SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant BL460c G7
(2.40 GHz, Intel Xeon E5645)

SPECint®2006 = 37.6
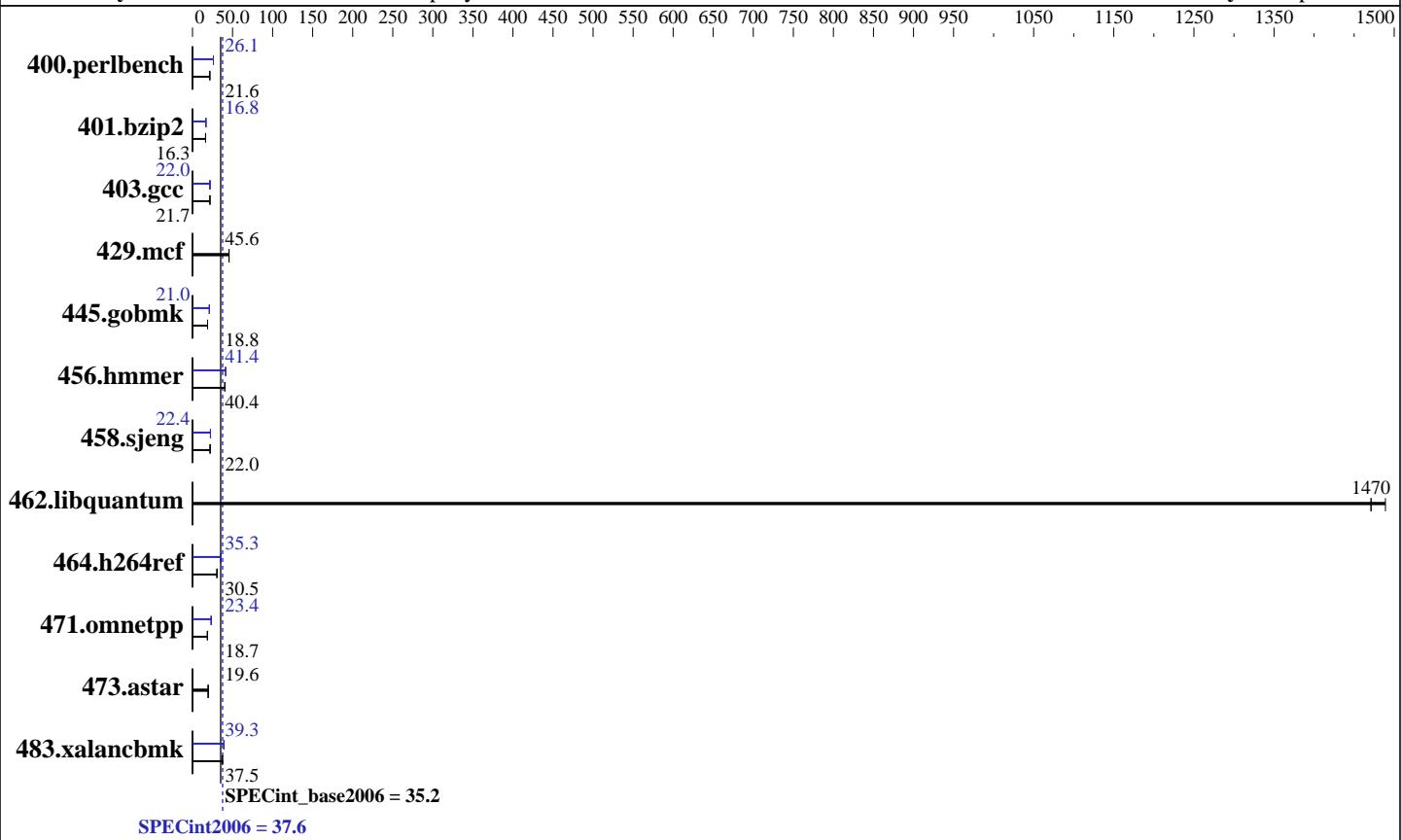
SPECint_base2006 = 35.2

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Oct-2011

Hardware Availability: Feb-2011

Software Availability: Sep-2011

Benchmark results chart:

- 400.perlbench: 26.1 / 21.6
- 401.bzip2: 16.8 / 16.3
- 403.gcc: 22.0 / 21.7
- 429.mcf: 45.6
- 445.gobmk: 21.0 / 18.8
- 456.hmmer: 41.4 / 40.4
- 458.sjeng: 22.4 / 22.0
- 462.libquantum: 1470
- 464.h264ref: 35.3 / 30.5
- 471.omnetpp: 23.4 / 18.7
- 473.astar: 19.6
- 483.xalancbmk: 39.3 / 37.5

SPECint_base2006 = 35.2

SPECint2006 = 37.6

Hardware

CPU Name:	Intel Xeon E5645
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 146 GB 15K SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.1, Kernel 2.6.32-131.0.15.el.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel Compiler XE Build 20110803
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-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 BL460c G7
(2.40 GHz, Intel Xeon E5645)

SPECint2006 =   37.6

SPECint_base2006 =   35.2

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

Test date: Oct-2011
Hardware Availability: Feb-2011
Software Availability: Sep-2011

Results Table

Benchmark	Base						Peak					
	Seconds	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	**453**	**21.6**	451	21.6	453	21.6	**374**	**26.1**	375	26.1	374	26.1
401.bzip2	591	16.3	591	16.3	**591**	**16.3**	575	16.8	**574**	**16.8**	574	16.8
403.gcc	**370**	**21.7**	371	21.7	370	21.8	365	22.0	377	21.4	**365**	**22.0**
429.mcf	200	45.6	**200**	**45.6**	200	45.6	200	45.6	**200**	**45.6**	200	45.6
445.gobmk	557	18.8	558	18.8	**558**	**18.8**	**499**	**21.0**	501	20.9	497	21.1
456.hmmer	**231**	**40.4**	231	40.4	231	40.4	226	41.3	**226**	**41.4**	226	41.4
458.sjeng	550	22.0	**550**	**22.0**	552	21.9	541	22.4	**541**	**22.4**	539	22.4
462.libquantum	13.9	1490	**14.1**	**1470**	14.1	1470	13.9	1490	**14.1**	**1470**	14.1	1470
464.h264ref	**725**	**30.5**	724	30.6	725	30.5	**628**	**35.3**	628	35.2	628	35.3
471.omnetpp	**335**	**18.7**	338	18.5	335	18.7	**267**	**23.4**	271	23.1	266	23.5
473.astar	359	19.6	**359**	**19.6**	358	19.6	359	19.6	**359**	**19.6**	358	19.6
483.xalancbmk	**184**	**37.5**	184	37.5	187	36.9	176	39.1	175	39.4	**175**	**39.3**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
    BIOS configuration:
     HP Power Profile set to Maximum Performance
     Thermal Configuration set to Increased Cooling
     Data Reuse set to Disabled
```

General Notes

```
    Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/root/s2k6/smartheap:/root/s2k6/ic12.1-libs/ia32/:/root/s2k6/ic12.1-libs/intel64"

     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>
```

Base Compiler Invocation

C benchmarks:
```
    icc -m64
```

C++ benchmarks:
```
    icpc -m64
```

SPEC CINT2006 Result

Hewlett-Packard Company

SPECint2006 =   37.6

ProLiant BL460c G7
(2.40 GHz, Intel Xeon E5645)

SPECint_base2006 =   35.2

CPU2006 license: 3	**Test date:** Oct-2011
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Feb-2011
Tested by: Hewlett-Packard Company	**Software Availability:** Sep-2011

Base Portability Flags

```
 400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
     401.bzip2: -DSPEC_CPU_LP64
       403.gcc: -DSPEC_CPU_LP64
       429.mcf: -DSPEC_CPU_LP64
     445.gobmk: -DSPEC_CPU_LP64
     456.hmmer: -DSPEC_CPU_LP64
     458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
    464.h264ref: -DSPEC_CPU_LP64
    471.omnetpp: -DSPEC_CPU_LP64
      473.astar: -DSPEC_CPU_LP64
  483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/smartheap -lsmartheap64
```

Base Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m64
```

```
    400.perlbench: icc -m32
```

```
    445.gobmk: icc -m32
```

```
    464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
    473.astar: icpc -m64
```

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Hewlett-Packard Company

ProLiant BL460c G7
(2.40 GHz, Intel Xeon E5645)

SPECint2006 = 37.6

SPECint_base2006 = 35.2

CPU2006 license: 3		**Test date:**	Oct-2011
Test sponsor: Hewlett-Packard Company		**Hardware Availability:**	Feb-2011
Tested by: Hewlett-Packard Company		**Software Availability:**	Sep-2011

Peak Portability Flags

       400.perlbench: `-DSPEC_CPU_LINUX_IA32`
          401.bzip2: `-DSPEC_CPU_LP64`
            403.gcc: `-DSPEC_CPU_LP64`
            429.mcf: `-DSPEC_CPU_LP64`
         456.hmmer: `-DSPEC_CPU_LP64`
          458.sjeng: `-DSPEC_CPU_LP64`
     462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
          473.astar: `-DSPEC_CPU_LP64`
      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)`
                   `-opt-prefetch -ansi-alias`

       401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                  `-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32`
                  `-opt-prefetch -ansi-alias`

         403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc`
                  `-opt-malloc-options=3 -auto-ilp32`

         429.mcf: basepeak = yes

       445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
                  `-ansi-alias`

       456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
                  `-ansi-alias`

        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`

    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)`
                   `-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs`
                   `-L/smartheap -lsmartheap`

Continued on next page

SPEC CINT2006 Result

Hewlett-Packard Company

ProLiant BL460c G7
(2.40 GHz, Intel Xeon E5645)

$SPECint2006 =$ 37.6

$SPECint\_base2006 =$ 35.2

CPU2006 license: 3		**Test date:**	Oct-2011
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Feb-2011
Tested by:	Hewlett-Packard Company	**Software Availability:**	Sep-2011

Peak Optimization Flags (Continued)

473.astar: `basepeak = yes`

483.xalancbmk: `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`
`-Wl,-z,muldefs -L/smartheap -lsmartheap`

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-linux64.html
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-linux64.xml
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Thu Jul 24 00:51:27 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 November 2011.