



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = NC

PowerEdge R920 (Intel Xeon E7-4809 v2, 1.90 GHz)

SPECint_rate_base2006 = NC

CPU2006 license: 55

Test date: Jan-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Oct-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 Dell 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	

Non-Compliant

Hardware

CPU Name: Intel Xeon E7-4809 v2
 CPU Characteristics:
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 24 cores, 4 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64)
 3.0.76-0.11-default
 Compiler: C/C++; Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext2
 System State: Run level 5 (multi-user + display manager)
 Base Pointers: 32-bit

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Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (58 x 16 GB 2Rx4 PC3L-12800R-11 + 6 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1333 MHz)
Disk Subsystem: 1 x 400 GB SAS SSD
Other Hardware: None

Peak Processors: 32/64-bit
Other Software: Microquill SmartHeap V10.0

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
401.bzip2	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
403.gcc	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
429.mcf	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
445.gobmk	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
456.hmmer	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
458.sjeng	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
462.libquantum	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
464.h264ref	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
471.omnetpp	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
473.astar	48	NC	NC	NC	NC	NC	NC	48	NC	NC	NC	NC	NC	NC		
483.xalan_bmk	48	NC	NC	NC	NC	NC	NC	48	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.



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Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS settings:

Virtualization Technology disabled

Execute Disable disabled

System Profile set to Custom

Memory Patrol Scrub set to disabled

Sysinfo program

/root/Desktop/Performance/icc/2013_17_2013/config/sysinfo.rev6818

\$Rev: 6818 \$ \$Date: 2012-07-17 #S e86d102572650a6e4d596a3cee98f191

running on slesperf2 Thu Jan 16 20:59:57 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 E7-4809 v2 @ 1.90GHz

4 "physical id"s (chips)

48 "processor"s

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

physical id : 6

siblings : 12

physical 0: cores 0 1 2 3 4 5

physical 1: cores 0 1 2 3 4 5

physical 2: cores 0 1 2 3 4 5

physical 3: cores 0 1 2 3 4 5

cache size : 12288 KB

From /proc/meminfo

MemTotal: 1058789108 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

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Platform Notes (Continued)

```

/usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*
SuSE-release:
    SUSE Linux Enterprise Server 11 (x86_64)
    VERSION = 11
    PATCHLEVEL = 3

uname -a:
    Linux slesperf2 3.0.76-0.1 SMP Fri Jun 14 08:21:43 UTC 2013
    (ccab990) x86_64 x86_64 x86_64 GNU/Linux

run-level 5 Jan 15 19:03 l1st=S

```

```

SPEC is set to: /root/Desktop/Performance/ic14.0_Oct17_2013
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sda2        ext2     30G      190G  174G  53% /

```

```

Additional information from dmidecode:
BIOS: Dell Inc. 1.00.012/16/2013
Memory:
  4x 00CE03300CE M393B2G70BH0-YK0 16 GB 1333 MHz
  6x 00E00B300CE M393B2G70CB0-CMA 16 GB 1333 MHz
  11x 00C04B300CE M393B2G70BH0-YK0 16 GB 1333 MHz
  6x 00C04B300CE M393B2G70CB0-YK0 16 GB 1333 MHz

```

(End of data from sysinfo program)
 Regarding the sysinfo display about the memory installed, although the information is accurate, two different types of DIMMs were used in the configuration and it may not be easy to immediately tell the difference. The following has been provided to help make the situation more clear.
 DIMMs with `M393B2G70BH0-YK0` in the name are 16 GB PC3L-12800R-11 DIMMs
 DIMMs with `M393B2G70CB0-CMA` in the name are 16 GB PC3-14900R-13 DIMMs



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General Notes

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = */root/Desktop/Performance/ic14.0_Oct17_2013/libs/32:/root/Desktop/Performance/ic14.0_Oct17_2013/libs/64:/root/Desktop/Performance/ic14.0_Oct17_2013/sh*
```

```
Binaries compiled on a system with 1 Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
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

C++ benchmarks:
icpc -m32
```

Base Portability Flags

```
400.ibmcc: -DSPEC_CPU_LINUX_IA32
402.noquantum: -DSPEC_CPU_LINUX
83.xalanbmk: -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
```



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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

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



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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: basepeak = yes

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

-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

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: 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/Dell-Platform-Settings-V1.2-revC.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/Dell-Platform-Settings-V1.2-revC.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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