RIPE NCC
RIPE NETWORK COORDINATION CENTRE

New Local Internet Registry

Webinar

RIPE NCC Learning & Development

This session is being recorded

Agenda

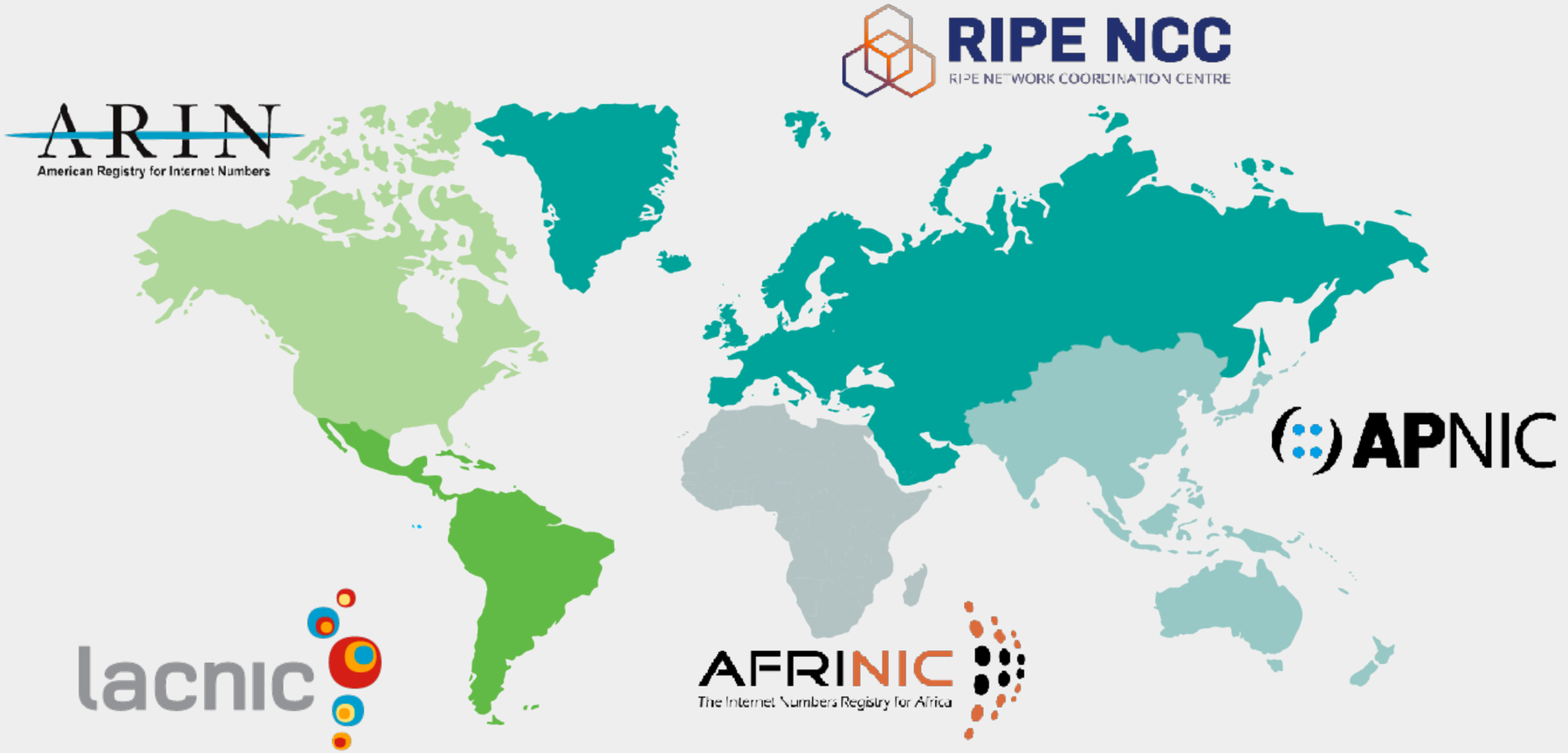
- The Internet Registry (IR) System
- RIPE and the RIPE NCC
- Tools
- Getting Resources

Section 1

The Internet Registry System

iana

Internet Assigned Numbers Authority



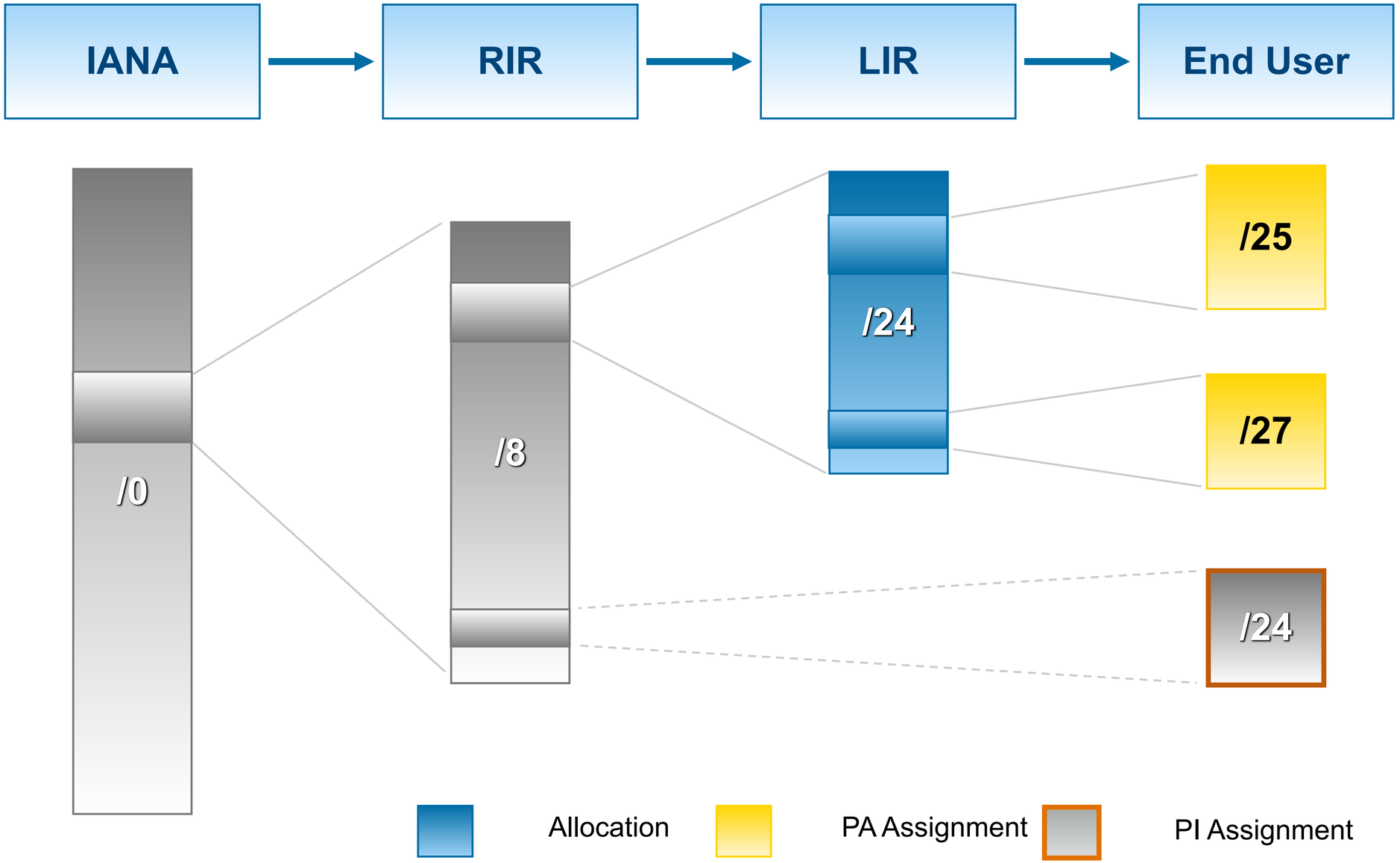
All five RIRs are:

- Not-for-profit organisation
- Funded by membership fees
- Policies developed by regional communities
- Neutral, impartial, open, and transparent

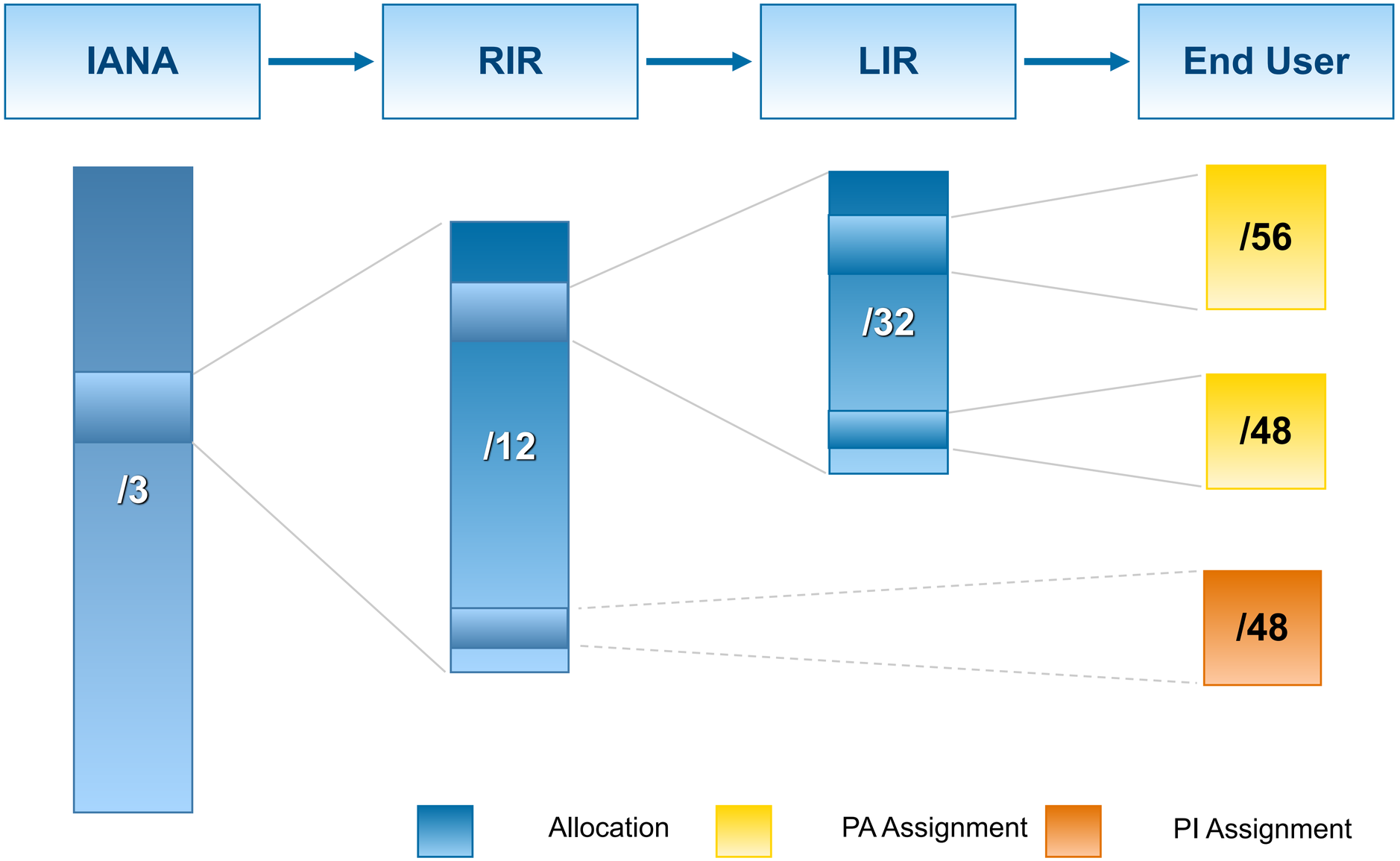
Goals of the IR System

- Registration
  - Registration Accuracy
- Aggregation
  - Hierarchical Allocation
- Conservation / Fairness
  - Allocation Pool Management

IPv4 Address Distribution: Current



IPv6 Address Distribution



Section 2

RIPE and RIPE NCC

RIPE NCC

- Began operating in 1992
- Not-for-profit membership organisation
- 25,000+ members (Local Internet Registries)
- Neutral, Impartial, Open, Transparent
- Provides administrative support to RIPE
- Distributes IP addresses and AS numbers

RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Take the poll!

What defines the **RIPE community**?

Please choose the correct answers.

1 min.

Réseaux IP Européens (RIPE)

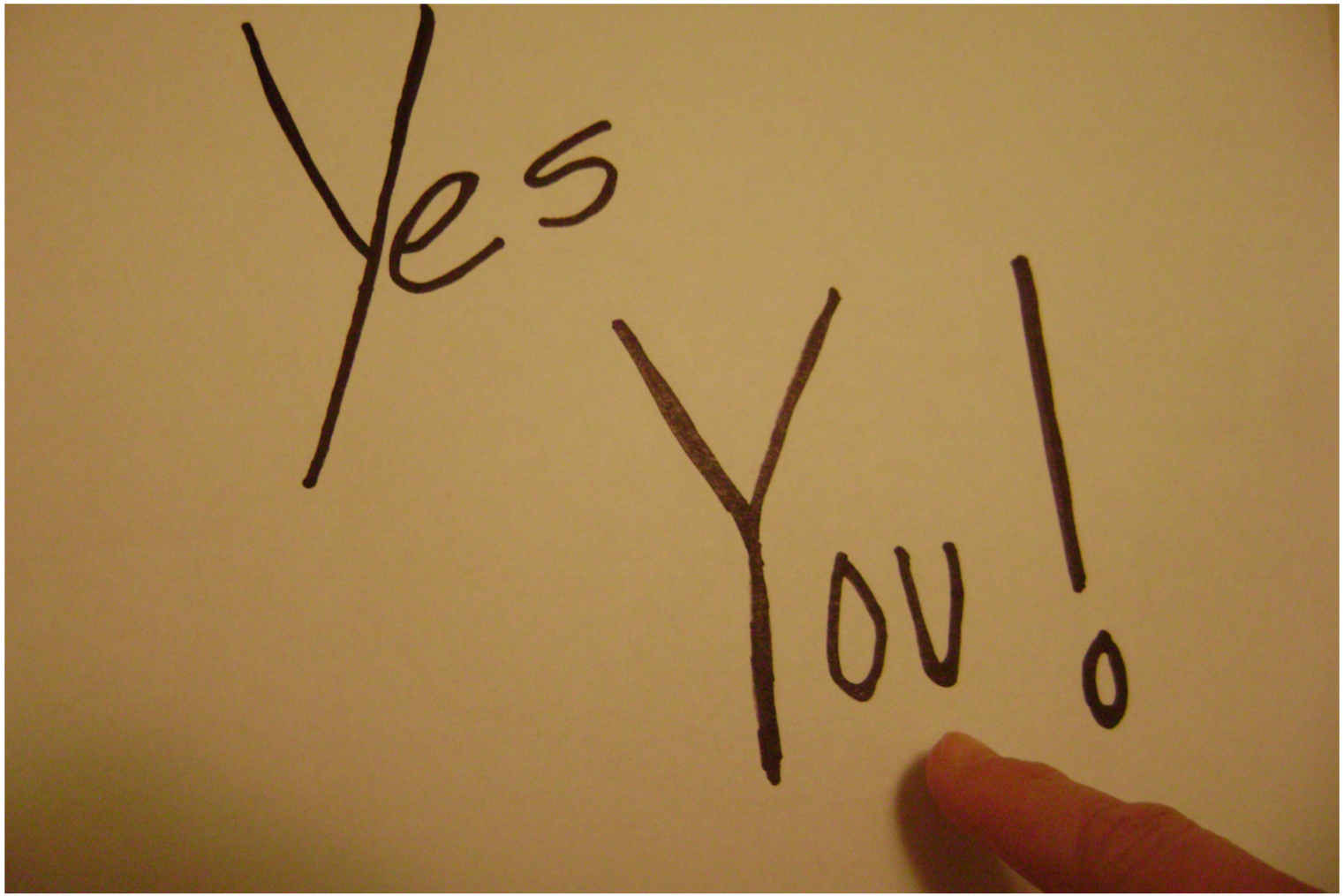
- Started in 1989
- Discussion forum open to all parties interested
- Not a legal entity and no formal membership
- Develops policies
- Work done in Working Groups
- Activities are performed on a voluntary basis
- Decisions formed by consensus

Policy Development Process

Policies?

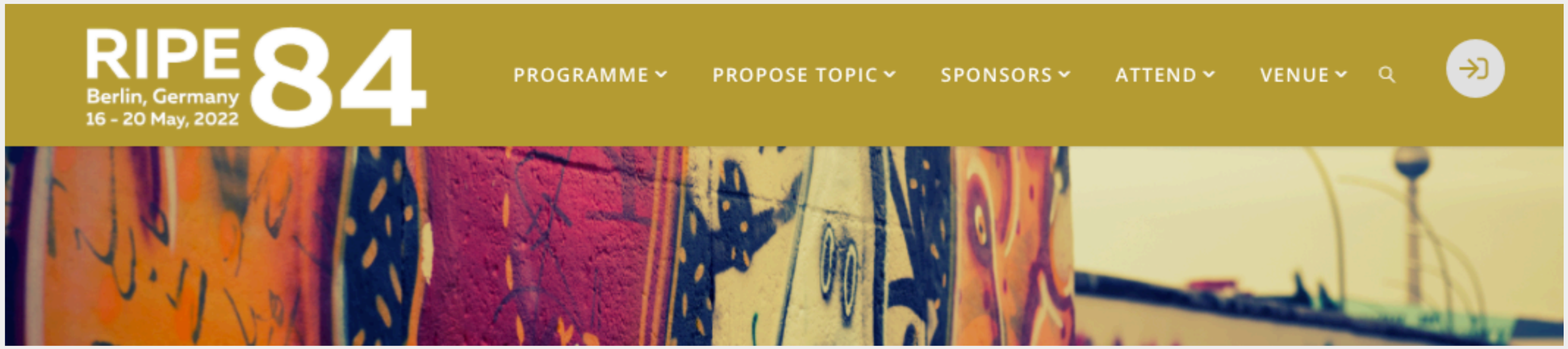
What policies?!

Who makes the policies?



Policy Development Process

- Open
- Transparent
- Bottom-up



RIPE NCC in the PDP

- Secretariat to support the process
- Helps with documentation
- Implements the policies

Angela Dall'Ara
Policy Officer

pdo@ripe.net

Participating

- Stay up-to-date with new policies
- Join in the policy discussions
- Propose a new policy

Demo

Join a discussion:

https://www.ripe.net/participate/mail/forum/

Section 3

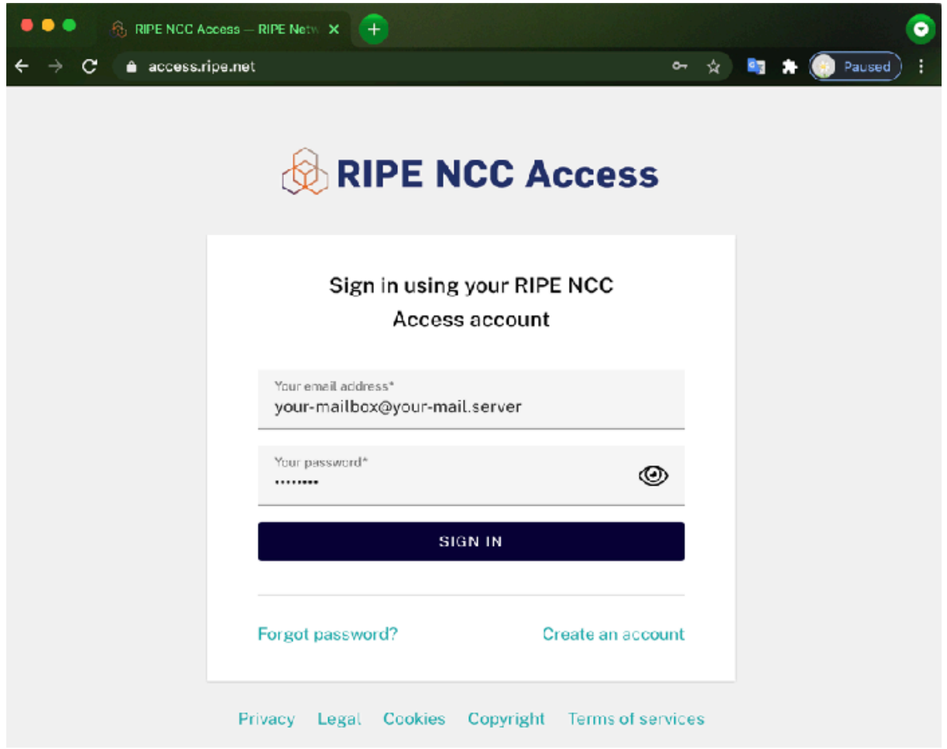
Tools

RIPE Database

- Registry of **who** holds IP addresses and ASNs
- Keeps **contact** information
  - For troubleshooting, notifying outages, etc.
- Publishing **routing** policies
- Provisioning **reverse DNS**

RIPE NCC Access

- Single Sign-On for different services
- Anybody can have an Access account
- Free for everybody



https://access.ripe.net

LIR Portal

- Manage your LIR data
  - Contact information
  - IP and ASN information
  - Submit request forms: IPv4, IPv6 and ASN
  - Update RIPE Database

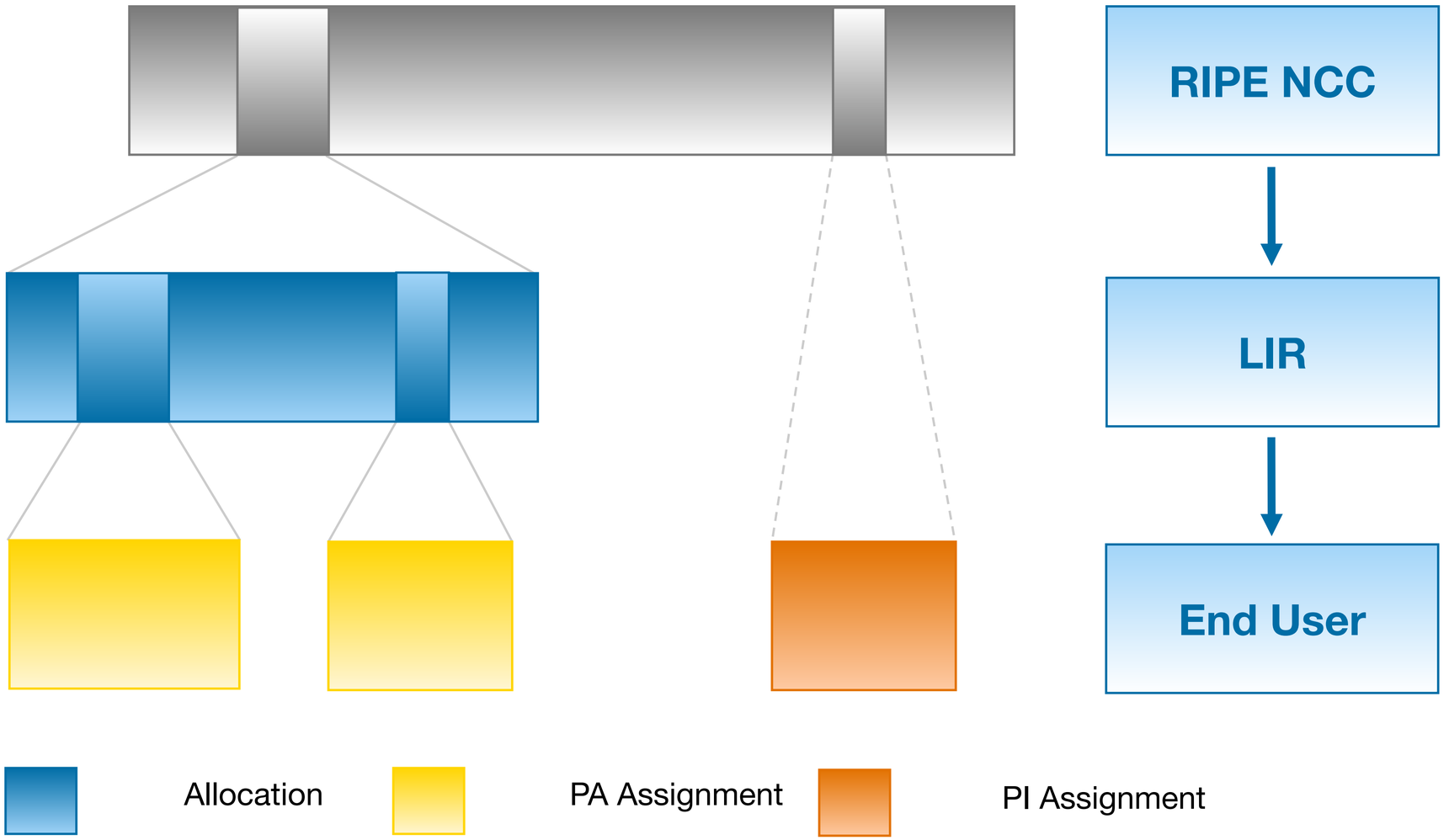
Demo

https://my.ripe.net

Section 4

Getting Resources

Allocation and Assignment



First IPv6 Allocation

- Have **mntner**, **person** and **role** objects ready
- Submit the First **IPv6 Allocation Request** form
  - Have a plan for making assignments within two years
- Minimum allocation size is **/32**
  - Up to a **/29** without additional justification
  - More if justified by customer numbers and the extent of the infrastructure
  - Additional bits based on hierarchical and geographical structure, planned longevity and security levels

Requesting an IPv6 PI Assignment

- Every PI Assignment must have a **Sponsoring LIR**
- Create **organisation**, **person** and **mntner** objects for the End User
- Send us:
  - PI Assignment Request Form
  - End User Agreement/Contract
  - Company registration document
  - Or picture ID (for a private individual)

IPv6 PI Assignments

- Cannot be further sub-assigned to other organisations
- Allowed to give separate addresses (not prefixes) to:
  - Visitors, server or appliance, point-to-point link to 3rd party
- Yearly charges for PI Assignments
  - See the RIPE NCC Charging Scheme

inet6num:	2001:db8:1234::/48
descr:	My First PI Assignment
status:	ASSIGNED PI
mnt-by:	RIPE-NCC-END-MNT
mnt-by:	ENDUSER-MNT
mnt-routes:	ENDUSER-MNT
mnt-domains:	ENDUSER-MNT

IPv4 Distribution Timeline

Original policy: **LIRs receive as many addresses as they can justify**

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2012:	**LIRs start receiving allocations from the last new block: 185/8** New policy: **No more than a single /22 for each new LIR**

IPv4 Distribution Timeline

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2011:	IANA allocates the RIPE NCC the last block: 185/8
2012:	LIRs start receiving allocations from the last new block: 185/8
	New policy: No more than a single /22 for each new LIR
2018:	**LIRs start receiving /22 allocations from the recycled space**

Soon continuous /22 are gone; LIRs start receiving /22 allocation equivalents in multiple smaller prefixes (/23—/24)

IPv4 Distribution Timeline

Original policy:	LIRs receive as many addresses as they can justify
2011:	IANA allocates the RIPE NCC the last block: 185/8
2012:	LIRs start receiving allocations from the last new block: 185/8
	New policy: No more than a single /22 for each new LIR
2018:	LIRs start receiving /22 allocations from the recycled space
November 2019:	An equivalent of /22 can no longer be allocated
	New policy: **No more than a single /24 for each new LIR**
	The waiting list is introduced.

IPv4 Allocation: The Waiting List

- Submit the IPv4 Allocation Request form
  - Use the same **mntner**, **person**/**role** objects from the IPv6 allocation

- Each LIR is put on the **first-come-first-served** waiting list to get **one /24** block
  - One /24 block = 256 IPv4 addresses

- Cannot be transferred for **24 months** after receiving it

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

IPv4 Transfers

- Transfer PA allocations to another LIR
- PI assignments can also be transferred
- No minimum size
- RIPE NCC evaluates it
- Cannot be transferred again within **24 months**
- Permanent or temporary

Transfers that happened in the past:
https://www.ripe.net/manage-ips-and-asns/resource-transfers-and-mergers/transfer-statistics

Transfers: How to Request

- Use the “Request Transfer” wizard

- Include the following information & documents:
  - IPv4 / IPv6 / ASN being transferred
  - company names and contact details
  - company registration papers
  - Transfer Agreement

For PI transfers, sponsoring LIR agreement is needed too.

Demo

RIPE Resource Transfer Policies:
https://www.ripe.net/publications/docs/ripe-682

IPv4 PI Assignments

- Since reaching the last /8, **no new IPv4 PI assignments**
- No sub-assigning allowed
- Yearly charges for PI Assignments

RIPE NCC Charging Scheme:
https://www.ripe.net/publications/docs/ripe-771

Autonomous System Numbers

- Assignment requirements
  - Address space
  - Multihoming
  - One AS Number per network
- For LIR itself
- For End User
  - Sponsoring LIR requests it for End User

- 32-bit is the default
  - 16-bit available on request

ASN Assignment Criteria:
http://www.ripe.net/ripe/docs/asn-assignment.html

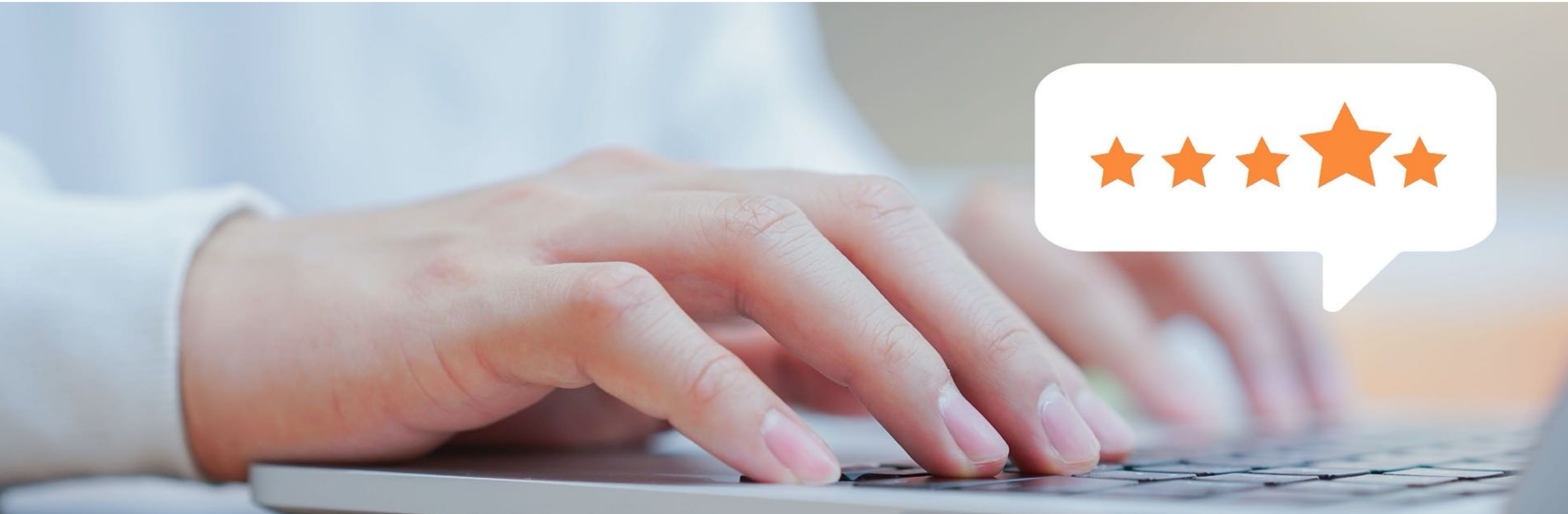
How to request ASN:
https://www.ripe.net/manage-ips-and-asns/as-numbers/request-an-as-number

Questions

We want your feedback!

What did you think about this session? Take our survey at:

https://www.ripe.net/support/training/feedback/webinar-for-new-lirs/



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https://getcertified.ripe.net/

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An Críoch

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