## SPEC® CINT2006 Result

### Fujitsu

PRIMERGY CX2550 M4, Intel Xeon Platinum 8176M, 2.10GHz

**SPECint®_rate2006 = Not Run**  
**SPECint_rate_base2006 = 2490**

| Software | CPU2006 license: 19  
Test sponsor: Fujitsu  
Tested by: Fujitsu  
Test date: Dec-2017  
Hardware Availability: Dec-2017  
Software Availability: Sep-2017 |
|------------------------|-----------------|
| Hardware | CPU Name: Intel Xeon Platinum 8176M  
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
CPU MHz: 2100  
FPU: Integrated  
CPU(s) enabled: 56 cores, 2 chips, 28 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: 1 MB I+D on chip per core  
L3 Cache: 38.5 MB I+D on chip per chip  
Other Cache: None  
Memory: 192 GB (12 x 16 GB 2Rx4 PC4-2666V-R)  
Disk Subsystem: 1 x SATA M.2 SSD, 128 GB  
Other Hardware: None  
Operating System: SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default  
Compiler: C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux  
Auto Parallel: No  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: Not Applicable  
Other Software: Microquill SmartHeap V10.2 |
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### SPECint_rate2006 = Not Run

### SPECint_rate_base2006 = 2490

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#### Results Table

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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"
Set Kernel Boot Parameter: nohz_full=1-111
Set CPU frequency governor to maximum performance with:
cupower -c all frequency-set -g performance
Process tuning settings:
echo 100000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 150000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
echo 0 > /proc/sys/kernel/numa_balancing
cpu idle state set with:
cupower idle-set -d 1
cupower idle-set -d 2

#### Platform Notes

BIOS configuration:
DCU Streamer Prefetcher = Disabled
Intel Virtualization Technology = Disabled
Power Technology = Custom
HWPM Support = Disabled
UPI Link Frequency Select = 10.4GT/s
Sub NUMA Clustering = Enabled

Continued on next page
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**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

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**Platform Notes (Continued)**

Stale AtoS = Enabled  
LLC dead line alloc = Disabled  
Sysinfo program /home/Benchmark/speccpu-icc18-20171020/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on CX2550M4 Fri Dec 1 18:51:19 2017

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) Platinum 8176M CPU @ 2.10GHz  
2 "physical id"s (chips)  
112 "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 : 28  
siblings : 56  
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24  
25 26 27 28 29 30  
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24  
25 26 27 28 29 30  
cache size : 39424 KB

From /proc/meminfo

MemTotal: 196604044 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d  
SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*  
SuSE-release:  
SUSE Linux Enterprise Server 12 (x86_64)  
VERSION = 12  
PATCHLEVEL = 2  
# This file is deprecated and will be removed in a future service pack or release.  
# Please check /etc/os-release for details about this release.  
os-release:  
NAME="SLES"  
VERSION="12-SP2"  
VERSION_ID="12.2"  
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"  
ID="sles"  
ANSI_COLOR="0;32"  
CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:  
### Platform Notes (Continued)

(9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Dec 1 17:50

SPEC is set to: /home/Benchmark/speccpu-icc18-20171020

<table>
<thead>
<tr>
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<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda5</td>
<td>xfs</td>
<td>77G</td>
<td>14G</td>
<td>64G</td>
<td>18%</td>
<td>/home</td>
</tr>
</tbody>
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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 FUJITSU V1.0.0.0 R1.9.6 for D3853-A1x 10/06/2017
Memory:
- 12x Hynix HMA42GR7BJR4N-VK 16 GB 2 rank 2666 MHz
- 4x 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 = 
  - */home/Benchmark/speccpu-icc18-20171020/icc2018lib/ia32:
  - /home/Benchmark/speccpu-icc18-20171020/icc2018lib/intel64:
- LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu-icc18-20171020/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 with:
- echo always > /sys/kernel/mm/transparent_hugepage/enabled

Filesystem page cache cleared with:
- shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
- 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_2018.0.128/linux/compiler/lib/ia32

C++ benchmarks:
- icpc -m32 -L/opt/intel/compilers_and_libraries_2018.0.128/linux/compiler/lib/ia32
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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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

Base 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-ic17.0-official-linux64-revF.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevD.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-revF.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevD.xml
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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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