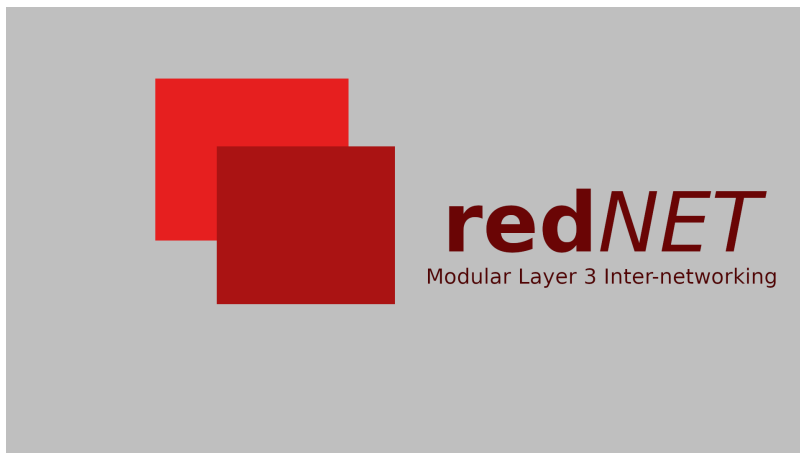# redNET

redNET

redNET is an inter-networking protocol which supports broadcasts, multicasts and unicasts with a 64-bit address space.

Packet format

Version	Source	Destination	Time-to-live	Type	Length	Payload			
1 byte	8 bytes (Big Endian)	8 bytes (Big Endian)	1 byte	4 bytes	4 bytes (Big Endian)	*length* bytes			

The `version` identifier must be set to `0` as that is the current version being described here.

The `source` address is the address of the sending host in big endian (network order).

The `destination` address is the address of the destination host in big endian (network order).

The `time-to-live` (or TTL) field is used when a router receives the packet, it subtracts 1 from it and sees if it is 0, drops is so, else forwards.

The `length` field specifies the length of the payload.

The `payload` is the data being sent.

TODO: checksum

Operation

There is no TUN/TAP code added to provide an interface for allowing this software to push frames onto that then is accepted into the kernel (and also no module to handle redPackets) likewise no handling of frames submitted to the TAP to then be handled by redCore. What we currently have implemented requires no modules what so ever (how's that for modularity). We make available a UNIX domain socket `/redev.sock` whereby one can connect to receive all redPackets and send them too.