### Dell Inc. PowerEdge T620 (Intel Xeon E5-2690 v2, 3.00 GHz)

**SPECint\_rate2006 = 894**

**SPECint\_rate\_base2006 = 867**

**Hardware**
- **CPU Name:** Intel Xeon E5-2690 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.60 GHz
- **CPU MHz:** 3000
- **FPU:** Integrated
- **CPU(s) enabled:** 20 cores, 2 chips, 10 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:** 25 MB I+D on chip per core
- **Other Cache:** None
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)
- **Disk Subsystem:** 1 x 300 GB 15000 RPM SAS
- **Other Hardware:** None

**Software**
- **Operating System:** SUSE Linux Enterprise Server 11 SP3 (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

**CPU2006 license:** 55
**Test date:** Aug-2013
**Test sponsor:** Dell Inc.
**Hardware Availability:** Sep-2013
**Tested by:** Dell Inc.
**Software Availability:** Sep-2013

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Results Table

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<td>887</td>
<td>311</td>
<td>887</td>
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</tr>
</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:
- Virtualization Technology disabled
- Execute Disable disabled
- Logical Processor enabled
- System Profile set to Performance

Sysinfo program /root/cpu2006.1.2.ic13/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on linux Tue Aug 20 18:18:21 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 E5-2690 v2 @ 3.00GHz
  2 "physical id"s (chips)
  40 "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 caution.)
cpu cores : 10
siblings : 20
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

From /proc/meminfo
MemTotal: 264601764 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:
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 20 18:00 last=5

SPEC is set to: /root/cpu2006.1.2.ic13
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext2 267G 130G 137G 49% /

Additional information from dmidecode:
BIOS Dell Inc. 2.0.18 08/10/2013
Memory:
2x 00AD00B300AD HMT42GR7MFR4C-RD 16 GB 1866 MHz
8x 00AD04B300AD HMT42GR7AFR4C-RD 16 GB 1866 MHz
6x 00CE00B300CE M393B2G70CB0-CMA 16 GB 1866 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.ic13/libs/32:/root/cpu2006.1.2.ic13/libs/64:/root/cpu2006.1.2.ic13/sh"

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
Continued on next page
SPEC CINT2006 Result

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General Notes (Continued)

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:
   -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/sh -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

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Peak Compiler Invocation (Continued)

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: -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: basepeak = yes
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

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Peak Optimization Flags (Continued)

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/sh -lsmartheap

473.astar: basepeak = yes
483.xalanchbmk: 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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revB.html

You can also download the XML flags 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-revB.xml

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

Tested with SPEC CPU2006 v1.2.