



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R740 (Intel Xeon Platinum 8160T, 2.10 GHz)

SPECint®\_rate2006 = Not Run

SPECint\_rate\_base2006 = 2180

CPU2006 license: 55

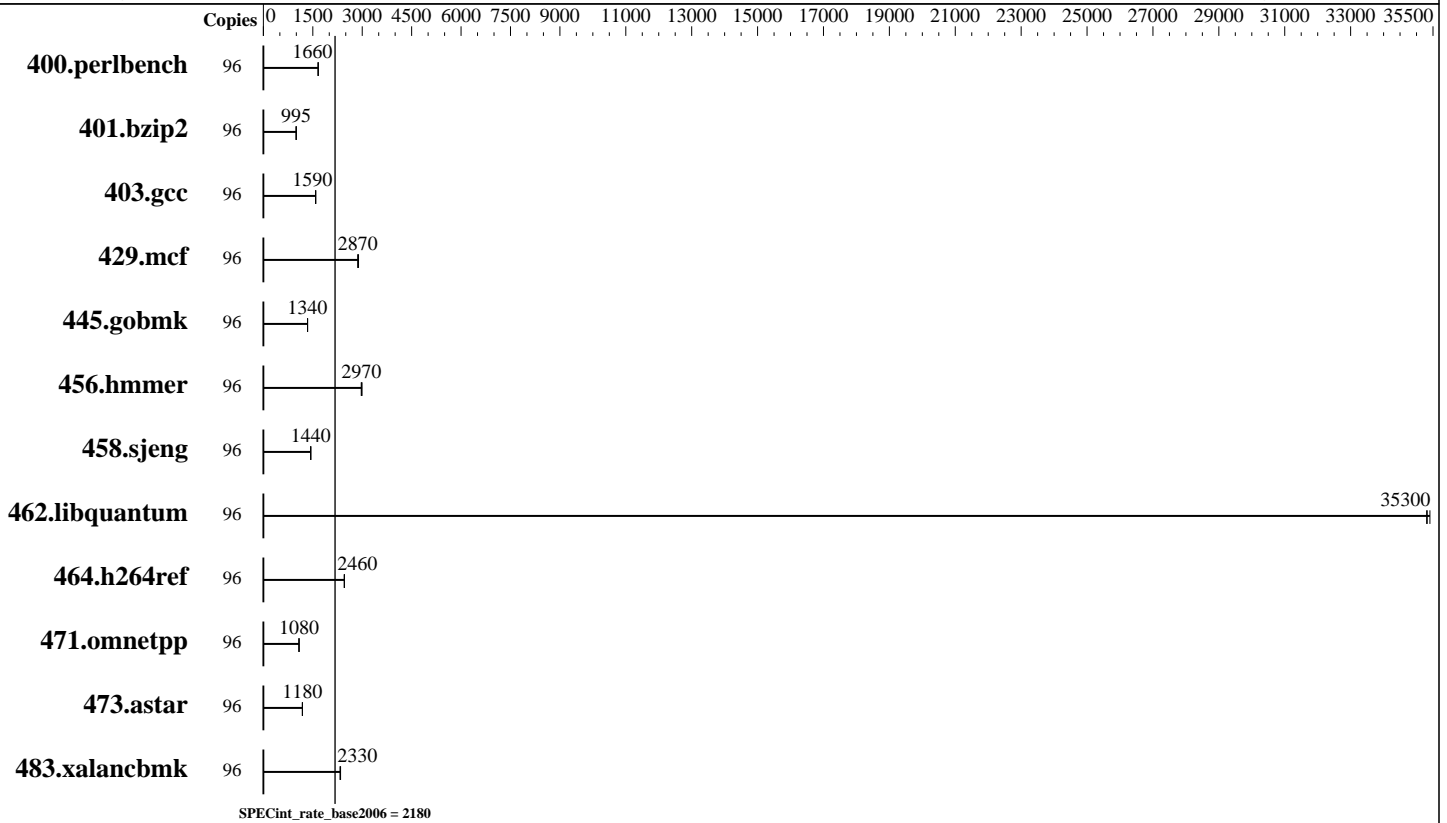
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2017

Hardware Availability: Sep-2017

Software Availability: Nov-2016



### Hardware

CPU Name: Intel Xeon Platinum 8160T  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2100  
 FPU: Integrated  
 CPU(s) enabled: 48 cores, 2 chips, 24 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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: 33 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 384 GB (24 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: tmpfs  
 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 R740 (Intel Xeon Platinum 8160T, 2.10 GHz)

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 2180

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

Test date: Sep-2017  
Hardware Availability: Sep-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	96	<b>564</b>	<b>1660</b>	564	1660	563	1660							
401.bzip2	96	932	994	<b>931</b>	<b>995</b>	926	1000							
403.gcc	96	487	1590	<b>487</b>	<b>1590</b>	487	1590							
429.mcf	96	303	2890	305	2870	<b>305</b>	<b>2870</b>							
445.gobmk	96	<b>751</b>	<b>1340</b>	750	1340	751	1340							
456.hammer	96	<b>301</b>	<b>2970</b>	301	2970	299	3000							
458.sjeng	96	808	1440	<b>808</b>	<b>1440</b>	808	1440							
462.libquantum	96	<b>56.3</b>	<b>35300</b>	56.3	35300	56.2	35400							
464.h264ref	96	863	2460	865	2460	<b>865</b>	<b>2460</b>							
471.omnetpp	96	556	1080	554	1080	<b>554</b>	<b>1080</b>							
473.astar	96	568	1190	<b>569</b>	<b>1180</b>	569	1180							
483.xalancbmk	96	283	2340	284	2330	<b>284</b>	<b>2330</b>							

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 /root/ram\_cpu2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-wwko Wed Sep 6 11:37:12 2017

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECint\_rate2006 = Not Run**

PowerEdge R740 (Intel Xeon Platinum 8160T, 2.10 GHz)

**SPECint\_rate\_base2006 = 2180**

**CPU2006 license:** 55

**Test date:** Sep-2017

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2017

**Tested by:** Dell Inc.

**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 8160T CPU @ 2.10GHz
 2 "physical id"s (chips)
 96 "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    : 24
  siblings     : 48
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
                27 28 29
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
                27 28 29
cache size     : 33792 KB

```

```

From /proc/meminfo
MemTotal:      394867840 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-wwko 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 Sep 6 11:33

```

SPEC is set to: /root/ram_cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
Continued on next page

```



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECint\_rate2006 = Not Run**

PowerEdge R740 (Intel Xeon Platinum 8160T, 2.10 GHz)

**SPECint\_rate\_base2006 = 2180**

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

**Test date:** Sep-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Nov-2016

## Platform Notes (Continued)

tmpfs tmpfs 200G 3.9G 197G 2% /root/ram\_cpu2006  
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. 1.0.7 07/01/2017

Memory:

24x 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 = "/root/ram\_cpu2006/lib/ia32:/root/ram\_cpu2006/lib/intel64:/root/ram\_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  
464.h264ref: -D\_FILE\_OFFSET\_BITS=64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECint\_rate2006 = Not Run**

PowerEdge R740 (Intel Xeon Platinum 8160T, 2.10 GHz)

**SPECint\_rate\_base2006 = 2180**

**CPU2006 license:** 55

**Test date:** Sep-2017

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2017

**Tested by:** Dell Inc.

**Software Availability:** Nov-2016

## Base Portability Flags (Continued)

471.omnetpp: -D\_FILE\_OFFSET\_BITS=64  
473.aster: -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-revC.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-revC.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Oct 4 12:38:23 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 3 October 2017.