Dell Inc.

PowerEdge R730 (Intel Xeon E5-2697 v3, 2.60 GHz)

**SPECint**\_rate\_2006 = 1220  
SPECint\_rate\_base\_2006 = 1180

**CPU2006 license:** 55  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test date:** Aug-2014  
**Hardware Availability:** Sep-2014  
**Software Availability:** Sep-2014

### Hardware
- **CPU Name:** Intel Xeon E5-2697 v3  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.60 GHz  
- **CPU MHz:** 2600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 28 cores, 2 chips, 14 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:** 35 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
- **Disk Subsystem:** 1 X 300 GB 15000 RPM SAS  
- **Other Hardware:** None

### Software
- **Operating System:** SUSE Linux Enterprise Server 11 (x86_64) 3.0.76-0.11-default  
- **Compiler:** C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
- **Auto Parallel:** No  
- **File System:** ext2  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** Microquill SmartHeap V10.0
Dell Inc. PowerEdge R730 (Intel Xeon E5-2697 v3, 2.60 GHz) SPECint_rate2006 = 1220 SPECint_rate_base2006 = 1180

Results Table

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<td>1200</td>
<td>319</td>
<td>1210</td>
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</tbody>
</table>

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

BIOS settings:
Snoop Mode set to Cluster on Die
Virtualization Technology disabled
Execute Disable disabled
System Profile set to Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $$ e86d102572650a6e4d596a3cee98f191
running on linux Fri Aug 29 14:27:29 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 E5-2697 v3 @ 2.60GHz
       2 "physical id"s (chips)
       56 "processors"
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Platform Notes (Continued)

cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
  cpu cores : 14
  siblings : 28
  physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
  cache size : 17920 KB

From /proc/meminfo
  MemTotal: 264571628 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 = 3

uname -a:
  Linux linux 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 29 14:19 last=S

SPEC is set to: /root/cpu2006-1.2
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sda2      ext2  267G  9.4G  257G  4% /

Additional information from dmidecode:
  BIOS Dell Inc. 1.0.4 08/28/2014
  Memory:
    1x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 2133 MHz
    8x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 2133 MHz
    7x 00CE00B300CE M393A2G40D0-CPB 16 GB 2133 MHz
    8x Not Specified Not Specified

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RedHat EL 6.4
  Transparent Huge Pages enabled with:

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Software Availability: Sep-2014  

General Notes (Continued)  

```bash  
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>
```

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:  
  -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 -ismartheap

Base Other Flags  

C benchmarks:  
  403.gcc: -Dalloca=_alloca

Peak Compiler Invocation  

C benchmarks (except as noted below):  
  icc  -m32

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SPEC CINT2006 Result

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Peak Compiler Invocation (Continued)

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

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: basepeak = yes
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

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Peak Optimization Flags (Continued)

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/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/Dell-Platform-Settings-V1.2-revD.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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