

Pathtrace

Nicholas Bastin, Long Tran, and Deniz Gurkan

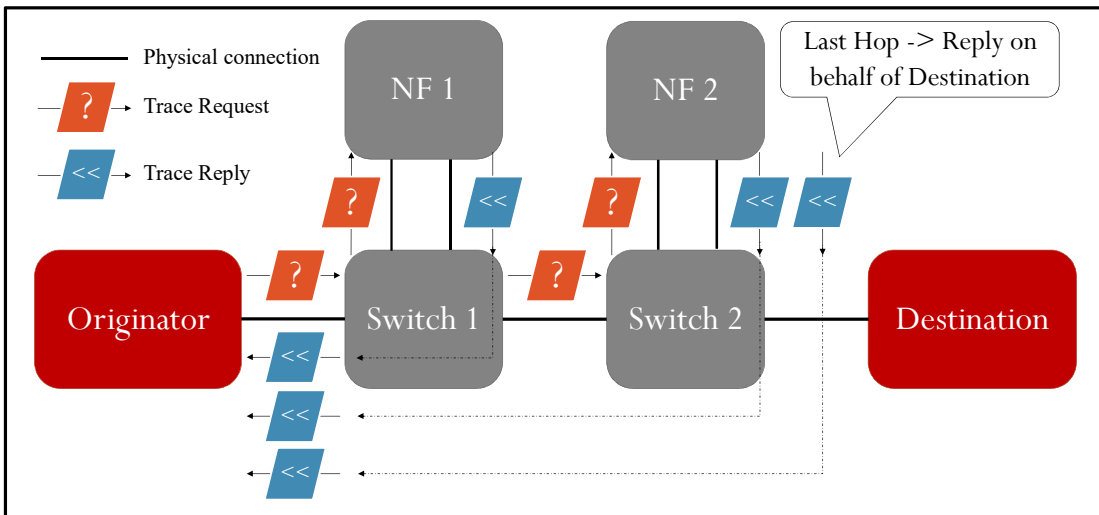


Pathtrace Protocol

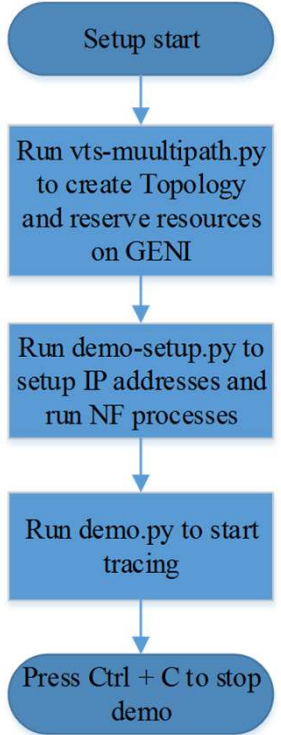
L2 flow paths are traced with a network protocol implemented using a Network Function (NF).

The devices on the path will forward the probe to the NF. The NF sends a response packet back to the originator, and at the same time forwards the original probe to the next hop devices.

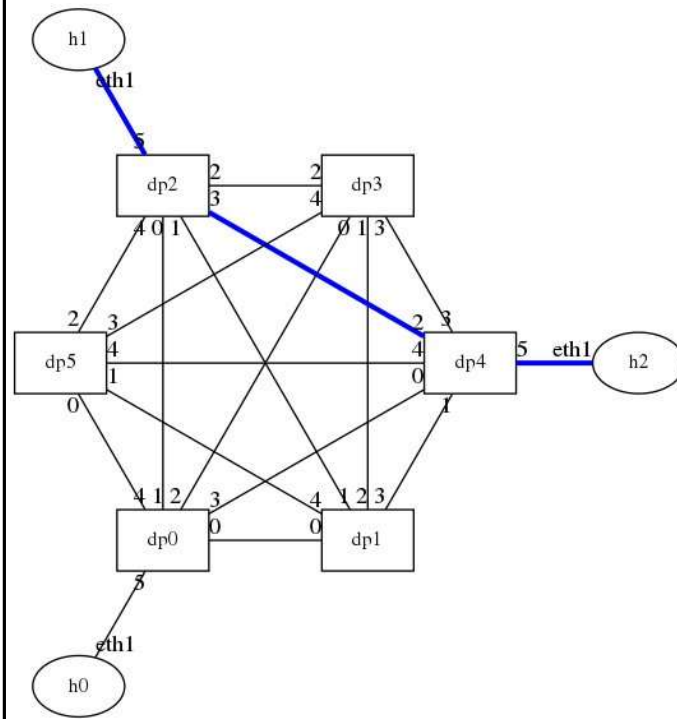
The process continues until the probe packet reaches the destination and all the traced information arrives at the originator.



Experiment Setup



Demo



Pathtrace Packet Format

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Ethernet Header																															
Source MAC Destination MAC																															
Version				Type								Checksum																			
2				Request/Reply																											
TTL				Unused								Length																			
255																															
Type		Sub-type		Length								Ethernet header + IP header																			
Flowspec																															
Ethernet header + IP header																															
Type		Sub-type		Length								Unused																			
Transaction																															
Source transaction																															
Source transaction																Destination transaction															
Destination transaction																															
Type		Sub-type		Length								Hop info																			
Hop																															
Hop info																															
Type		Sub-type		Length								Algorithm				Signature Data															
Authentication																															
Signature Data																															