Rocky Enterprise Linux 9.2 Manual Pages on command 'lscpu.1'

C:\>man lscpu.1

LSCPU(1) User Commands LSCPU(1)

NAME

lscpu - display information about the CPU architecture

SYNOPSIS

lscpu [options]

DESCRIPTION

lscpu gathers CPU architecture information from sysfs, /proc/cpuinfo and any appli? cable architecture-specific libraries (e.g. librtas on Powerpc). The command out? put can be optimized for parsing or for easy readability by humans. The informa? tion includes, for example, the number of CPUs, threads, cores, sockets, and Non-Uniform Memory Access (NUMA) nodes. There is also information about the CPU caches and cache sharing, family, model, bogoMIPS, byte order, and stepping.

In virtualized environments, the CPU architecture information displayed reflects the configuration of the guest operating system which is typically different from the physical (host) system. On architectures that support retrieving physical topology information, lscpu also displays the number of physical sockets, chips, cores in the host system.

Options that result in an output table have a list argument. Use this argument to customize the command output. Specify a comma-separated list of column labels to limit the output table to only the specified columns, arranged in the specified or? der. See COLUMNS for a list of valid column labels. The column labels are not case sensitive.

Not all columns are supported on all architectures. If an unsupported column is specified, lscpu prints the column but does not provide any data for it.

The default output formatting on terminal maybe optimized for better readability. The output for non-terminals (e.g. pipes) is never affected by this optimization and it is always in "Field: data\n" format.

COLUMNS

Note that topology elements (core, socket, etc.) use a sequential unique ID starting from zero, but CPU logical numbers follow the kernel where there is no guarantee of sequential numbering.

CPU The logical CPU number of a CPU as used by the Linux kernel.

CORE The logical core number. A core can contain several CPUs.

SOCKET The logical socket number. A socket can contain several cores.

BOOK The logical book number. A book can contain several sockets.

DRAWER The logical drawer number. A drawer can contain several books.

NODE The logical NUMA node number. A node can contain several drawers.

CACHE Information about how caches are shared between CPUs.

ADDRESS

The physical address of a CPU.

ONLINE Indicator that shows whether the Linux instance currently makes use of the CPU.

CONFIGURED

Indicator that shows if the hypervisor has allocated the CPU to the virtual hardware on which the Linux instance runs. CPUs that are configured can be set online by the Linux instance. This column contains data only if your hardware system and hypervisor support dynamic CPU resource allocation.

POLARIZATION

This column contains data for Linux instances that run on virtual hardware with a hypervisor that can switch the CPU dispatching mode (polarization). The polarization can be:

horizontal The workload is spread across all available CPUs.

vertical The workload is concentrated on few CPUs.

For vertical polarization, the column also shows the degree of concentration, high, medium, or low. This column contains data only if your hardware

system and hypervisor support CPU polarization.

MAXMHZ Maximum megahertz value for the CPU. Useful when lscpu is used as hardware inventory information gathering tool. Notice that the megahertz value is dynamic, and driven by CPU governor depending on current resource need.

MINMHZ Minimum megahertz value for the CPU.

OPTIONS

-a, --all

Include lines for online and offline CPUs in the output (default for -e).

This option may only be specified together with option -e or -p.

-B, --bytes

Print the sizes in bytes rather than in a human-readable format.

-b, --online

Limit the output to online CPUs (default for -p). This option may only be specified together with option -e or -p.

-C, --caches[=list]

Display details about CPU caches. For details about available information see --help output.

If the list argument is omitted, all columns for which data is available are included in the command output.

When specifying the list argument, the string of option, equal sign (=), and list must not contain any blanks or other whitespace. Examples: '-C=NAME,ONE-SIZE' or '--caches=NAME,ONE-SIZE'.

-c, --offline

Limit the output to offline CPUs. This option may only be specified to? gether with option -e or -p.

-e, --extended[=list]

Display the CPU information in human-readable format.

If the list argument is omitted, all columns for which data is available are included in the command output.

When specifying the list argument, the string of option, equal sign (=), and list must not contain any blanks or other whitespace. Examples: '-e=cpu,node' or '--extended=cpu,node'.

-h, --help

Display help text and exit.

-J, --json

Use JSON output format for the default summary or extended output (see --ex?

tended).

-p, --parse[=list]

Optimize the command output for easy parsing.

If the list argument is omitted, the command output is compatible with ear?

lier versions of lscpu. In this compatible format, two commas are used to

separate CPU cache columns. If no CPU caches are identified the cache col?

umn is omitted.

If the list argument is used, cache columns are separated with a colon (:).

When specifying the list argument, the string of option, equal sign (=), and

list must not contain any blanks or other whitespace. Examples:

'-p=cpu,node' or '--parse=cpu,node'.

-s, --sysroot directory

Gather CPU data for a Linux instance other than the instance from which the

lscpu command is issued. The specified directory is the system root of the

Linux instance to be inspected.

-x, --hex

Use hexadecimal masks for CPU sets (for example "ff"). The default is to

print the sets in list format (for example 0,1). Note that before version

2.30 the mask has been printed with 0x prefix.

-y, --physical

Display physical IDs for all columns with topology elements (core, socket,

etc.). Other than logical IDs, which are assigned by lscpu, physical IDs

are platform-specific values that are provided by the kernel. Physical IDs

are not necessarily unique and they might not be arranged sequentially. If

the kernel could not retrieve a physical ID for an element lscpu prints the

dash (-) character.

The CPU logical numbers are not affected by this option.

-V, --version

Display version information and exit.

--output-all

Output all available columns. This option must be combined with either --extended, --parse or --caches.

BUGS

The basic overview of CPU family, model, etc. is always based on the first CPU only.

Sometimes in Xen Dom0 the kernel reports wrong data.

On virtual hardware the number of cores per socket, etc. can be wrong.

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SEE ALSO

chcpu(8)

AVAILABILITY

The lscpu command is part of the util-linux package and is available from https://www.kernel.org/pub/linux/utils/util-linux/.