SPEC® CINT2006 Result
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ACTION S.A.

ACTINA SOLAR 220 S5 (Intel Xeon E5-2609)

$SPECint^{®}\_rate2006 =$ 222

$SPECint\_rate\_base2006 =$ 213
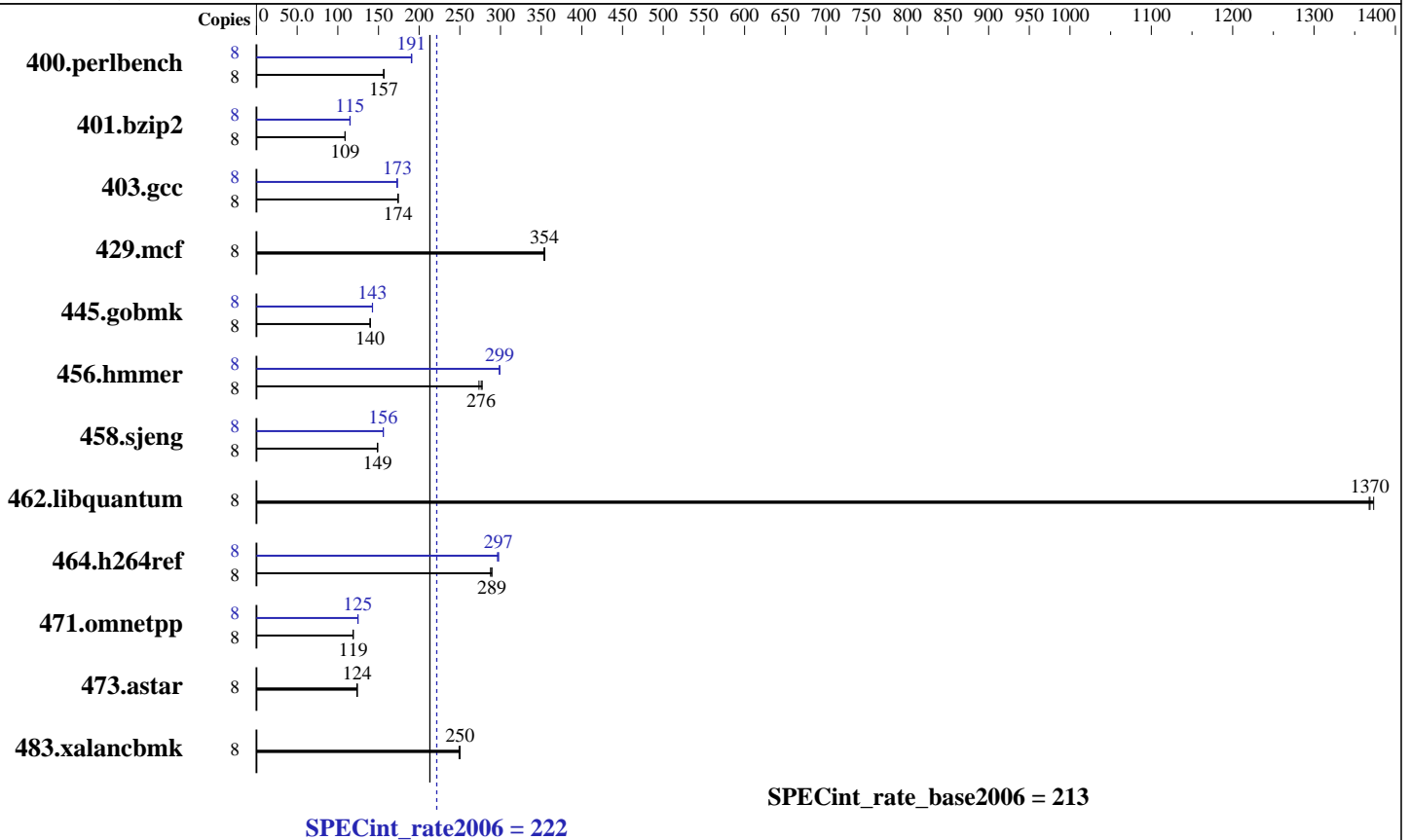
CPU2006 license: 9008
Test sponsor: ACTION S.A.
Tested by: ACTION S.A.

Test date: Jan-2013
Hardware Availability: Mar-2012
Software Availability: Feb-2012

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Benchmark	Copies	Peak	Base
400.perlbench	8	191	157
401.bzip2	8	115	109
403.gcc	8	173	174
429.mcf	8		354
445.gobmk	8	143	140
456.hmmer	8	299	276
458.sjeng	8	156	149
462.libquantum	8		1370
464.h264ref	8	297	289
471.omnetpp	8	125	119
473.astar	8		124
483.xalancbmk	8		250

Hardware

CPU Name: Intel Xeon E5-2609
CPU Characteristics:
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 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: 10 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz and CL7)
Disk Subsystem: 1 x 2 TB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.27-default
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01

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Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	500	156	499	157	**499**	**157**	8	409	191	411	190	**410**	**191**
401.bzip2	8	**709**	**109**	708	109	709	109	8	**671**	**115**	672	115	670	115
403.gcc	8	370	174	370	174	**370**	**174**	8	**372**	**173**	372	173	373	173
429.mcf	8	**206**	**354**	206	353	206	354	8	**206**	**354**	206	353	206	354
445.gobmk	8	**600**	**140**	601	140	600	140	8	588	143	589	142	**588**	**143**
456.hmmer	8	273	274	269	277	**270**	**276**	8	250	299	**250**	**299**	250	299
458.sjeng	8	650	149	651	149	**650**	**149**	8	621	156	621	156	**621**	**156**
462.libquantum	8	121	1370	121	1370	**121**	**1370**	8	121	1370	121	1370	**121**	**1370**
464.h264ref	8	612	289	**612**	**289**	615	288	8	**595**	**297**	598	296	595	298
471.omnetpp	8	421	119	**420**	**119**	420	119	8	401	125	401	125	**401**	**125**
473.astar	8	455	124	**454**	**124**	453	124	8	455	124	**454**	**124**	453	124
483.xalancbmk	8	**221**	**250**	221	250	222	249	8	**221**	**250**	221	250	222	249

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 /cpu2006.1.2/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on SUT Sun Jan 20 19:21:58 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 E5-2609 0 @ 2.40GHz
          2 "physical id"s (chips)
          8 "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 : 4
          siblings : 4

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Platform Notes (Continued)

```
      physical 0: cores 0 1 2 3
      physical 1: cores 0 1 2 3
   cache size : 10240 KB

 From /proc/meminfo
    MemTotal:       264499616 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /usr/bin/lsb_release -d
    SUSE Linux Enterprise Server 11 (x86_64)

 From /etc/*release* /etc/*version*
    SuSE-release:
       SUSE Linux Enterprise Server 11 (x86_64)
       VERSION = 11
       PATCHLEVEL = 2

 uname -a:
    Linux SUT 3.0.13-0.27-default #1 SMP Wed Feb 15 13:33:49 UTC 2012 (d73692b)
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 3 Jan 16 10:05 last=S

 SPEC is set to: /cpu2006.1.2
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       ext3  1.8T   86G  1.8T   5% /

 Additional information from dmidecode:

 (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/cpu2006.1.2/libs/32:/cpu2006.1.2/libs/64"

 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/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>
```

SPEC CINT2006 Result

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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/smartheap -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/smartheap -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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html

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

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

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