



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 563

IBM Flex System p260 (4.1 GHz, 16 core, SLES, GCC)

SPECint_rate_base2006 = 563

CPU2006 license: 11

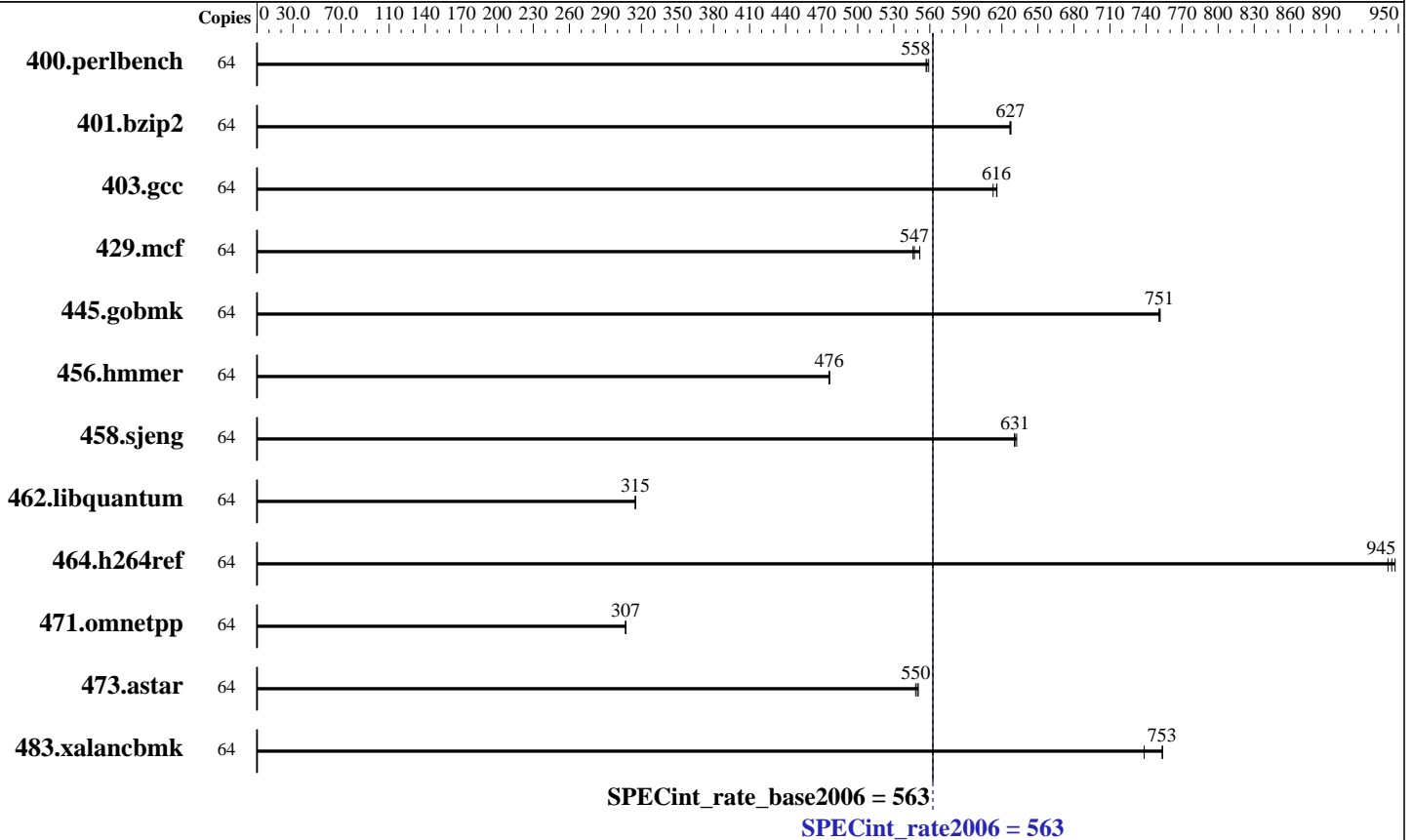
Test date: Sep-2012

Test sponsor: IBM Corporation

Hardware Availability: Dec-2012

Tested by: IBM Corporation

Software Availability: Aug-2012



Hardware

CPU Name: POWER7+
 CPU Characteristics: Intelligent Energy Optimization enabled, up to 4.340 GHz
 CPU MHz: 4116
 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 600 GB SAS SFF 10K RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP2 (ppc64) 3.0.13-0.27-ppc64
 Compiler: C/C++: Version 4.7.2 of IBM Advance Toolchain 6.0-0 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 6.0-0



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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	1123	557	1118	559	1121	558	64	1123	557	1118	559	1121	558
401.bzip2	64	985	627	986	627	984	628	64	985	627	986	627	984	628
403.gcc	64	837	616	841	613	837	616	64	837	616	841	613	837	616
429.mcf	64	1067	547	1058	552	1069	546	64	1067	547	1058	552	1069	546
445.gobmk	64	893	752	894	751	894	751	64	893	752	894	751	894	751
456.hammer	64	1253	477	1253	476	1254	476	64	1253	477	1253	476	1254	476
458.sjeng	64	1225	632	1228	630	1227	631	64	1225	632	1228	630	1227	631
462.libquantum	64	4210	315	4210	315	4211	315	64	4210	315	4210	315	4211	315
464.h264ref	64	1505	941	1495	947	1500	945	64	1505	941	1495	947	1500	945
471.omnetpp	64	1304	307	1303	307	1304	307	64	1304	307	1303	307	1304	307
473.astar	64	816	550	817	550	820	548	64	816	550	817	550	820	548
483.xalancbmk	64	586	753	586	754	598	738	64	586	753	586	754	598	738

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.at6.0-6.0-0.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

Platform Notes

This Compute Node is housed in an "IBM Flex System Enterprise Chassis"



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Base Compiler Invocation

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

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 -fpeel-loops -funroll-loops
-ffast-math -ftree-vectorize -mvsx -maltivec -mpopcntd -mrecip=rsqrt
-flto -fwhole-program -fuse-linker-plugin -lhugetlbfs

C++ benchmarks:
-O3 -mcpu=power7 -mtune=power7 -m32 -fpeel-loops -funroll-loops
-ffast-math -ftree-vectorize -mvsx -maltivec -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

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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-Power.20121205.html>

<http://www.spec.org/cpu2006/flags/IBM-Linux-AT.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/IBM-Power.20121205.xml>

<http://www.spec.org/cpu2006/flags/IBM-Linux-AT.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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