



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = 1200

PowerEdge R920 (Intel Xeon E7-8893 v2, 3.40 GHz)

SPECint_rate_base2006 = 1150

CPU2006 license: 55

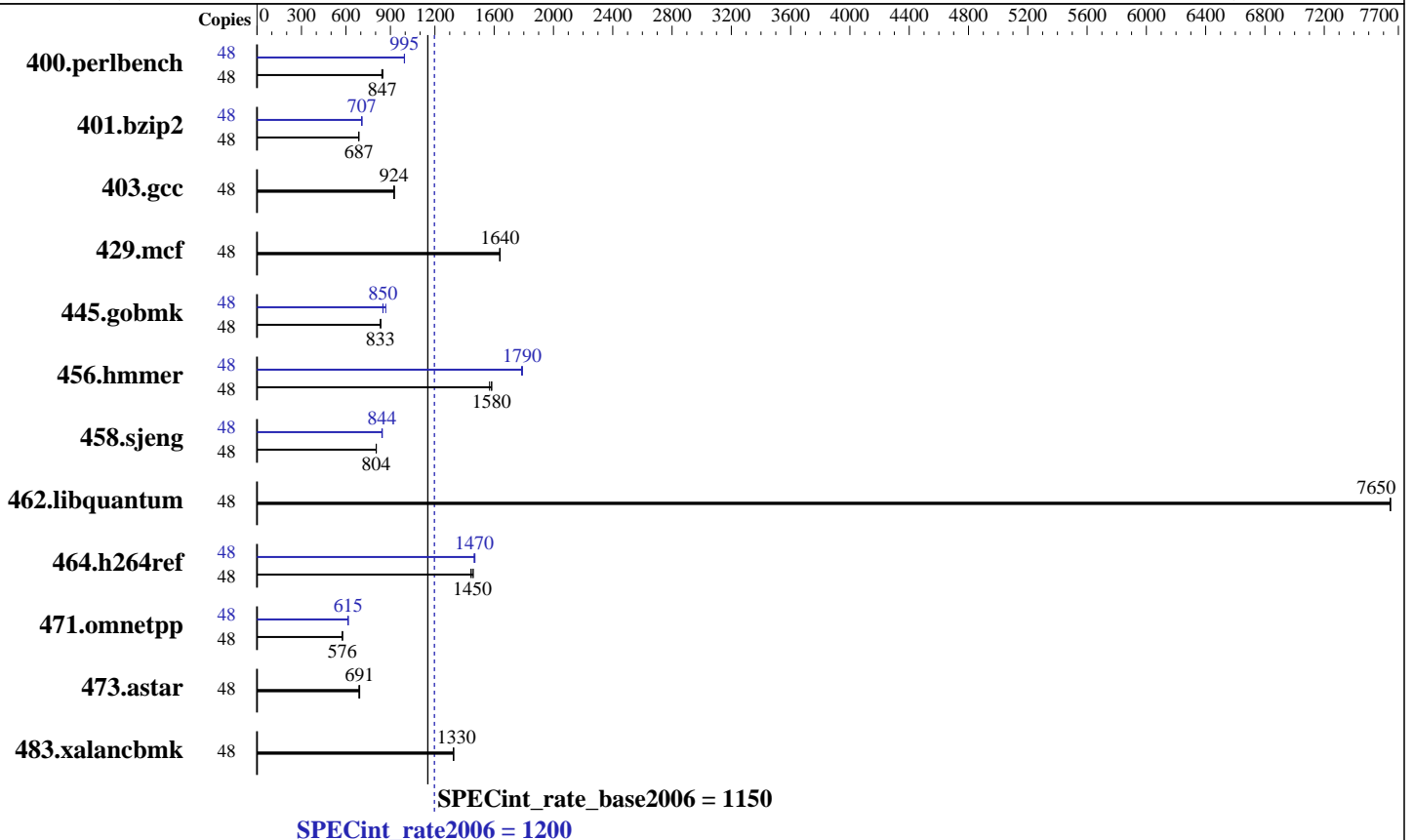
Test date: Feb-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Mar-2014



Hardware

CPU Name: Intel Xeon E7-8893 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 3400
 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
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 37.5 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (64 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
 Disk Subsystem: 1 x 400 GB SAS6 SSD
 Other Hardware: None

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 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	48	557	842	<u>554</u>	<u>847</u>	553	848	48	471	995	<u>472</u>	<u>995</u>	472	994
401.bzip2	48	675	687	674	687	<u>674</u>	<u>687</u>	48	<u>655</u>	<u>707</u>	657	706	654	708
403.gcc	48	417	927	419	923	<u>418</u>	<u>924</u>	48	417	927	419	923	<u>418</u>	<u>924</u>
429.mcf	48	267	1640	<u>267</u>	<u>1640</u>	267	1640	48	267	1640	<u>267</u>	<u>1640</u>	267	1640
445.gobmk	48	<u>604</u>	<u>833</u>	605	833	603	835	48	580	868	593	849	<u>592</u>	<u>850</u>
456.hammer	48	<u>283</u>	<u>1580</u>	285	1570	283	1580	48	250	1790	<u>250</u>	<u>1790</u>	251	1780
458.sjeng	48	723	804	722	805	<u>722</u>	<u>804</u>	48	<u>688</u>	<u>844</u>	687	845	689	842
462.libquantum	48	130	7650	<u>130</u>	<u>7650</u>	130	7650	48	130	7650	<u>130</u>	<u>7650</u>	130	7650
464.h264ref	48	736	1440	728	1460	<u>731</u>	<u>1450</u>	48	725	1470	<u>724</u>	<u>1470</u>	722	1470
471.omnetpp	48	521	576	520	577	<u>521</u>	<u>576</u>	48	488	615	489	614	<u>488</u>	<u>615</u>
473.astar	48	486	693	490	687	<u>487</u>	<u>691</u>	48	486	693	490	687	<u>487</u>	<u>691</u>
483.xalancbmk	48	250	1320	250	1330	<u>250</u>	<u>1330</u>	48	250	1320	250	1330	<u>250</u>	<u>1330</u>

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:
Virtualization Technology disabled
Execute Disable disabled
System Profile set to Custom
Memory Patrol Scrub set to disabled
Sysinfo program
/root/Desktop/Performance/ic14.0_Oct17_2013/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on slesperf2 Sat Feb 1 09:29:59 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 E7-8893 v2 @ 3.40GHz
4 "physical id"s (chips)

```

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Platform Notes (Continued)

48 "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 : 6
siblings  : 12
physical 0: cores 3 4 5 6 10 11
physical 1: cores 3 4 5 6 10 11
physical 2: cores 3 4 5 6 10 11
physical 3: cores 3 4 5 6 10 11
cache size : 38400 KB
```

From /proc/meminfo

```
MemTotal:      1058789108 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

/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 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013
(ccab990) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Jan 31 17:32 last=S

SPEC is set to: /root/Desktop/Performance/ic14.0_Oct17_2013

```
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sda2        ext2      365G      190G  174G  53% /
```

Additional information from dmidecode:

BIOS Dell Inc. 1.0.4 01/27/2014

Memory:

```
47x 00CE00B300CE M393B2G70BH0-YK0 16 GB 1333 MHz
11x 00CE04B300CE M393B2G70BH0-YK0 16 GB 1333 MHz
6x 00CE04B300CE M393B2G70CB0-YK0 16 GB 1333 MHz
```

(End of data from sysinfo program)

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 1x Core i7-860 CPU + 8GB

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General Notes (Continued)

```

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.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 -lsmarthearp

```

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: 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

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Peak Optimization Flags (Continued)

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

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 other inquiries, please contact webmaster@spec.org.

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