Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

SPEClnt_rate2006 = 637
SPEClnt_rate_base2006 = 612

Hardware
CPU Name: Intel Xeon E5-2643 v2
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 3500
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
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: 256 GB (16 x 16 GB 2RX4 PC3-14900R-13, ECC)
Disk Subsystem: 1 X 300 GB 15000 RPM SAS
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
Compiler: 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 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>471.omnetpp</td>
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<td>483.xalancbmk</td>
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<td>241</td>
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</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 B200M3-IVB Fri Nov 8 18:54:21 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

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

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"

Platform Notes (Continued)

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2643 v2 @ 3.50GHz
  2 "physical id"s (chips)
  24 "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 : 6
siblings : 12
  physical 0: cores 2 3 4 8 9 10
  physical 1: cores 2 3 4 8 9 10
cache size : 25600 KB

From /proc/meminfo
MemTotal:       264462776 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 B200M3-IVB 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 8 18:38

SPEC is set to: /opt/cpu2006-1.2
Filesystem   Type  Size  Used Avail Use% Mounted on
/dev/sda1     ext4  275G  17G  244G  7% /

Additional information from dmidecode:
BIOS Cisco Systems, Inc. B200M3.2.1.3.a.0.082320131800 08/23/2013
Memory:
  16x 0xAD00 HMT42GR7AFR4C-RD 16 GB 1866 MHz 2 rank
  8x NO DIMM NO DIMM

(End of data from sysinfo program)
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2643 v2, 3.50 GHz)

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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

Continued on next page
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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
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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

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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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