Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2667 v2, 3.30 GHz)

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

SPECint2006 = 61.8
SPECint_base2006 = 57.4

Test date: Nov-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Hardware
CPU Name: Intel Xeon E5-2667 v2
CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
CPU MHZ: 3300
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: 25 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 X 146 GB 15000 RPM SAS
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
Compiler: C/C++: Version 14.0.0.080 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 V10.0
SPEC CINT2006 Result

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Benchmark | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
400.perlbench | 294 | 33.3 | 293 | 33.3 | 294 | 33.2 | 235 | 41.5 | 235 | 41.6 | 235 | 41.5
401.bzip2 | 390 | 24.8 | 390 | 24.8 | 390 | 24.8 | 385 | 25.0 | 386 | 25.0 | 385 | 25.1
403.gcc | 242 | 33.3 | 240 | 33.6 | 240 | 33.5 | 219 | 36.8 | 219 | 36.7 | 218 | 36.8
429.mcf | 130 | 70.2 | 129 | 70.9 | 145 | 63.1 | 130 | 70.2 | 129 | 70.9 | 145 | 63.1
445.gobmk | 375 | 28.0 | 374 | 28.0 | 374 | 28.0 | 370 | 28.4 | 370 | 28.4
456.hmmer | 151 | 62.0 | 149 | 62.6 | 151 | 61.8 | 149 | 62.7 | 149 | 62.6 | 148 | 62.9
458.sjeng | 428 | 28.3 | 421 | 28.7 | 423 | 28.6 | 390 | 31.0 | 390 | 31.0 | 390 | 31.0
462.libquantum | 5.93 | 3490 | 5.52 | 3750 | 5.93 | 3490 | 5.93 | 3490 | 5.52 | 3750 | 5.93 | 3490
464.h264ref | 403 | 54.9 | 403 | 55.0 | 402 | 55.0 | 366 | 60.5 | 365 | 60.6 | 366 | 60.5
471.onettp | 183 | 34.1 | 183 | 34.1 | 183 | 34.1 | 126 | 49.4 | 126 | 49.7 | 127 | 49.4
473.astar | 207 | 33.9 | 212 | 33.1 | 209 | 33.6 | 207 | 33.9 | 212 | 33.1 | 209 | 33.6
483.xalancbmk | 116 | 59.3 | 114 | 60.4 | 115 | 60.2 | 116 | 59.7 | 116 | 59.6 | 115 | 59.8

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 Settings:
Intel HT Technology = Disabled
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

Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on B200M3CRCR Sat Nov  9 21:04:47 2013

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 E5-2667 v2 @ 3.30GHz
  2 "physical id"s (chips)
  16 "processors"

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Platform Notes (Continued)

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 1 2 3 4 8 9 10 11
physical 1: cores 1 2 3 4 8 9 10 11
cache size : 25600 KB

From /proc/meminfo
MemTotal: 132089328 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)

uname -a:
Linux B200M3CRCR 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 Nov 9 20:55

SPEC is set to: /opt/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext4 134G 67G 61G 53% /

Additional information from dmidecode:
BIOS Cisco Systems, Inc. B200M3.2.1.2.12.080620131158 08/06/2013
Memory:
16x 0xAD00 HMT31GR7EFR4C-RD 8 GB 1866 MHz 2 rank
8x NO DIMM NO DIMM

(End of data from sysinfo program)

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"
OMP_NUM_THREADS = "16"

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
runspec command invoked through numactl i.e.:

Continued on next page
**SPEC CINT2006 Result**

**Cisco Systems**

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**General Notes (Continued)**

```
numactl --interleave=all runspec <etc>
```

**Base Compiler Invocation**

- **C benchmarks**:
  ```
icc -m64
```
- **C++ benchmarks**:
  ```
icpc -m64
```

**Base Portability Flags**

- **C benchmarks**:
  ```
  -DSPEC_CPU_LP64
  -DSPEC_CPU_LINUX_X64
  -DSPEC_CPU_LINUX
  ```
- **C++ benchmarks**:
  ```
  -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/sh -lsmartheap64
  ```

**Base Other Flags**

- **C benchmarks**:
  ```
  -Dalloca=_alloca
  ```

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Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/
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Peak Compiler Invocation
C benchmarks (except as noted below):

```plaintext
icc  -m64
```
```plaintext
400.perlbench: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```plaintext
icpc -m32
```
```plaintext
473.astar: icpc -m64
```

Peak Portability Flags

```plaintext
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:
```plaintext
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
```
```plaintext
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
```
```plaintext
403.gcc: -xSSE4.2 -ipo -o3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32
```
```plaintext
429.mcf: basepeak = yes
```
```plaintext
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias
```

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Peak Optimization Flags (Continued)

456.hmmer: -xSSE4.2 -ipo -o3 -no-prec-div -unroll2 -auto-llp32
          -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

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/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -o3 -no-prec-div -opt-prefetch -ansi-alias
           -Wl,-z,muldefs -L/sh -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-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
## Cisco Systems

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

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