SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS C220 M3 (Intel Xeon E5-2630, 2.30 GHz)

SPECint®_rate2006 = 439
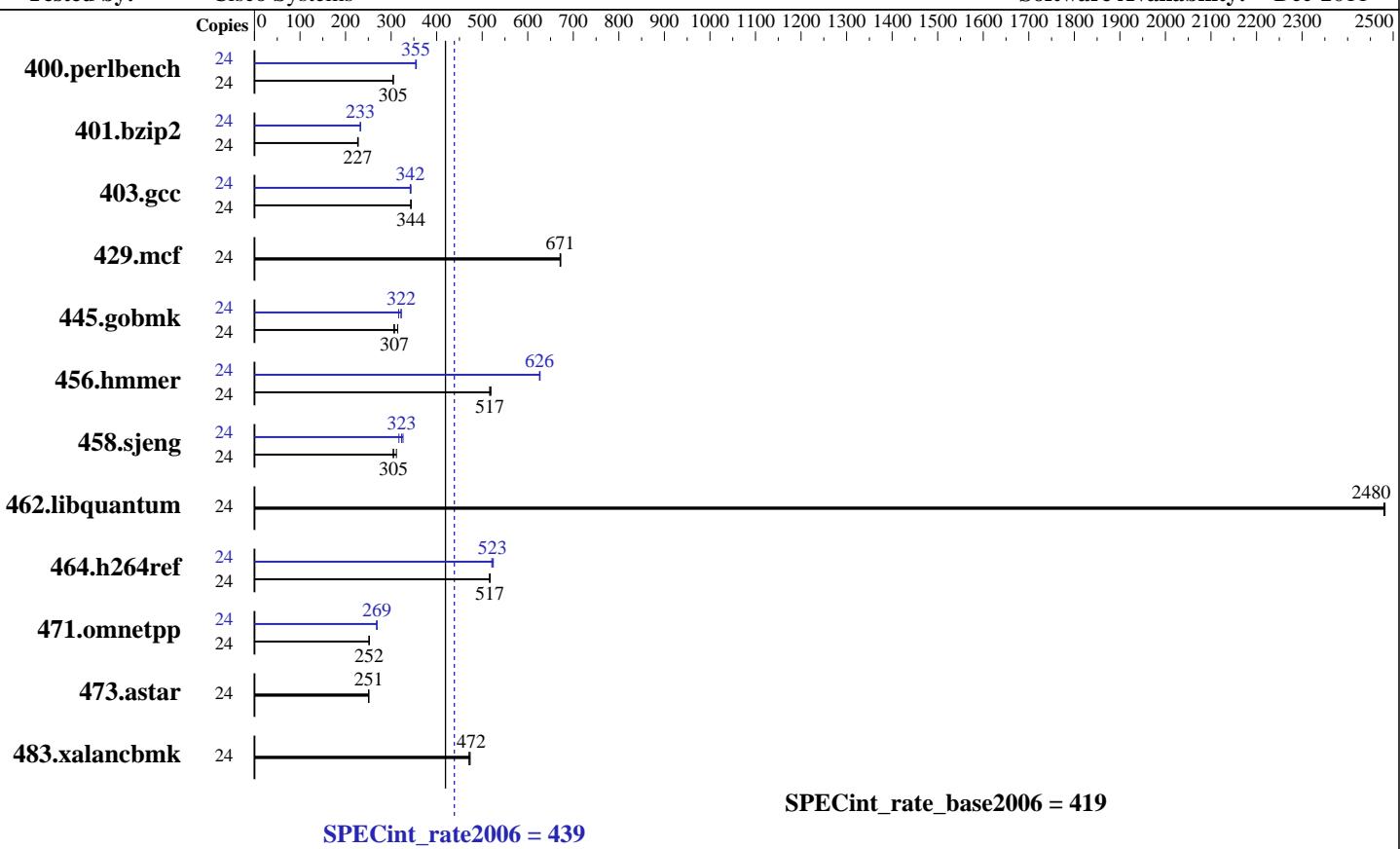
SPECint_rate_base2006 = 419

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

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

Copies

Benchmark	Copies	Base	Peak
400.perlbench	24	305	355
401.bzip2	24	227	233
403.gcc	24	344	342
429.mcf	24	671	
445.gobmk	24	307	322
456.hmmer	24	517	626
458.sjeng	24	305	323
462.libquantum	24	2480	
464.h264ref	24	517	523
471.omnetpp	24	252	269
473.astar	24	251	
483.xalancbmk	24	472	

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Hardware
CPU Name: Intel Xeon E5-2630
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2300
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: 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

Software
Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
2.6.32-220.el6.x86_64
Compiler: C/C++: Version 12.1.3.293 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 V9.01

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**770**	**305**	771	304	769	305	24	660	355	662	354	**661**	**355**
401.bzip2	24	**1020**	**227**	1017	228	1022	227	24	995	233	**995**	**233**	996	232
403.gcc	24	**562**	**344**	562	344	563	343	24	**564**	**342**	562	344	565	342
429.mcf	24	**326**	**671**	326	671	325	673	24	**326**	**671**	326	671	325	673
445.gobmk	24	822	306	800	315	**819**	**307**	24	795	317	**782**	**322**	781	322
456.hmmer	24	**433**	**517**	433	517	431	519	24	358	626	357	627	**358**	**626**
458.sjeng	24	954	305	932	312	**951**	**305**	24	**899**	**323**	916	317	890	326
462.libquantum	24	200	2480	**201**	**2480**	201	2480	24	200	2480	**201**	**2480**	201	2480
464.h264ref	24	1030	516	**1027**	**517**	1026	517	24	**1016**	**523**	1013	524	1019	521
471.omnetpp	24	596	252	**596**	**252**	596	252	24	**558**	**269**	558	269	559	268
473.astar	24	673	250	671	251	**671**	**251**	24	673	250	671	251	**671**	**251**
483.xalancbmk	24	351	471	**351**	**472**	350	474	24	351	471	**351**	**472**	350	474

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 Configuration:
   Intel(R) Hyper-Threading Technology set to Enabled
   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 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on localhost.localdomain Tue Apr  3 02:44:02 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 E5-2630 0 @ 2.30GHz
```
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Platform Notes (Continued)

```
     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 0 1 2 3 4 5
     physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

 From /proc/meminfo
   MemTotal:      132101560 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)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

 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 3 02:37

 SPEC is set to: /opt/cpu2006-1.2
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda1      ext4    275G  9.9G  251G   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:
 LD_LIBRARY_PATH = "/opt/cpu2006-1.2/libs/32:/opt/cpu2006-1.2/libs/64"

 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
```

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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/smartheap -lsmartheap
```

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
```

```
458.sjeng: icc -m64
```

C++ benchmarks:
```
icpc -m32
```

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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

   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/smartheap -lsmartheap

        473.astar: basepeak = yes
```

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Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130607.html

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-V1.2.20130607.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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