



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = Not Run

PowerEdge T330 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

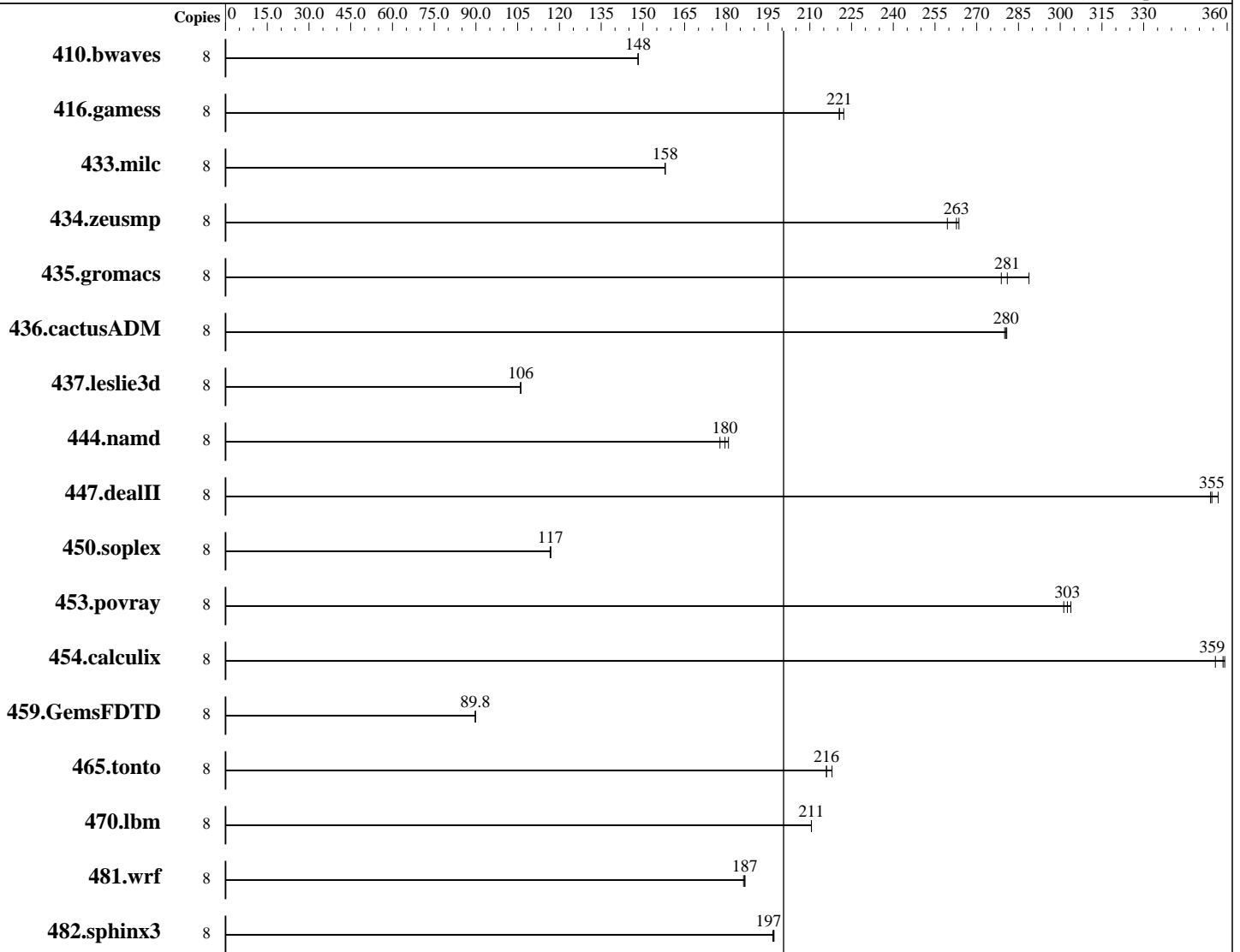
Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016



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Hardware

CPU Name: Intel Xeon E3-1230 v6
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 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: SUSE Linux Enterprise Server 12 SP2 4.10.8-4.geb4ae7d-default
 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
 System State: Run level 3 (multi-user)

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L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2400T-U)
 Disk Subsystem: 500 GB SATA 7200 RPM
 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 | 8 | 733 | 148 | 733 | 148 | 733 | 148 | | | | | | | |
| 416.gamess | 8 | 710 | 221 | 705 | 222 | 710 | 221 | | | | | | | |
| 433.milc | 8 | 465 | 158 | 465 | 158 | 465 | 158 | | | | | | | |
| 434.zeusmp | 8 | 277 | 263 | 281 | 259 | 276 | 264 | | | | | | | |
| 435.gromacs | 8 | 205 | 279 | 203 | 281 | 198 | 289 | | | | | | | |
| 436.cactusADM | 8 | 341 | 280 | 340 | 281 | 341 | 280 | | | | | | | |
| 437.leslie3d | 8 | 709 | 106 | 709 | 106 | 709 | 106 | | | | | | | |
| 444.namd | 8 | 355 | 181 | 357 | 180 | 361 | 178 | | | | | | | |
| 447.dealII | 8 | 258 | 355 | 257 | 357 | 259 | 354 | | | | | | | |
| 450.soplex | 8 | 572 | 117 | 571 | 117 | 571 | 117 | | | | | | | |
| 453.povray | 8 | 141 | 301 | 140 | 304 | 141 | 303 | | | | | | | |
| 454.calculix | 8 | 186 | 356 | 184 | 359 | 184 | 359 | | | | | | | |
| 459.GemsFDTD | 8 | 945 | 89.8 | 945 | 89.8 | 945 | 89.8 | | | | | | | |
| 465.tonto | 8 | 364 | 216 | 361 | 218 | 364 | 216 | | | | | | | |
| 470.lbm | 8 | 522 | 211 | 522 | 211 | 522 | 211 | | | | | | | |
| 481.wrf | 8 | 480 | 186 | 479 | 187 | 479 | 187 | | | | | | | |
| 482.sphinx3 | 8 | 793 | 197 | 791 | 197 | 791 | 197 | | | | | | | |

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:
Virtualization Technology disabled
System Profile set to Performance

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Platform Notes (Continued)

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-rlzd Fri Apr 7 14:23:29 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) CPU E3-1230 v6 @ 3.50GHz
 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 : 8192 KB
```

From /proc/meminfo

```
MemTotal:      65803648 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 linux-rlzd 4.10.8-4.geb4ae7d-default #1 SMP PREEMPT Tue Apr 4 10:46:31
UTC 2017 (eb4ae7d) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Apr 7 10:27

SPEC is set to: /root/cpu2006-1.2

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Platform Notes (Continued)

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|------------|------|------|------|-------|------|------------|
| /dev/sda2 | xfs | 458G | 13G | 446G | 3% | / |

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 Dell Inc. 2.0.8 01/12/2017

Memory:

4x 002C0000002C 18ASF2G72AZ-2G3B1 16 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 = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/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

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

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64

416.gamess: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

```

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.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge13G-revE.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/Dell-Platform-Flags-PowerEdge13G-revE.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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