



SPEC® CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint®_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176

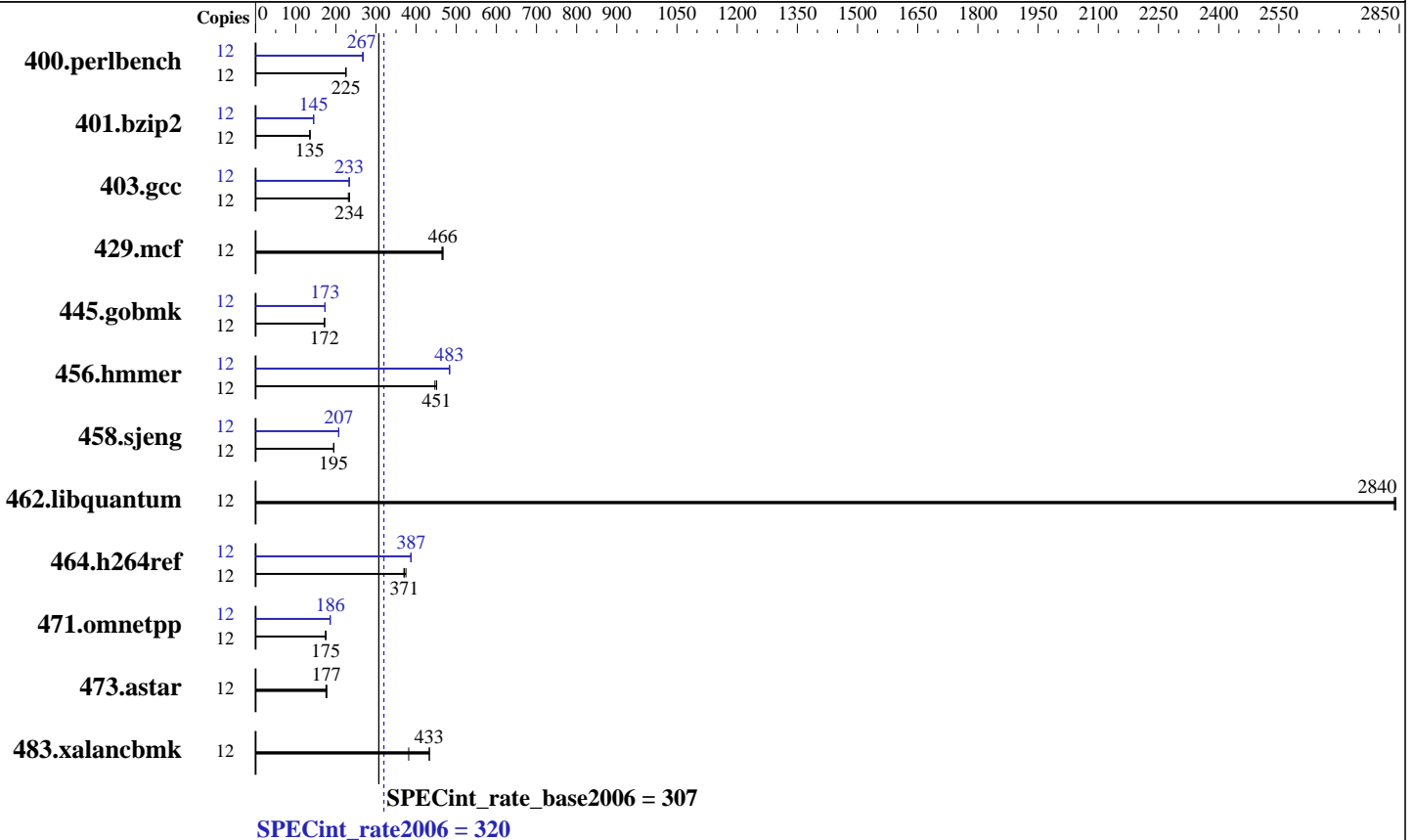
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015



Hardware

CPU Name: Intel Xeon E5-2603 v4
 CPU Characteristics:
 CPU MHz: 1700
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (8 x 16 GB 2Rx4 PC4-2400T-R, running at 1866 MHz)
 Disk Subsystem: 1 x 750 GB SATA III, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.2, Kernel 3.10.0-327.el7.x86_64
 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

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Apr-2016
Hardware Availability: Mar-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	12	521	225	<u>521</u>	<u>225</u>	520	225	12	437	268	440	267	<u>438</u>	<u>267</u>
401.bzip2	12	853	136	857	135	<u>855</u>	<u>135</u>	12	<u>801</u>	<u>145</u>	801	145	801	145
403.gcc	12	413	234	418	231	<u>414</u>	<u>234</u>	12	415	233	<u>414</u>	<u>233</u>	414	234
429.mcf	12	234	467	236	464	<u>235</u>	<u>466</u>	12	234	467	236	464	<u>235</u>	<u>466</u>
445.gobmk	12	733	172	734	172	<u>733</u>	<u>172</u>	12	<u>728</u>	<u>173</u>	728	173	728	173
456.hammer	12	<u>248</u>	<u>451</u>	251	447	248	451	12	232	483	<u>232</u>	<u>483</u>	231	484
458.sjeng	12	745	195	746	195	<u>745</u>	<u>195</u>	12	<u>701</u>	<u>207</u>	701	207	701	207
462.libquantum	12	<u>87.6</u>	<u>2840</u>	87.6	2840	87.5	2840	12	<u>87.6</u>	<u>2840</u>	87.6	2840	87.5	2840
464.h264ref	12	718	370	709	375	<u>716</u>	<u>371</u>	12	<u>686</u>	<u>387</u>	685	387	686	387
471.omnetpp	12	<u>430</u>	<u>175</u>	428	175	430	175	12	<u>403</u>	<u>186</u>	403	186	404	186
473.astar	12	475	177	480	175	<u>477</u>	<u>177</u>	12	475	177	480	175	<u>477</u>	<u>177</u>
483.xalancbmk	12	<u>191</u>	<u>433</u>	191	433	217	382	12	<u>191</u>	<u>433</u>	191	433	217	382

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 Settings:

Early Snoop = Disable

Sysinfo program /home/cpu2006_ic16/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1

running on localhost.localdomain Mon Apr 18 14:54:37 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 E5-2603 v4@ 1.70GHz

2 "physical id"s (chips)

12 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

```
cpu cores : 6
siblings  : 6
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      263851912 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.2 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.2:ga:server
```

```
uname -a:
Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29
EDT 2015 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Apr 18 14:49
```

```
SPEC is set to: /home/cpu2006_ic16
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs      216G      3.8G  213G   2% /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 American Megatrends Inc. 2.0 12/31/2015
Memory:
8x Micron 36ASF4G72PZ-2G3A1 32 GB 2 rank 2400 MHz, configured at 1866 MHz
8x NO DIMM NO DIMM
```

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006_ic16/libs/32:/home/cpu2006_ic16/libs/64:/home/cpu2006_ic16/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>

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

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 -lsmarthheap



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

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
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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

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

Peak Optimization Flags (Continued)

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.hmmr: -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

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Supermicro

SuperServer 7048GR-TR
(X10DRG-Q , Intel Xeon E5-2603 v4)

SPECint_rate2006 = 320

SPECint_rate_base2006 = 307

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2016

Hardware Availability: Mar-2016

Software Availability: Sep-2015

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/Supermicro-Platform-Settings-V1.2-revH.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/Supermicro-Platform-Settings-V1.2-revH.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.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue May 17 16:51:30 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 May 2016.