SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

$SPECint^®\_rate2006 = \quad 2190$

$SPECint\_rate\_base2006 = \ 2130$
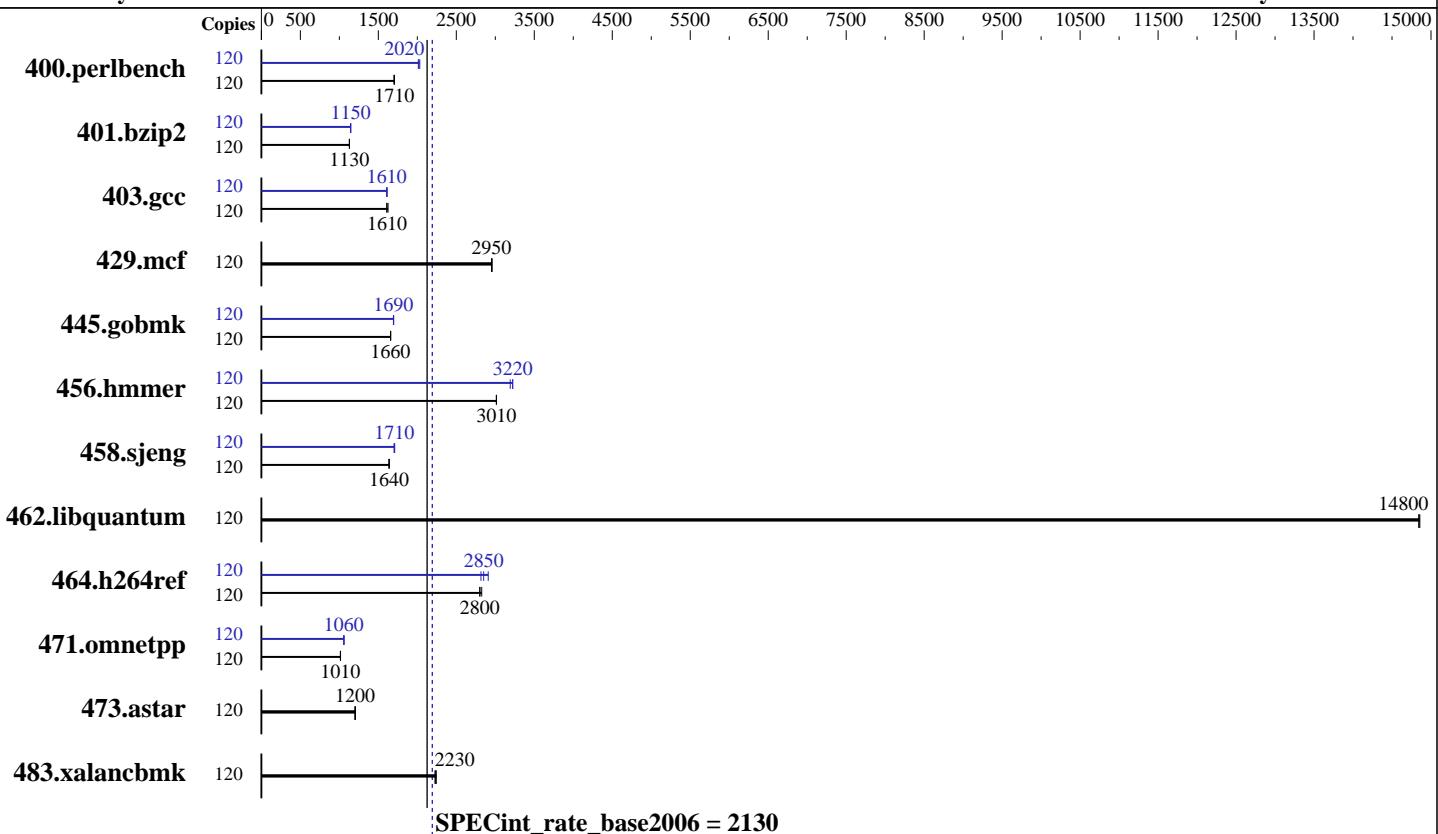
CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

SPECint_rate_base2006 = 2130

SPECint_rate2006 = 2190

Benchmark	Copies	Peak	Base
400.perlbench	120	2020	1710
401.bzip2	120	1150	1130
403.gcc	120	1610	1610
429.mcf	120		2950
445.gobmk	120	1690	1660
456.hmmer	120	3220	3010
458.sjeng	120	1710	1640
462.libquantum	120		14800
464.h264ref	120	2850	2800
471.omnetpp	120	1060	1010
473.astar	120		1200
483.xalancbmk	120		2230

Hardware

CPU Name:	Intel Xeon E7-4880 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	60 cores, 4 chips, 15 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

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

SPECint_rate2006 = 2190

SPECint_rate_base2006 = 2130

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	120	687	1710	**687**	**1710**	690	1700	120	577	2030	**580**	**2020**	583	2010
401.bzip2	120	1025	1130	**1026**	**1130**	1026	1130	120	1012	1140	1011	1150	**1011**	**1150**
403.gcc	120	595	1620	601	1610	**600**	**1610**	120	599	1610	601	1610	**600**	**1610**
429.mcf	120	371	2950	370	2960	**371**	**2950**	120	371	2950	370	2960	**371**	**2950**
445.gobmk	120	759	1660	760	1660	**760**	**1660**	120	743	1690	742	1700	**743**	**1690**
456.hmmer	120	371	3020	372	3010	**371**	**3010**	120	347	3220	351	3190	**347**	**3220**
458.sjeng	120	885	1640	887	1640	**886**	**1640**	120	853	1700	**851**	**1710**	849	1710
462.libquantum	120	167	14900	**167**	**14800**	167	14800	120	167	14900	**167**	**14800**	167	14800
464.h264ref	120	940	2830	**947**	**2800**	948	2800	120	913	2910	**932**	**2850**	943	2820
471.omnetpp	120	739	1020	**740**	**1010**	740	1010	120	709	1060	**709**	**1060**	708	1060
473.astar	120	702	1200	**700**	**1200**	698	1210	120	702	1200	**700**	**1200**	698	1210
483.xalancbmk	120	369	2240	**371**	**2230**	372	2230	120	369	2240	**371**	**2230**	372	2230

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 slesperf1 Fri Feb 28 18:55:14 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 E7-4880 v2 @ 2.50GHz
       4 "physical id"s (chips)
```
Continued on next page

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

SPECint_rate2006 =   2190

SPECint_rate_base2006 = 2130

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

Platform Notes (Continued)

```
     120 "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 : 15
      siblings  : 30
      physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
      physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
   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 slesperf1 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 Feb 28 18:46 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   31G  333G   9% /

 Additional information from dmidecode:
   BIOS Dell Inc. 1.0.4 01/27/2014
   Memory:
     32x 00CE00B300CE M393B2G70BH0-YK0 16 GB 1333 MHz
     10x 00CE00B300CE M393B2G70CB0-YK0 16 GB 1333 MHz
     22x 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
```

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

SPECint_rate2006 = 2190

SPECint_rate_base2006 = 2130

CPU2006 license: 55		**Test date:**	Feb-2014
Test sponsor: Dell Inc.		**Hardware Availability:**	Mar-2014
Tested by: Dell Inc.		**Software Availability:**	Mar-2014

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 -lsmartheap

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

Continued on next page

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

SPECint_rate2006 =   2190

SPECint_rate_base2006 = 2130

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

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`

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`

Dell Inc.

PowerEdge R920 (Intel Xeon E7-4880 v2, 2.50 GHz)

SPECint_rate2006 = 2190

SPECint_rate_base2006 = 2130

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 20:49:45 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 March 2014.