

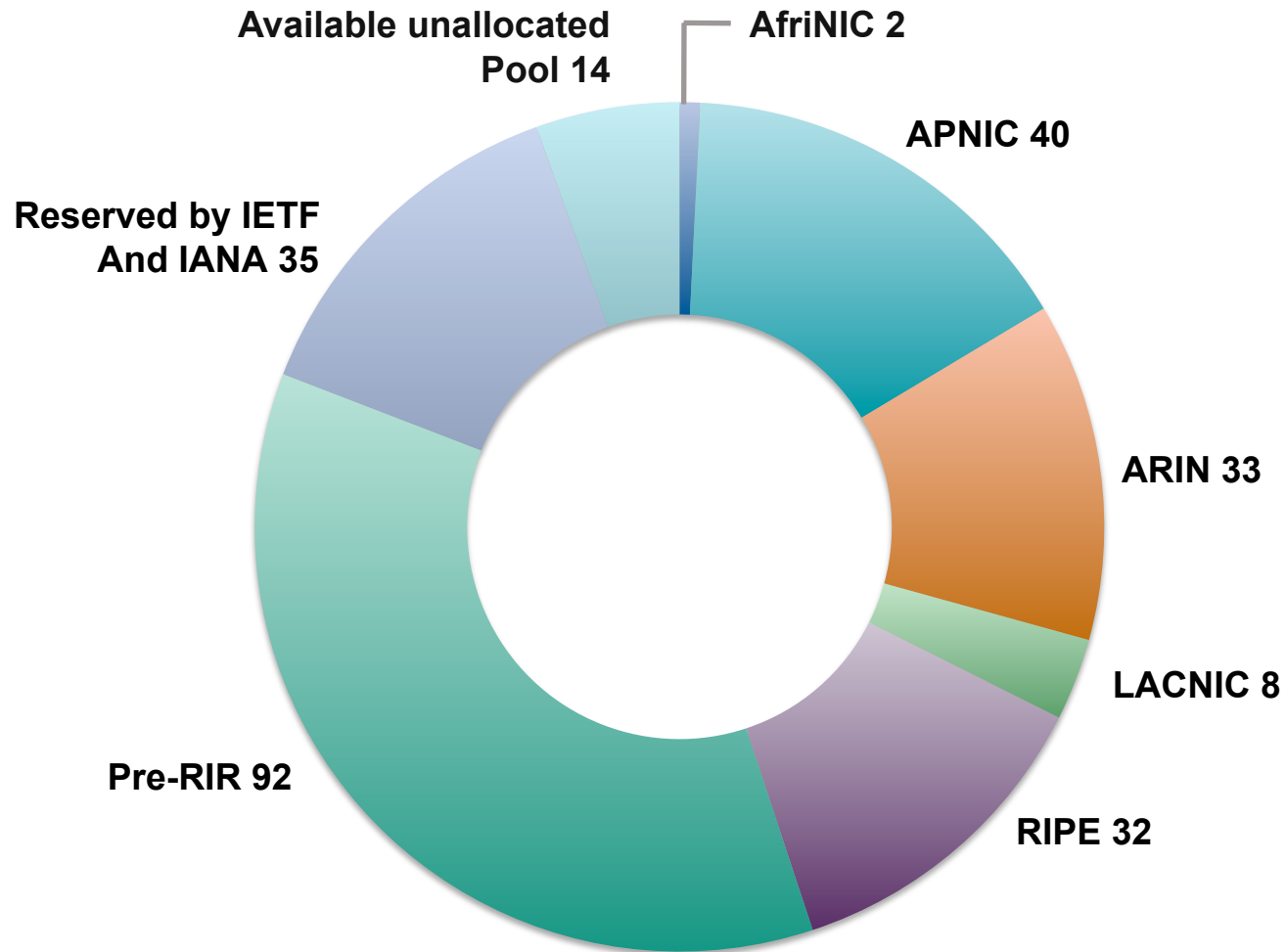
Final Stages of IPv4 Distribution

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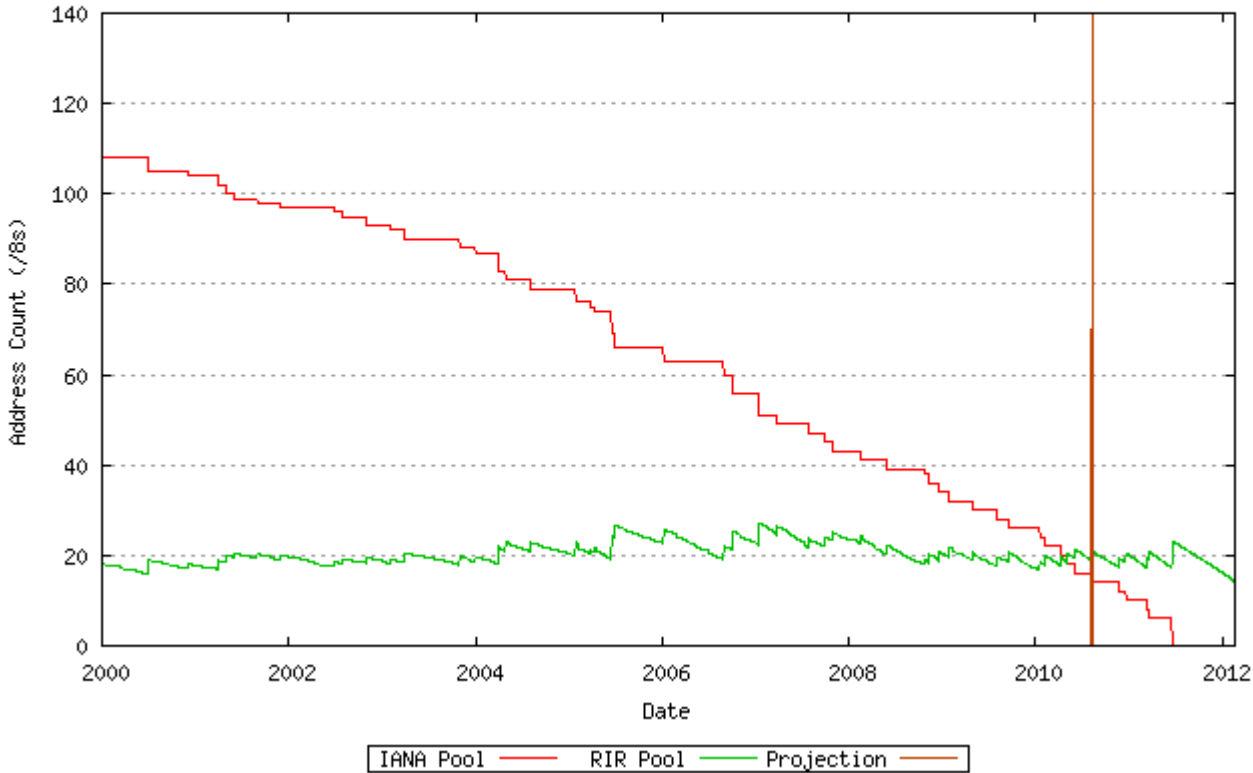
Introduction

- IPv4 address distribution will move to the final stages in the next few years
- This presentation is an overview of what is going to happen
- We would like to seek community's opinions on how APNIC could manage the IPv4 address distribution during the final stages

Status of IPv4 Address Space

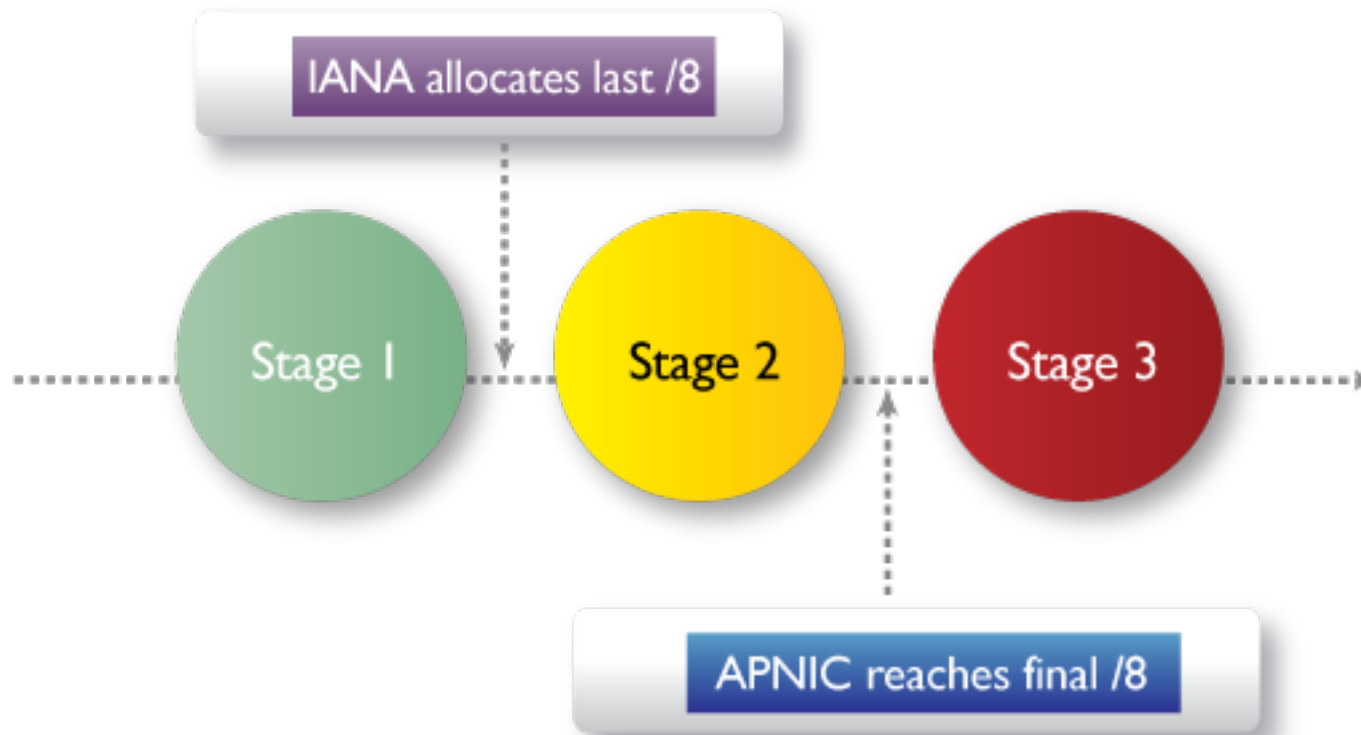


Projected Exhaustion of IANA Unallocated Pool



<http://www.potaroo.net/tools/ipv4/>

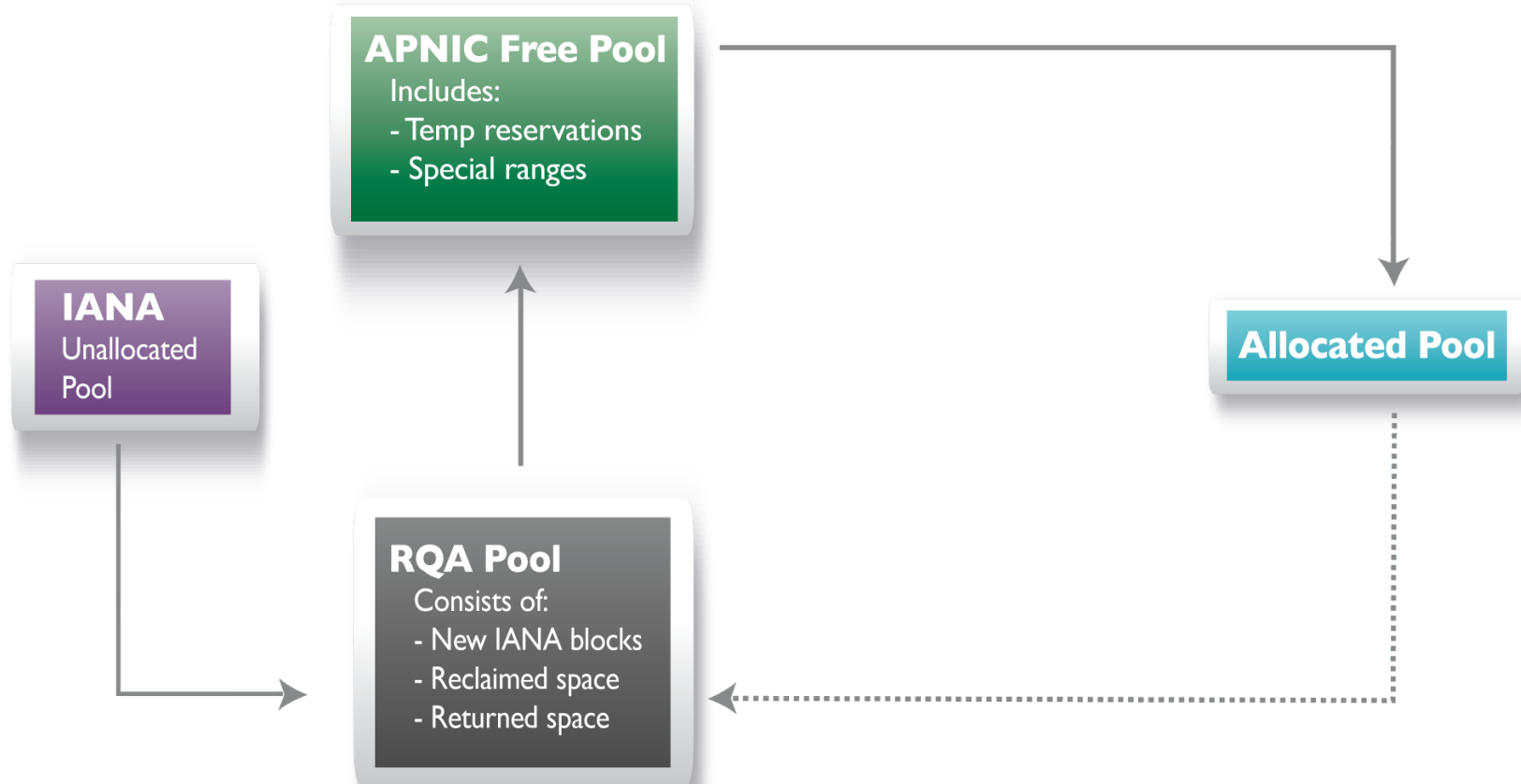
Final Stages of IPv4 Distribution



Stage 1

IANA Unallocated Pool Still
Available

IPv4 Address Pool at Stage 1



What Happens During Stage 1

- APNIC will continue to follow current policies to distribute IPv4 addresses
- All allocations will be based on equipment capacity and customer numbers
- Current escalation procedure will continue to apply

Escalation Procedure

If the request size

- $\geq /19$, request must be approved by two Hostmasters
- $\geq /17$, request must be approved by Resource Services Manager
- $\geq /15$, request must be approved by Senior Manager Review Team

Resource Quality Assurance

- Assess new IANA allocated /8 blocks
- Quarantine reclaimed and returned address space for 12 months
- Minimize any routability problems through communication, training, and testing



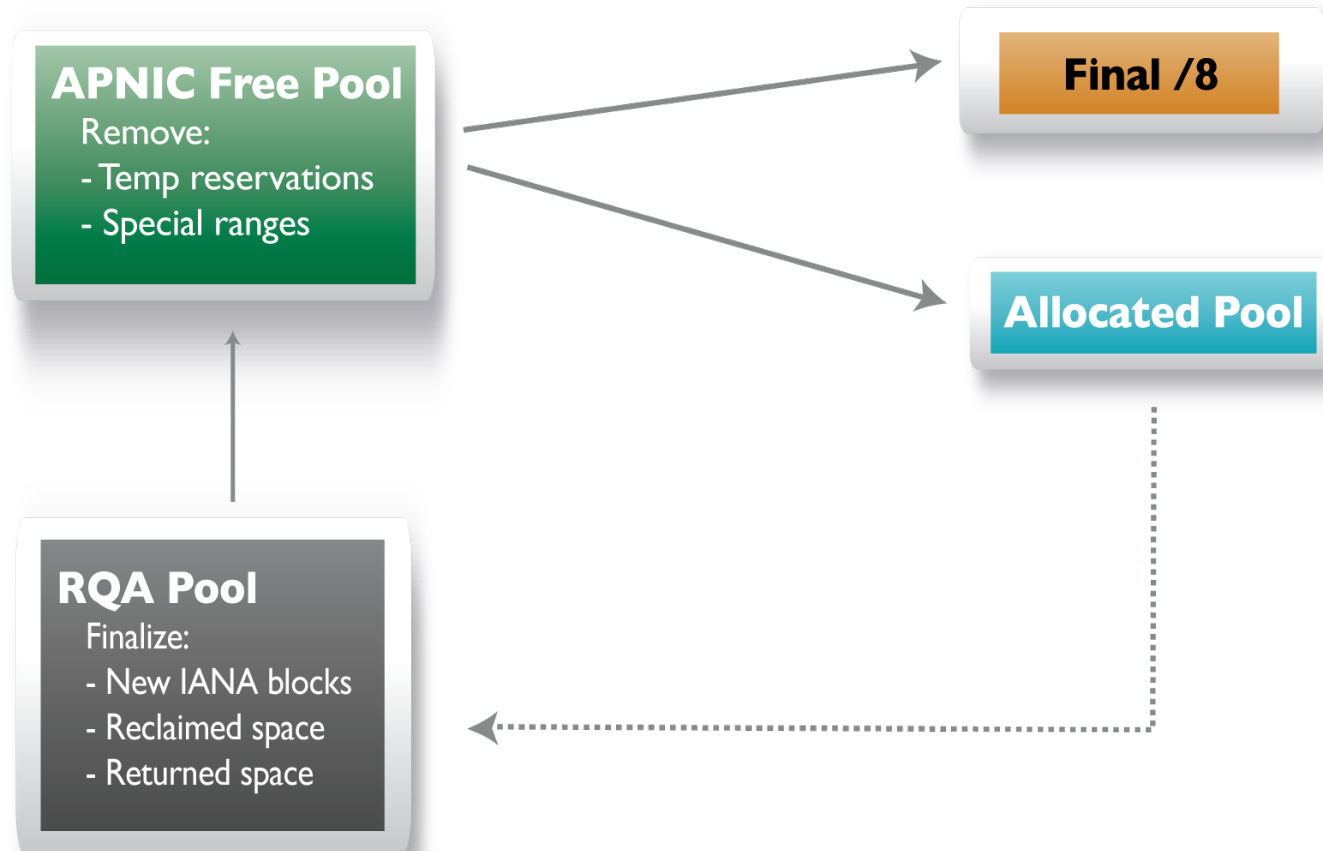
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Stage 2

Post-IANA Pool

IPv4 Address Pool at Stage 2



Reserving the Final /8

The advantages of reserving the last IANA /8 block are:

- The last block will be clean as IANA has reserved five clean blocks for the five RIRs
- It is easy for APNIC to manage the final /8 allocations and records
- Easier to identify other recyclable or transferable ranges

Reserving the Final /8 (cont.)

The disadvantage of reserving the last IANA /8 block is:

- It will create some fragmentation when there is a large request and we only have small prefixes to make up the allocation size without using the reserved final /8 block.

Continuing to Allocate all Available Space

- All reserved ranges except the final /8 will be released
- One allocation may combine multiple prefixes to make up the required allocation size

Finalizing the RQA Pool

- At the end of Stage 2, Hostmasters will make a final review of the RQA pool, searching for any usable address space

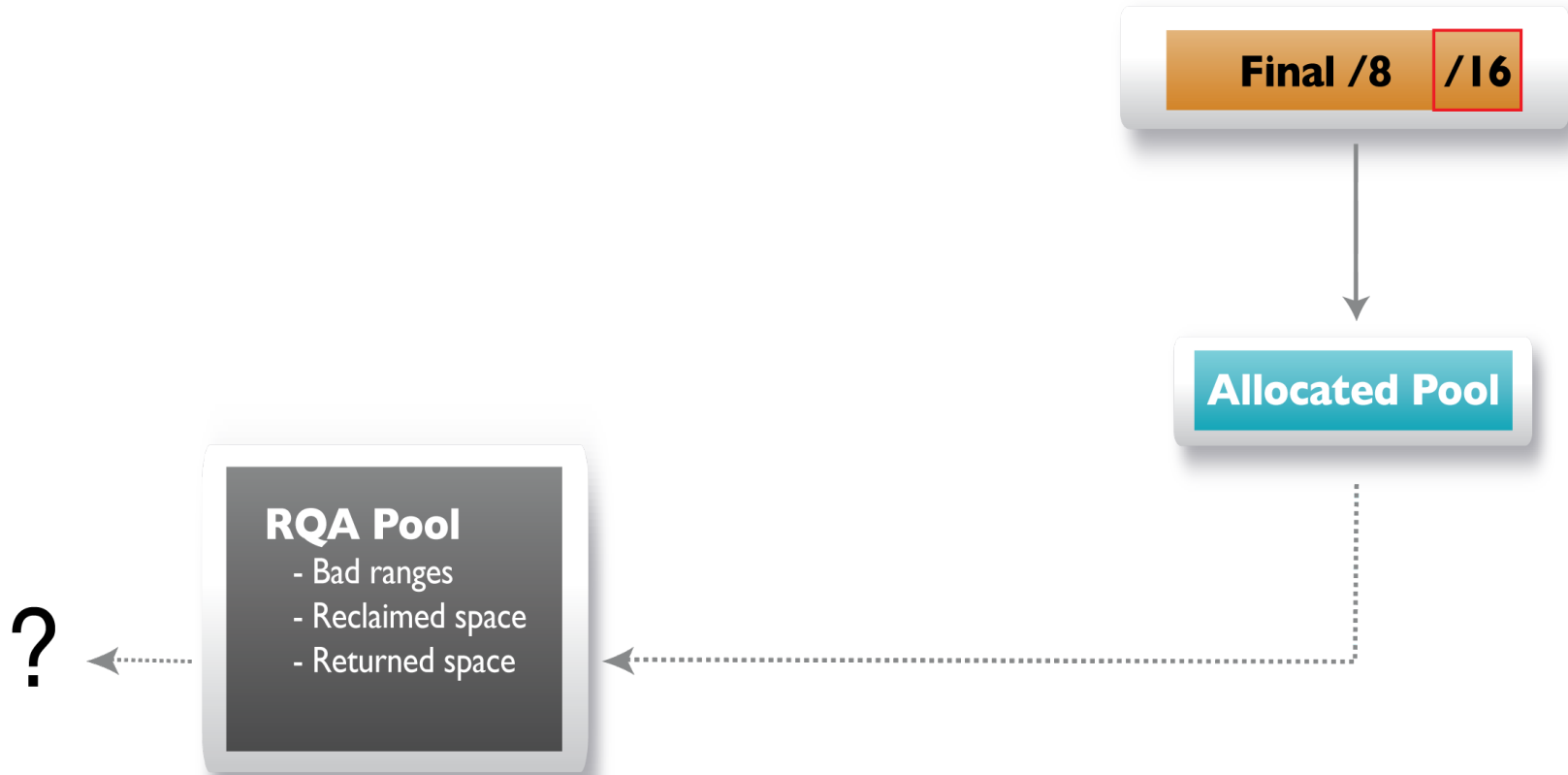
IPv4 Address Transfers

- Members may start using IPv4 transfer policy
- All such transfers will be subject to APNIC Hostmasters' evaluation at this stage

Stage 3

APNIC Reaches Final /8

IPv4 Address Pool at Stage 3



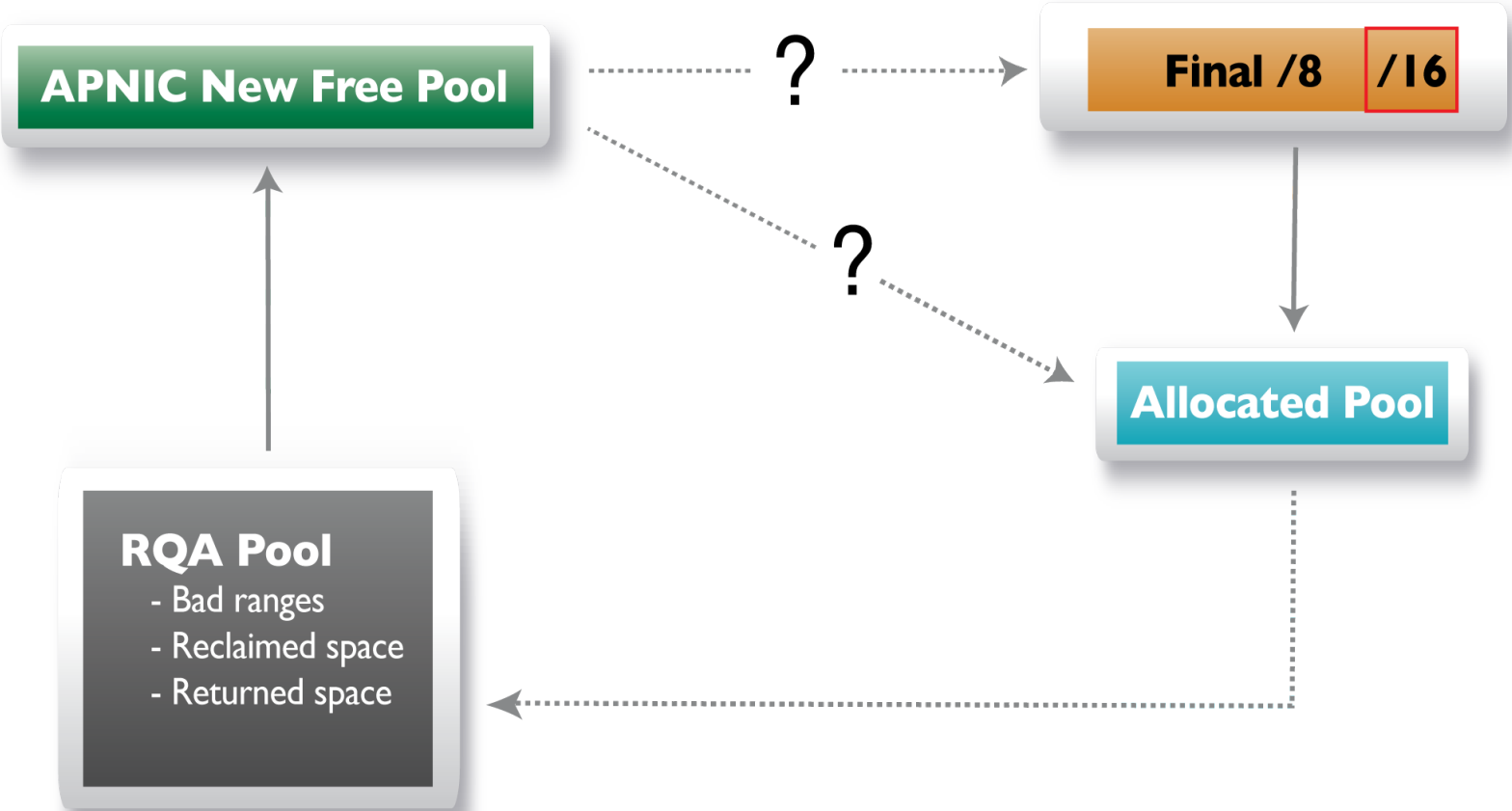
Use of Final /8

- One /16 block will be reserved for future uses, as yet unforeseen
- Allocations will be made according to the final /8 policy
- Each LIR can only receive one allocation of the minimum allocation size

IPv4 Address Transfers

- MyAPNIC will provide a streamlined transfer process
- Hostmasters' evaluation will not be necessary at this stage

Questions?



What Should We Do Next ?

- Propose a new policy to manage recycling IPv4 address space?
- Move to IPv6 as early as possible?
- More

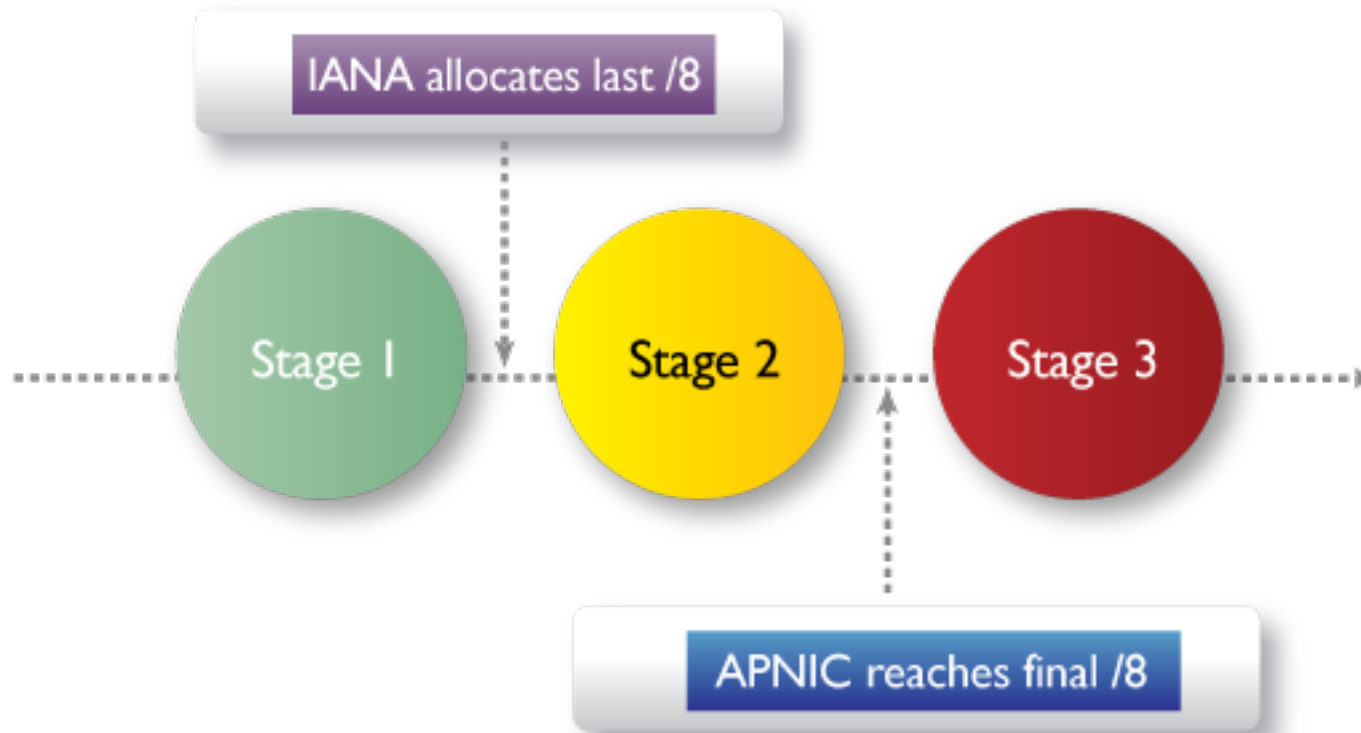
Summary

- Stage 1: IANA unallocated pool still available
- Stage 2: Post IANA pool
- Stage 3: APNIC reaches final /8

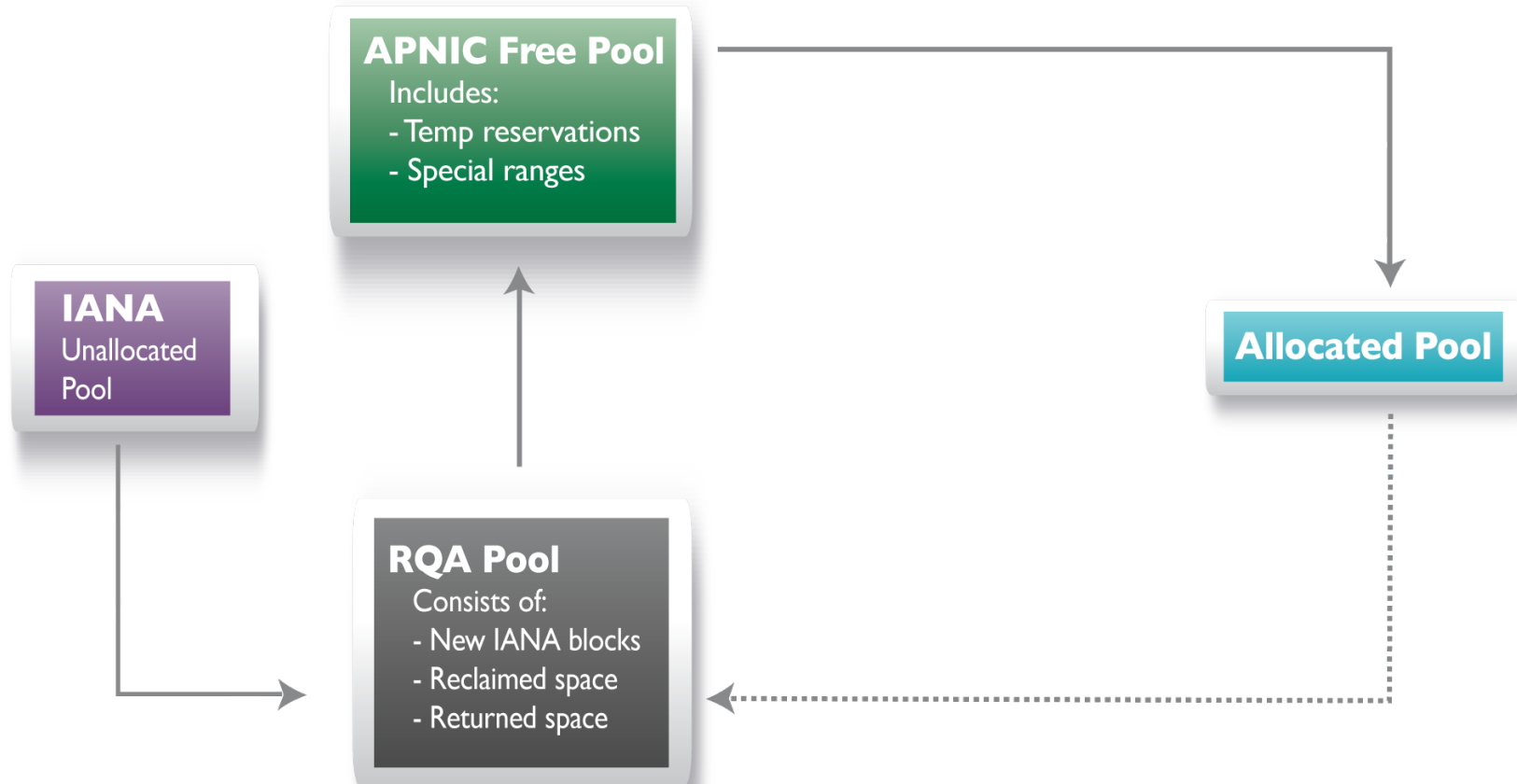
and

- The future

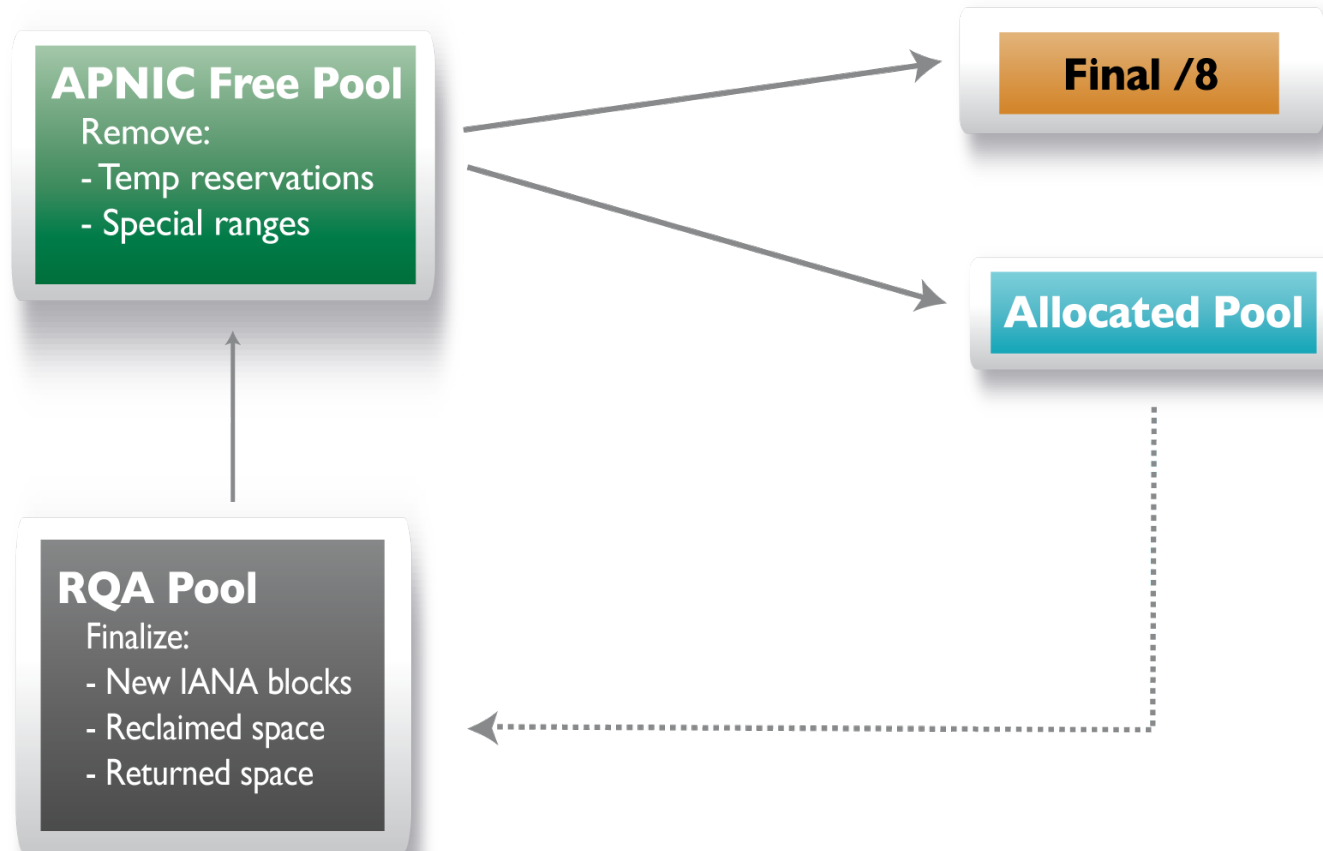
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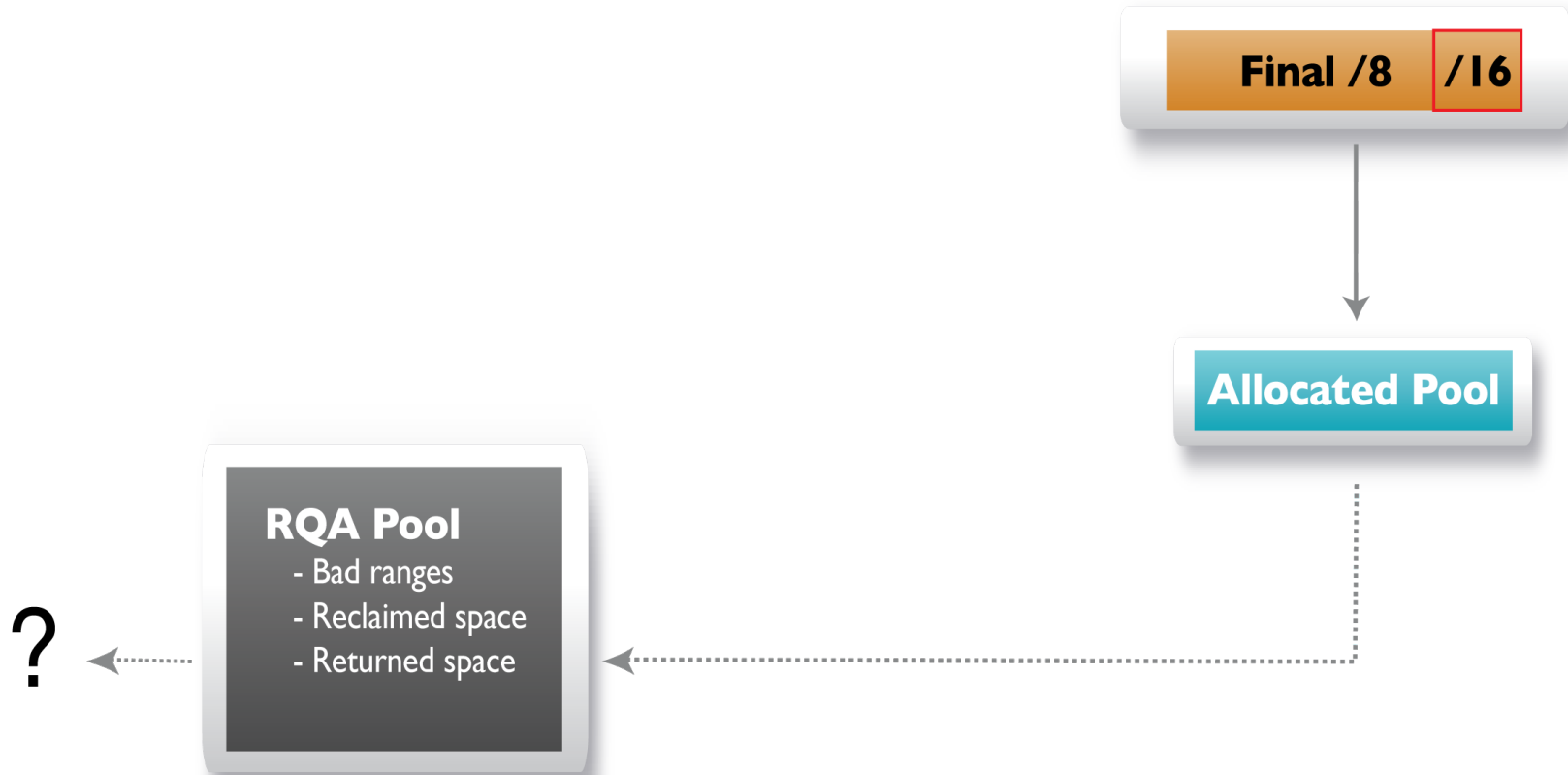
IPv4 Address Pool at Stage 1



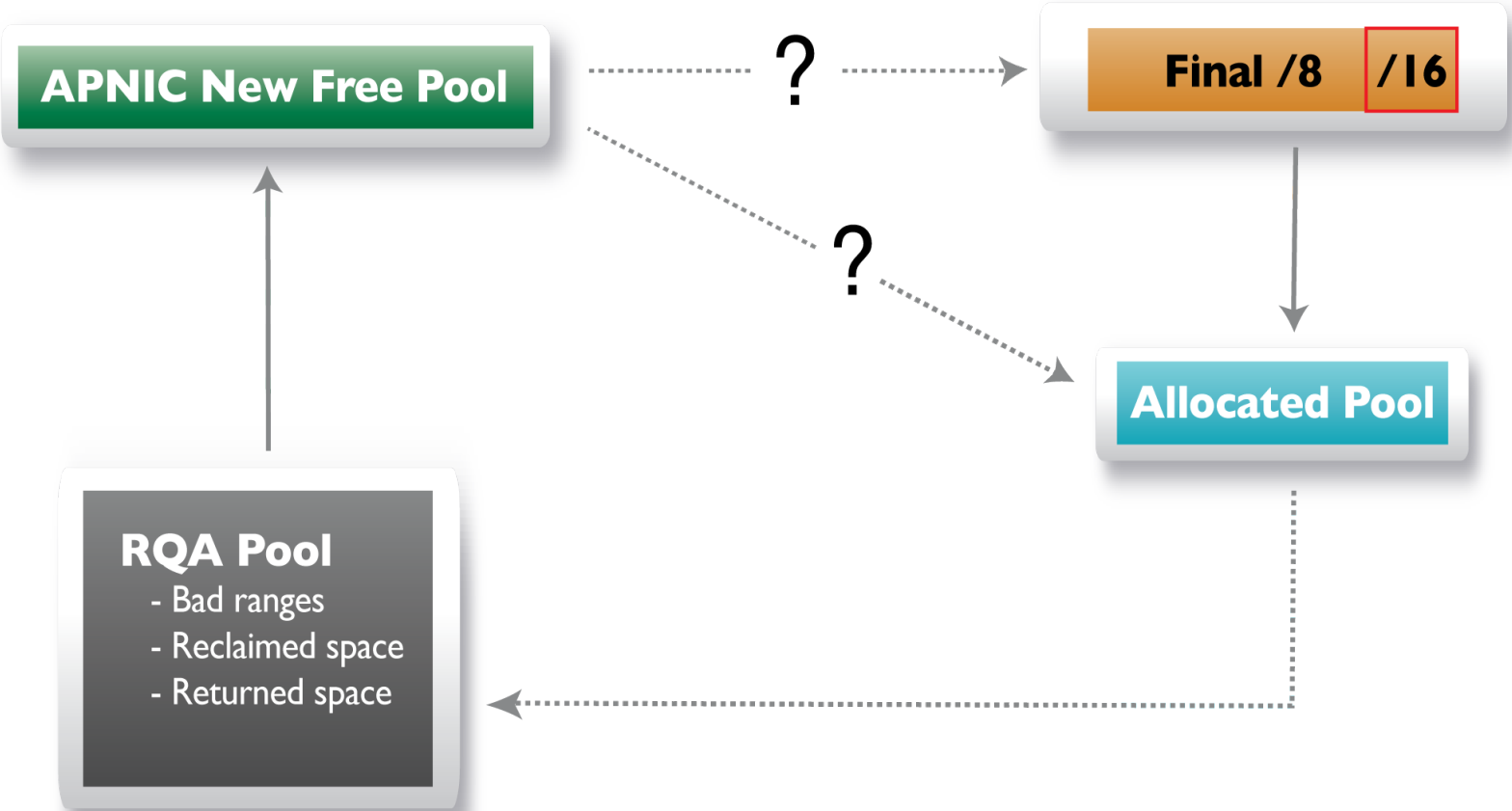
IPv4 Address Pool at Stage 2



IPv4 Address Pool at Stage 3



Questions?





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Thank you!

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