



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

### SPECint®\_rate2006 = Not Run

ProLiant DL360e Gen8  
(2.10 GHz, Intel Xeon E5-2450)

### SPECint\_rate\_base2006 = 537

CPU2006 license: 3

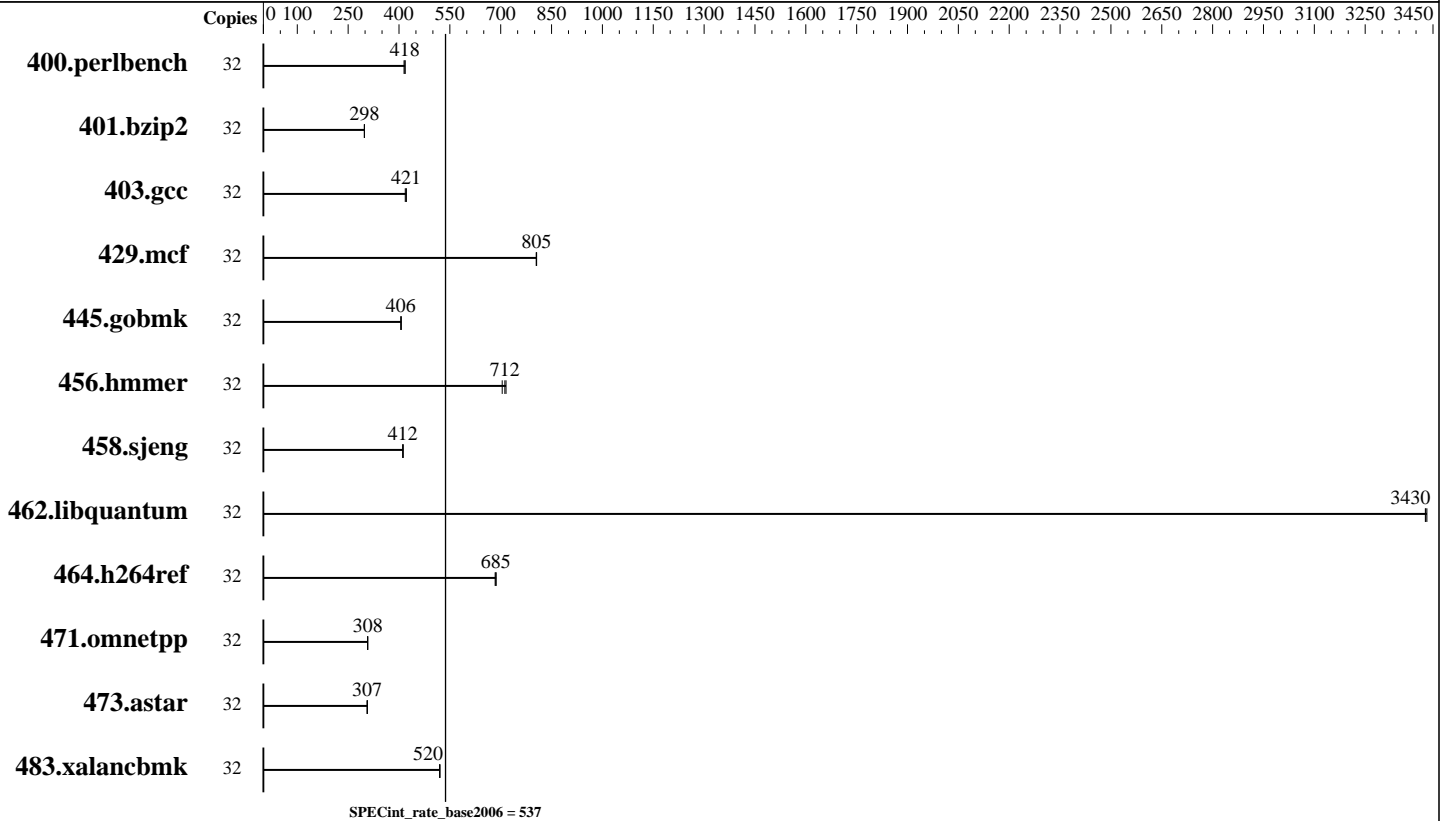
Test date: May-2013

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2013

Tested by: Hewlett-Packard Company

Software Availability: Feb-2013



### Hardware

CPU Name: Intel Xeon E5-2450  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz  
 CPU MHz: 2100  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
 Disk Subsystem: 2 x 300 GB 10 K SAS, RAID 1  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago)  
 2.6.32-358.el6.x86\_64  
 Compiler: C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0  
 HP Array Configuration Utility, CLI version



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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	754	415	<b><u>749</u></b>	<b><u>418</u></b>	748	418							
401.bzip2	32	1037	298	<b><u>1036</u></b>	<b><u>298</u></b>	1035	298							
403.gcc	32	616	418	611	422	<b><u>612</u></b>	<b><u>421</u></b>							
429.mcf	32	363	805	362	806	<b><u>362</u></b>	<b><u>805</u></b>							
445.gobmk	32	826	407	827	406	<b><u>827</u></b>	<b><u>406</u></b>							
456.hammer	32	<b><u>419</u></b>	<b><u>712</u></b>	424	704	417	716							
458.sjeng	32	942	411	<b><u>940</u></b>	<b><u>412</u></b>	939	412							
462.libquantum	32	193	3430	<b><u>193</u></b>	<b><u>3430</u></b>	193	3430							
464.h264ref	32	<b><u>1033</u></b>	<b><u>685</u></b>	1031	687	1036	684							
471.omnetpp	32	650	307	650	308	<b><u>650</u></b>	<b><u>308</u></b>							
473.astar	32	<b><u>733</u></b>	<b><u>307</u></b>	734	306	733	307							
483.xalancbmk	32	424	521	425	520	<b><u>425</u></b>	<b><u>520</u></b>							

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"  
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>  
Accelerator Ratio for Reads/Writes set to = 100% Read / 0% Write  
in HP Array Configuration Utility, CLI version

## Platform Notes

BIOS Configuration:  
HP Power Profile set to Maximum Performance  
Collaborative Power Control set to Disabled  
Thermal Configuration set to Maximum Cooling  
Processor Power and Utilization Monitoring set to Disabled

Sysinfo program /cpu2006/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
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### Platform Notes (Continued)

running on dl360e-spec Fri May 17 15:31:52 2013

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 E5-2450 0 @ 2.10GHz
 2 "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      : 16
  physical 0:   cores 0 1 2 3 4 5 6 7
  physical 1:   cores 0 1 2 3 4 5 6 7
cache size     : 20480 KB
```

```
From /proc/meminfo
MemTotal:      99164032 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux dl360e-spec 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 May 17 15:30
```

```
SPEC is set to: /cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3        ext4      273G  21G  239G   8% /
```

```
Additional information from dmidecode:
BIOS HP P73 03/01/2013
Memory:
 12x HP Not Specified 8 GB 1600 MHz 2 rank
```

(End of data from sysinfo program)



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## General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,compact,1,0"

LD\_LIBRARY\_PATH = "/cpu2006/libs2/32:/cpu2006/libs2/64"

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/sh -lsmarthearp

## Base 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-ic13-official-linux64.html>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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