SPEC® CINT2006 Result
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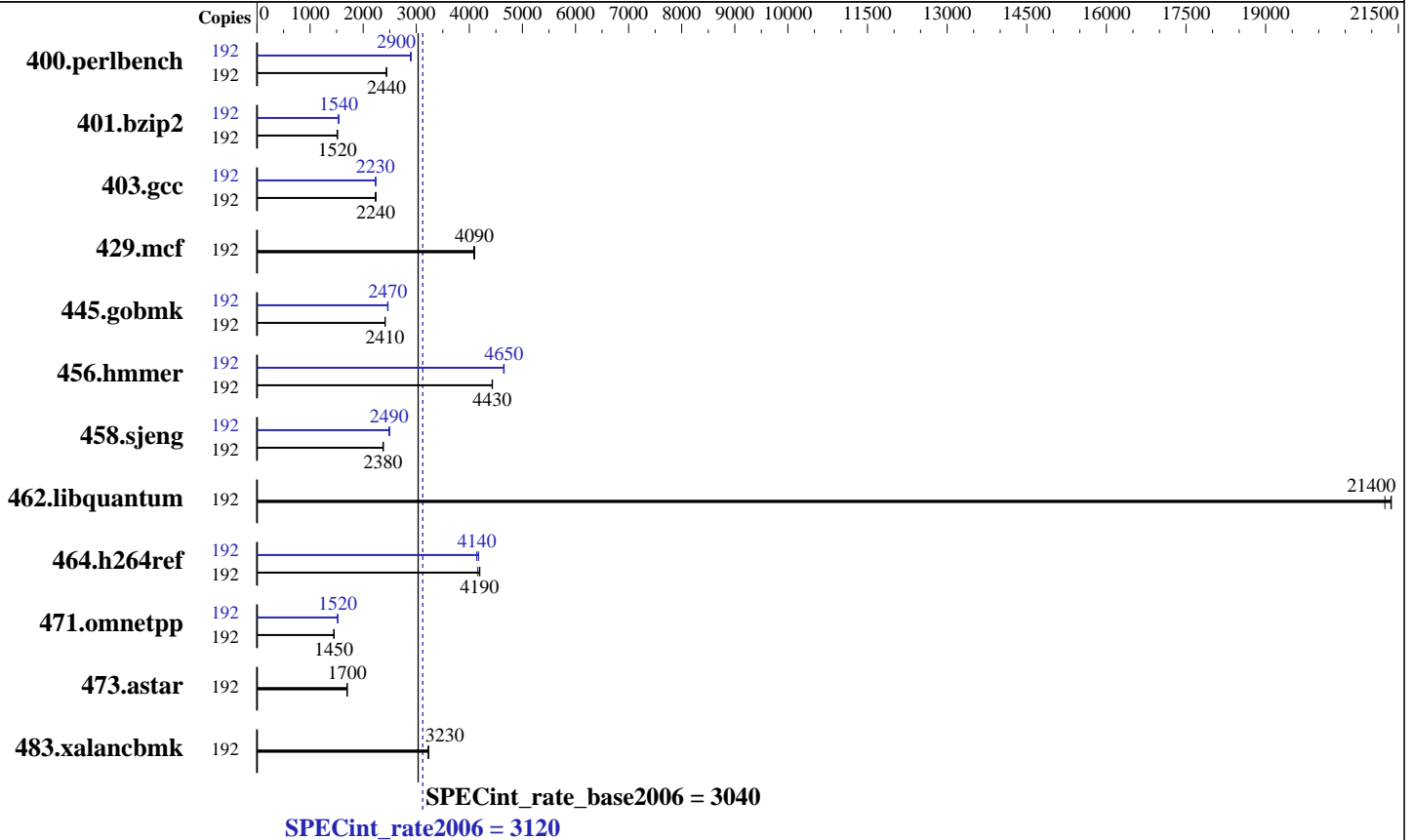
Inspur Corporation
TS860

$SPECint\textregistered\_rate2006 =$ 3120

$SPECint\_rate\_base2006 =$ 3040

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

Test date: Jan-2014
Hardware Availability: May-2014
Software Availability: Nov-2013

Benchmark	Copies	Result (peak / base)
400.perlbench	192 / 192	2900 / 2440
401.bzip2	192 / 192	1540 / 1520
403.gcc	192 / 192	2230 / 2240
429.mcf	192	4090
445.gobmk	192 / 192	2470 / 2410
456.hmmer	192 / 192	4650 / 4430
458.sjeng	192 / 192	2490 / 2380
462.libquantum	192	21400
464.h264ref	192 / 192	4140 / 4190
471.omnetpp	192 / 192	1520 / 1450
473.astar	192	1700
483.xalancbmk	192	3230

SPECint_rate_base2006 = 3040
SPECint_rate2006 = 3120

Hardware

CPU Name:	Intel Xeon E7-8850 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	96 cores, 8 chips, 12 cores/chip, 2 threads/core
CPU(s) orderable:	8 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	24 MB I+D on chip per chip
Other Cache:	None
Memory:	2 TB (128 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)
Disk Subsystem:	1800GB (4 x 900GB SAS,RAID1,10K 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

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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	192	770	2440	**<u>769</u>**	**<u>2440</u>**	768	2440	192	**<u>648</u>**	**<u>2900</u>**	646	2900	649	2890
401.bzip2	192	1229	1510	1222	1520	**<u>1223</u>**	**<u>1520</u>**	192	**<u>1205</u>**	**<u>1540</u>**	1205	1540	1208	1530
403.gcc	192	690	2240	**<u>691</u>**	**<u>2240</u>**	694	2230	192	693	2230	690	2240	**<u>692</u>**	**<u>2230</u>**
429.mcf	192	427	4100	429	4080	**<u>428</u>**	**<u>4090</u>**	192	427	4100	429	4080	**<u>428</u>**	**<u>4090</u>**
445.gobmk	192	835	2410	**<u>835</u>**	**<u>2410</u>**	834	2420	192	**<u>817</u>**	**<u>2470</u>**	816	2470	819	2460
456.hmmer	192	**<u>404</u>**	**<u>4430</u>**	404	4430	404	4440	192	386	4650	385	4660	**<u>385</u>**	**<u>4650</u>**
458.sjeng	192	980	2370	**<u>978</u>**	**<u>2380</u>**	976	2380	192	**<u>934</u>**	**<u>2490</u>**	929	2500	935	2480
462.libquantum	192	186	21400	187	21200	**<u>186</u>**	**<u>21400</u>**	192	186	21400	187	21200	**<u>186</u>**	**<u>21400</u>**
464.h264ref	192	1012	4200	1021	4160	**<u>1013</u>**	**<u>4190</u>**	192	1018	4180	**<u>1026</u>**	**<u>4140</u>**	1026	4140
471.omnetpp	192	829	1450	**<u>829</u>**	**<u>1450</u>**	826	1450	192	791	1520	**<u>789</u>**	**<u>1520</u>**	789	1520
473.astar	192	795	1690	793	1700	**<u>793</u>**	**<u>1700</u>**	192	795	1690	793	1700	**<u>793</u>**	**<u>1700</u>**
483.xalancbmk	192	410	3230	**<u>410</u>**	**<u>3230</u>**	410	3230	192	410	3230	**<u>410</u>**	**<u>3230</u>**	410	3230

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/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on ts860 Wed Jan 8 16:35:15 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 E7-8850 v2 @ 2.30GHz
          8 "physical id"s (chips)
          192 "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 : 12
          siblings : 24

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Platform Notes (Continued)

```
    physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 4: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 5: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 6: cores 0 1 2 3 4 5 8 9 10 11 12 13
    physical 7: cores 0 1 2 3 4 5 8 9 10 11 12 13
  cache size : 24576 KB

From /proc/meminfo
   MemTotal:       2117644348 kB
   HugePages_Total:        0
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux ts860 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64
   x86_64 x86_64 GNU/Linux

run-level 3 Jan 8 16:16

SPEC is set to: /spec
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext4  673G  336G  304G  53% /spec

Additional information from dmidecode:
  BIOS INSYDE Corp. TS860_1.1.1 06/24/2014
  Memory:
   128x   16 GB
   64x NO DIMM Unknown
   128x Samsung M393B2G70QH0-YK0 16 GB 1066 MHz 2 rank

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed,the correct amount of memory is 2 TB
and the dmidecode description should have two lines reading as:
    128x Samsung M393B2G70QH0-YK0 16 GB 1066 MHz 2 rank
    64x NO DIMM Unknown
```

General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
```

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General Notes (Continued)

```
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
```

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Peak Compiler Invocation (Continued)

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`

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Peak Optimization Flags (Continued)

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`

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/Inspur-Platform-Settings-V1.0-IVB-RevG.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Inspur-Platform-Settings-V1.0-IVB-RevG.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.xml

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

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