

Minimum IPv4 PI Assignment Size



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internet neutral exchange

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Proposal Recap

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- Anecdotal evidence proves beyond all reasonable doubt that PI requesters lie extensively in order to obtain /24 blocks
 - Most assignees can lie convincingly enough so that there are no practical means of vetting all applications thoroughly enough to detect these lies
 - Rules which are routinely ignored need to be reviewed
 - This is not good stewardship of IPv4 resources
 - RIPE NCC routinely accepts a large volume of applications which are known to be largely nonsense
 - RIPE NCC does not get accurate information concerning actual usage of IPv4 address space
 - 2006-05 proposes to allow PI assignment requesters to be granted a /24 if there is a valid technical requirement for doing so



Problem Examination

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- Most PI assignments are for /24
- Evidence suggests that a significant majority of these assignments are used for small-scale multihoming
 - There are many legitimate use cases for small scale multihoming
 - Just because an organisation is small, this does not mean that its requirement for multihoming is less important than a large organisation
 - they may ship more traffic or more important traffic than large organisations
- Two options exist for small multihoming
 - Become LIR and acquire a /21 + ASN
 - Acquire /24 + ASN
- One of these methods wastes significant amounts of address space



Proposed Summary

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- 2006-04 allows end users to be assigned /24 if
 - they have a requirements for a small number of provider independent IPv4 addresses and
 - they can demonstrate a credible intention of multihoming
- Policy mechanism
 - If an End User has a requirement for 8 IPv4 addresses, then the RIPE NCC will assign up to 248 extra addresses
 - 8 was chosen because it's the smallest likely number of addresses that a multihomed end-user would need for multihoming
 - 2 end hosts, 2 x routers, VRRP/HSRP/etc
 - 1 end host on /30, 1 x /30 link subnet



Arguments Supporting the Proposal

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- 2006-04 aims to align policy with operational reality
- For organisations who need /24 for multihoming, there is no more benefit in telling lies to RIPE NCC
- This will cause better and more honest stewardship of IPv4 address resources
- No evidence to suggest that implementing this rule will cause increased uptake of /24s



Arguments Opposing the Proposal

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- The proposal links address policy with routing policy
 - This has been the reality since CIDR was implemented in 1994
- It's too late
 - Short answer: yes - it won't cause any meaningful operational impact



Frequently Asked Questions

- Will minimum /24 create a new precedent for RIR address assignment?
 - No - LACNIC and ARIN both support /24 (since 2003 and 2010 respectively)
- Isn't this proposal too late to be useful?
 - Interesting question!
- Will this proposal make multihoming cheap?
 - The cost of telling a lie to get /24 = €0
 - The cost of multihoming = cost of DFZ capable router(s) + cost of servers + staffing + ongoing maintenance and support = €lots
 - This question appears to be a red herring
- Will this proposal cause DFZ to increase dramatically?
 - No - people have been lying for years to get /24s



Frequently Asked Questions

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- Will this proposal cause address space to be wasted?
 - Probably the opposite: fewer LIRs means fewer /21 allocations
- Will this proposal cause more /24s to be assigned?
 - No - people have been lying for years to get /24s
- Doesn't this proposal change addressing policy from the basis of need to something else?
 - Not really. It merely acknowledges the operational reality that different End Users have different needs.
 - Not really. Need based on multihoming has been explicitly acknowledged as a valid need by other RIRs
- Doesn't this make PI more attractive than PA?
 - Not really. 2007-01 creates direct cost for PI, and multihoming requirement ensures that the indirect cost will make PI much less attractive than PA



Isn't This Too Late?

- IANA depletion of IPv4 is imminent
- RIPE NCC depletion of IPv4 will follow very quickly
- However due to address reclamation policies, the RIPE NCC will probably receive a small trickle of IPv4 address space on a constant basis
- This will be reallocated / reassigned on the basis of policy
- One of the prime dangers post-depletion will be fragmentation of the IPv4 DFZ, causing massive routing table growth
- By setting a minimum assignment size, the RIPE community will help maintain /24 as the minimum prefix size seen in DFZ
 - This may have a direct impact on your operational costs



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Discuss