

# MicroTap Segment

<https://www.ietf.org/archive/id/draft-zzhang-spring-microtap-segment-02.txt>

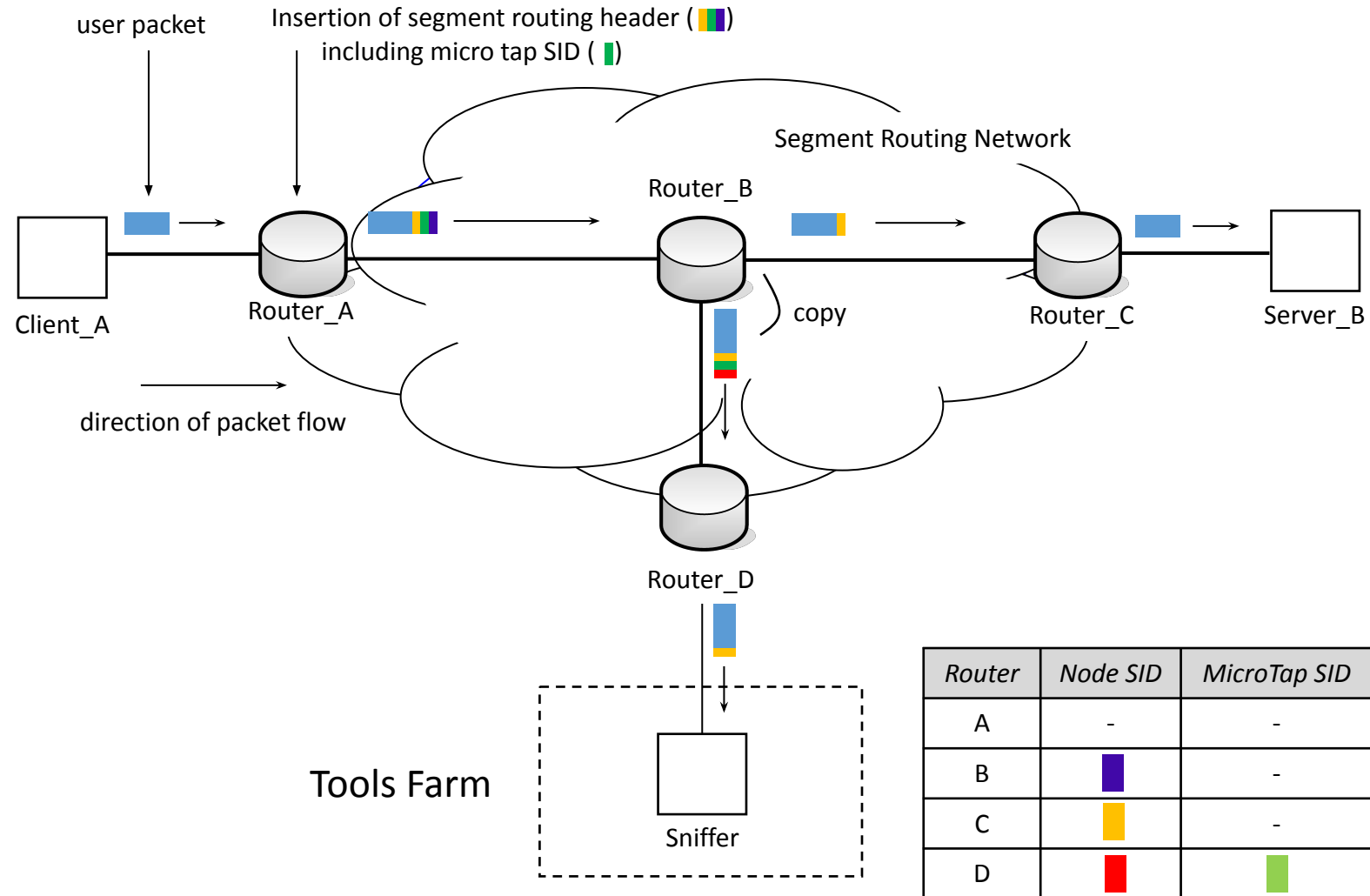
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# Basic intention of the draft

- Defines a new type of segment called microTap segment, used for capturing traffic from a transit router for performance and packet analysis
- Instruction that a MicroTap SID represents: make a copy of the packet & send the copy to a destination for packet analysis
- Strategic placement of one or more microTap SIDs within a SID-list results in traffic tapping at targeted points within the network
  - A router encountering the microTap SID makes a copy of the packet and sends it to the router connected to monitoring tool
  - The original frame continues on to the destination

# Example: Traffic capture at router B

- The traffic path is from client A to server B through Router A, B & C
- The goal is to capture the traffic at router B for packet analysis
- On Router A, microTap SID is placed after the Node SID for router B in the SID-list
- Router A classifies the traffic of interest and pushes the SID-list to the packets
- When microTap SID becomes active on Router B, it replicates the packet and sends the copy to the remote monitor by imposing router D's Node SID
- Router B also pops the microTap SID off the original packet and continues forwarding to router C
- When microTap SID becomes active on Router D, it sends the packet to monitor



# Signaling

**MicroTap capability:** A node supporting microTap function advertises its capability to other nodes and PCE.

- In SR-MPLS, for all relevant protocols (ISIS, OSPF & BGP-LS), a new flag T in the Flags field of the Prefix/Adjacency-SID TLV or Sub-TLV indicates that a MicroTap SID is allowed to follow the prefix/adjacency SID in a packet.
- Similarly, in SRv6, a new flag T in the Flags field of the the SRv6 Capabilities sub-TLV advertised by the Microtap node indicates that a MicroTap SID is allowed to follow the prefix/adjacency SID in a packet.

**MicroTap SID:** A node hosting a monitor is provisioned with a microTap SID allocated from the global block. The microTap SID is advertised to other nodes and PCE.

- In SR-MPLS, a new MicroTap-SID TLV or sub-TLV is defined for all protocols (ISIS, OSPF & BGP-LS) to advertise a microTap SID.
- In SRv6, the microTap function (END.TAP or uTAP) is advertised by a Monitor node within a SRv6 End SID sub-TLV that is associated with a SRv6 Locator TLV.

# Benefits vs existing ways of remote mirroring

- **High level of granularity**

- Offers the ability to capture the traffic of interest with precision especially on transit routers
- Saves the network capacity needed to tunnel the traffic to tools
- No excessive consumption of packet replication resources
- No need for complex packet filtering on packet brokers

- **Use of standard technology**

- Unifies the way the traffic is tunneled to the tool farm
- Achieves vendor interoperability

- **Non-invasive**

- No need to push or change configuration on the transit routers (P or LER)

- **Less resource intensive**

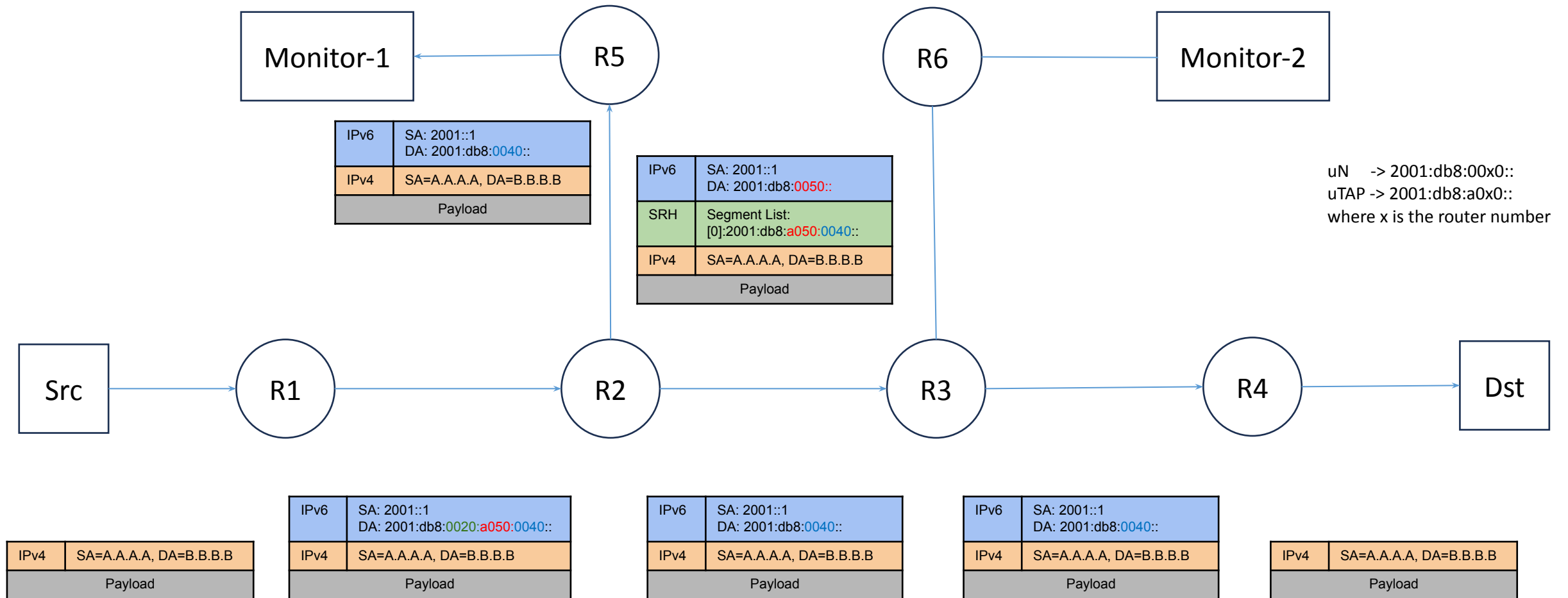
- Alleviates the need for sophisticated chipsets to look deep into the packet

# Next Steps

- Complete the draft
- Solicit comments/reviews and refine the draft accordingly

**Thank You!**

# MicroTap uSID





# MicroTap Full SID

