SPEC® CINT2006 Result

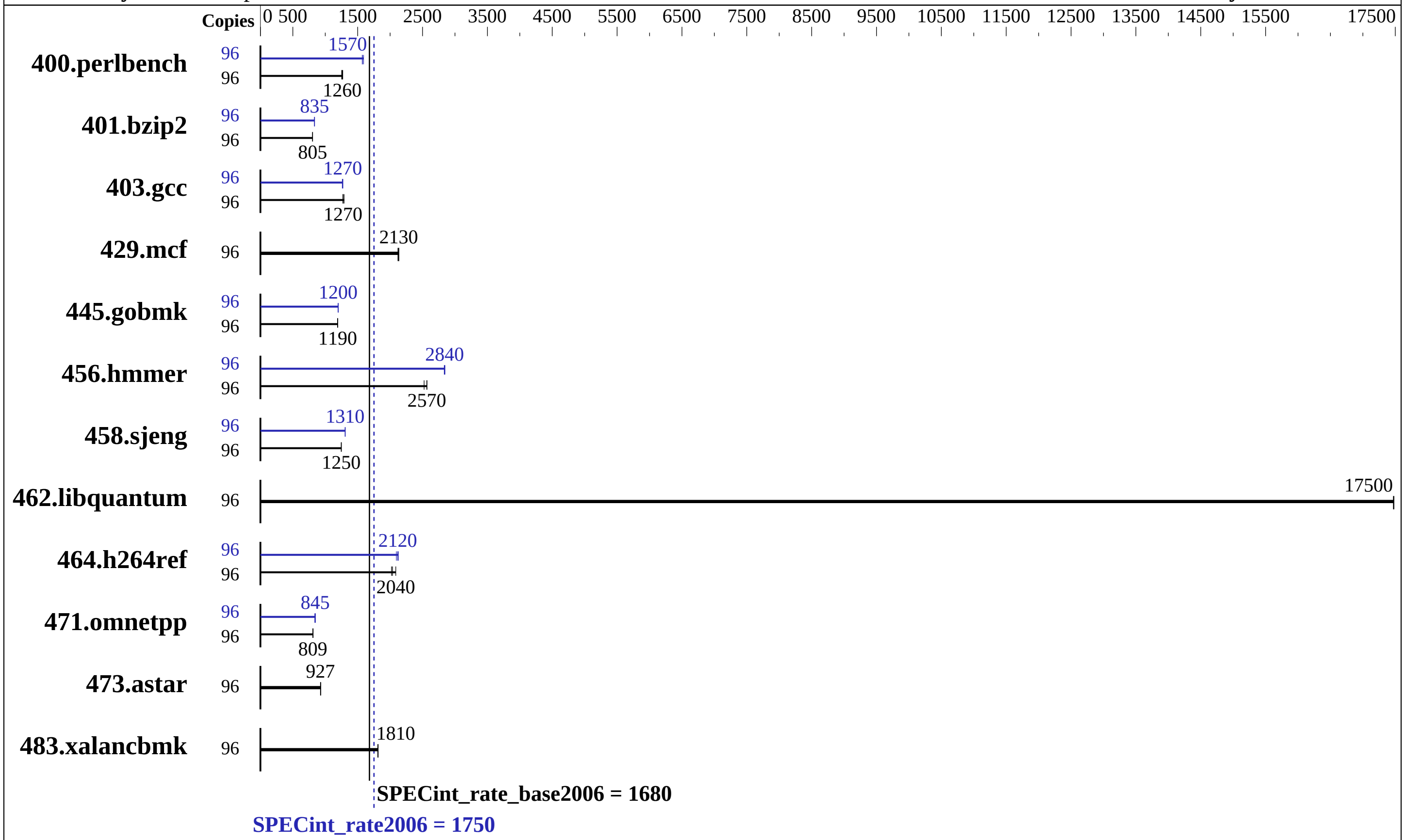
Supermicro

SuperServer 4048B-TR4FT
(X10QBI , Intel Xeon E7-4830 v3)

SPECint®_rate2006 = 1750

SPECint_rate_base2006 = 1680

CPU2006 license: 001176		**Test date:**	Nov-2015
Test sponsor:	Supermicro	**Hardware Availability:**	Sep-2015
Tested by:	Supermicro	**Software Availability:**	Oct-2014



Hardware

CPU Name:	Intel Xeon E7-4830 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 2.70 GHz
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	48 cores, 4 chips, 12 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 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:	30 MB I+D on chip per chip
Other Cache:	None
Memory:	1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)
Disk Subsystem:	1 x 750 GB SATA III, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 12, Kernel 3.12.28-4-default
Compiler:	C/C++: Version 15.0.0.090 of Intel C++ Studio XE Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.2

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Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	96	749	1250	**743**	**1260**	739	1270	96	597	1570	**597**	**1570**	590	1590
401.bzip2	96	**1151**	**805**	1150	805	1152	804	96	1109	835	1111	834	**1109**	**835**
403.gcc	96	607	1270	**606**	**1270**	599	1290	96	608	1270	612	1260	**609**	**1270**
429.mcf	96	410	2140	**411**	**2130**	413	2120	96	410	2140	**411**	**2130**	413	2120
445.gobmk	96	**845**	**1190**	845	1190	846	1190	96	840	1200	**839**	**1200**	839	1200
456.hmmer	96	355	2520	**349**	**2570**	349	2570	96	**315**	**2840**	315	2850	316	2830
458.sjeng	96	**931**	**1250**	931	1250	932	1250	96	888	1310	889	1310	**888**	**1310**
462.libquantum	96	114	17500	**114**	**17500**	114	17500	96	114	17500	**114**	**17500**	114	17500
464.h264ref	96	1051	2020	1018	2090	**1043**	**2040**	96	999	2130	**1003**	**2120**	1013	2100
471.omnetpp	96	**741**	**809**	742	809	738	813	96	**710**	**845**	708	848	715	839
473.astar	96	728	926	**727**	**927**	724	931	96	728	926	**727**	**927**	724	931
483.xalancbmk	96	365	1820	366	1810	**365**	**1810**	96	365	1820	366	1810	**365**	**1810**

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:
Power Technology = Custon
C-State = C0/C1
Demand Scrub = Disabled
Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on 126-37 Sat Nov  7 02:03:45 2015

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 E7-4830 v3 @ 2.10GHz
      4 "physical id"s (chips)
      96 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
```

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Platform Notes (Continued)

```
        following excerpts from /proc/cpuinfo might not be reliable.  Use with
        caution.)
           cpu cores : 12
           siblings  : 24
           physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
           physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
           physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
           physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
        cache size : 30720 KB

     From /proc/meminfo
        MemTotal:       1058840408 kB
        HugePages_Total:       0
        Hugepagesize:       2048 kB

     /usr/bin/lsb_release -d
        SUSE Linux Enterprise Server 12

     From /etc/*release* /etc/*version*
        SuSE-release:
           SUSE Linux Enterprise Server 12 (x86_64)
           VERSION = 12
           PATCHLEVEL = 0
           # 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"
           VERSION_ID="12"
           PRETTY_NAME="SUSE Linux Enterprise Server 12"
           ID="sles"
           ANSI_COLOR="0;32"
           CPE_NAME="cpe:/o:suse:sles:12"

     uname -a:
        Linux 126-37 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014 (9879bd4)
        x86_64 x86_64 x86_64 GNU/Linux

     run-level 3 Nov 7 02:02

     SPEC is set to: /usr/cpu2006
        Filesystem     Type  Size  Used Avail Use% Mounted on
        /dev/sda2      ext4  591G  308G  282G  53% /
     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 10/27/2015
```

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Platform Notes (Continued)

```
    Memory:
     64x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1333 MHz
     32x NO DIMM NO DIMM

 (End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"

 Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
 memory using RedHat EL 7.0
 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/composer_xe_2015/lib/ia32`

C++ benchmarks:
`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-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 -lsmartheap`

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xCORE-AVX2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-auto-ilp32`

401.bzip2: `-xCORE-AVX2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-opt-prefetch -auto-ilp32 -ansi-alias`

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

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Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -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(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic15.0-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-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.xml

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

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