SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Inspur Corporation

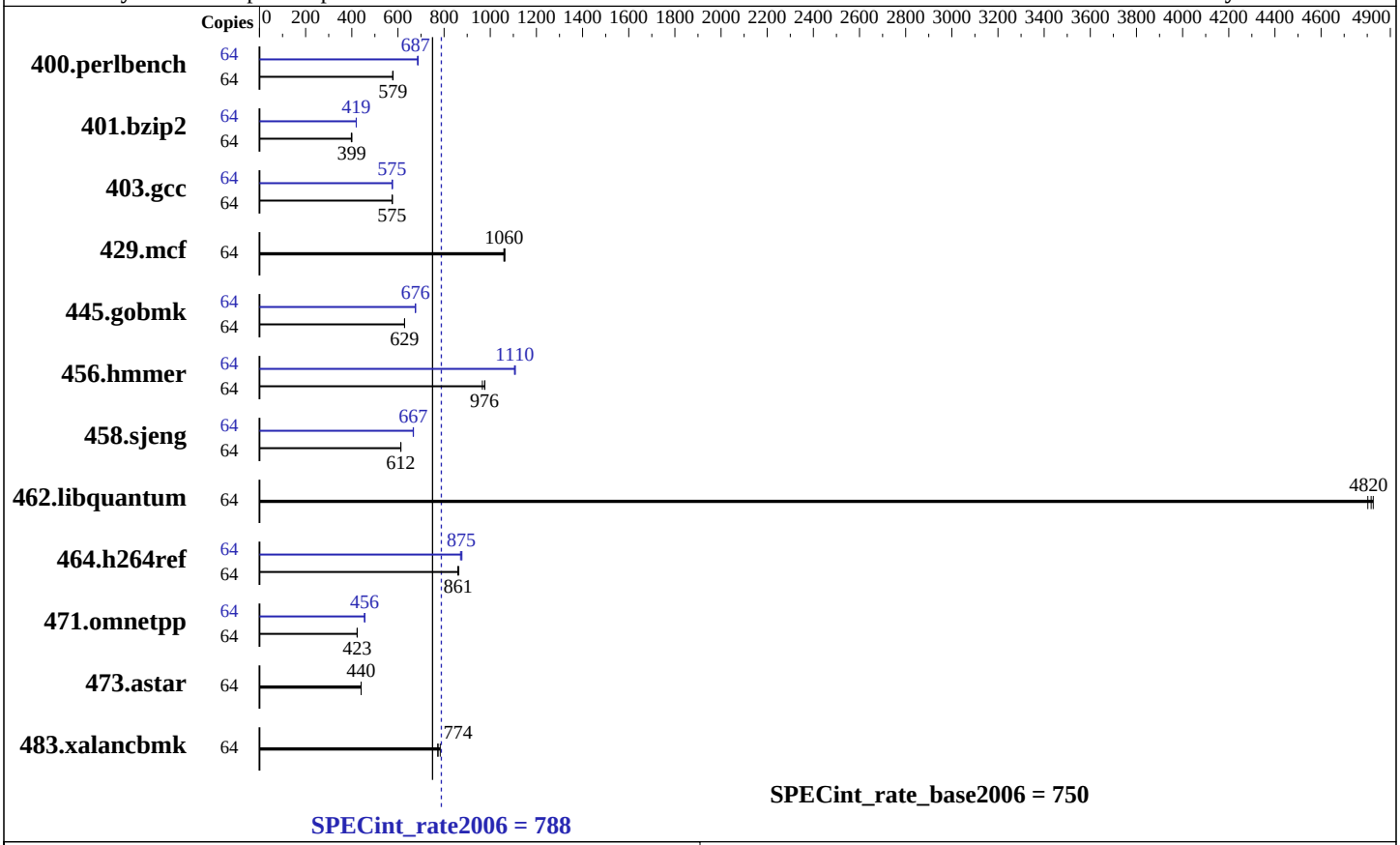
NF8520 (Intel Xeon E7-4820, 2.00 GHz)

SPECint®_rate2006 = 788

SPECint_rate_base2006 = 750

CPU2006 license: 3358
Test sponsor: Inspur Corporation
Tested by: Inspur Corporation

Test date: Aug-2013
Hardware Availability: May-2012
Software Availability: Feb-2013



Hardware

CPU Name:	Intel Xeon E7-4820
CPU Characteristics:	Intel Turbo Boost Technology up to 2.27 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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:	18 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (64 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 978 MHz and CL9)
Disk Subsystem:	600 GB (3 x 300GB SAS,10K RPM,raid 5)
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 13.0.0.133 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

Inspur Corporation

NF8520 (Intel Xeon E7-4820, 2.00 GHz)

SPECint_rate2006 = 788

SPECint_rate_base2006 = 750

CPU2006 license: 3358
Test sponsor: Inspur Corporation
Tested by: Inspur Corporation

Test date: Aug-2013
Hardware Availability: May-2012
Software Availability: Feb-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	**1081**	**579**	1080	579	1084	577	64	913	685	910	687	**911**	**687**
401.bzip2	64	**1547**	**399**	1544	400	1552	398	64	1472	420	1473	419	**1473**	**419**
403.gcc	64	897	575	**897**	**575**	894	576	64	**896**	**575**	896	575	894	576
429.mcf	64	551	1060	549	1060	**550**	**1060**	64	551	1060	549	1060	**550**	**1060**
445.gobmk	64	**1068**	**629**	1068	629	1068	629	64	993	676	**993**	**676**	994	676
456.hmmer	64	**612**	**976**	611	977	618	966	64	539	1110	**539**	**1110**	540	1100
458.sjeng	64	1265	612	1264	613	**1265**	**612**	64	1161	667	1163	666	**1161**	**667**
462.libquantum	64	**275**	**4820**	276	4800	275	4830	64	**275**	**4820**	276	4800	275	4830
464.h264ref	64	1640	864	**1646**	**861**	1648	860	64	**1619**	**875**	1626	871	1615	877
471.omnetpp	64	945	423	943	424	**945**	**423**	64	877	456	878	455	**878**	**456**
473.astar	64	1020	440	1020	440	**1020**	**440**	64	1020	440	1020	440	**1020**	**440**
483.xalancbmk	64	564	783	572	773	**571**	**774**	64	564	783	572	773	**571**	**774**

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

```
Sysinfo program /spec/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Thu Aug 29 12:28:32 2013

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 E7- 4820 @ 2.00GHz
      4 "physical id"s (chips)
      64 "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 : 8
      siblings  : 16
```

Continued on next page

Platform Notes (Continued)

```
        physical 0: cores 0 2 8 9 16 17 18 25
        physical 1: cores 0 1 8 9 16 17 24 25
        physical 2: cores 1 2 8 9 16 17 18 24
        physical 3: cores 0 1 8 9 16 17 24 25
     cache size : 18432 KB

  From /proc/meminfo
     MemTotal:       529155608 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  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 localhost.localdomain 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 Aug 29 11:55

  SPEC is set to: /spec/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda1      ext4    481G  8.6G  448G   2% /spec

  Additional information from dmidecode:
    BIOS Intel Corp. QSSC-S4R.QCI.01.00.R034.052320120838 05/23/2012
    Memory:
     64x   8 GB
     64x Samsung M393B1K70DH0-YH9 8 GB 978 MHz

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/spec/cpu2006/libs/32:/spec/cpu2006/libs/64:/spec/cpu2006/sh"

  Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
  memory using RHEL5.5
  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>
```

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
```

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

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

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/Intel-ic13-official-linux64.html`
`http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.2.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml`
`http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.2.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.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 16:59:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 November 2013.