Cisco Systems
Cisco UCS B200 M4 (Intel Xeon E5-2623 v3 @ 3.00GHz)

SPECint®_rate2006 = 425
SPECint_rate_base2006 = 412

CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Dec-2014
Hardware Availability: Sep-2014
Tested by: Cisco Systems
Software Availability: Nov-2013

Tested by: Cisco Systems
Software Availability: Nov-2013

| SPECint®_rate_base2006 = 412 |

| CPU Name: | Intel Xeon E5-2623 v3 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.50 GHz |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 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: | 10 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz) |
| Disk Subsystem: | 1 x 300GB SAS, 15K RPM |
| Other Hardware: | None |

Software
Operating System: Red Hat Enterprise Linux Server release 6.5
(Santiago) 2.6.32-431.el6.x86_64
Compiler: C/C++: Version 14.0.0.080 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 V10.0
Cisco Systems
Cisco UCS B200 M4 (Intel Xeon E5-2623 v3 @ 3.00GHz)

CPU2006 license: 9019
Test sponsor: Cisco Systems
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Results Table

<table>
<thead>
<tr>
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<td>472</td>
<td>236</td>
<td>467</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

CPU performance set to HPC
Power Technology set to Custom
Processor Power State C6 set to Disabled
Energy Performance BIAS setting set to Performance
Memory RAS configuration set to Maximum Performance
QPI Snoop Mode set to Early Snoop
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on rhel65 Thu Dec 11 18:17:26 2014

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 E5-2623 v3 @ 3.00GHz
2 "physical id"s (chips)

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Cisco Systems

Cisco UCS B200 M4 (Intel Xeon E5-2623 v3 @ 3.00GHz)

**SPECint_rate2006** = 425
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### Platform Notes (Continued)

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 : 4
- Siblings  : 8
- Physical 0: cores 0 1 2 3
- Physical 1: cores 0 1 2 3
- Cache size : 10240 KB

From /proc/meminfo

- MemTotal: 264261720 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

- Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*

- redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
- system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:

- Linux rhel65 2.6.32-431.e16.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
- x86_64 GNU/Linux

run-level 3 Dec 11 18:16

SPEC is set to: /opt/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 245G 11G 222G 5% /

Additional information from dmidecode:

- BIOS Cisco Systems, Inc. B200M4.2.2.3c.0.101420141352 10/14/2014
- Memory:
  - 16x 0xCE00 M393A2G40DB0-CPB 16 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"
```

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:

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General Notes (Continued)

echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numacll 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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3
C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -W1,-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
400.perlbench: icc -m64

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Cisco Systems  
Cisco UCS B200 M4 (Intel Xeon E5-2623 v3 @ 3.00GHz)  

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Peak Compiler Invocation (Continued)

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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div  
429.mcf: basepeak = yes  
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3  
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32  
458.sjeng: -xCORE-AVX2(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

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Cisco UCS B200 M4 (Intel Xeon E5-2623 v3 @ 3.00GHz)

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### Peak Optimization Flags (Continued)

- 464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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.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:


You can also download the XML flags sources by saving the following links:


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