



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = **632**

ProLiant DL380p Gen8
(3.50 GHz, Intel Xeon E5-2643 v2)

SPECint_rate_base2006 = **607**

CPU2006 license: 3

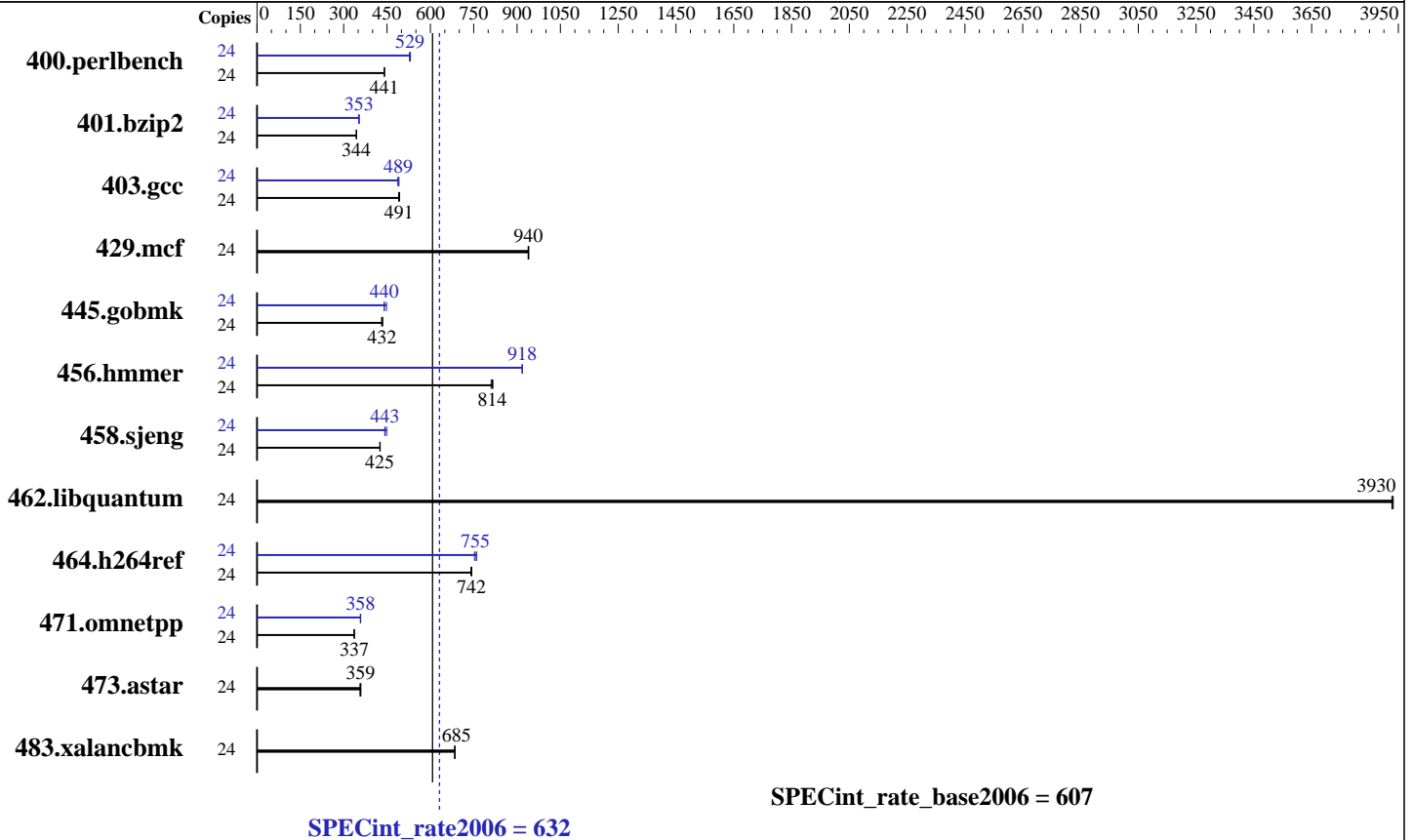
Test date: Feb-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Nov-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2643 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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 2Rx4 PC3-14900R-13, ECC)
 Disk Subsystem: 2 x 300 GB 15 K SAS, RAID 1
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 Kernel 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 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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Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	532	441	532	441	<u>532</u>	<u>441</u>	24	<u>443</u>	<u>529</u>	445	527	442	531
401.bzip2	24	674	344	673	344	<u>673</u>	<u>344</u>	24	656	353	<u>656</u>	<u>353</u>	656	353
403.gcc	24	391	494	<u>394</u>	<u>491</u>	394	490	24	393	491	<u>395</u>	<u>489</u>	396	488
429.mcf	24	<u>233</u>	<u>940</u>	233	938	233	940	24	<u>233</u>	<u>940</u>	233	938	233	940
445.gobmk	24	583	431	<u>583</u>	<u>432</u>	578	435	24	562	448	<u>572</u>	<u>440</u>	572	440
456.hammer	24	274	816	<u>275</u>	<u>814</u>	276	810	24	244	918	<u>244</u>	<u>918</u>	244	918
458.sjeng	24	683	425	681	426	<u>683</u>	<u>425</u>	24	657	442	647	449	<u>655</u>	<u>443</u>
462.libquantum	24	127	3930	<u>127</u>	<u>3930</u>	126	3930	24	127	3930	<u>127</u>	<u>3930</u>	126	3930
464.h264ref	24	<u>716</u>	<u>742</u>	717	740	714	743	24	<u>703</u>	<u>755</u>	698	761	706	753
471.omnetpp	24	445	337	<u>446</u>	<u>337</u>	446	336	24	418	359	419	358	<u>419</u>	<u>358</u>
473.astar	24	<u>469</u>	<u>359</u>	469	359	473	356	24	<u>469</u>	<u>359</u>	469	359	473	356
483.xalancbmk	24	242	685	242	684	<u>242</u>	<u>685</u>	24	242	685	242	684	<u>242</u>	<u>685</u>

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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_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>

Platform Notes

BIOS Configuration:
HP Power Profile set to Maximum Performance
Memory Power Savings Mode set to Maximum Performance
Thermal Configuration set so Maximum Cooling
Processor Power and Utilization Monitoring set to Disabled
Memory Refresh Rate set to 1x Refresh

Sysinfo program /home/cpu/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on PL14_DL380 Mon Feb 24 16:55:28 2014

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Platform Notes (Continued)

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 E5-2643 v2 @ 3.50GHz
 2 "physical id"s (chips)
 24 "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    : 6
  siblings    : 12
  physical 0: cores 2 3 4 8 9 10
  physical 1: cores 2 3 4 8 9 10
cache size    : 25600 KB
```

```
From /proc/meminfo
MemTotal:      264493708 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux PL14_DL380 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Feb 24 16:52

```
SPEC is set to: /home/cpu
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_pl14_dl380-lv_home
                ext4      222G  31G  180G  15% /home
```

```
Additional information from dmidecode:
BIOS HP P70 11/14/2013
Memory:
16x HP 712383-081 16 GB 1866 MHz 2 rank
8x UNKNOWN NOT AVAILABLE
```

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 256 GB and the dmidecode description should have one line reading as:
16x HP 712383-081 16 GB 1866 MHz 2 rank



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General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu/libs/32:/home/cpu/libs/64:/home/cpu/sh"

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

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

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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: `-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: `-xSSE4.2 -ipo -O3 -no-prec-div`

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`

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

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.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-linux64.20140128.html>
<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-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-linux64.20140128.xml>
<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-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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