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Representing the front-facing ports of Ethernet interfaces

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There are devices out-there that have several front-facing ports that are connected to the same interface, through different physical configurations.

Support for having multiple PHYs, each driving one port, is ongoing and was presented at netdevconf 0x17.

However, support for having several ports (or connectors) connected to the same MAC isn't there yet, this talk aims at presenting the plans for that and discuss the challenges encountered.

Having a proper port representation would allow end-users to enumerate, and manually control each individual port to select/unselect it, get its technology such as Fiber/Copper.

It will also help us developers get some clean and precise info on the port, to know for example if this is a 2 lanes or 4 lanes BaseT port, if it's a Fiber port without SFP, and cleanly deal with newly supported features such as PoE, which is really specific to a Port and not a PHY device as it's represented today.

This is especially relevant for embedded use-cases, where most of the time all these information are exposed through device-tree.

This work will also be used as the main interface to control the to-be-introduced multiplexers, allowing to have several front-facing ports controlled by either the same PHY, or different PHYS, themselved multiplexed.

This talk will therefore sum-up the use-cases, current state of the aforementioned work, and lead to discussions on the various challenges on which the inputs from the Net community could help greatly.

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