Acer Incorporated
Altos R380 F2 (Intel Xeon E5-2670)

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

SPECint\_rate2006 = 641
SPECint\_rate_base2006 = 621

Hardware

<table>
<thead>
<tr>
<th>CPU Name</th>
<th>CPU Characteristics</th>
<th>CPU MHZ</th>
<th>FPU</th>
<th>CPU(s) enabled</th>
<th>Primary Cache</th>
<th>Secondary Cache</th>
<th>L3 Cache</th>
<th>Other Cache</th>
<th>Memory</th>
<th>Disk Subsystem</th>
<th>Other Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intel Xeon E5-2670</td>
<td>2600</td>
<td></td>
<td>16 cores, 2 chips, 8 cores/chip, 2 threads/core</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>256 KB I+D on chip per core</td>
<td>20 MB I+D on chip per chip</td>
<td>None</td>
<td>128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)</td>
<td>1 x 300 GB SAS, 10K RPM</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Compiler</th>
<th>Auto Parallel</th>
<th>File System</th>
<th>System State</th>
<th>Base Pointers</th>
<th>Peak Pointers</th>
<th>Other Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hat Enterprise Linux Server release 6.3 (Santiago)</td>
<td>C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux</td>
<td>No</td>
<td>ext4</td>
<td>Run level 3 (multi-user)</td>
<td>32-bit</td>
<td>32/64-bit</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>
Acer Incorporated

Altos R380 F2 (Intel Xeon E5-2670)

SPECint_rate2006 = 641
SPECint_rate_base2006 = 621

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated
Test date: May-2013
Hardware Availability: May-2013
Software Availability: Feb-2013

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>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>649</td>
<td>482</td>
<td>645</td>
<td>485</td>
<td>645</td>
<td>484</td>
<td>32</td>
<td>561</td>
<td>557</td>
<td>561</td>
<td>557</td>
<td>562</td>
<td>556</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>920</td>
<td>335</td>
<td>921</td>
<td>335</td>
<td>921</td>
<td>335</td>
<td>32</td>
<td>890</td>
<td>347</td>
<td>895</td>
<td>345</td>
<td>892</td>
<td>346</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>525</td>
<td>490</td>
<td>524</td>
<td>492</td>
<td>524</td>
<td>492</td>
<td>32</td>
<td>525</td>
<td>490</td>
<td>523</td>
<td>492</td>
<td>526</td>
<td>490</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>319</td>
<td>914</td>
<td>319</td>
<td>916</td>
<td>319</td>
<td>913</td>
<td>32</td>
<td>319</td>
<td>914</td>
<td>319</td>
<td>916</td>
<td>319</td>
<td>913</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>715</td>
<td>469</td>
<td>716</td>
<td>469</td>
<td>712</td>
<td>471</td>
<td>32</td>
<td>689</td>
<td>487</td>
<td>690</td>
<td>487</td>
<td>689</td>
<td>487</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>32</td>
<td>386</td>
<td>774</td>
<td>386</td>
<td>774</td>
<td>387</td>
<td>771</td>
<td>32</td>
<td>357</td>
<td>836</td>
<td>357</td>
<td>837</td>
<td>356</td>
<td>839</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>32</td>
<td>822</td>
<td>471</td>
<td>819</td>
<td>473</td>
<td>823</td>
<td>470</td>
<td>32</td>
<td>799</td>
<td>485</td>
<td>793</td>
<td>488</td>
<td>801</td>
<td>483</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>32</td>
<td>162</td>
<td>4100</td>
<td>161</td>
<td>4110</td>
<td>161</td>
<td>4120</td>
<td>32</td>
<td>162</td>
<td>4100</td>
<td>161</td>
<td>4110</td>
<td>161</td>
<td>4120</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>32</td>
<td>925</td>
<td>766</td>
<td>915</td>
<td>774</td>
<td>916</td>
<td>773</td>
<td>32</td>
<td>902</td>
<td>785</td>
<td>866</td>
<td>818</td>
<td>895</td>
<td>791</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>567</td>
<td>353</td>
<td>566</td>
<td>354</td>
<td>566</td>
<td>354</td>
<td>32</td>
<td>536</td>
<td>373</td>
<td>534</td>
<td>374</td>
<td>535</td>
<td>374</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>620</td>
<td>362</td>
<td>619</td>
<td>363</td>
<td>622</td>
<td>361</td>
<td>32</td>
<td>620</td>
<td>362</td>
<td>619</td>
<td>363</td>
<td>622</td>
<td>361</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>341</td>
<td>647</td>
<td>344</td>
<td>642</td>
<td>345</td>
<td>640</td>
<td>32</td>
<td>341</td>
<td>647</td>
<td>344</td>
<td>642</td>
<td>345</td>
<td>640</td>
</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

Sysinfo program /usr/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on altosr380f2 Wed May 29 11:18:32 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 E5-2670 0 @ 2.60GHz
  2 "physical id"s (chips)
  32 "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
Acer Incorporated  
Altos R380 F2 (Intel Xeon E5-2670) 

**SPECint_rate2006 = 641**  
**SPECint_rate_base2006 = 621**

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Acer Incorporated</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Acer Incorporated</td>
</tr>
<tr>
<td>Test date:</td>
<td>May-2013</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>May-2013</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Feb-2013</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

```
physical 0: cores 0 1 2 3 4 5 6 7  
physical 1: cores 0 1 2 3 4 5 6 7  
cache size : 20480 KB  
```

From `/proc/meminfo`  
```
MemTotal:    132113952 kB  
HugePages_Total:       0  
Hugepagesize:       2048 kB  
```

```
/usr/bin/lsb_release -d  
Red Hat Enterprise Linux Server release 6.3 (Santiago)  
```

From `/etc/*release* /etc/*version*`
```
redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)  
system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)  
```

```
uname -a:  
Linux altosr380f2 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012  
x86_64 x86_64 x86_64 GNU/Linux  
```

```
run-level 3 May 29 10:39  
```

**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 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>
  Altos R360 F2 and Altos R380 F2 are electronically equivalent.  
```

(End of data from sysinfo program)
Acer Incorporated
Altos R380 F2 (Intel Xeon E5-2670)

SPECint\textsubscript{rate2006} = 641
SPECint\textsubscript{rate\_base2006} = 621

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated
Test date: May-2013
Hardware Availability: May-2013
Software Availability: Feb-2013

General Notes (Continued)
This result was measured on Altos R380 F2.

Base Compiler Invocation

C benchmarks:
\texttt{icc -m32}

C++ benchmarks:
\texttt{icpc -m32}

Base Portability Flags

400.perlbench: \texttt{-DSPEC\textunderscore CPU\_LINUX\_IA32}
462.libquantum: \texttt{-DSPEC\textunderscore CPU\_LINUX}
483.xalancbmk: \texttt{-DSPEC\textunderscore CPU\_LINUX}

Base Optimization Flags

C benchmarks:
\texttt{-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3}

C++ benchmarks:
\texttt{-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap}

Base Other Flags

C benchmarks:
\texttt{403.gcc: -Dalloca=_alloca}

Peak Compiler Invocation

C benchmarks (except as noted below):
\texttt{icc -m32}

400.perlbench: \texttt{icc -m64}
401.bzip2: \texttt{icc -m64}
456.hmmer: \texttt{icc -m64}

Continued on next page
Acer Incorporated
Altos R380 F2 (Intel Xeon E5-2670)

SPECint_rate2006 = 641
SPECint_rate_base2006 = 621

CPU2006 license: 97
Test sponsor: Acer Incorporated
Test date: May-2013
Tested by: Acer Incorporated
Hardware Availability: May-2013
Software Availability: Feb-2013

Peak Compiler Invocation (Continued)

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: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll14
-auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll12
-ansi-alias

C++ benchmarks:

Continued on next page
Acer Incorporated
Altos R380 F2 (Intel Xeon E5-2670)

SPECint_rate2006 = 641
SPECint_rate_base2006 = 621

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

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

Peak Optimization Flags (Continued)

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-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-ic13-official-linux64.html
http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.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/Acer-Platform-Settings-V1.2-revA.20130423.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.
Originally published on 18 June 2013.