Fujitsu

PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint<sup>®</sup>2006 = 77.0
SPECint<sub>base2006</sub> = 74.6

Hardware

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon E3-1280 v6</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 4.20 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3900</td>
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<tr>
<td>FPU</td>
<td>Integrated</td>
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<tr>
<td>CPU(s) enabled:</td>
<td>4 cores, 1 chip, 4 cores/chip</td>
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<td>CPU(s) orderable:</td>
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<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
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<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
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<tr>
<td>L3 Cache:</td>
<td>8 MB I+D on chip per chip</td>
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<tr>
<td>Other Cache:</td>
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<tr>
<td>Memory:</td>
<td>64 GB (4 x 16 GB 2Rx8 PC4-2400T-E)</td>
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<tr>
<td>Disk Subsystem:</td>
<td>1 x 1TB, SATA III, 7200 RPM</td>
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<td>Other Hardware:</td>
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Software

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Operating System:</td>
<td>SUSE Linux Enterprise Server 12 SP2 (x86_64) 4.4.21-68-default</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 17.0.0.0.98 of Intel C/C++ Compiler for Linux</td>
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<tr>
<td>Auto Parallel:</td>
<td>Yes</td>
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<tr>
<td>File System:</td>
<td>xfs</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
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<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V10.2</td>
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</table>
SPEC CINT2006 Result

Fujitsu

PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint2006 = 77.0
SPECint_base2006 = 74.6

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

Test date: Mar-2017
Hardware Availability: May-2017
Software Availability: Nov-2016

Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Seconds Base</th>
<th>Ratio Base</th>
<th>Seconds Peak</th>
<th>Ratio Peak</th>
<th>Seconds Peak</th>
<th>Ratio Peak</th>
<th>Seconds Base</th>
<th>Ratio Base</th>
<th>Seconds Peak</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>193</td>
<td>50.5</td>
<td>194</td>
<td>50.4</td>
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<td>56.8</td>
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<td>56.9</td>
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<tr>
<td>401.bzip2</td>
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<td>31.5</td>
<td>305</td>
<td>31.6</td>
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<td>31.6</td>
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<td>403.gcc</td>
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<td>50.8</td>
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<td>50.7</td>
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<td>429.mcf</td>
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<td>91.9</td>
<td>99.8</td>
<td>91.4</td>
<td>97.9</td>
<td>93.1</td>
<td>99.2</td>
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<td>93.1</td>
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<td>445.gobmk</td>
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<td>36.2</td>
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<td>36.1</td>
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<td>456.hmmer</td>
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<td>462.libquantum</td>
<td>8.61</td>
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<td>2410</td>
<td>8.64</td>
<td>2400</td>
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<td>2410</td>
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<td>2400</td>
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<td>464.h264ref</td>
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<td>76.4</td>
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<td>76.4</td>
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<tr>
<td>471.omnetpp</td>
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<td>35.7</td>
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<td>35.7</td>
<td>144</td>
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<td>473.astar</td>
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<td>41.6</td>
<td>170</td>
<td>41.3</td>
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<td>41.5</td>
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<td>41.6</td>
<td>170</td>
<td>41.3</td>
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<tr>
<td>483.xalancbmk</td>
<td>71.9</td>
<td>95.9</td>
<td>71.9</td>
<td>96.0</td>
<td>71.8</td>
<td>96.0</td>
<td>69.2</td>
<td>99.7</td>
<td>68.9</td>
<td>100</td>
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</table>

Submit Notes

The config file option 'submit' was used.

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-1rfj Sat Mar 4 23:07:20 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

Continued on next page
Fujitsu

PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint2006 = 77.0
SPECint_base2006 = 74.6

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

Platform Notes (Continued)

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: 65834924 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-1rfj 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 4 18:54

SPEC is set to: /home/benchmark/speccpu-20160922-updated
  Filesystem  Type Size Used Avail Use% Mounted on
  /dev/sda3   xfs  890G  8.3G  881G  1% /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 R1.0.0 for D3373-B1x
02/20/2017
Memory:

Continued on next page
Fujitsu
PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint2006 = 77.0
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CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu
Test date: Mar-2017
Hardware Availability: May-2017
Software Availability: Nov-2016

Platform Notes (Continued)

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,scatter"
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
This result was measured on the PRIMERGY TX1320 M3. The PRIMERGY TX1320 M3
and the PRIMERGY TX1330 M3 are electronically equivalent.

Base Compiler Invocation

C benchmarks:
  icc -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch
  -auto-p32

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Fujitsu
PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint2006 = 77.0
SPECint_base2006 = 74.6

Base Optimization Flags (Continued)

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-0l,-z,muldefs -L/sh10.2 -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64
400.perlbench: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
445.gobmk: icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks (except as noted below):
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
Fujitsu

PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECint2006 = 77.0
SPECint_base2006 = 74.6

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

Test date: Mar-2017
Hardware Availability: May-2017
Software Availability: Nov-2016

Peak Optimization Flags

C benchmarks:

400.perlbench: -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) -qopt-prefetch

401.bzip2: -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 -auto-ilp32 -qopt-prefetch

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-qopt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -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)

456.hmmer: basepeak = yes

458.sjeng: -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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -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) -qopt-ra-region-strategy=block
-Wl,-z,muldefs -L/sh10.2 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-Wl,-z,muldefs -L/sh10.2 -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca
## Fujitsu PRIMERGY TX1320 M3, Intel Xeon E3-1280 v6, 3.9GHz

**SPECint2006 =** 77.0  
**SPECint_base2006 =** 74.6

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<tbody>
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<td>Test sponsor: Fujitsu</td>
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</tr>
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<td>Tested by: Fujitsu</td>
<td>Software Availability: Nov-2016</td>
</tr>
</tbody>
</table>

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/Intel-ic17.0-official-linux64.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/Intel-ic17.0-official-linux64.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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