Dell Inc.

PowerEdge R920 (Intel Xeon E7-4850 v2, 2.30 GHz)

SPECfp®2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Mar-2014

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Dell or Intel.
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Ratio</td>
</tr>
<tr>
<td>410.bwaves</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>416.gamess</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>433.milc</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>444.namd</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>447.dealII</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>450.soplex</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>453.povray</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>454.calculix</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>465.tonto</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>470.lbm</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>481.wrf</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

BIOS settings:
Virtualization Technology disabled
Execute Disable disabled

Non-compliant
SPEC CPU2006 = \text{NC}
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\begin{verbatim}
Platform Notes (Continued)

System Profile set to Custom
C1E enabled
C States enabled
Memory Patrol Scrub set to disabled
Sysinfo program
/root/Desktop/Performance/C14.0_Oct12_2013/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on slesperf2 Sat Feb 15 19:54:25 2014

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 E7-4850 v2 @ 2.30GHz
 4 "physical id=": (chips)
 96 "processors"
cores, siblings: Caution: counting these is hw and system dependent. The following excerpt 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 :  24576 KB

From /proc/meminfo
MemTotal:       1058789108 kB
MemFree:        596915292 kB
MemAvailable:   596915292 kB
Buffers:        102964248 kB
Cached:         151707756 kB
SwapTotal:      0 kB
SwapFree:       0 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)

Continued on next page
\end{verbatim}
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General Notes
Environment variables set by runspec before the start of the run:

```
granularity=fine,compact,1,0
```

```
OMP_NUM_THREADS = "48"
```

Binarie 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/transparent_hugepage/enabled
```
runcpec command invoked through numactl i.e.:
```
umactl --interleave=all runspec <etc>
```
SPEC CFP2006 Result

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C benchmarks:
- `icc -m64`

C++ benchmarks:
- `icpc -m64`

Fortran benchmarks:
- `ifort -m64`

Benchmarks using both Fortran and C:
- `icc -m64 ifort -m64`

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.scallie3d: -DSPEC_CPU_LP64
444.iceh: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64 -nofor_main
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
464.fgif: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64
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Base Optimization Flags

C benchmarks:
- xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
- xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
- xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
- xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

Peak Compiler Invocation

C benchmarks:
icc   -m64

C++ benchmarks:
icpc  -m64

Fortran benchmarks:
ifort -m64

Both Fortran and C:
icc   -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags
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Peak Optimization Flags (Continued)

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -roll2 -inline-level=0 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes
454.calculix: -xAVX -O3 -no-prec-div -auto-ilp32 -ansi-alias
481.wrf: basepeak = yes

The flag 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/Dell-Platform-Settings-V1.2-revC.html

You can also download the XML flag 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/Dell-Platform-Settings-V1.2-revC.xml
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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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