Cisco Systems

Cisco UCS C260 M2 (Intel Xeon E7-2830, 2.13 GHz)

CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Jan-2012
Tested by: Cisco Systems
Hardware Availability: May-2011
Software Availability: Oct-2011

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<table>
<thead>
<tr>
<th>Copies</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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<tr>
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<tr>
<td>403.gcc</td>
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<tr>
<td>473.astar</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Software</th>
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<tbody>
<tr>
<td>Operating System: Red Hat Enterprise Linux Server release 6.1 (Santiago) 2.6.32-131.0.15.el6.x86_64</td>
</tr>
<tr>
<td>Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel: No</td>
</tr>
<tr>
<td>File System: ext4</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
</tr>
</tbody>
</table>

Hardware:
- CPU Name: Intel Xeon E7-4830
- CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
- CPU MHz: 2133
- FPU: Integrated
- CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
- CPU(s) orderable: 1.2 chips
- Primary Cache: 32 KB I + 32 KB D on chip per core

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Results Table

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<tr>
<th>Benchmark</th>
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<th>Seconds</th>
<th>Ratio</th>
<th>Base Pointers</th>
<th>Other Software</th>
<th>Peak</th>
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<tr>
<td>400.perlbench</td>
<td>32</td>
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<td>Microquill SmartHeap V9.01</td>
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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.
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Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /opt/cpu2006/config/sysinfo_rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Mon Jan 23 18:18:39 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 : Intel(R) Xeon(R) CPU E7- 4830 @ 2.13GHz
  2 "physical id" (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 :
siblings :
  physical 0: cores 0 1 2 8 17 18 24 25
  physical 1: cores 0 1 2 8 17 18 24 25
  cache size : 24576 KB

From /proc/meminfo
MemTotal: 529190820 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.1 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)

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Specint_rate_base2006 = NC

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Platform Notes (Continued)

uname -a:
    Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
    15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 23 18:07

SPEC is set to: /opt/cpu2006

Filesystem   Type    Size  Used Avail Use% Mounted on
/dev/sda1    ext4    134G  5.5G  122G   5% /

Additional information from dmidecode:

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006/libs/32:/opt/cpu2006/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesyste page cache cleared with:
    echo 1 > /proc/sys/vm/drop_caches
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
    icc -m32

C++ benchmarks:
    icpc -m32
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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-prefc-div -opt-prefetch -opt-mem-layout-trans=3
C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prefc-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap -ismartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32
400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64

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Peak Compiler Invocation (Continued)

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)
-noo(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

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

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Peak Optimization Flags (Continued)

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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

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 -ot-r-a-region-strategy=block -Wl,-z,muldefs
-L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

402.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.html
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You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.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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