SPEC® CINT2006 Result

Supermicro

SuperServer F627R2-F72+
(X9DRFF-7+ , Intel Xeon E5-2690 v2)

$SPECint®\_rate2006 =$ 893

$SPECint\_rate\_base2006 =$ 865

Copies

Benchmark	Copies	Base	Peak
400.perlbench	40 / 40	673	800
401.bzip2	40 / 40	469	478
403.gcc	40 / 40	677	674
429.mcf	40	1260	
445.gobmk	40 / 40	660	675
456.hmmer	40 / 40	1190	1290
458.sjeng	40 / 40	652	679
462.libquantum	40	5850	
464.h264ref	40 / 40	1120	1130
471.omnetpp	40 / 40	451	473
473.astar	40	483	
483.xalancbmk	40	895	

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Hardware

CPU Name: Intel Xeon E5-2690 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz

CPU MHz: 3000

FPU: Integrated

CPU(s) enabled: 20 cores, 2 chips, 10 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: 256 KB I+D on chip per core

L3 Cache: 25 MB I+D on chip per chip

Other Cache: None

Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 1 x 512 GB SATA III, SSD

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
2.6.32-358.23.2.el6.x86_64

Compiler: C/C++: Version 14.0.0.080 of Intel C++ 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 V10.0

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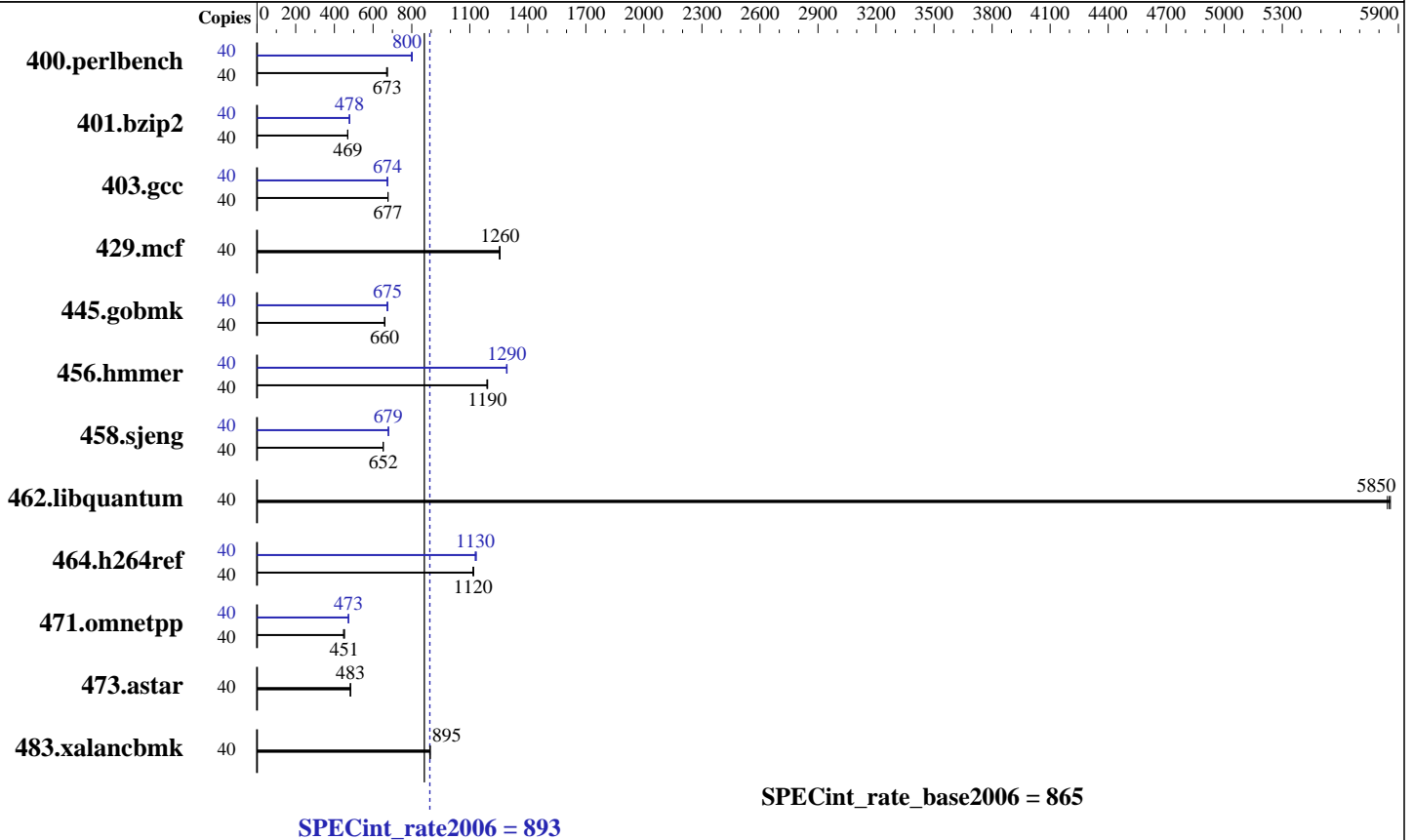SPECint_rate_base2006 = 865

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

Test date: Oct-2013
Hardware Availability: Sep-2013
Software Availability: Oct-2013

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	40	580	674	**580**	**673**	583	670	40	**488**	**800**	487	803	489	799
401.bzip2	40	822	470	**823**	**469**	824	469	40	**808**	**478**	807	479	808	477
403.gcc	40	**476**	**677**	476	677	475	678	40	477	675	478	673	**478**	**674**
429.mcf	40	290	1260	291	1250	**290**	**1260**	40	290	1260	291	1250	**290**	**1260**
445.gobmk	40	634	662	**636**	**660**	636	659	40	621	676	**622**	**675**	624	672
456.hmmer	40	314	1190	313	1190	**314**	**1190**	40	**289**	**1290**	289	1290	289	1290
458.sjeng	40	741	653	**742**	**652**	743	651	40	712	680	**713**	**679**	713	679
462.libquantum	40	142	5840	141	5860	**142**	**5850**	40	142	5840	141	5860	**142**	**5850**
464.h264ref	40	793	1120	**792**	**1120**	790	1120	40	784	1130	**784**	**1130**	781	1130
471.omnetpp	40	**555**	**451**	553	452	559	447	40	528	473	529	472	**529**	**473**
473.astar	40	580	484	**582**	**483**	582	482	40	580	484	**582**	**483**	582	482
483.xalancbmk	40	309	893	308	896	**308**	**895**	40	309	893	308	896	**308**	**895**

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

```
Sysinfo program /home/cpu/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Sat Oct 19 08:15:06 2013

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 E5-2690 v2 @ 3.00GHz
      2 "physical id"s (chips)
      40 "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 : 10
      siblings  : 20
```

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Platform Notes (Continued)

```
      physical 0: cores 0 1 2 3 4 8 9 10 11 12
      physical 1: cores 0 1 2 3 4 8 9 10 11 12
   cache size : 25600 KB

 From /proc/meminfo
    MemTotal:       132123196 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /usr/bin/lsb_release -d
    Red Hat Enterprise Linux Server release 6.4 (Santiago)

 From /etc/*release* /etc/*version*
    redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

 uname -a:
    Linux localhost.localdomain 2.6.32-358.23.2.el6.x86_64 #1 SMP Sat Sep 14
    05:32:37 EDT 2013 x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Oct 19 07:39

 SPEC is set to: /home/cpu
    Filesystem     Type    Size  Used Avail Use% Mounted on
    /dev/mapper/VolGroup-lv_home
                    ext4    416G  7.6G  388G   2% /home

 Additional information from dmidecode:
   BIOS American Megatrends Inc. 3.0a 09/17/2013
   Memory:
    1x   16 MB
    16x   8 GB
    16x Hynix Semiconducto HMT41GR7AFR8C-RD 8 GB 1866 MHz 2 rank
    1x Micron/Numonyx 25Q Series 16 MB 33 MHz

 (End of data from sysinfo program)
```

General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_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>
```

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Base Compiler Invocation

C benchmarks:
    `icc  -m32`

C++ benchmarks:
    `icpc -m32`

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
    `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:
    `-xSSE4.2 -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`

    400.perlbench: `icc -m64`

    401.bzip2: `icc -m64`

    456.hmmer: `icc -m64`

    458.sjeng: `icc -m64`

C++ benchmarks:
    `icpc -m32`

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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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

         429.mcf: basepeak = yes

       445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                   -ansi-alias -opt-mem-layout-trans=3

       456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

        458.sjeng: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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
```

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Peak Optimization Flags (Continued)

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml

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For other inquiries, please contact webmaster@spec.org.

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