Registration Services Report

RIPE63, Vienna

RIPE NCC

Policy implementations - 2006-05

- /24 minimum assignment size for IPv4 PI

- Implementation
  - Documentation updates
  - Registration Services procedures
  - Training materials

- Accepted: October 20, 2011

- Implemented: October 26, 2011

RIPE
NCC

Policy implementation - 2010-06

- Created a new status in the RIPE DB for IPv6 assignments:
  - AGGREGATED-BY-LIR
- Makes it easier to register address pools...
- ... and makes it easier to verify LIR assignments
- Implementation:
  - RIPE DB changes
  - Registration Services procedures and software

Policy implementations - 2011-03

- Post-depletion IPv4 address recycling

- Clarification of the original Last /8 Policy

Policy implementations - 2007-01

- Contractual requirements for direct assignments

- Accepted October 5, 2008

- Implementation... is different...
  - New assignments
    - Documentation
    - Legal documents
    - RS Procedures
  - Existing assignments
    - More than 30k assignments...

Rough edges of current policies

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- Actually...

- They're not that rough anymore

IPv6 Reservations

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- IANA procedures for IPv6 additional allocations, beyond the existing /12s

- IANA IPv6 Policy:

  - AVAILABLE SPACE = CURRENTLY FREE ADDRESSES + **RESERVATIONS EXPIRING DURING THE FOLLOWING 3 MONTHS** - FRAGMENTED SPACE

  - IANA will allow for the RIRs to apply their own respective chosen allocation and reservation strategies

IPv6 Reservations

- RIPE NCC allocates using binary-chop for /32s

- Simple reservations for > /32 allocations

- All allocations exist in a three bits reservation

  - /32 allocation -> /29 reservation

  - /31 allocation -> /28 reservation

  - ...

IPv6 Reservations

- RIPE NCC's intention:
  - Keep doing this
  - Evaluate this practice, and the reservations, in *three* years time

Run out fairly analysis

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- Not all policy proposals have results that are easily visible in statistics
- Run out fairly should be very visible
- Is it?

# Run out fairly analysis

- Not simple numbers to get:
    - Mergers move allocations around
    - Allocations can last shorter or longer than the allocation period
    - Minimum-size allocations can last much longer (/21s)
    - Reality trumps growth predictions anyway
- The *absolute* numbers are thus somewhat inaccurate
- The *relative* numbers should tell a story though

Run out fairly analysis

- IPv4 allocation periods:

|	
January 2010	12 months
July 2010	9 months
January 2011	6 months
July 2011	3 months

Run out fairly analysis - allocation lifetime
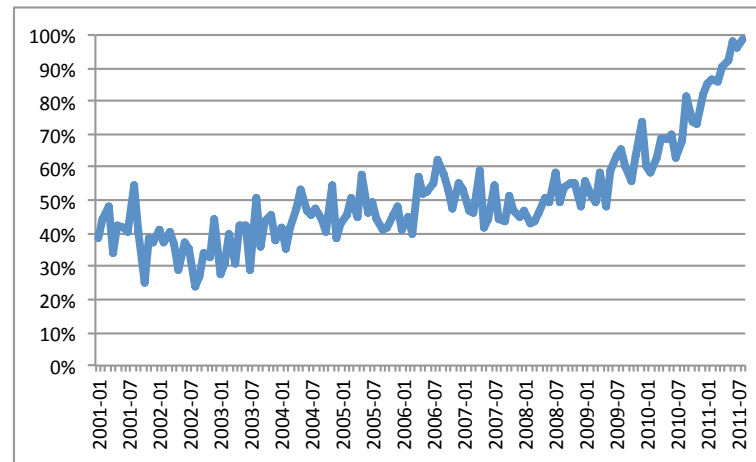
Alex Le Heux, RIPE63, Vienna

This graph shows on the x-axis the allocation date and on the y-axis the percentage of allocations made on that date that have not yet been followed by another allocation. As more than 1/3 of all allocations are the minimum size and around 1/2 of all LIRs have only a single allocation, a large percentage of all allocations ever made have never been followed by an additional allocation request.
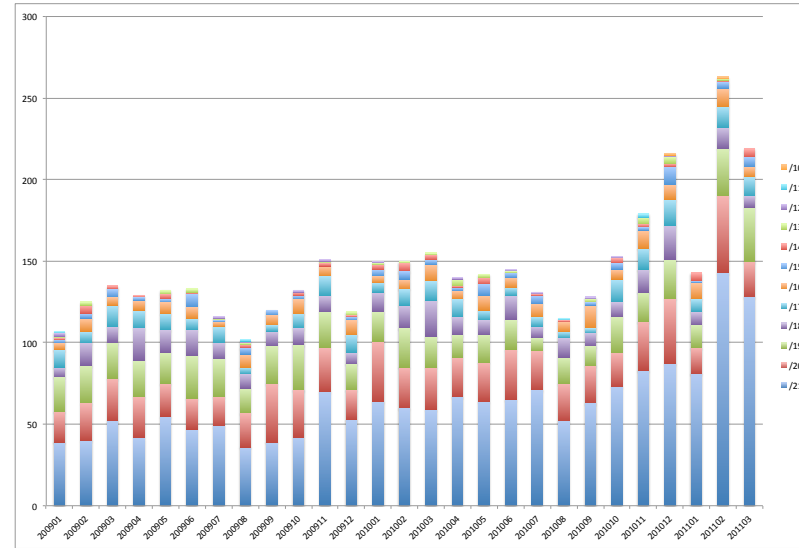
Run out fairly analysis - allocation lifetime
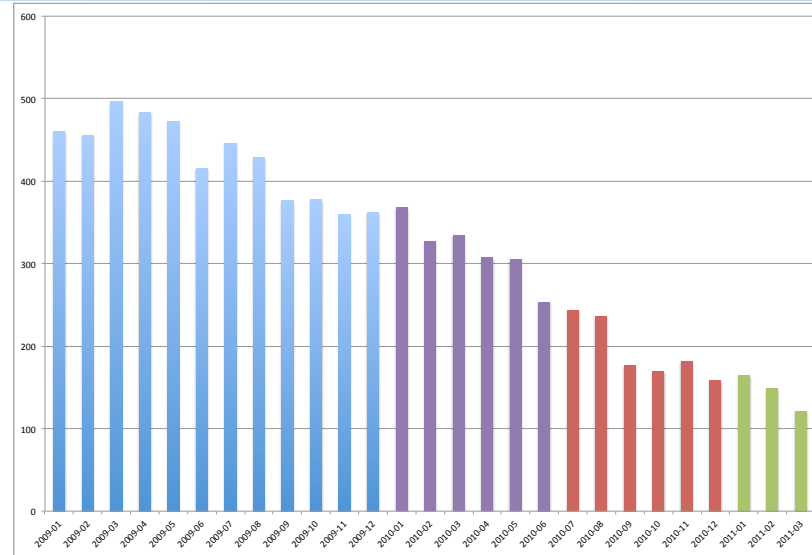
Run out fairly analysis - allocations / month
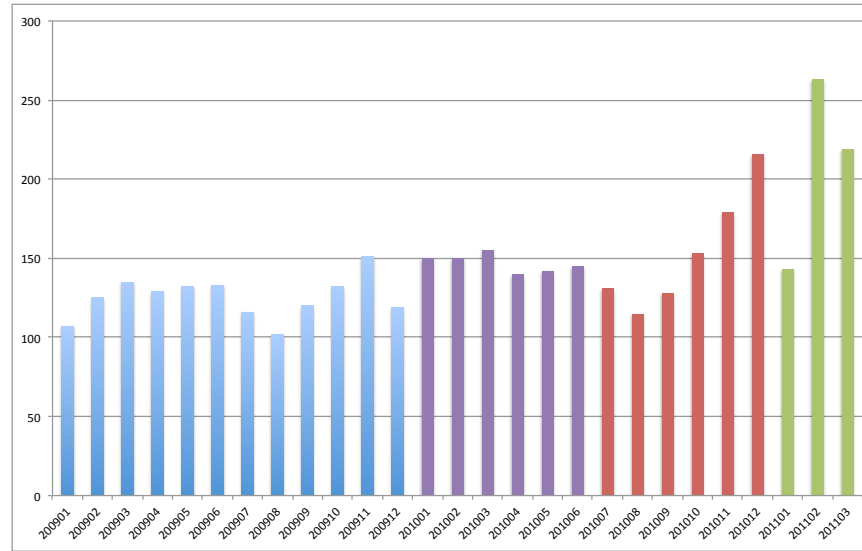
Run out fairly analysis - size distribution

In number of allocations

Run out fairly analysis - conclusions

- Definitely visible in the statistics
  - More allocations
  - More smaller allocations
  - Exactly as expected
- The bulk of address space still goes to large allocations though
- /21 allocations produce about as much work as all other sizes combined

Questions?