## SPEC® CFP2006 Result

### Hypertechologies Ciara, Inc
Orion HF320-G3

**SPECfp®_rate2006 = 412**

**SPECfp_rate_base2006 = 400**

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<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
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<tbody>
<tr>
<td>CPU Name: Intel Core i7-5960X</td>
<td>Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
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<tr>
<td>CPU Characteristics: Intel Turbo Boost Technology disabled</td>
<td>Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux; Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux</td>
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<td>CPU MHz: 4300</td>
<td>Auto Parallel: No</td>
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<tr>
<td>FPU: Integrated</td>
<td>File System: xfs</td>
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<tr>
<td>CPU(s) enabled: 8 cores, 1 chip, 8 cores/chip, 2 threads/core</td>
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<tr>
<td>CPU(s) orderable: 1 chip</td>
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<tr>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
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<tr>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
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**CPU2006 license:** 4531

**Test sponsor:** Hypertechologies Ciara, Inc

**Tested by:** Hypertechologies Ciara, Inc

**Test date:** Apr-2015

**Hardware Availability:** Feb-2015

**Software Availability:** Aug-2015

**Hardware**

- **CPU Name:** Intel Core i7-5960X
- **CPU Characteristics:** Intel Turbo Boost Technology disabled
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- **Auto Parallel:** No
- **File System:** xfs

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**Copies**

| SPECfp_rate2006 = 412 |
| SPECfp_rate_base2006 = 400 |

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Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
## 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 taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Tue Apr 7 08:34:59 2015
Platform Notes (Continued)

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) Core(TM) i7-5960X CPU @ 3.00GHz
     1 "physical id"s (chips)
     16 "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
     physical 0: cores 0 1 2 3 4 5 6 7
   cache size : 20480 KB

From /proc/meminfo
   MemTotal:     65710396 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 Apr 7 08:34 last=5

SPEC is set to: /usr/cpu2006
   Filesystem Type Size Used Avail Use% Mounted on
   /dev/mapper/rhel-root xfs 434G 141G 294G 33% /

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.

Continued on next page
Hypertechnologies Ciara, Inc
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Platform Notes (Continued)

BIOS American Megatrends Inc. 8804 01/27/2015
Memory:
8x Undefined CMD32GX4M4A2666C15 8 GB 2 rank 2133 MHz, configured at 2666 MHz

(End of data from sysinfo program)

General Notes

Processor accelerated to 4.30 GHz
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

Base Compiler Invocation

C benchmarks:
icc   -m64
C++ benchmarks:
icpc  -m64
Fortran benchmarks:
ifort -m64
Benchmarks using both Fortran and C:
icc   -m64 ifort -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64 -nofor_main
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias

Peak Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks (except as noted below):
icpc -m64

450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

- 435.gromacs: --DSPEC_CPU_LP64 -nofor_main
- 436.cactusADM: --DSPEC_CPU_LP64 -nofor_main
- 437.leslie3d: --DSPEC_CPU_LP64
- 444.namd: --DSPEC_CPU_LP64 -nofor_main
- 447.dealII: --DSPEC_CPU_LP64
- 453.povray: --DSPEC_CPU_LP64 -nofor_main
- 454.calculix: --DSPEC_CPU_LP64 -nofor_main
- 459.GemsFDTD: --DSPEC_CPU_LP64
- 463.tonto: --DSPEC_CPU_LP64
- 470.lbm: --DSPEC_CPU_LP64
- 481.wrf: --DSPEC_CPU_LP64 --DSPEC_CPU_CASE_FLAG --DSPEC_CPU_LINUX
- 482.sphinx3: --DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:

- 433.milc: --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

- 470.lbm: basepeak = yes

- 482.sphinx3: --xCORE-AVX2 --prof-gen(pass 1) --ipo --O3 --no-prec-div
  --prof-use(pass 2) --unroll2

C++ benchmarks:

- 444.namd: --xCORE-AVX2(pass 2) --prof-gen(pass 1) --ipo(pass 2)
  -O3(pass 2) --no-prec-div(pass 2) --prof-use(pass 2)
  --fno-alias --auto-ilp32

- 447.dealII: basepeak = yes

- 450.soplex: --xCORE-AVX2(pass 2) --prof-gen(pass 1) --ipo(pass 2)
  -O3(pass 2) --no-prec-div(pass 2) --prof-use(pass 2)
  --opt-malloc-options=3

- 453.povray: --xCORE-AVX2(pass 2) --prof-gen(pass 1) --ipo(pass 2)
  -O3(pass 2) --no-prec-div(pass 2) --prof-use(pass 2) --unroll4
  --ansi-alias

Fortran benchmarks:

- 410.bwaves: basepeak = yes

- 416.gamess: --xCORE-AVX2(pass 2) --prof-gen(pass 1) --ipo(pass 2)
  -O3(pass 2) --no-prec-div(pass 2) --prof-use(pass 2) --unroll2
  --inline-level=0 --scalar-rep--
Hypertechnologies Ciara, Inc
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SPEC CFP2006 Result

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Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes
437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
459.GemsFDTD: basepeak = yes
465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes
454.calculix: basepeak = yes
481.wrf: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml

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For other inquiries, please contact webmaster@spec.org.

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