### Dell Inc.

PowerEdge T320 (Intel Xeon E5-2403, 1.80 GHz)

#### SPECint_result2006 = 88.7

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<td>483.xalancbmk</td>
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</table>

#### Software

- **Operating System:** SUSE Linux Enterprise Server 11 SP2(x86_64) 3.0.13-0.27-default
- **Compiler:** C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
- **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

#### Hardware

- **CPU Name:** Intel Xeon E5-2403
- **CPU Characteristics:**
  - CPU MHz: 1800
  - FPU: Integrated
  - CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
  - CPU(s) orderable: 1 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: 10 MB I+D on chip per chip
  - Other Cache: None
- **Memory:** 48 GB (6 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1067 MHz)
- **Disk Subsystem:** 1 x 300 GB 15000 RPM SAS
- **Other Hardware:** None

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Test date: Jun-2012
Hardware Availability: Jun-2012
Software Availability: Feb-2012
## Results Table

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</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

CPU Power Management set to Maximum Performance  
Memory Frequency set to Maximum Performance  
Turbo Boost set to Enabled  
C States/C1E set to Enabled  
Sysinfo program /root/CP2006-1.2/config/sysinfo.rev6800  
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on linux-sxkz Thu Jun 21 10:11:43 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 E5-2403 0 @ 1.80GHz  
1 "physical id"s (chips)  
4 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
Dell Inc.  
PowerEdge T320 (Intel Xeon E5-2403, 1.80 GHz)  

SPECint_rate2006 = 88.7  
SPECint_rate_base2006 = 85.0  

CPU2006 license: 55  
Test sponsor: Dell Inc.  
Tested by: Dell Inc.  

Platform Notes (Continued)  

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)  
cpu cores : 4  
siblings : 4  
physical 0: cores 0 1 2 3  
cache size : 10240 KB  

From /proc/meminfo  
MemTotal: 49348896 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB  

/usr/bin/lsb_release -d  
SUSE Linux Enterprise Server 11 (x86_64)  

From /etc/*release* /etc/*version*  
SuSE-release:  
SUSE Linux Enterprise Server 11 (x86_64)  
VERSION = 11  
PATCHLEVEL = 2  

uname -a:  
Linux linux-sxkz 3.0.13-0.27-default #1 SMP Wed Feb 15 13:33:49 UTC 2012  
(d73692b) x86_64 x86_64 x86_64 GNU/Linux  

run-level 3 Jun 21 09:41 last=S  
SPEC is set to: /root/CPU2006-1.2  

Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda2 ext3 271G 40G 218G 16% /  

Additional information from dmidecode:  
(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"  

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/transparent_hugepage(enabled  
Filesystem page cache cleared with:  
echo 1> /proc/sys/vm/drop_caches  
runcpec command invoked through numactl i.e.:  
umactl --interleave=all runspec <etc>  
The Dell PowerEdge T320 and  
the Bull NovaScale T820 F3 models are electronically equivalent.  
The results have been measured on a Dell PowerEdge T320 model
Dell Inc.
PowerEdge T320 (Intel Xeon E5-2403, 1.80 GHz)

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CPU2006 license: 55
Test date: Jun-2012
Test sponsor: Dell Inc.
Hardware Availability: Jun-2012
Tested by: Dell Inc.
Software Availability: Feb-2012

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 -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
Dell Inc.  

PowerEdge T320 (Intel Xeon E5-2403, 1.80 GHz)  

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**SPECint_rate_base2006 = 85.0**

- **CPU2006 license:** 55  
- **Test date:** Jun-2012  
- **Test sponsor:** Dell Inc.  
- **Hardware Availability:** Jun-2012  
- **Tested by:** Dell Inc.  
- **Software Availability:** Feb-2012

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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`
SPEC CINT2006 Result

Dell Inc.

PowerEdge T320 (Intel Xeon E5-2403, 1.80 GHz)

**SPECint_rate2006** = 88.7

**SPECint_rate_base2006** = 85.0

**Peak Optimization Flags (Continued)**

483.xalancbmk: 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/Intel-ic12.1-official-linux64.20111122.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-ic12.1-official-linux64.20111122.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.


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