SPEC® CINT2006 Result
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Dell Inc.

PowerEdge T630 (Intel Xeon E5-2650L v3, 1.80 GHz)

$SPECint^{®}\_rate2006 =$ 801

SPECint_rate_base2006 = 775

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

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Hardware

CPU Name:	Intel Xeon E5-2650L v3
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz:	1800
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 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:	30 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

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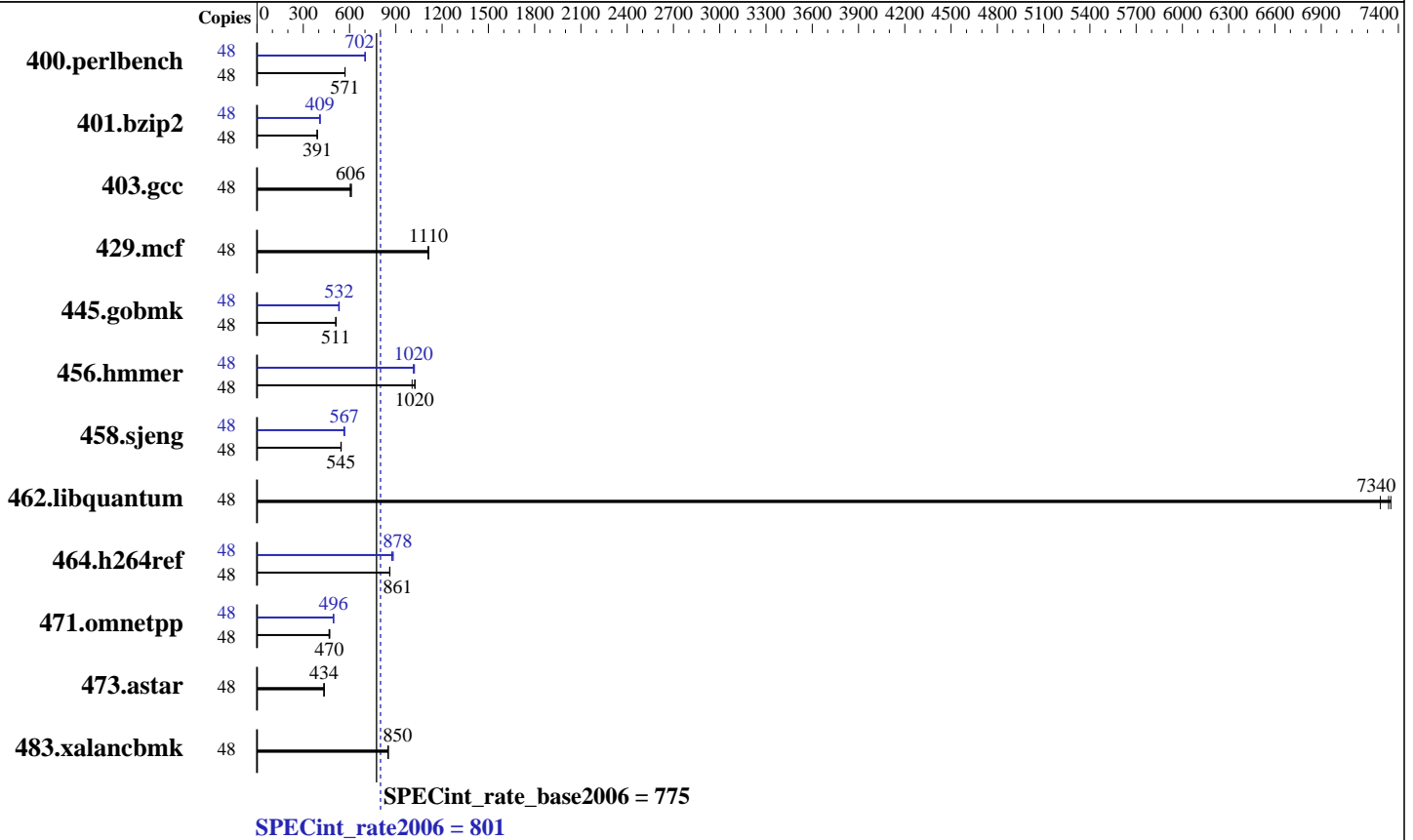SPECint_rate_base2006 = 775

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	822	570	**822**	**571**	822	571	48	**668**	**702**	668	702	670	700
401.bzip2	48	1189	390	1184	391	**1186**	**391**	48	**1134**	**409**	1132	409	1138	407
403.gcc	48	**637**	**606**	639	605	631	612	48	**637**	**606**	639	605	631	612
429.mcf	48	**394**	**1110**	394	1110	395	1110	48	**394**	**1110**	394	1110	395	1110
445.gobmk	48	986	511	**985**	**511**	982	513	48	**947**	**532**	950	530	944	533
456.hmmer	48	445	1010	437	1030	**438**	**1020**	48	442	1010	439	1020	**441**	**1020**
458.sjeng	48	1068	544	**1066**	**545**	1063	546	48	1023	568	1031	563	**1025**	**567**
462.libquantum	48	135	7350	**136**	**7340**	137	7280	48	135	7350	**136**	**7340**	137	7280
464.h264ref	48	**1233**	**861**	1233	862	1236	860	48	**1210**	**878**	1215	874	1202	883
471.omnetpp	48	**639**	**470**	642	467	636	472	48	604	497	605	495	**605**	**496**
473.astar	48	777	434	773	436	**776**	**434**	48	777	434	773	436	**776**	**434**
483.xalancbmk	48	389	851	390	849	**390**	**850**	48	389	851	390	849	**390**	**850**

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 Tue Jul 22 11:42:25 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 E5-2650L v3 @ 1.80GHz
          2 "physical id"s (chips)
          48 "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 : 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
    cache size : 15360 KB

  From /proc/meminfo
    MemTotal:       264571620 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 Jul 22 11:41 last=S

  SPEC is set to: /root/cpu2006-1.2
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       ext2  222G   80G  141G  37% /

  Additional information from dmidecode:
    BIOS Dell Inc. 0.3.28 07/14/2014
    Memory:
      8x 002C00B3002C 36ASF2G72PZ-2G1A1 16 GB 2133 MHz
      4x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 2133 MHz
      4x 00CE00B300CE M393A2G40DB0-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:
 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 i7-860 CPU + 8GB
  memory using RedHat EL 6.4
  Transparent Huge Pages enabled with:
```

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General Notes (Continued)

```
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 -lsmartheap
```

Base Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

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

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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/Intel-ic14.0-official-linux64-revC.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-ic14.0-official-linux64-revC.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Fri Oct 10 14:26:49 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 October 2014.