



SPEC[®] CINT2006 Result

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Cisco Systems

Cisco UCS B460 M4 (Intel Xeon E7-4830 v2 @ 2.20GHz)

SPECint[®]_rate2006 = 1310

SPECint_rate_base2006 = 1270

CPU2006 license: 9019

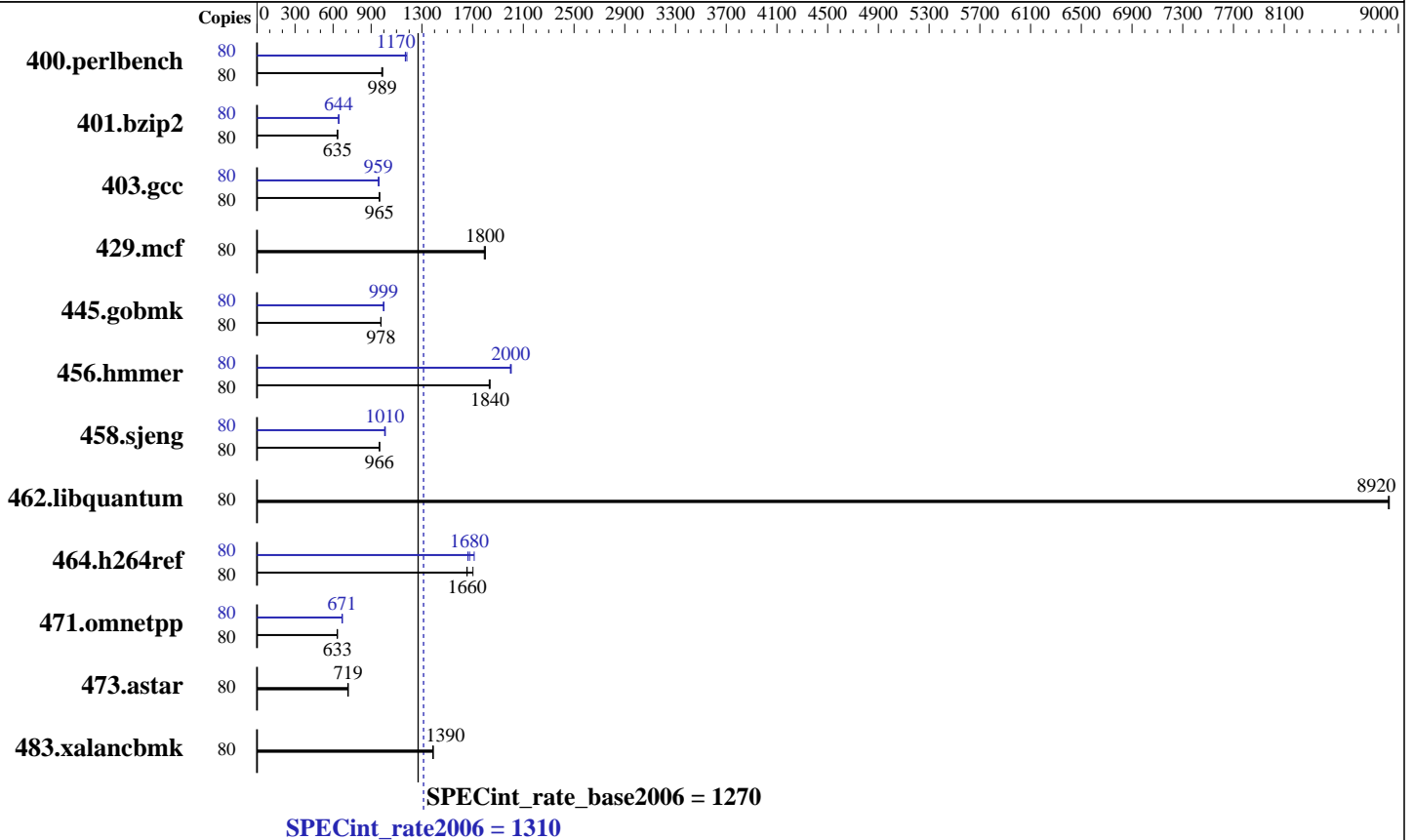
Test sponsor: Cisco Systems

Tested by: Cisco Systems

Test date: Jul-2014

Hardware Availability: May-2014

Software Availability: Apr-2014



Hardware

CPU Name: Intel Xeon E7-4830 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip, 2 threads/core
 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: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 512 GB (64 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz and CL11)
 Disk Subsystem: 1 X 300 GB 15000 RPM SAS
 Other Hardware: None

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
 Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	790	990	790	989	795	984	80	668	1170	668	1170	661	1180
401.bzip2	80	1218	634	1216	635	1215	635	80	1198	644	1199	644	1197	645
403.gcc	80	667	965	667	965	666	967	80	670	961	672	959	672	958
429.mcf	80	406	1800	407	1790	405	1800	80	406	1800	407	1790	405	1800
445.gobmk	80	858	978	860	976	858	978	80	840	999	839	1000	842	997
456.hammer	80	408	1830	406	1840	406	1840	80	372	2000	374	2000	373	2000
458.sjeng	80	1002	966	1003	966	1002	966	80	960	1010	957	1010	962	1010
462.libquantum	80	186	8920	186	8930	186	8920	80	186	8920	186	8930	186	8920
464.h264ref	80	1070	1650	1040	1700	1068	1660	80	1056	1680	1064	1660	1034	1710
471.omnetpp	80	789	633	789	634	791	632	80	743	673	745	671	745	671
473.astar	80	785	716	781	719	781	719	80	785	716	781	719	781	719
483.xalancbmk	80	398	1390	398	1390	397	1390	80	398	1390	398	1390	397	1390

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

```

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 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on B460M4 Tue Jul 15 21:09:54 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/Docs/config.html#sysinfo
From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E7-4830 v2 @ 2.20GHz
4 "physical id"s (chips)
80 "processors"

```

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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  : 20
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
physical 2: cores 0 1 2 3 4 8 9 10 11 12
physical 3: cores 0 1 2 3 4 8 9 10 11 12
cache size : 20480 KB
From /proc/meminfo
MemTotal:      528550804 kB
HugePages_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
uname -a:
Linux B460M4 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
x86_64 x86_64 GNU/Linux
run-level 3 Jul 15 20:59
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. EXM4-1.2.2.1.21.042220141009 04/22/2014
Memory:
64x 8 GB
64x 0xCE00 M393B1K70QB0-YK0 8 GB 1066 MHz 2 rank
32x 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/cpu2006-1.4/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 RedHat EL 6.4
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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
Submitted_by: "Sheshgiri I (shei)" <shei@cisco.com>
Submitted: Wed Jul 23 14:31:05 EDT 2014
Submission: cpu2006-20140723-30548.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.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -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

Peak Compiler Invocation

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

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32



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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
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -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)
-unroll4 -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)
-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)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap
473.astar: basepeak = yes

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Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

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-revB.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-revB.xml>

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

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