Cisco Systems
Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

SPECfp®2006 = 66.6
SPECfp_base2006 = 63.9

CPU2006 license: 9019
Test date: Apr-2012
Test sponsor: Cisco Systems
Hardware Availability: Jun-2012
Tested by: Cisco Systems
Software Availability: Dec-2011

SPECfp2006 = 66.6
SPECfp_base2006 = 63.9

Hardware
CPU Name: Intel Xeon E5-2620
CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 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

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;
Fortran: Version 12.1.3.293 of Intel Fortran Studio XE for Linux
Auto Parallel: Yes
File System: ext4
Cisco Systems

Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems
L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL7)
Disk Subsystem: 1 x 300 GB 10000 RPM SAS
Other Hardware: None
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

SPEC CFP2006 Result

SPECfp2006 = 66.6
SPECfp_base2006 = 63.9

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

Results Table

<table>
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<td>350</td>
<td>55.7</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:
Intel(R) Hyper-Threading Technology set to Disabled
Processor Power State C6 set to Disabled
Processor Power State C1 Enhanced set to Disabled
Power Technology set to Custom
Energy Performance set to Performance
DRAM Clock Throttling set to Performance
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebd3f5032aaa42e583f96b07f99d3
Continued on next page
Cisco Systems

Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

SPECfp2006 = 66.6
SPECfp_base2006 = 63.9

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

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

Platform Notes (Continued)

running on speccpu-rhel6.2 Mon Apr 2 08:39:09 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 E5-2620 0 @ 2.00GHz
  2 "physical id"s (chips)
  12 "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 : 6
  physical 0: cores 0 1 2 3 4 5
  physical 1: cores 0 1 2 3 4 5
  cache size : 15360 KB

From /proc/meminfo
MemTotal: 132103120 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 speccpu-rhel6.2 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 2 08:32

SPEC is set to: /opt/cpu2006-1.2
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 274G 10G 250G 4% /

Additional information from dmidecode:
Memory:
  16x 0xCE00 M393B1K70DH0-YK0 8 GB 1600 MHz 1 rank

(End of data from sysinfo program)
Cisco Systems
Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

| SPECfp2006 = | 66.6 |
| SPECfp_base2006 = | 63.9 |

CPU2006 license: 9019  
Test sponsor: Cisco Systems  
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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 = "12"

Binsaries 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

C++ benchmarks:
   icpc  -m64

Fortran benchmarks:
   ifort  -m64

Benchmarks using both Fortran and C:
   icc  -m64 ifort  -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64
Cisco Systems
Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

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CPU2006 license: 9019
Test sponsor: Cisco Systems
Test date: Apr-2012
Tested by: Cisco Systems
Software Availability: Dec-2011
Hardware Availability: Jun-2012

### Base Optimization Flags

- C benchmarks:
  -xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch
  -ansi-alias

- C++ benchmarks:
  -xAVX -ipo -03 -no-prec-div -static -opt-prefetch -ansi-alias

- Fortran benchmarks:
  -xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch

- Benchmarks using both Fortran and C:
  -xAVX -ipo -03 -no-prec-div -static -parallel -opt-prefetch
  -ansi-alias

### Peak Compiler Invocation

- C benchmarks:
  icc -m64

- C++ benchmarks:
  icpc -m64

- Fortran benchmarks:
  ifort -m64

- Benchmarks using both Fortran and C:
  icc -m64 ifort -m64

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

- C benchmarks:
  433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
  -ansi-alias

  470.lbm: basepeak = yes

  482.sphinx3: basepeak = yes
Cisco Systems
Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)  
SPECfp2006 = 66.6  
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Software Availability: Dec-2011

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel  
-static

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130607.html
## Cisco Systems

Cisco UCS C220 M3 (Intel Xeon E5-2620, 2.00 GHz)

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### CPU2006 Details

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

### Test Details

- **Test date:** Apr-2012
- **Hardware Availability:** Jun-2012
- **Software Availability:** Dec-2011

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

- [Intel ic12.1-official-linux64.20111122.xml](http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml)
- [Cisco Platform Settings V1.2.20130607.xml](http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130607.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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