IO paths

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How do I turn on the lights on in my garage from an application running in cloud server?

- I call my application “homerapp” and my home network “pekkanet”.
- There may be many instances of “homerapp” application running in same process in the cloud server, one for every connennected home network. One of those instances runs “pekkanet”.
- Now my “garagelight” output signal would be connected to IO device named “garagectrl”. Since “pekkanet” can (at least in theory) have many garages, so this particular device is number 1, thus “garagectrl1”.
- Now the “homerapp” could call function to ***set “garagelight.imp.garagectrl1.pekkanet” to one***. Here the “imp” identifies the memory block used to transfer “garagelight” signal to IO device.
- First the “.pekkanet” is not needed, since the instance of ”homerapp” running “pekkanet” can basically only access IO on “pekkanet” (not in markkunet).
- Then explicit memory block name “imp” or “exp” is not needed, since signal name is unique within the device, the library can figure that out.
- The device name “garagectrl1” is needed only if we have multiple garages or signal names for other reason are not unique within the IO network. Here I assume that I have only one, so I can drop it.
- Consequently the command to turn on “garagelight” can be *set “garagelight.*.*.*” to 1*. Now there is no need to write the wildcards, these are assumed. So final command would be ***set “garagelight” to one***.
- If signal names are not unique within the network, we need also the device name, and set command would be ***set “garagelight.*.garagectrl1” to one***.

So full IO path is written as

- to signal: *signal_name.mblk_name.device_name.network_name*
- to memory block: *mblk_name.device_name.network_name*
- to IO device: *device_name.network_name*

In software we know are we expecting path to signal, memory block, io device or just network name.