Feedback From RIPE NCC Registration Services

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The Aim of This Update

- To report back to the RIPE community:

  - The feedback that we receive from LIRs

  - Highlighting potential problem areas

- Asking for guidance on these topics

- Providing input to the community for policy discussions

Outline

- Update on action point from RIPE 71:

  - ALLOCATED PI / ALLOCATED UNSPECIFIED

- Legacy resource transfers after inter-RIR transfers

- Listing prefixes during ASN requests

- IPv4 IXP assignment use

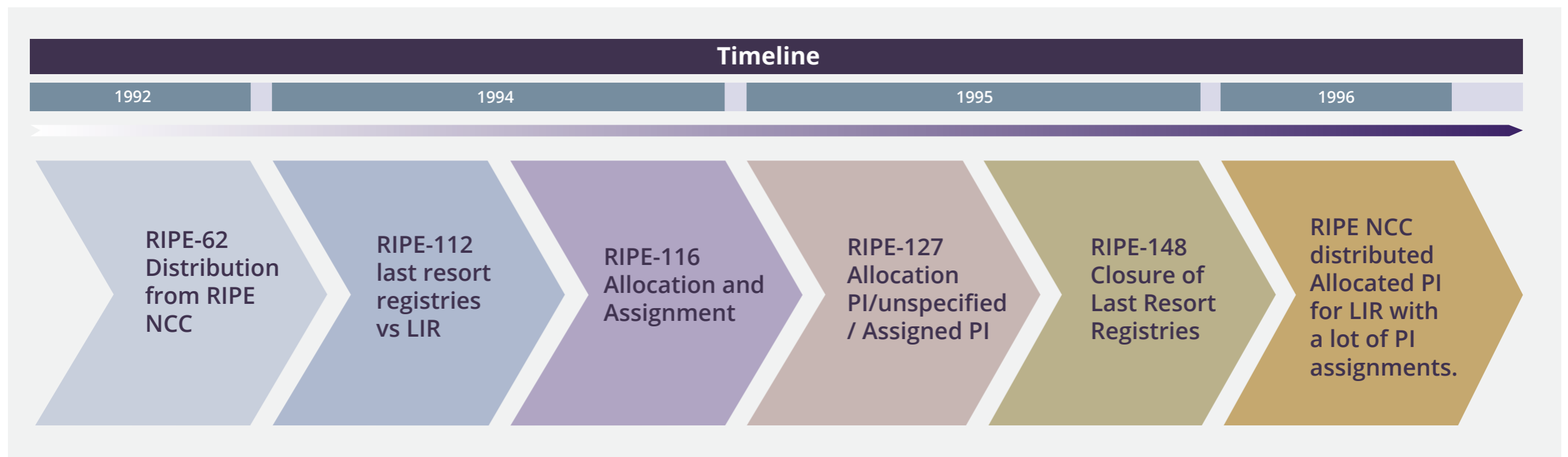- IPv6 /48 potential policy bug

ALLOCATED PI & ALLOCATED UNSPECIFIED

IPv4 blocks with status that cause issues

RIPE NCC ALLOCATED PI

↓

End User ASSIGNED PI

- Stays with End User when changing LIR
- Contractual Requirement for End Users
- Returns to RIPE NCC when deregistered

LIR ALLOCATED PI / UNSPECIFIED

↓

End User ASSIGNED PI/PA

- LIR remains in control off address space, even for ASSIGNED PI issued to customer
- No contractual requirement according to policy in place
- LIR and End User made agreements of which RIPE NCC is not aware
- New PI Assignments are made
- Returns to LIR unless otherwise agreed or remains abandoned in the RIPE DB

Historical Timeline

Timeline

| 1992 | 1994 | 1995 | 1996 |

RIPE-62 Distribution from RIPE NCC

RIPE-112 last resort registries vs LIR

RIPE-116 Allocation and Assignment

RIPE-127 Allocation PI/unspecified / Assigned PI

RIPE-148 Closure of Last Resort Registries

RIPE NCC distributed Allocated PI for LIR with a lot of PI assignments.

Some numbers

- 30 LIRs holding 68 ALLOCATED UNSPECIFIED

  - 915 ASSIGNED PI

  - 34,922 ASSIGNED PA

  - 579 NOT-SET

- 8 LIRs holding 27 ALLOCATED PI

  - 2,687 ASSIGNED PI

  - 44 ASSIGNED PA

Actions and Results

- All LIRs contacted via email, phone, @RIPE72

- 15 LIRs, 37 ALLOCATED UNSPECIFIED requested to convert to ALLOCATED PA

Actions and Results

	YES	NO	Don't know
DB up to date?	70%	24%	6%
Convert Unspecified to PA	80%	5%	15%
In contact with PI holders?	29%	47%	24%
LIR mnt-by in PI?	50%	33%	17%
New "ASSIGNED PI"	28%	72%	n/a

Result Conclusions

- There seems to a status misunderstanding

  - LIRs believe ASSIGNED PI is necessary for End Users to have freedom to chose their upstream provider

  - LIRs however feel administratively responsible

- Many LIRs do not have contact with ASSIGNED PI customers anymore

- LIRs still make new PI ASSIGNMENTS

  - No provision in RIPE policy for making new PI assignments and End Users may believe they have 'independent' space

What Now?

- Maintain status quo

- Ask LIRs with ALLOCATED UNSPECIFIED/ PI to change status to PA in agreement with customer

  - A lot of work for LIR, and customers may be unreachable

- Split LIR's ALLOCATED PI / UNSPECIFIED when customer with ASSIGNED PI asks to move to a different sponsoring LIR

- …

Legacy Resource Transfers

Inter-RIR Transfer Policy

"For transfers from RIR regions that require the receiving region to have needs-based policies, recipients must provide a plan to the RIPE NCC for the use of at least 50% of the transferred resources within 5 years" (ripe-644)

"With this policy, legacy resources can be transferred to or from the RIPE NCC service region, in spite of the fact there is no specific transfer policy for them" (ripe-644)

Inter-RIR Legacy Resources

- In spite of having a five-year plan, recipient can transfer legacy resources the next day

  - No legacy policy transfer limitations within the region

  - The RIPE NCC is not part of the transfer process

- This is policy compliant - but is it according to the spirit of the policy?

IP Prefixes and ASN Requests

Requesting an AS Number

- For the past 15 years, the RIPE NCC has asked for the prefixes that will be originated from a newly requested AS Number

  - *"The enterprise will also have to provide information about which IP addresses they will be routing (originating) with this AS"* (ripe-228, ASN request supporting notes, 2001)

  - *"The address space must be a valid assignment to the organisation that will use the AS number"* (ripe-355, ASN request supporting notes, 2005)

ASN Request Evaluation

"Why is the RIPE NCC asking for the prefix to be announced? The AS Number Assignment policy does not specifically mention it"

- To ensure that:

  - Assignments are properly registered

  - The ASN requester is authorised to announce the address space listed

  - ASNs are not stockpiled by organisations without need

  - ASNs are assigned *directly to the End User* (ripe-638)

IPv4 IXP Assignments

IPv4 IXP Assignment Status

- A /16 is reserved for exclusive use by IXPs

- IP space returned by IXPs will be added to the reserved pool for IXP use

  - 67 assignments made under this policy

  - 71% of the reserved /16 is still available

  - 13 /24s were returned to the IXP pool

IPv4 IXP Assignment Policy

"This space will be used to run an IXP peering LAN; other uses are <u>forbidden</u>" (ripe-649)

- ± 10% of IXP assignments issued are visible in global routing tables

  - Addresses partially used for other services

- Should the RIPE NCC be still monitoring this space and following up if an IXP assignment is globally routed?

IPv4 /48
Potential Policy Bug

IPv6 PA Assignment Policy

"When a single End Site requires an assignment shorter than a /48, it must request the assignment with documentation or materials that justify the request. Requests for multiple or additional prefixes exceeding a /48 assignment for a single End Site will be processed and reviewed at the RIR level" (ripe-655)

Policy Application Concern

"Can an End User receive receive a /48 PA Assignment from two different LIRs without the need for RIPE NCC evaluation and approval?"

- The RIPE NCC will not require that requests be evaluated when the End User receives up to a /48 from each LIR

Questions

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