

A proposed solution SAVI-CPS

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SAVI-CPS

- CPS (Control Plan/Packet Snooping): Initial binding based on control packet snooping
- Discuss: Handle special cases (when re-binding is necessary)

Control Packet Snooping

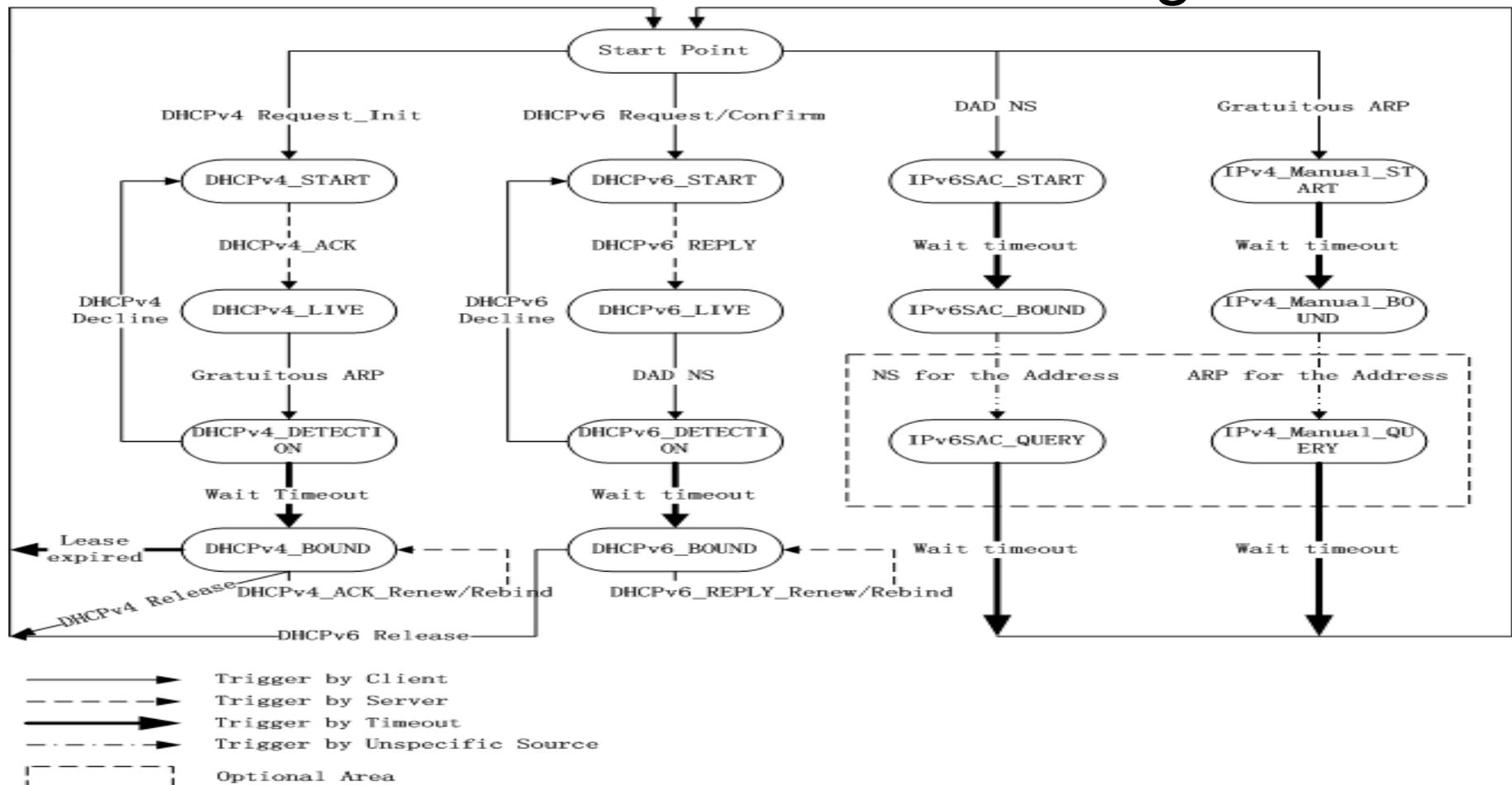
- Benefits
 - Support the existing address assignment standards
 - Don't need to design a real-time BDP
 - Initial binding based on only control packets not data packets (important advice from some vendors)

Control Packet Snooping

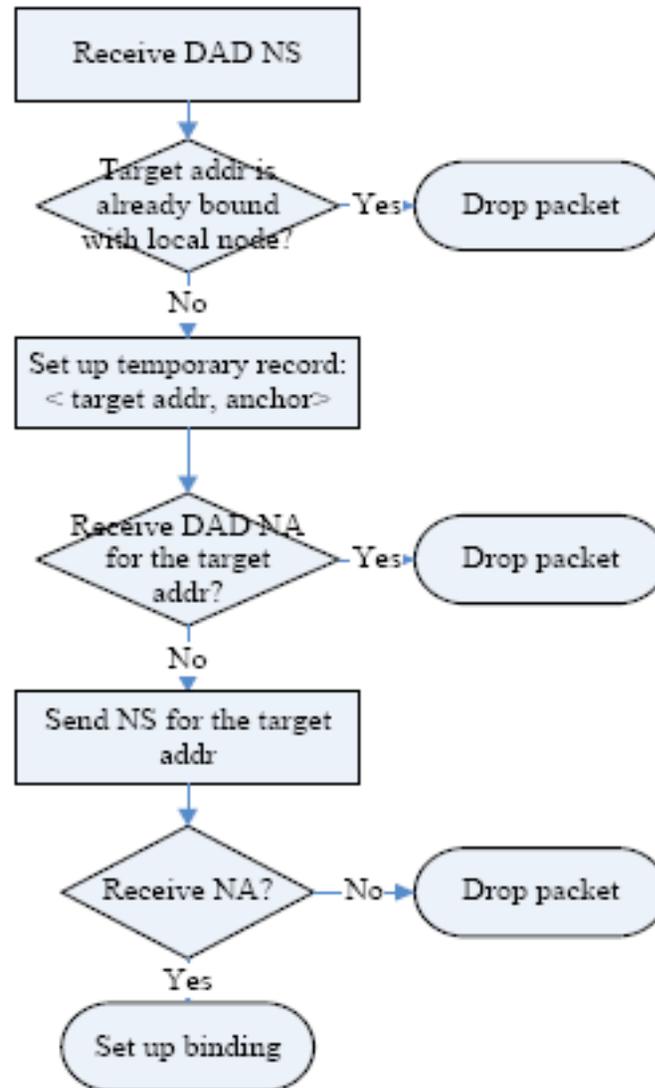
- Which protocols to snoop?
 - DHCP
 - DHCPv4
 - DHCPv6
 - Duplicate Address Detection
 - Gratuitous ARP
- Handle static address
 - Manually bind static address with anchor

Control Packet Snooping

- SAVI Device State Transition Diagram



Example: ND snooping



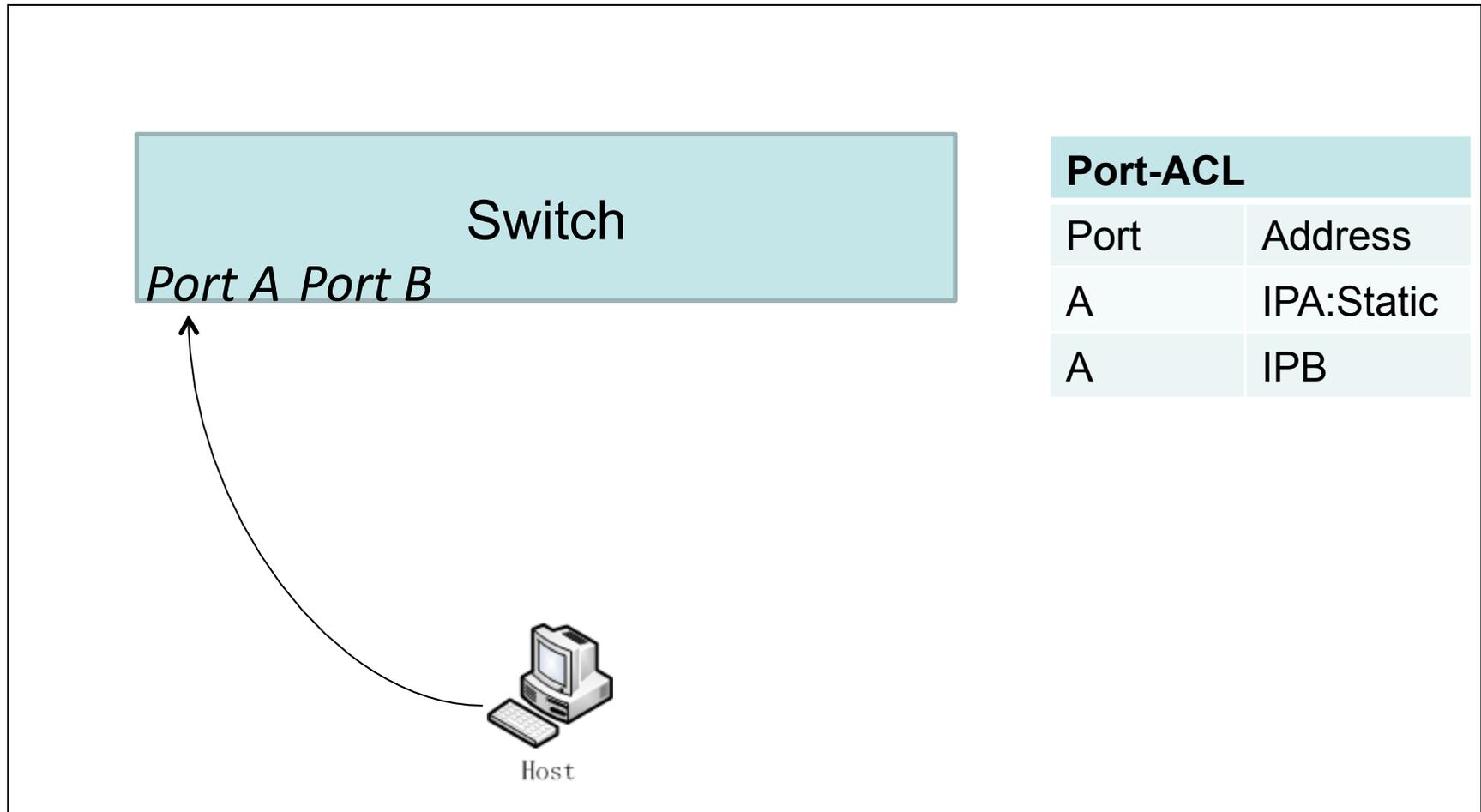
Handle special cases of SAVI

- Two special cases are hard to handle
 - node that move to another port on the same link
 - Static address
 - DHCP/Stateless address will not cause a problem
 - node with multiple interfaces to the same link
- It's re-binding (a separate question from initial binding)
- It might be handled by many ways
 - SeND, HIP (by using unique id of the host)
 - we also propose a method called “tentative test”

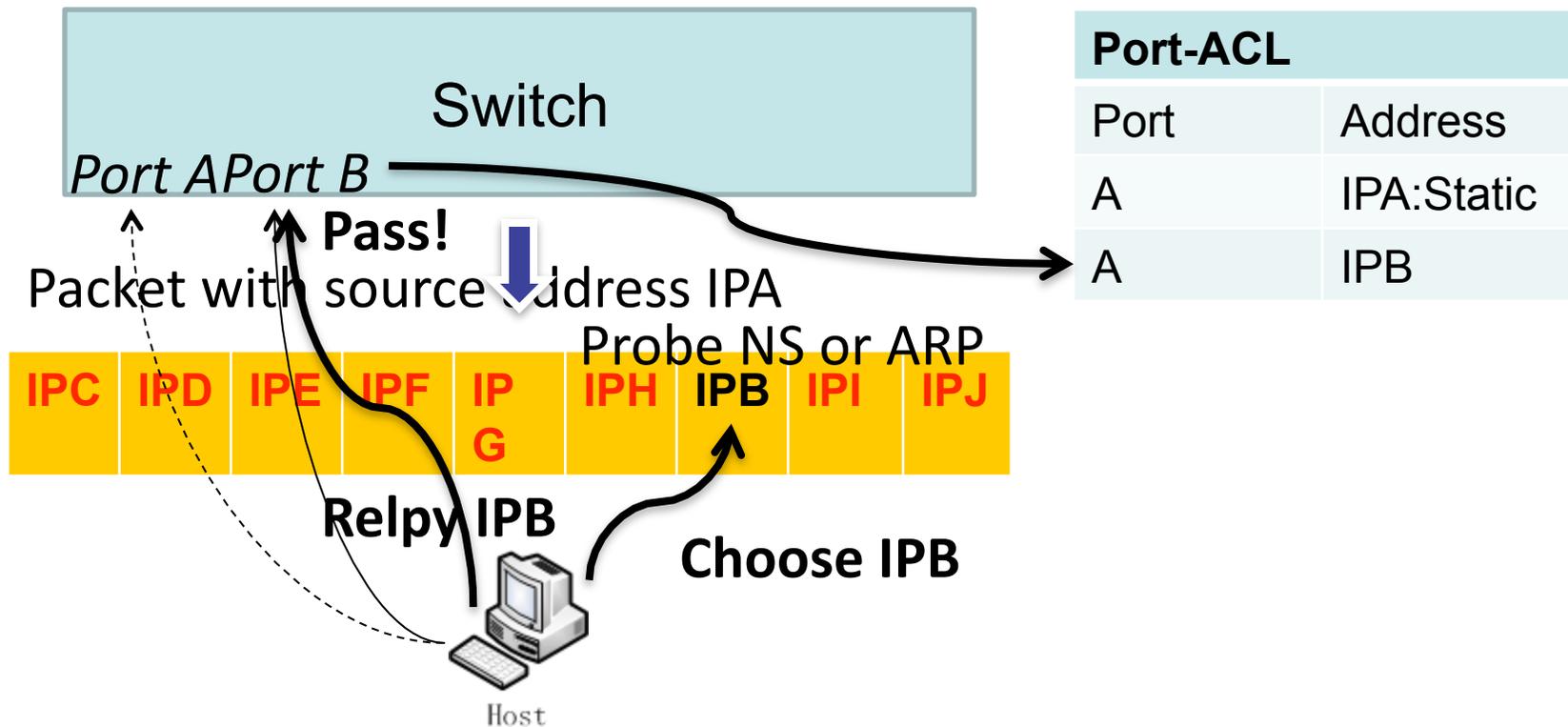
Handle special cases of SAVI

- Tentative test
 - A test to distinguish multiple interfaces to the same LAN and movement of static address from spoofing.
 - Assumption: 2 or more addresses(IPv4 or IPv6) are assigned to an interface of a host
 - Usually works for IPv6
 - Also works for IPV4 if it is a dual-stack node

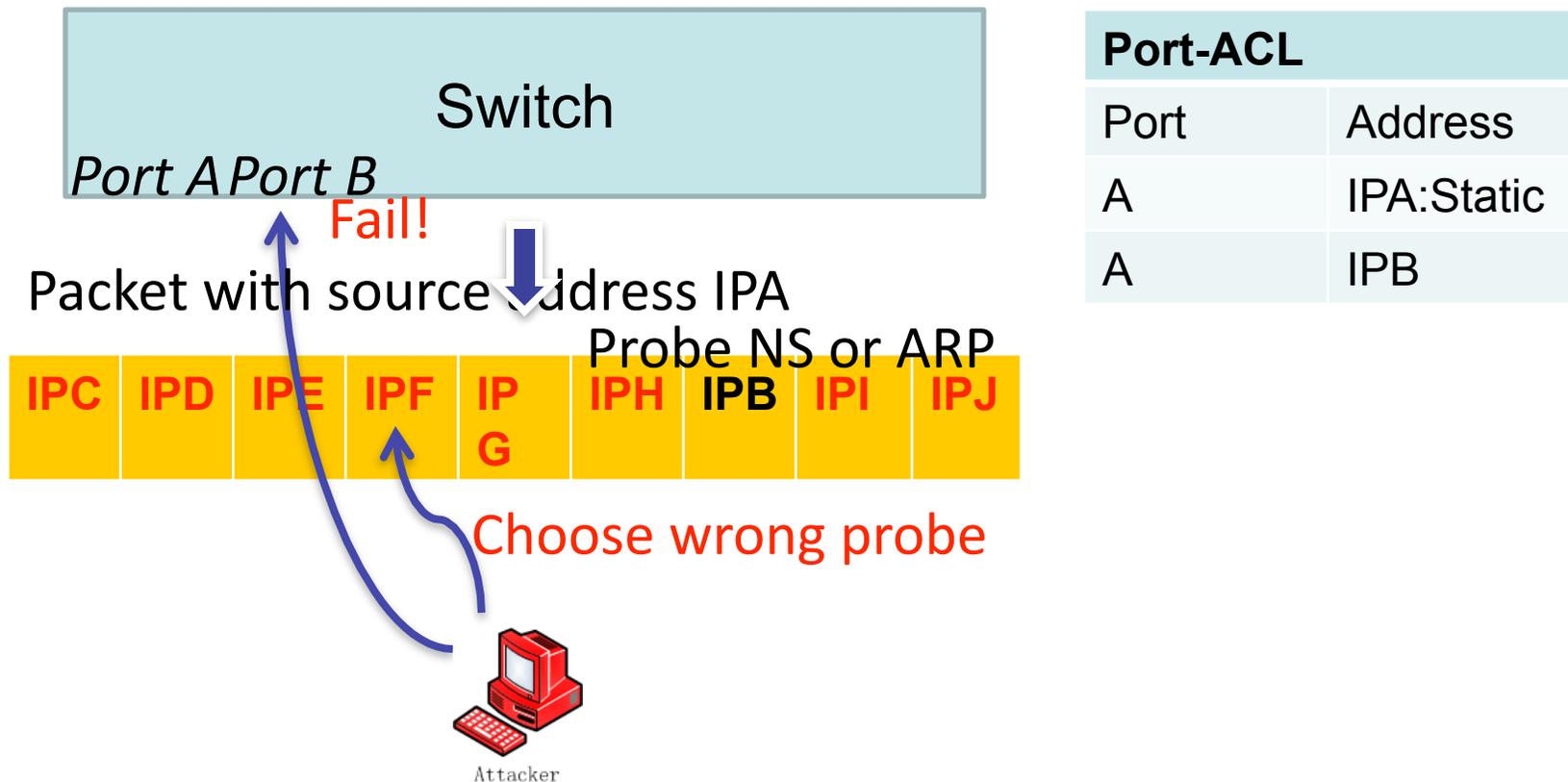
Movement of static address



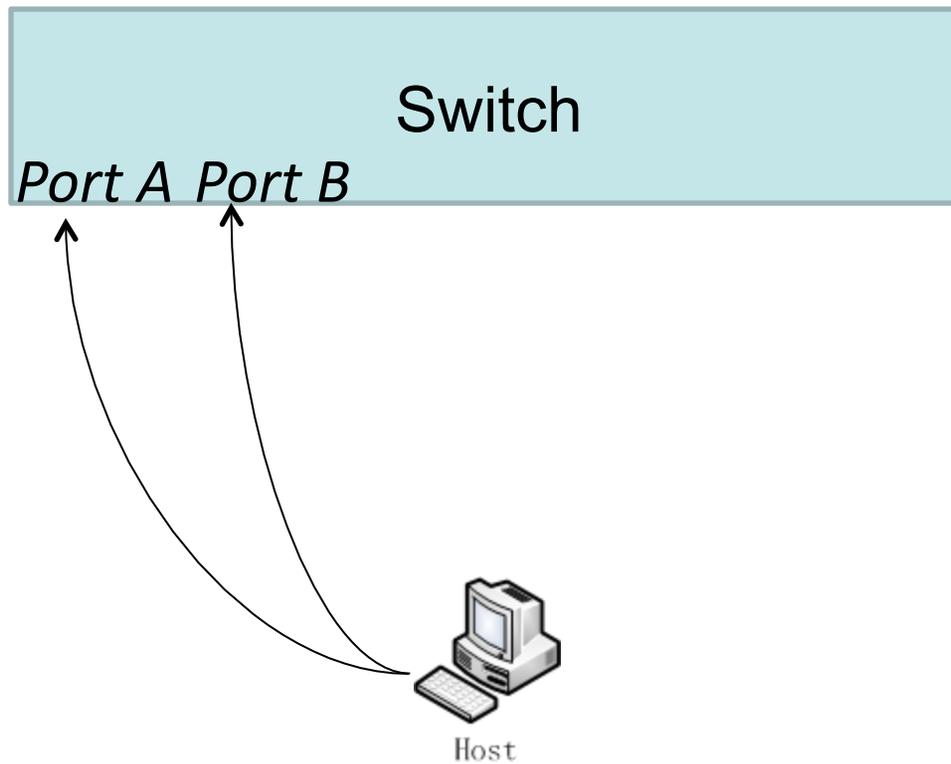
Movement of static address



Movement of static address

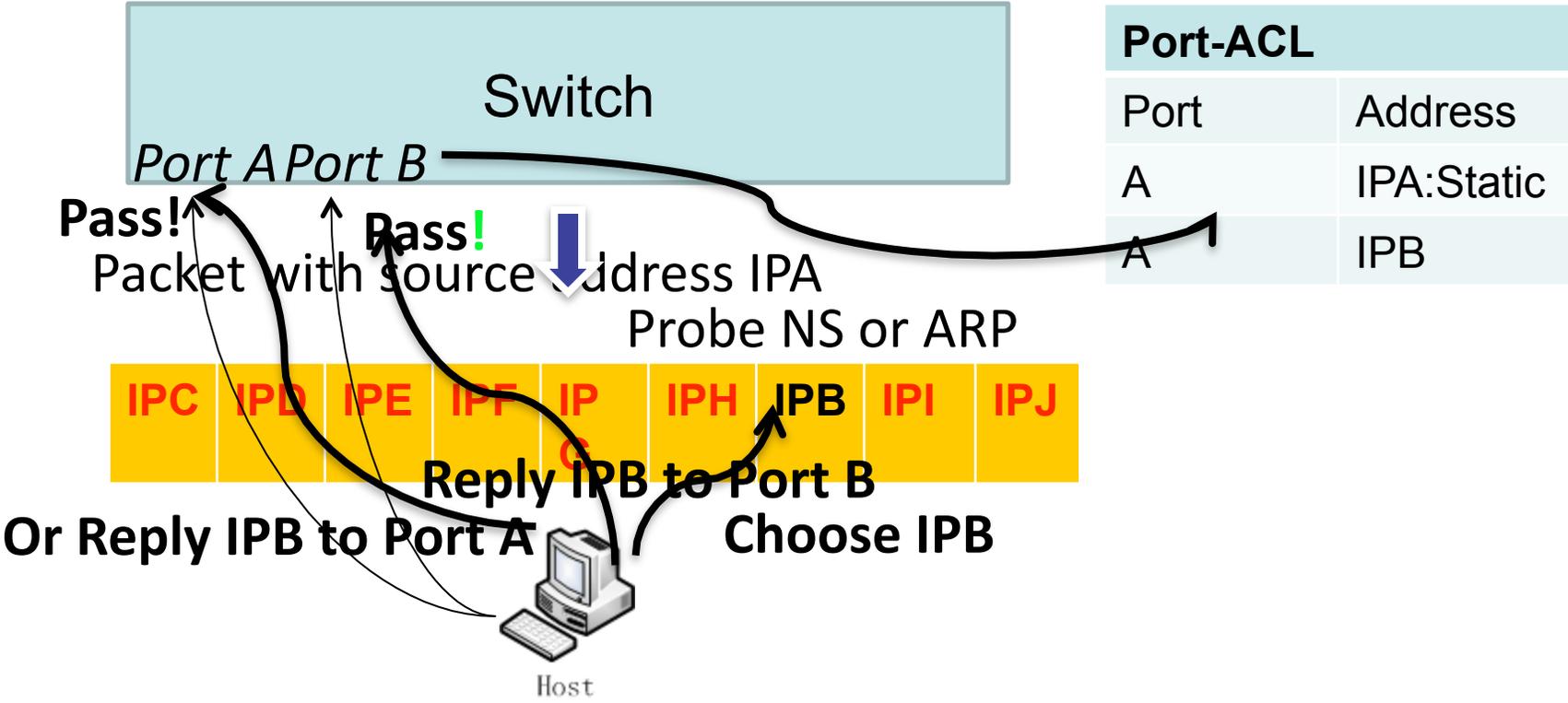


Multiple interfaces to the same link



| Port-ACL | |
|----------|------------|
| Port | Address |
| A | IPA:Static |
| A | IPB |

Multiple interfaces to the same link



Thank You!
Q & A