



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint®_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3

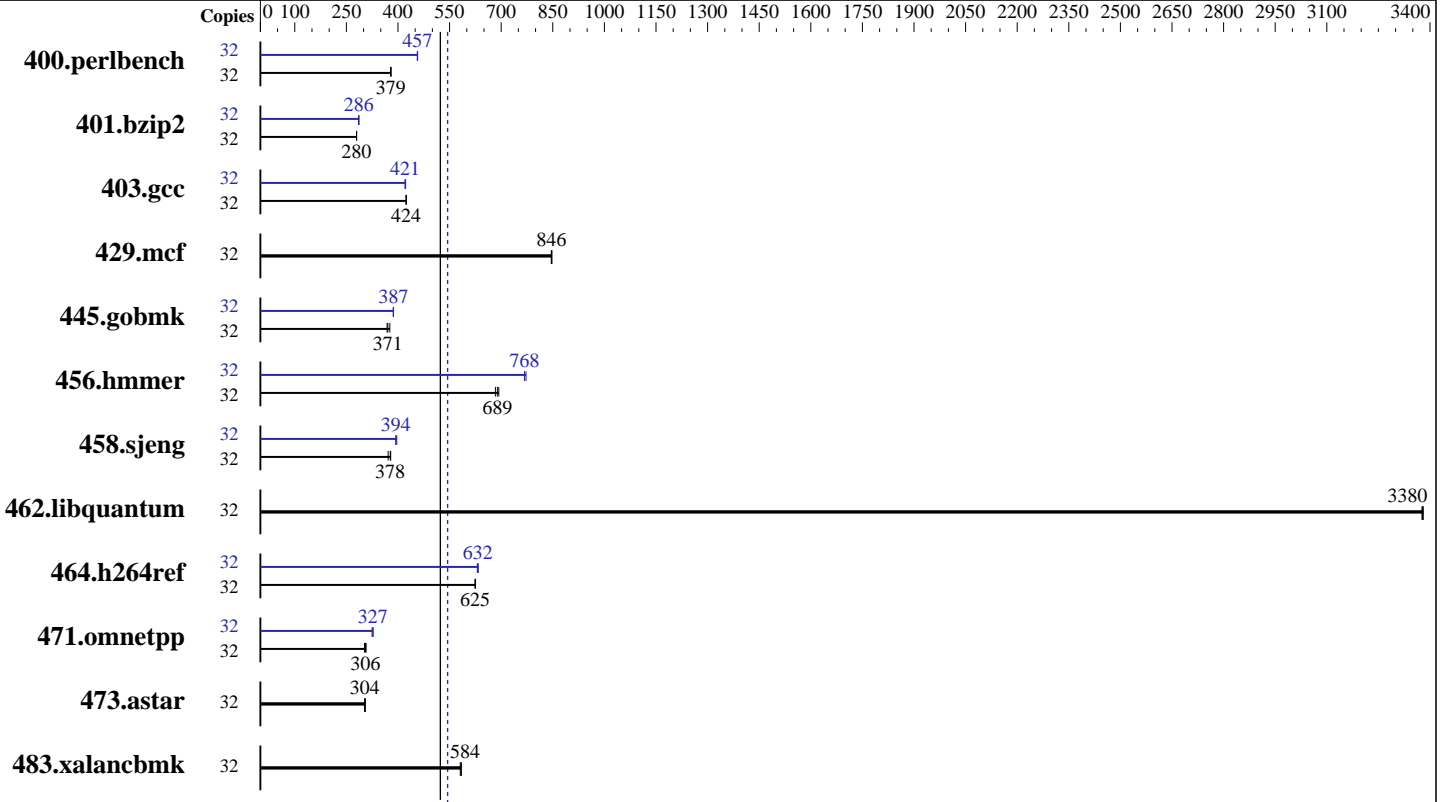
Test date: Feb-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013



SPECint_rate2006 = 544

SPECint_rate_base2006 = 523

Hardware

CPU Name: Intel Xeon E5-2640 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
 CPU MHz: 2000
 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 400 GB SAS SSD, RAID 0
 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



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Feb-2014
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	32	824	379	824	379	824	379	32	685	456	684	457	684	457		
401.bzip2	32	1104	280	1105	280	1105	280	32	1082	285	1078	286	1079	286		
403.gcc	32	608	423	607	424	607	424	32	611	421	610	422	613	421		
429.mcf	32	345	846	345	846	344	848	32	345	846	345	846	344	848		
445.gobmk	32	892	376	911	368	906	371	32	868	387	869	386	869	387		
456.hammer	32	433	689	437	683	431	693	32	389	768	387	772	389	768		
458.sjeng	32	1025	378	1042	371	1022	379	32	984	394	982	394	977	397		
462.libquantum	32	196	3380	196	3380	196	3380	32	196	3380	196	3380	196	3380		
464.h264ref	32	1134	625	1135	624	1132	625	32	1118	633	1121	632	1123	631		
471.omnetpp	32	651	307	654	306	661	303	32	616	325	611	328	611	327		
473.astar	32	741	303	736	305	739	304	32	741	303	736	305	739	304		
483.xalancbmk	32	378	584	378	584	380	581	32	378	584	378	584	380	581		

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
Collaborative Power Control set to Disabled
Dynamic Power Capping Functionality set to Disabled
Thermal Configuration set to Maximum Cooling
Processor Power and Utilization Monitoring set to Disabled
Memory Refresh Rate set to 1x

Sysinfo program /cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Feb-2014
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Platform Notes (Continued)

running on Dl360p-cpu2006-ivb Tue Feb 11 14:24:02 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 E5-2640 v2 @ 2.00GHz
 2 "physical id"s (chips)
 32 "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 : 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:      132119272 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
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 Dl360p-cpu2006-ivb 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 11 14:23

```
SPEC is set to: /cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext4      365G  11G  336G   4% /
```

```
Additional information from dmidecode:
BIOS HP P71 09/08/2013
Memory:
16x HP 712382-071 8 GB 1600 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 128 GB and the dmidecode description should have one line reading as:
16x HP 712382-071 8 GB 1600 MHz 2 rank



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3

Test date: Feb-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64:/cpu2006/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

400.perlbench: icc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3

Test date: Feb-2014

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013

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: `-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`

462.libquantum: `basepeak = yes`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 544

ProLiant DL360p Gen8
(2.40 GHz, Intel Xeon E5-2640 v2)

SPECint_rate_base2006 = 523

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Feb-2014
Hardware Availability: Sep-2013
Software Availability: Sep-2013

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.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-revB.20131009.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-revB.20131009.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.
Report generated on Thu Jul 24 21:29:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 March 2014.