SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS B200 M3 (Intel Xeon E5-2670 v2, 2.50 GHz)

SPECint®2006 = 50.6

SPECint_base2006 = 47.9

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

Benchmark results (peak / base):

Benchmark	Peak	Base
400.perlbench	33.7	27.0
401.bzip2	20.2	20.0
403.gcc	27.9	29.6
429.mcf	58.7	
445.gobmk	22.9	22.5
456.hmmer	50.7	50.6
458.sjeng	25.2	24.7
462.libquantum	3280	
464.h264ref	48.8	44.1
471.omnetpp	40.8	29.2
473.astar	27.2	
483.xalancbmk	48.6	47.9

SPECint_base2006 = 47.9

SPECint2006 = 50.6

Hardware

CPU Name:	Intel Xeon E5-2670 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	20 cores, 2 chips, 10 cores/chip
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:	25 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem:	1 X 300 GB 15000 RPM SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 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 V10.0

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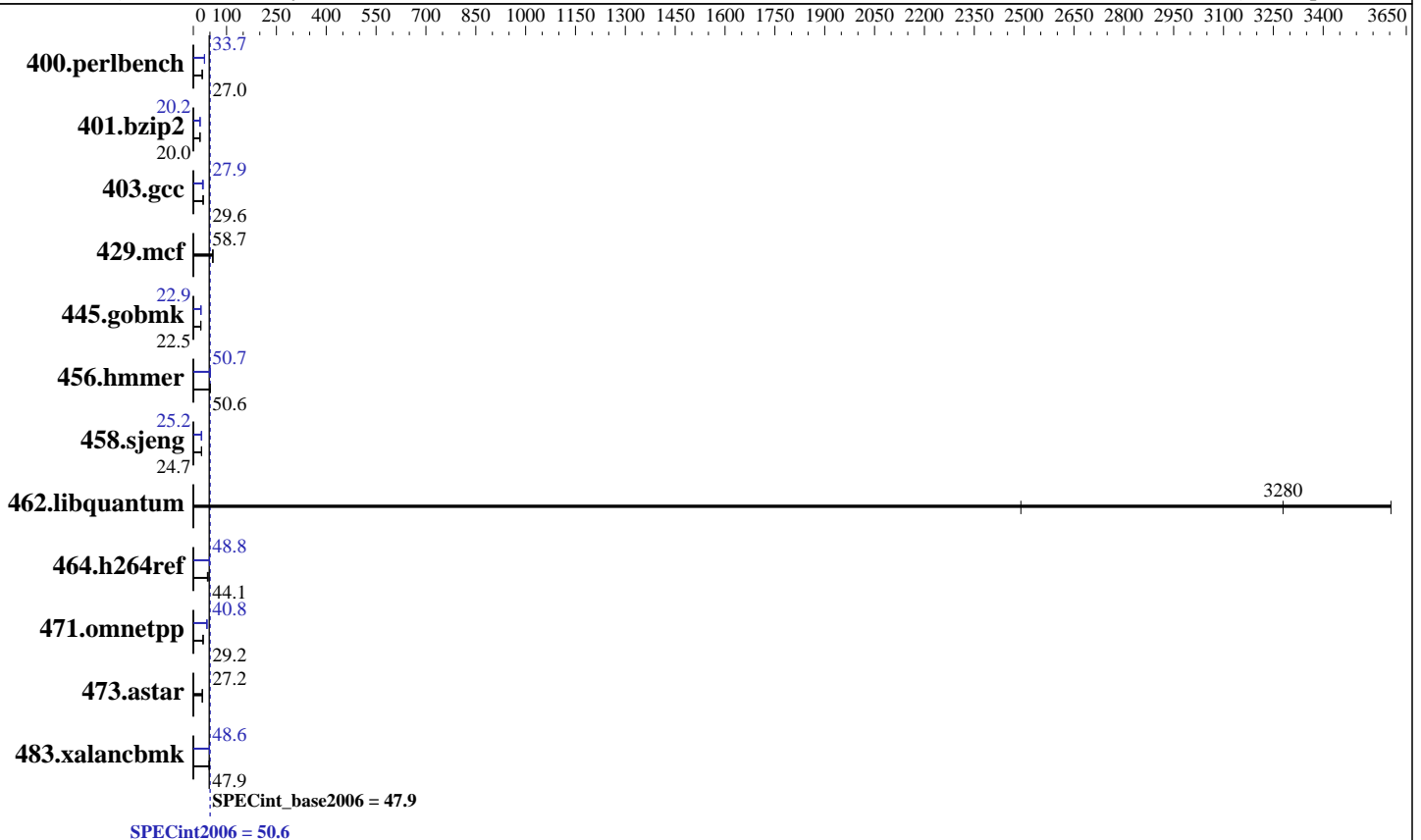|	
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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	363	26.9	**362**	**27.0**	362	27.0	290	33.7	**290**	**33.7**	291	33.6
401.bzip2	**482**	**20.0**	481	20.1	482	20.0	475	20.3	**477**	**20.2**	478	20.2
403.gcc	273	29.5	272	29.6	**272**	**29.6**	267	30.1	**289**	**27.9**	290	27.8
429.mcf	**155**	**58.7**	156	58.6	155	59.0	**155**	**58.7**	156	58.6	155	59.0
445.gobmk	469	22.4	463	22.6	**466**	**22.5**	458	22.9	459	22.8	**459**	**22.9**
456.hmmer	**184**	**50.6**	184	50.7	187	50.0	184	50.6	**184**	**50.7**	184	50.7
458.sjeng	489	24.7	**489**	**24.7**	489	24.7	480	25.2	**481**	**25.2**	514	23.6
462.libquantum	8.32	2490	5.75	3600	**6.32**	**3280**	8.32	2490	5.75	3600	**6.32**	**3280**
464.h264ref	523	42.3	497	44.5	**502**	**44.1**	457	48.5	**453**	**48.8**	452	48.9
471.omnetpp	**214**	**29.2**	210	29.8	215	29.1	**153**	**40.8**	153	40.8	151	41.3
473.astar	256	27.4	259	27.1	**258**	**27.2**	256	27.4	259	27.1	**258**	**27.2**
483.xalancbmk	**144**	**47.9**	140	49.1	144	47.8	142	48.8	142	48.6	**142**	**48.6**

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

```
    BIOS Settings:
    Intel HT Technology = Disabled
    CPU performance set to HPC
    Power Technology set to Custom
    CPU Power State C6 set to Enabled
    CPU Power State C1 Enhanced set to Disabled
    Energy Performance policy set to Performance
    Memory RAS configuration set to Maximum Performance
    DRAM Clock Throttling Set to Performance
    LV DDR Mode set to Performance-mode
    DRAM Refresh Rate Set to 1x
     Sysinfo program /opt/cpu2006-1.2/config/sysinfo.rev6818
     $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
     running on B200M3-IVB Sun Nov 17 02:19:58 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 E5-2670 v2 @ 2.50GHz
           2 "physical id"s (chips)
           20 "processors"
```

Continued on next page

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Platform Notes (Continued)

```
    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 : 10
       siblings  : 10
       physical 0: cores 0 1 2 3 4 8 9 10 11 12
       physical 1: cores 0 1 2 3 4 8 9 10 11 12
    cache size : 25600 KB

 From /proc/meminfo
    MemTotal:      264463296 kB
    HugePages_Total:        0
    Hugepagesize:       2048 kB

 /usr/bin/lsb_release -d
    Red Hat Enterprise Linux Server release 6.4 (Santiago)

 From /etc/*release* /etc/*version*
    redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

 uname -a:
    Linux B200M3-IVB 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Nov 16 20:31

 SPEC is set to: /opt/cpu2006-1.2
    Filesystem     Type     Size  Used Avail Use% Mounted on
    /dev/sda1      ext4     275G   50G  211G  20% /

 Additional information from dmidecode:
   BIOS Cisco Systems, Inc. B200M3.2.1.3a.0.082320131800 08/23/2013
   Memory:
    16x 0xAD00 HMT42GR7AFR4C-RD 16 GB 1866 MHz 2 rank
    8x NO DIMM NO DIMM

 (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:/opt/cpu2006-1.2/sh"
 OMP_NUM_THREADS = "20"

  Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
  memory using RedHat EL 6.4
  Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
  runspec command invoked through numactl i.e.:
```

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General Notes (Continued)

```
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
icc  -m64
```

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

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/sh -lsmartheap64
```

Base Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

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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`

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`

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Peak Optimization Flags (Continued)

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/sh -lsmartheap`

473.astar: basepeak = yes

483.xalancbmk: `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/sh -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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130717.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2.20130717.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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