

IPv6 Neighbor Discovery Prefix Registration

draft-ietf-6lo-prefix-registration

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6LoWPAN ND (IPv6 Stateful Address Autoconfiguration)



[RFC 6775](#) (original 6LoWPAN ND)

Defines ARO for registration and DAD operations for stateful AAC

[RFC 8505](#) (Issued 11/2018)

The protocol agnostic registration for ULA/GUA for proxy ND and routing services

Analogous to a Wi-Fi association but at Layer 3: a deterministic and query-able state for all addresses

[RFC 8929](#) (Issued 11/2020)

Federates 6lo meshes over a high-speed backbone

ND proxy analogous to Wi-Fi bridging but at Layer 3

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Extends RFC 8505 for prefixes

[RFC 8928](#) (Issued 11/2020)

Protects addresses against theft (Crypto ID in registration)

[draft-ietf-6lo-multicast-registration](#)

Extends RFC 8505 for multicast and anycast

RFC-EDITOR
Queue

[draft-thubert-6lo-unicast-lookup](#)

Provides a 6LBR on the backbone to speed up DAD and lookup

Coexistence with classical ND



News

draft-ietf-6lo-prefix-registration-04	24 pages	2024-08-	I-D Exists
IPv6 Neighbor Discovery Prefix Registration	23		WG Document
			Reviews: genart Early intdir Early
draft-ietf-6lo-multicast-registration-19	41 pages	2024-05-	RFC Ed Queue : RFC-EDITOR
IPv6 Neighbor Discovery Multicast and Anycast Address Listener Subscription	16		161
			Submitted to IESG for Publication : Proposed Standard
			Reviews: intdir secdir tsvar LC
			genart LC secdir LC

- Prefix registration 04 incorporates the second pass on Dave's comments
- Draft stable since
- Author's opinion: Ready for WG last call

Thanks!

Questions?

Let it be for prefixes!

- **Hosts may own prefixes -> and routers may connect to prefixes**
 - Network in Node / recursive networking
 - Kubernetes / Private IPv4 realms
 - Directly connected (no routing)

Registering a Prefix

SGP – agnostic UNI interface between prefix owner and router

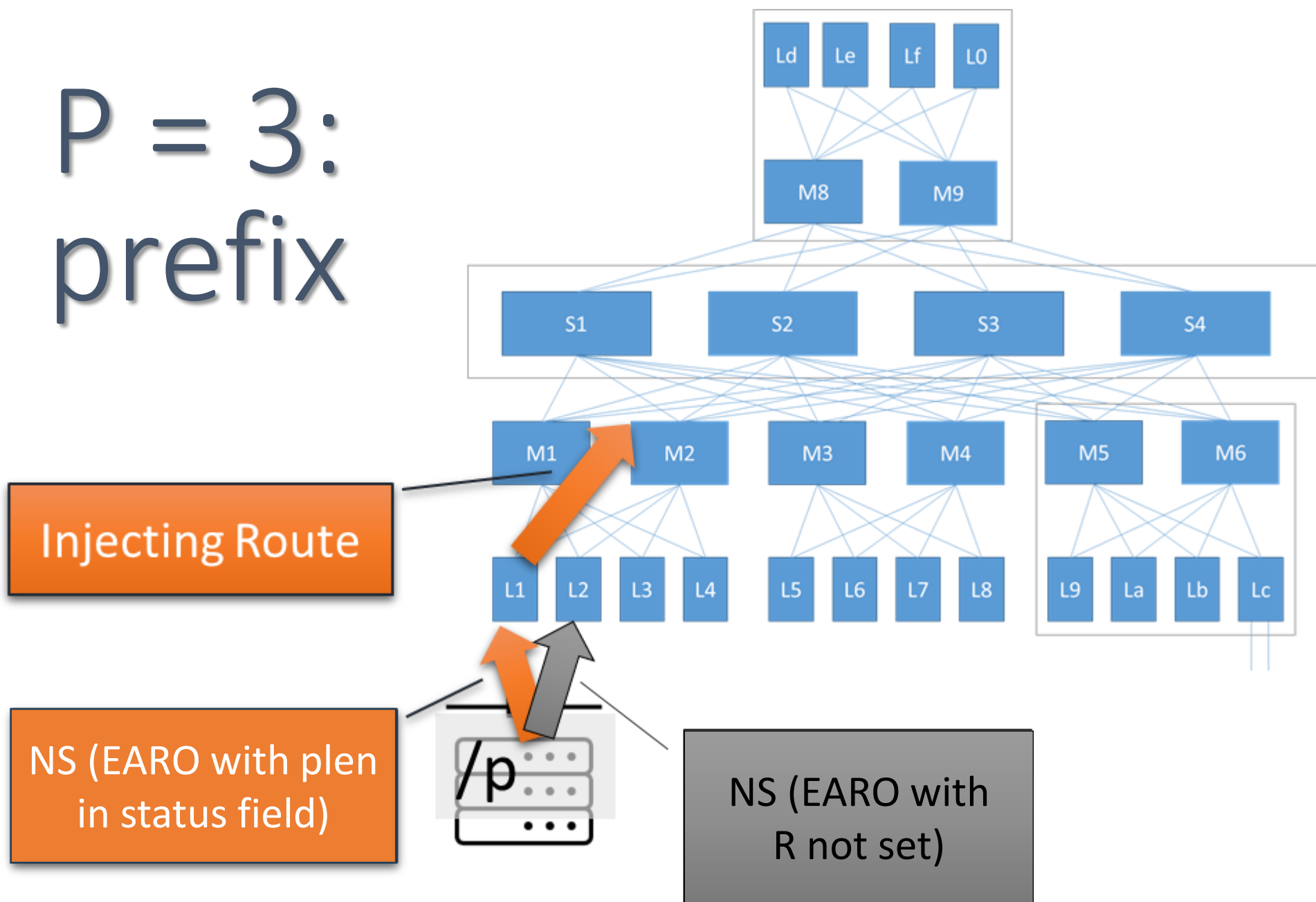
Overload Status field with PLEN in NS message

R flag to redistribute in SGP

F flag to signal source vs destination matching. Useful ?

But field getting saturated

P = 3: prefix



VS draft-ietf-v6ops-dhcp- pd-per-device

Allows the 6LN to register any prefix, whether obtained as DHCP or else
Using the ROVR as client ID, ownership can be verified with DHCP server
Roaming within domain allows delegated prefix mobility (R flag on)