# SPEC® CINT2006 Result

**Dell Inc.**

**PowerEdge T630 (Intel Xeon E5-2640 v4, 2.40 GHz)**

**SPEClnt_rate2006 = Not Run**  
**SPEClnt_rate_base2006 = 865**

**CPU2006 license:** 55  
**Test date:** Feb-2017  
**Test sponsor:** Dell Inc.  
**Hardware Availability:** Oct-2016  
**Tested by:** Dell Inc.  
**Software Availability:** Sep-2016

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>40</td>
<td>865</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>40</td>
<td>621</td>
</tr>
<tr>
<td>403.gcc</td>
<td>40</td>
<td>412</td>
</tr>
<tr>
<td>429.mcf</td>
<td>40</td>
<td>651</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>40</td>
<td>1190</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>40</td>
<td>565</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>40</td>
<td>1270</td>
</tr>
<tr>
<td>462.libquantm</td>
<td>40</td>
<td>583</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>40</td>
<td>853</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>40</td>
<td>1050</td>
</tr>
<tr>
<td>473.astar</td>
<td>40</td>
<td>452</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>40</td>
<td>506</td>
</tr>
</tbody>
</table>

## Hardware

- **CPU Name:** Intel Xeon E5-2640 v4  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.40 GHz  
- **CPU MHz:** 2400  
- **FPU:** Integrated  
- **CPU(s) enabled:** 20 cores, 2 chips, 10 cores/chip, 2 threads/core  
- **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:** 25 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 256 GB (16 x 16 GB 2Rx8 PC4-2400T-R, running at 2133 MHz)  
- **Disk Subsystem:** 300 GB 10000 RPM SAS  
- **Other Hardware:** None

## Software

- **Operating System:** SUSE Linux Enterprise Server 12 SP1 3.12.49-11-default  
- **Compiler:** C/C++: Version 17.0.0.0.98 of Intel C/C++ Compiler for Linux  
- **Auto Parallel:** No  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** Microquill SmartHeap V10.2
Dell Inc.

PowerEdge T630 (Intel Xeon E5-2640 v4, 2.40 GHz)

SPECint_rate2006 = Not Run

SPECint_rate_base2006 = 865

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
Test date: Feb-2017
Hardware Availability: Oct-2016
Software Availability: Sep-2016

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>40</td>
<td>629</td>
<td>621</td>
<td>631</td>
<td>620</td>
<td>628</td>
<td>622</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>40</td>
<td>938</td>
<td>412</td>
<td>935</td>
<td>413</td>
<td><strong>938</strong></td>
<td><strong>412</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>40</td>
<td>494</td>
<td>652</td>
<td>499</td>
<td>646</td>
<td><strong>495</strong></td>
<td><strong>651</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>40</td>
<td>306</td>
<td>1190</td>
<td>304</td>
<td>1200</td>
<td><strong>305</strong></td>
<td><strong>1190</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>40</td>
<td>741</td>
<td>566</td>
<td>742</td>
<td>565</td>
<td><strong>742</strong></td>
<td><strong>565</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>40</td>
<td><strong>293</strong></td>
<td><strong>1270</strong></td>
<td>294</td>
<td>1270</td>
<td>293</td>
<td>1270</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>40</td>
<td>829</td>
<td>584</td>
<td>831</td>
<td>582</td>
<td><strong>830</strong></td>
<td><strong>583</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>40</td>
<td>97.1</td>
<td>8530</td>
<td>97.1</td>
<td>8540</td>
<td><strong>97.1</strong></td>
<td><strong>8530</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>40</td>
<td>840</td>
<td>1050</td>
<td><strong>841</strong></td>
<td><strong>1050</strong></td>
<td>845</td>
<td>1050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>40</td>
<td>554</td>
<td>452</td>
<td><strong>553</strong></td>
<td><strong>452</strong></td>
<td>553</td>
<td>452</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>40</td>
<td>555</td>
<td>506</td>
<td><strong>555</strong></td>
<td><strong>506</strong></td>
<td>555</td>
<td>506</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>40</td>
<td>271</td>
<td>1020</td>
<td>270</td>
<td>1020</td>
<td><strong>270</strong></td>
<td><strong>1020</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</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:
Snoop Mode set to Cluster on Die
Virtualization Technology disabled
System Profile set to Custom
CPU Performance set to Hardware P States
C States set to Autonomous
C1E disabled
Energy Efficient Turbo disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Balanced Performance
Memory Patrol Scrub disabled
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-6196 Fri Feb 17 11:29:12 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: Continued on next page
### Dell Inc.

PowerEdge T630 (Intel Xeon E5-2640 v4, 2.40 GHz)

**SPEC CINT2006 Result**

**SPECint_rate2006** = Not Run

**SPECint_rate_base2006** = 865

---

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Feb-2017

**Hardware Availability:** Oct-2016

**Software Availability:** Sep-2016

---

### Platform Notes (Continued)

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo

- `model name`: Intel(R) Xeon(R) CPU E5-2640 v4 @ 2.40GHz
- 2 "physical id"s (chips)
- 40 "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`: 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`: 264436980 kB
- `HugePages_Total`: 0
- `Hugepagesize`: 2048 kB

/usr/bin/lsb_release -d

- SUSE Linux Enterprise Server 12 SP1

From /etc/*release* /etc/*version*

- **SuSE-release**:
  - `SUSE Linux Enterprise Server 12 (x86_64)`
  - `VERSION = 12`
  - `PATCHLEVEL = 1`
  - # 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-SP1"
  - `VERSION_ID="12.1"
  - `PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
  - `ID="sles"
  - `ANSI_COLOR="0;32"
  - `CPE_NAME="cpe:/o:suse:sles:12:sp1"

uname -a:

- (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 17 10:43

SPEC is set to: /root/cpu2006-1.2

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program is disabled on next page
Dell Inc.
PowerEdge T630 (Intel Xeon E5-2640 v4, 2.40 GHz)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 865

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.
Test date: Feb-2017
Hardware Availability: Oct-2016
Software Availability: Sep-2016

Platform Notes (Continued)

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. 2.3.4 11/09/2016
Memory:
2x 00AD00B300AD HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz
5x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 2 rank 2133 MHz
8x 00AD063200AD HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz
1x 00AD063200AD HMA42GR7MFR4N-TFT1 16 GB 2 rank 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:
LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled by default
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 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks:
   icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE OFFSET_BITS=64
403.gcc: -D_FILE OFFSET_BITS=64
429.mcf: -D_FILE OFFSET_BITS=64
445.gobmk: -D_FILE OFFSET_BITS=64
456.hmmer: -D_FILE OFFSET_BITS=64
458.sjeng: -D_FILE OFFSET_BITS=64
462.libquantum: -D_FILE OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE OFFSET_BITS=64

Continued on next page
SPEC CINT2006 Result

Dell Inc.

PowerEdge T630 (Intel Xeon E5-2640 v4, 2.40 GHz)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 865

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

Test date: Feb-2017
Hardware Availability: Oct-2016
Software Availability: Sep-2016

Base Portability Flags (Continued)

471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

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

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

Base 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-ic17.0-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.