disabled
    Energy Performance policy set to Performance
    Memory RAS configuration set to Maximum Performance
    DRAM Clock Throttling Set to Performance
    LV DDR Mode set to Performance-mode
    DRAM Refresh Rate Set to 1x
    Intel HT Technology = Enable
     Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
     $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
     running on localhost.localdomain Thu Oct 3 20:53:36 2013

     This section contains SUT (System Under Test) info as seen by

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Platform Notes (Continued)

```
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 E5-2650 v2 @ 2.60GHz
      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
      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:       132087400 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41
   EST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 3 20:52

SPEC is set to: /opt/cpu2006-1.2
   Filesystem      Type      Size   Used  Avail Use% Mounted on
   /dev/sda1       ext4      550G   17G   505G   4% /

Additional information from dmidecode:
  BIOS Cisco Systems, Inc. B200M3.2.1.3a.0.082320131800 08/23/2013
  Memory:
   16x 0xAD00 HMT31GR7EFR4C-RD 8 GB 1866 MHz 2 rank
   8x NO DIMM NO DIMM

(End of data from sysinfo program)
```

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General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64:/opt/cpu2006-1.2/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>
```

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
```

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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`
       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`

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Peak Optimization Flags (Continued)

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

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/Cisco-Platform-Settings-V1.2.20130717.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/Cisco-Platform-Settings-V1.2.20130717.xml

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

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