



SPEC[®] CINT2006 Result

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Cisco Systems

Cisco UCS B260 M4 (Intel Xeon E7-4820 v2, 2.00 GHz)

SPECint[®]_rate2006 = NC

SPECint_rate_base2006 = NC

CPU2006 license: 9019

Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Apr-2014

Hardware Availability: May-2014

Software Availability: Nov-2013

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Cisco or Intel.

	Copies
400.perlbench	
401.bzip2	
403.gcc	
429.mcf	
445.gobmk	
456.hmmer	
458.sjeng	
462.libquantum	
464.h264ref	
471.omnetpp	
473.astar	
483.xalancbmk	

Hardware

CPU Name: Intel Xeon E7-4820 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 16 MB I+D on chip per chip
 Other Cache: None

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 2.6.32-431.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 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

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Memory: 256 GB (32 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL11)
Disk Subsystem: 1 X 300 GB 15000 RPM SAS
Other Hardware: None

Other Software: Mellanox SmartHeap V10.0

Results Table

Benchmark	Base						Peak								
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	
400.perlbench	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
401.bzip2	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
403.gcc	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
429.mcf	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
445.gobmk	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
456.hmmer	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
458.sjeng	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
462.libquantum	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
464.h264ref	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
471.omnetpp	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
473.astar	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC
483.xalancbmk	32	NC	NC	NC	NC	NC	NC	32	NC	NC	NC	NC	NC	NC	NC

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"



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Platform Notes

```

Intel HT Technology = Enabled
CPU performance set to HPC
Power Technology set to Custom
CPU Power State C6 set to Disabled
CPU Power State C1 Enhanced set to Disabled
Memory RAS configuration set to Maximum Performance
DRAM Clock Throttling Set to Performance
Sysinfo program /opt/cpu2006-1.4/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 # $ e86d1572650a6e4d596a3cee98f191
running on yos Tue Apr 22 10:30:55 2014

```

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/config.html#sysinfo>

```

From /proc/cpuinfo
model name      : Intel(R) Xeon(R) CPU E7-4820 v2 @ 2.00GHz
 2 "physical id" (chips)
 32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpt from /proc/cpuinfo might not be reliable. Use with
caution.)
cpu cores      : 1
siblings       : 1
physical id    : 0: cores 0 1 2 3 4 5 6 7
physical id    : 1: cores 0 1 2 3 4 5 6 7
cache size     : 16384 KB

```

```

MemTotal:      263971504 kB
MmgePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

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Platform Notes (Continued)

```
uname -a:
Linux yos 2.6.32-431.el6.x86_64 #1 SMP Mon Nov 11 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux
```

```
run-level 3 Apr 22 00:25
```

```
SPEC is set to: /opt/cpu2006-1.4
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal       ext4  275G  12G  249G   5% /
```

```
Additional information from dmidecode:
BIOS Cisco Systems, Inc. XM4-1.2.2.1.15.022020141613 02/20/2014
Memory:
32x 8 GB
32x 0xCE00 M393B1K70QB0-YK0 8 GB 1333 MHz 2 rank
16x NO DIMM NO DIMM
```

(End of data from sinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/cpu2006-1.4/libs/32:/opt/cpu2006-1.4/libs/64:/opt/cpu2006-1.4/sh"

```
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using kernel EL 6.4
Transparent Huge Pages enabled with:
/sys/kernel/mm/redhat_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>
```

Submitted_by: "Sheshgiri I (shei)" <shei@cisco.com>
Submitted: Wed May 28 03:16:44 EDT 2014
Submission: cpu2006-20140505-29485.sub



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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.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -fcommon -fPIE -fPIE -fPIE -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -fcommon -fPIE -fPIE -fPIE -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -Wl,-z,relro -Wl,-z,now -Wl,-z,defs -Wl,-z,relro -Wl,-z,now -Wl,-z,defs -Wl,-z,relro -Wl,-z,now -Wl,-z,defs

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

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Peak Compiler Invocation (Continued)

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

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

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Peak Optimization Flags (Continued)

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-flags=3

456.hmmr: -xSSE4.2 -ipo -O3 -no-prec-div -unroll12 -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)
-unroll14 -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)
-unroll12 -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/sh -lmartheap

473.astar: basepeak = yes

485.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

473.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-revB.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-ic14.0-official-linux64.20140128.xml>
<http://www.spec.org/cpu2006/flags/Cisco-Platform-Settings-V1.2-20140128.xml>

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For other inquiries, please contact webmaster@spec.org.

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