SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS B200 M3 (Intel Xeon E5-2658, 2.10 GHz)

$SPECint®2006 =$ 38.9
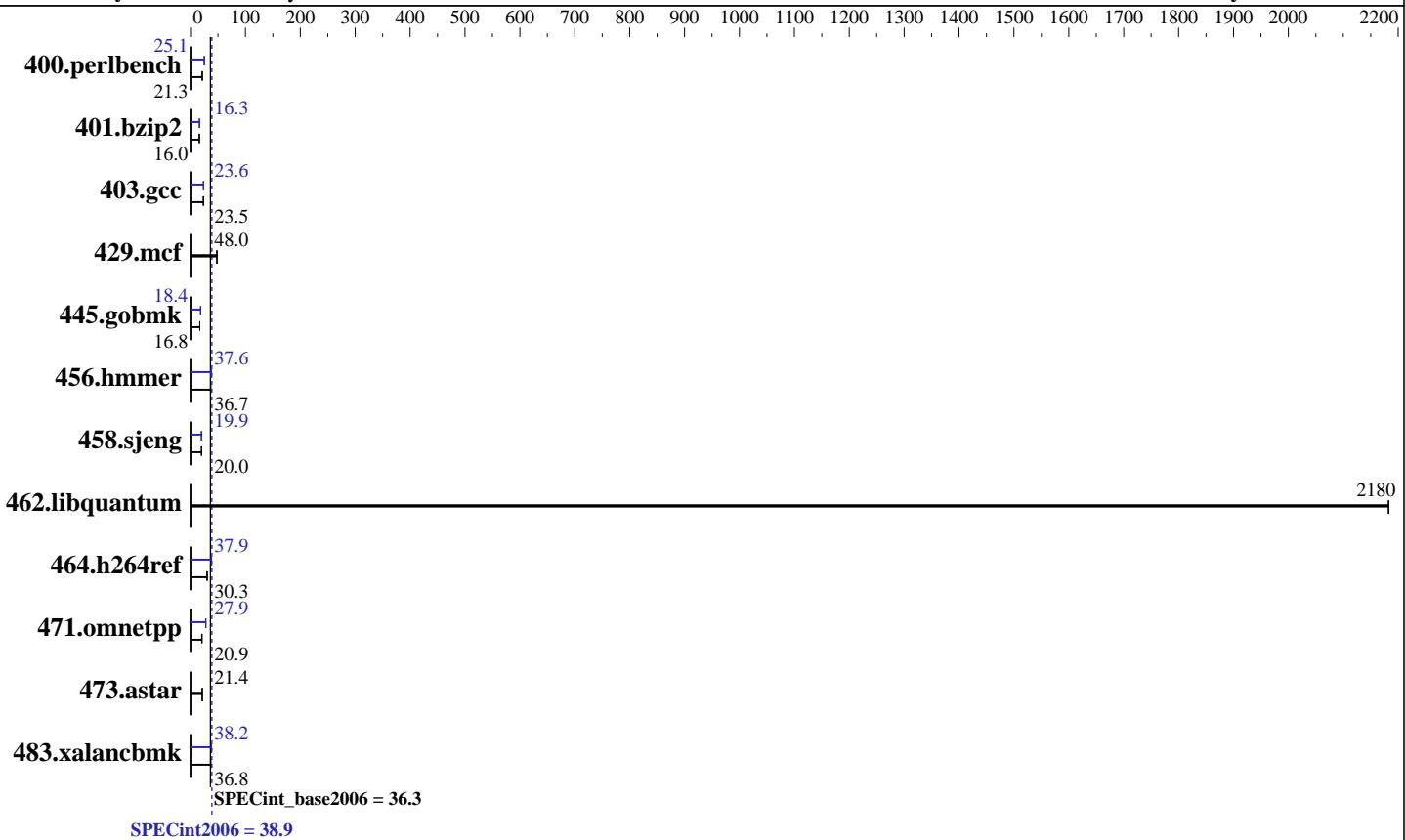
$SPECint\_base2006 =$ 36.3

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Oct-2012
Hardware Availability: Jul-2012
Software Availability: Feb-2012

Benchmark	
400.perlbench	25.1 / 21.3
401.bzip2	16.3 / 16.0
403.gcc	23.6 / 23.5
429.mcf	48.0
445.gobmk	18.4 / 16.8
456.hmmer	37.6 / 36.7
458.sjeng	19.9 / 20.0
462.libquantum	2180
464.h264ref	37.9 / 30.3
471.omnetpp	27.9 / 20.9
473.astar	21.4
483.xalancbmk	38.2 / 36.8

SPECint_base2006 = 36.3

SPECint2006 = 38.9

Hardware

CPU Name: Intel Xeon E5-2658
CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
CPU MHz: 2100
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
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: 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 600 GB 10000 RPM SAS
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 12.1.3.293 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01

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Results Table

Benchmark	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	457	21.4	**458**	**21.3**	458	21.3	389	25.1	389	25.1	**389**	**25.1**
401.bzip2	604	16.0	604	16.0	**604**	**16.0**	593	16.3	593	16.3	**593**	**16.3**
403.gcc	343	23.5	343	23.5	**343**	**23.5**	341	23.6	340	23.6	**341**	**23.6**
429.mcf	188	48.4	**190**	**48.0**	191	47.9	188	48.4	**190**	**48.0**	191	47.9
445.gobmk	623	16.8	**623**	**16.8**	623	16.8	571	18.4	**571**	**18.4**	571	18.4
456.hmmer	254	36.8	**254**	**36.7**	254	36.7	**248**	**37.6**	248	37.6	248	37.6
458.sjeng	**604**	**20.0**	604	20.0	604	20.0	607	19.9	**607**	**19.9**	606	20.0
462.libquantum	9.49	2180	9.49	2180	**9.49**	**2180**	9.49	2180	9.49	2180	**9.49**	**2180**
464.h264ref	**730**	**30.3**	729	30.3	739	30.0	581	38.1	584	37.9	**583**	**37.9**
471.omnetpp	297	21.0	**299**	**20.9**	307	20.4	224	27.9	**224**	**27.9**	225	27.8
473.astar	**327**	**21.4**	331	21.2	327	21.5	**327**	**21.4**	331	21.2	327	21.5
483.xalancbmk	**188**	**36.8**	187	36.9	188	36.8	180	38.3	**180**	**38.2**	181	38.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

    Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

    BIOS Configuration:
    Processor C6 Report set to Disabled
    Processor C1E set to Disabled
    CPU Performance set to HPC
    LV DDR Mode set to Performance-mode
     Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6800
     $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
     running on localhost.localdomain Fri Oct 12 01:29:23 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 E5-2658 0 @ 2.10GHz
           2 "physical id"s (chips)
           16 "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 : 8
           physical 0: cores 0 1 2 3 4 5 6 7

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Platform Notes (Continued)

```
      physical 1: cores 0 1 2 3 4 5 6 7
    cache size : 20480 KB

  From /proc/meminfo
    MemTotal:        132101936 kB
    HugePages_Total:         0
    Hugepagesize:         2048 kB

  /usr/bin/lsb_release -d
    Red Hat Enterprise Linux Server release 6.2 (Santiago)

  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 localhost.localdomain 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 Oct 12 01:13

  SPEC is set to: /opt/cpu2006-1.2
    Filesystem     Type     Size  Used Avail Use% Mounted on
    /dev/sda1      ext4     550G  9.9G  512G   2% /

  Additional information from dmidecode:
    Memory:
    16x 0xCE00 M393B1K70DH0-YK0 8 GB 1600 MHz 2 rank

  (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64"
OMP_NUM_THREADS = "16"
Intel HT Technology=disable
 Binaries compiled on a system with 2 X Intel Xeon E5-2690 CPU + 128 GB memory using RHEL 6.2
 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
```

Base Compiler Invocation

C benchmarks:
```
      icc   -m64
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m64

Base Portability Flags

         400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
            401.bzip2: -DSPEC_CPU_LP64
              403.gcc: -DSPEC_CPU_LP64
              429.mcf: -DSPEC_CPU_LP64
           445.gobmk: -DSPEC_CPU_LP64
           456.hmmer: -DSPEC_CPU_LP64
            458.sjeng: -DSPEC_CPU_LP64
       462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
          464.h264ref: -DSPEC_CPU_LP64
          471.omnetpp: -DSPEC_CPU_LP64
             473.astar: -DSPEC_CPU_LP64
        483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m64

    400.perlbench: icc -m32

       445.gobmk: icc -m32

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Tested by: Cisco Systems	**Software Availability:** Feb-2012

Peak Compiler Invocation (Continued)

```
      464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
      icpc -m32
```

```
      473.astar: icpc -m64
```

Peak Portability Flags

```
      400.perlbench: -DSPEC_CPU_LINUX_IA32
         401.bzip2: -DSPEC_CPU_LP64
           403.gcc: -DSPEC_CPU_LP64
           429.mcf: -DSPEC_CPU_LP64
        456.hmmer: -DSPEC_CPU_LP64
         458.sjeng: -DSPEC_CPU_LP64
      462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
         473.astar: -DSPEC_CPU_LP64
      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)
                -opt-prefetch -ansi-alias

         401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
                -opt-prefetch -ansi-alias

           403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc
                -opt-malloc-options=3 -auto-ilp32

           429.mcf: basepeak = yes

         445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                -ansi-alias

        456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                -ansi-alias

         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
```

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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)
`-opt-ra-region-strategy=block            -ansi-alias`
`-Wl,-z,muldefs -L/smartheap -lsmartheap`

473.astar: basepeak = yes

483.xalancbmk: `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`
`-Wl,-z,muldefs -L/smartheap -lsmartheap`

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/Cisco-Platform-Settings-V1.2.20130607.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/Cisco-Platform-Settings-V1.2.20130607.xml

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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 14:08:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 20 November 2012.