SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation
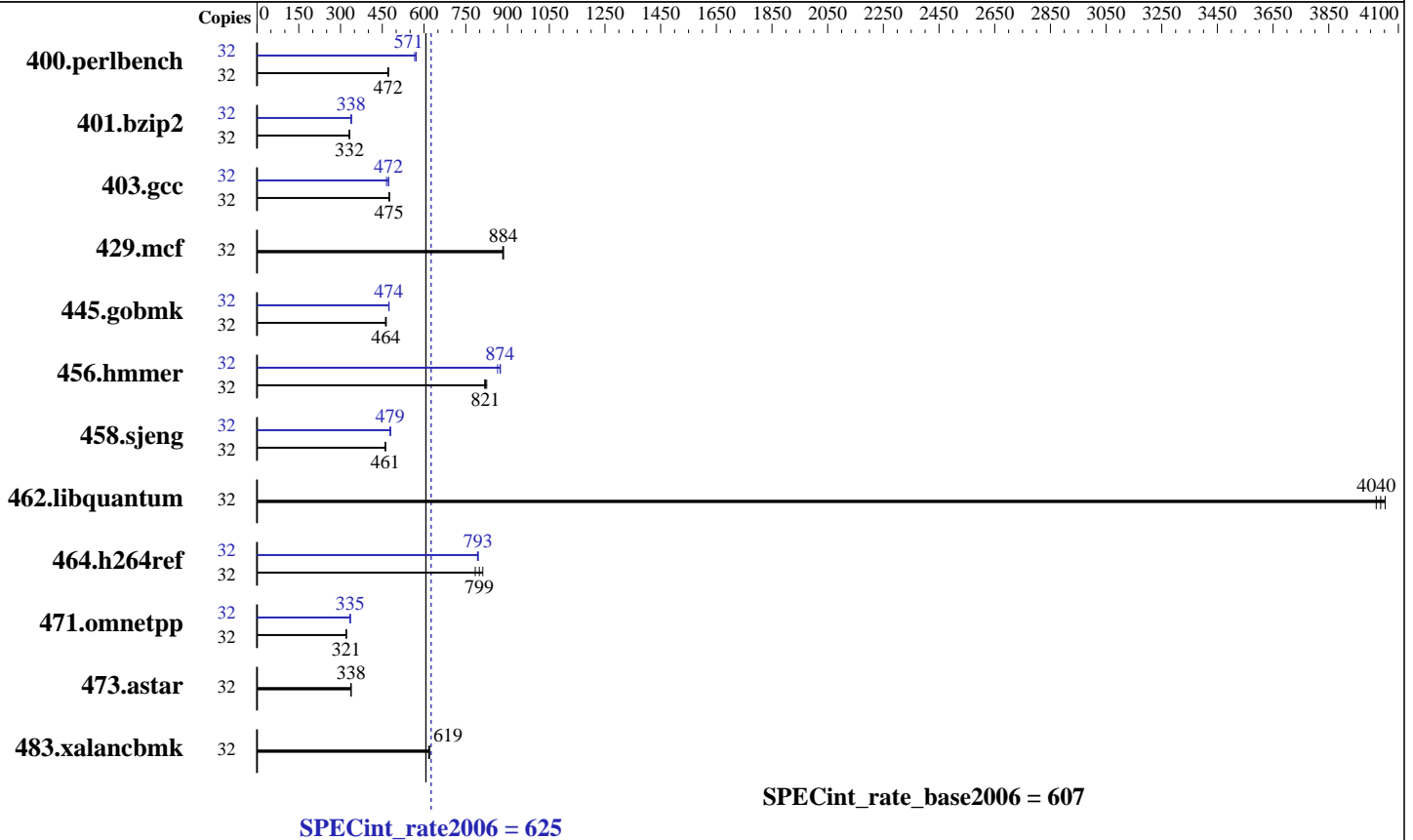
IBM System x3530 M4
(Intel Xeon E5-2450 v2, 2.50 GHz)

SPECint®_rate2006 = 625

SPECint_rate_base2006 = 607

CPU2006 license: 11   **Test date:** Feb-2014

Test sponsor: IBM Corporation   **Hardware Availability:** Mar-2014

Tested by: IBM Corporation   **Software Availability:** Nov-2013

Copies 0 150 300 450 600 750 900 1050 1200 1350 1500 1650 1800 2050 2250 2450 2650 2850 3050 3250 3450 3650 3850 4100

Benchmark	Copies	Peak	Base
400.perlbench	32	571	472
401.bzip2	32	338	332
403.gcc	32	472	475
429.mcf	32		884
445.gobmk	32	474	464
456.hmmer	32	874	821
458.sjeng	32	479	461
462.libquantum	32		4040
464.h264ref	32	793	799
471.omnetpp	32	335	321
473.astar	32		338
483.xalancbmk	32		619

SPECint_rate_base2006 = 607

SPECint_rate2006 = 625

Hardware

CPU Name: Intel Xeon E5-2450 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz

CPU MHz: 2500

FPU: Integrated

CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core

CPU(s) orderable: 1,2 chips

Primary Cache: 32 KB I + 32 KB D on chip per core

Secondary Cache: 256 KB I+D on chip per core

L3 Cache: 20 MB I+D on chip per chip

Other Cache: None

Memory: 192 GB (12 x 16 GB 2Rx4 PC3-12800R-13, ECC)

Disk Subsystem: 1 x 500 GB SATA, 7200 RPM

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
2.6.32-431.el6.x86_64

Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux

Auto Parallel: No

File System: ext4

System State: Run level 3 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V10.0

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3530 M4
(Intel Xeon E5-2450 v2, 2.50 GHz)

SPECint_rate2006 = 625

SPECint_rate_base2006 = 607

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Nov-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	**663**	**472**	662	472	665	470	32	**547**	**571**	547	572	552	566
401.bzip2	32	930	332	**930**	**332**	932	331	32	910	339	**913**	**338**	914	338
403.gcc	32	**543**	**475**	541	476	543	474	32	**545**	**472**	545	472	554	465
429.mcf	32	**330**	**884**	331	883	330	885	32	**330**	**884**	331	883	330	885
445.gobmk	32	723	464	727	462	**724**	**464**	32	709	473	**708**	**474**	708	474
456.hmmer	32	365	818	**364**	**821**	362	825	32	**342**	**874**	342	874	345	864
458.sjeng	32	**840**	**461**	838	462	841	461	32	810	478	**809**	**479**	807	480
462.libquantum	32	**164**	**4040**	165	4020	164	4050	32	**164**	**4040**	165	4020	164	4050
464.h264ref	32	**887**	**799**	903	784	873	811	32	891	795	894	792	**893**	**793**
471.omnetpp	32	624	320	**624**	**321**	623	321	32	597	335	598	335	**597**	**335**
473.astar	32	665	338	**665**	**338**	665	338	32	665	338	**665**	**338**	665	338
483.xalancbmk	32	356	620	**357**	**619**	358	617	32	356	620	**357**	**619**	358	617

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

Submit Notes

    The numactl mechanism was used to bind copies to processors. The config file option 'submit'
    was used to generate numactl commands to bind each copy to a specific processor.
    For details, please see the config file.

Operating System Notes

    Stack size set to unlimited using "ulimit -s unlimited"
    Zone reclaim mode enabled with:
    echo 1 > /proc/sys/vm/zone_reclaim_mode

Platform Notes

    BIOS setting:
    Operating Mode set to Maximum Performance

General Notes

    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/home/SPECcpu/libs/32:/home/SPECcpu/libs/64:/home/SPECcpu/sh"

    Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
    memory using RedHat EL 6.4
    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
    Filesystem page cache cleared with:
    echo 1>   /proc/sys/vm/drop_caches

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3530 M4
(Intel Xeon E5-2450 v2, 2.50 GHz)

SPECint_rate2006 =   625

SPECint_rate_base2006 = 607

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Nov-2013

General Notes (Continued)

```
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
    icc -m32

C++ benchmarks:
    icpc -m32

Base Portability Flags

    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
    -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m32

    400.perlbench: icc -m64

        401.bzip2: icc -m64

Continued on next page

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3530 M4
(Intel Xeon E5-2450 v2, 2.50 GHz)

SPECint_rate2006 = 625

SPECint_rate_base2006 = 607

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Nov-2013

Peak Compiler Invocation (Continued)

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
`icpc -m32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-auto-ilp32`

401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-opt-prefetch -auto-ilp32 -ansi-alias`

403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-unroll4 -auto-ilp32`

462.libquantum: `basepeak = yes`

464.h264ref: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-unroll2 -ansi-alias`

IBM Corporation

IBM System x3530 M4
(Intel Xeon E5-2450 v2, 2.50 GHz)

SPECint_rate2006 =   625

SPECint_rate_base2006 =   607

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Feb-2014

Hardware Availability: Mar-2014

Software Availability: Nov-2013

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs`
`-L/sh -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-A.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-A.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 20:42:54 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 March 2014.