Cisco Systems

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

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>814</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>782</td>
</tr>
</tbody>
</table>

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

Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E5-2667 v2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 4.00 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3300</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>16 cores, 2 chips, 8 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1,2 chip</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>25 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 X 146 GB 15000 RPM SAS</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Operating System:</th>
<th>Red Hat Enterprise Linux Server release 6.4 (Santiago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>ext4</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Base</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Copies</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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<td>531</td>
<td>589</td>
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<td>700</td>
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<td>401.bzip2</td>
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<td>714</td>
<td>432</td>
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<td>32</td>
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<td>440</td>
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<td>403.gcc</td>
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<td>429.mcf</td>
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<td>1180</td>
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<td>445.gobmk</td>
<td>32</td>
<td>584</td>
<td>575</td>
<td>583</td>
<td>576</td>
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<td>456.hmmer</td>
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<td>1200</td>
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<tr>
<td>458.sjeng</td>
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<td>569</td>
<td>682</td>
<td>568</td>
<td>680</td>
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<td>462.libquantum</td>
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<td>129</td>
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<td>464.h264ref</td>
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<td>471.omnetpp</td>
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<td>480</td>
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<td>478</td>
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<td>440</td>
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<td>473.astar</td>
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<td>505</td>
<td>445</td>
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<tr>
<td>483.xalancbmk</td>
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<td>845</td>
<td>262</td>
<td>844</td>
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<td>845</td>
<td>262</td>
<td>844</td>
<td>261</td>
<td>845</td>
</tr>
</tbody>
</table>

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
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on B200M3CRCR Thu Nov 7 23:21:00 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: Continued on next page
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2667 v2, 3.30 GHz)

**SPECint_rate2006 = 814**
**SPECint_rate_base2006 = 782**

<table>
<thead>
<tr>
<th>CPU2006 license: 9019</th>
<th>Test date: Nov-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor: Cisco Systems</td>
<td>Hardware Availability: Sep-2013</td>
</tr>
<tr>
<td>Tested by: Cisco Systems</td>
<td>Software Availability: Sep-2013</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

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)
  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 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:       132087320 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)
```

```
run-level 3 Nov 7 23:18
```

```
SPEC is set to: /opt/cpu2006-1.2
```

```
Filesystem    Type    Size  Used Avail Use% Mounted on
/dev/sda1     ext4    134G  38G   90G  30% /
```

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"
```

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

SPECint_rate2006 = 814
SPECint_rate_base2006 = 782

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

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

General Notes (Continued)

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

Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m32

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

SPECint_rate2006 = 814
SPECint_rate_base2006 = 782

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

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

Peak Compiler Invocation (Continued)

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

SPECint_rate2006 = 814
SPECint_rate_base2006 = 782

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

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -L/sh -lsmartheap

473.astar: basepeak = yes
483.xalanchbmk: 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

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

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