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

IBM Corporation

IBM Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint®_rate2006 =   635
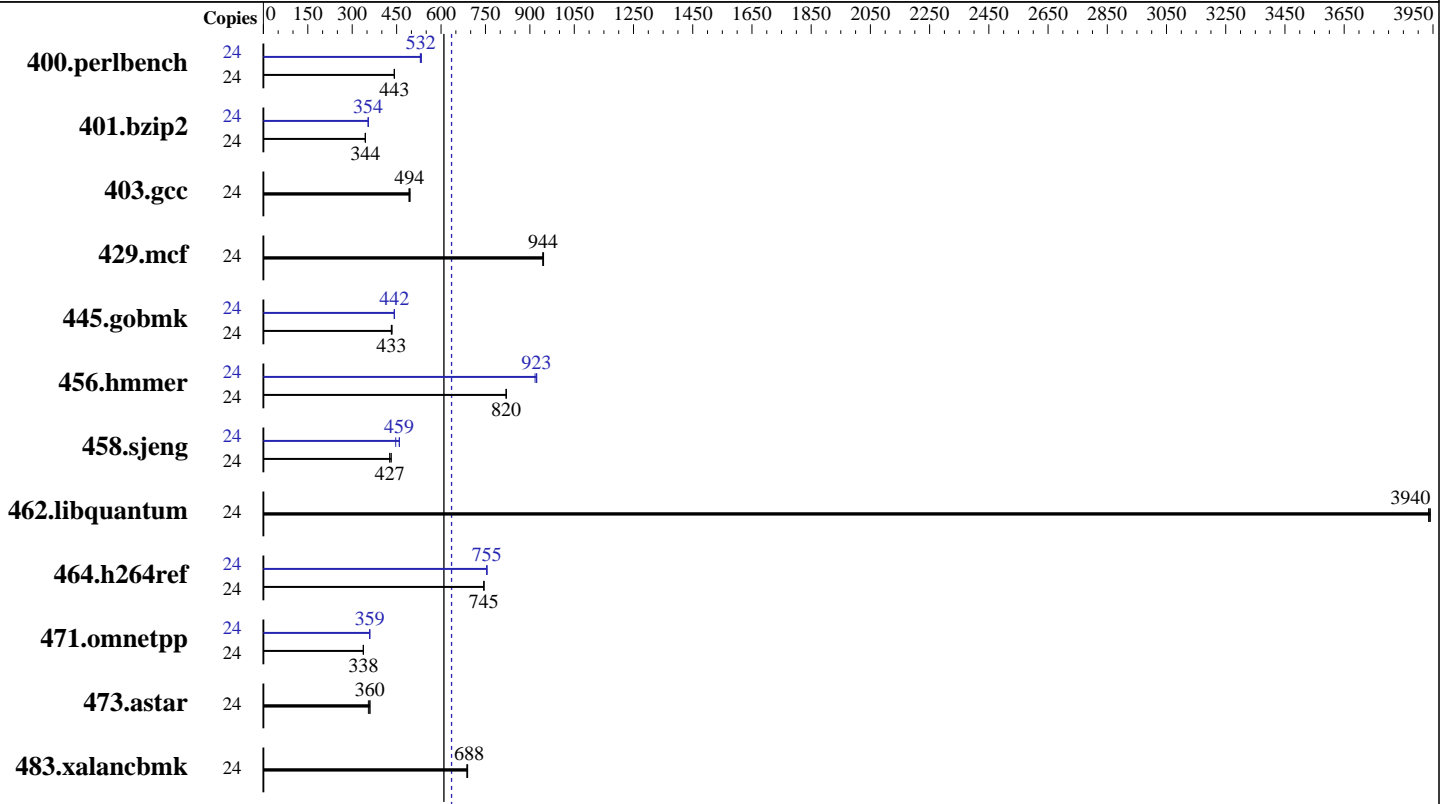
SPECint_rate_base2006 = 610

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jan-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

	Copies	0 150 300 450 600 750 900 1050 1250 1450 1650 1850 2050 2250 2450 2650 2850 3050 3250 3450 3650 3950
400.perlbench	24 / 24	532 / 443
401.bzip2	24 / 24	354 / 344
403.gcc	24	494
429.mcf	24	944
445.gobmk	24 / 24	442 / 433
456.hmmer	24 / 24	923 / 820
458.sjeng	24 / 24	459 / 427
462.libquantum	24	3940
464.h264ref	24 / 24	755 / 745
471.omnetpp	24 / 24	359 / 338
473.astar	24	360
483.xalancbmk	24	688

SPECint_rate_base2006 = 610

SPECint_rate2006 = 635

Hardware

CPU Name: Intel Xeon E5-2643 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz

CPU MHz: 3500

FPU: Integrated

CPU(s) enabled: 12 cores, 2 chips, 6 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: 25 MB I+D on chip per chip

Other Cache: None

Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 1 x 300 GB SAS, 10000 RPM

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
2.6.32-358.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 Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint_rate2006 = 635

SPECint_rate_base2006 = 610

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

Test date: Jan-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	530	443	531	442	**530**	**443**	24	**441**	**532**	442	530	439	534
401.bzip2	24	**673**	**344**	672	344	673	344	24	**654**	**354**	654	354	654	354
403.gcc	24	390	496	393	492	**391**	**494**	24	390	496	393	492	**391**	**494**
429.mcf	24	**232**	**944**	232	944	231	946	24	**232**	**944**	232	944	231	946
445.gobmk	24	**582**	**433**	579	435	583	432	24	569	443	**569**	**442**	569	442
456.hmmer	24	**273**	**820**	273	820	273	820	24	**243**	**923**	244	918	243	923
458.sjeng	24	680	427	**680**	**427**	672	432	24	650	447	632	459	**633**	**459**
462.libquantum	24	126	3940	**126**	**3940**	126	3940	24	126	3940	**126**	**3940**	126	3940
464.h264ref	24	713	745	713	745	**713**	**745**	24	704	754	703	755	**704**	**755**
471.omnetpp	24	444	338	445	337	**444**	**338**	24	**418**	**359**	418	359	418	359
473.astar	24	468	360	475	355	**468**	**360**	24	468	360	475	355	**468**	**360**
483.xalancbmk	24	**241**	**688**	241	688	240	690	24	**241**	**688**	241	688	240	690

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"

Platform Notes

```
Operating Mode set to Maximum Perfomance in BIOS
Sysinfo program /cpu2006.1.2_14.0_updates/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on BT2-IVB Wed Jan 15 10:15:44 2014

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
   model name : Intel(R) Xeon(R) CPU E5-2643 v2 @ 3.50GHz
      2 "physical id"s (chips)
      24 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 6
```

IBM Corporation

IBM Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint_rate2006 =   635

SPECint_rate_base2006 =   610

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

Test date: Jan-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Platform Notes (Continued)

```
      siblings  : 12
      physical 0: cores 2 3 4 8 9 10
      physical 1: cores 2 3 4 8 9 10
   cache size : 25600 KB

From /proc/meminfo
   MemTotal:       264503656 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux BT2-IVB 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 15 09:21

SPEC is set to: /cpu2006.1.2_14.0_updates
   Filesystem    Type    Size  Used Avail Use% Mounted on
   /dev/mapper/vg_bt2ivb-lv_root
                 ext4    265G   69G  183G  28% /

Additional information from dmidecode:
  BIOS IBM -[B2E135RUS-1.40]- 11/06/2013
  Memory:
   16x Micron 36JSF2G72PZ-1G9E1 16 GB 1867 MHz 2 rank
   8x Not Specified Not Specified

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006.1.2_14.0_updates/libs/32:/cpu2006.1.2_14.0_updates/libs/64:/cpu2006.1.2_14.0_updates/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
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

SPEC CINT2006 Result

IBM Corporation

IBM Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint_rate2006 =   635

SPECint_rate_base2006 = 610

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jan-2014

Hardware Availability: Dec-2013

Software Availability: Sep-2013

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`

     456.hmmer: `icc -m64`

      458.sjeng: `icc -m64`

C++ benchmarks:
        `icpc -m32`

SPEC CINT2006 Result

IBM Corporation

IBM Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint_rate2006 =   635

SPECint_rate_base2006 = 610

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

Test date: Jan-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

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: basepeak = yes

         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
```

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
```

Continued on next page

IBM Corporation

IBM Flex System x240
(Intel Xeon E5-2643 v2, 3.50 GHz)

SPECint_rate2006 =   635

SPECint_rate_base2006 =   610

CPU2006 license: 11	**Test date:** Jan-2014
Test sponsor: IBM Corporation	**Hardware Availability:** Dec-2013
Tested by: IBM Corporation	**Software Availability:** Sep-2013

Peak Optimization Flags (Continued)

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/IBM-Platform-Flags-V1.2-IVB-A.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-A.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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 20:02:08 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 February 2014.