SPEC® CINT2006 Result

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Hewlett-Packard Company

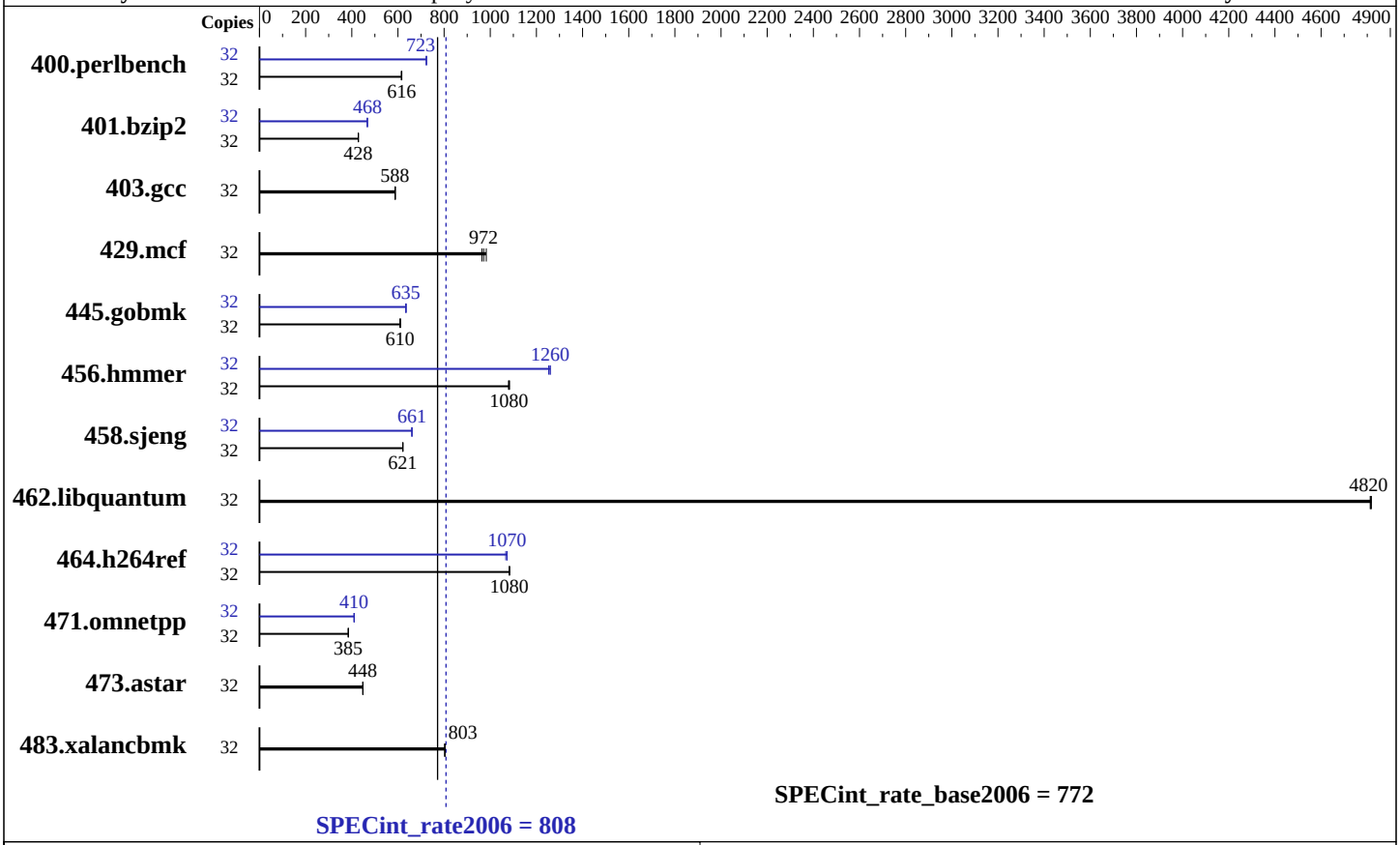
ProLiant DL580 G7
(2.66 GHz, Intel Xeon E7-8837)

SPECint®_rate2006 = 808

SPECint_rate_base2006 = 772

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

Test date: Aug-2012
Hardware Availability: Apr-2011
Software Availability: Feb-2012



Hardware

CPU Name:	Intel Xeon E7-8837
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip
CPU(s) orderable:	2,4 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:	24 MB I+D on chip per chip
Other Cache:	None
Memory:	1 TB (64 x 16 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	5 x 900 GB 6G SAS 10K, RAID 5
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) 2.6.32.12-0.7-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 (multi-user)
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	507	617	**508**	**616**	509	614	32	432	723	**432**	**723**	433	723
401.bzip2	32	721	428	720	429	**721**	**428**	32	660	468	**660**	**468**	661	467
403.gcc	32	**438**	**588**	437	589	439	587	32	**438**	**588**	437	589	439	587
429.mcf	32	303	964	297	983	**300**	**972**	32	303	964	297	983	**300**	**972**
445.gobmk	32	549	611	**550**	**610**	552	608	32	**529**	**635**	528	636	530	633
456.hmmer	32	276	1080	**276**	**1080**	277	1080	32	**237**	**1260**	237	1260	238	1250
458.sjeng	32	623	622	624	621	**623**	**621**	32	586	661	586	660	**586**	**661**
462.libquantum	32	138	4820	138	4810	**138**	**4820**	32	138	4820	138	4810	**138**	**4820**
464.h264ref	32	654	1080	**654**	**1080**	653	1080	32	660	1070	**660**	**1070**	664	1070
471.omnetpp	32	**519**	**385**	519	385	520	385	32	487	410	488	410	**488**	**410**
473.astar	32	502	448	**501**	**448**	501	449	32	502	448	**501**	**448**	501	449
483.xalancbmk	32	**275**	**803**	275	804	275	803	32	**275**	**803**	275	804	275	803

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"
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
  Thermal Configuration set to Increased Cooling
  Collaborative Power Control set to Disabled
 Sysinfo program /cpu2006/config/sysinfo.rev6800
 $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on dl580g7-r88 Fri Aug 10 14:00:41 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
```

Continued on next page

Platform Notes (Continued)

```
      model name : Intel(R) Xeon(R) CPU E7- 8837 @ 2.67GHz
         4 "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  : 8
         physical 0: cores 0 1 2 9 16 18 24 25
         physical 1: cores 0 1 2 8 17 18 24 25
         physical 2: cores 0 1 2 8 17 18 24 25
         physical 3: cores 0 1 8 9 16 17 24 25
      cache size : 24576 KB

   From /proc/meminfo
      MemTotal:       1058831952 kB
      HugePages_Total:       0
      Hugepagesize:       2048 kB

   From /etc/*release* /etc/*version*
      SuSE-release:
         SUSE Linux Enterprise Server 11 (x86_64)
         VERSION = 11
         PATCHLEVEL = 1

   uname -a:
      Linux dl580g7-r88 2.6.32.12-0.7-default #1 SMP 2010-05-20 11:14:20 +0200
      x86_64 x86_64 x86_64 GNU/Linux

   run-level 3 Aug 10 13:58 last=S

   SPEC is set to: /cpu2006
      Filesystem     Type    Size  Used Avail Use% Mounted on
      /dev/cciss/c0d0p2
                     ext3    3.3T   15G  3.1T   1% /

   Additional information from dmidecode:
     BIOS HP P65 12/01/2011

   (End of data from sysinfo program)
```

General Notes

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

  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/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
```

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: -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/smartheap -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`

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