# SPEC® CINT2006 Result



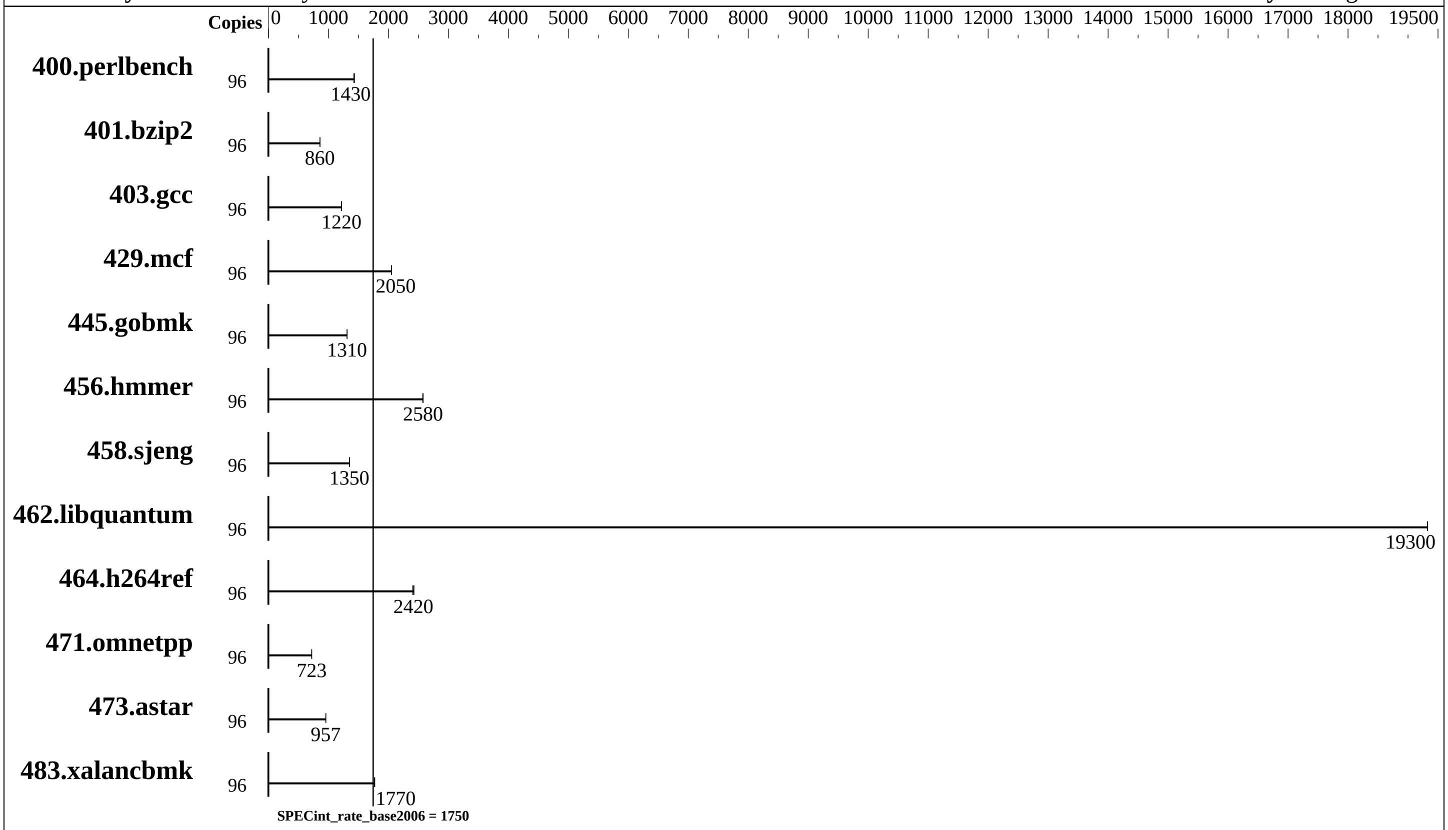
## Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-8890 v4, 2.20 GHz)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1750

| | | | |
|---|---|---|---|
| **CPU2006 license:** | 9019 | **Test date:** | May-2016 |
| **Test sponsor:** | Cisco Systems | **Hardware Availability:** | Jul-2016 |
| **Tested by:** | Cisco Systems | **Software Availability:** | Aug-2015 |




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E7-8890 v4 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.40 GHz |
| CPU MHz: | 2200 |
| FPU: | Integrated |
| CPU(s) enabled: | 48 cores, 2 chips, 24 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: | 60 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 1600 MHz) |
| Disk Subsystem: | 2 X 400 GB SAS SSD, RAID 0 |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 12 SP1 (x86_64) 3.12.49-11-default |
| Compiler: | C/C++: Version 16.0.0.101 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 V10.2 |

## Results Table

| Benchmark | Base Copies | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Base Seconds | Base Ratio | Peak Copies | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio | Peak Seconds | Peak Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.perlbench | 96 | 653 | 1440 | 658 | 1420 | **655** | **1430** | | | | | | | |
| 401.bzip2 | 96 | 1077 | 860 | 1077 | 860 | **1077** | **860** | | | | | | | |
| 403.gcc | 96 | 636 | 1220 | **633** | **1220** | 632 | 1220 | | | | | | | |
| 429.mcf | 96 | 427 | 2050 | 427 | 2050 | **427** | **2050** | | | | | | | |
| 445.gobmk | 96 | 766 | 1310 | **767** | **1310** | 768 | 1310 | | | | | | | |
| 456.hmmer | 96 | 348 | 2570 | 347 | 2580 | **347** | **2580** | | | | | | | |
| 458.sjeng | 96 | 859 | 1350 | 859 | 1350 | **859** | **1350** | | | | | | | |
| 462.libquantum | 96 | 103 | 19300 | **103** | **19300** | 103 | 19300 | | | | | | | |
| 464.h264ref | 96 | 875 | 2430 | **878** | **2420** | 883 | 2410 | | | | | | | |
| 471.omnetpp | 96 | **830** | **723** | 830 | 723 | 831 | 722 | | | | | | | |
| 473.astar | 96 | 704 | 957 | **704** | **957** | 704 | 957 | | | | | | | |
| 483.xalancbmk | 96 | **374** | **1770** | 375 | 1770 | 373 | 1770 | | | | | | | |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

```
The config file option 'submit' was used.
```

## Platform Notes

```
CPU performance set to Enterprise
Power Technology set to Performance
Energy Performance BIAS setting set to Balanced Performance
Memory RAS configuration set to Maximum Performance
Memory Power Saving Mode set to Disabled
 Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6914
 $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
 running on linux-xypl Thu Dec 31 18:30:02 2009

 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 E7-8890 v4 @ 2.20GHz
       2 "physical id"s (chips)
       96 "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 : 24
       siblings  : 48
       physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
```

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## Platform Notes (Continued)

```
        27 28 29
        physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
        27 28 29
     cache size : 61440 KB

  From /proc/meminfo
     MemTotal:       264174296 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     SUSE Linux Enterprise Server 12 SP1

  From /etc/*release* /etc/*version*
     SuSE-release:
        SUSE Linux Enterprise Server 12 (x86_64)
        VERSION = 12
        PATCHLEVEL = 1
        # This file is deprecated and will be removed in a future service pack or
        release.
        # Please check /etc/os-release for details about this release.
     os-release:
        NAME="SLES"
        VERSION="12-SP1"
        VERSION_ID="12.1"
        PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
        ID="sles"
        ANSI_COLOR="0;32"
        CPE_NAME="cpe:/o:suse:sles:12:sp1"

  uname -a:
     Linux linux-xypl 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
     (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Dec 31 16:37

  SPEC is set to: /home/cpu2006-1.2
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda3      xfs   701G   19G  683G   3% /home
  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. EXM4.3.1.1.3.042620161123 04/26/2016
    Memory:
     16x 0xCE00 M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 1600 MHz
     32x NO DIMM NO DIMM

  (End of data from sysinfo program)
```

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## General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006-1.2/libs/32:/home/cpu2006-1.2/libs/64:/home/cpu2006-1.2/sh"

 Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB
 memory using RedHat EL 7.1
 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
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

## Base Compiler Invocation

C benchmarks:
`icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

C++ benchmarks:
`icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

## Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -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`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revE.xml



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

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