SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

ASUS RS920-E7(Z9PX-Q32) Server System
(Intel Xeon E5-4650)

SPECint®2006 = NC

SPECint_base2006 = NC

CPU2006 license: 9016		**Test date:**	Jul-2012
Test sponsor: ASUSTeK Computer Inc.		**Hardware Availability:**	May-2012
Tested by: ASUSTeK Computer Inc.		**Software Availability:**	Dec-2011

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400.perlbench
401.bzip2
403.gcc
429.mcf
445.gobmk
456.hmmer
458.sjeng
462.libquantum
464.h264ref
471.omnetpp
473.astar
483.

Non-Compliant

Hardware

CPU Name:	Intel Xeon E5-4650
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 chip
Primary Cache:	32 KB I + 32 KB D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)

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Secondary Cache:	256 KB I+D on chip per core	Base Pointers:	32/64-bit
L3 Cache:	20 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Microquill SmartHeap V9.01
Memory:	256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)		
Disk Subsystem:	Seagate ST3500320AS 1 x 500 GB SATA, 7200 RPM		
Other Hardware:	None		

Result Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
401.bzip2	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
403.gcc	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
429.mcf	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
445.gobmk	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
456.hmmer	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
458.sjeng	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
462.libquantum	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
464.h264ref	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
471.omnetpp	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
473.astar	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
483.xa	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost Thu Jul 12 16:38:58 2012

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Platform Notes (Continued)

```
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 : Xeon Intel(R) CPU E5-4650 @ 2.70GHz
4 "physical id"s (chips)
64 "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 : 8
siblings  : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
physical 2: cores 0 1 2 3 4 5 6 7
physical 3: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal:      264016044 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux localhost 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 12 16:28

SPEC is set to: /cpu2006
Filesystem      Type      Size   Used  Avail Use% Mounted on
/dev/sda1       ext4      459G   173G   264G  40% /
```
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Platform Notes (Continued)

```
   Additional information from dmidecode:

  (End of data from sysinfo program)
```

General Notes

```
   Environment variables set by runspec before the start of the run:
   KMP_AFFINITY = "granularity=fine,scatter"
   LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64"
   OMP_NUM_THREADS = "32"

   Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
   memory using RHEL5.5
   Transparent Huge Pages enabled with:
   echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Base Compiler Invocation

C benchmarks:
        icc -m64

C++ benchmarks:
        icpc -m64

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
       401.bzip2: -DSPEC_CPU_LP64
         403.gcc: -DSPEC_CPU_LP64
         429.mcf: -DSPEC_CPU_LP64
      445.gobmk: -DSPEC_CPU_LP64
      456.hmmer: -DSPEC_CPU_LP64
```

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Base Portability Flags (Continued)

```
       458.sjeng: -DSPEC_CPU_LP64
   462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
     464.h264ref: -DSPEC_CPU_LP64
     471.omnetpp: -DSPEC_CPU_LP64
       473.astar: -DSPEC_CPU_LP64
   483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
    -L/smartheap -lsmartheap64
```

Base Other Flags

C benchmarks:
```
       403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc -m64
```
```
   400.perlbench: icc -m32
```
```
     445.gobmk: icc -m32
```

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Peak Compiler Invocation (Continued)

```
464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
icpc -m32
```

```
473.astar: icpc -m64
```

Peak Portability Flags

```
   400.perlbench: -DSPEC_CPU_LINUX_IA32
       401.bzip2: -DSPEC_CPU_LP64
         403.gcc: -DSPEC_CPU_LP64
         429.mcf: -DSPEC_CPU_LP64
      456.hmmer: -DSPEC_CPU_LP64
       458.sjeng: -DSPEC_CPU_LP64
   462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
       473.astar: -DSPEC_CPU_LP64
   483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

```
   400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                  -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
                  -ansi-alias

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

         403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
                  -opt-malloc-options=3 -auto-ilp32
```

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Peak Optimization Flags (Continued)

```
    429.mcf: basepeak = yes

  445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
             -ansi-alias

  456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
             -ansi-alias

   458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

  464.h264ref: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -prof-use(pass 2)
             -opt-ra-region-strategy=block          -ansi-alias
             -Wl,-z,muldefs -L/smartheap -lsmartheap

    473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
             -Wl,-z,muldefs -L/smartheap -lsmartheap
```

Peak Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

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The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/ASUSTekPlatform.20120313.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/ASUSTekPlatform.20120313.xml

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

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