### SPECint® CINT2006 Result

**Dell Inc.**

PowerEdge FC430 (Intel Xeon E5-2630L v3, 1.80 GHz)

**SPECint®_rate2006 = 570**

**SPECint_rate_base2006 = 547**

**CPU2006 license:** 55  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test date:** Jan-2015  
**Hardware Availability:** Apr-2015  
**Software Availability:** Apr-2015

<table>
<thead>
<tr>
<th>Benchmarks</th>
<th>Copies</th>
<th>SPECint Rate Base2006</th>
<th>SPECint Rate2006</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>381</td>
<td>484</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
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</tbody>
</table>

**SPECint_rate_base2006 = 547**

**SPECint_rate2006 = 570**

**Hardware**

- **CPU Name:** Intel Xeon E5-2630L v3  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.90 GHz  
- **CPU MHz:** 1800  
- **FPU:** Integrated  
- **CPU(s) enabled:** 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1.2 chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 256 KB I+D on chip per core  
- **L3 Cache:** 20 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)  
- **Disk Subsystem:** 1 x 200 GB SSD SATA  
- **Other Hardware:** None

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 3.12.28-4-default  
- **Compiler:** C/C++: Version 15.0.0.090 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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### Results Table

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</tbody>
</table>

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

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### Submit Notes

The numactl mechanism was used to bind copies to processors. The confi file option 'submit' was used to generate numactl commands to bind each copy to a specific processor.

For details, please see the config file.

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### Operating System Notes

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

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### Platform Notes

BIOS settings:
- Snoop Mode set to Early Snoop
- Virtualization Technology disabled
- System Profile set to Custom

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
- Rev: 6914  Date:: 2014-06-25  $e3fbb8667b5a285932ceab81e28219e1 running on linux-8qjr Fri Jan 23 14:36:04 2015

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 E5-2630L v3 @ 1.80GHz
- 2 "physical id"s (chips)
- 32 "processors"
- cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
SPEC CINT2006 Result

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Platform Notes (Continued)

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
- cache size : 20480 KB

From /proc/meminfo
- MemTotal: 132187004 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

From /usr/bin/lsb_release -d
- SUSE Linux Enterprise Server 12

From /etc/*release* /etc/*version*
- SuSE-release:
  - SUSE Linux Enterprise Server 12 (x86_64)
  - VERSION = 12
  - PATCHLEVEL = 0
  - # This file is deprecated and will be removed in a future service pack or release.
  - # Please check /etc/os-release for details about this release.
- os-release:
  - NAME="SLES"
  - VERSION="12"
  - VERSION_ID="12"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12"
  - ID="sles"
  - ANSI_COLOR="0;32"
  - CPE_NAME="cpe:/o:suse:sles:12"

uname -a:
- Linux linux-8qjr 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
  (9879bd4) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 23 14:34

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Dell Inc. 0.4.0 01/08/2015
Memory:
- 8x 00CE00B300CE M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1867

Continued on next page
Dell Inc. PowerEdge FC430 (Intel Xeon E5-2630L v3, 1.80 GHz)

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Hardware Availability: Apr-2015  
Software Availability: Apr-2015

Platform Notes (Continued)

MHz  
(End of data from sysinfo program)

General Notes

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

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0  
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  
runcpec command invoked through numactl i.e.:  
umactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:  
`icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

C++ benchmarks:  
`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

Base Portability Flags

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

Base Optimization Flags

C benchmarks:  
`-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3`

C++ benchmarks:  
`-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap`
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### Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

### Peak Compiler Invocation

C benchmarks (except as noted below):

- **icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32**
- 400.perlbench: **icc -m64**
- 401.bzip2: **icc -m64**
- 456.hmmer: **icc -m64**
- 458.sjeng: **icc -m64**

C++ benchmarks:

- **icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32**

### 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:** -xCORE-AVX2(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:** -xCORE-AVX2(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:** -xCORE-AVX2 -ipo -O3 -no-prec-div
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### Peak Optimization Flags (Continued)

- 429.mcf: basepeak = yes
- 445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
  -ansi-alias -opt-mem-layout-trans=3
- 456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
- 458.sjeng: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(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
- 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-ic15.0-official-linux64.html
  http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.html
- You can also download the XML flags sources by saving the following links:
  http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
  http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.xml
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