



AfrinIC

The Internet Numbers Registry for Africa



AfrinIC-07

IPv4 pool exhaustion, Transitioning to IPv6

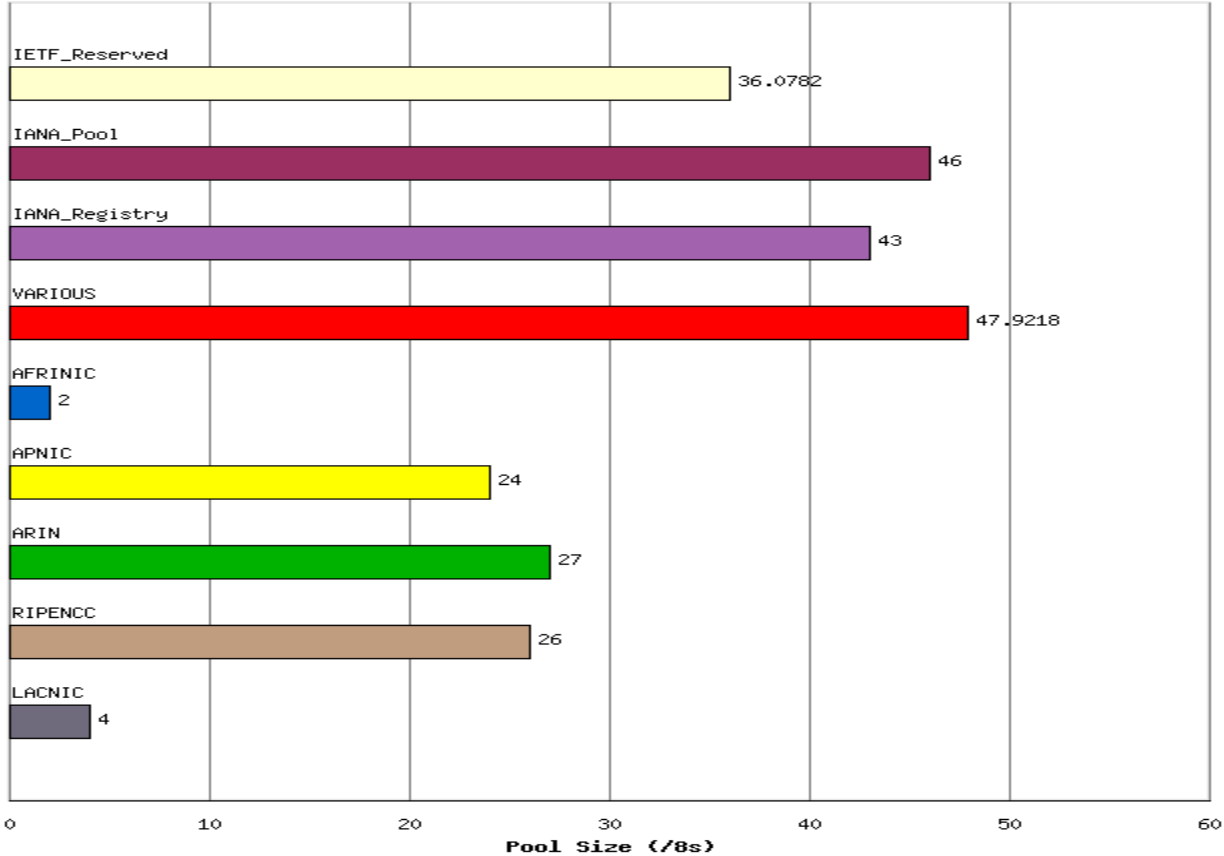
Adiel A. Akplogan
adiel@afinic.net

IPv4 lifetime Projections

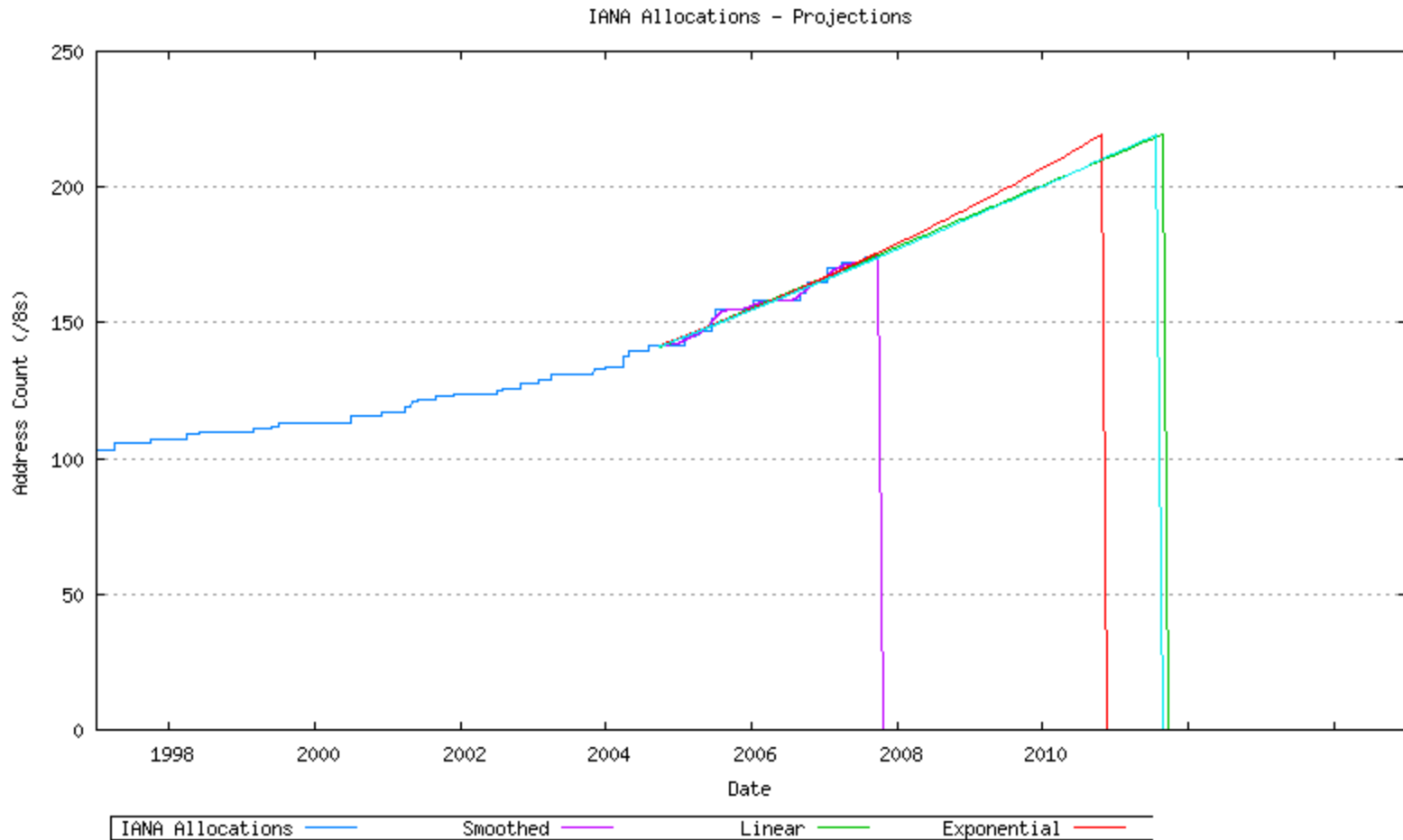
- “Using the current allocation statistics, the Internet would exhaust the IPv4 address space between 2005 and 2011.”
 - ALE projections (RFC 1752 - 01/1995)
- Projected IANA Unallocated Address Pool Exhaustion: 02-Jun-2010
 - <http://www.potaroo.net/tools/ipv4/> (24-Sept-2007)

IPv4 Allocation status

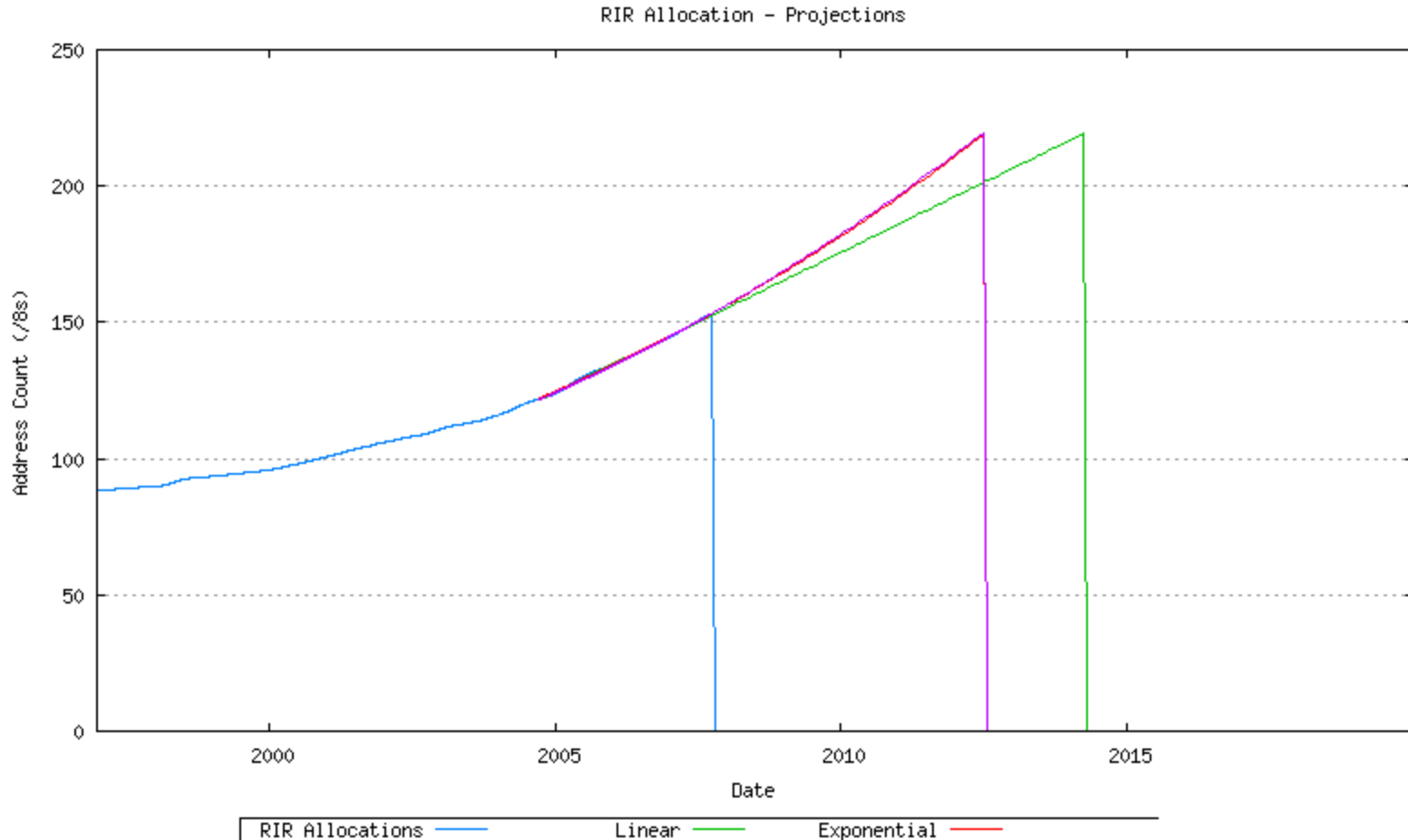
IPv4 Address Pool Status



Projection for IANA pool exhaustion



RIR pool exhaustion



Situation in AfriNIC Region

- If we extrapolate data from our region to these calculations, our IPv4 pool would get exhausted sometime around 2014.
- http://www.afrinic.net/news/ipv4_exhaustion.htm
- It is to be noted that IPv4 will be around for longer than these dates:
 - Already existing networks
 - Legacy space
 - Transition period

What needs to be done

- Take local measures for a rational management of the remaining pool to avoid a situation of instability of the Internet and limit the emergence of an uncontrolled parallel market.
- Plan Transition to IPv6. Encourage Operators to implement IPv6 ready networks

How

- We may need:
 - Some Global Policy for how to manage the distribution of the remaining IANA pool
 - Some Local policy to define how to manage the transition and the remaining pool available for us.
 - Some policy to define how AfriNIC should handle the transition and further encourage IPv6 adoption
- Tomorrow and Friday, some these policies will be discussed here.

IPv6

- Is the long term solution for the future of the Internet.
- The transition will take some time (the two protocols will coexist for long time) but we need to start as early as possible.
- Several mechanisms are in place to facilitate and smoothen the coexistence of the two protocols.
- All actors should take a responsibility
 - Operators
 - Governments
 - End Users

Governments

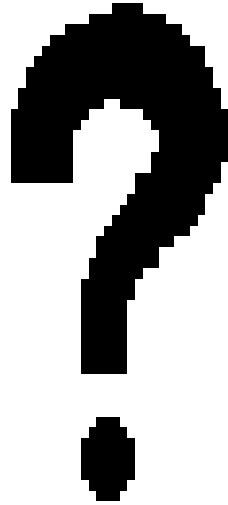
- Governments need to take the lead by also engaging themselves in promoting IPv6 by making their own infrastructure IPv6 ready (to ensure service provision for IPv6 users):
 - Mail
 - Web

Operators

- Assess their Infrastructure readiness for IPv6
- Have dual-stack Infrastructure
- Assess their end user access equipment readiness (ADSL, Dialup, Wifi ...)
- Inform their customer about the situation
- Train their Engineers on IPv6
- Add IPv6 to local exchange points to allow local IPv6 peering.
- Provide a transition plan support to corporate customers.

End Users

- They must be aware of the soon to happen exhaustion
- Must be able to check if equipment provided to them by their Internet service providers are IPv6 compatible.
- Watch out on new value-added services which may be available soon based on IPv6 (due to mobility, or just the availability of more addressable space).



Thank You