# SPEC® CINT2006 Result
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## Fujitsu

PRIMERGY TX1330 M3, Intel Xeon E3-1225 v6, 3.3 GHz

$SPECint®\_rate2006 =$ Not Run

$SPECint\_rate\_base2006 =$ 210

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

**Copies**

| Benchmark | Copies | Result |
|---|---|---|
| 400.perlbench | 4 | 165 |
| 401.bzip2 | 4 | 94.6 |
| 403.gcc | 4 | 160 |
| 429.mcf | 4 | 281 |
| 445.gobmk | 4 | 121 |
| 456.hmmer | 4 | 332 |
| 458.sjeng | 4 | 134 |
| 462.libquantum | 4 | 2130 |
| 464.h264ref | 4 | 277 |
| 471.omnetpp | 4 | 102 |
| 473.astar | 4 | 114 |
| 483.xalancbmk | 4 | 280 |

SPECint_rate_base2006 = 210

## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E3-1225 v6 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.70 GHz |
| CPU MHz: | 3300 |
| 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 |
| 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: | 1 x SATA, 500 GB, 7200RPM |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default |
| Compiler: | C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux |
| Auto Parallel: | No |
| File System: | xfs |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | Not Applicable |
| Other Software: | Microquill SmartHeap V10.2 |

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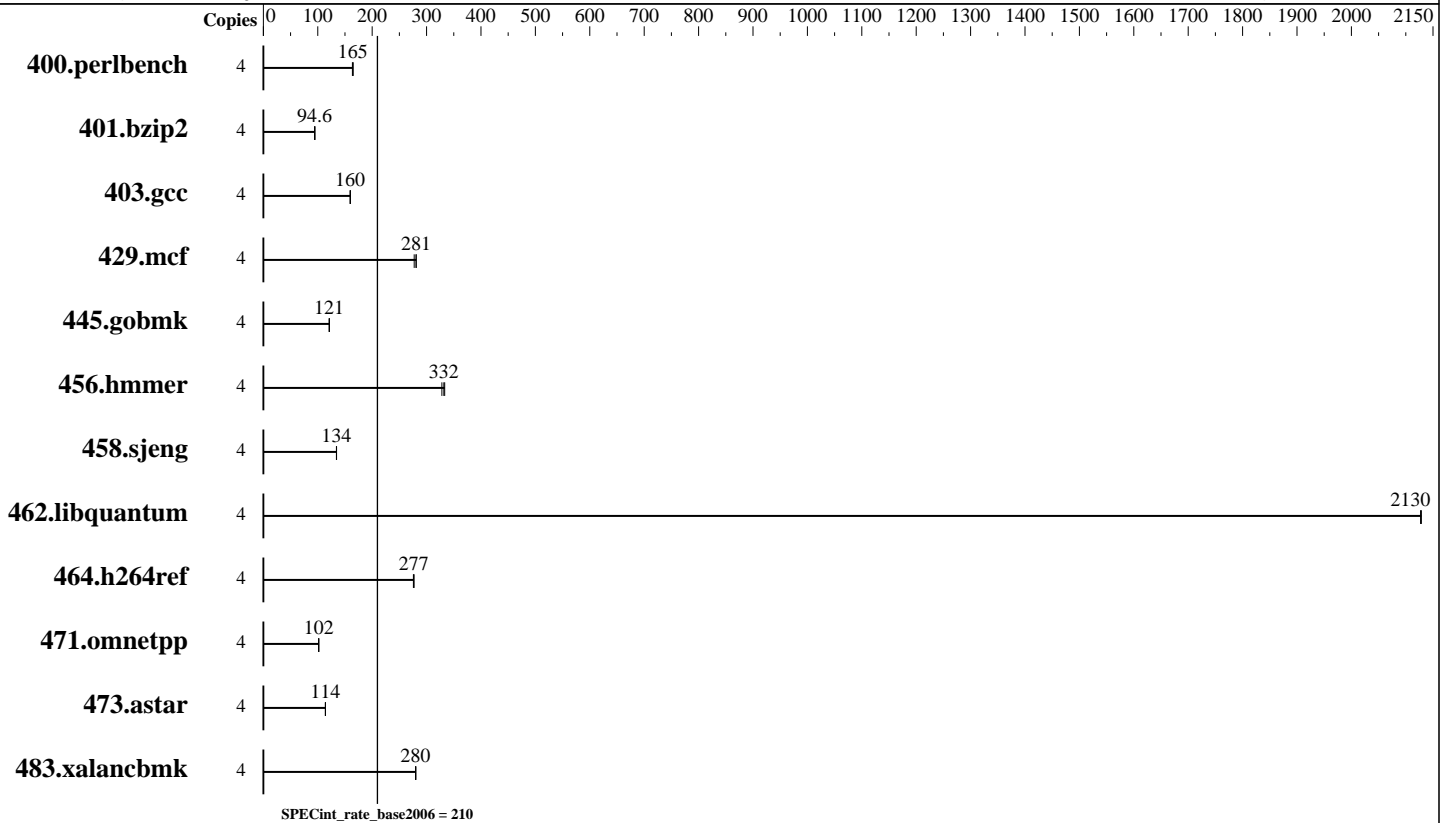SPECint_rate_base2006 =   210

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## Results Table

| Benchmark | Base Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Peak Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.perlbench | 4 | 239 | 164 | **237** | **165** | 237 | 165 | | | | | | | |
| 401.bzip2 | 4 | 408 | 94.7 | **408** | **94.6** | 410 | 94.1 | | | | | | | |
| 403.gcc | 4 | **202** | **160** | 201 | 160 | 202 | 160 | | | | | | | |
| 429.mcf | 4 | 130 | 281 | **130** | **281** | 132 | 277 | | | | | | | |
| 445.gobmk | 4 | **346** | **121** | 347 | 121 | 346 | 121 | | | | | | | |
| 456.hmmer | 4 | 112 | 333 | **113** | **332** | 114 | 328 | | | | | | | |
| 458.sjeng | 4 | 360 | 134 | 360 | 135 | **360** | **134** | | | | | | | |
| 462.libquantum | 4 | 38.9 | 2130 | 39.0 | 2130 | **39.0** | **2130** | | | | | | | |
| 464.h264ref | 4 | 320 | 277 | **320** | **277** | 321 | 276 | | | | | | | |
| 471.omnetpp | 4 | 246 | 102 | 246 | 102 | **246** | **102** | | | | | | | |
| 473.astar | 4 | 246 | 114 | **246** | **114** | 246 | 114 | | | | | | | |
| 483.xalancbmk | 4 | 98.4 | 280 | **98.6** | **280** | 98.7 | 280 | | | | | | | |

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"
   Set CPU frequency governor to maximum performance with:
   cpupower -c all frequency-set -g performance
   cpu idle state set with:
   cpupower idle-set -d 2
   cpupower idle-set -d 3
   Process tuning settings:
   echo always > /sys/kernel/mm/transparent_hugepage/enabled
   echo 1 > /proc/sys/vm/drop_caches
   echo 1000000000 > /proc/sys/kernel/sched_min_granularity_ns

## Platform Notes

   Sysinfo program /home/Benchmark/speccpu2006-bin0922/config/sysinfo.rev6993
   Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
   running on linux-n511 Sun Oct 22 04:36:22 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

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## Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E3-1225 v6 @ 3.30GHz
      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:       65652660 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"

uname -a:
   Linux linux-n511 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
   (9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 22 04:28

SPEC is set to: /home/Benchmark/speccpu2006-bin0922
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda7      xfs   424G   21G  404G   5% /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.
```

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## Platform Notes (Continued)

```
   BIOS FUJITSU // American Megatrends Inc. V5.0.0.11 R1.0.0 for D3373-B1x
   02/20/2017
   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:
LD_LIBRARY_PATH = "/home/Benchmark/speccpu2006-bin0922/libs/32"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2006-bin0922/libs/64"
LD_LIBRARY_PATH = "$LD_LIBRARY_PATH:/home/Benchmark/speccpu2006-bin0922/sh10.2"

 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 by default
 Filesystem page cache cleared with:
 echo 1 > /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

## Base Compiler Invocation

C benchmarks:
```
    icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

C++ benchmarks:
```
    icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
```

## Base Portability Flags

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

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# Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap
```

# Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

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-RevF.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-RevF.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Nov 15 10:58:42 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 November 2017.