



## L2TP Packet Structure

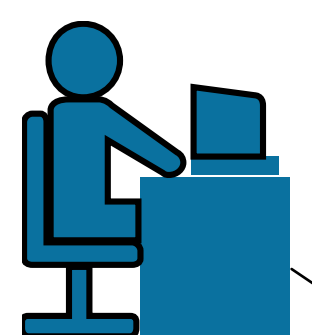
Bits 0-15	Bits 16-31
Flags and Version Info	Length*
Tunnel ID Identifier for control connection	Session ID Identifier for session within the tunnel
Ns* - Seq num for this data/control packet	Nr* Seq num expected to be recieved
Offset Size*	Offset Pad*
PAY	LOAD

(\*optional)

# Layer 2 Tunneling Protocol (L2TP)



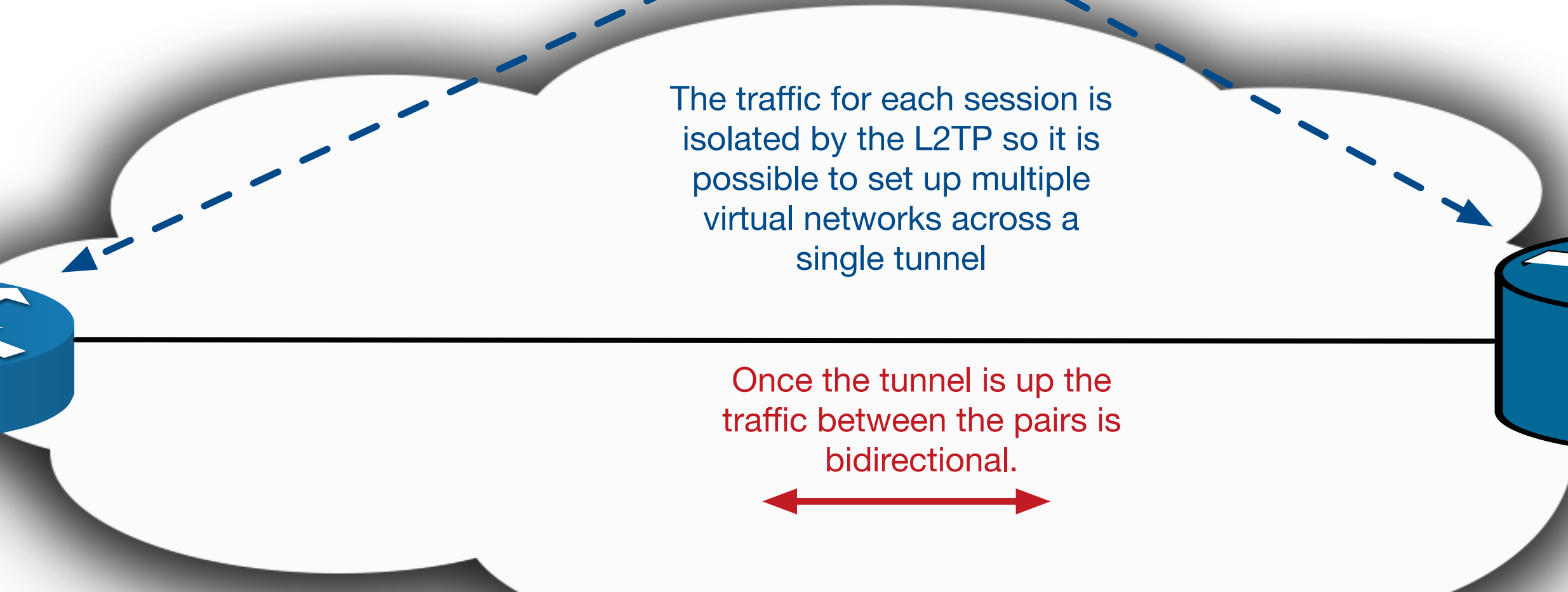
L2TP/IPSec is used to provide confidentiality (because L2TP inherently provides none) whereby an encrypted ESP packet is forwarded with the L2TP tunnel.



You could create a Virtual Private Dialup Network using L2TP

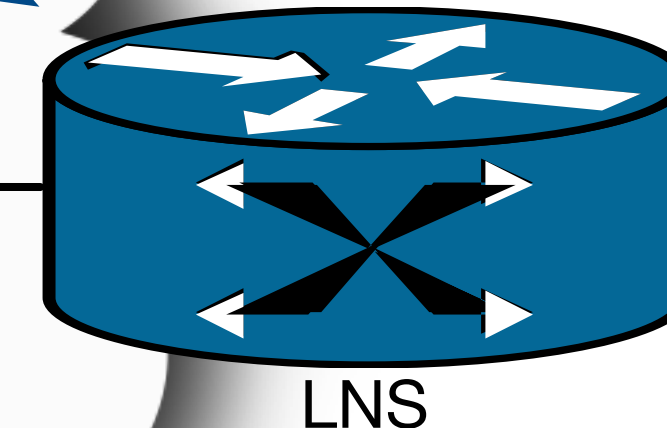


LAC



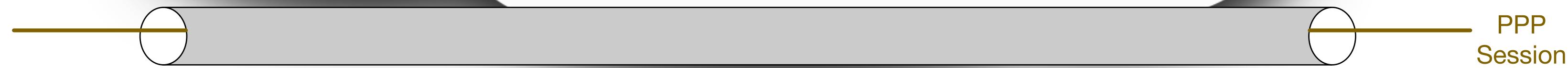
The traffic for each session is isolated by the L2TP so it is possible to set up multiple virtual networks across a single tunnel

Once the tunnel is up the traffic between the pairs is bidirectional.



LNS

Waits for new tunnels



PPP Session

Packets in an L2TP tunnel are either CONTROL or DATA packets. CONTROL packet have reliability but DATA do not. This must be provided by the higher layer protocols.

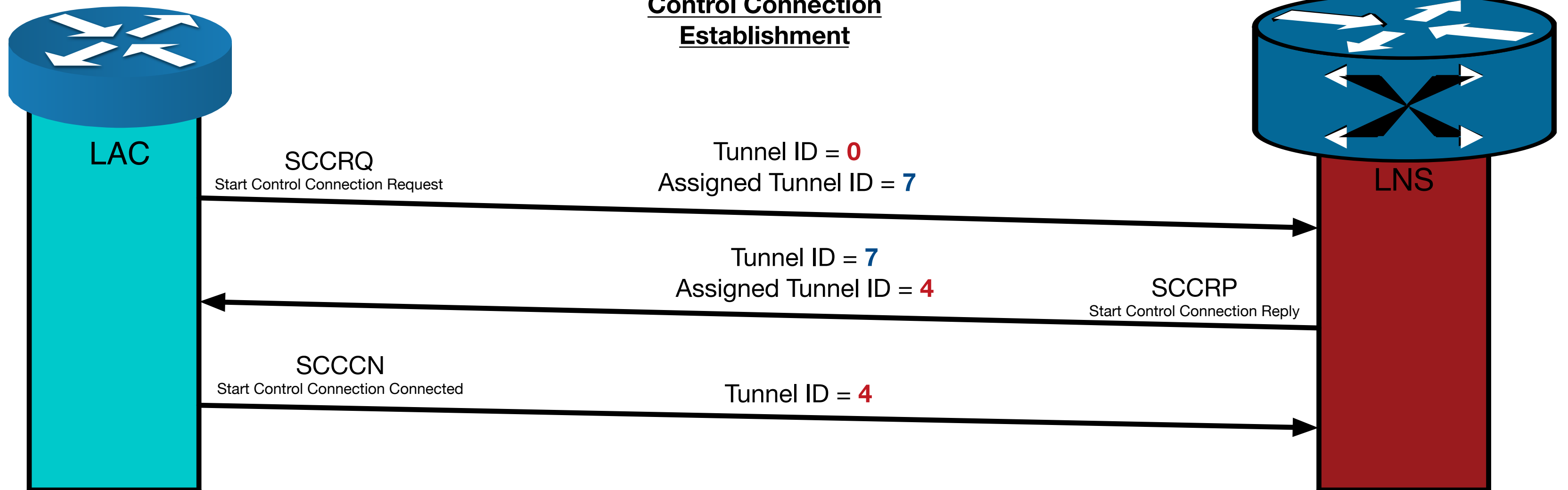
Higher level protocols (like PPP) are run over the tunnel

An L2TP session (or call) is established within the tunnel for each higher level protocol.

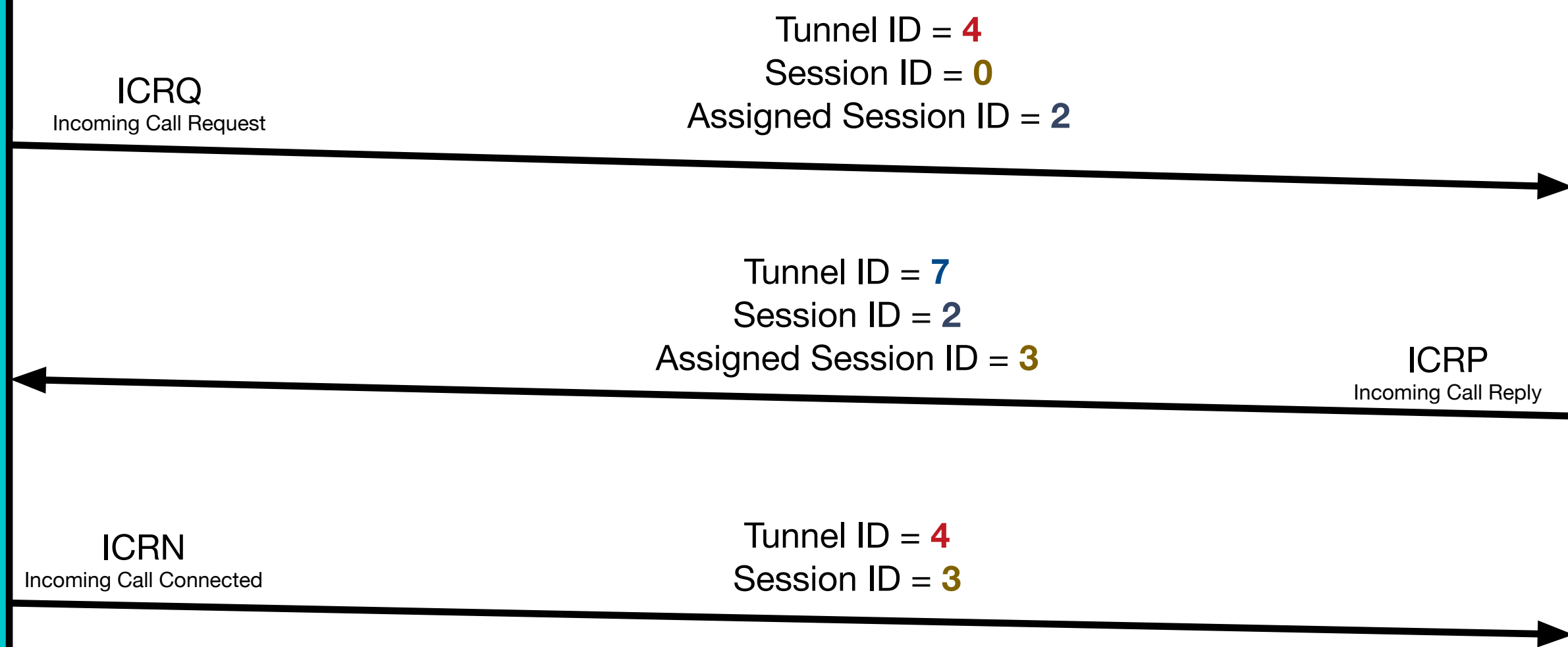
# L2TP with PPP



## Control Connection Establishment



## Session Establishment



## Forwarding PPP Frames

