Cisco Systems

SPECint\textsuperscript{2006} = 55.3
SPECint\textsubscript{base2006} = 51.3

Cisco UCS B200 M3 (Intel Xeon E5-2680, 2.70 GHz)

CPU\textsuperscript{2006} license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Hardware

CPU Name: Intel Xeon E5-2680
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz: 2700
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 300 GB 10000 RPM SAS
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
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
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2680, 2.70 GHz)

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SPECint_base2006 = 51.3

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

Test date: May-2012
Hardware Availability: Jun-2012
Software Availability: Dec-2011

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
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<td>31.2</td>
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<td>31.1</td>
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<td>36.6</td>
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<td>401.bzip2</td>
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<td>32.9</td>
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<td>32.9</td>
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<td>33.1</td>
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<tr>
<td>429.mcf</td>
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<td>66.0</td>
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<td>66.2</td>
<td>136</td>
<td>67.1</td>
<td>138</td>
<td>66.0</td>
<td>138</td>
<td>66.2</td>
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<td>67.1</td>
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<td>445.gobmk</td>
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<td>462.libquantum</td>
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<td>7.28</td>
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<td>44.8</td>
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<td>55.3</td>
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<td>55.3</td>
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<td>473.astar</td>
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<td>31.1</td>
<td>226</td>
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</tr>
<tr>
<td>483.xalancbmk</td>
<td>131</td>
<td>52.6</td>
<td>131</td>
<td>52.9</td>
<td>133</td>
<td>52.0</td>
<td>126</td>
<td>54.9</td>
<td>126</td>
<td>54.9</td>
<td>126</td>
<td>54.8</td>
</tr>
</tbody>
</table>

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 CIE 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 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aaa42e583f96b07f99d3
running on localhost.localdomain Tue May  1 09:57:13 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 : Genuine Intel(R) CPU @ 2.70GHz
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

Continued on next page
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2680, 2.70 GHz)

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Tested by: Cisco Systems
Test date: May-2012
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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)

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 Apr 30 23:35

SPEC is set to: /opt/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext4 275G 8.0G 253G 4% /

Additional information from dmidecode:
Memory:
16x 0xCE00 M393B1K70DH0-YK0 8 GB 1600 MHz 1 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
Cisco Systems
Cisco UCS B200 M3 (Intel Xeon E5-2680, 2.70 GHz)

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### Base Compiler Invocation (Continued)

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

### Base Portability Flags

<table>
<thead>
<tr>
<th>Benchmark</th>
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</tr>
<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</td>
</tr>
</tbody>
</table>

### 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
```

Continued on next page
Cisco Systems

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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

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
-WI,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-WI,-z,muldefs -L/smartheap -lsmartheap

Peak Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-icl2.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130607.xml

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-icl2.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130607.html

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