

Relax 255 LAN interfaces limit (draft-lz-isis-relax-interfaces-limit-00)

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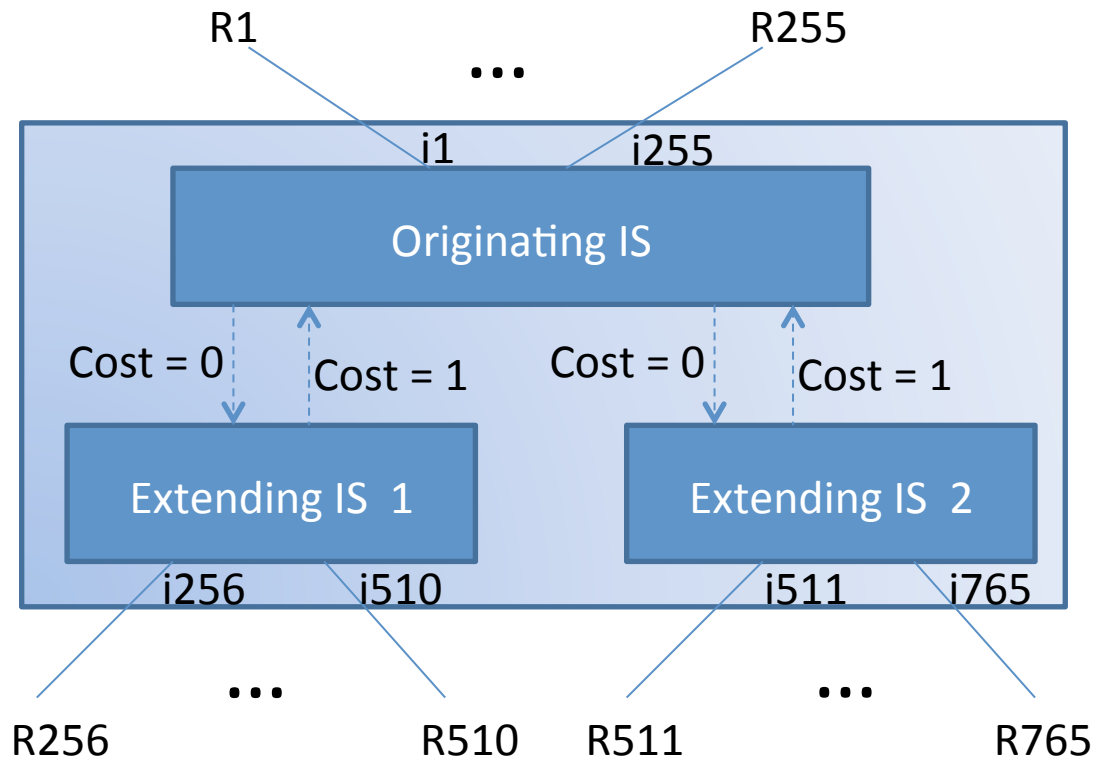
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Background

- IS-IS one byte circuit ID is requested to be unique
- RFC 5303 extend the P2P interface space, but 255 limit for LAN interfaces is still there
- draft-ietf-isis-wg-255adj-02.txt did the same try 14 years ago, but 255 DISs limited

Proposed Solution



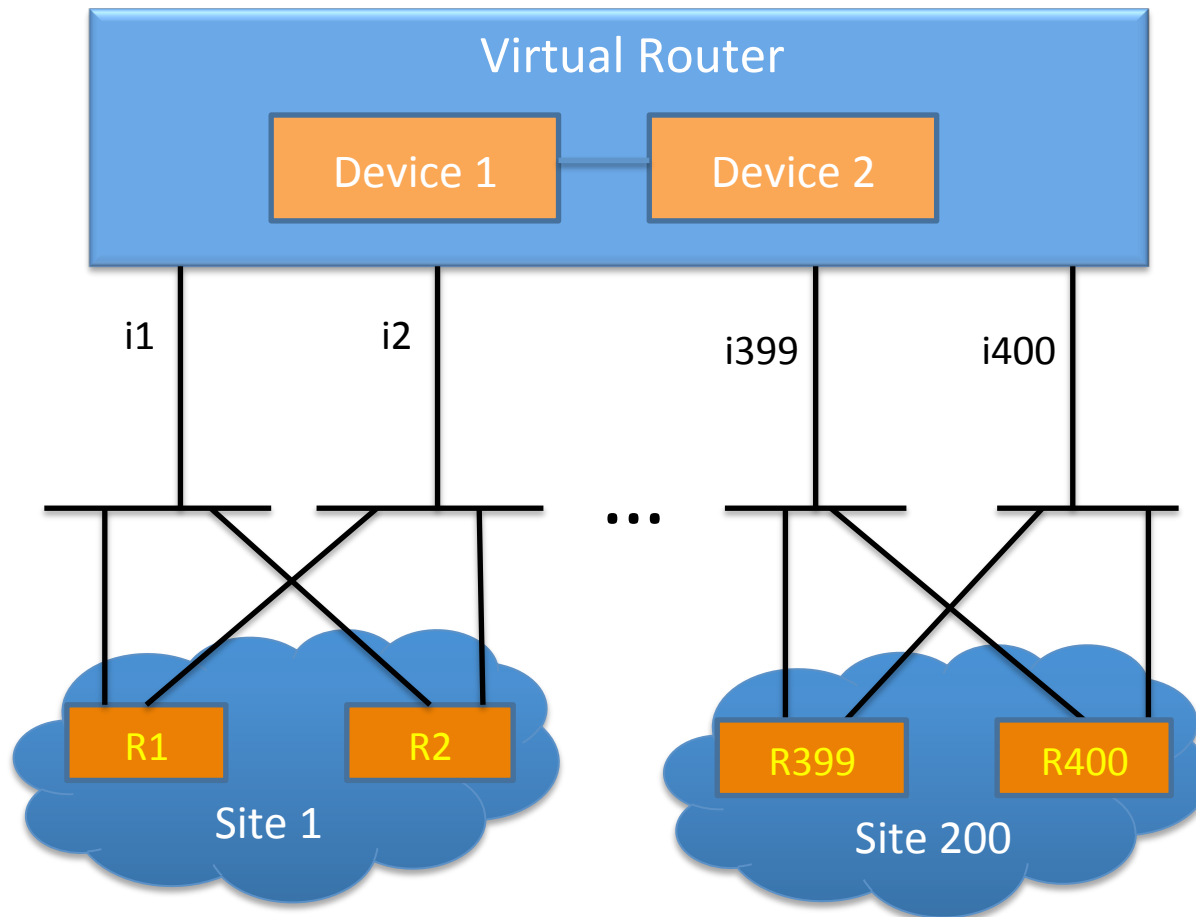
*Rx is neighbor router, ix is interface to Rx

- Add Extending IS, which MUST be different with Virtual IS in RFC 5311
- Interfaces beyond 255 are enabled under Extending IS and Hello with neighbor router with system id of Extending IS
- Establish virtual P2P neighbor relationship between Originating IS and Extending IS

Objective

- 255 more interfaces by adding a Extending IS regardless of the network type
- Fully interoperable with legacy systems even do not support RFC5303/RFC5311(RFC3786)

Use Cases



- The network using virtual router which operate multiple physical devices as logically one, e.g. IRF of HP, more networks can be plugged in, accordingly the number of IS-IS neighbors probably beyond 255

Use Cases

- In financial networks, we saw a trend of constructing flat networks which decrease the number of aggregation routers to save investment, the number of IS-IS neighbors we saw is 200+

Use Cases

- Hub router of scalable hub-spoke network:
 - ✓ Those with a few LSPs will not suffer from heavy LSP flooding
 - ✓ we can depend on database filter and advertise default route on the hub to mitigate the pressure on the spokes
- You have requirement of 255+ LAN interfaces, you have potential requirement of 255+ DISs

Any question/Comment?