



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2530 M4, Intel Xeon Gold 6148, 2.40GHz

SPECint®\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

CPU2006 license: 19

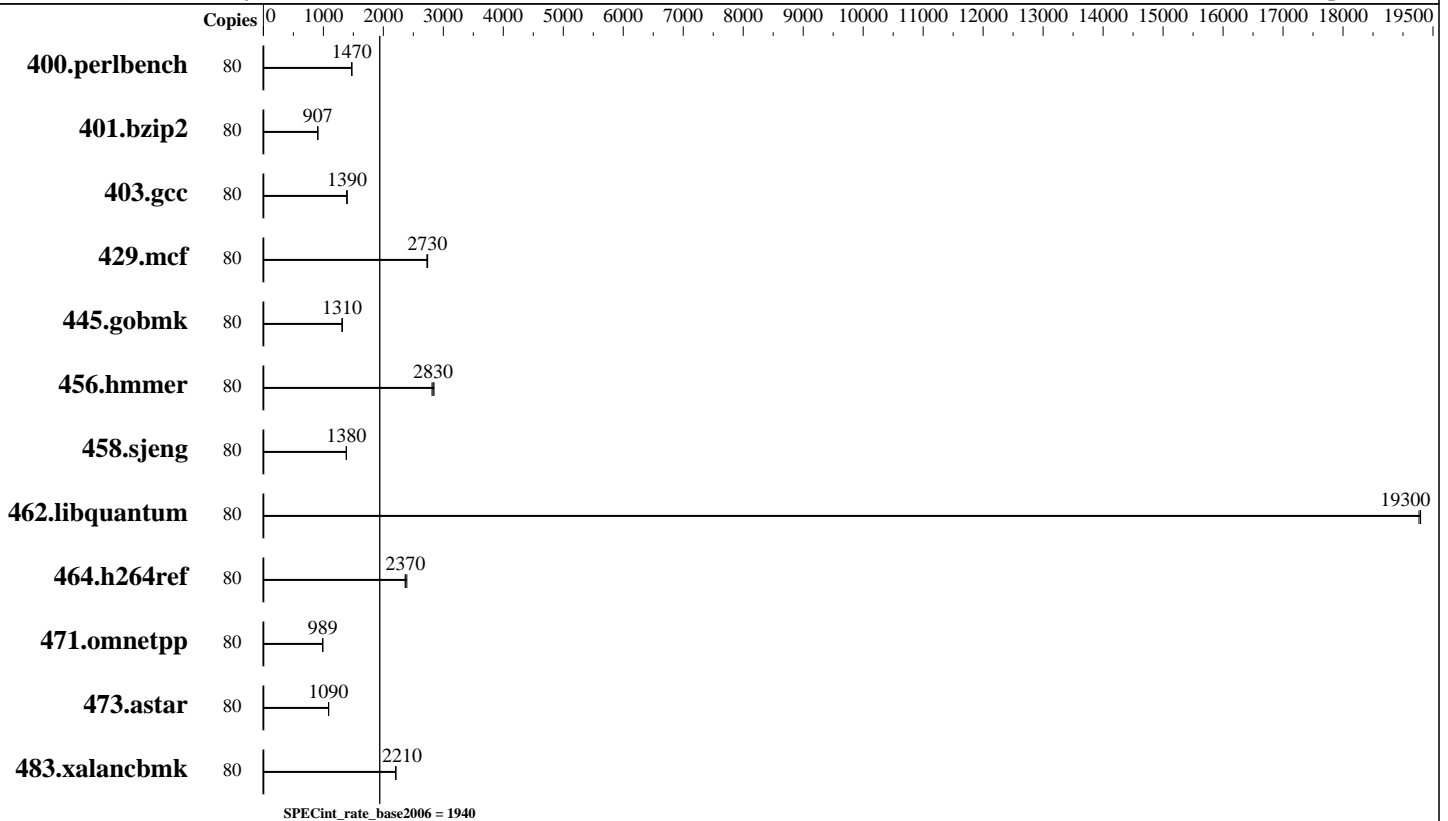
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2017

Hardware Availability: Jul-2017

Software Availability: Apr-2017



### Hardware

CPU Name: Intel Xeon Gold 6148  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 40 cores, 2 chips, 20 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core  
 L3 Cache: 27.5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)  
 Disk Subsystem: 752 GB tmpfs  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default  
 Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux  
 Auto Parallel: No  
 File System: tmpfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: Not Applicable  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2530 M4, Intel Xeon Gold 6148, 2.40GHz

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

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

Test date: Jul-2017  
Hardware Availability: Jul-2017  
Software Availability: Apr-2017

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	530	1480	532	1470	<u>530</u>	<u>1470</u>							
401.bzip2	80	<u>852</u>	<u>907</u>	850	908	854	904							
403.gcc	80	461	1400	<u>462</u>	<u>1390</u>	463	1390							
429.mcf	80	<u>267</u>	<u>2730</u>	268	2730	266	2740							
445.gobmk	80	639	1310	638	1310	<u>639</u>	<u>1310</u>							
456.hammer	80	<u>264</u>	<u>2830</u>	262	2850	265	2810							
458.sjeng	80	699	1390	<u>700</u>	<u>1380</u>	701	1380							
462.libquantum	80	86.0	19300	<u>85.9</u>	<u>19300</u>	85.9	19300							
464.h264ref	80	740	2390	749	2360	<u>746</u>	<u>2370</u>							
471.omnetpp	80	<u>506</u>	<u>989</u>	506	988	505	990							
473.astar	80	<u>516</u>	<u>1090</u>	517	1090	516	1090							
483.xalancbmk	80	<u>250</u>	<u>2210</u>	250	2210	250	2210							

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"
Kernel Boot Parameter set with : nohz_full=1-79
Turbo mode set with :
cpupower -c all frequency-set -g performance
Tmpfs filesystem can be set with:
mkdir /home/memory
mount -t tmpfs -o size=752g,rw tmpfs /home/memory
Process tuning setting:
echo 1000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 1500000 > /proc/sys/kernel/sched_wakeup_granularity_ns
echo 0 > /proc/sys/kernel/numa_balancing
cpu idle state set with:
cpupower idle-set -d 1
cpupower idle-set -d 2
```

### Platform Notes

```
BIOS configuration:
Link Frequency Select = 10.4 GT/s
HWPM Support = Disabled
Intel Virtualization Technology = Disabled
Continued on next page
```



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2530 M4, Intel Xeon Gold 6148, 2.40GHz

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

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

Test date: Jul-2017  
Hardware Availability: Jul-2017  
Software Availability: Apr-2017

### Platform Notes (Continued)

Sub NUMA Clustering = Enabled  
IMC Interleaving = 1-way  
LLC Dead Line Alloc = Disabled  
Stale AtoS = Enabled  
Sysinfo program /home/memory/speccpu/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-zz9i Mon Jul 31 22:53:03 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) Gold 6148 CPU @ 2.40GHz
 2 "physical id"s (chips)
 80 "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 : 20
  siblings  : 40
  physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
  physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
cache size : 28160 KB
```

```
From /proc/meminfo
MemTotal:      394407124 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-zz9i 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2530 M4, Intel Xeon Gold 6148, 2.40GHz

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

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

Test date: Jul-2017  
Hardware Availability: Jul-2017  
Software Availability: Apr-2017

### Platform Notes (Continued)

(9464f67) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Jul 31 05:52

SPEC is set to: /home/memory/speccpu  
Filesystem Type Size Used Avail Use% Mounted on  
tmpfs tmpfs 752G 4.1G 748G 1% /home/memory  
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. V5.0.0.12 R1.4.1 for D3383-A1x  
06/19/2017

Memory:  
24x Hynix HMA42GR7BJR4N-VK 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:

LD\_LIBRARY\_PATH = "/home/memory/speccpu/lib/ia32:/home/memory/speccpu/lib/intel64:/home/memory/speccpu/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 with:

echo always > /sys/kernel/mm/transparent\_hugepage/enabled

Filesystem page cache cleared with:

shell invocation of 'sync; echo 3 > /proc/sys/vm/drop\_caches' prior to run  
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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX2530 M4, Intel Xeon Gold 6148,  
2.40GHz

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

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

Test date: Jul-2017  
Hardware Availability: Jul-2017  
Software Availability: Apr-2017

## Base Portability Flags (Continued)

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

## 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-revF.html>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevA.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-revF.xml>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-SKL-RevA.xml>



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2530 M4, Intel Xeon Gold 6148,  
2.40GHz

SPECint\_rate2006 = Not Run

SPECint\_rate\_base2006 = 1940

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Jul-2017

**Hardware Availability:** Jul-2017

**Software Availability:** Apr-2017

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Sep 20 13:42:44 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 20 September 2017.