Fujitsu
PRIMERGY RX2540 M2, Intel Xeon E5-2637 v4, 3.50 GHz

SPECfp®2006 = 112
SPECfp_base2006 = 108

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

CPU Name: Intel Xeon E5-2637 v4
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz: 3500
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 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: 256 KB I+D on chip per core

Software
Operating System: SUSE Linux Enterprise Server 12 SP1 (x86_64)
Kernel 3.12.49-11-default
Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux; Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux
Auto Parallel: Yes
File System: xfs
System State: Run level 5 (multi-user)

Hardware

SPECfp_base2006 = 108
SPECfp2006 = 112
## Fujitsu

PRIMERGY RX2540 M2, Intel Xeon E5-2637 v4, 3.50 GHz

### CPU2006 license
- License: 19

### Test Sponsors
- Fujitsu

### Tested by
- Fujitsu

### L3 Cache
- 15 MB I+D on chip per chip

### Other Cache
- None

### Memory
- 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)

### Disk Subsystem
- 1 x SATA, 500 GB, 7200 RPM

### Other Hardware
- None

### Base Pointers
- 64-bit

### Peak Pointers
- 32/64-bit

### Other Software
- None

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### SPECfp2006 Result

**SPECfp2006 = 112**

**SPECfp_base2006 = 108**

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### Results Table

| Benchmark  | Base    |  | Peak    |  |
|------------|---------|----------------|---------|
|            | Seconds |  |          |  |
| 410.bwaves | 31.0    | 438 | 31.3    | 435 |
| 416.gamess | 439     | 44.6 | 440     | 44.5 |
| 433.milc  | 125     | 73.7 | 124     | 73.9 |
| 434.zeusmp| 47.5    | 191 | 48.5    | 188 |
| 435.gromacs|113     | 63.4 | 113     | 63.3 |
| 436.cactusADM | 21.3 | 561 | 21.1 | 566 |
| 437.leslie3d| 34.8 | 270 | 34.9 | 269 |
| 444.namd  | 247     | 32.5 | 247     | 32.5 |
| 447.dealII| 166     | 68.9 | 166     | 69.0 |
| 450.soplex| 190     | 43.9 | 191     | 43.7 |
| 453.povray| 82.6   | 64.4 | 82.6    | 64.4 |
| 454.calculix|133    | 61.9 | 133     | 61.9 |
| 459.GemsFDTD| 59.4 | 178 | 58.9   | 180 |
| 465.tonto | 187     | 52.6 | 187     | 52.6 |
| 470.lbm   | 29.7    | 463 | 29.2    | 471 |
| 481.wrf   | 117     | 95.2 | 117     | 95.8 |
| 482.sphinx3|216    | 90.2 | 216     | 90.2 |

**Results**

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

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### Operating System Notes

- Stack size set to unlimited using "ulimit -s unlimited"

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### Platform Notes

- BIOS configuration:
  - Energy Performance = Performance
  - Utilization Profile = Unbalanced
  - QPI snoop mode: Home Snoop
  - COD Enable = Disabled, Early Snoop = Disabled, Home Snoop Dir OSB = Disabled
  - CPU C1E Support = Disabled
  - Sysinfo program /home/SPECcpu2006/config/sysinfo.rev6914

- $Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
- running on RX2540M2 Thu Mar 31 09:58:05 2016
## SPEC CFP2006 Result

**Fujitsu**

PRIMERGY RX2540 M2, Intel Xeon E5-2637 v4, 3.50 GHz

**SPECfp2006 = 112**

**SPECfp_base2006 = 108**

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<td>Fujitsu</td>
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<tr>
<td>Test date:</td>
<td>Mar-2016</td>
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<tr>
<td>Hardware Availability:</td>
<td>Apr-2016</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Sep-2015</td>
</tr>
</tbody>
</table>

### 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 E5-2637 v4 @ 3.50GHz
- 2 "physical id"s (chips)
- 16 "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
  - physical 1: cores 0 1 2 3
- cache size: 15360 KB

From `/proc/meminfo`
- MemTotal: 264402704 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
- SUSE Linux Enterprise Server 12 SP1

From `/etc/*release*` /etc/*version*
- SuSE-release:
  - SUSE Linux Enterprise Server 12 (x86_64)
  - VERSION = 12
  - PATCHLEVEL = 1
  - # 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-SP1"
  - VERSION_ID="12.1"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
  - ID="sles"
  - ANSI_COLOR="0;32"
  - CPE_NAME="cpe:/o:suse:sles:12:sp1"

uname -a:
- Linux RX2540M2 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015 (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

run-level 5 Mar 31 09:56

SPEC is set to: /home/SPECcpu2006

Additional information from dmidecode:

Continued on next page
SPEC CFP2006 Result

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Platform Notes (Continued)

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 R1.6.0 for D3289-B1x
03/11/2016
Memory:
16x Micron 36ASF2G72PZ-2G3A3 16 GB 2 rank 2400 MHz
8x NO DIMM NO DIMM

(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/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"
OMP_NUM_THREADS = "8"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
For information about Fujitsu please visit: http://www.fujitsu.com

Base Compiler Invocation

C benchmarks:
icc  -m64
C++ benchmarks:
icpc -m64
Fortran benchmarks:
iifort -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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Fujitsu
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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
467.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 -opt-prefetch
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

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

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

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
Fujitsu

PRIMERGY RX2540 M2, Intel Xeon E5-2637 v4, 3.50 GHz

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CPU2006 license: 19
Test date: Mar-2016

Test sponsor: Fujitsu
Hardware Availability: Apr-2016

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Software Availability: Sep-2015

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: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  -par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias
  -auto-ilk32

- 447.dealII: basepeak = yes

- 450.soplex: basepeak = yes

- 453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
  -ansi-alias

Fortran benchmarks:

- 410.bwaves: basepeak = yes

- 416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
  -inline-level=0 -scalar-rep-

- 434.zeusmp: basepeak = yes

- 437.leslie3d: basepeak = yes

- 459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
  -inline-level=0 -opt-prefetch -parallel

- 465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
  -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
  -par-num-threads=1(pass 1) -prof-use(pass 2) -inline-calloc

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**SPEC CFP2006 Result**

**Fujitsu**

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**Peak Optimization Flags (Continued)**

465.tonto (continued):
- opt-malloc-options=3 -auto -unroll4

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 -ansi-alias
- 481.wrf: basepeak = yes

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The flags files that were used to format this result can be browsed at


You can also download the XML flags sources by saving the following links:


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

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