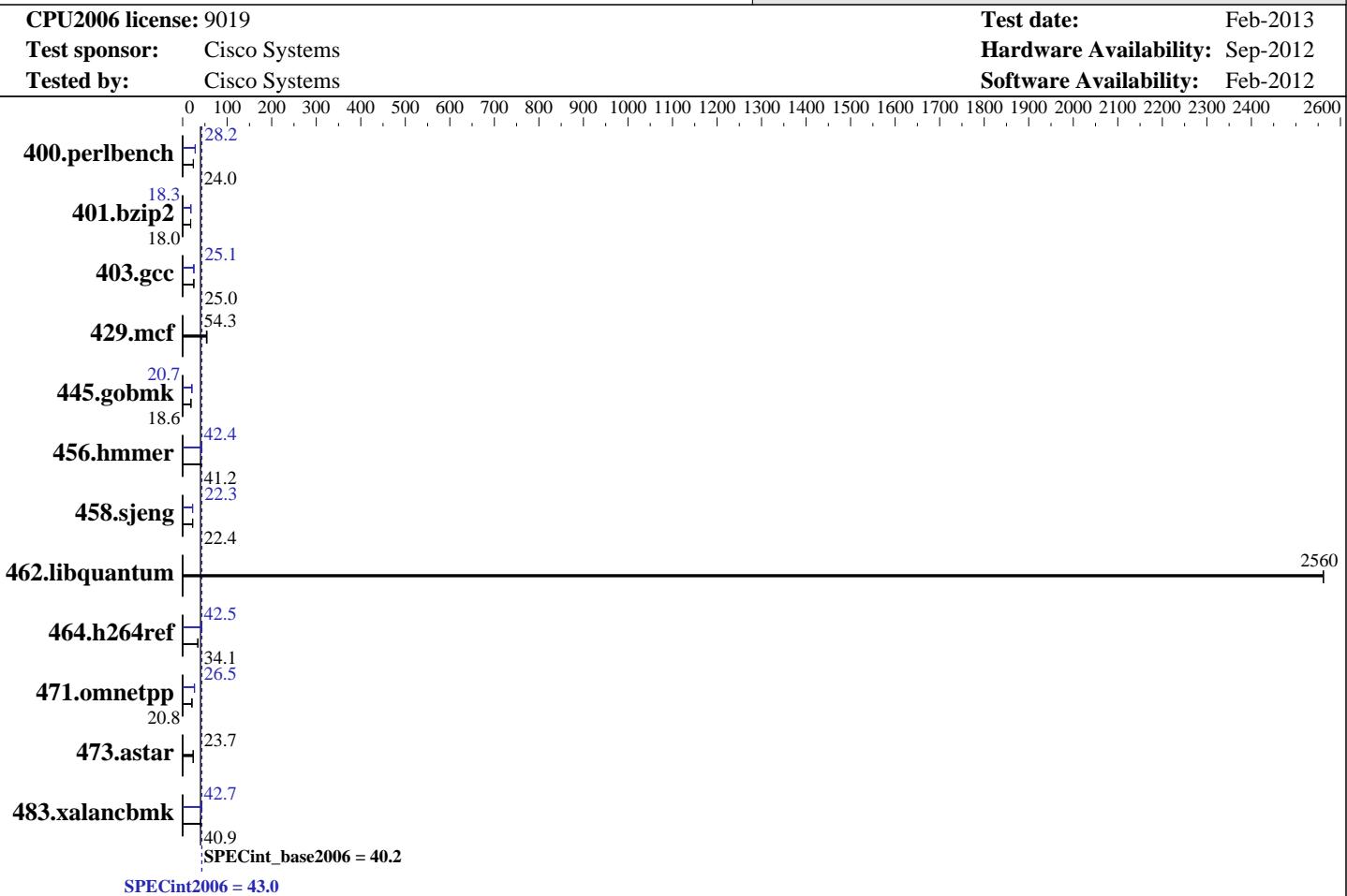# SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS B420 M3 (Intel Xeon E5-4620, 2.2 GHz)

$SPECint^{®}2006 =$ 43.0

$SPECint\_base2006 =$ 40.2

0   100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400   2600

Benchmark	Peak	Base
400.perlbench	28.2	24.0
401.bzip2	18.3	18.0
403.gcc	25.1	25.0
429.mcf		54.3
445.gobmk	20.7	18.6
456.hmmer	42.4	41.2
458.sjeng	22.3	22.4
462.libquantum		2560
464.h264ref	42.5	34.1
471.omnetpp	26.5	20.8
473.astar		23.7
483.xalancbmk	42.7	40.9

SPECint_base2006 = 40.2

SPECint2006 = 43.0

Hardware

CPU Name:	Intel Xeon E5-4620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.60 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip
CPU(s) orderable:	1,2,3,4 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:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (32 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 X 300 GB 15000 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:	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

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

Test date: Feb-2013
Hardware Availability: Sep-2012
Software Availability: Feb-2012

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	406	24.0	**408**	**24.0**	408	23.9	**346**	**28.2**	347	28.2	346	28.2
401.bzip2	538	17.9	536	18.0	**536**	**18.0**	527	18.3	**527**	**18.3**	525	18.4
403.gcc	322	25.0	**323**	**25.0**	323	24.9	**321**	**25.1**	321	25.1	321	25.1
429.mcf	171	53.3	**168**	**54.3**	168	54.4	171	53.3	**168**	**54.3**	168	54.4
445.gobmk	565	18.6	**565**	**18.6**	565	18.6	**508**	**20.7**	508	20.7	508	20.7
456.hmmer	226	41.2	227	41.2	**227**	**41.2**	**220**	**42.4**	220	42.4	220	42.4
458.sjeng	540	22.4	541	22.4	**540**	**22.4**	542	22.3	**542**	**22.3**	541	22.4
462.libquantum	8.09	2560	8.09	2560	**8.09**	**2560**	8.09	2560	8.09	2560	**8.09**	**2560**
464.h264ref	**649**	**34.1**	650	34.1	645	34.3	515	42.9	**520**	**42.5**	525	42.1
471.omnetpp	300	20.8	**300**	**20.8**	302	20.7	**236**	**26.5**	236	26.5	235	26.6
473.astar	296	23.7	**296**	**23.7**	297	23.6	296	23.7	**296**	**23.7**	297	23.6
483.xalancbmk	168	41.0	**169**	**40.9**	170	40.7	162	42.6	162	42.7	**162**	**42.7**

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

```
Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Mon Feb  4 08:49:39 2013

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 E5-4620 0 @ 2.20GHz
      4 "physical id"s (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 : 8
      siblings  : 8
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
      physical 2: cores 0 1 2 3 4 5 6 7
      physical 3: cores 0 1 2 3 4 5 6 7
   cache size : 16384 KB
```

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Platform Notes (Continued)

```
    From /proc/meminfo
       MemTotal:       264506516 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 Feb 3 21:19

    SPEC is set to: /opt/cpu2006-1.2
       Filesystem     Type     Size  Used Avail Use% Mounted on
       /dev/sda1      ext4     275G   31G  230G  12% /

    Additional information from dmidecode:
      Memory:
       32x 0xCE00 M393B1K70DH0-YK0 8 GB 1600 MHz 2 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 = "32"
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
```

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

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Base Portability Flags

```
  400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
      401.bzip2: -DSPEC_CPU_LP64
        403.gcc: -DSPEC_CPU_LP64
        429.mcf: -DSPEC_CPU_LP64
     445.gobmk: -DSPEC_CPU_LP64
     456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
    464.h264ref: -DSPEC_CPU_LP64
    471.omnetpp: -DSPEC_CPU_LP64
       473.astar: -DSPEC_CPU_LP64
  483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

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
```

```
    464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
    473.astar: icpc -m64
```

SPEC CINT2006 Result

Cisco Systems

Cisco UCS B420 M3 (Intel Xeon E5-4620, 2.2 GHz)

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

Test date: Feb-2013
Hardware Availability: Sep-2012
Software Availability: Feb-2012

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

  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)
                 -opt-ra-region-strategy=block        -ansi-alias
                 -Wl,-z,muldefs -L/smartheap -lsmartheap
```

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Cisco Systems

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SPECint_base2006 =   40.2

CPU2006 license: 9019		**Test date:**	Feb-2013
Test sponsor: Cisco Systems		**Hardware Availability:**	Sep-2012
Tested by: Cisco Systems		**Software Availability:**	Feb-2012

Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

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-ic13-official-linux64.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-ic13-official-linux64.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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