TRILL: ARP/ND Optimization

draft-yizhou-trill-arp-optimization-00

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Updates

- Editorial changes are required:
  - Section title 3.1, 5, 6, 7.Basically needs a full run through of the section numbering
  - Indents in section 3.2
  - Section 3: messy term definition outline
  - Other minor errors

Next step

- Reached some consensus from last interim
- Ready for the call for adoption
  - Shall we submit a -01 version to fix all the editorial bugs before the call or we fix it in trill-00 version?

backup

Overview

- Split from draft-ietf-trill-directory-assist-mechanisms to decouple the ARP/ND optimization with the exact directory service mechanisms
- Document describes how ARP/ND optimizations work in trill campus
- Basic goals: reduce unnecessary ARP/ND flooding

Basic Idea

- Learn local IP/MAC mappings from ARP messages and distribute it with Interface Addresses (IA) APPsub-TLV using ESADI or directory service mechanism
- If a host's triplet of {IP address, MAC address, ingress nickname} was known by an ingress RB, the ingress RB can handle non-gratuitous ARP requests by:
  - Response with the best local knowledge
  - Unicast to the destination it believes in for authoritative reply
  - Rate limit such request for the same target
  - (re-)pull info from directory servers
  - Flood as usual
- Same concept for RARP
- Some details were provided in the document on handling gratuitous ARP, target-not-known ARP/ND request, SAND etc.