Fujitsu
PRIMERGY RX2560 M2, Intel Xeon E5-2623 v4, 2.60 GHz

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu
Hardware Availability: Apr-2016
Test date: Apr-2016
Software Availability: Sep-2015

SPECfp®2006 = 94.9
SPECfp_base2006 = 91.0

Hardware
CPU Name: Intel Xeon E5-2623 v4
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2600
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)
Compiler: 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)
SPEC CFP2006 Result

Fujitsu

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<table>
<thead>
<tr>
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L3 Cache: 10 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R-R, running at 2133 MHz)
Disk Subsystem: 1 x SATA, 500 GB, 7200 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>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>71.8</td>
<td>273</td>
<td>71.3</td>
</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"

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

Continued on next page
### Fujitsu

**PRIMERGY RX2560 M2, Intel Xeon E5-2623 v4, 2.60 GHz**

| SPECfp2006 = | 94.9 |
| SPECfp_base2006 = | 91.0 |

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

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**Platform Notes (Continued)**

- Running on RX2560M21 Mon Apr  4 13:30:33 2016

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 E5-2623 v4@ 2.60GHz`
  - 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 : 10240 KB`

From `/proc/meminfo`
- `MemTotal: 264320392 kB`
- `HugePages_Total: 0`
- `Hugepagesize: 2048 kB`

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

From `/etc/*release* /etc/*version*`
- **SuSE-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`:
- `(8d714a0) x86_64 x86_64 x86_64 GNU/Linux`

`run-level 5 Apr 4 13:29`

`SPEC is set to: /home/SPECcpu2006`

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Fujitsu
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Platform Notes (Continued)
/dev/md126p3  xfs  889G  90G  800G  11% /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 R1.6.0 for D3289-B1x
03/11/2016
Memory:
16x Hynix Semiconductor HMA42GR7AFR4N-UH 16 GB 2 rank 2400 MHz, configured at 2133 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:
  ifort  -m64

Benchmarks using both Fortran and C:
  icc  -m64 ifort  -m64
## SPEC CFP2006 Result

### CPU2006 license: 19
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**Fujitsu**
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### Base Portability Flags

<table>
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<tr>
<th>Benchmark</th>
<th>Flags</th>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>-DSPEC_CPU_LP64</td>
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<td>-DSPEC_CPU_LP64</td>
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<tr>
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<td>-DSPEC_CPU_LP64 -nofor_main</td>
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</tr>
<tr>
<td>454.calculix</td>
<td>-DSPEC_CPU_LP64 -nofor_main</td>
</tr>
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<td>459.GemsFDTD</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
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<td>465.tonto</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>470.lbm</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>481.wrf</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
</tbody>
</table>

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### 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

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Continued on next page
Fujitsu
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Software Availability: Sep-2015

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

```
ic -m64 ifort -m64
```

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-ilp32
- 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

Continued on next page
Fujitsu

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Peak Optimization Flags (Continued)

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
-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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml

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

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