Ethernet adapters in CHARON-11

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In CHARON-11, the user is able to set **two different addresses** for the emulated network card (typically a DEQNA or DELQA). One of them stands for the **permanent** Ethernet address of the emulated Ethernet controller. The other one is calculated by the CHARON-11 utility **NetSetup** and is applied to the physical Ethernet controller that provides the interface between the emulated Ethernet controller and the physical Ethernet media. This is the **active** Ethernet address.

Some software uses the **permanent** Ethernet address of the Ethernet controller as a software protection key. If the correct address is to be emulated by CHARON-11, it is necessary to enter the required address as a substitute for the permanent Ethernet address of emulated Ethernet controller. The emulator provides the optional configuration command "address" to change the permanent address. For example:

```
load DEQNA WHA
set WHA interface="\Device\Packet_{...}"
set WHA address="08-00-2b-36-54-26"
```

Some software requires a particular address to be used as the **active** Ethernet address of emulated Ethernet controller. This is for instance the case of DECnet, which calculates the Ethernet address based on desired DECnet address. In this case, NetSetup must be used to apply that particular address to the physical controller. At start-up, CHARON-11 will use this address as the active address, but will also use it by default as the permanent address of emulated Ethernet controller. Only this default permanent address is overruled by the optional "address" parameter in the configuration file.

This implies that it is impossible to run two different applications that both require specific (different) active Ethernet addresses, because only one active Ethernet address can be in effect at the time. This is a limitation of Ethernet, not of CHARON-11. Usually the application determining the active address is DECnet. Consequently, all other applications must work with any active Ethernet address (products like TCPware obey this rule).

In summary, in CHARON-11 the active Ethernet address can differ from permanent Ethernet address. NetSetup and the "address" parameter serve two different purposes: use NetSetup to set the active Ethernet address (required for DECnet to function) and the optional "station" parameter for applications requiring a specific permanent Ethernet address.

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