APNIC prop-120:
Final /8 pool exhaustion plan

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Background: IPv4 distribution policy

- Current IPv4 distribution in APNIC region: (as of 6 June 2018)
  - Based on 'final /8' policy
    https://www.apnic.net/community/policy/resources#Part%202:%20IPv4%20Policy
  - Minimum distribution size: /24
  - Distribution from two pools
    1. 103/8 (Final /8) pool
    2. Recovered (non-103/8) pool
  - Returned address
    - 103/8 addresses are added to 103/8 pool.
    - Others are added recovered pool.
      - Returned from LIRs
      - Distributed from IANA
  - Address transfer
    - Transfer of 103/8 address are prohibited.
      (less than 5 years from distribution)

Returned 103/8

Returned non-103/8

103/8 (Final /8) pool

Recovered (non-103/8) pool

1. Up to /22

2. Up to /22

LIR
（ISP)
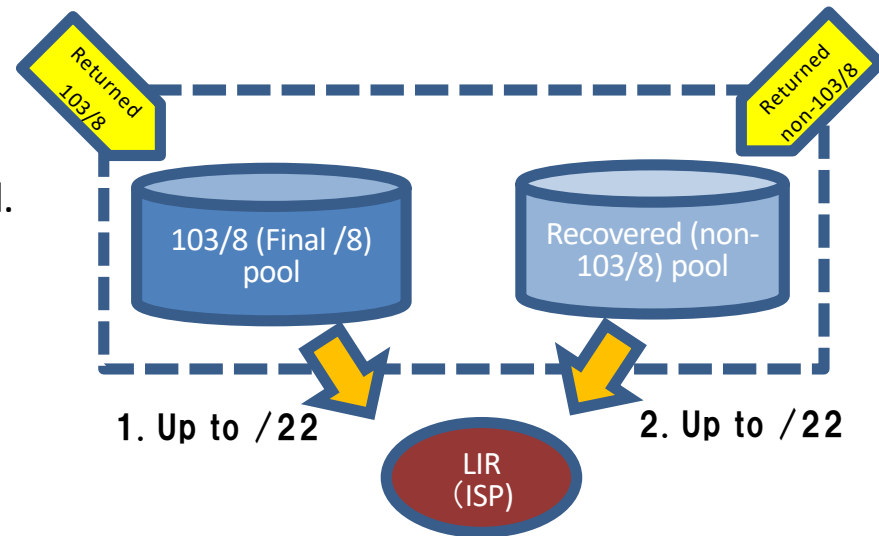
Background: : Current IPv4 distribution status

- ## Status of two pools:

  1. 103/8 (Final /8) pool

     Distribution is ongoing.

  2. Recovered (non-103/8) pool

     Exhausted, and waiting list was created.

     - https://www.apnic.net/get-ip/get-ip-addresses-asn/unmet-ipv4-requests/

     - 520 organizations are waiting for distribution! (as of 11 June 2018)

Current Waiting List for Unmet IPv4 Requests

| Position	Size	Date / Time (UTC +10)
1	/24	2017-01-23 16:48:04
2	/22	2017-01-23 19:42:02
3	/22	2017-01-24 00:30:01
4	/24	2017-01-24 14:45:22
5	/22	2017-01-24 19:32:13
6	/22	2017-01-25 10:33:02
7	/22	2017-01-25 19:06:02
8	/22	2017-01-27 10:31:34
9	/22	2017-01-27 11:27:02
10	/22	2017-01-27 13:57:02

Showing 1 to 10 of 520 entries   Previous   1   2   3   4   5 … 52   Next

Background: When 103/8 pool run out?

- Status of 103/8 pool: 0.2937 * /8 (as of 11 June 2018)

RIR IPv4 Address Run-Down Model
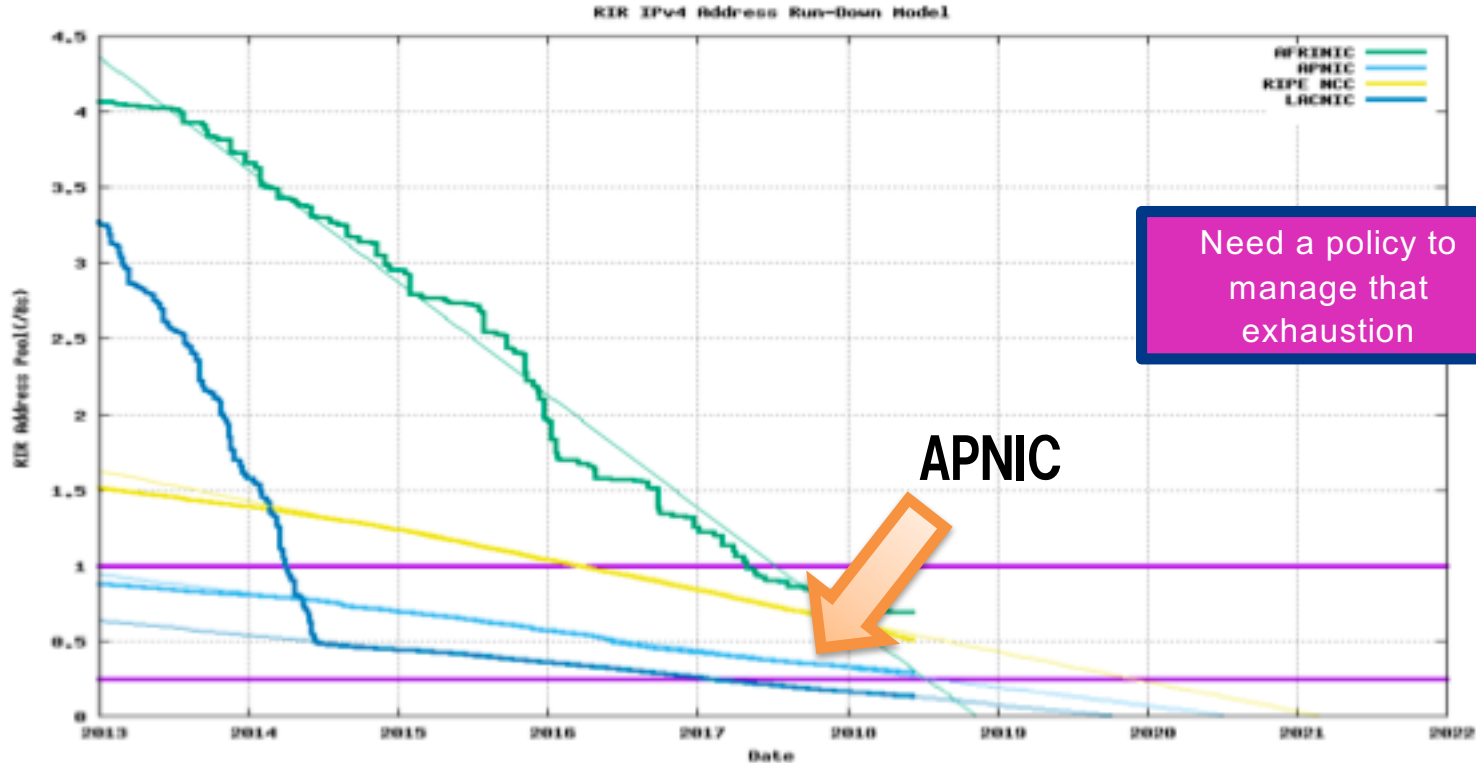
Need a policy to manage that exhaustion

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Objective of this proposal

- To give a guidance for final /8 address pool exhaustion

Proposal history

8 August 2017	Version 1 posted to the Policy SIG mailing list for discussion and community development.
14 September 2017	Version 1 of the proposal was presented at the APNIC 44 Policy SIG and did not reach consensus. It was returned to the author for further consideration.
30 January 2018	Version 2 posted to the Policy SIG mailing list for discussion and community development.
27 February 2018	Version 2 of the proposal was presented at the APNIC 45 Policy SIG and did not reach consensus. It was returned to the Policy SIG mailing list for further discussion.

From: https://www.apnic.net/community/policy/proposals/prop-120/

Proposed solution: version 1 (1/2)

Guidance for 103/8 pool exhaustion:

- The first time an approved request cannot be fulfilled from the 103/8 pool, Final /8 delegations will end.

- APNIC will begin to manage only one (Recovered) IPv4 pool containing any residual 103/8 space and all future returns, including 103/8 returns.

- Each new account holder can receive up to a /21 from the IPv4 Recovered pool.

- Existing account holders who have not yet received the maximum /21 from the two pools may continue to apply for space from the Recovered pool until they have received a maximum.

- A waiting list will be created if approved requests cannot be fulfilled. Each new account holder will be given priority in the waiting list.

Proposed solution: version 1 (2/2)

Guidance for 103/8 pool exhaustion:

Policy SIG@APNIC44 discussion summary
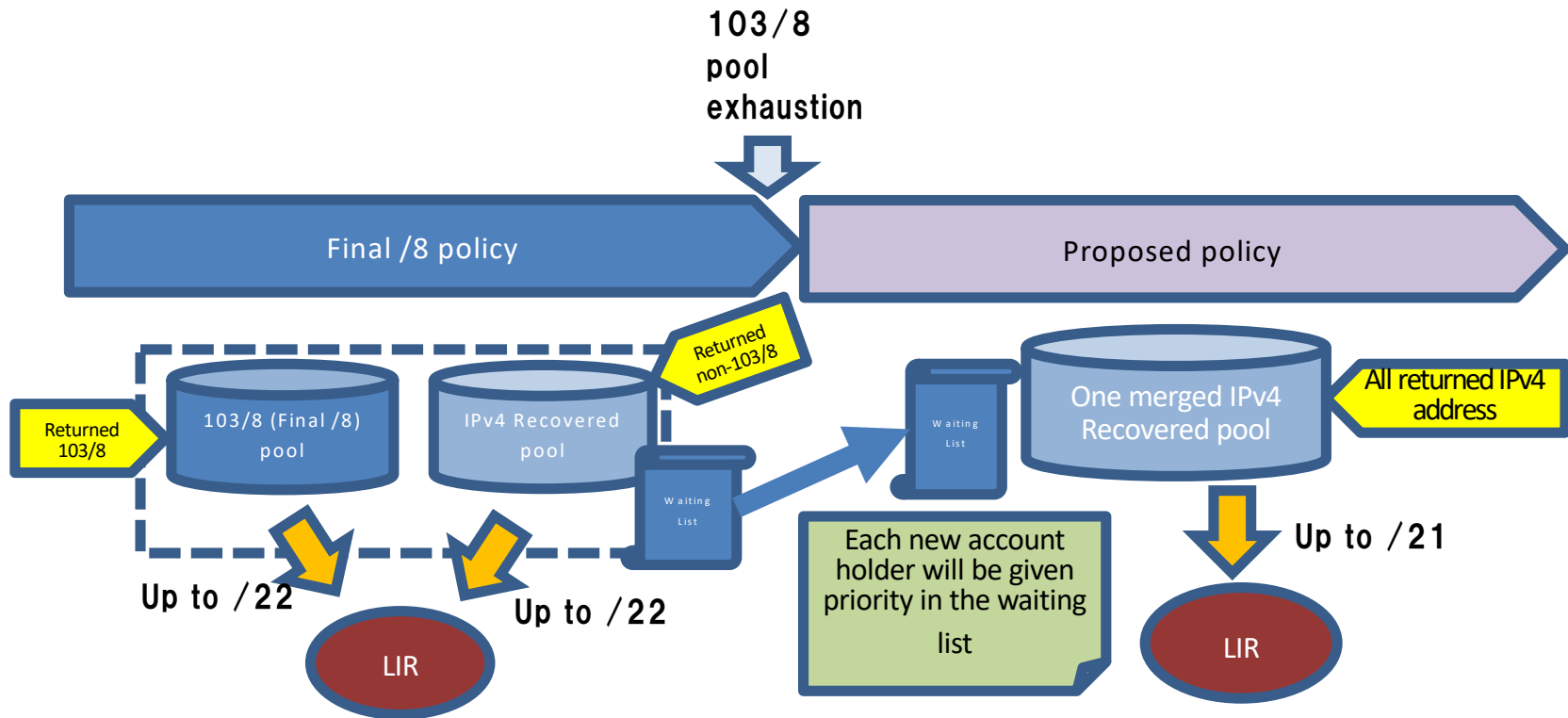
- There was strong support for the idea of a proposal for post-exhaustion arrangements after the Final /8.

- A number of issues that highlighted divergent points of view from the community were raised:
  - Should two separate pools and two waiting lists be maintained with the current policy for each maintained, or should there be only a single pool?
  - Should the existing Recovered Pool waiting list be retained after the Final /8 exhaustion, or not?
  - If the Recovered Pool waiting list is retained, should new accounts be given priority over those (existing Members) already on the list?
  - Distribution size from merged pool. /22 or /21?
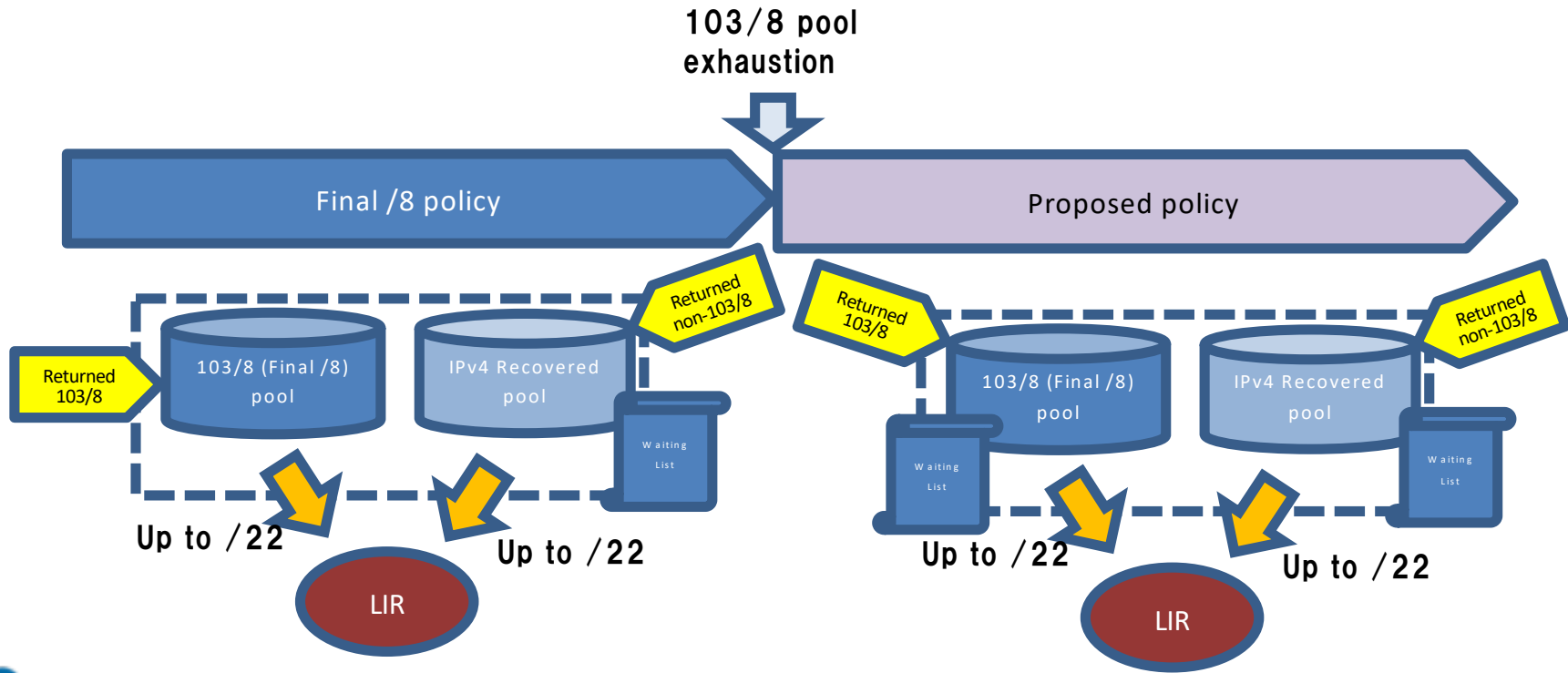
Guidance for 103/8 pool exhaustion:

- The first time an approved request cannot be fulfilled from the 103/8 pool, a waiting list will be created. That waiting list will be managed same as recovered pool waiting list.

- APNIC continue to manage two pools, the recovered pool and the 103/8 pool.

- Merging two pools will have lots of issues:
  - Existing waiting list management
  - Returned address management
  - Prop-117 (Prohibit to transfer IPv4 addresses in the final /8 block) implementation
- So many members are waiting on the waiting list.
  - Revoking the list will be unfair.

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Proposed solution: version 2 (2/2)

Guidance for 103/8 pool exhaustion:

- ## More discussion…
  - "New proposal was so complex."
  - One pool or two pools?
  - Existing Recovered Pool waiting list be retained or not?
  - Distribution size after 103/8 exhaustion. /24?

# Proposed solution: version 3 (1/2)

Guidance for 103/8 pool exhaustion:

- The first time an approved request cannot be fulfilled from the 103/8 pool, a waiting list will be created. That waiting list will be managed same as recovered pool waiting list.

  - APNIC continue to manage two pools, the recovered pool and the 103/8 pool.

- Distribution size will be 'minimum IPv4 allocation size' (currently /24).

- Policy should be simple. Merging two pools will have lots of issues:
  - Existing waiting list, returned address management.
  - Prop-117 (Prohibit to transfer IPv4 addresses in the final /8 block) implementation
- Revoking the list will be unfair since so many members are on the waiting list.

Proposed solution: version 3 (draft)

Guidance for 103/8 pool exhaustion:

Summary
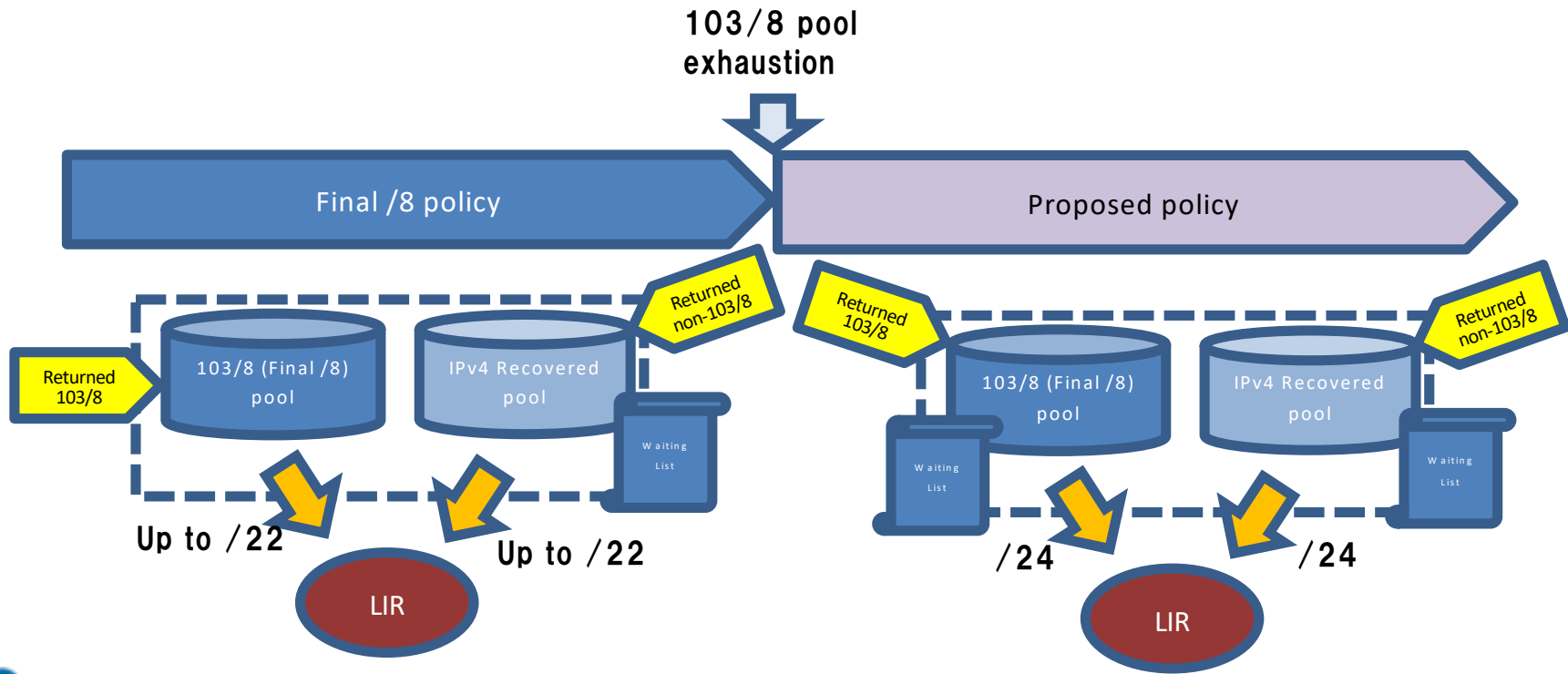
- Proposal for managing Final /8 pool exhaustion

  - Create new waiting list the first time an approved request cannot be fulfilled from the 103/8 pool.

    - APNIC continue to manage two pools, the recovered pool and the 103/8 pool

  - Distribution size will be 'minimum IPv4 allocation size' (currently /24).

Please give your input for this proposal!