



SPEC[®] CINT2006 Result

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Hewlett-Packard Company

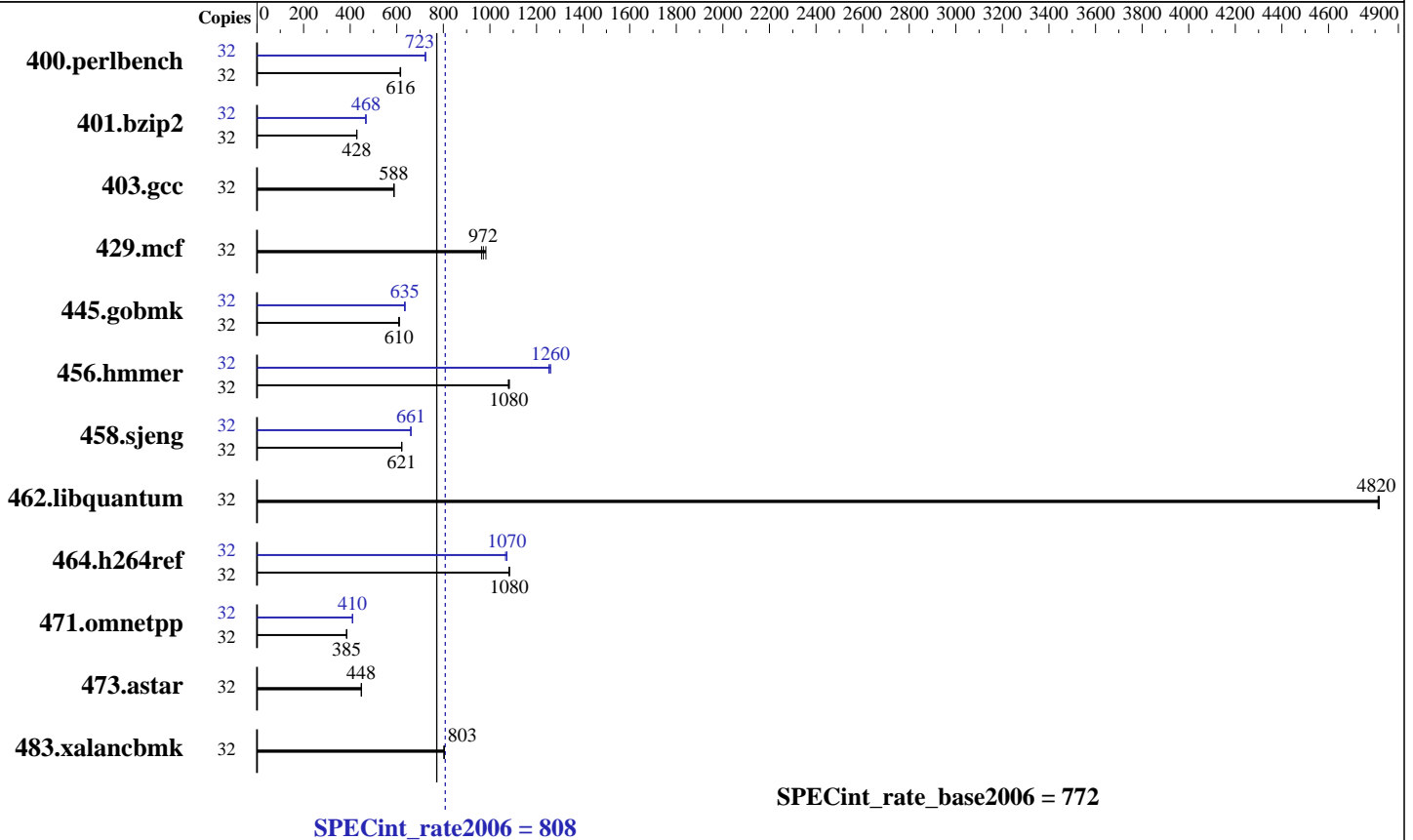
SPECint[®]_rate2006 = 808

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

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	<u>508</u>	<u>616</u>	509	614	32	432	723	<u>432</u>	<u>723</u>	433	723
401.bzip2	32	721	428	720	429	<u>721</u>	<u>428</u>	32	660	468	<u>660</u>	<u>468</u>	661	467
403.gcc	32	<u>438</u>	<u>588</u>	437	589	439	587	32	<u>438</u>	<u>588</u>	437	589	439	587
429.mcf	32	303	964	297	983	<u>300</u>	<u>972</u>	32	303	964	297	983	<u>300</u>	<u>972</u>
445.gobmk	32	549	611	<u>550</u>	<u>610</u>	552	608	32	<u>529</u>	<u>635</u>	528	636	530	633
456.hammer	32	276	1080	<u>276</u>	<u>1080</u>	277	1080	32	<u>237</u>	<u>1260</u>	237	1260	238	1250
458.sjeng	32	623	622	624	621	<u>623</u>	<u>621</u>	32	586	661	586	660	<u>586</u>	<u>661</u>
462.libquantum	32	138	4820	138	4810	<u>138</u>	<u>4820</u>	32	138	4820	138	4810	<u>138</u>	<u>4820</u>
464.h264ref	32	654	1080	<u>654</u>	<u>1080</u>	653	1080	32	660	1070	<u>660</u>	<u>1070</u>	664	1070
471.omnetpp	32	<u>519</u>	<u>385</u>	519	385	520	385	32	487	410	488	410	<u>488</u>	<u>410</u>
473.astar	32	502	448	<u>501</u>	<u>448</u>	501	449	32	502	448	<u>501</u>	<u>448</u>	501	449
483.xalancbmk	32	<u>275</u>	<u>803</u>	275	804	275	803	32	<u>275</u>	<u>803</u>	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

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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



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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`



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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.xalanbmk: -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

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Peak Optimization Flags (Continued)

483.xalanbmk: 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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