### Fujitsu

**PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz**

| SPECfp®2006 | 106 |
| SPECfp_base2006 | 104 |

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu  
**Test date:** Mar-2017  
**Hardware Availability:** May-2017  
**Software Availability:** Nov-2016

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
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<tbody>
<tr>
<td>410.bwaves</td>
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<tr>
<td>416.gamess</td>
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<tr>
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<td>482.sphinx3</td>
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</tr>
</tbody>
</table>

**SPECfp_base2006 = 104;**  
**SPECfp2006 = 106**

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**Hardware**

- **CPU Name:** Intel Xeon E3-1280 v6  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.20 GHz  
- **CPU MHz:** 3900  
- **FPU:** Integrated  
- **CPU(s) enabled:** 4 cores, 1 chip, 4 cores/chip  
- **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

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 SP2 (x86_64) 4.4.21-68-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:** Yes  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)
SPEC CFP2006 Result

Fujitsu

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp2006 =  106

SPECfp_base2006 =  104

CPU2006 license: 19
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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-E)
Disk Subsystem: 2 x SAS, 600 GB, 15000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Turbo mode set with:
cpupower -c all frequency-set -g performance
cpupower idle-set -d 2
cpupower idle-set -d 3
cpupower idle-set -d 4
echo always > /sys/kernel/mm/transparent_hugepage/enabled
KMP_AFFINITY = "granularity=fine,scatter"
OMP_NUM_THREADS = "4"
### Platform Notes

BIOS Settings:

Hyper-threading = Disabled  

Sysinfo program /home/benchmark/speccpu-20160922-updated/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1) running on linux-l8u9 Mon Mar 6 18:57:24 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 E3-1280 v6 @ 3.90GHz  
  - 1 "physical id"s (chips)  
  - 4 "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 : 4  
    - physical 0: cores 0 1 2 3  
  - cache size : 8192 KB

From /proc/meminfo

- MemTotal:  65657200 kB  
- HugePages_Total:  0  
- Hugepagesize:  2048 kB

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-l8u9 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 Mar 6 18:47

SPEC is set to: /home/benchmark/speccpu-20160922-updated
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Platform Notes (Continued)
/dev/sda4 xfs 516G 18G 499G 4% /home

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 FUJITSU // American Megatrends Inc. V5.0.0.11 R0.92.0 for D3375-B1x
02/02/2017
Memory:
4x Samsung M391A2K43BB1-CRC 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:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/benchmark/speccpu-20160922-updated/libs/32:/home/benchmark/speccpu-20160922-updated/libs/64:/home/benchmark/speccpu-20160922-updated/sh10.2"
OMP_NUM_THREADS = "4"

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 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

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Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
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Base Portability Flags (Continued)

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
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 -parallel -qopt-prefetch

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

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

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

Peak 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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Peak Portability Flags
Same as Base Portability Flags

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) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -fno-alias -auto-ilp32
447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(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-
434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll2 -inline-level=0
-qopt-prefetch -parallel
465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -inline-calloc -qopt-malloc-options=3
-auto -unroll4

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

- 435.gromacs: basepeak = yes
- 436.cactusADM: basepeak = yes
- 454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32
- 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/Fujitsu-Platform-Settings-V1.2-BDW-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/Fujitsu-Platform-Settings-V1.2-BDW-RevE.xml

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

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