IPv4 Waiting List

Current IP4 Waiting List Criteria

- Must have a /20 or less in total IPv4 holdings

- May request up to a /22

- Removed if IPv4 received via 8.3/8.4 transfer
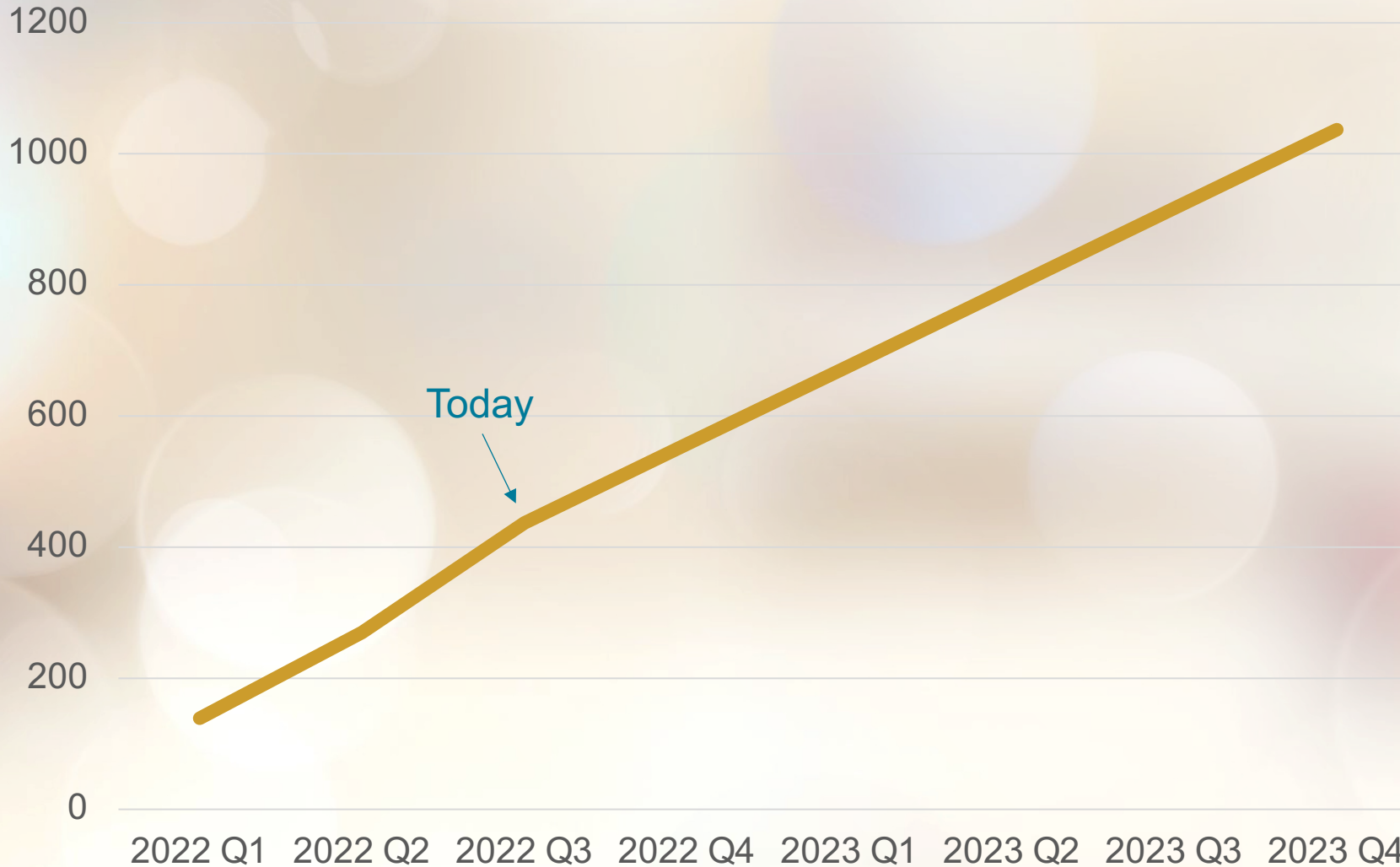
- Eligible for needs-based transfer after five years

Waiting List - Recent Data

Quarter	Requests on List	Requests Filled	Total /24s Issued
2022 Q1	298	73	161
2022 Q2	364	41	86
2022 Q3	505	69	229

Current IPv4 Waitlist Trends

~180 requests added to the waiting list per quarter

~60 requests filled from the waiting list per quarter

Waiting list increases by ~120 requests per quarter

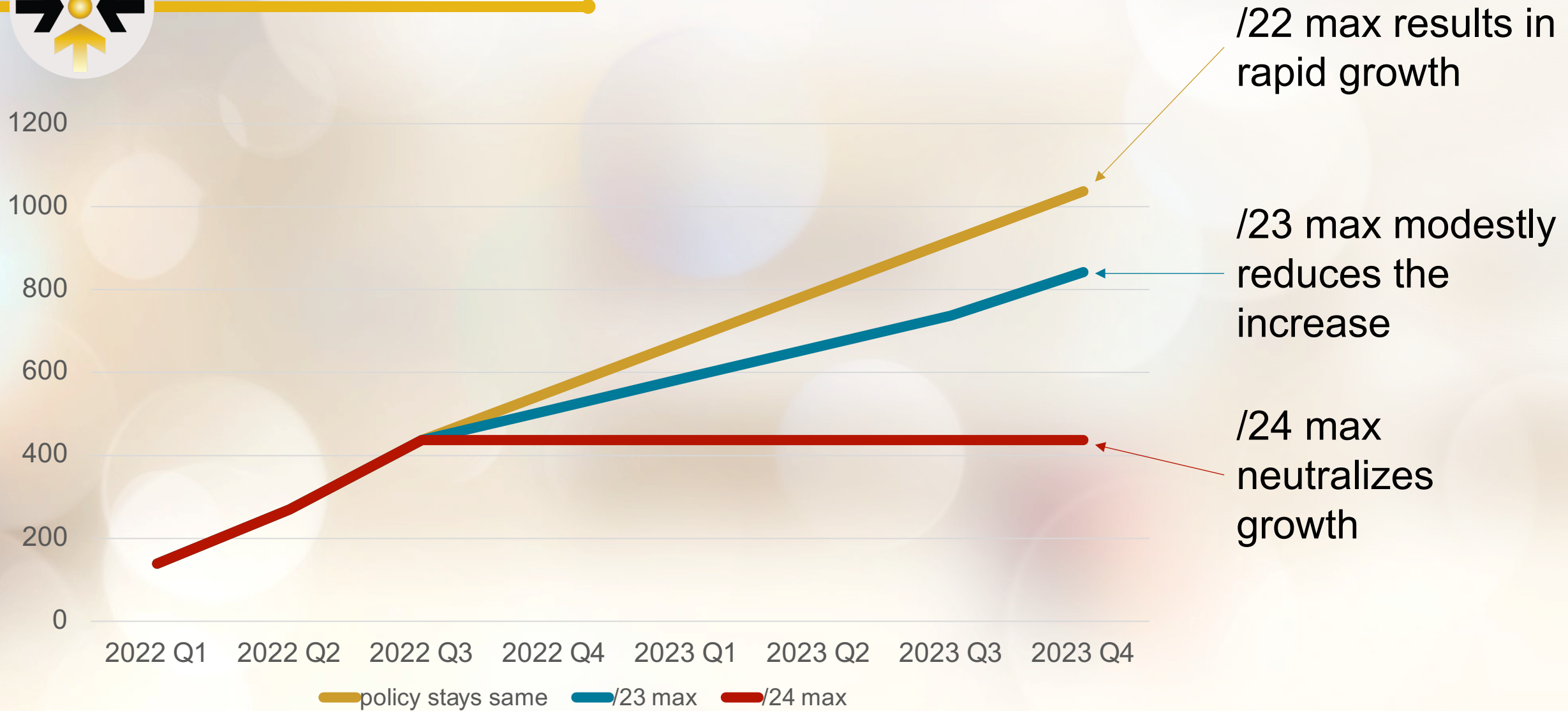Do we want 1,000+ requests on the list?

Options?

Waiting List Options

- Lower minimum allocation size
- Lower maximum IPv4 holdings for eligibility
- Restrict/eliminate transfer of Waiting List blocks
- Not removing organizations based on 8.3/8.4 transfers

Lowering Max Block Size

/22 max results in rapid growth

/23 max modestly reduces the increase

/24 max neutralizes growth

1200	
1000	
800	
600	
400	
200	
0	

2022 Q1   2022 Q2   2022 Q3   2022 Q4   2023 Q1   2023 Q2   2023 Q3   2023 Q4

policy stays same   /23 max   /24 max

Example: Last Waiting List

- Under current policy, 69 requests were filled (/22 maximum allocation) with 441 requests unfilled
- With a /24 maximum allocation size, 229 organizations would have received a block, leaving 276 requests on the list
- Projected Q4 fill would increase from 122 to 381

Impact of Max Holdings Change

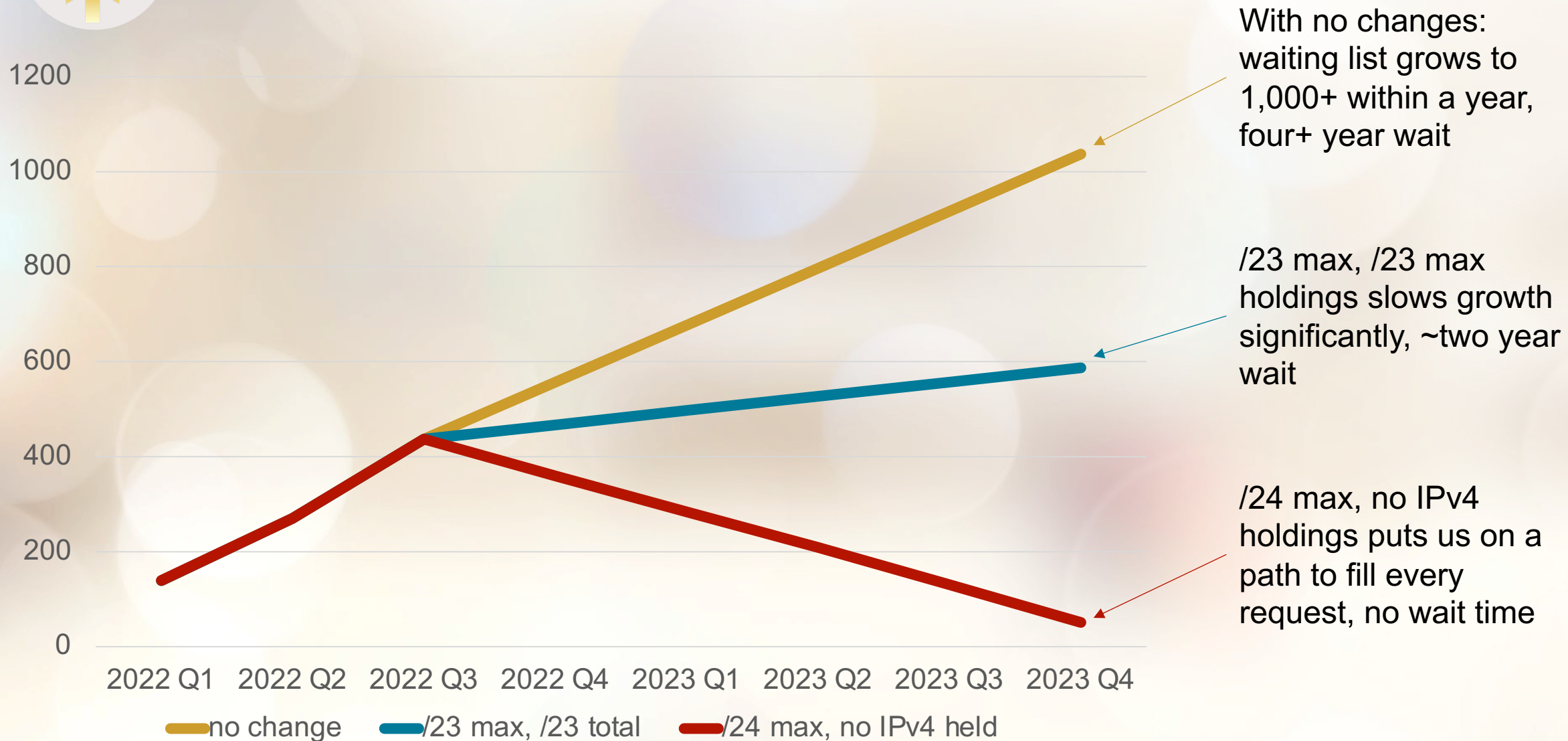| Max Held	Growth Slows By
/21	9.3%
/22	17.6%
/23	25.0%
/24	28.9%
None	42.4%

Example: Q4 Waiting List

- With the current /20 maximum holdings, we project 561 orgs will be on the waiting list for the 2022 Q4 waiting list distribution

- Impact of reducing max holdings:
  - /21: 509
  - /22: 463
  - /23: 421
  - /24: 403
  - None: 323

A Range of Options...

With no changes: waiting list grows to 1,000+ within a year, four+ year wait

/23 max, /23 max holdings slows growth significantly, ~two year wait

/24 max, no IPv4 holdings puts us on a path to fill every request, no wait time

2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4

— no change — /23 max, /23 total — /24 max, no IPv4 held

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Needs-based Source Transfers

- Current policy places a five-year waiting period to transfer addresses received via needs-based transfer

- Should waiting list blocks be permanently ineligible for needs-based transfer?
  - This would require orgs that no longer need IPv4 addresses obtained via the waiting list to return them for distribution to another org on the waiting list

Needs-based Recipient Transfers

- Current policy: "Any requests met through a transfer will be considered fulfilled and removed from the waiting list"

- With waiting list times being in years, should an org be eligible to get a small block (e.g. /24) via 8.3/8.4 and stay on the waiting list?

- Example: Org on the waiting list has waited two years for a /22 but has a customer who needs a /24 immediately. Should they be eligible to acquire a /24 via 8.3/8.4 and stay on?

Retroactive or Not?

- If any policy changes apply only to new requests, it will be about two years before they have a practical effect

- Previous change was initially retroactive, but a subsequent policy partially restored those removed

- Important to settle this at the time of the change

How Do Other RIRs Handle This?

- RIPE NCC
  - LIRs with no history of IPv4 from the RIR may request a /24 so long as:
    - The space will be used to make assignments, and
    - The space will be used on a network with at least one active element in the RIPE NCC service region.

Source:
- https://www.ripe.net/manage-ips-and-asns/ipv4/how-waiting-list-works

How Do Other RIRs Handle This?

- APNIC
  - IPv4 Waiting List abolished in July 2019
  - Local Internet Registries (LIRs) may request /24 - /23
  - Requesting LIRs must have used a /24 from their provider or demonstrate immediate need for a /24, with a plan for use of at least a /23 within a year

Sources:
- APNIC Internet Number Resource Policies Part 2, Section 6.1

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Questions for the Community

- Do nothing, no changes?
- Lower the max block size?
- Lower maximum holdings?
- Allow needs-based source transfers?
- Allow small needs-based recipient transfers to remove an org from the waiting list?
- Allow any retroactive policy changes?

Any Questions ?

Thank You