



SPEC® CINT2006 Result

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Lenovo Group Limited

SPECint®2006 = **Not Run**

Lenovo System x3850 X6
(Intel Xeon E7-8894 v4, 2.40 GHz)

SPECint_base2006 = **70.1**

CPU2006 license: 9017

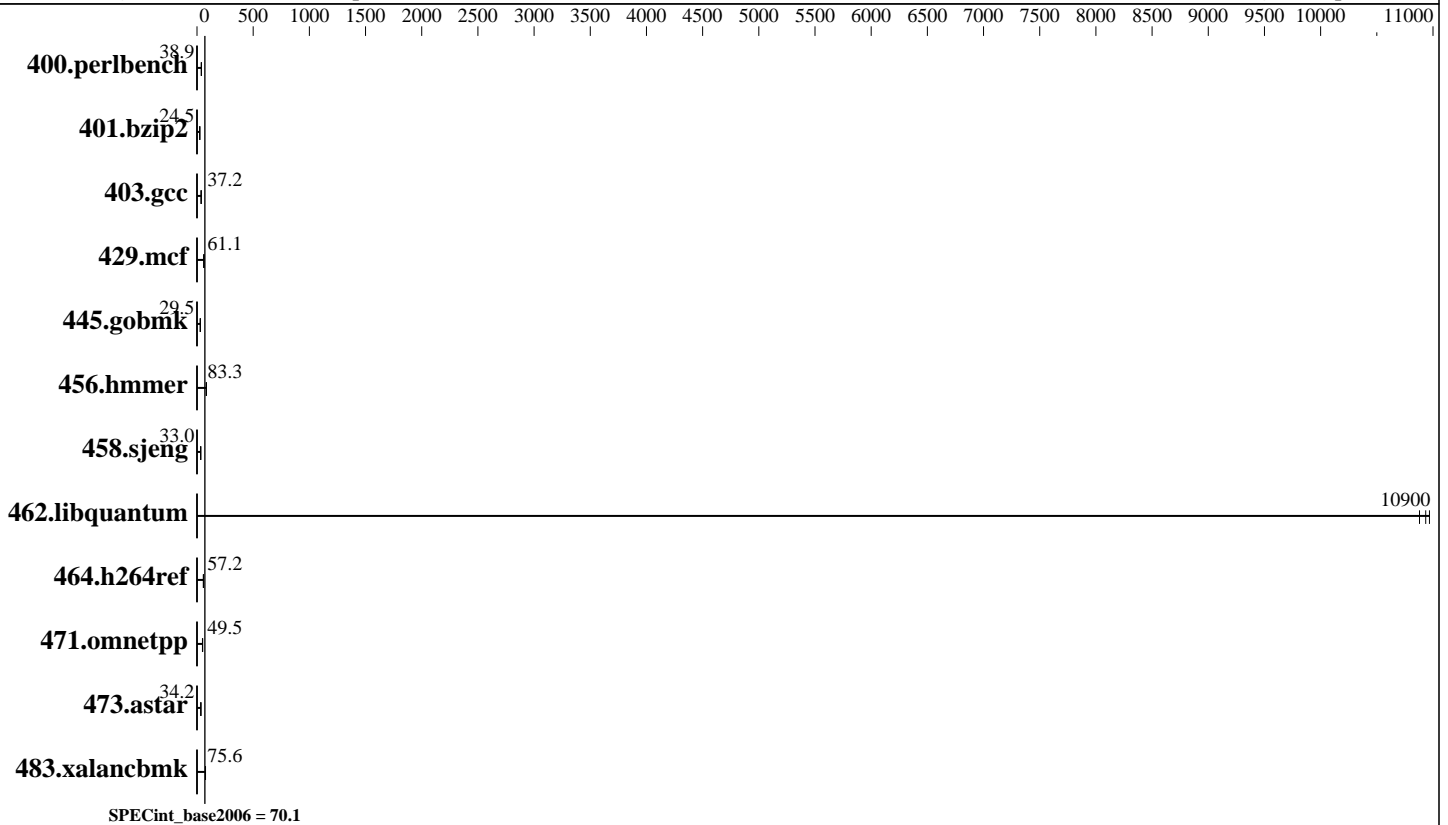
Test date: Jan-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Feb-2017

Tested by: Lenovo Group Limited

Software Availability: Sep-2016



Hardware

CPU Name: Intel Xeon E7-8894 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 96 cores, 4 chips, 24 cores/chip
 CPU(s) orderable: 2,4 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: 60 MB I+D on chip per chip
 Other Cache: None
 Memory: 512 GB (32 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
 Disk Subsystem: 1 x 800 GB SATA SSD
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 SP1 (x86_64)
 Kernel 3.12.49-11-default
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux
 Auto Parallel: Yes
 File System: btrfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: Not Applicable
 Other Software: Microquill SmartHeap V10.2



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	250	39.0	251	38.8	<u>251</u>	<u>38.9</u>						
401.bzip2	392	24.6	394	24.5	<u>393</u>	<u>24.5</u>						
403.gcc	216	37.3	<u>216</u>	<u>37.2</u>	217	37.2						
429.mcf	<u>149</u>	<u>61.1</u>	152	60.2	148	61.7						
445.gobmk	<u>356</u>	<u>29.5</u>	355	29.5	356	29.5						
456.hammer	112	83.4	112	83.3	<u>112</u>	<u>83.3</u>						
458.sjeng	367	33.0	366	33.0	<u>367</u>	<u>33.0</u>						
462.libquantum	1.89	11000	<u>1.89</u>	<u>10900</u>	1.90	10900						
464.h264ref	<u>387</u>	<u>57.2</u>	386	57.3	388	57.0						
471.omnetpp	124	50.4	<u>126</u>	<u>49.5</u>	129	48.6						
473.astar	<u>205</u>	<u>34.2</u>	204	34.4	205	34.2						
483.xalancbmk	90.8	76.0	91.8	75.2	<u>91.2</u>	<u>75.6</u>						

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

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

Platform Notes

BIOS configuration:
Memory Mode set to Independent
Operating Mode set to Maximum Performance
Hyper-Threading set to Disable
Sysinfo program /home/cpu2006-1.2-ic17.0/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on Draco Mon Jan 23 20:52:52 2017

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 E7-8894 v4 @ 2.40GHz
4 "physical id"s (chips)
96 "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 : 24
siblings : 24

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Platform Notes (Continued)

```

physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26
27 28 29
cache size : 61440 KB

From /proc/meminfo
MemTotal:          529159192 kB
HugePages_Total:   0
Hugepagesize:      2048 kB

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 1
# 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-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"

uname -a:
Linux Draco 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015 (8d714a0)
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 23 20:50

SPEC is set to: /home/cpu2006-1.2-ic17.0
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       btrfs 744G  6.9G 735G   1% /home
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 LENOVO -[A9E135LUS-3.11]- 11/18/2016
Memory:
26x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1600 MHz
6x Hynix HMA42GR7MFR4N-TFTD 16 GB 2 rank 2133 MHz, configured at 1600 MHz
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Platform Notes (Continued)

64x NO DIMM Unknown

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY = "granularity=fine,compact"

LD_LIBRARY_PATH = "/home/cpu2006-1.2-ic17.0/libs/32:/home/cpu2006-1.2-ic17.0/libs/64:/home/cpu2006-1.2-ic17.0/sh10.2"

OMP_NUM_THREADS = "96"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2

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
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalanbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh10.2 -lsmartheap64



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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-ic17.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-BDW-D.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-BDW-D.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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