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

Dell Inc.

PowerEdge R940 (Intel Xeon Platinum 8180, 2.50 GHz)

$SPECint^®\_rate2006 =$ Not Run

$SPECint\_rate\_base2006 =$ 5200

CPU2006 license: 55	**Test date:** Jun-2017
Test sponsor: Dell Inc.	**Hardware Availability:** Jul-2017
Tested by: Dell Inc.	**Software Availability:** Nov-2016

Copies 0 3000 7000 11000 16000 21000 26000 31000 36000 41000 46000 51000 56000 61000 66000 71000 76000 81000 88000

- 400.perlbench 224 4220
- 401.bzip2 224 2440
- 403.gcc 224 3620
- 429.mcf 224 6380
- 445.gobmk 224 3480
- 456.hmmer 224 7030
- 458.sjeng 224 3720
- 462.libquantum 224 87200
- 464.h264ref 224 6280
- 471.omnetpp 224 2350
- 473.astar 224 2740
- 483.xalancbmk 224 5150

SPECint_rate_base2006 = 5200

Hardware

CPU Name:	Intel Xeon Platinum 8180, Intel Xeon Platinum 8180M
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	112 cores, 4 chips, 28 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:	38.5 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 960 GB SATA SSD
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default
Compiler:	C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
Auto Parallel:	No
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 Platinum 8180, 2.50 GHz)

SPECint_rate2006 =   Not Run

SPECint_rate_base2006 = 5200
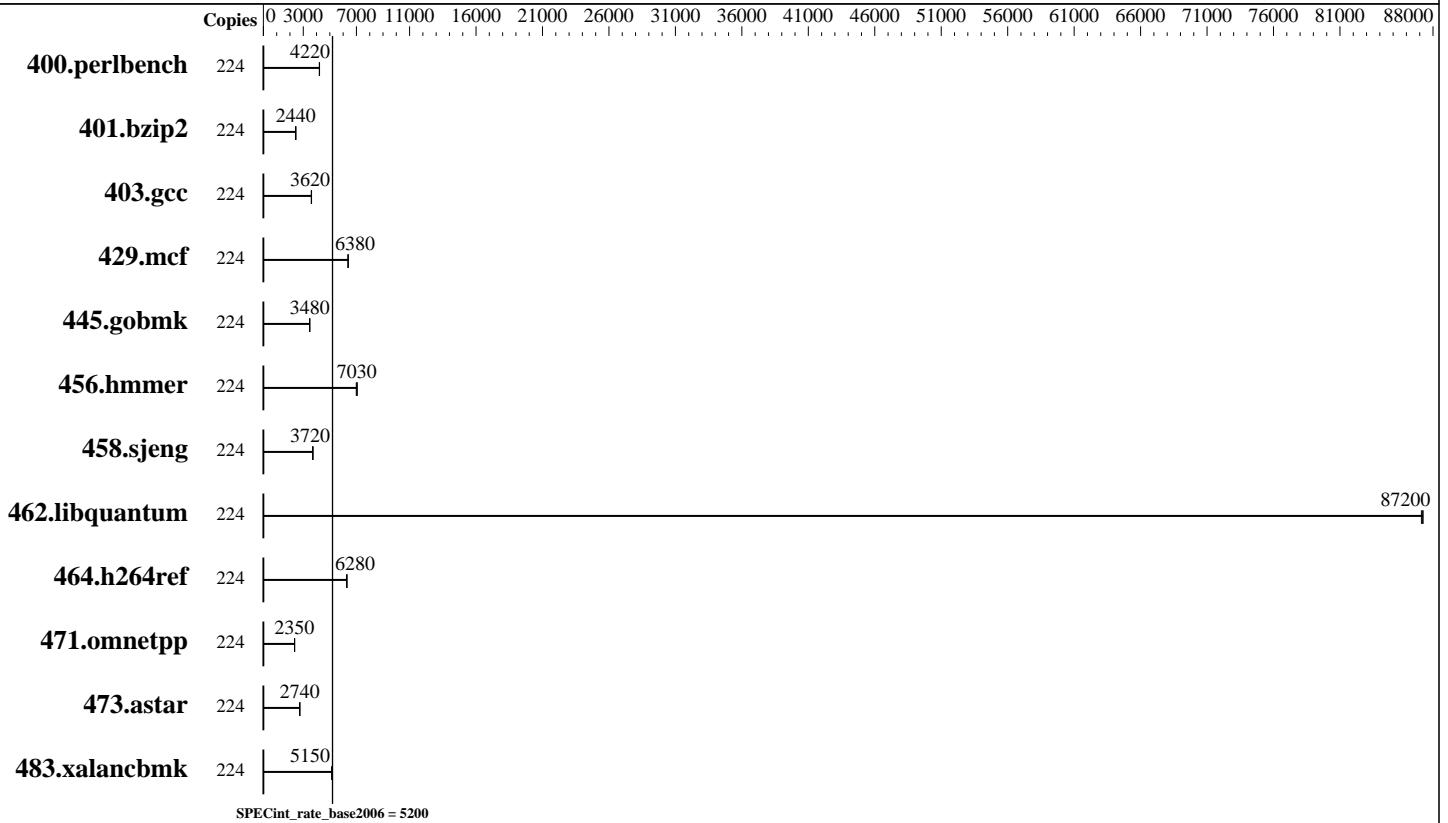
CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	224	**519**	**4220**	518	4230	520	4210							
401.bzip2	224	**886**	**2440**	883	2450	895	2410							
403.gcc	224	500	3600	**498**	**3620**	498	3620							
429.mcf	224	320	6380	321	6370	**320**	**6380**							
445.gobmk	224	**674**	**3480**	674	3480	674	3490							
456.hmmer	224	**297**	**7030**	299	6990	296	7070							
458.sjeng	224	729	3720	727	3730	**729**	**3720**							
462.libquantum	224	**53.2**	**87200**	53.2	87300	53.3	87100							
464.h264ref	224	788	6290	791	6270	**789**	**6280**							
471.omnetpp	224	597	2340	**596**	**2350**	595	2350							
473.astar	224	576	2730	574	2740	**574**	**2740**							
483.xalancbmk	224	300	5150	**300**	**5150**	299	5180							

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:
Sub NUMA Cluster enabled
Virtualization Technology disabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C States set to autonomous
C1E disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Performance
Memory Patrol Scrub disabled
Logical Processor enabled
CPU Interconnect Bus Link Power Management disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /home/_cpu2006-1.2_ic17u3/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-b14r Sun Jun 25 17:22:36 2017
```

SPEC CINT2006 Result

Dell Inc.

PowerEdge R940 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint_rate2006 =   Not Run

SPECint_rate_base2006 = 5200

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

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

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) Platinum 8180 CPU @ 2.50GHz
   model name : Intel(R) Xeon(R) Platinum 8180M CPU @ 2.50GHz
      4 "physical id"s (chips)
      224 "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 : 28
      siblings  : 56
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
      physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
   cache size : 39424 KB

From /proc/meminfo
   MemTotal:       791001296 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-b14r 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
   (9464f67) x86_64 x86_64 x86_64 GNU/Linux
```

Dell Inc.

PowerEdge R940 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint_rate2006 =   Not Run

SPECint_rate_base2006 = 5200

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

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

Platform Notes (Continued)

```
  run-level 3 Jun 25 17:20

  SPEC is set to: /home/_cpu2006-1.2_ic17u3
     Filesystem      Type   Size   Used Avail Use% Mounted on
     /dev/sda4       xfs    852G    26G  826G   4% /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. 1.0.3 05/30/2017
   Memory:
    48x 00CE063200CE M393A2K43BB1-CTD 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/_cpu2006-1.2_ic17u3/lib/ia32:/home/_cpu2006-1.2_ic17u3/lib/intel64:/home/_cpu2006-1.2_ic17u3/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

Dell Inc.

PowerEdge R940 (Intel Xeon Platinum 8180, 2.50 GHz)

SPECint_rate2006 =   Not Run

SPECint_rate_base2006 = 5200

CPU2006 license: 55		**Test date:**	Jun-2017
Test sponsor:	Dell Inc.	**Hardware Availability:**	Jul-2017
Tested by:	Dell Inc.	**Software Availability:**	Nov-2016

Base Portability Flags (Continued)

```
      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
     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
```

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-revB.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-revB.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 Wed Jul 12 12:12:58 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 July 2017.