**SPEC® CFP2006 Result**

Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10  
(2.50 GHz, Intel Xeon Platinum 8180)

<table>
<thead>
<tr>
<th>SPECfp&lt;sup&gt;®&lt;/sup&gt;_rate2006 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_rate_base2006 = 1740</td>
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</tbody>
</table>

**CPU2006 license:** 3  
**Test sponsor:** HPE  
**Tested by:** HPE

*Hardware*

- **CPU Name:** Intel Xeon Platinum 8180  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.80 GHz  
- **CPU MHz:** 2500  
- **FPU:** Integrated  
- **CPU(s) enabled:** 56 cores, 2 chips, 28 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1,2 chip(s)  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 1 MB I+D on chip per core

*Software*

- **Operating System:** SUSE Linux Enterprise Server 12 (x86_64) SP2  
  Kernel 4.4.21-68-default  
- **Compiler:** C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;  
  Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux  
- **Auto Parallel:** No  
- **File System:** btrfs  
- **System State:** Run level 3 (multi-user)

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**Copies**

<table>
<thead>
<tr>
<th>Test</th>
<th>CPU Name</th>
<th>FPU</th>
<th>Primary Cache</th>
<th>Secondary Cache</th>
<th>CPU Characteristics</th>
<th>CPU MHZ</th>
<th>Hardware Availability</th>
<th>Software Availability</th>
<th>Test sponsor</th>
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<th>Software</th>
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<td>Integrated</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>1 MB I+D on chip per core</td>
<td>Intel Turbo Boost Technology up to 3.80 GHz</td>
<td>2500</td>
<td>Sep-2017</td>
<td>Apr-2017</td>
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### Results Table

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</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"

Transparent Huge Pages enabled by default

Filesystem page cache cleared with:

- `shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
- runspec command invoked through numactl i.e.:
  - `numactl --interleave=all runspec <etc>`
Hewlett Packard Enterprise  
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ProLiant DL380 Gen10  
(2.50 GHz, Intel Xeon Platinum 8180)  

SPEC CFP2006 Result  

**SPECfp_rate2006 = Not Run**  
**SPECfp_rate_base2006 = 1740**  

**CPU2006 license:** 3  
**Test date:** Sep-2017  
**Test sponsor:** HPE  
**Hardware Availability:** Sep-2017  
**Tested by:** HPE  
**Software Availability:** Apr-2017

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**Platform Notes**

BIOS Configuration:  
Thermal Configuration set to Maximum Cooling  
LLC Dead Line Allocation set to Disabled  
Workload Profile set to General Throughput Compute  
Sysinfo program /spec_cpu/cpu2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
runtime on local Thu Jan 4 04:18:29 2001

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) Platinum 8180 CPU @ 2.50GHz  
2 "physical id"s (chips)  
112 "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 : 28  
siblings : 56

physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30

cache size : 39424 KB

From /proc/meminfo  
MemTotal: 395708488 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"

Continued on next page
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CPU2006 license: 3
Test sponsor: HPE
Tested by: HPE
Test date: Sep-2017
Hardware Availability: Sep-2017
Software Availability: Apr-2017

Platform Notes (Continued)

uname -a:
    Linux local 4.4.21-68-default #1 SMP Tue Oct 18 18:19:37 UTC 2016 (63cf368)
    x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 3 22:50

SPEC is set to: /spec_cpu/cpu2006

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda3      btrfs  445G  259G  183G  59% /

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 HPE U30 08/18/2017
Memory:
    24x UNKNOWN NOT AVAILABLE 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec_cpu/cpu2006/lib/ia32:/spec_cpu/cpu2006/lib/intel64:/spec_cpu/cpu2006/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2

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
# SPEC CFP2006 Result

## Hewlett Packard Enterprise

*Test Sponsor: HPE*

ProLiant DL380 Gen10

(2.50 GHz, Intel Xeon Platinum 8180)

| SPECfp_rate2006 = | Not Run |
| SPECfp_rate_base2006 = | 1740 |

### CPU2006 license: 3

| Test date:          | Sep-2017 |
| Hardware Availability: | Sep-2017 |
| Software Availability: | Apr-2017 |

| Test sponsor: | HPE |
| Tested by:     | HPE |

## Base Portability Flags

410.bwaves: \(-\text{DSPEC\_CPU\_LP64}\)
416.games: \(-\text{DSPEC\_CPU\_LP64}\)
433.milc: \(-\text{DSPEC\_CPU\_LP64}\)
434.zeusmp: \(-\text{DSPEC\_CPU\_LP64}\)
435.gromacs: \(-\text{DSPEC\_CPU\_LP64}\) \(-\text{nofor\_main}\)
436.cactusADM: \(-\text{DSPEC\_CPU\_LP64}\) \(-\text{nofor\_main}\)
437.leslie3d: \(-\text{DSPEC\_CPU\_LP64}\)
444.namd: \(-\text{DSPEC\_CPU\_LP64}\)
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453.povray: \(-\text{DSPEC\_CPU\_LP64}\)
454.calculix: \(-\text{DSPEC\_CPU\_LP64}\) \(-\text{nofor\_main}\)
459.GemsFDTD: \(-\text{DSPEC\_CPU\_LP64}\)
465.tonto: \(-\text{DSPEC\_CPU\_LP64}\)
470.lbm: \(-\text{DSPEC\_CPU\_LP64}\)
481.wrf: \(-\text{DSPEC\_CPU\_LP64}\) \(-\text{DSPEC\_CPU\_CASE\_FLAG}\) \(-\text{DSPEC\_CPU\_LINUX}\)
482.sphinx3: \(-\text{DSPEC\_CPU\_LP64}\)

## Base Optimization Flags

### C benchmarks:

\(-\text{xCORE\-AVX2} \ -i\text{po} \ -03 \ -\text{no-prec\-div} \ -q\text{opt\-prefetch} \ -\text{auto\-p32}\)
\(-\text{qopt\-mem\-layout\-trans}=3\)

### C++ benchmarks:

\(-\text{xCORE\-AVX2} \ -i\text{po} \ -03 \ -\text{no-prec\-div} \ -q\text{opt\-prefetch} \ -\text{auto\-p32}\)
\(-\text{qopt\-mem\-layout\-trans}=3\)

### Fortran benchmarks:

\(-\text{xCORE\-AVX2} \ -i\text{po} \ -03 \ -\text{no-prec\-div} \ -q\text{opt\-prefetch}\)

### Benchmarks using both Fortran and C:

\(-\text{xCORE\-AVX2} \ -i\text{po} \ -03 \ -\text{no-prec\-div} \ -q\text{opt\-prefetch} \ -\text{auto\-p32}\)
\(-\text{qopt\-mem\-layout\-trans}=3\)

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/HPE-Platform-Flags-Intel-V1.2-SKX-revB.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/HPE-Platform-Flags-Intel-V1.2-SKX-revB.xml
# SPEC CFP2006 Result

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| CPU2006 license: 3        | CPU2006 license: 3 |
| Test sponsor: HPE         | Test sponsor: HPE |
| Tested by: HPE            | Tested by: HPE |

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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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