SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

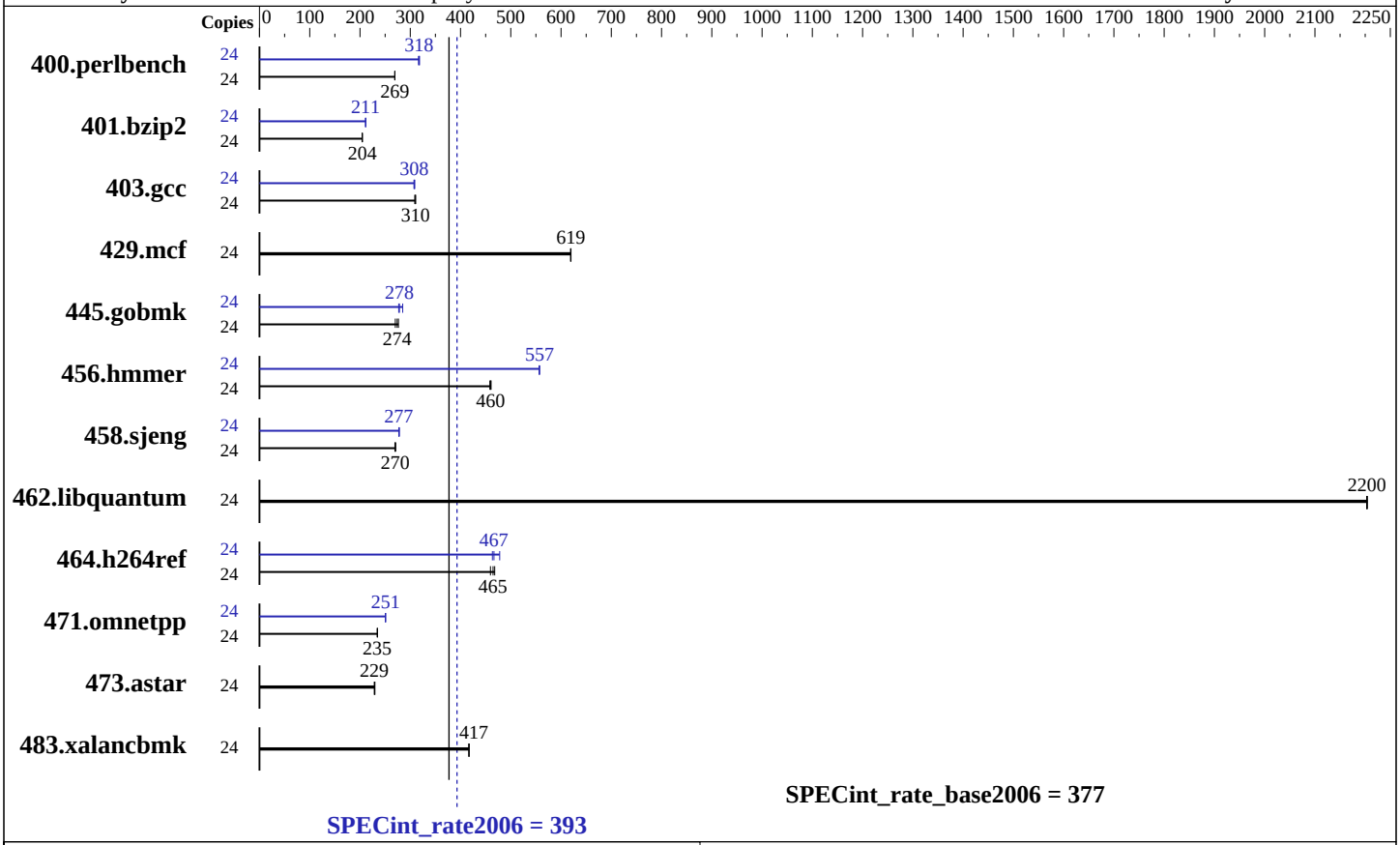
ProLiant ML350p Gen8
(2.00 GHz, Intel Xeon E5-2620)

SPECint®_rate2006 = 393

SPECint_rate_base2006 = 377

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

Test date: Oct-2012
Hardware Availability: Oct-2012
Software Availability: Jun-2012



Hardware

CPU Name:	Intel Xeon E5-2620
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz
CPU MHz:	2000
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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem:	2 x 300 GB 15 K SAS, RAID 1
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.3, (Santiago) 2.6.32-279.el6.x86_64
Compiler:	C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux Build 20120212
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 V9.01

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant ML350p Gen8
(2.00 GHz, Intel Xeon E5-2620)

SPECint_rate2006 = 393

SPECint_rate_base2006 = 377

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

Test date: Oct-2012
Hardware Availability: Oct-2012
Software Availability: Jun-2012

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**870**	**269**	871	269	870	270	24	737	318	**738**	**318**	741	316
401.bzip2	24	1134	204	**1133**	**204**	1131	205	24	1097	211	**1096**	**211**	1096	211
403.gcc	24	**622**	**310**	622	311	625	309	24	625	309	**627**	**308**	629	307
429.mcf	24	354	619	353	620	**353**	**619**	24	354	619	353	620	**353**	**619**
445.gobmk	24	932	270	911	276	**919**	**274**	24	883	285	909	277	**904**	**278**
456.hmmer	24	486	461	489	458	**487**	**460**	24	402	557	**402**	**557**	403	556
458.sjeng	24	**1076**	**270**	1071	271	1078	269	24	**1047**	**277**	1043	278	1048	277
462.libquantum	24	**226**	**2200**	226	2200	226	2200	24	**226**	**2200**	226	2200	226	2200
464.h264ref	24	1135	468	**1143**	**465**	1156	460	24	1146	463	1111	478	**1138**	**467**
471.omnetpp	24	639	235	640	234	**640**	**235**	24	**598**	**251**	598	251	598	251
473.astar	24	734	230	737	229	**736**	**229**	24	734	230	737	229	**736**	**229**
483.xalancbmk	24	397	417	**397**	**417**	397	417	24	397	417	**397**	**417**	397	417

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/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 Custom
 Thermal Configuration set to Maximum Cooling
 Energy/Performance Bias set to Maximum Performance

Sysinfo program /SPEC/config/sysinfo.rev6801
$Rev: 6801 $ $Date:: 2012-02-29 #$ 97210b12a36633f0c6f39ef1d894b47e
running on mpaton350b.perflabs.hp.com Wed Oct 17 14:21:50 2012

This section contains SUT (System Under Test) info as seen by
```

Continued on next page

Platform Notes (Continued)

```
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 E5-2620 0 @ 2.00GHz
      2 "physical id"s (chips)
      24 "processors"
      cpu cores : 6
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:       132119544 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux mpaton350b.perflabs.hp.com 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13
   18:24:36 EDT 2012 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 17 14:19 last=5

SPEC is set to: /SPEC
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda7      ext4    108G  6.5G   96G   7% /SPEC

Additional information from dmidecode:
  BIOS HP P72 08/20/2012
  Memory:
   16x HP Not Specified 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPEC/libs3/32:/SPEC/libs3/64"

 Binaries compiled on a system with 2x Xeon E5-2667 CPU + 256GB
 memory using SLES11SP2
```

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/spec/libs2/32 -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
```

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

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/spec/libs2/32 -lsmartheap

473.astar: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20120425.html`
`http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml`
`http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.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 13:15:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 November 2012.