



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

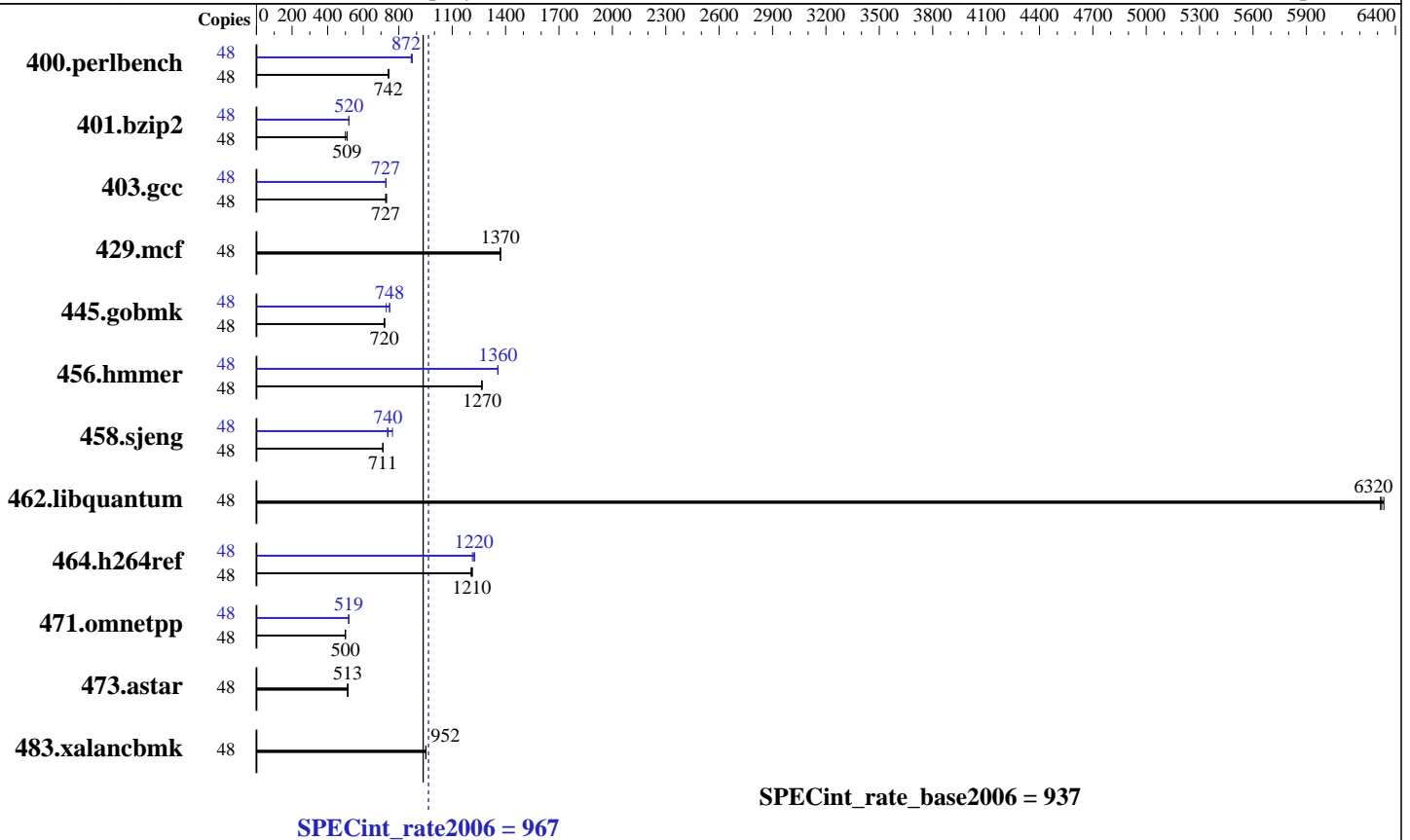
SPECint[®]_rate2006 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

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

Test date: Aug-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2697 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip(s)
 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: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, 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)
 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 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

CPU2006 license: 3

Test date: Aug-2013

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

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	48	630	745	633	741	632	742	48	539	870	538	872	536	876
401.bzip2	48	926	500	910	509	908	510	48	891	520	890	520	892	519
403.gcc	48	528	731	532	726	531	727	48	532	727	532	727	530	728
429.mcf	48	319	1370	319	1370	320	1370	48	319	1370	319	1370	320	1370
445.gobmk	48	699	720	701	718	699	720	48	673	748	690	729	673	748
456.hammer	48	353	1270	354	1270	353	1270	48	330	1360	330	1360	330	1360
458.sjeng	48	817	711	817	711	818	710	48	785	740	789	736	760	764
462.libquantum	48	157	6320	157	6320	157	6340	48	157	6320	157	6320	157	6340
464.h264ref	48	875	1210	881	1210	878	1210	48	869	1220	875	1210	866	1230
471.omnetpp	48	600	500	600	500	602	499	48	578	519	578	519	580	518
473.astar	48	657	513	655	515	659	512	48	657	513	655	515	659	512
483.xalancbmk	48	348	952	348	952	348	952	48	348	952	348	952	348	952

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>
Disabled unused Linux services through "stop_services.sh" before running.

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
Processor Power and Utilization Monitoring set to Disabled
Thermal Configuration set to Maximum Cooling

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 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

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

Test date: Aug-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Platform Notes (Continued)

running on ML350p-cpu2006 Sat Aug 24 05:23:20 2013

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 E5-2697 v2 @ 2.70GHz
 2 "physical id"s (chips)
 48 "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 : 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 : 30720 KB
```

```
From /proc/meminfo
MemTotal:      132119280 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 ML350p-cpu2006 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 Aug 24 04:06
```

```
SPEC is set to: /Cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext4      365G  9.1G  337G   3% /
```

```
Additional information from dmidecode:
BIOS HP P72 09/08/2013
Memory:
 16x HP 712382-071 8 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 128 GB and the dmidecode description should have one line reading as:
16x HP 712382-071 8 GB 1866 MHz 2 rank

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

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

Test date: Aug-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

Platform Notes (Continued)

Regarding the sysinfo display about the CPU cores from /proc/cpuinfo, the correct mapping should display as cores 0 through 11. The mapping should read as the following:

```
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11
```

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 RHEL5.5

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 -lsmarthheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

CPU2006 license: 3

Test date: Aug-2013

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013

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

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 967

ProLiant ML350p Gen8
(2.70 GHz, Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 937

CPU2006 license: 3

Test date: Aug-2013

Test sponsor: Hewlett-Packard Company

Hardware Availability: Sep-2013

Tested by: Hewlett-Packard Company

Software Availability: Sep-2013

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/HP-Platform-Flags-Intel-V1.2-revB.html>
<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html>

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

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.xml>
<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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 16:10:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 September 2013.