Autonomic IPv6 Edge Prefix Management in Large-scale Networks

ANIMA WG
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draft-ietf-anima-prefix-management-03

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Overview

- This is a chartered work item to validate the application and reusability of Anima components.

- If a prefix manager ASA needs more address space:
  - It discovers peers by GRASP Discovery message for the **PrefixManager** objective.
  - Then negotiates with a discovered peer for the needed address space using GRASP messages.

- In a single administrative domain, the network operator floods the **PrefixManager.Params** objective to announce default parameters.
Main Changes in 02 and 03 drafts

- Replaced Intent discussion by the `PrefixManager.Params` objective
- Small syntax correction to objective format
GRASP objectives (1)
in CDDL notation

objective = ["PrefixManager", objective-flags, loop-count, [PD-support, length, ?prefix]]

loop-count = 0..255   ; see GRASP spec
objective-flags /=    ; see GRASP spec
PD-support = true / false   ; indicates if sender supports PD
length = 0..128       ; requested/offered prefix length
prefix = bytes .size 16 ; offered prefix in binary
GRASP objectives (2)
in CDDL notation

objective = ["PrefixManager.Params",
              objective-flags, any]

loop-count = 0..255 ; see GRASP spec
objective-flags /= ; see GRASP spec

; The ‘any’ object would be the relevant parameter values (format TBD)
Example parameters

JSON:

```
[
  [["role", "RSG"], ["prefix_length", 34]],
  [["role", "ASG"], ["prefix_length", 44]],
  [["role", "CSG"], ["prefix_length", 56]]
]
```

An alternative would be to express the parameters in YANG using the YANG-to-CBOR mapping.
Next Steps

- Python “toy” prototype of this ASA exists (can negotiate prefixes as server or client, but does no real prefix assignments)
  https://www.cs.auckland.ac.nz/~brian/graspy/pfxm1.py

- Hackathon: Verbal report

- Need a volunteer to write a real prototype

- Ready for WGLC?