



SPEC[®] CFP2006 Result

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Acer Incorporated

SPECfp[®]_rate2006 = 182

Altos AT 350 F3 (Intel Xeon E5-2623 v4)

SPECfp_rate_base2006 = 180

CPU2006 license: 97

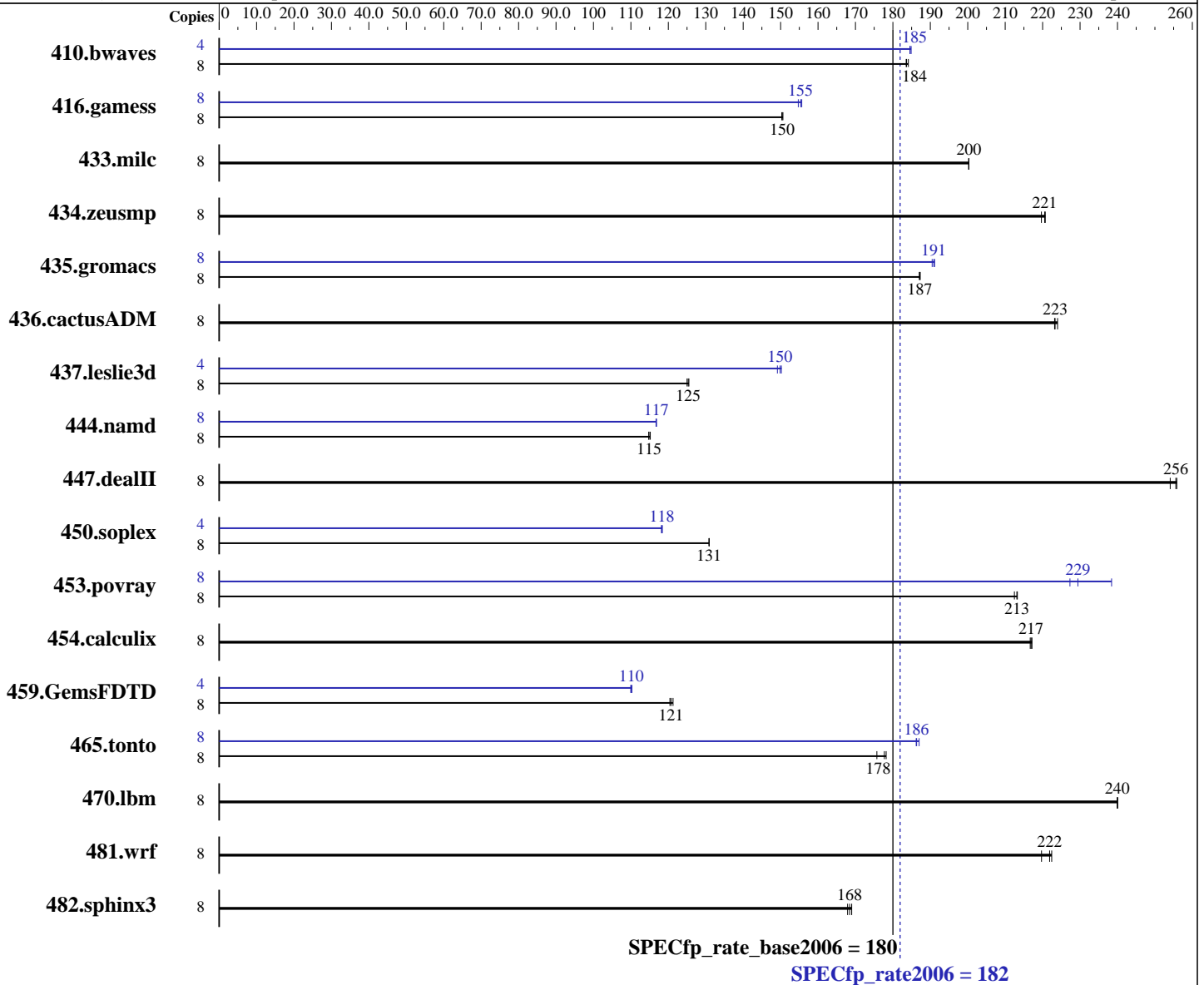
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2017

Hardware Availability: Mar-2016

Software Availability: Sep-2016



Hardware

CPU Name: Intel Xeon E5-2623 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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: 256 KB I+D on chip per core

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Software

Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)
 3.10.0-514.el7.x86_64
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux;
 Fortran: Version 17.0.0.098 of Intel Fortran Compiler for Linux
 Auto Parallel: No
 File System: xfs

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L3 Cache: 10 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
Disk Subsystem: 1 x 4000 GB SATA , 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: none

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	592	184	592	184	590	184	4	295	185	294	185	294	185
416.gamess	8	1042	150	1040	151	1041	150	8	1006	156	1012	155	1008	155
433.milc	8	367	200	367	200	367	200	8	367	200	367	200	367	200
434.zeusmp	8	330	221	331	220	330	221	8	330	221	331	220	330	221
435.gromacs	8	305	187	305	187	305	187	8	300	190	299	191	299	191
436.cactusADM	8	428	223	427	224	428	223	8	428	223	427	224	428	223
437.leslie3d	8	599	125	602	125	600	125	4	250	150	251	150	252	149
444.namd	8	559	115	557	115	559	115	8	549	117	550	117	549	117
447.dealII	8	358	256	358	256	360	254	8	358	256	358	256	360	254
450.soplex	8	510	131	510	131	510	131	4	282	118	282	118	282	118
453.povray	8	200	213	200	213	200	212	8	187	227	186	229	179	238
454.calculix	8	305	217	304	217	304	217	8	305	217	304	217	304	217
459.GemsFDTD	8	705	120	700	121	703	121	4	385	110	386	110	385	110
465.tonto	8	443	178	442	178	448	176	8	421	187	422	186	423	186
470.lbm	8	458	240	458	240	458	240	8	458	240	458	240	458	240
481.wrf	8	407	220	402	222	403	222	8	407	220	402	222	403	222
482.sphinx3	8	926	168	923	169	929	168	8	926	168	923	169	929	168

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.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on localhost.localdomain Mon Apr 17 15:33:37 2017
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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) Xeon(R) CPU E5-2623 v4@ 2.60GHz
 1 "physical id"s (chips)
 8 "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    : 4
  siblings    : 8
  physical 0 : cores 0 1 2 3
cache size    : 10240 KB
```

```
From /proc/meminfo
MemTotal:      131752932 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server
```

```
uname -a:
Linux localhost.localdomain 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Apr 17 05:15
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs  3.7T  13G  3.7T   1% /
```

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.

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Platform Notes (Continued)

BIOS American Megatrends Inc. 2.1 09/13/2016

Memory:

8x NO DIMM NO DIMM

8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 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/libs/32:/usr/cpu2006/libs/64:/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

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
 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:

-xAVX -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -qopt-prefetch

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/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
447.dealII: -DSPEC_CPU_LP64
450.soplex: -D_FILE_OFFSET_BITS=64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.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: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

```

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
         -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
         -no-prec-div(pass 2) -fno-alias -auto-ilp32
         -qopt-mem-layout-trans=3

```

447.dealII: basepeak = yes

```

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
           -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -qopt-malloc-options=3
           -qopt-mem-layout-trans=3

```

```

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
           -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -unroll4 -qopt-mem-layout-trans=3

```

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -qopt-prefetch

```

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
           -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -unroll2 -inline-level=0 -scalar-rep-

```

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Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll4 -auto -inline-calloc
-qopt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xAVX(pass 2)
-par-num-threads=1(pass 1) -qopt-prefetch -auto-ilp32
-qopt-mem-layout-trans=3

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

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.html>

<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revA.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.xml>

<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.3-revA.xml>

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