SPEC® CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.
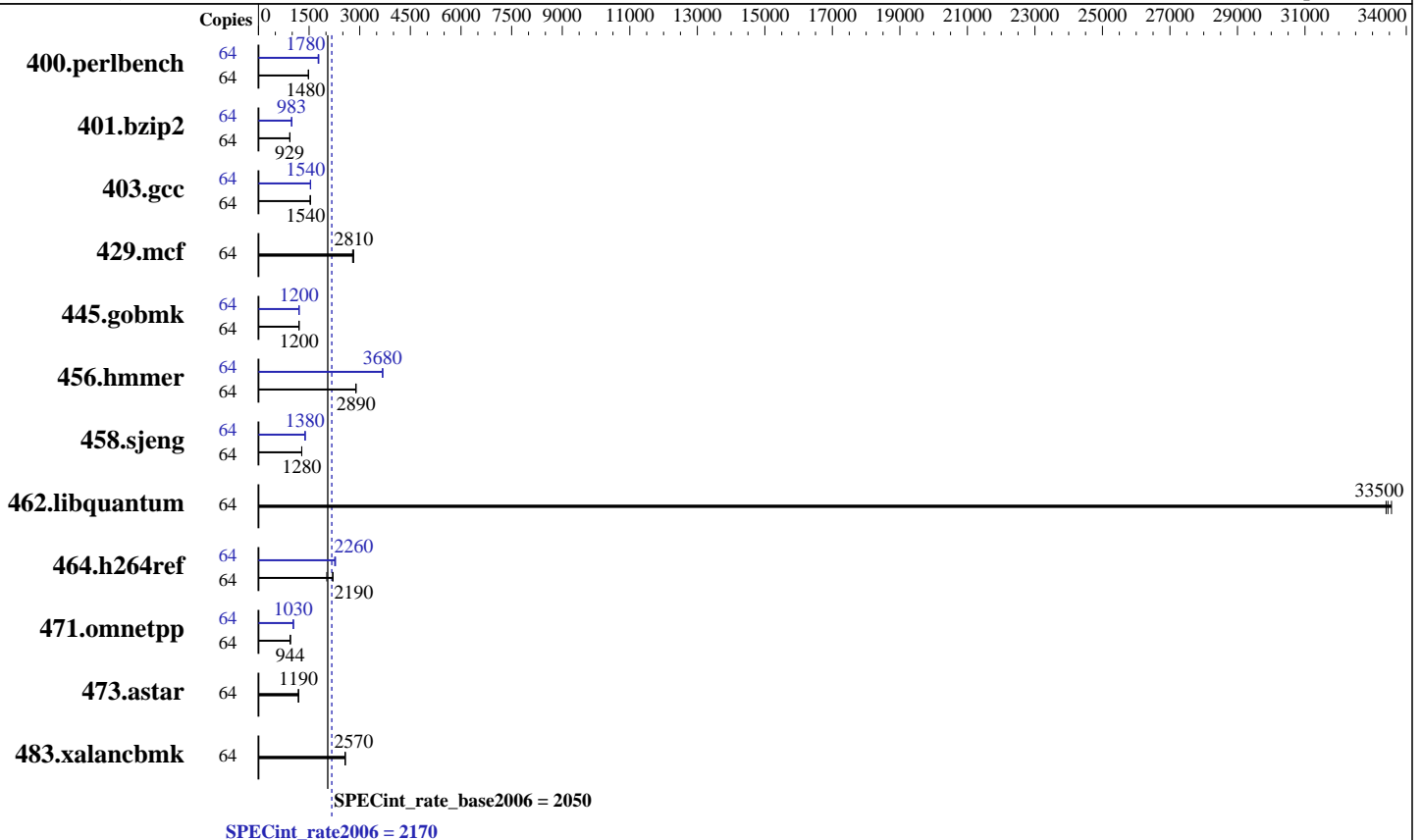
PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint®_rate2006 = 2170

SPECint_rate_base2006 = 2050

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Apr-2017

Copies

Benchmark	base	peak
400.perlbench	64 (1480)	64 (1780)
401.bzip2	64 (929)	64 (983)
403.gcc	64 (1540)	64 (1540)
429.mcf	64 (2810)	
445.gobmk	64 (1200)	64 (1200)
456.hmmer	64 (2890)	64 (3680)
458.sjeng	64 (1280)	64 (1380)
462.libquantum	64 (33500)	
464.h264ref	64 (2190)	64 (2260)
471.omnetpp	64 (944)	64 (1030)
473.astar	64 (1190)	
483.xalancbmk	64 (2570)	

SPECint_rate_base2006 = 2050

SPECint_rate2006 = 2170

Hardware

CPU Name: Intel Xeon Gold 6134

CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz

CPU MHz: 3200

FPU: Integrated

CPU(s) enabled: 32 cores, 4 chips, 8 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: 1 MB I+D on chip per core

L3 Cache: 24.75 MB I+D on chip per chip

Other Cache: None

Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)

Disk Subsystem: 1 x 900 GB 15K RPM SAS12

Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 (x86_64) SP2 4.4.21-69-default

Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux

Auto Parallel: Yes

File System: xfs

System State: Run level 3 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V10.2

SPEC CINT2006 Result
Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

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

Test date: Oct-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	421	1480	**422**	**1480**	423	1480	64	350	1790	**351**	**1780**	354	1770
401.bzip2	64	**665**	**929**	666	928	661	935	64	630	981	626	987	**628**	**983**
403.gcc	64	334	1540	**335**	**1540**	337	1530	64	333	1550	335	1540	**334**	**1540**
429.mcf	64	209	2790	**208**	**2810**	207	2820	64	209	2790	**208**	**2810**	207	2820
445.gobmk	64	**559**	**1200**	559	1200	559	1200	64	558	1200	**558**	**1200**	559	1200
456.hmmer	64	206	2890	**207**	**2890**	207	2880	64	**162**	**3680**	162	3680	162	3680
458.sjeng	64	**604**	**1280**	603	1280	605	1280	64	562	1380	560	1380	**560**	**1380**
462.libquantum	64	39.5	33600	**39.6**	**33500**	39.7	33400	64	39.5	33600	**39.6**	**33500**	39.7	33400
464.h264ref	64	641	2210	**646**	**2190**	700	2020	64	626	2260	**626**	**2260**	620	2280
471.omnetpp	64	424	943	423	945	**424**	**944**	64	385	1040	**389**	**1030**	389	1030
473.astar	64	380	1180	378	1190	**379**	**1190**	64	380	1180	378	1190	**379**	**1190**
483.xalancbmk	64	**172**	**2570**	172	2560	171	2580	64	**172**	**2570**	172	2560	171	2580

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

Kernel boot parameter: nohz_full=1-63
Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS settings:
Logical Processor Enabled
Virtualization Technology Disabled
Sub NUMA Cluster Enabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C1E Disabled
C States set to Autonomous
Uncore Frequency set to Dynamic
Memory Patrol Scrub Disabled
Energy Efficiency Policy set to Performance
CPU Interconnect Bus Link Power Management Disabled
PCI ASPM L1 Link Power Management Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-ehog Sat Oct 21 13:43:12 2017

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

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

Test date: Oct-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Platform Notes (Continued)

```
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) Gold 6134 CPU @ 3.20GHz
      4 "physical id"s (chips)
      64 "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 : 8
      siblings  : 16
      physical 0: cores 1 2 9 18 19 24 27
      physical 1: cores 0 2 3 9 16 19 26 27
      physical 2: cores 0 2 4 5 6 16 20 21
      physical 3: cores 0 2 3 9 16 19 26 27
   cache size : 25344 KB

From /proc/meminfo
   MemTotal:       791224272 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
   SuSE-release:
      SUSE Linux Enterprise Server 12 (x86_64)
      VERSION = 12
      PATCHLEVEL = 2
      # This file is deprecated and will be removed in a future service pack or
      release.
      # Please check /etc/os-release for details about this release.
   os-release:
      NAME="SLES"
      VERSION="12-SP2"
      VERSION_ID="12.2"
      PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
      ID="sles"
      ANSI_COLOR="0;32"
      CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
   Linux linux-ehog 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
   (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 21 13:42

SPEC is set to: /home/cpu2006
```

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

CPU2006 license: 55   **Test date:**   Oct-2017
Test sponsor: Dell Inc.   **Hardware Availability:** Sep-2017
Tested by: Dell Inc.   **Software Availability:** Apr-2017

Platform Notes (Continued)

```
    Filesystem     Type  Size  Used Avail Use% Mounted on
    /dev/sda4      xfs   796G   17G  779G   3% /home
  Additional information from dmidecode:

    Warning: Use caution when you interpret this section. The 'dmidecode' program
    reads system data which is "intended to allow hardware to be accurately
    determined", but the intent may not be met, as there are frequent changes to
    hardware, firmware, and the "DMTF SMBIOS" standard.

    BIOS Dell Inc. 1.1.7 08/10/2017
    Memory:
    48x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666 MHz

  (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"

  Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
  memory using Redhat Enterprise Linux 7.2
  Transparent Huge Pages enabled by default
  Filesystem page cache cleared with:
  shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
  runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
    `icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32`

C++ benchmarks:
    `icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32`

Base Portability Flags

```
    400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
      401.bzip2: -D_FILE_OFFSET_BITS=64
       403.gcc: -D_FILE_OFFSET_BITS=64
       429.mcf: -D_FILE_OFFSET_BITS=64
     445.gobmk: -D_FILE_OFFSET_BITS=64
     456.hmmer: -D_FILE_OFFSET_BITS=64
     458.sjeng: -D_FILE_OFFSET_BITS=64
  462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

SPEC CINT2006 Result

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Apr-2017

Base Portability Flags (Continued)

```
        464.h264ref: -D_FILE_OFFSET_BITS=64
       471.omnetpp: -D_FILE_OFFSET_BITS=64
          473.astar: -D_FILE_OFFSET_BITS=64
      483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
    -qopt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
    -qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap
```

Base Other Flags

C benchmarks:

```
        403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

```
    400.perlbench: icc -m64
```

```
      401.bzip2: icc -m64
```

```
     456.hmmer: icc -m64
```

```
      458.sjeng: icc -m64
```

C++ benchmarks:
```
    icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
        401.bzip2: -DSPEC_CPU_LP64
```

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Apr-2017

Peak Portability Flags (Continued)

```
      403.gcc: -D_FILE_OFFSET_BITS=64
      429.mcf: -D_FILE_OFFSET_BITS=64
   445.gobmk: -D_FILE_OFFSET_BITS=64
   456.hmmer: -DSPEC_CPU_LP64
    458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSET_BITS=64  -DSPEC_CPU_LINUX
   464.h264ref: -D_FILE_OFFSET_BITS=64
   471.omnetpp: -D_FILE_OFFSET_BITS=64
     473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64  -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
   400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)
                  -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

      401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)
                  -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -qopt-prefetch -auto-ilp32
                  -qopt-mem-layout-trans=3

        403.gcc: -xCORE-AVX512 -ipo -O3 -no-prec-div
                  -qopt-mem-layout-trans=3

        429.mcf: basepeak = yes

     445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)
                  -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -qopt-mem-layout-trans=3

      456.hmmer: -xCORE-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                  -qopt-mem-layout-trans=3

      458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)
                  -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -unroll4 -auto-ilp32
                  -qopt-mem-layout-trans=3

 462.libquantum: basepeak = yes

    464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)
                  -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3
```

Dell Inc.

PowerEdge R940
(Intel Xeon Gold 6134, 3.20 GHz)

SPECint_rate2006 =   2170

SPECint_rate_base2006 = 2050

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

Test date: Oct-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Peak Optimization Flags (Continued)

C++ benchmarks:

> 471.omnetpp: `-prof-gen(pass 1)` `-prof-use(pass 2)` `-xCORE-AVX512(pass 2)`
> `-par-num-threads=1(pass 1)` `-ipo(pass 2)` `-O3(pass 2)`
> `-no-prec-div(pass 2)`
> `-qopt-ra-region-strategy=block`
> `-qopt-mem-layout-trans=3` `-Wl,-z,muldefs`
> `-L/sh10.2 -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-ic17.0-official-linux64-revF.html
http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revD.20171221.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revD.20171221.xml

SPEC and SPECint are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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 Dec 21 17:10:36 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 21 December 2017.