1 Orden en que se ejecutan las funciones de Udp.cc

RefreshDisplay (se ejecuta varias veces para actualizar la representación de la simulación tras haberse realizado otras operaciones) → **Initialize** (alterna su ejecución con **handleStartOperation** hasta que vuelve a ejecutarse continuamente Initialize) → **handleUpperCommand** → **bind** → { **findFirstSocketByLocalAddress**, **createSocket** } → **SockDesc** → **operator&** → **handleUpperPacket** → **insertCrc** → **handleLowerPacket** → **processUDPPacket** → **verifyCRC** → **findSocketForUnicastPacket** → **ProcessUnderivablePacket**

2 Manejo de mensajes

handleUpperPacket → se ejecuta cuando llega un mensaje de la capa de aplicación, es decir, cuando se va a enviar el mensaje (cuando no es bind).
↓
insertCrc
...
handleLowerPacket → se ejecuta cuando llega un mensaje de la capa ip, es decir, cuando llega un mensaje al nodo
↓
verifyCrC
↓
findSocketForUnicastPacket
↓
processUnderivablePacket
↓
sendUp

3 Localización de los mensajes

3.1 host.app

Sending to UDP protocol → UdpSocket.cc

3.2 host.udp

Socket created → Udp.cc (createSocket)
Sending app packet.. → Udp.cc (handleUpperPacket)

3.3 host.ipv4.ip

Starting ARP resolution → Arp.cc
Sending datagram → Ipv4.cc

Routing ... with destination → Ipv4.cc
Received ... from upper layer → Ipv4.cc o EthernetMac.cc
Sending ... to new protocol → Arp.cc
Pending ... to ARP resolution → Ipv4.cc
Sending ... to lower layer → Icmp.cc

3.4 host.encap

Encapsulating higher layer packet ... for MAC → EthernetEncapsulation.cc
Sending ... to lower layer → EthernetEncapsulation.cc

3.5 switch.mac (para cada eth)

Frame ... arrived form higher layer → EthernetMac.cc
Pushing packet ... → PacketQueue.cc
Pulling packet ... → PacketQueue.cc
Transmitting a copy of frame ... → EthernetMac.cc
Transmission of ... → EthernetMac.cc
Transmission of ... → EthernetMac.cc
Self-message ... received → EthernetMac.cc
Trasmission of ... succesfully completed → EthernetMac.cc
Start IFG period → EthernetMac.cc
IFG elapsed → EthernetMac.cc
No more frames to send, transmitter set to idle → EthernetMac.cc

3.5.1 host.mac

Reception of ... → EthernetMac.cc
Sending .. to upper layer → EthernetMac.cc

3.6 switch.relayUnit

Processing packet from network ... → MacRelayUnit.cc
Learning peer address ... → MacRelayUnitBase.cc
Adding entry to Address Table ... → MacAddressTable.cc
Broadcasting packet to all interfaces except incoming interfaces ... → MacrelayUnitbase.cc
Sending packet to peer ... → MacRelayUnitBase.cc

3.7 host.encap

Received ... from lower layer → Ieee802Llc.cc
Decapsulating frame ... to higher layer → EthernetEncapsulation.cc
Sending ... to upper layer → EthernetEncapsulation.cc

3.8 host.arp

Received ... from network protocol → Arp.cc
Ipv4 address ... not recognized, dropping ARP packet → Arp.cc
Updating ARP cache entry ... → Arp.cc
Packet was ... sending REPLAY → Arp.cc
Sending ... to network protocol → Arp.cc

3.9 host.ipv4.ip

ARP resolution completed for... . Sending ...→ Ipv4.cc
Sending out queued packet ... → Ipv4.cc
Delivering ... locally → Ipv4.cc
Passing up to protocol ... → Ipv4.cc

3.10 host.udp

Packet ... received from network ... (processUDPPacket) → Udp.cc
No socket registered on port 1000 (warning) (processUDPPacket)→ Udp.cc
sending ICMP error ... → Icmp.cc
Sending ... to lower layer → Icmp.cc
Icmp error received ... (processICMPv4Error)→ Udp.cc
(Warning) Source socket is ... (processICMPv4Error) → Udp.cc
(Warning) Ignoring UDP error report ... (socketErrorArrived) → UdpBasicBurst.cc