SPEC® CINT2006 Result
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ASUSTeK Computer Inc.

ASUS RS700-E6 server system (Intel Xeon X5680)

$SPECint^{®}2006 =$ 42.1
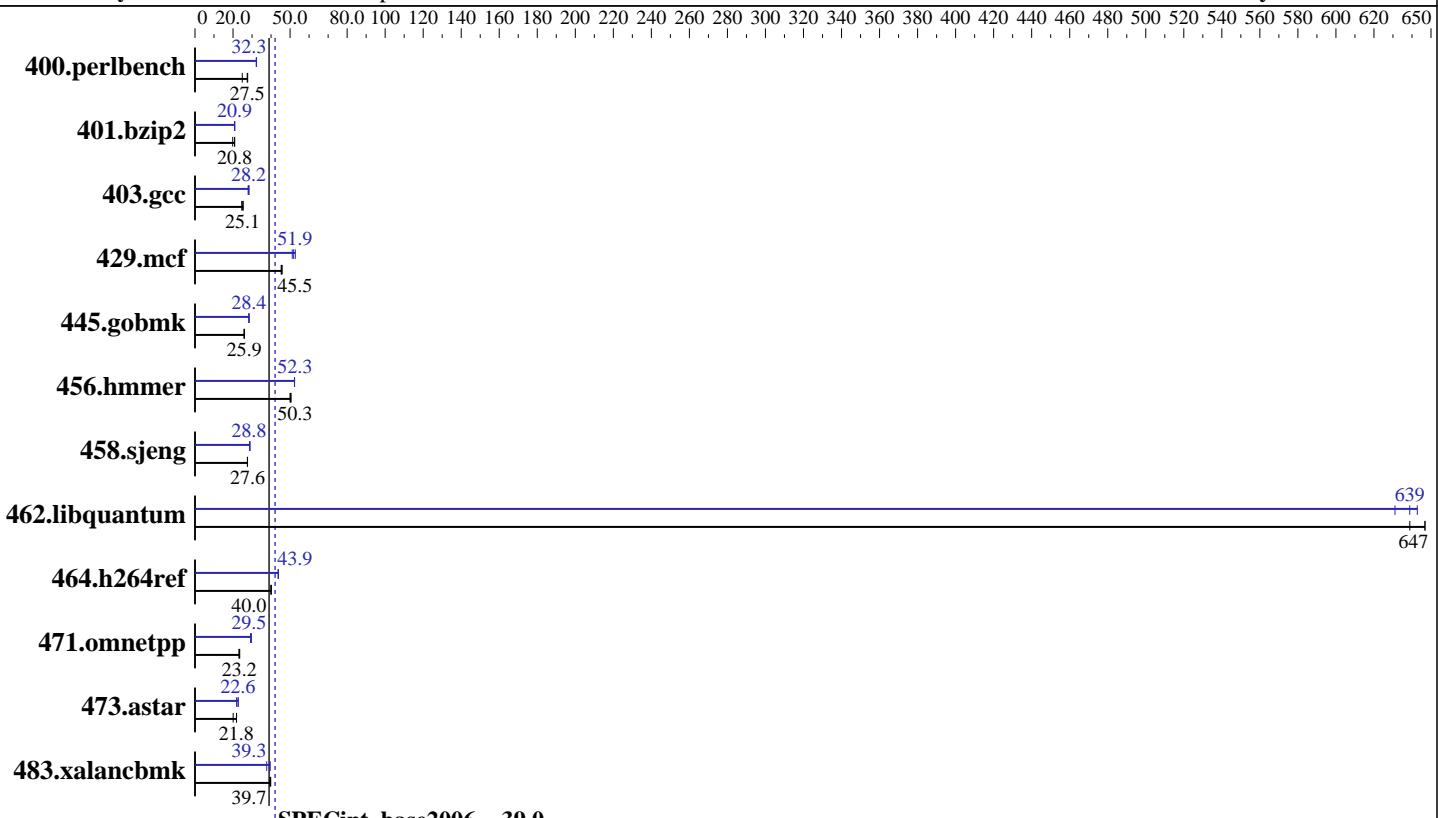
$SPECint\_base2006 =$ 39.0

CPU2006 license: 9016

Test sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test date: May-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010

SPECint_base2006 = 39.0

SPECint2006 = 42.1

400.perlbench	32.3 / 27.5
401.bzip2	20.9 / 20.8
403.gcc	28.2 / 25.1
429.mcf	51.9 / 45.5
445.gobmk	28.4 / 25.9
456.hmmer	52.3 / 50.3
458.sjeng	28.8 / 27.6
462.libquantum	639 / 647
464.h264ref	43.9 / 40.0
471.omnetpp	29.5 / 23.2
473.astar	22.6 / 21.8
483.xalancbmk	39.3 / 39.7

Hardware

CPU Name:	Intel Xeon X5680
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB PC3-10600R, CL=9)
Disk Subsystem:	HITACHI HDP725050GLA380 1 x 500 GB SATAII, 7200RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	393	24.9	**356**	**27.5**	353	27.7	**302**	**32.3**	302	32.4	303	32.2
401.bzip2	487	19.8	463	20.9	**464**	**20.8**	462	20.9	465	20.8	**462**	**20.9**
403.gcc	**321**	**25.1**	318	25.3	328	24.6	**286**	**28.2**	283	28.5	288	27.9
429.mcf	**201**	**45.5**	199	45.9	201	45.3	173	52.8	**176**	**51.9**	178	51.1
445.gobmk	**405**	**25.9**	405	25.9	405	25.9	**369**	**28.4**	369	28.4	370	28.4
456.hmmer	**186**	**50.3**	185	50.5	187	50.0	**178**	**52.3**	178	52.3	178	52.4
458.sjeng	438	27.6	439	27.5	**438**	**27.6**	**419**	**28.8**	419	28.8	421	28.8
462.libquantum	32.0	647	**32.0**	**647**	32.4	639	32.2	643	**32.4**	**639**	32.8	631
464.h264ref	553	40.0	554	40.0	**553**	**40.0**	506	43.7	**505**	**43.9**	504	43.9
471.omnetpp	270	23.2	266	23.5	**269**	**23.2**	214	29.2	211	29.6	**212**	**29.5**
473.astar	**322**	**21.8**	321	21.8	350	20.1	309	22.7	321	21.9	**310**	**22.6**
483.xalancbmk	**174**	**39.7**	175	39.3	173	39.8	**175**	**39.3**	183	37.7	175	39.5

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
```

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
   458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
  464.h264ref: -DSPEC_CPU_LP64
```

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CPU2006 license: 9016	**Test date:** May-2010
Test sponsor: ASUSTeK Computer Inc.	**Hardware Availability:** Mar-2010
Tested by: ASUSTeK Computer Inc.	**Software Availability:** Jan-2010

Base Portability Flags (Continued)

```
471.omnetpp: -DSPEC_CPU_LP64
  473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -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
```

```
429.mcf: icc -m32
```

```
445.gobmk: icc -m32
```

```
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
```

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SPECint2006 =   42.1

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Peak Portability Flags (Continued)

```
       403.gcc: -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

C benchmarks:

```
  400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -ansi-alias -opt-prefetch

     401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)
                 -auto-ilp32 -opt-prefetch -ansi-alias

       403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
                 -opt-malloc-options=3 -auto-ilp32

       429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

    445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                 -ipo -no-prec-div -ansi-alias

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

     458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                 -prof-use(pass 2) -unroll4

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
                 -opt-prefetch -par-schedule-static=32768 -ansi-alias

    464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                 -O3(pass 2) -no-prec-div(pass 2) -static(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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
```

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Tested by:	ASUSTeK Computer Inc.	**Software Availability:**	Jan-2010

Peak Optimization Flags (Continued)

```
473.astar: -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=routine -Wl,-z,muldefs
           -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
               -Wl,-z,muldefs
               -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
```

Peak Other Flags

C benchmarks:

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

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.20100609.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.20100609.xml

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

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