<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Result</th>
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<tr>
<td>perlbench</td>
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<td>bzip2</td>
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<td>gcc</td>
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<td>astar</td>
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<tr>
<td>xalancbmk</td>
<td>32</td>
<td>523</td>
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</tbody>
</table>

**SPECint_rate_base2006 = 540**

**CPU2006 license:** 55  |  **Test date:** Mar-2013  
**Test sponsor:** Dell Inc. | **Hardware Availability:** Mar-2013  
**Tested by:** Dell Inc. | **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 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:** 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 10000 RPM SAS, RAID 0  
- **Other Hardware:** None  

**Software**
- **Operating System:** Red Hat Enterprise Linux Server release 6.4 (Santiago)  
- **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
Dell Inc.

PowerEdge T420 (Intel Xeon E5-2450, 2.10 GHz)

SPECcint_rate2006 = Not Run

SPECint_rate_base2006 = 540

Results Table

<table>
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<tr>
<th>Benchmark</th>
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<th>Seconds Base</th>
<th>Seconds Peak</th>
<th>Seconds Base</th>
<th>Seconds Peak</th>
<th>Seconds Base</th>
<th>Seconds Peak</th>
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<td>462.libquantum</td>
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<td>523</td>
<td>421</td>
<td>524</td>
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<td></td>
</tr>
</tbody>
</table>

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"

Platform Notes

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $ e86d102572650a6e4d596a3cee98f191
running on T420 Tue Mar 26 13:39:14 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

Continued on next page
Dell Inc.
PowerEdge T420 (Intel Xeon E5-2450, 2.10 GHz)  

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Test sponsor: Dell Inc.  
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Test date: Mar-2013  
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Software Availability: Feb-2013

Platform Notes (Continued)

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: 99025832 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)  

uname -a:
Linux T420 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 Mar 26 13:38

SPEC is set to: /root/cpu2006-1.2  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda3 ext4 546G 12G 507G 3% /

Additional information from dmidecode:
BIOS Dell Inc. 1.5.1 03/08/2013  
Memory:  
5x 00AD00B300AD HMT31GR7BFR4C-PB 8 GB 1600 MHz 2 rank  
7x 00AD04B300AD HMT31GR7BFR4C-PB 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:  
LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB  
memory using RHEL5.5  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled  
Filesystem page cache cleared with:  
echo 3 > /proc/sys/vm/drop_caches  
runcspe command invoked through numactl i.e.:  
umactl --interleave=all runspec <etc>
Dell Inc.  

PowerEdge T420 (Intel Xeon E5-2450, 2.10 GHz)  

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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/sh -lsmartheap

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/Dell-Platform-Settings-V1.2-revA.20120410.00.html

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/Dell-Platform-Settings-V1.2-revA.20120410.00.xml
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For questions about this result, please contact the tester. For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.