SPEC® CINT2006 Result

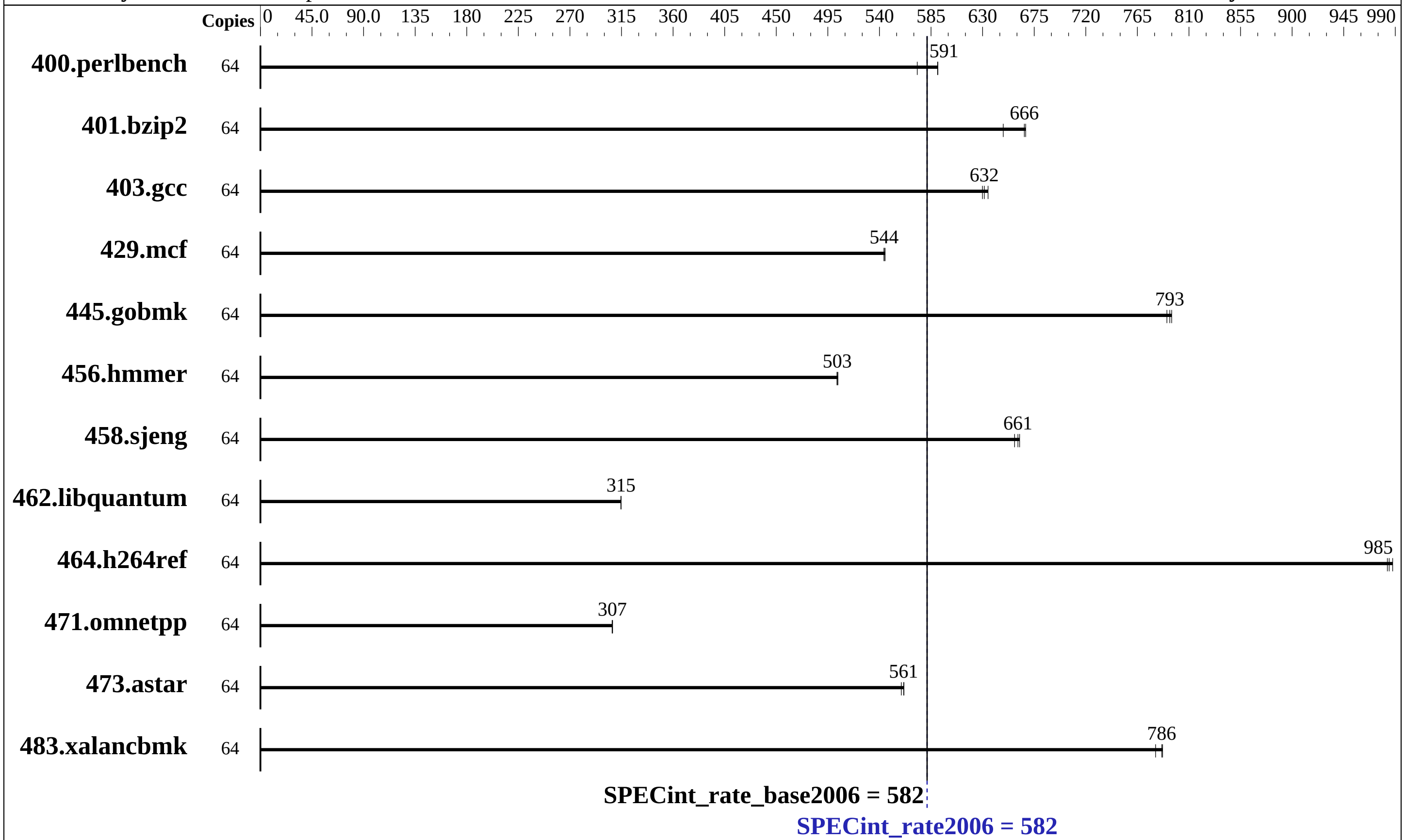
IBM Corporation

IBM PowerLinux 7R2 (4.2 GHz, 16 core, SLES, GCC)

SPECint®_rate2006 = 582

SPECint_rate_base2006 = 582

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation
Test date: Jan-2013
Hardware Availability: Feb-2013
Software Availability: Nov-2012



Hardware

CPU Name:	POWER7+
CPU Characteristics:	Intelligent Energy Optimization enabled, up to 4.540 GHz
CPU MHz:	4228
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 4 threads/core
CPU(s) orderable:	16 cores
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	10 MB I+D on chip per core
Other Cache:	None
Memory:	128 GB (16 x 8 GB) DDR3 1066 MHz
Disk Subsystem:	1 x 146.8 GB SAS SFF 15K RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 SP2 (ppc64) kernel 3.0.42-0.7-ppc64
Compiler:	C/C++: Version 4.7.3 of IBM Advance Toolchain 6.0-1 gcc/g++ compiler
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	-IBM Advance Toolchain 6.0-1

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	1058	591	1091	573	**1059**	**591**	64	1058	591	1091	573	**1059**	**591**
401.bzip2	64	**927**	**666**	953	648	925	668	64	**927**	**666**	953	648	925	668
403.gcc	64	818	630	812	635	**816**	**632**	64	818	630	812	635	**816**	**632**
429.mcf	64	**1073**	**544**	1071	545	1073	544	64	**1073**	**544**	1071	545	1073	544
445.gobmk	64	845	795	**846**	**793**	849	791	64	845	795	**846**	**793**	849	791
456.hmmer	64	**1187**	**503**	1187	503	1185	504	64	**1187**	**503**	1187	503	1185	504
458.sjeng	64	1169	662	**1172**	**661**	1177	658	64	1169	662	**1172**	**661**	1177	658
462.libquantum	64	4215	315	**4215**	**315**	4215	315	64	4215	315	**4215**	**315**	4215	315
464.h264ref	64	**1438**	**985**	1441	983	1434	988	64	**1438**	**985**	1441	983	1434	988
471.omnetpp	64	1304	307	1302	307	**1303**	**307**	64	1304	307	1302	307	**1303**	**307**
473.astar	64	**801**	**561**	800	561	804	559	64	**801**	**561**	800	561	804	559
483.xalancbmk	64	561	787	**562**	**786**	566	781	64	561	787	**562**	**786**	566	781

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

Compiler Invocation Notes

```
For more information about IBM Advance Toolchain, including support, see
ftp://linuxpatch.ncsa.uiuc.edu/toolchain/at/suse/SLES_11/at6.0/release_notes.at6.0-6.0-1.html
```

Submit Notes

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

Operating System Notes

```
ulimit -s (stack) set to 1048576.

Large pages reserved as follows by root user:
echo 4224 > /proc/sys/vm/nr_hugepages

The following environment varibles were set before the runspec command:
  export HUGETLB_VERBOSE=0
  export HUGETLB_MORECORE=yes
```

Base Compiler Invocation

C benchmarks:
```
/opt/at6.0/bin/gcc
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
/opt/at6.0/bin/g++

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_PPC
462.libquantum: -DSPEC_CPU_LINUX
464.h264ref: -fsigned-char
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-O3 -mcpu=power7 -mtune=power7 -m32 -ffast-math -fpeel-loops
-funroll-loops -mvsx -maltivec -ftree-vectorize -mpopcntd
-mrecip=rsqrt -flto -fwhole-program -fuse-linker-plugin -lhugetlbfs

C++ benchmarks:
-O3 -mcpu=power7 -mtune=power7 -m32 -ffast-math -fpeel-loops
-funroll-loops -mvsx -maltivec -ftree-vectorize -mpopcntd
-mrecip=rsqrt -flto -fwhole-program -fuse-linker-plugin -ltcmalloc

Peak Optimization Flags

C benchmarks:

400.perlbench: basepeak = yes

401.bzip2: basepeak = yes

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: basepeak = yes

456.hmmer: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: `basepeak = yes`

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IBM-Linux-AT.html
http://www.spec.org/cpu2006/flags/IBM-Power.20130226.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-Linux-AT.xml
http://www.spec.org/cpu2006/flags/IBM-Power.20130226.xml

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

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