Experiences with LISP Multicast deployments

(draft-vgovindan-lisp-multicast-deploy)

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Scope and Industry segments

- This document covers the following aspects:
  - Deployments based on the procedures of [RFC6831] and [draft-ietf-lisp-rfc6831bis]
  - When using a multicast-based underlay, LISP sites can provide support to forward
    - Layer-2 Broadcast, Unknown Unicast and Multicast packets.
    - Layer-3 routed multicast services (ASM, SSM and BiDir) are provided by such LISP sites.
  - Both IPv4 and IPv6 overlays are covered by this document.
  - Similarly, both IPv4 and IPv6 underlays are covered.

Deployments covering

- Educational Institutions (e.g. Universities with multiple campuses, school districts)
- Public Utilities like Airports, Stadiums and Ports
- Hospitals and Healthcare providers
- Enterprises including Financial institutions spread across continents and large geographical regions
- Technology vendors and factories
- Events like Expos, Tradeshows, Sporting events

Not in Scope

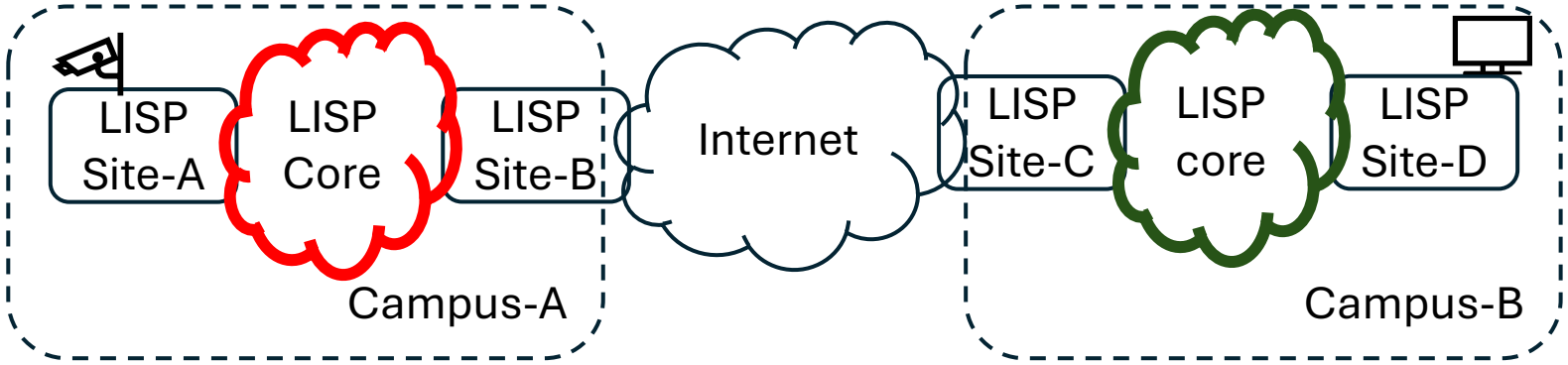
- This document does not cover the following aspects:
  - L3 routed Unicast forwarding or L2 forwarding between LISP sites.
  - This document does not address services implemented using underlays such as BIER.
  - Procedures and considerations required for migrating non-LISP based networks to LISP based networks are not covered here.
  - Extranet Multicast (Route Leaking) is not covered in this document

Advantages and Cost of using "PIM-over-PIM"

- Encapsulating the PIM protocol packet into a Unicast LISP packet and unicast it towards the xTR that is the Upstream Multicast NH.
- PIM Join Attributes for LISP is very useful [RFC8059].
- PIM neighborship not fully established as PIM hellos were considered chatty.
- A simple but powerful optimization: use SSM in the underlay for supporting overlay Layer-3 multicast routing.
- PIM is well understood

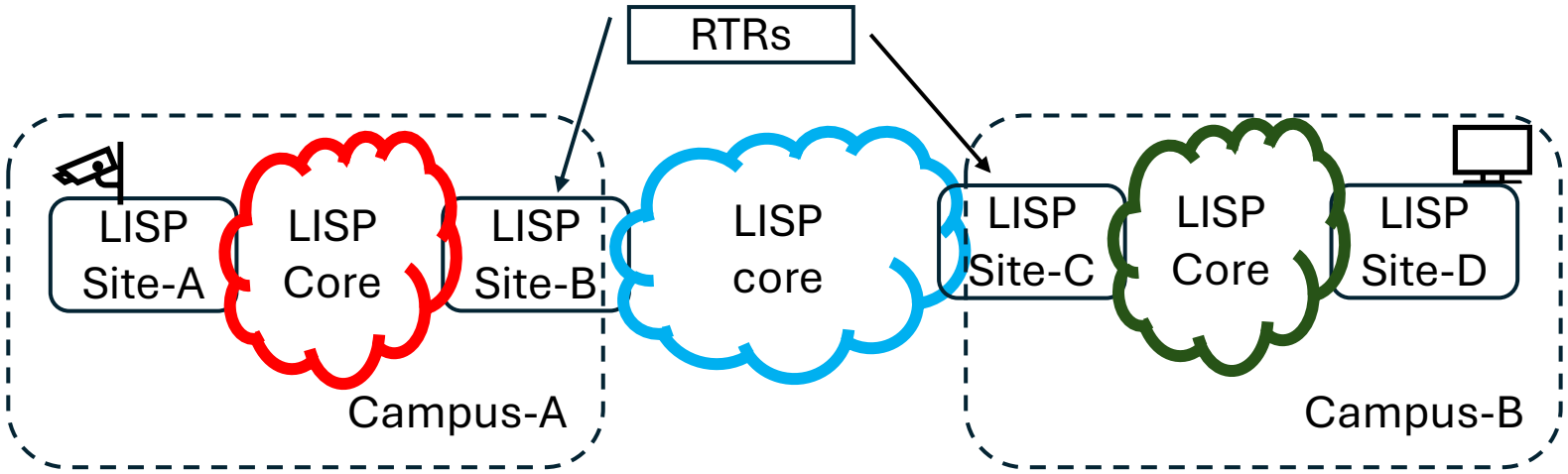
Multi-campus deployments – 1/2

- Multiple LISP campuses connected with IP



Multi-campus deployments – 2/2

- Multiple LISP campuses connected with IP underlay using a LISP overlay



Multicast across multiple domains

- Need help to define some terminology here
  - What do we call these campuses?