NAME

hwloc-info − Show some information about some objects or about a topology or about support features

SYNOPSIS

hwloc-info [*options*]... *<object>...*

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Note that hwloc(7) provides a detailed explanation of the hwloc system and of valid <object> formats; it should be read before reading this man page.

OPTIONS

−−objects
Report information specific objects. This is the default if some objects are given on the command-line.

−−topology
Report a summary of the topology instead of about some specific objects. This is the default if no object is given on the command-line.

−−support
Report the features that are supported by hwloc on the topology. The features are those available through the **hwloc_topology_get_support()** function. This is useful for verifying which CPU or memory binding options are supported by the current hwloc installation.

−i <file>, **−−input** <file>
Read topology from XML file <file> (instead of discovering the topology on the local machine). If <file> is "−", the standard input is used. XML support must have been compiled in to hwloc for this option to be usable.

−i <directory>, **−−input** <directory>
Read topology from <directory> instead of discovering the topology of the local machine. On Linux, the directory may contain the topology files gathered from another machine topology with hwloc-gather-topology. On x86, the directory may contain a cpuid dump gathered with hwloc-gather-cpuid.

−i <specification>, **−−input** <specification>
Simulate a fake hierarchy (instead of discovering the topology on the local machine). If <specification> is "node:2 pu:3", the topology will contain two NUMA nodes with 3 processing units in each of them. The <specification> string must end with a number of PUs.

−−if <format>, **−−input−format** <format>
Enforce the input in the given format, among **xml**, **fsroot**, **cpuid** and **synthetic**.

−v −−verbose
Include additional detail.

−s −−silent
Reduce the amount of details to show. A single summary line per object is displayed.

−−ancestors
Display information about the object as well as about all its ancestors up to the root of the topology.

−−ancestor <type>
Only display the object ancestors that match the given type.

−−children
Display information about the object children.

−−descendants <type>
Display information about the object descendants that match the given type.

−−local−memory
Display information about the NUMA nodes that are local to the given object.

−−local−memory−flags
Change the flags used to select local NUMA nodes. Flags may be given as numeric values or as a comma-separated list of flag names that are passed to *hwloc_get_local_numanode_objs()*. Those names may be substrings of actual flag names as long as a single one matches. The default is **3** (or **smaller,larger**) which means NUMA nodes are displayed if their locality either contains or is contained in the locality of the given object.

This option enables **−−local−memory**.

−−best−memattr <name>
Enable the listing local memory nodes with **−−local−memory**, but only display the local node that has the best value for the memory attribute given by *<name>* (or as an index). If the memory attribute values depend on the initiator, the object given to hwloc-info is used as the initiator.

−n When outputting object information, prefix each line with the index of the considered object within the input. For instance, if three cores were given in input, the output lines will be prefixed with "0: ", "1: " or "2: ". If **−−ancestor** is also used, the prefix will be "X.Y: " where X is the index of the considered object within the input, and Y is the parent index (0 for the object itself, increasing towards the root of the topology).

−−disallowed
Include objects disallowed by administrative limitations.

−−restrict <cpuset>
Restrict the topology to the given cpuset.

−−restrict nodeset=<nodeset>
Restrict the topology to the given nodeset, unless **−−restrict−flags** specifies something different.

−−restrict binding
Restrict the topology to the current process binding. This option requires the use of the actual current machine topology (or any other topology with **−−thissystem** or with HWLOC_THISSYSTEM set to 1 in the environment).

−−restrict−flags <flags>
Enforce flags when restricting the topology. Flags may be given as numeric values or as a comma-separated list of flag names that are passed to *hwloc_topology_restrict()*. Those names may be substrings of actual flag names as long as a single one matches, for instance **bynodeset,memless**. The default is **0** (or **none**).

−−filter <type>:<kind>, **−−filter** <type>
Filter objects of type <type>, or of any type if <type> is "all". "io", "cache" and "icache" are also supported.

<kind> specifies the filtering behavior. If "none" or not specified, all objects of the given type are removed. If "all", all objects are kept as usual. If "structure", objects are kept when they bring structure to the topology. If "important" (only applicable to I/O and Misc), only important objects are kept. See hwloc_topology_set_type_filter() for more details.

−−no−icaches
Do not show Instruction caches, only Data and Unified caches are considered. This is identical to **-−filter icache:none**.

−−no−io
Do not show any I/O device or bridge. This is identical to **−−filter io:none**. By default, common devices (GPUs, NICs, block devices, ...) and interesting bridges are shown.

−−no−bridges

Do not show any I/O bridge except hostbridges. This is identical to **−−filter bridge:none**. By default, common devices (GPUs, NICs, block devices, ...) and interesting bridges are shown.

−−whole−io

Show all I/O devices and bridges. This is identical to **−−filter io:all**. By default, only common devices (GPUs, NICs, block devices, ...) and interesting bridges are shown.

−−thissystem

Assume that the selected backend provides the topology for the system on which we are running. This is useful when using **−−restrict** binding and loading a custom topology such as an XML file.

−−pid <pid>

Detect topology as seen by process <pid>, i.e. as if process <pid> did the discovery itself. Note that this can for instance change the set of allowed processors. Also show this process current CPU binding by marking the corresponding PUs (in Green in the graphical output, see the COLORS section below, or by appending *(binding)* to the verbose text output). If 0 is given as pid, the current binding for the lstopo process will be shown.

−p −−physical

Use OS/physical indexes instead of logical indexes for input.

−l −−logical

Use logical indexes instead of physical/OS indexes for input (default).

−−version

Report version and exit.

−h −−help

Display help message and exit.

DESCRIPTION

hwloc-info displays information about the specified object. It is intended to be used with tools such as grep for filtering certain attribute lines. When no object is specified, or when **−−topology** is passed, hwloc-info prints a summary of the topology. When**−−support** is passed, hwloc-info lists the supported features for the topology.

Objects may be specified as location tuples, as explained in hwloc(7). However hexadecimal bitmasks are not accepted since they may correspond to multiple objects.

NOTE: It is highly recommended that you read the hwloc(7) overview page before reading this man page. Most of the concepts described in hwloc(7) directly apply to the hwloc-calc utility.

EXAMPLES

To display information about each package:

```
$ hwloc-info package:all
Package L#0
 logical index = 0
...
```

To display information about the core whose physical index is 2:

```
$ hwloc-info -p core:2
Core L#1
 logical index = 1
 os index = 2
...
```

To list the NUMA nodes that are local a PU:

```
$ hwloc-info --local-memory pu:25
NUMANode L#6 = local memory #0 of PU L#25
 type = NUMANode
...
NUMANode L#7 = local memory #1 of PU L#25
 type = NUMANode
...
```

To show the best-bandwidth node among NUMA nodes local to a PU:

```
$ hwloc-info --local-memory --best-memattr bandwidth pu:25
NUMANode L#7 = local memory #1 of PU L#25
 type = NUMANode
...
```

SEE ALSO

hwloc(7), lstopo(1), hwloc-calc(1), hwloc-bind(1), hwloc-ps(1)