Extension of minimum initial IPv6 allocation size

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2011-04 proposal

From previous episode: Possible solutions

1. Declare this is a non-problem
2. Special 6rd policy. e.g., /27 granted based on ability and intention to deploy more rapidly with 6rd
3. Allow /29 to anyone
4. Others?

2011-04

After substancial input from the community we went for “allowing /29 for everyone” approach

For legacy IPv6 allocations /32’s were allocated out of /29 block, that is now held for “reserve” if LIR would expand and request more space

That space is already reserved to the LIR, so why not allowing that LIR to use it if needed?

2011-04

We'll include the suggestion, to allocate by default /32 and give out up to /29 without additional documentation only to those who ask.

New text:
Organisations that meet the initial allocation criteria are eligible to receive an initial allocation of /32. For initial allocations up to /29 no additional documentation is necessary.

2011-04

We'll remove "**5.7. Existing IPv6 address space holders"** section.

This is operational matter and should not be in the policy.

So, if proposal reaches consensus, extensions of existing allocations will take place for those who request that.

2011-04

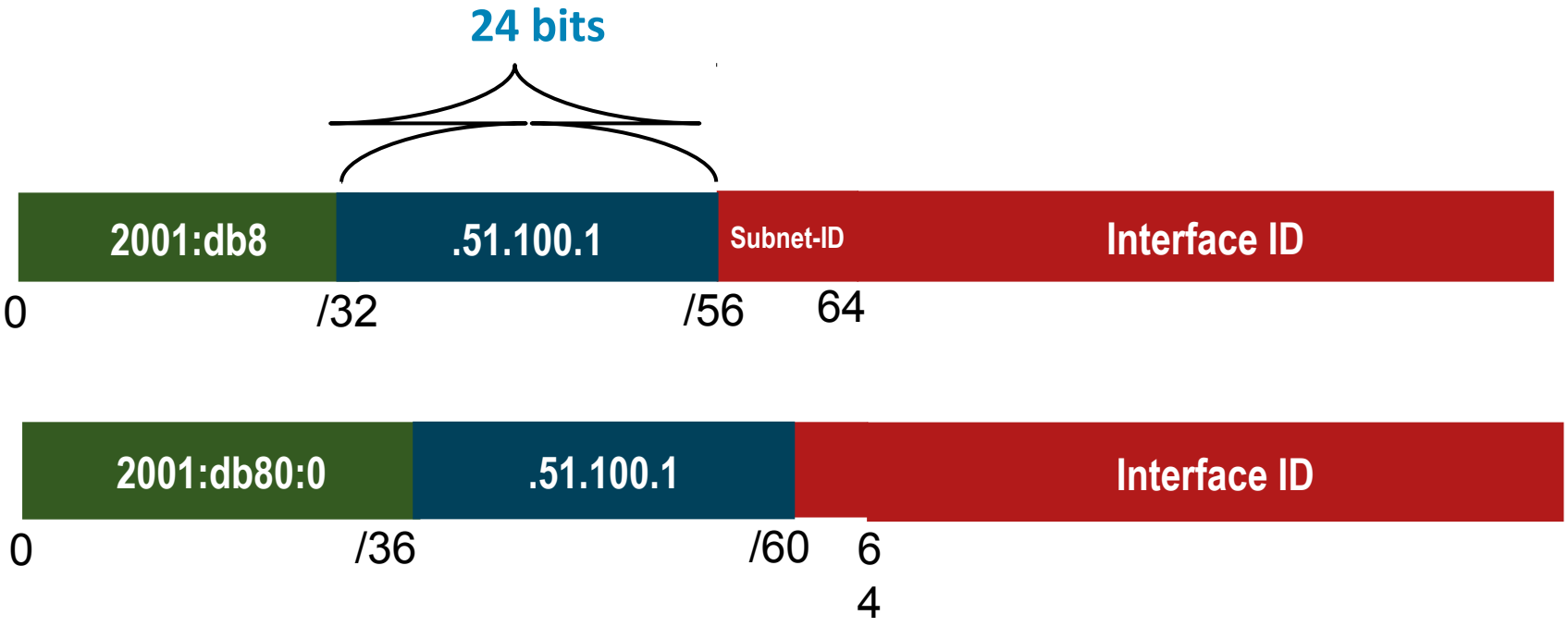
Most asked question on and off-list:

Why operators don’t consider multiple 6RD domains?

Quick answer: We are not protocol police, this working group is about address policy.

Using less than 32 bits of IPv4

- If the IPv4 space is an aggregate, 6rd need not carry the common bits
- For example, in a CGN world of 10/8, we just don't carry around the 10



Examples: 5 x 6RD domains
(SP prefix: 2001:DB8::/32 6rd delegated prefix: /56)

#	Net	IPv4 Mask Len	6rdPrefix	6rd PrefixLen	6rdBRIPv4Address	IPv6 CPE default route next hop
1	10.0.0.0	12	2001:DB8:0000::	36	10.0.0.1	2001:DB8:0000:0100::
2	198.51.0.0	15	2001:DB8:1000::	39	198.51.0.1	2001:DB8:1100:0100::
3	198.52.0.0	16	2001:DB8:2000::	40	198.52.0.1	2001:DB8:2000:0100::
4	203.0.113.0	19	2001:DB8:3000::	43	203.0.113.1	2001:DB8:3011:0100::
5	192.0.2.100	32	2001:DB9:AABB:CCDD::	64	1.2.3.4	2001:DB9:0102:0304::

5) A MaskLen == 32 of gives each CE a unique 6rd prefix, forcing all traffic to go via the BR

2011-04 – 6RD multiple domains complexity as explained on mailing-list

“… Complexity is sometimes not easy to sell to everyone inside the company. Especially if you have several v4 /15, /16, /.... and dynamic dial-in-pools for residential customers distributed over all of them and also inside every prefix. For example an easy to understand mechanism may help to answer support calls. Another example. From time to time the firewall / server people are asking for a list of all our dial-in-pools in order to configure access lists for services or spam fighting or .... It's additional work (for people, firewalls, loadbalancers, servers...) to take care about a list of prefixes instead one prefix. If we would like to introduce 6RD it would be much easier with a /29 and a subnetting plan. Just keep it simple…”

Questions…

Moving forward?

Discard?

Change?