**Dell Inc.**

PowerEdge R930 (Intel Xeon E7-4809 v3, 2.00 GHz)

**SPECint®2006** = 37.9

**SPECint_base2006** = 36.4

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

---

**Hardware**

- **CPU Name:** Intel Xeon E7-4809 v3
- **CPU Characteristics:**
  - CPU MHz: 2000
  - FPU: Integrated
  - CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core
  - CPU(s) orderable: 2,4 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: 512 GB (32 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)
  - Disk Subsystem: 1 x 200 GB SAS6 SSD
  - Other Hardware: None

---

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 3.12.28-4-default
- **Compiler:** C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
- **Auto Parallel:** Yes
- **File System:** ext4
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** Microquill SmartHeap V10.0
Dell Inc.  

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Test date: Apr-2015  
Hardware Availability: Jun-2015  
Software Availability: Oct-2014  

Results Table

<table>
<thead>
<tr>
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<th>Ratio</th>
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<tr>
<td>471.omnetpp</td>
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<tr>
<td>483.xalancbmk</td>
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<td>36.8</td>
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<td>36.2</td>
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<td>36.9</td>
<td>187</td>
<td>36.8</td>
<td>191</td>
<td>36.2</td>
</tr>
</tbody>
</table>

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.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Settings:
Virtualization Technology disabled
System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost enabled
Energy Efficient Turbo disabled
C1E disabled
C States disabled
Collaborative CPU Performance Control disabled
Memory Patrol Scrub disabled
Memory Refresh Rate set to 1x
Uncore Frequency set to Maximum
Energy Efficient Policy set to Performance
Monitor/MWait enabled

Sysinfo program
/root/Desktop/Performance/ic15.0_Aug29_2014/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
Continued on next page
Dell Inc.
PowerEdge R930 (Intel Xeon E7-4809 v3, 2.00 GHz)

**SPECint2006 =** 37.9
**SPECint_base2006 =** 36.4

**CPU2006 license:** 55
**Test sponsor:** Dell Inc.
**Tested by:** Dell Inc.
**Test date:** Apr-2015
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---

**Platform Notes (Continued)**

running on linux-6qvx Sun Apr 12 08:30:59 2015

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 E7-4809 v3 @ 2.00GHz
  4 "physical id"s (chips)
  64 "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
  physical 2: cores 0 1 2 3 4 5 6 7
  physical 3: cores 0 1 2 3 4 5 6 7
  cache size : 20480 KB

From /proc/meminfo
  MemTotal:        529204240 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 0
  # This file is deprecated and will be removed in a future service pack or release.
  # Please check /etc/os-release for details about this release.
  os-release:
    NAME="SLES"
    VERSION="12"
    VERSION_ID="12"
    PRETTY_NAME="SUSE Linux Enterprise Server 12"
    ID="sles"
    ANSI_COLOR="0;32"
    CPE_NAME="cpe:/o:suse:sles:12"

uname -a:
  Linux linux-6qvx 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
  (9879bd4) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Apr 10 16:56 last=5

Continued on next page
Dell Inc.  
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Platform Notes (Continued)

SPEC is set to: /root/Desktop/Performance/ic15.0_Aug29_2014  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda2 ext4 181G 9.6G 171G 6% /  
Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Dell Inc. 1.0.1 [MRC_096] 03/27/2015  
Memory:  
32x 00AD00B300AD Not Specified 16 GB 2 rank 2133 MHz, configured at 1333 MHz  
64x Not Specified Not Specified  
(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 = "/root/Desktop/Performance/ic15.0_Aug29_2014/libs/32:/root/Desktop/Performance/ic15.0_Aug29_2014/libs/64:/root/Desktop/Performance/ic15.0_Aug29_2014/sh"  
OMP_NUM_THREADS = "32"  

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent_hugepage/enabled

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.hmmer: -DSPEC_CPU_LP64  
458.sjeng: -DSPEC_CPU_LP64
**SPEC CINT2006 Result**

**Dell Inc.**

PowerEdge R930 (Intel Xeon E7-4809 v3, 2.00 GHz)

<table>
<thead>
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<th>SPECint2006</th>
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**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Test date:** Apr-2015

**Hardware Availability:** Jun-2015

**Tested by:** Dell Inc.

**Software Availability:** Oct-2014

---

**Base Portability Flags (Continued)**

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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

---

**Base Other Flags**

C benchmarks:
403.gcc: -Dalloca=_alloca

---

**Peak Compiler Invocation**

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks (except as noted below):
icpc -m64

471.omnetpp: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

---

**Peak Portability Flags**

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

Continued on next page
Dell Inc. PowerEdge R930 (Intel Xeon E7-4809 v3, 2.00 GHz)

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**Test date:** Apr-2015

**Hardware Availability:** Jun-2015

**Software Availability:** Oct-2014

---

### Peak Portability Flags (Continued)

- 458.sjeng: -DSPEC_CPU_LP64
- 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
- 464.h264ref: -DSPEC_CPU_LP64
- 473.astar: -DSPEC_CPU_LP64
- 483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

---

### Peak Optimization Flags

#### C benchmarks:

- 400.perlbench: -xCORE-AVX2(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: basepeak = yes
- 403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32
- 429.mcf: basepeak = yes
- 445.gobmk: basepeak = yes
- 456.hmmer: basepeak = yes
- 458.sjeng: -xCORE-AVX2(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: basepeak = yes

#### C++ benchmarks:

- 471.omnetpp: -xCORE-AVX2(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/sh -lsmartheap
- 473.astar: basepeak = yes
- 483.xalancbmk: basepeak = yes
SPEC CINT2006 Result

Dell Inc.

PowerEdge R930 (Intel Xeon E7-4809 v3, 2.00 GHz)

| SPECint2006 = | 37.9 |
| SPECint_base2006 = | 36.4 |

CPU2006 license: 55

Test sponsor: Dell Inc.

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Test date: Apr-2015

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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-ic15.0-official-linux64.html

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

http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revE.20150421.xml

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

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