Acer Incorporated

Altos R360 F3 (Intel Xeon E5-2620 v3)

**SPECint**\_rate2006 = 273

**SPECint\_rate\_base2006 = 261**

<table>
<thead>
<tr>
<th>Test sponsor:</th>
<th>Acer Incorporated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Acer Incorporated</td>
</tr>
<tr>
<td>Test date:</td>
<td>Nov-2015</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>May-2015</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Jul-2014</td>
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<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>97</th>
</tr>
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<tbody>
<tr>
<td>Software:</td>
<td></td>
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<tr>
<td>Operating System:</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>xfs</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
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<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
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<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.0</td>
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### Hardware

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2620 v3</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.20 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2400</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>6 cores, 1 chip, 6 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 chips</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>15 MB I+D on chip per chip</td>
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<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>128 GB (8 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 1000 GB SATA</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

| Operating System:        | Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64 |
| Compiler:                | C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux |
| Auto Parallel:           | No |
| File System:             | xfs |
| System State:            | Run level 3 (multi-user) |
| Base Pointers:           | 32-bit |
| Peak Pointers:           | 32/64-bit |
| Other Software:          | Microquill SmartHeap V10.0 |
Acer Incorporated
Altos R360 F3 (Intel Xeon E5-2620 v3)

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

SPEC CINT2006 Result

SPECint_rate2006 = 273
SPECint_rate_base2006 = 261

Results Table

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<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<th>Base</th>
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<td>403.gcc</td>
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<td>471.omnetpp</td>
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<td>483.xalancbmk</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
C1E Autopromote set to Disabled
Set Fan Profile set to Performance
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Tue Nov 10 08:50:12 2015

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 v3 @ 2.40GHz
  1 "physical id"s (chips)
  12 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
SPEC CINT2006 Result

Acer Incorporated
Altos R360 F3 (Intel Xeon E5-2620 v3)

SPECint_rate2006 = 273
SPECint_rate_base2006 = 261

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated

Test date: Nov-2015
Hardware Availability: May-2015
Software Availability: Jul-2014

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
  cpu cores : 6
  siblings : 12
  physical 0: cores 0 1 2 3 4 5
  cache size : 15360 KB

From /proc/meminfo
  MemTotal: 131754848 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
  os-release:
    NAME="Red Hat Enterprise Linux Server"
    VERSION="7.0 (Maipo)"
    ID="rhel"
    ID_LIKE="fedora"
    VERSION_ID="7.0"
    PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
    ANSI_COLOR="0;31"
    CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
  redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
  system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname -a:
  Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
  EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Nov 9 15:53

SPEC is set to: /usr/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
  /dev/mapper/rhel-root xfs 539G 49G 490G 9% /

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 SE5C610.86B.01.01.0009.060120151350 06/01/2015
Memory:
  8x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1866 MHz
  16x NO DIMM NO DIMM

(End of data from sysinfo program)
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General Notes
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1>/proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
umactl --interleave=all runspec <etc>
The Altos R380 F3 and Altos R360 F3 are electronically equivalent.
This result was measured on Altos R380 F3.

Base Compiler Invocation
C benchmarks:
  icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
C++ benchmarks:
  icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Base Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags
C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
  -opt-mem-layout-trans=3
C++ benchmarks:
  -xCORE-AVX2 -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
Acer Incorporated
Altos R360 F3 (Intel Xeon E5-2620 v3)

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### Peak Compiler Invocation

C benchmarks (except as noted below):

```bash
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

400.perlbench: `icc -m64`
401.bzip2: `icc -m64`
456.hmmer: `icc -m64`
458.sjeng: `icc -m64`

C++ benchmarks:

```bash
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

### Peak Portability Flags

```bash
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:

```bash
400.perlbench: -xCORE\_AVX2(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: `-xCORE\_AVX2(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: `-xCORE\_AVX2 -ipo -O3 -no-prec-div`

429.mcf: basepeak = yes

445.gobmk: `-xCORE\_AVX2(pass 2) -prof\_gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xCORE\_AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xCORE\_AVX2(pass 2) -prof\_gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32`

Continued on next page
Acer Incorporated
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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/Intel-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revB.xml

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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 Tue Dec 1 17:41:01 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 December 2015.