



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 582

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

SPECint_rate_base2006 = 582

CPU2006 license: 11

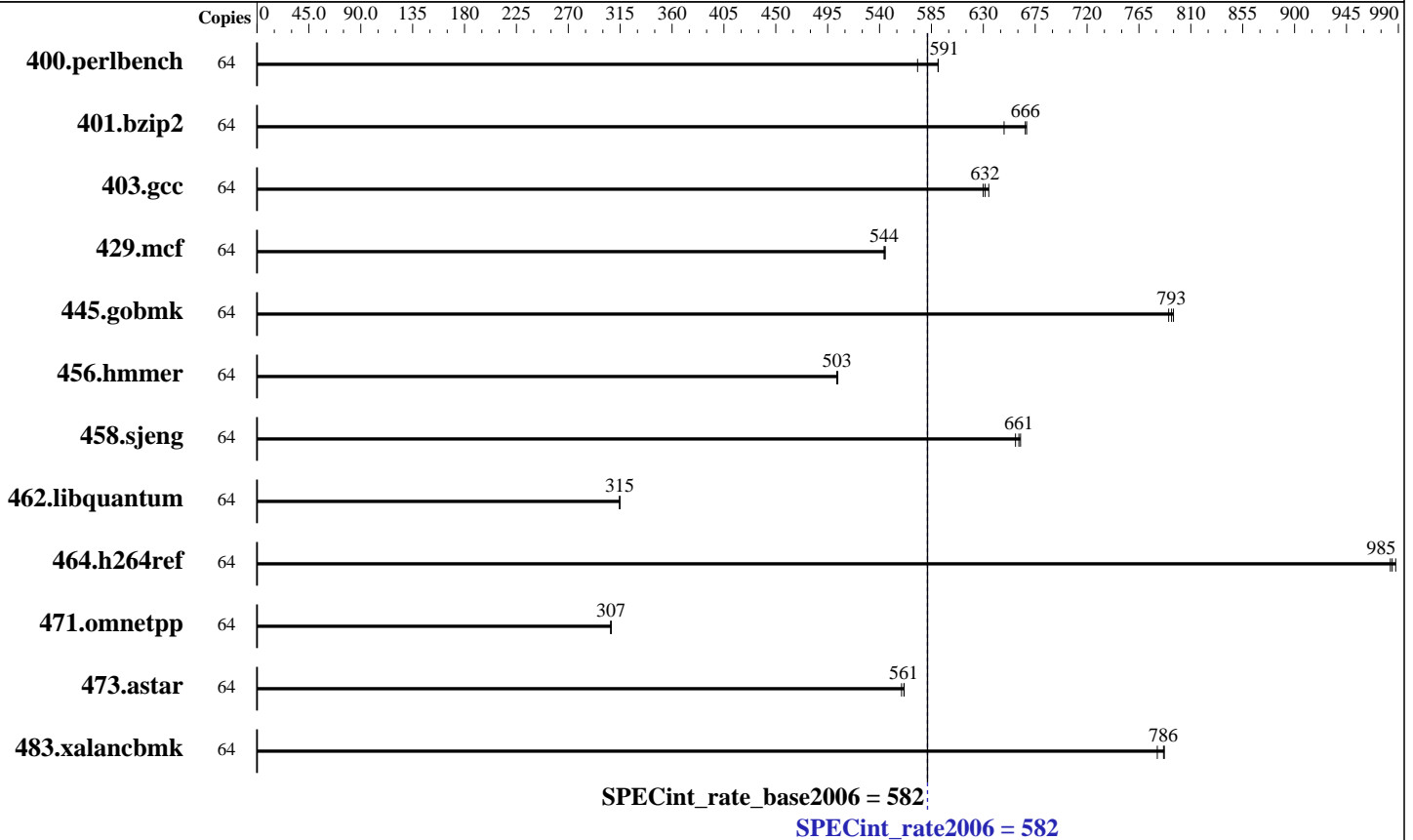
Test date: Jan-2013

Test sponsor: IBM Corporation

Hardware Availability: Feb-2013

Tested by: IBM Corporation

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



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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	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.hammer	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 variables 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.hmmmer: 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>

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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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