



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Inspur Corporation

SPECint®\_rate2006 = 668

### Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

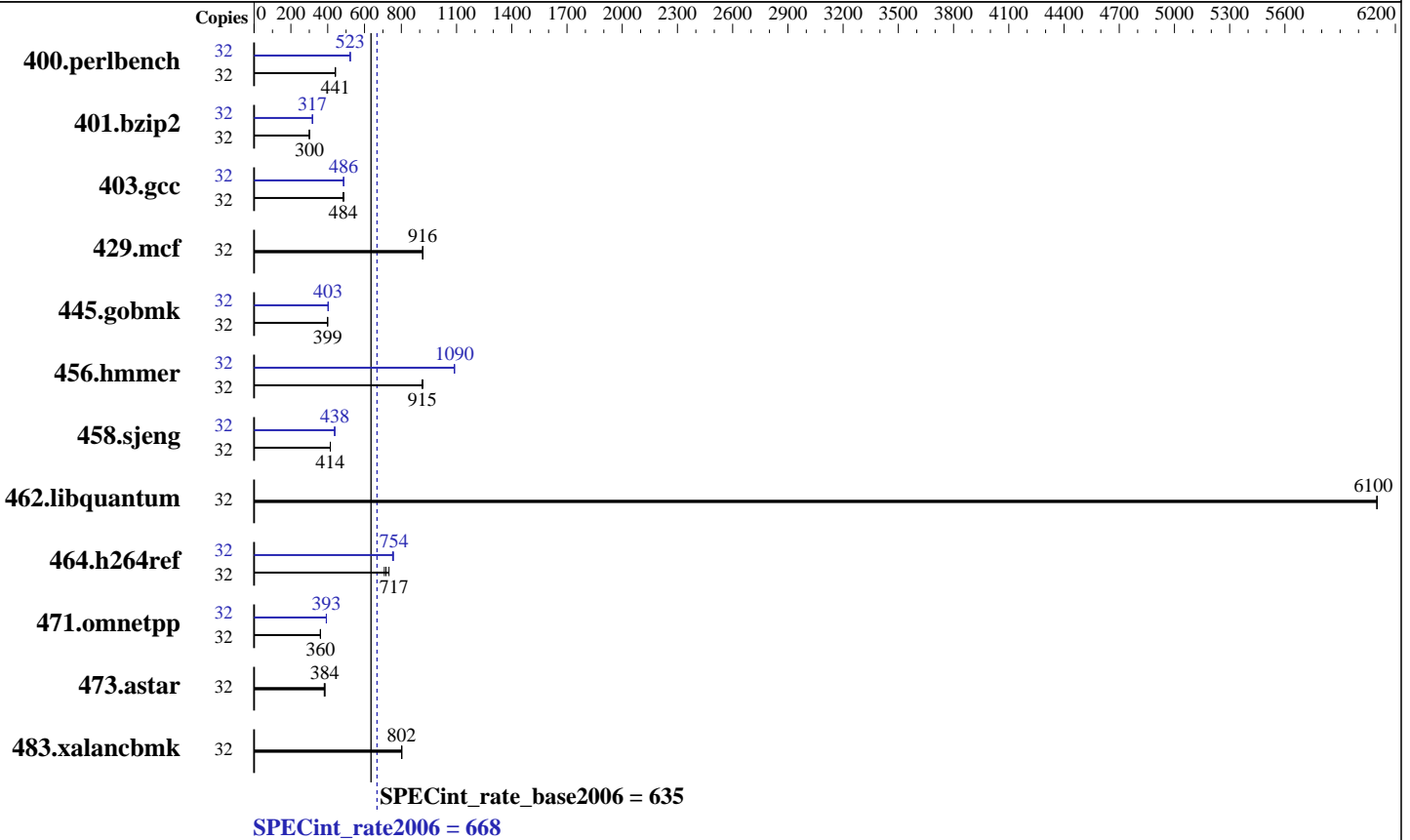
Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016



### Hardware

CPU Name: Intel Xeon E5-2620 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2100  
 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: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)  
 Disk Subsystem: 2 x 400 GB SATA SSD  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.2 (Maipo)  
 3.10.0-327.el7.x86\_64  
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux  
 Auto Parallel: No  
 File System: xfs  
 System State: Run level 5 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	<b>708</b>	<b>441</b>	708	441	708	442	32	600	521	598	523	<b>598</b>	<b>523</b>
401.bzip2	32	<b>1028</b>	<b>300</b>	1027	301	1028	300	32	971	318	<b>974</b>	<b>317</b>	975	317
403.gcc	32	528	488	533	484	<b>532</b>	<b>484</b>	32	528	488	530	486	<b>530</b>	<b>486</b>
429.mcf	32	<b>319</b>	<b>916</b>	318	917	319	916	32	<b>319</b>	<b>916</b>	318	917	319	916
445.gobmk	32	<b>841</b>	<b>399</b>	840	400	842	399	32	834	403	834	402	<b>834</b>	<b>403</b>
456.hammer	32	327	913	326	917	<b>326</b>	<b>915</b>	32	275	1090	274	1090	<b>274</b>	<b>1090</b>
458.sjeng	32	935	414	934	414	<b>935</b>	<b>414</b>	32	<b>884</b>	<b>438</b>	882	439	886	437
462.libquantum	32	<b>109</b>	<b>6100</b>	109	6100	109	6100	32	<b>109</b>	<b>6100</b>	109	6100	109	6100
464.h264ref	32	1001	708	966	733	<b>988</b>	<b>717</b>	32	941	753	<b>939</b>	<b>754</b>	935	757
471.omnetpp	32	555	361	555	360	<b>555</b>	<b>360</b>	32	510	392	<b>509</b>	<b>393</b>	509	393
473.astar	32	<b>584</b>	<b>384</b>	589	381	584	385	32	<b>584</b>	<b>384</b>	589	381	584	385
483.xalancbmk	32	275	803	276	801	<b>275</b>	<b>802</b>	32	275	803	276	801	<b>275</b>	<b>802</b>

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

BIOS and OS configuration:  
SCALING\_GOVERNOR set to Performance  
Hardware Prefetch set to Disable  
VT Support set to Disable  
C1E Support set to Disable  
Sysinfo program /home/CPU2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on localhost.localdomain Wed Dec 21 09:34:25 2016

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 E5-2620 v4 @ 2.10GHz  
2 "physical id"s (chips)  
32 "processors"

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016

## Platform Notes (Continued)

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 : 8
siblings  : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

From /proc/meminfo

```
MemTotal:      263852732 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

From /etc/\*release\* /etc/\*version\*

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.2 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.2:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29 EDT 2015 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 5 Dec 21 09:33

SPEC is set to: /home/CPU2006

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   678G   35G  644G   6% /home
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. 4.1.9 05/04/2016

Memory:

```
4x NO DIMM NO DIMM
16x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 MHz
```

(End of data from sysinfo program)



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016

## General Notes

Environment variables set by runspec before the start of the run:

LD\_LIBRARY\_PATH = "/home/CPU2006/libs/32:/home/CPU2006/libs/64:/home/CPU2006/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.2

Transparent Huge Pages enabled by default

Filesystem page cache cleared with:

```
echo 1> /proc/sys/vm/drop_caches
```

runspec command invoked through numactl i.e.:

```
numactl --interleave=all runspec <etc>
```

## Base Compiler Invocation

C benchmarks:

```
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

## Base Portability Flags

```
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
```

## Base Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap
```



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64

401.bzip2: -DSPEC\_CPU\_LP64

403.gcc: -D\_FILE\_OFFSET\_BITS=64

429.mcf: -D\_FILE\_OFFSET\_BITS=64

445.gobmk: -D\_FILE\_OFFSET\_BITS=64

456.hmmer: -DSPEC\_CPU\_LP64

458.sjeng: -DSPEC\_CPU\_LP64

462.libquantum: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

464.h264ref: -D\_FILE\_OFFSET\_BITS=64

471.omnetpp: -D\_FILE\_OFFSET\_BITS=64

473.astar: -D\_FILE\_OFFSET\_BITS=64

483.xalancbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)

-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)

-no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test date: Dec-2016

Test sponsor: Inspur Corporation

Hardware Availability: Apr-2016

Tested by: Inspur Corporation

Software Availability: Sep-2016

## Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch -auto-ilp32  
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-mem-layout-trans=3

456.hmmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4 -auto-ilp32  
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)  
-qopt-ra-region-strategy=block  
-qopt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/sh10.2 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Inspur Corporation

SPECint\_rate2006 = 668

Inspur NP5570M4 (Intel Xeon E5-2620 v4)

SPECint\_rate\_base2006 = 635

CPU2006 license: 3358

Test sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test date: Dec-2016

Hardware Availability: Apr-2016

Software Availability: Sep-2016

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.0-HSW.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.0-HSW.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Jan 11 12:04:08 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 11 January 2017.