IETF 121 – 6lo

Generic Address Assignment Option for 6LoWPAN Neighbor Discovery

~~draft-iannone-6lo-nd-gaao-03~~

draft-ietf-6lo-nd-gaao-00

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IETF 121 – Dublin

Since IETF 120

Generic Address Assignment Option for 6LowPAN Neighbor Discovery

draft-ietf-6lo-nd-gaao-00

Status | IESG evaluation record | IESG writeups | Email expansions | History

Versions:

00

draft-**ietf**-6lo-nd-gaao-03.txt
September 2024
Main changes: Renamed after WG Adoption & IANA Section update

Main Changes

Value	Description	Reference
13 (Suggested)	AAF Not Supported	[This Document]

Table 3: New address registration option value.

10.4. Address Assignment Function Registry

IANA is asked to create a registry named "Generic Address Assignment Option Parameters".

Such registry should be populated with a one octet sub registry named "Address Assignment Function" and used to identify the used AAF used. The sub registry is populated as shown in Table 4:

Value	AAF Name	Reference
0x00	No AAF. This can be used only in NS message to indicate that no specific AAF is demanded.	[This Document]
0x01-0xFE	Un-assigned	

Value	Description	Reference
13 (Suggested)	AAF Not Supported	[This Document]

Table 3: New address registration option value.

10.4. Address Assignment Function Registry

IANA is asked to create a registry group named "Generic Address Assignment Option".

Such registry group should be populated with a one-octet registry named "Address Assignment Function" and used to identify the used AAF used. The registry is populated as shown in Table 4:

Value	AAF Name	Reference
0x00	No AAF. This can be used only in NS message to indicate that no specific AAF is demanded.	[This Document]
0x01-0xFE	Un-assigned	

Updated IANA Section according to IANA review

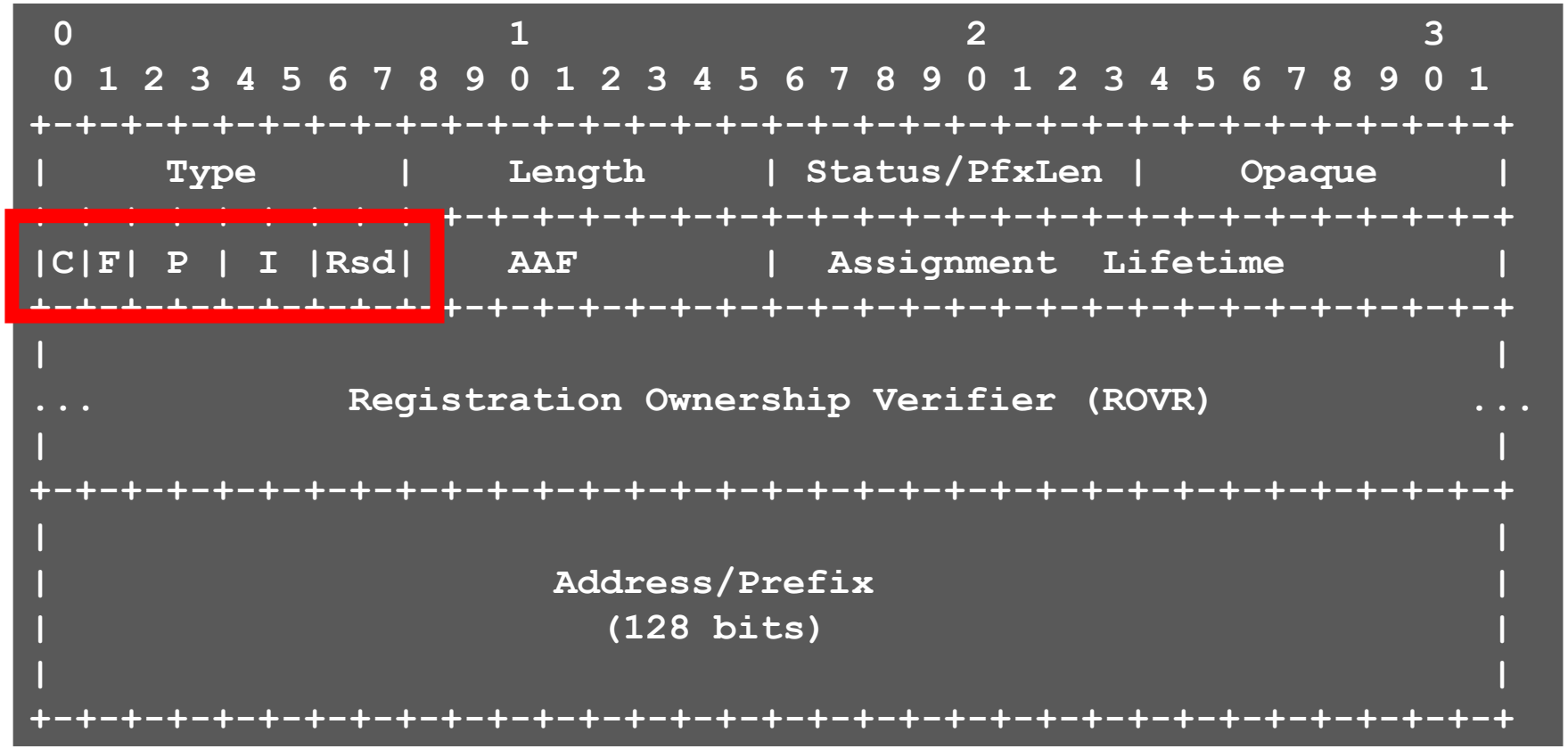
Next Steps

- That`s all for the changes

- But…. let`s Talk About the GAAO Option Format……

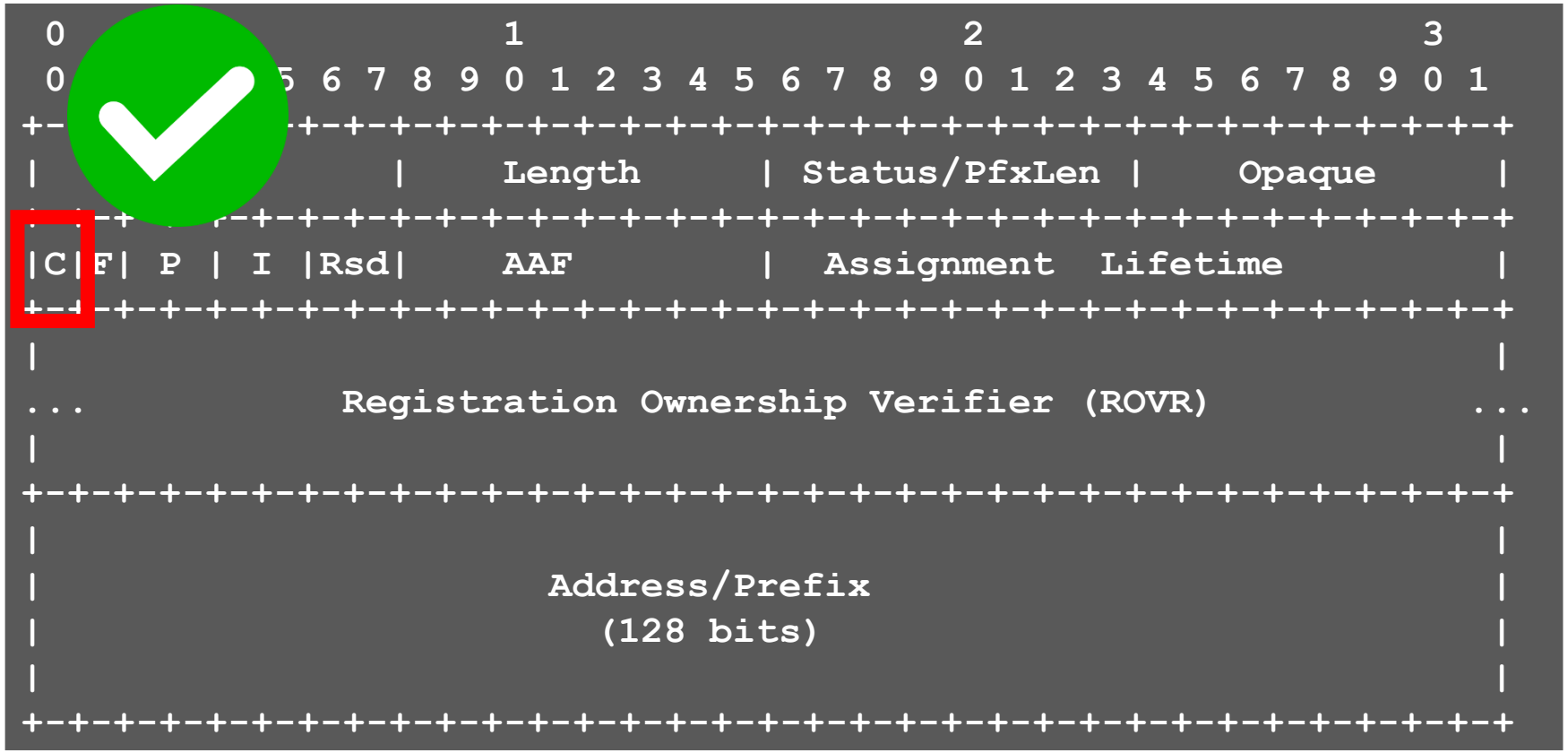
THANKS!

Current format



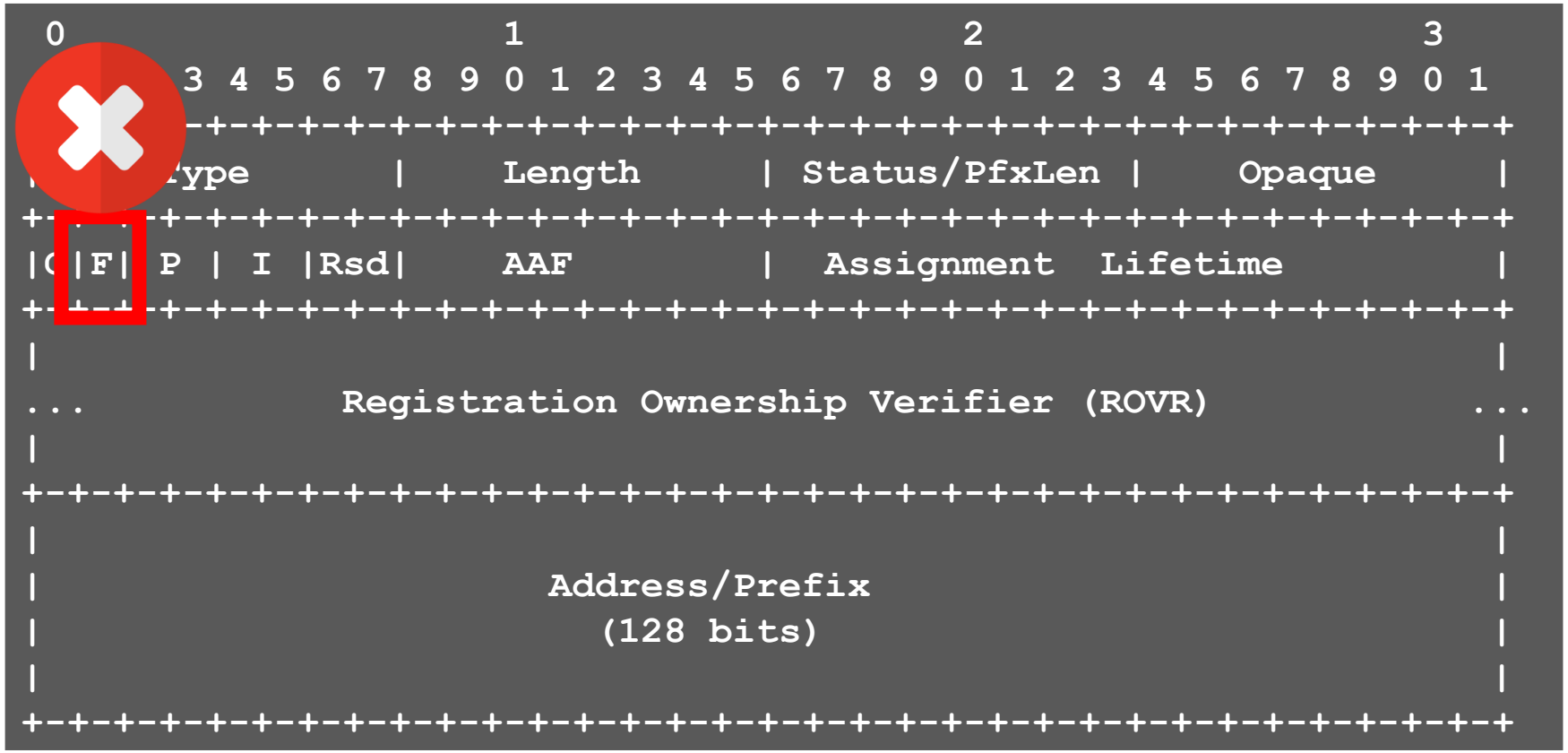
- Do we really need all those flags????

C-Flag



- **C: Confirmation requested.** It MUST be initialized to 0 by in NS messages by the requester and MUST be ignored by the receiver. The 6LR replying to the request with an NA message MAY set this bit to indicate that it requests a confirmation that the address/ prefix is accepted and will be used. When the requester receives an NA message with this bit set, it MUST explicitly register the received address/prefix to the same 6LR using the procedures defined in [RFC8505], [I-D.ietf-6lo-prefix-registration], and [I-D.ietf-6lo-multicast-registration], according to the type of the assigned address/prefix.

F-Flag

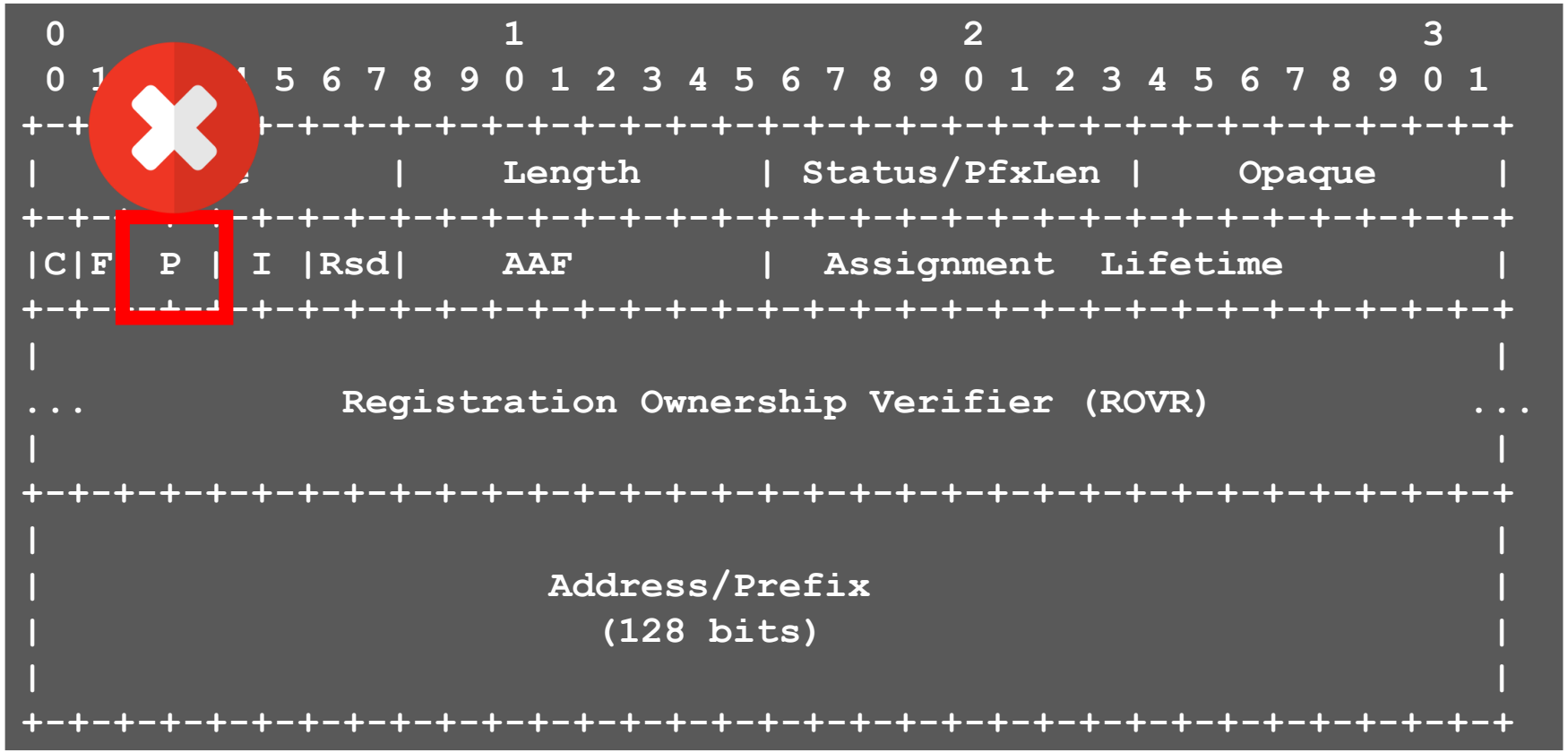


- F: F-Field as defined in [I-D.ietf-6lo-prefix-registration].

> **F:** 1-bit flag; set to 1 to indicate that the sender expects other routers to forward packets to self when the packets are sourced with the registered prefix.

This is used when registering the prefix not when requesting it, hence less useful in GAAO

P-bits



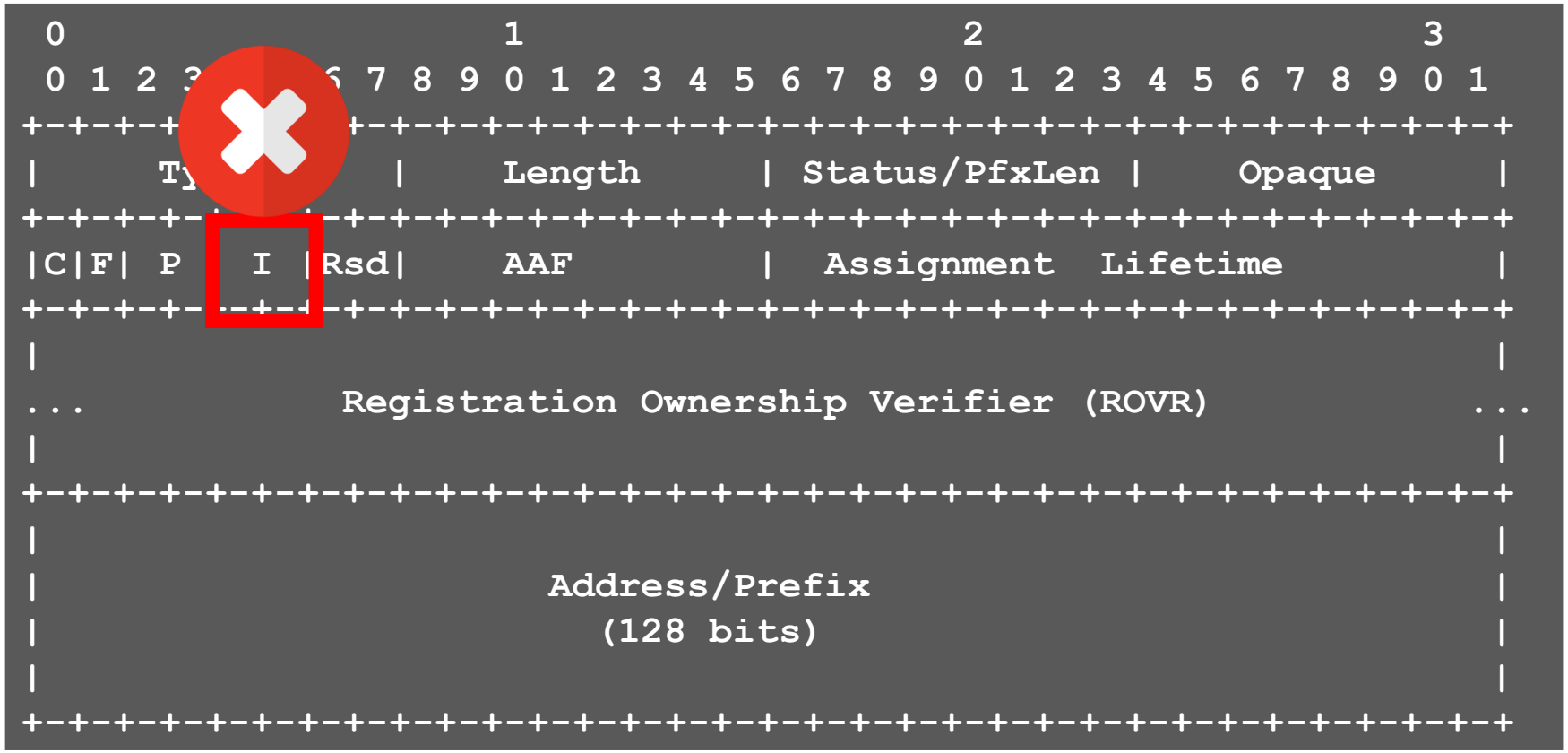
Value	Meaning
0	Registration for a Unicast Address
1	Registration for a Multicast Address
2	Registration for an Anycast Address
3	Registration for a Unicast prefix

Table 1: P-field Values

- P: P-Field as defined in [I-D.ietf-6lo-prefix-registration] indicating the type of address requested

Request a Multicast/Anycast address? These type of addresses are managed differently….. We can keep one bit for Prefix requests…

I-bits



Address Registration Option I-Field

Registration Procedure(s)
IETF Review or IESG Approval
Reference
[RFC8505]
Available Formats
csv

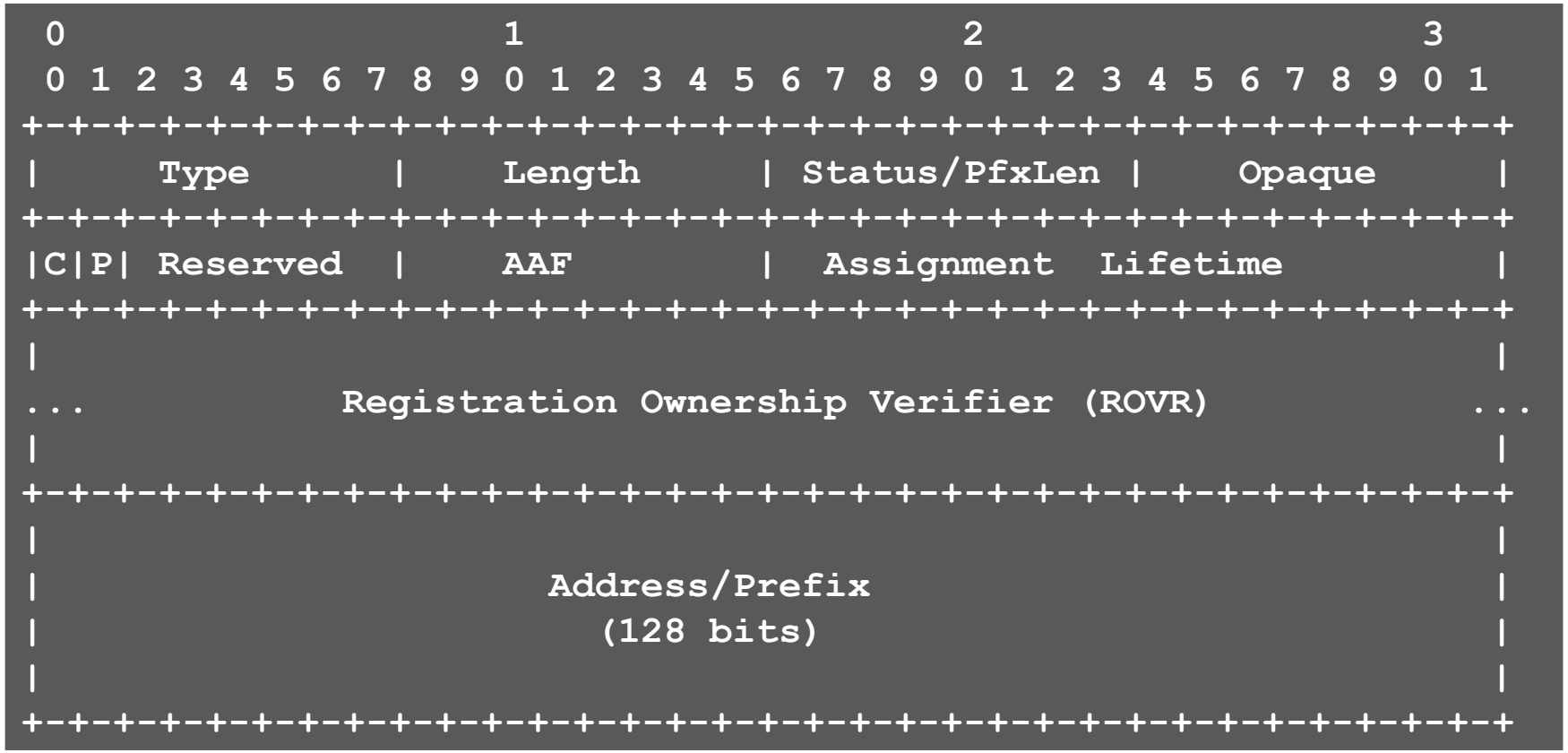
Value	Meaning	Reference
0	Abstract Index for Topology Selection	[RFC8505]
1-3	Unassigned	

- I: As defined in [RFC8505].

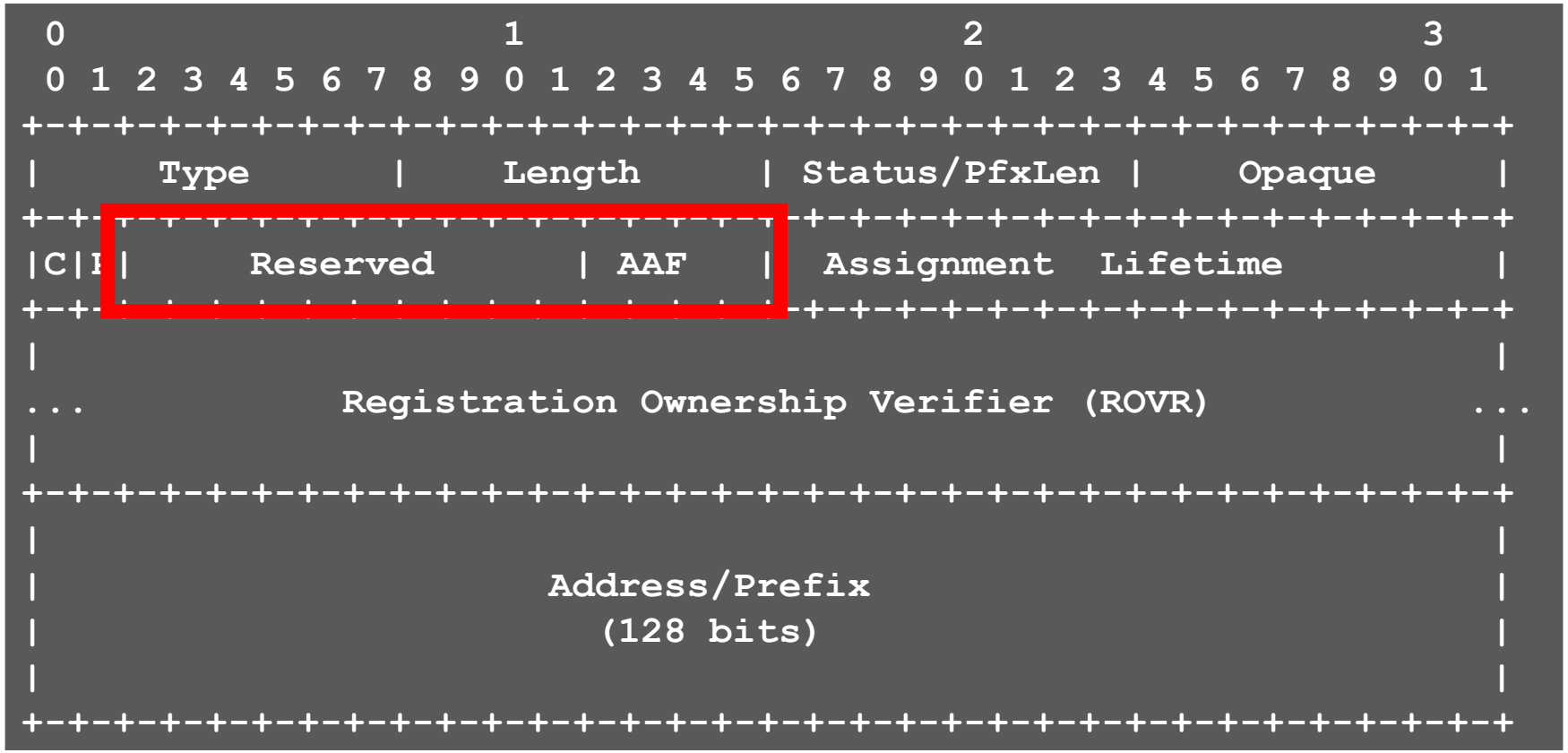
```
I:          2-bit integer.  A value of 0 indicates that the Opaque
            field carries an abstract index that is used to decide in
            which routing topology the address is expected to be
            injected.  In that case, the Opaque field is passed to a
            routing process with the indication that it carries
            topology information, and the value of 0 indicates
            default.  All other values of "I" are reserved and
            MUST NOT be used.
```

We can consider “implicit I=00” use the Opaque and use another bit in the future to modify the option if needed

Resulting Format



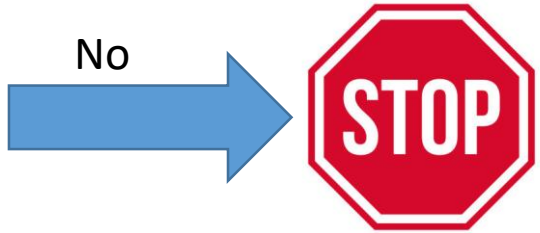
Can we go further?



- Do we need 256 AAF Values???
  - May be use 4 bits and reserve more??

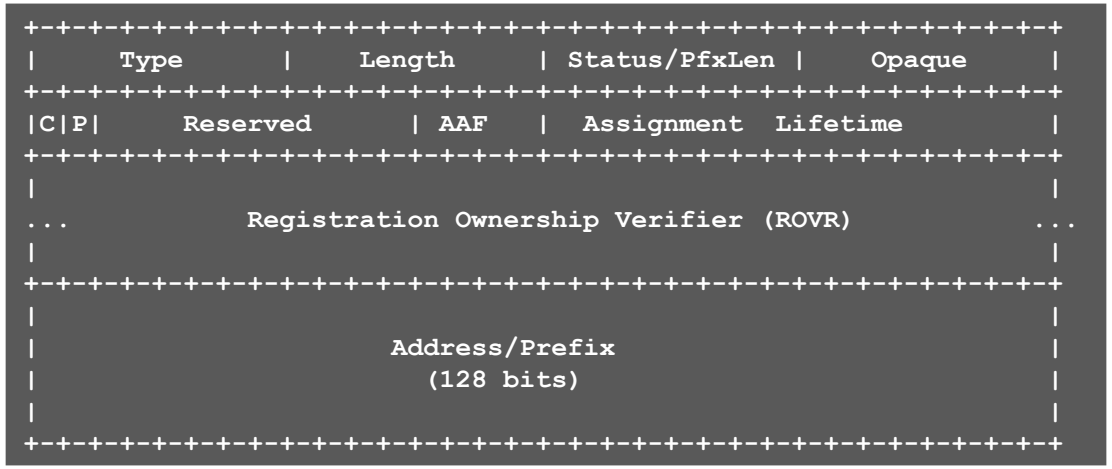
Next Steps

- Should we simplify the GAAO Format?

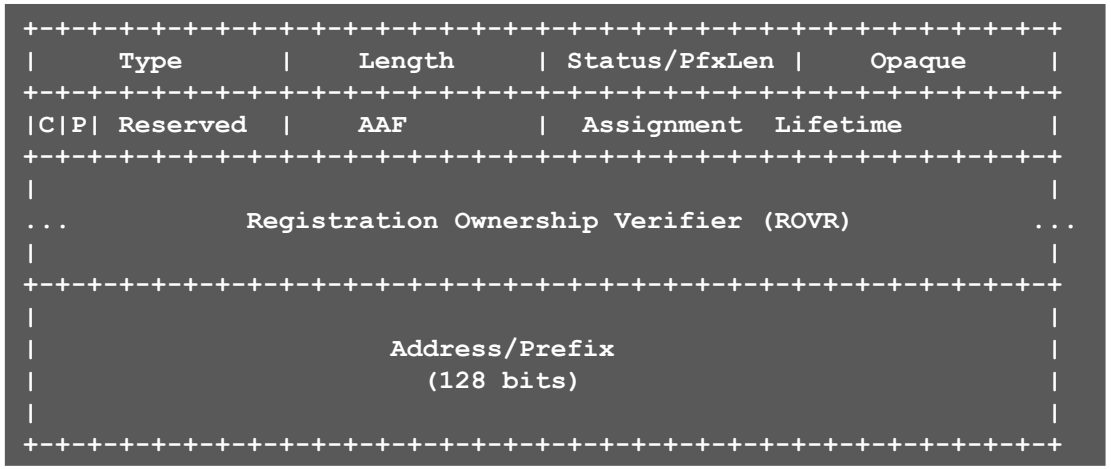


YES

THANKS!



Option A: AAF 4-bits



Option B: AAF 8-bits