SPEC® CINT2006 Result

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Yadro

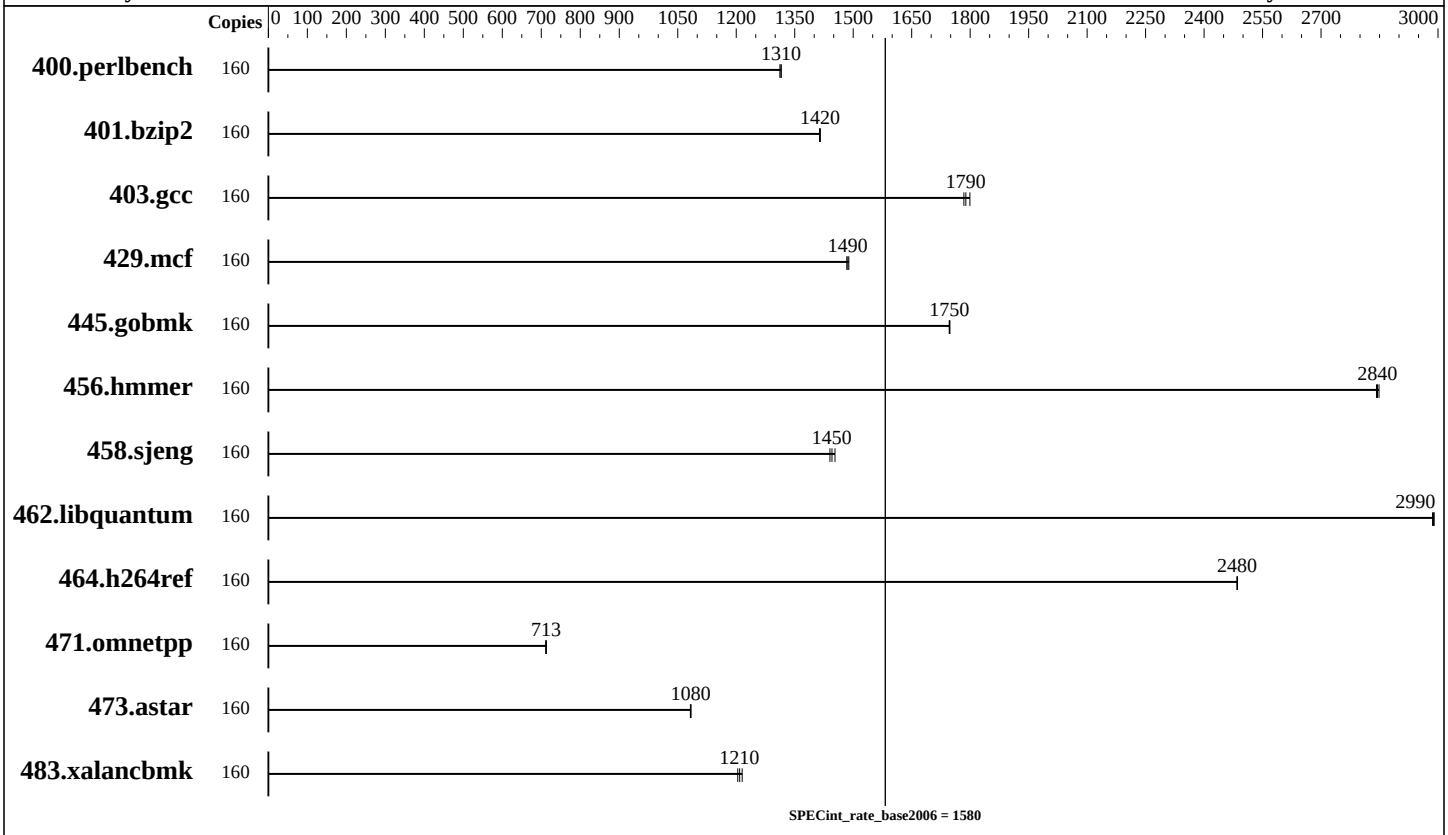
Yadro Vesnin (2.92 GHz, 40 cores, RHEL 7.4)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1580

CPU2006 license: 4813
Test sponsor: Yadro
Tested by: Yadro

Test date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Dec-2016



Hardware

CPU Name:	IBM POWER8
CPU Characteristics:	Intelligent Energy Optimization enabled, up to 3.49 GHz
CPU MHz:	2926
FPU:	Integrated
CPU(s) enabled:	40 cores, 4 chips, 10 cores/chip, 4 threads/core
CPU(s) orderable:	1-4 chips
Primary Cache:	32 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per core
Other Cache:	16 MB I+D off chip per 8 DIMMs
Memory:	4 TB (128 x 32 GB 2Rx4 PC4 - 2400T, running at 1600)
Disk Subsystem:	1 x 7.3 TB 7200 RPM SATA
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.4 (Maipo) 3.10.0-693.el7.ppc64le
Compiler:	C/C++: Version 13.1.5 of IBM XL C/C++ for Linux
Auto Parallel:	No
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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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	160	**1189**	**1310**	1191	1310	1188	1320							
401.bzip2	160	1091	1420	**1091**	**1420**	1092	1410							
403.gcc	160	**720**	**1790**	716	1800	722	1780							
429.mcf	160	984	1480	980	1490	**982**	**1490**							
445.gobmk	160	961	1750	960	1750	**961**	**1750**							
456.hmmer	160	525	2840	**525**	**2840**	524	2850							
458.sjeng	160	1332	1450	1344	1440	**1339**	**1450**							
462.libquantum	160	1110	2990	1109	2990	**1109**	**2990**							
464.h264ref	160	1425	2490	1425	2480	**1425**	**2480**							
471.omnetpp	160	1406	711	1403	713	**1403**	**713**							
473.astar	160	1036	1080	1038	1080	**1037**	**1080**							
483.xalancbmk	160	917	1200	908	1220	**913**	**1210**							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

```
The config file option 'submit' was used
to assign benchmark copy to specific kernel thread using
the "taskset" command (see flags file for details).
```

Operating System Notes

```
"ulimit -s" used to remove statck size limit.
"ppc64_cpu --smt=4" used to set SMT4 mode (see flags file for details).
```

Platform Notes

```
Sysinfo program /mnt/spec2006/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on localhost.localdomain Wed Dec 20 16:49:03 2017

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
   clock : 3491.000000MHz
   machine : PowerNV 0000000000000000
   model : 0000000000000000
   platform : PowerNV
   revision : 2.0 (pvr 004d 0200)
   cpu : POWER8 (raw), altivec supported
*
```

Continued on next page

Platform Notes (Continued)

```
 * 0 "physical id" tags found.  Perhaps this is an older system,
 * or a virtualized system.  Not attempting to guess how to
 * count chips/cores for this system.
 *
       160 "processors"
    cores, siblings (Caution: counting these is hw and system dependent.  The
    following excerpts from /proc/cpuinfo might not be reliable.  Use with
    caution.)

 From /proc/meminfo
    MemTotal:       4282726848 kB
    HugePages_Total:   16000
    Hugepagesize:      16384 kB

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux Server"
       VERSION="7.4 (Maipo)"
       ID="rhel"
       ID_LIKE="fedora"
       VARIANT="Server"
       VARIANT_ID="server"
       VERSION_ID="7.4"
       PRETTY_NAME="Red Hat Enterprise Linux"
    redhat-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)
    system-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:7.4:ga:server

 uname -a:
    Linux localhost.localdomain 3.10.0-693.el7.ppc64le #1 SMP Thu Jul 6 19:59:44
    EDT 2017 ppc64le ppc64le ppc64le GNU/Linux

 run-level 3 Dec 20 16:44

 SPEC is set to: /mnt/spec2006
    Filesystem              Type  Size  Used Avail Use% Mounted on
    /dev/mapper/rhel00-home xfs   7.3T  300G  7.0T   5% /mnt

 (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
XLFRTEOPTS = "intrinthds=1"
Binaries were compiled on a system with 4x POWER8 chips + 4 TB Memory using rhel 7.2

No: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
No: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
No: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
```

Continued on next page

General Notes (Continued)

is mitigated in the system as tested and documented.

This benchmark result is intended to provide perspective on past performance using the historical hardware and/or software described on this result page.

The system as described on this result page was formerly generally available. At the time of this publication, it may not be shipping, and/or may not be supported, and/or may fail to meet other tests of General Availability described in the SPEC OSG Policy document, http://www.spec.org/osg/policy.html

This measured result may not be representative of the result that would be measured were this benchmark run with hardware and software available as of the publication date.

Base Compiler Invocation

C benchmarks:
/opt/ibm/xlC/13.1.5/bin/xlc -qlanglvl=extc99

C++ benchmarks:
/opt/ibm/xlC/13.1.5/bin/xlC

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX -DSPEC_CPU_LP64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX -DSPEC_CPU_LP64
464.h264ref: -qchars=signed -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-qipa=threads -qinline=40 -q64 -O5 -qalias=noansi

C++ benchmarks:
-qipa=threads -qinline=40 -q64 -O5 -qrtti
-D__extern_always_inline=inline

Base Other Flags

C benchmarks:
`-qipa=noobject`

C++ benchmarks:
`-qipa=noobject`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/vesnin_xl-V1.1.html
http://www.spec.org/cpu2006/flags/vesnin_platform-V1.2.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/vesnin_xl-V1.1.xml
http://www.spec.org/cpu2006/flags/vesnin_platform-V1.2.xml

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

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