SPEC® CINT2006 Result

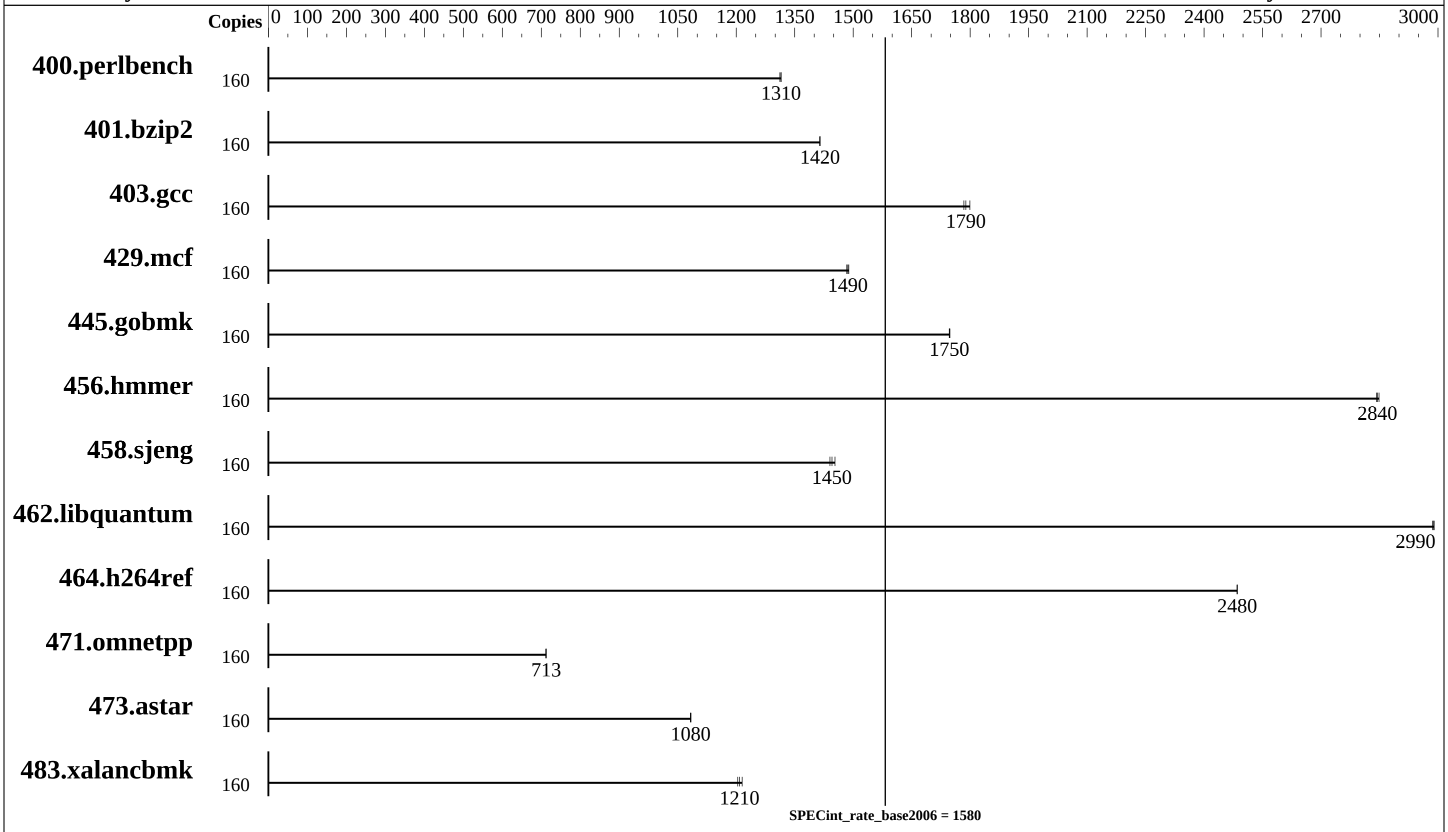
Yadro

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

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1580

CPU2006 license:	4813	**Test date:**	Dec-2017
Test sponsor:	Yadro	**Hardware Availability:**	Dec-2017
Tested by:	Yadro	**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

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)
```

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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

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

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