Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

**SPECint\_rate2006 = 693**
**SPECint\_rate_base2006 = 663**

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

Hardware
- **CPU Name:** Intel Xeon E5-2630 v3
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.20 GHz
- **CPU MHz:** 2400
- **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
- **Secondary Cache:** 256 KB I+D on chip per core
- **L3 Cache:** 20 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 600GB SAS, 10K RPM
- **Other Hardware:** None

Software
- **Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64
- **Compiler:** C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
- **Auto Parallel:** No
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V10.0

Test date: Jan-2015
Hardware Availability: Sep-2014
Software Availability: Jul-2014
Cisco Systems

Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

SPECint_rate2006 = 693
SPECint_rate_base2006 = 663

CPU2006 license: 9019
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Results Table

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</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
Snoop Mode set to Early Snoop
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on rhel7 Fri Jan 23 03:54:51 2015

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 E5-2630 v3 @ 2.40GHz
2 "physical id"s (chips)
Continued on next page
Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

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

SPECint_rate2006 = 693
SPECint_rate_base2006 = 663

Test date: Jan-2015
Hardware Availability: Sep-2014
Software Availability: Jul-2014

Platform Notes (Continued)

32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal: 263866912 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname -a:
Linux rhel7 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014 x86_64
x86_64 x86_64 GNU/Linux

run-level 3 Jan 23 02:30

SPEC is set to: /opt/cpu2006-1.2

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program
reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to
hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Cisco Systems, Inc. C220M4.2.0.3d.0.111120141447 11/11/2014
Memory:
16x 0xCE00 M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1866 MHz
8x NO DIMM NO DIMM

(End of data from sysinfo program)
Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

SPECint_rate2006 = 693
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CPUT2006 license: 9019
Test sponsor: Cisco Systems
Test date: Jan-2015
Tested by: Cisco Systems
Hardware Availability: Sep-2014
Software Availability: Jul-2014

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 i5-4670K CPU + 16GB memory using RedHat EL 7.0
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
rumpspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation
C benchmarks:
   icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
C++ benchmarks:
   icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

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 -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags
C benchmarks:
   403.gcc: -Dalloca=_alloca
Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

**SPEC CINT2006 Result**

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
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<tbody>
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<td>SPECint_rate_base2006</td>
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</table>

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

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**Peak Compiler Invocation**

C benchmarks (except as noted below):
```
  icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```
- 400.perlbench: icc -m64
- 401.bzip2: icc -m64
- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

C++ benchmarks:
```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

---

**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 -unroll2 -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
```

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Cisco Systems
Cisco UCS C220 M4 (Intel Xeon E5-2630 v3 @ 2.40GHz)

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

Test date: Jan-2015  
Hardware Availability: Sep-2014  
Software Availability: Jul-2014

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

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.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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revC.xml

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For other inquiries, please contact webmaster@spec.org.

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