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draft-kompella-mpls-larp
MPLS RT review

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Summary of MPLS RT Review

1) Need demonstrable use case for labeled ARP

- MPLS in the data center (MPLS Fabric)
- MPLS in the access

2) Need to fill in more details on restart scenarios

- How should the client and server behave
- What should the client expect from server (and vice versa)

3) Need bidirectional connectivity to the client

4) Need to give more details on how L-ARP clients deal with multiple responses for the same target protocol address

- Multi-homed clients
- Clients on a LAN

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Use Case/Applicability for L-ARP

Use case: MPLS in the data center

- The draft refers to an as-yet-unwritten draft on an "MPLS Fabric"
- Here, the L-ARP client is a compute server participating in an MPLS underlay
- Writing this up would present a use case for L-ARP
- Will be done

Use case: MPLS in the access

- A D-SLAM/OLT/… that wants to participate in an MPLS network can use L-ARP to do so
- This is not unlike the previous use case
- Can be added to the MPLS Fabric draft

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Restart Scenarios

In "regular" ARP, the protocol-hardware address (i.e., IP-MAC) binding is relatively stable; the hardware address is global

In L-ARP, the binding could change; the hardware address is local

Thus, care is required to keep the client and server in sync; this is most obvious in restart situations

We will fill in details on this in the next rev

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Bidirectional MPLS Connectivity

A device X wanting MPLS connectivity to another device Y can use L-ARP to learn the label to use (L1) for sending

- But what label (L2) should X expect to receive packets?

The previous hop (T) needs to allocate a label for X

- The label that X receives may be NULL (PHP) or not (UHP)
- In the former case, X doesn't need to know
- The latter case can be handled by Labeled DHCP
  - There was a short discussion of this on the mailing list a year ago
- We'll add text to lay out the issue and discuss solutions

L1

X — T — … — Y

?

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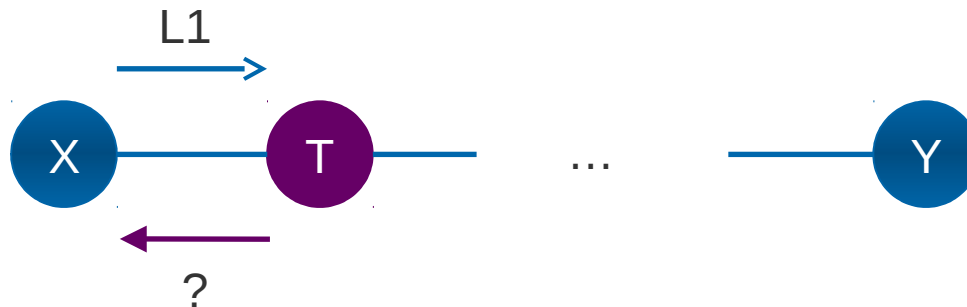
Handling Multiple Responses

An L-ARP client may receive multiple responses to L-ARP requests for a particular protocol address (IP)

- This can happen if the client is on a LAN with multiple servers that have MPLS reachability to the target IP

- This can also happen if the client is multi-homed

The paradigm used in L-ARP is that of "proxy ARP"

- Thus, the L-ARP server is usually not the target

The "attribute" TLV contains a metric for the client to make an intelligent choice in this situation

- The authors assumed that the use of metrics was obvious; it appears this isn't quite so obvious

- We'll add verbiage to explain this in more detail

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Next Steps

1) New revision of the draft addressing these issues

- Couple of weeks post-IETF93

2) MPLS Fabric draft describing use cases

- Similar time frame, possibly slightly longer

Hopefully, these two actions will satisfy the reviews

- With the reviewers' sign-off, we will republish as a WG document

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