



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®2006 = 42.8

ProLiant DL380p Gen8
(2.30 GHz, Intel Xeon E5-2630)

SPECint_base2006 = 40.4

CPU2006 license: 3

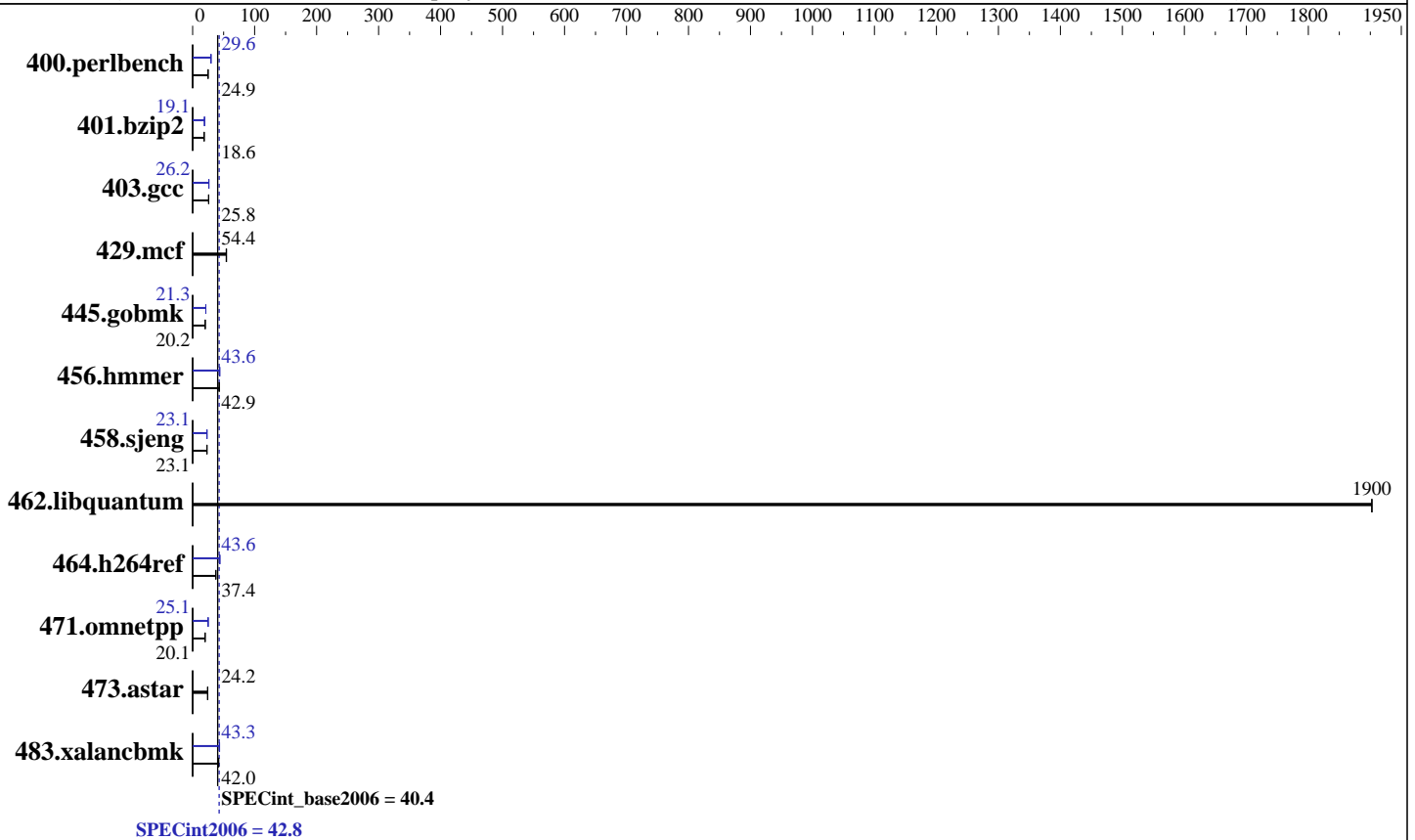
Test date: Aug-2012

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jun-2012

Tested by: Hewlett-Packard Company

Software Availability: Mar-2012



Hardware

CPU Name: Intel Xeon E5-2630
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip
 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 146 GB 15 K SAS, RAID 1
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2, (Santiago)
 Kernel 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 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
 HP Array Configuration Utility, CLI version



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	394	24.8	392	24.9	<u>392</u>	<u>24.9</u>	330	29.6	331	29.5	<u>330</u>	<u>29.6</u>
401.bzip2	521	18.5	519	18.6	<u>520</u>	<u>18.6</u>	<u>504</u>	<u>19.1</u>	504	19.1	505	19.1
403.gcc	<u>312</u>	<u>25.8</u>	312	25.8	312	25.8	<u>308</u>	<u>26.2</u>	308	26.2	308	26.2
429.mcf	166	54.8	<u>168</u>	<u>54.4</u>	168	54.2	166	54.8	<u>168</u>	<u>54.4</u>	168	54.2
445.gobmk	518	20.2	518	20.3	<u>518</u>	<u>20.2</u>	493	21.3	493	21.3	<u>493</u>	<u>21.3</u>
456.hammer	218	42.9	218	42.8	<u>218</u>	<u>42.9</u>	213	43.8	<u>214</u>	<u>43.6</u>	214	43.6
458.sjeng	523	23.1	<u>524</u>	<u>23.1</u>	524	23.1	524	23.1	<u>524</u>	<u>23.1</u>	524	23.1
462.libquantum	10.9	1900	<u>10.9</u>	<u>1900</u>	10.9	1900	10.9	1900	<u>10.9</u>	<u>1900</u>	10.9	1900
464.h264ref	591	37.5	<u>592</u>	<u>37.4</u>	593	37.3	501	44.2	509	43.5	<u>507</u>	<u>43.6</u>
471.omnetpp	<u>311</u>	<u>20.1</u>	311	20.1	311	20.1	249	25.1	<u>249</u>	<u>25.1</u>	254	24.6
473.astar	289	24.3	290	24.2	<u>290</u>	<u>24.2</u>	289	24.3	290	24.2	<u>290</u>	<u>24.2</u>
483.xalancbmk	165	41.8	164	42.1	<u>164</u>	<u>42.0</u>	159	43.5	160	43.1	<u>159</u>	<u>43.3</u>

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

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
Energy/Performance Bias is set to Maximum Performance
Thermal Configuration set to Maximum Cooling
Collaborative Power Control set to Disabled
Processor Power and Utilization Monitoring set to Disabled
Drive Write Cache set to Enabled in HP Array Configuration Utility, CLI version
Accelerator Ratio for Reads/Writes set to = 100% Read / 0% Write in HP Array Configuration Utility, CLI version
Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on DL380G8-3 Mon Aug 20 14:18:48 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 E5-2630 0 @ 2.30GHz
  2 "physical id"s (chips)
  24 "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 : 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:      132119936 kB
HugePages_Total:       0
Hugepagesize:     2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux DL380G8-3 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Aug 17 13:37 last=5

```

SPEC is set to: /cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_rh62-lv_root
                ext4      50G   8.9G   38G  19% /

```

```

Additional information from dmidecode:
BIOS HP P70 08/06/2012
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,scatter"
LD_LIBRARY_PATH = "/cpu2006/libs/32:/cpu2006/libs/64"
OMP_NUM_THREADS = "12"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB

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General Notes (Continued)

memory using RHEL5.5

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

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.hmmmer: -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



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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

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.hmmmer: -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

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Peak Optimization Flags (Continued)

456.hmmr: -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

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-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>

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