



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = 460

PowerEdge R720 (Intel Xeon E5-2650L, 1.80 GHz)

SPECint_rate_base2006 = 440

CPU2006 license: 55

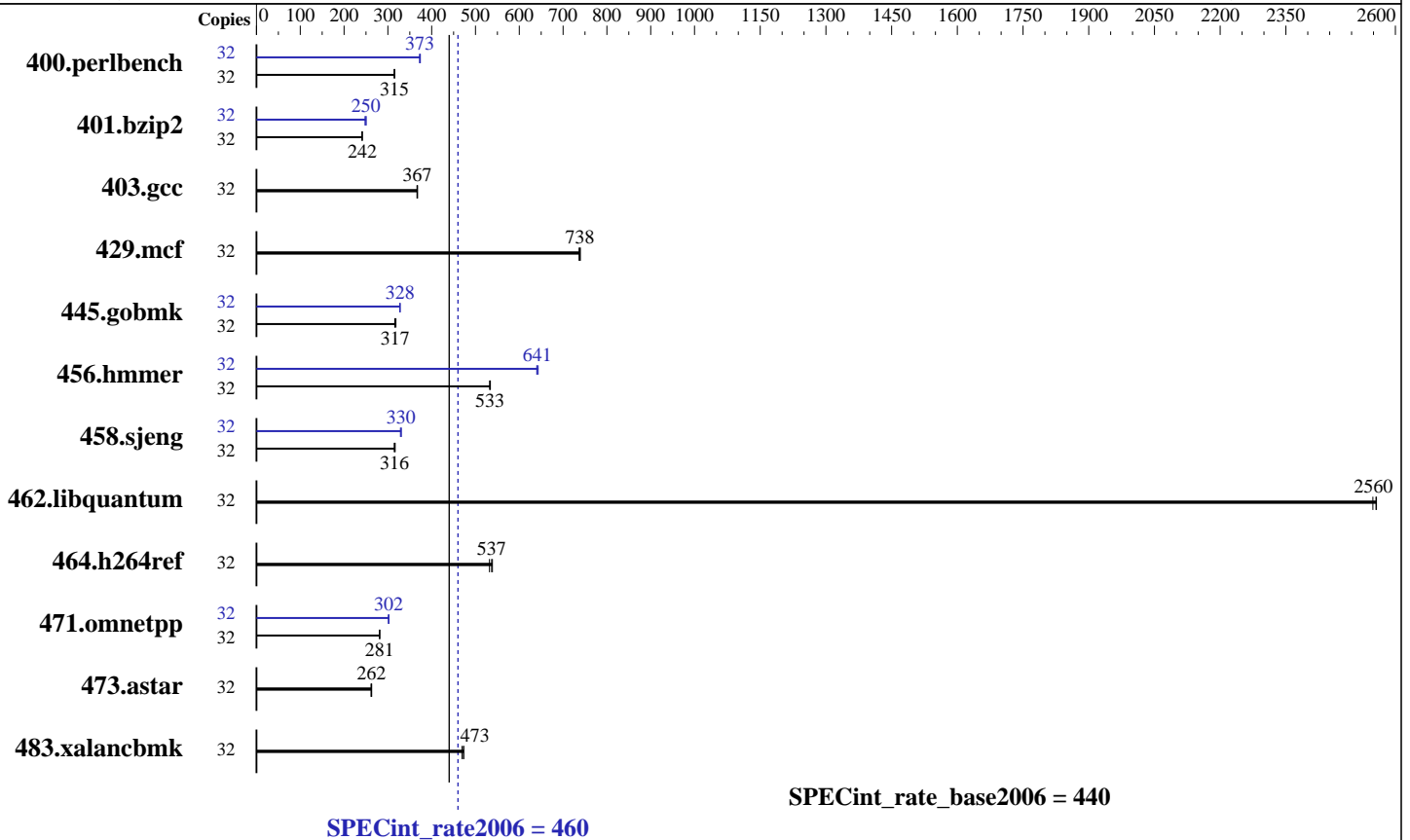
Test date: Feb-2012

Test sponsor: Dell Inc.

Hardware Availability: Mar-2012

Tested by: Dell Inc.

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2650L
 CPU Characteristics: Intel Turbo Boost Technology up to 2.30 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 (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1 x 146 GB 10000 RPM SAS
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-default
 Compiler: C/C++; Version 12.1.0.225 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (add definition here)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	991	316	<u>992</u>	<u>315</u>	995	314	32	<u>837</u>	<u>373</u>	836	374	840	372
401.bzip2	32	1279	242	<u>1279</u>	<u>242</u>	1282	241	32	1246	248	1233	250	<u>1237</u>	<u>250</u>
403.gcc	32	700	368	703	367	<u>702</u>	<u>367</u>	32	700	368	703	367	<u>702</u>	<u>367</u>
429.mcf	32	396	736	395	739	<u>395</u>	<u>738</u>	32	396	736	395	739	<u>395</u>	<u>738</u>
445.gobmk	32	<u>1060</u>	<u>317</u>	1063	316	1054	318	32	1024	328	<u>1024</u>	<u>328</u>	1025	327
456.hammer	32	<u>560</u>	<u>533</u>	559	534	561	532	32	<u>466</u>	<u>641</u>	467	640	464	643
458.sjeng	32	1223	317	1231	315	<u>1227</u>	<u>316</u>	32	1178	329	1172	330	<u>1172</u>	<u>330</u>
462.libquantum	32	<u>259</u>	<u>2560</u>	259	2560	260	2550	32	<u>259</u>	<u>2560</u>	259	2560	260	2550
464.h264ref	32	<u>1319</u>	<u>537</u>	1315	539	1331	532	32	<u>1319</u>	<u>537</u>	1315	539	1331	532
471.omnetpp	32	711	281	711	281	<u>711</u>	<u>281</u>	32	662	302	<u>663</u>	<u>302</u>	663	301
473.astar	32	859	261	854	263	<u>856</u>	<u>262</u>	32	859	261	854	263	<u>856</u>	<u>262</u>
483.xalancbmk	32	467	473	<u>467</u>	<u>473</u>	471	469	32	467	473	<u>467</u>	<u>473</u>	471	469

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

System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost set to Enabled
C States/C1E set to Enabled
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6800
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on linux-r2xm Fri Feb 10 11:28:53 2012

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 0 @ 1.80GHz
2 "physical id"s (chips)
32 "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 : 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:      132122696 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 = 2
```

uname -a:

```
Linux linux-r2xm 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012
(54ddfaf) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Feb 10 10:30 last=S

SPEC is set to: /root/cpu2006-1.2

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext3  133G  6.1G  126G   5% /
```

Additional information from dmidecode:

(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"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
The Dell PowerEdge R720 and
the Bull NovaScale R460 F3 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R720 model
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>



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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/smartheap -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

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32



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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

464.h264ref: basepeak = yes

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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes



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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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.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.
Report generated on Thu Jul 24 02:17:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 March 2012.