



# SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Fujitsu

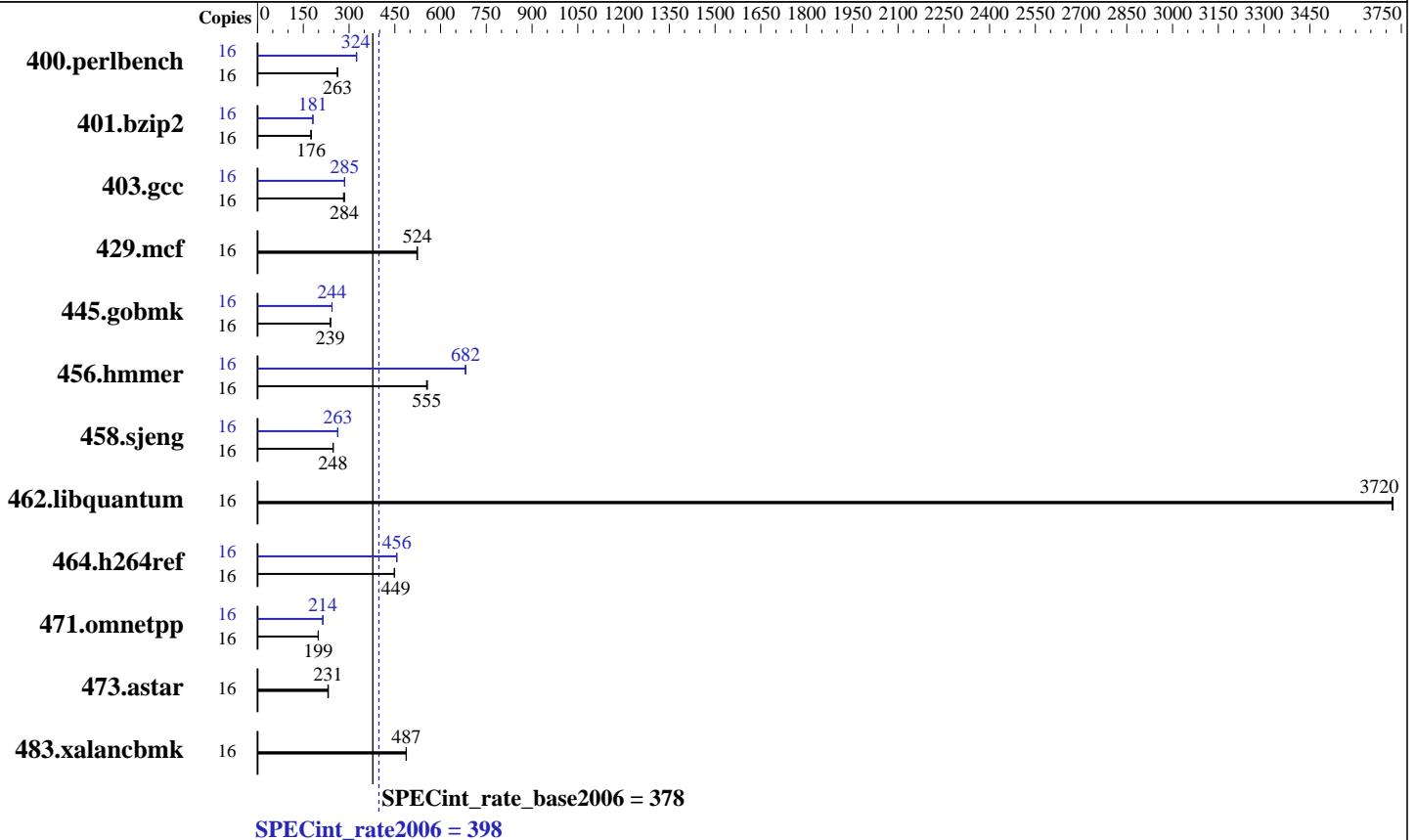
PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

SPECint®\_rate2006 = 398

SPECint\_rate\_base2006 = 378

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

Test date: Jul-2016  
Hardware Availability: Apr-2016  
Software Availability: Sep-2015



### 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  
 L3 Cache: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)  
 Disk Subsystem: 1 x SATA, 1000 GB, 7200 RPM  
 Other Hardware: None

### 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  
 Auto Parallel: No  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

SPECint\_rate2006 = 398

SPECint\_rate\_base2006 = 378

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

Test date: Jul-2016  
Hardware Availability: Apr-2016  
Software Availability: Sep-2015

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	<u>595</u>	<u>263</u>	595	263	599	261	16	480	325	<u>482</u>	<u>324</u>	482	324
401.bzip2	16	883	175	878	176	<u>878</u>	<u>176</u>	16	<u>851</u>	<u>181</u>	852	181	851	181
403.gcc	16	452	285	457	282	<u>453</u>	<u>284</u>	16	452	285	<u>451</u>	<u>285</u>	451	286
429.mcf	16	278	524	<u>279</u>	<u>524</u>	279	523	16	278	524	<u>279</u>	<u>524</u>	279	523
445.gobmk	16	702	239	702	239	<u>702</u>	<u>239</u>	16	688	244	687	244	<u>688</u>	<u>244</u>
456.hammer	16	269	554	<u>269</u>	<u>555</u>	268	557	16	219	683	<u>219</u>	<u>682</u>	219	681
458.sjeng	16	782	248	<u>781</u>	<u>248</u>	781	248	16	<u>737</u>	<u>263</u>	737	263	736	263
462.libquantum	16	<u>89.1</u>	<u>3720</u>	89.1	3720	89.0	3720	16	<u>89.1</u>	<u>3720</u>	89.1	3720	89.0	3720
464.h264ref	16	790	448	788	449	<u>789</u>	<u>449</u>	16	<u>776</u>	<u>456</u>	777	456	775	457
471.omnetpp	16	504	199	<u>503</u>	<u>199</u>	502	199	16	466	214	468	214	<u>467</u>	<u>214</u>
473.astar	16	487	231	484	232	<u>486</u>	<u>231</u>	16	487	231	484	232	<u>486</u>	<u>231</u>
483.xalancbmk	16	<u>226</u>	<u>487</u>	227	487	226	488	16	<u>226</u>	<u>487</u>	227	487	226	488

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"

## Platform Notes

BIOS configuration:  
Energy Performance = Performance  
Utilization Profile = Unbalanced  
QPI snoop mode: Early Snoop  
COD Enable = Disabled, Early Snoop = Enabled, 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 CX2550M2 Wed Jul 27 12:47:20 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)

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

SPECint\_rate2006 = 398

SPECint\_rate\_base2006 = 378

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

Test date: Jul-2016  
Hardware Availability: Apr-2016  
Software Availability: Sep-2015

### Platform Notes (Continued)

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:      264322708 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 CX2550M2 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 3 Jul 27 12:45 last=5
```

```
SPEC is set to: /home/SPECcpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       xfs   890G  3.9G  886G   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 R1.4.0 for D3343-B1x  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

**SPECint\_rate2006 = 398**

**SPECint\_rate\_base2006 = 378**

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

**Test date:** Jul-2016  
**Hardware Availability:** Apr-2016  
**Software Availability:** Sep-2015

## Platform Notes (Continued)

03/17/2016

Memory:

16x Hyundai Electronics (Hynix) HMA42GR7AFR4N-UH 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)

## General Notes

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

LD\_LIBRARY\_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

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

Filesystem page cache cleared with:

echo 1> /proc/sys/vm/drop\_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

For information about Fujitsu please visit: <http://www.fujitsu.com>

## Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2016/linux/compiler/lib/ia32\_lin

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2016/linux/compiler/lib/ia32\_lin

## 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



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

**SPECint\_rate2006 = 398**

**SPECint\_rate\_base2006 = 378**

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

**Test date:** Jul-2016  
**Hardware Availability:** Apr-2016  
**Software Availability:** Sep-2015

## Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2016/linux/compiler/lib/ia32\_lin

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2016/linux/compiler/lib/ia32\_lin

## Peak Portability Flags

400.perlbench: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64

401.bzip2: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LP64

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 -DSPEC\_CPU\_LP64

458.sjeng: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LP64

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

**SPECint\_rate2006 = 398**

**SPECint\_rate\_base2006 = 378**

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

**Test date:** Jul-2016  
**Hardware Availability:** Apr-2016  
**Software Availability:** Sep-2015

## Peak Portability Flags (Continued)

483.xalanbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -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) -auto-ilp32

401.bzip2: -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) -opt-prefetch  
-auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias  
-opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -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  
-auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -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  
-ansi-alias

C++ benchmarks:

471.omnetpp: -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) -ansi-alias  
-opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/sh -lsmartheap

473.astar: basepeak = yes

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY CX2550 M2, Intel Xeon E5-2623 v4, 2.60 GHz

SPECint\_rate2006 = 398

SPECint\_rate\_base2006 = 378

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

Test date: Jul-2016  
Hardware Availability: Apr-2016  
Software Availability: Sep-2015

## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak 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-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-BDW-RevB.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-BDW-RevB.xml>

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 Tue Sep 6 16:56:14 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 September 2016.