



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 405

ProLiant BL460c G7
(3.06 GHz, Intel Xeon X5675)

SPECint_rate_base2006 = 388

CPU2006 license: 3

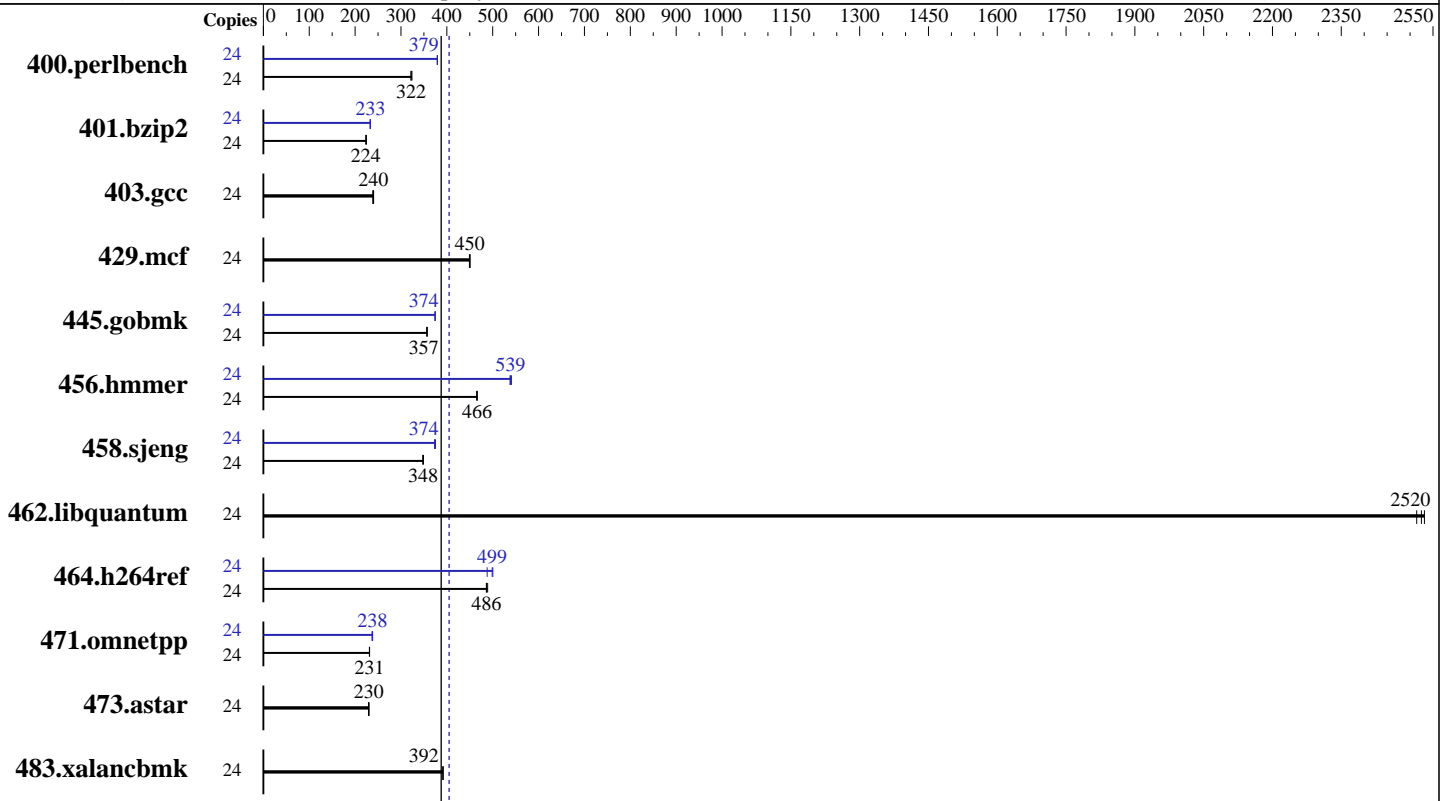
Test date: Mar-2012

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2011

Tested by: Hewlett-Packard Company

Software Availability: Dec-2011



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Hardware

CPU Name: Intel Xeon X5675
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
 CPU MHz: 3067
 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: 96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: 2 x 300 GB 10 K SAS, RAID 1
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2, Kernel 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 12.1.0.225 of Intel Compiler XE Build 20110803
 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	24	724	324	728	322	<u>728</u>	<u>322</u>	24	618	379	<u>618</u>	<u>379</u>	618	380
401.bzip2	24	1032	224	1036	224	<u>1035</u>	<u>224</u>	24	<u>993</u>	<u>233</u>	996	233	992	233
403.gcc	24	804	240	<u>805</u>	<u>240</u>	810	239	24	804	240	<u>805</u>	<u>240</u>	810	239
429.mcf	24	<u>486</u>	<u>450</u>	487	449	486	450	24	<u>486</u>	<u>450</u>	487	449	486	450
445.gobmk	24	705	357	<u>706</u>	<u>357</u>	707	356	24	672	375	673	374	<u>673</u>	<u>374</u>
456.hammer	24	<u>481</u>	<u>466</u>	480	466	481	465	24	<u>416</u>	<u>539</u>	416	538	414	541
458.sjeng	24	832	349	836	348	<u>834</u>	<u>348</u>	24	<u>776</u>	<u>374</u>	774	375	778	373
462.libquantum	24	198	2510	196	2530	<u>197</u>	<u>2520</u>	24	198	2510	196	2530	<u>197</u>	<u>2520</u>
464.h264ref	24	<u>1092</u>	<u>486</u>	1086	489	1092	486	24	1062	500	<u>1065</u>	<u>499</u>	1089	488
471.omnetpp	24	648	232	649	231	<u>648</u>	<u>231</u>	24	630	238	<u>630</u>	<u>238</u>	633	237
473.astar	24	732	230	735	229	<u>733</u>	<u>230</u>	24	732	230	735	229	<u>733</u>	<u>230</u>
483.xalancbmk	24	423	391	423	392	<u>423</u>	<u>392</u>	24	423	391	423	392	<u>423</u>	<u>392</u>

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
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
Data Reuse set to Disabled
Sysinfo program /cpu2006/config/sysinfo.rev6800
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on bl460g7-bid Thu Mar 8 16:27:46 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
model name : Intel(R) Xeon(R) CPU X5675 @ 3.07GHz
Continued on next page



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Platform Notes (Continued)

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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 8 9 10
  physical 1: cores 0 1 2 8 9 10
cache size : 12288 KB

From /proc/meminfo
MemTotal:      99058244 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 bl460g7-bid 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 Mar 8 16:11

SPEC is set to: /cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext3      273G   28G  232G  11% /

Additional information from dmidecode:
BIOS HP I27 05/05/2011
Memory:
12x Not Specified Not Specified 8 GB 1333 MHz 2 rank

(End of data from sysinfo program)

```

General Notes

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.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

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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/HP-Platform-Flags-Intel-V1.2-A.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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For other inquiries, please contact webmaster@spec.org.

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