SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS C240 M5 (Intel Xeon Platinum 8180, 2.50GHz)

SPECint®_rate2006 =   Not Run

SPECint_rate_base2006 = 2760

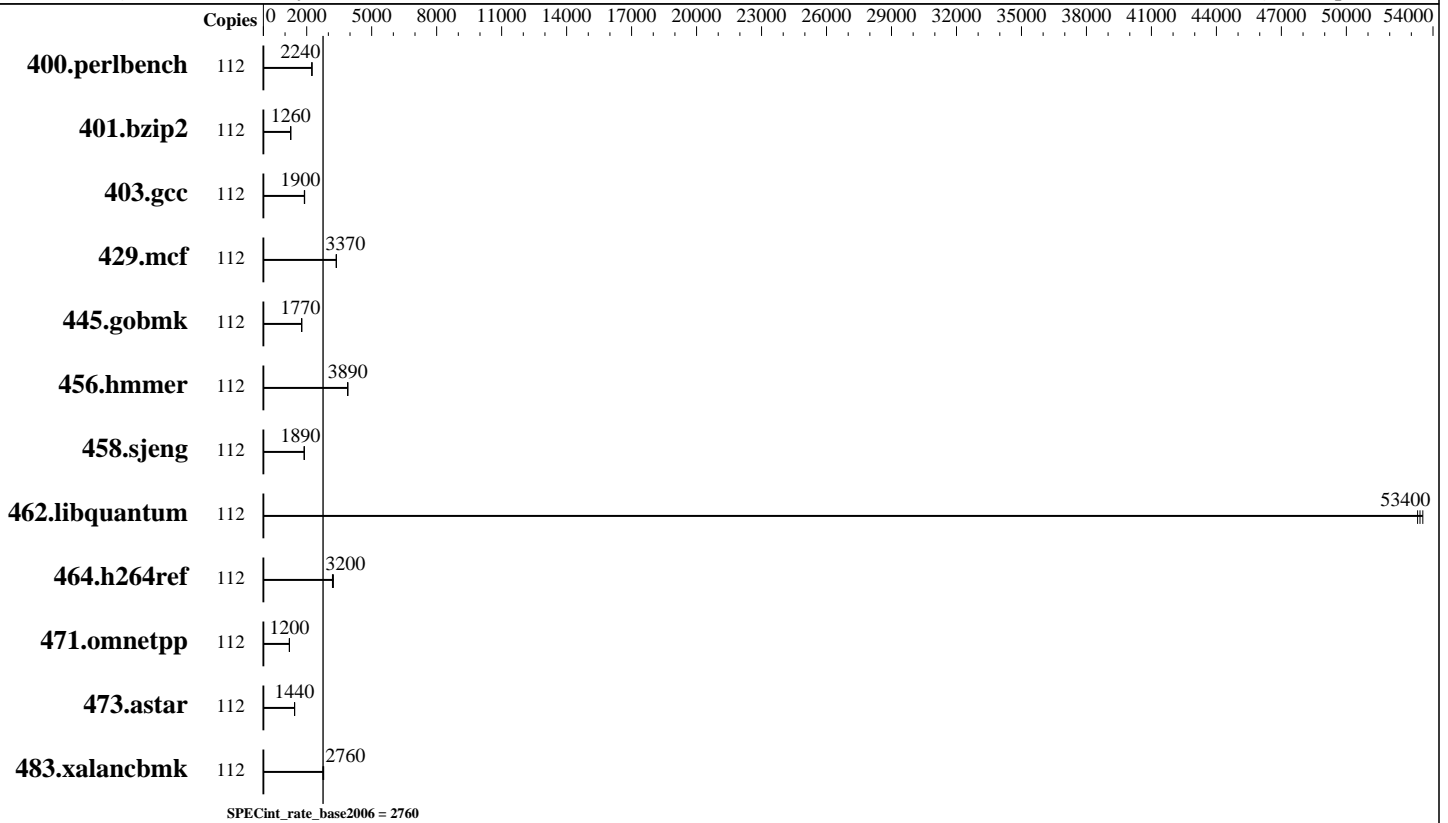Copies: 0 2000 5000 8000 11000 14000 17000 20000 23000 26000 29000 32000 35000 38000 41000 44000 47000 50000 54000

- 400.perlbench 112 — 2240
- 401.bzip2 112 — 1260
- 403.gcc 112 — 1900
- 429.mcf 112 — 3370
- 445.gobmk 112 — 1770
- 456.hmmer 112 — 3890
- 458.sjeng 112 — 1890
- 462.libquantum 112 — 53400
- 464.h264ref 112 — 3200
- 471.omnetpp 112 — 1200
- 473.astar 112 — 1440
- 483.xalancbmk 112 — 2760

SPECint_rate_base2006 = 2760

Hardware

CPU Name:	Intel Xeon Platinum 8180
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	56 cores, 2 chips, 28 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:	1 MB I+D on chip per core
L3 Cache:	38.5 MB I+D on chip per chip
Other Cache:	None
Memory:	384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)
Disk Subsystem:	1 x 800 GB SSD SAS
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12 SP2 (x86_64) 4.4.21-69-default
Compiler:	C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux; Fortran: Version 18.0.0.128 of Intel Fortran
Auto Parallel:	No
File System:	bfs
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.2

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

Test date: Jun-2017
Hardware Availability: Aug-2017
Software Availability: Sep-2017

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	112	488	2240	**489**	**2240**	489	2240							
401.bzip2	112	858	1260	856	1260	**857**	**1260**							
403.gcc	112	473	1910	**475**	**1900**	477	1890							
429.mcf	112	303	3370	303	3370	**303**	**3370**							
445.gobmk	112	**665**	**1770**	664	1770	665	1770							
456.hmmer	112	269	3890	**268**	**3890**	268	3900							
458.sjeng	112	718	1890	**718**	**1890**	718	1890							
462.libquantum	112	43.4	53500	43.5	53300	**43.5**	**53400**							
464.h264ref	112	777	3190	**774**	**3200**	767	3230							
471.omnetpp	112	582	1200	**582**	**1200**	583	1200							
473.astar	112	546	1440	546	1440	**546**	**1440**							
483.xalancbmk	112	278	2780	280	2760	**280**	**2760**							

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 Settings:
    Intel HyperThreading Technology set to Enabled
    CPU performance set to Enterprise
    Power Performance Tuning set to OS
    SNC set to Enabled
    IMC Interleaving set to 1-way Interleave
    Patrol Scrub set to Disabled
     Sysinfo program /home/cpu2006-1.2/config/sysinfo.rev6993
     Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
     running on linux-nsv2 Mon Jun 26 11:36:37 2017

     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) Platinum 8180 CPU @ 2.50GHz
                    Continued on next page

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Platform Notes (Continued)

```
     2 "physical id"s (chips)
     112 "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 : 28
     siblings  : 56
     physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
     25 26 27 28 29 30
     physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
     25 26 27 28 29 30
  cache size : 39424 KB

From /proc/meminfo
  MemTotal:       394864980 kB
  HugePages_Total:        0
  Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
  SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
  SuSE-release:
     SUSE Linux Enterprise Server 12 (x86_64)
     VERSION = 12
     PATCHLEVEL = 2
     # 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-SP2"
     VERSION_ID="12.2"
     PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
     ID="sles"
     ANSI_COLOR="0;32"
     CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
  Linux linux-nsv2 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
  (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 26 10:58

SPEC is set to: /home/cpu2006-1.2
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/sda3       xfs   517G   28G  490G   6% /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
```

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Platform Notes (Continued)

```
    hardware, firmware, and the "DMTF SMBIOS" standard.

  BIOS Cisco Systems, Inc. C240M5.3.1.1a.0.0607170937 06/07/2017
  Memory:
   24x 0xCE00 M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

 (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/opt/intel/compilers_and_libraries_2018.0.082/linux/compiler/lib/ia32:/opt/intel/compilers_and_libraries_2018.0.082/linux/compiler/lib/intel64:/home/cpu2006-1.2/sh10.2"


 Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.2
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/transparent_hugepage/enabled
 Filesystem page cache cleared with:
 shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
 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_2018.0.082/linux/lib/ia32
```

C++ benchmarks:
```
     icpc -m32 -L/opt/intel/compilers_and_libraries_2018.0.082/linux/lib/ia32
```

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
```

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Base Optimization Flags

C benchmarks:
```
-xHOST -ipo -O3 -no-prec-div -qopt-prefetch -qopt-mem-layout-trans=3
```

C++ benchmarks:
```
-xHOST -ipo -O3 -no-prec-div -qopt-prefetch -qopt-mem-layout-trans=3
-Wl,-z,muldefs -L/home/cpu2006-1.2/sh10.2 -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-ic17.0-official-linux64-revF.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revG.html

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You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-revG.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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