## SPEC® CINT2006 Result

### Acer Incorporated

**Altos R380 F4 (Intel Xeon Gold 6134)**

<table>
<thead>
<tr>
<th>Software</th>
<th>SPECint_rate2006 = 1060</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006 = 1000</td>
<td></td>
</tr>
</tbody>
</table>

### Hardware

| CPU Name: | Intel Xeon Gold 6134 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHZ: | 3200 |
| 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: | 1 MB I+D on chip per core |
| L3 Cache: | 24.75 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 384 GB (12 x 32 GB 2Rx4 PC4-2666V-R) |
| Disk Subsystem: | 1 x 1000 GB SATA, 7200 RPM |
| Other Hardware: | None |

### Operating System

| Operating System: | SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default |

### Compiler

| Compiler: | C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux |

### Auto Parallel

| Auto Parallel: | Yes |

### File System

| File System: | btrfs |

### System State

| System State: | Run level 3 ((multi-user)) |

### Base Pointers

| Base Pointers: | 32-bit |

### Peak Pointers

| Peak Pointers: | 32/64-bit |

### Other Software

| Other Software: | Microquill SmartHeap V10.2 |

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Test date: Sep-2017

Hardware Availability: Oct-2017

Software Availability: Apr-2017

**CPU2006 license:** 97

**Test sponsor:** Acer Incorporated

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>435</td>
<td>718</td>
<td>435</td>
<td>719</td>
<td>436</td>
<td>717</td>
<td></td>
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<tr>
<td>401.bzip2</td>
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<td>670</td>
<td>461</td>
<td>673</td>
<td>459</td>
<td>671</td>
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</tr>
<tr>
<td>403.mcf</td>
<td>32</td>
<td>213</td>
<td>1370</td>
<td>213</td>
<td>1370</td>
<td>214</td>
<td>1360</td>
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</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>559</td>
<td>600</td>
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<td>560</td>
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<tr>
<td>456.hmmer</td>
<td>32</td>
<td>216</td>
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<td>217</td>
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<tr>
<td>458.sjeng</td>
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<td>609</td>
<td>635</td>
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<tr>
<td>462.libquantum</td>
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<td>40.8</td>
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<td>464.h264ref</td>
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<td>648</td>
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<td>633</td>
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<tr>
<td>471.omnetpp</td>
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<td>428</td>
<td>467</td>
<td>426</td>
<td>469</td>
<td>429</td>
<td>466</td>
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<tr>
<td>473.astar</td>
<td>32</td>
<td>393</td>
<td>572</td>
<td>395</td>
<td>568</td>
<td>393</td>
<td>572</td>
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<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>178</td>
<td>1240</td>
<td>176</td>
<td>1250</td>
<td>177</td>
<td>1250</td>
<td></td>
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</tr>
</tbody>
</table>

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 Configuration:
CPU Power and Performance Policy set to Performance
IMC set to 1-way interleaving
Sub_NUMA Cluster set to enabled
Set Fan Profile set to Performance
Sysinfo program /usr/cpu2006/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-uibv Fri Sep 8 12:39:48 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) Gold 6134 CPU @ 3.20GHz
2 "physical id"s (chips)
32 "processors"
Platform Notes (Continued)

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpupinfo might not be reliable. Use with caution.)

- cpu cores : 8
- siblings : 16
- physical 0: cores 0 2 3 9 16 19 26 27
- physical 1: cores 0 2 3 9 16 19 26 27
- cache size : 25344 KB

From /proc/meminfo

- MemTotal: 394675016 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:

  (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 2 22:52

SPEC is set to: /usr/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 btrfs 3.7T 190G 3.5T 6% /

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 Intel Corporation SE5C620.86B.00.01.0004.071220170215 07/12/2017
Memory:

Continued on next page
Acer Incorporated
Altos R380 F4 (Intel Xeon Gold 6134) SPECint<sub>rate2006</sub> = 1060 SPECint<sub>rate_base2006</sub> = 1000

CPU2006 license: 97
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Platform Notes (Continued)

4x Empty/NO DIMM NO DIMM
12x Micron 36ASF4G72PZ-2G6D1 32 GB 2 rank 2666 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/lib/ia32:/usr/cpu2006/lib/intel64:/usr/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:
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>
Altos R360 F4 and Altos R380 F4 are electronically equivalent.
This result was measured on Altos R380 F4.

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
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### 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`

### 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`  
**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`
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Peak Portability Flags (Continued)
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:
400.perlb benchmark: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(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

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(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-AVX512 -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-AVX512(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.hmmer: -xCORE-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(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-AVX512(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-AVX512(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

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### Peak Optimization Flags (Continued)

- 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/Acer-Platform-Settings-V1.3-revC.html](http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revC.html)

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

- [http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revC.xml](http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revC.xml)

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