



SPEC[®] CFP2006 Result

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M Computers s.r.o.

SPECfp[®]_rate2006 = Not Run

HPC S2600WF (Intel Xeon Silver 4114, 2.20 GHz)

SPECfp_rate_base2006 = 824

CPU2006 license: 4204

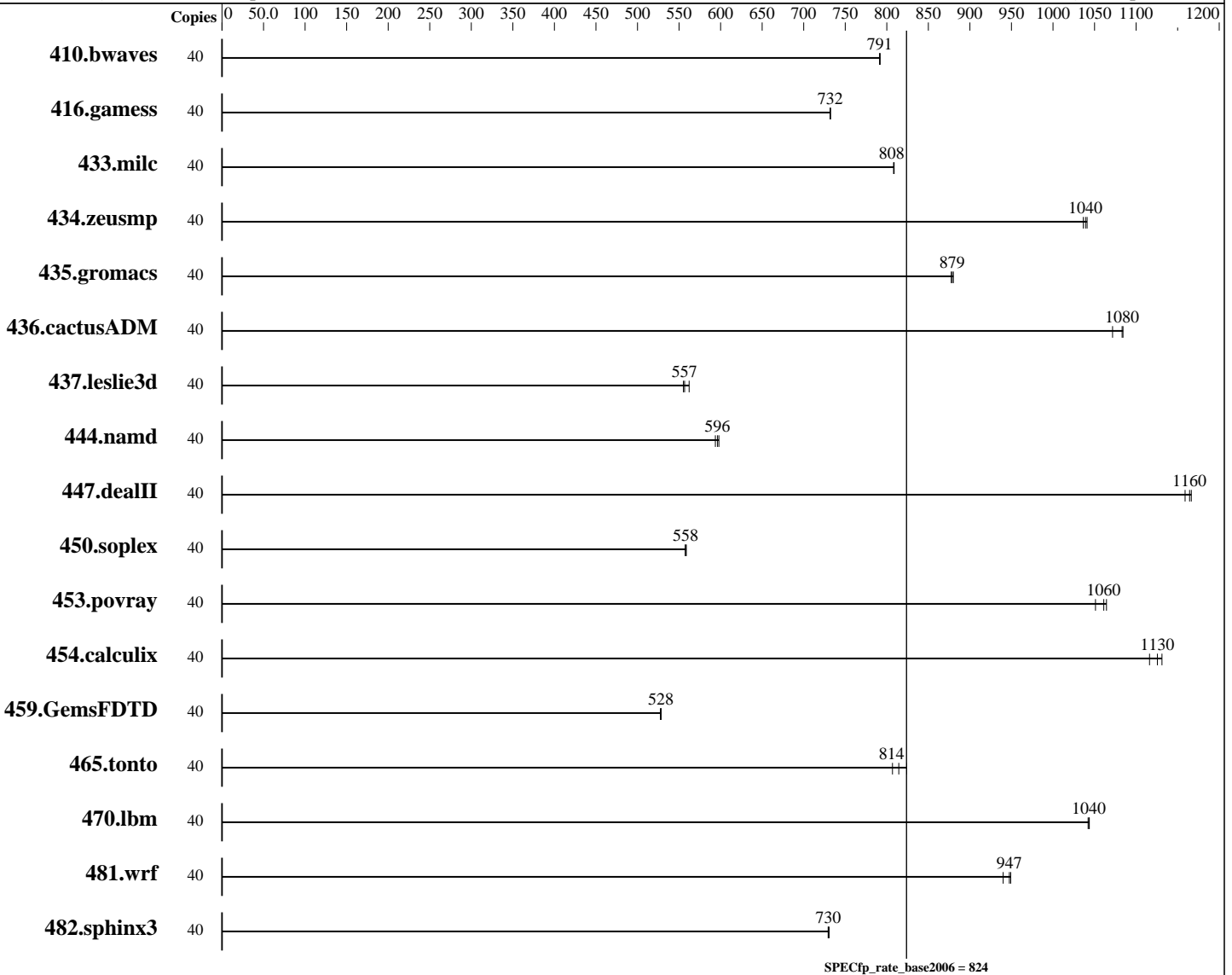
Test sponsor: M Computers s.r.o.

Tested by: M Computers s.r.o.

Test date: Aug-2017

Hardware Availability: Jul-2017

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon Silver 4114
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 12 SP2
 4.4.21-69-default
 Compiler: C/C++: Version 17.0.4.196 of Intel C/C++
 Compiler for Linux;
 Fortran: Version 17.0.4.196 of Intel Fortran
 Compiler for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3

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L3 Cache: 13.75 MB I+D on chip per chip
 Other Cache: None
 Memory: 768 GB (24 x 32 GB 2Rx8 PC4-2666V-R, running at 2400 MT/s)
 Disk Subsystem: 1 x 1600 GB SATA SSD
 Other Hardware: None

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	40	687	791	687	791	686	792									
416.gamess	40	1070	732	1070	732	1070	732									
433.milc	40	454	808	454	808	454	809									
434.zeusmp	40	350	1040	350	1040	351	1040									
435.gromacs	40	325	880	325	879	325	878									
436.cactusADM	40	441	1080	446	1070	441	1080									
437.lelie3d	40	669	562	675	557	677	555									
444.namd	40	538	596	540	594	537	598									
447.dealII	40	393	1160	395	1160	392	1170									
450.soplex	40	598	557	598	558	597	559									
453.povray	40	202	1050	201	1060	200	1060									
454.calculix	40	293	1130	292	1130	296	1120									
459.GemsFDTD	40	803	528	803	528	805	528									
465.tonto	40	478	824	488	807	483	814									
470.lbm	40	527	1040	527	1040	527	1040									
481.wrf	40	472	947	475	940	471	949									
482.sphinx3	40	1068	730	1069	729	1067	731									

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 settings:
 Patrol Scrub=Disabled
 CPU and Power Performance Policy=Performance
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Platform Notes (Continued)

Set Fan Profile=Performance
Sysinfo program /spec/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (300de342723409e6453f54e8c50448c3)
running on kvasir Thu Aug 31 15:21:27 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) Silver 4114 CPU @ 2.20GHz
 2 "physical id"s (chips)
 40 "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     : 10
  siblings      : 20
  physical 0:   cores 0 1 2 3 4 8 9 10 11 12
  physical 1:   cores 0 1 2 3 4 8 9 10 11 12
cache size     : 14080 KB
```

```
From /proc/meminfo
MemTotal:      791028784 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:
Linux kvasir 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Aug 31 14:16
```

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Platform Notes (Continued)

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdal	xfs	650G	58G	592G	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 SE5C620.86B.0X.01.0007.060920171037 06/09/2017

Memory:

24x Kinston 9965640-006.A01G 32 GB 2 rank 2400 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/spec/lib/ia32:/spec/lib/intel64:/spec/shll.2"

Binaries compiled on a system with 2x Intel Xeon-SP 4112 CPU + 192GB RAM memory using Redhat Enterprise Linux 7.3

Transparent Huge Pages enabled by default.

Filesystem page cache cleared with:

echo 1 > /proc/sys/vm/drop_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

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



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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
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 -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
```

Benchmarks using both Fortran and C:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3
```

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-revF.html>

<http://www.spec.org/cpu2006/flags/MComputers-Platform-Settings-V1.2-revB.20170920.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-revF.xml>

<http://www.spec.org/cpu2006/flags/MComputers-Platform-Settings-V1.2-revB.20170920.xml>



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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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