



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

RIPE NCC Update

ARIN 43

Our Focus for 2019



- Preparing for strong membership growth and anticipated fall-off after our IPv4 pool is finished
- Ensuring accuracy of the RIPE Registry
- Focus on due diligence and fraud prevention
- Adding value through our training services
- Providing neutral information, tools and measurements to support the RIPE community
- Strengthening the K-root server infrastructure

Abuse-c Validation



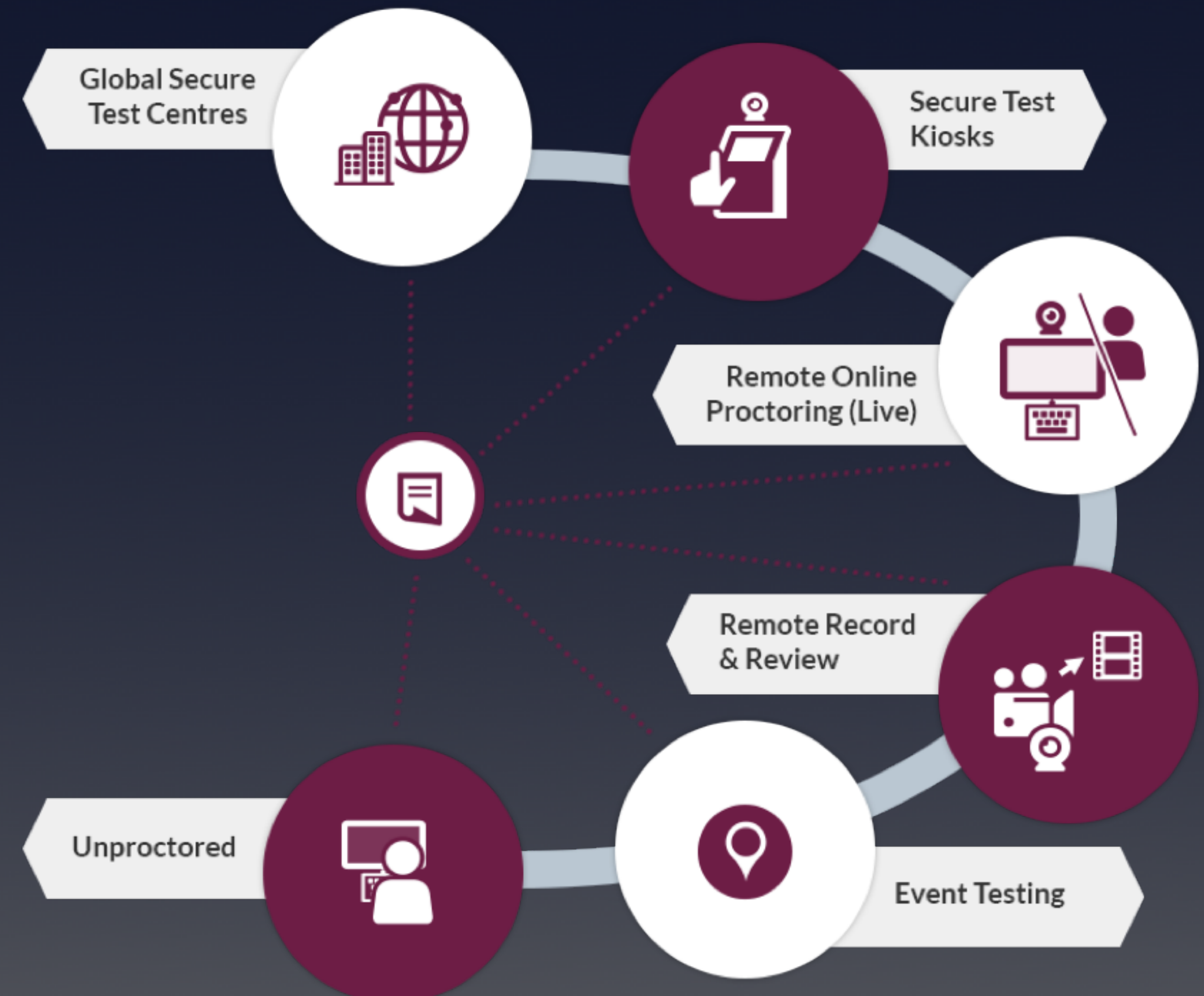
- Policy proposal was accepted in June 2018
- Asked us to check abuse contacts in the RIPE Database and follow-up with resource holders to fix outdated information
- Implementation started in February 2019
- Automated verification tool followed by manual intervention where needed

RIPE NCC Certified Professionals



- **Online proctored exams**

- Verifies the identity of the candidate taking the exam
- Skill-based exam questions, integrating both theory and exercises
- Extensive job task analysis and stakeholder consultations to align certifications with industry needs
- Vendor-neutral content



Proposed Assessment & Credentialing Model



Content available for all stakeholders

Booking available via credit card or voucher for online proctored exam



Exams via assessment platform

Online proctors supervise the exam taken in a secure environment



Digital badges linked to LinkedIn, Twitter, Facebook, RIPE Hall of Fame

RPKI Deployathon



- **Brought together network professionals on 7-8 March 2019 to:**
 - Learn how to certify resources
 - Configure live routers
 - Talks by experts who've already deployed RPKI
 - Organised by our community builders in collaboration with Juniper Networks



https://labs.ripe.net/Members/antony_stergiopoulos/results-of-the-first-rpki-deployathon

Policy Discussions



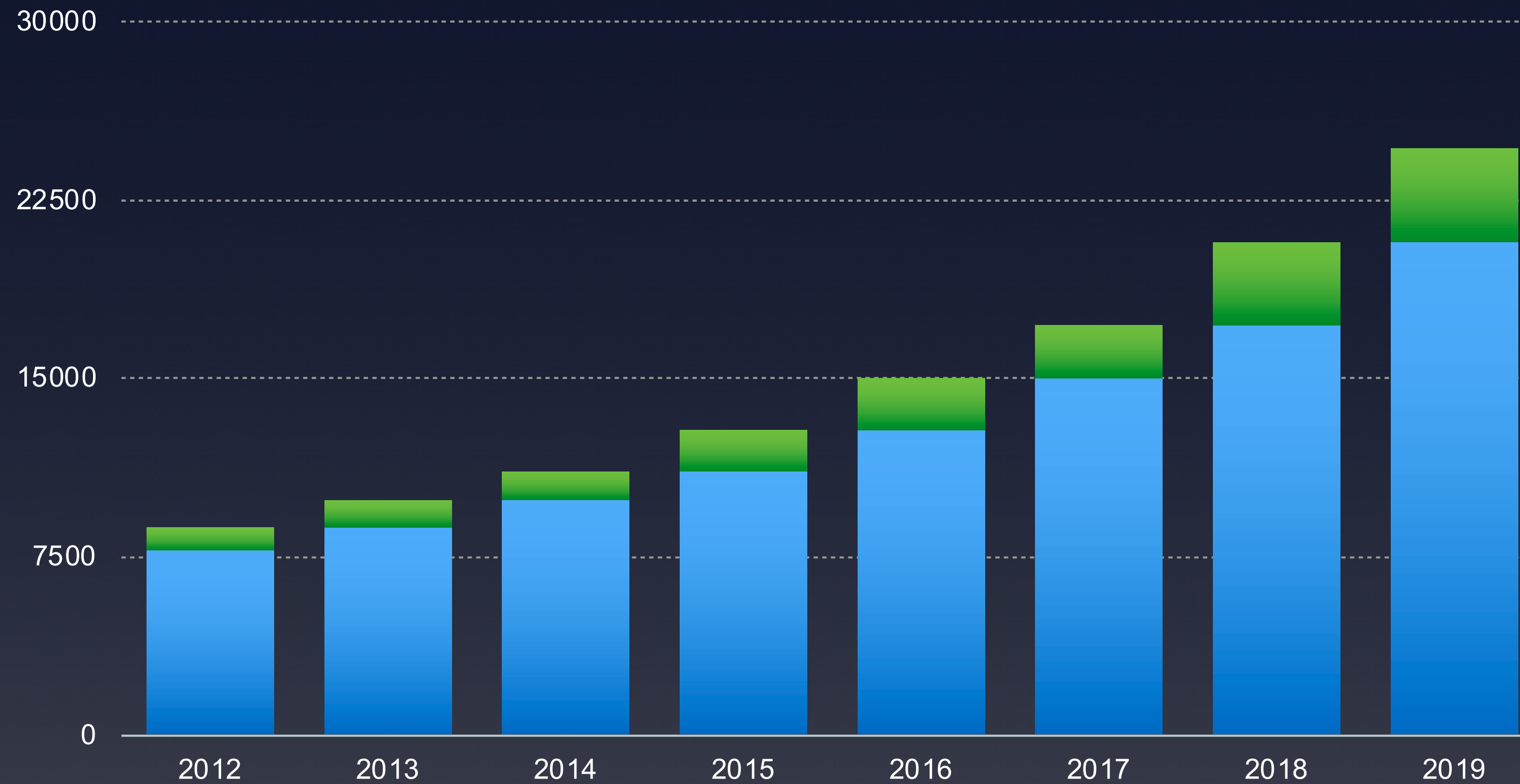
- **2019-03: BGP Hijacking is a RIPE Policy Violation**
 - Aims to clarify that an intentional hijack is a policy violation
- **2019-02: Reducing IPv4 allocation size to a /24 once the RIPE NCC is no longer able to allocate /22s**
- **2019-01: Clarification of Definition for "ASSIGNED PA"**
- **2018-06: RIPE NCC IRR Database Non-Authoritative Route Object Clean-up**

<https://www.ripe.net/current-proposals>



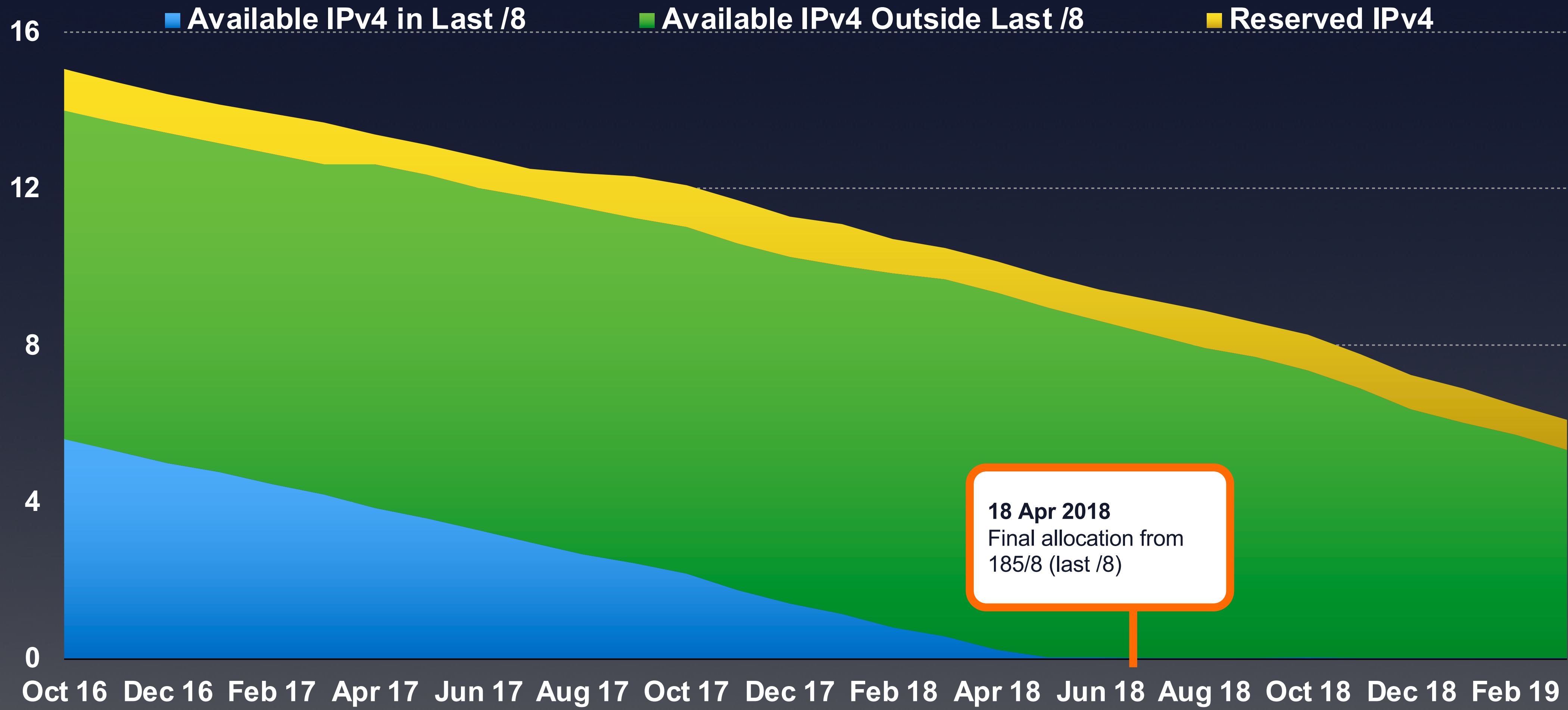
Approaching IPv4 Run-out

RIPE NCC Membership is Growing...



- Unprecedented growth in 2018
- Membership expected to reach 24,000 LIRs by end of 2019

IPv4 Addresses in our Pool (Millions)

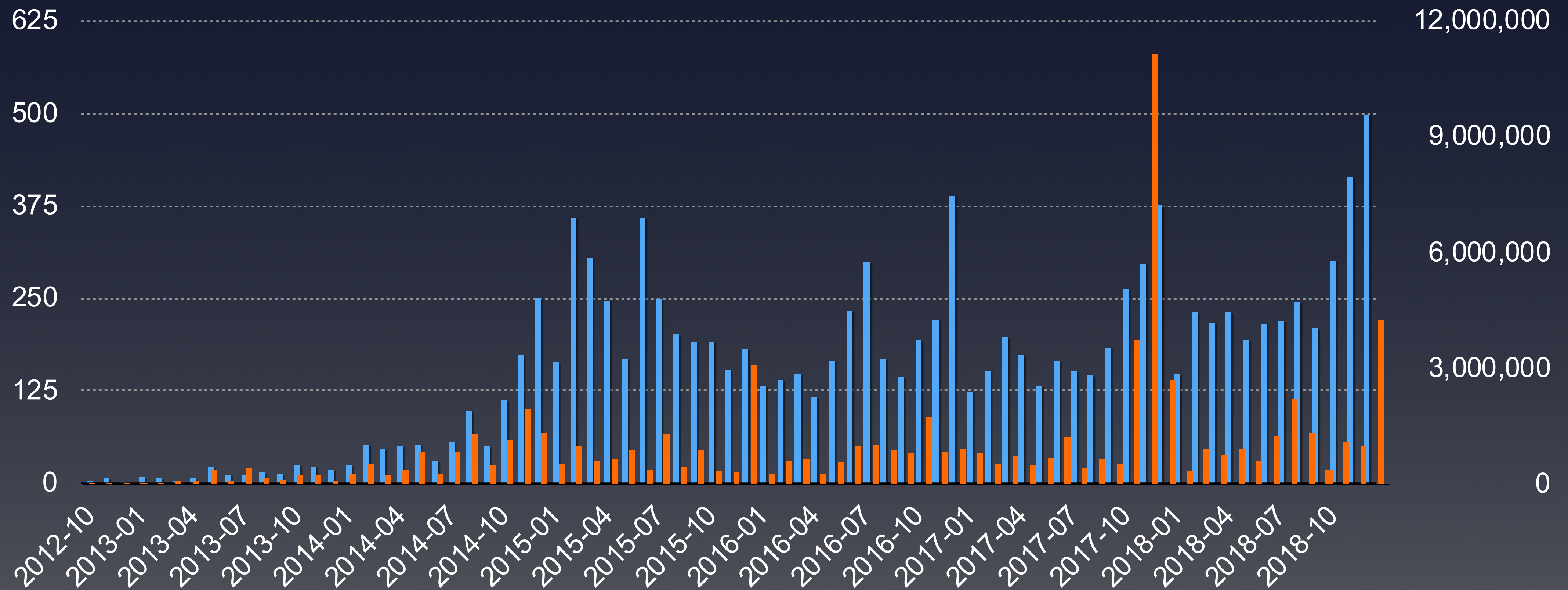


18 Apr 2018
Final allocation from
185/8 (last /8)

Transfer Activity in the RIPE NCC Service Region



■ Number of transfers ■ Number of IPv4 addresses



Allocation Process



- Now that the last /8 is gone, we are allocating contiguous /22s from our pool of returned IPv4 addresses
- When we can no longer allocate contiguous blocks, we will make /22 allocations out of the smallest-routable blocks (/23s and /24s)
- Once we can no longer make a /22 equivalent allocation, we will have reached run-out
- Run-out expected for February 2020
 - Actual date will vary according to membership growth

Considerations



- How can we handle run-out in a way that is fair, transparent and efficient?
- How should we handle the possibility that members might have to spend time on a waiting list or not get any IPv4 at all?
- Complex changes to our internal/external software will need to be made ahead of time
- We need to keep members and other stakeholders informed as we approach run-out

What Run-out Means for the RIPE Community



- Extending the lifespan of IPv4 as a technology - possibly slowing or delaying IPv6 adoption
- Possibly adding complexity to the routing table
 - (Though we haven't seen evidence of this to date)
- New kinds of actors in the RIPE Policy Development Process, and in the RIPE community generally
- Greater attention/involvement from governments and regulators who may view IPv4 as an economic issue

What Run-out Means for the RIPE NCC



- Transfer market reinforces the importance of the registry
- Impacts the dynamic between the RIPE NCC and our members
- New services and processes required
- Speculators, hoarders and hijackers with greater incentive to abuse the system
- A need to make sure we maintain the right balance between due diligence and not being overly bureaucratic

RIPE NCC Survey



- Launches at RIPE 78
- Our last survey gathered input from 4,400 people
- Crucial for guiding our strategy
- This will be our last survey before IPv4 exhaustion
- Much shorter and more streamlined than the previous version
- If you use our services - please participate!



**Join us in
Reykjavik for
RIPE 78!**

**Marking
30 years of the
RIPE community**



<https://ripe78.ripe.net>



Questions



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