

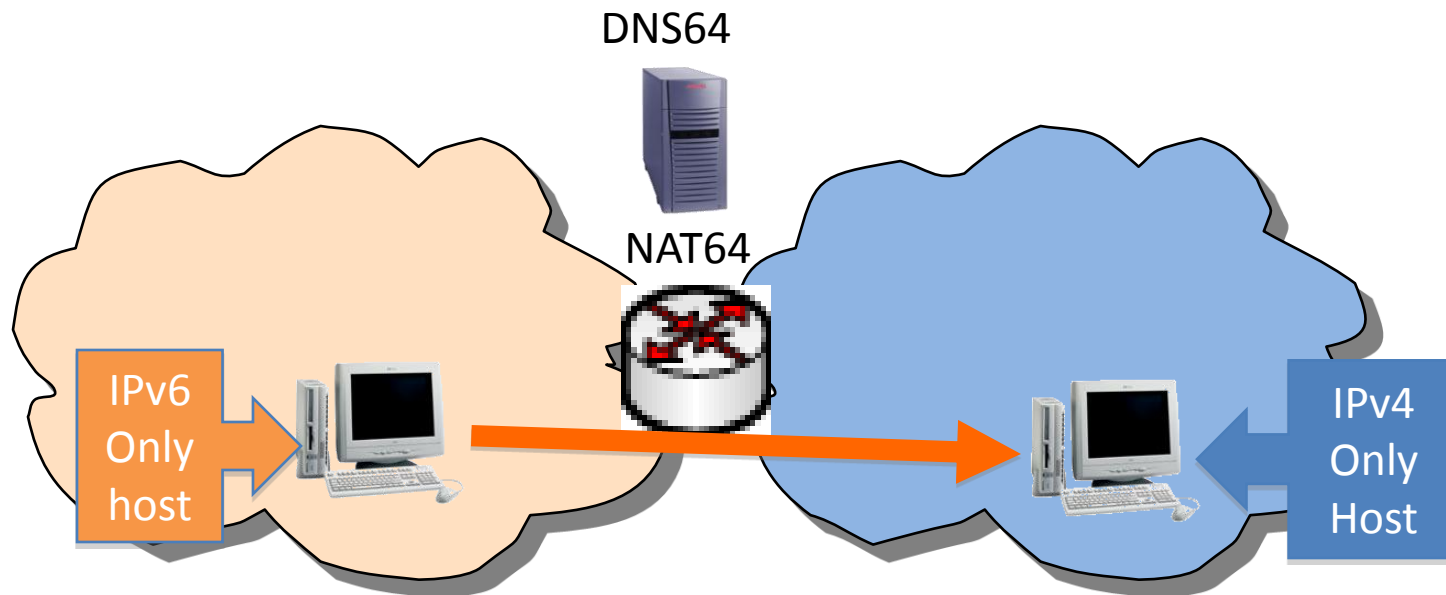
PREFIX64

marcelo bagnulo

IETF74 – BEHAVE WG

Application scenario

IPv6-Internet-to-an-IPv4-network

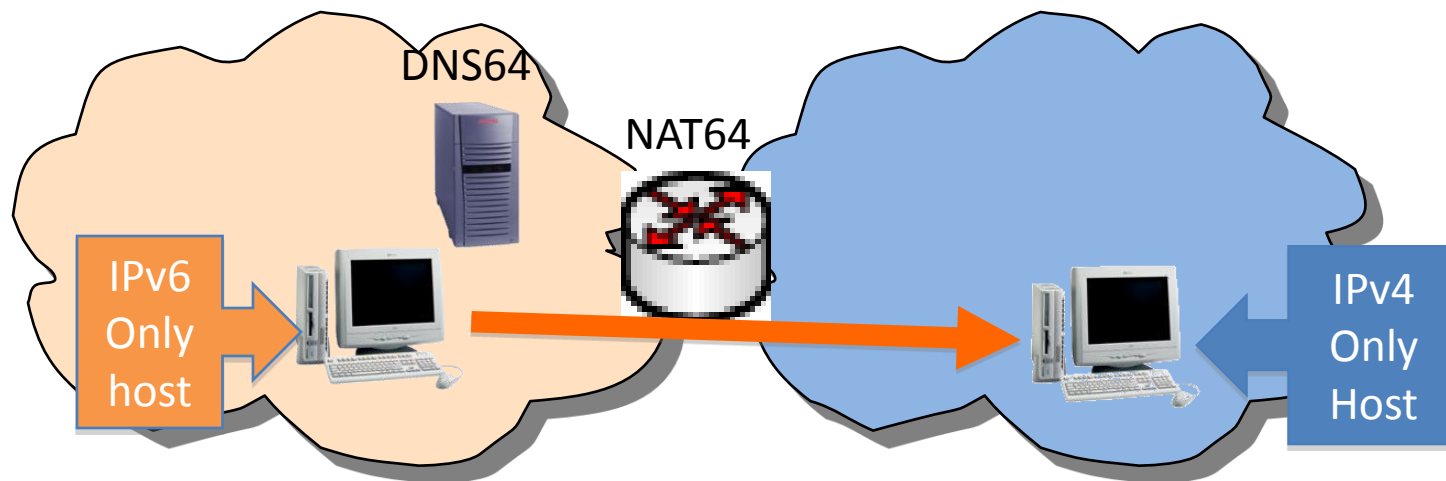


WK prefix issues

- Doesn't work if the IPv4 is using private addresses
- With public addresses, each v4 site will inject a route in the v6 routing table i.e. Importing v4 routing table entropy into v6 routing table

Application scenario

An-IPv6-network-to-IPv4-Internet



Aspects to consider:

- Prefix length
- Configuration of Prefix64
- Support for multiple translators
- Context change

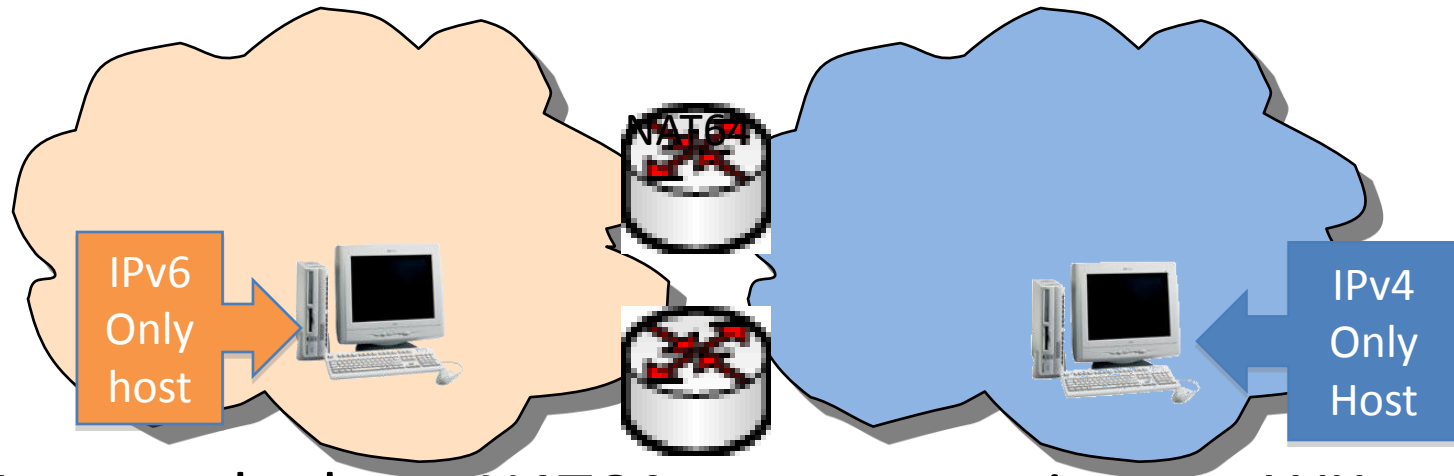
Prefix length

- WK prefix can be short e.g. /24
- Prepending a IPv4 address, we have a /48
- We can route towards different subprefixes within the higher 64 bits
 - Reports that routers don't perform so well when routing prefixes longer than /80

Configuration of Prefix64

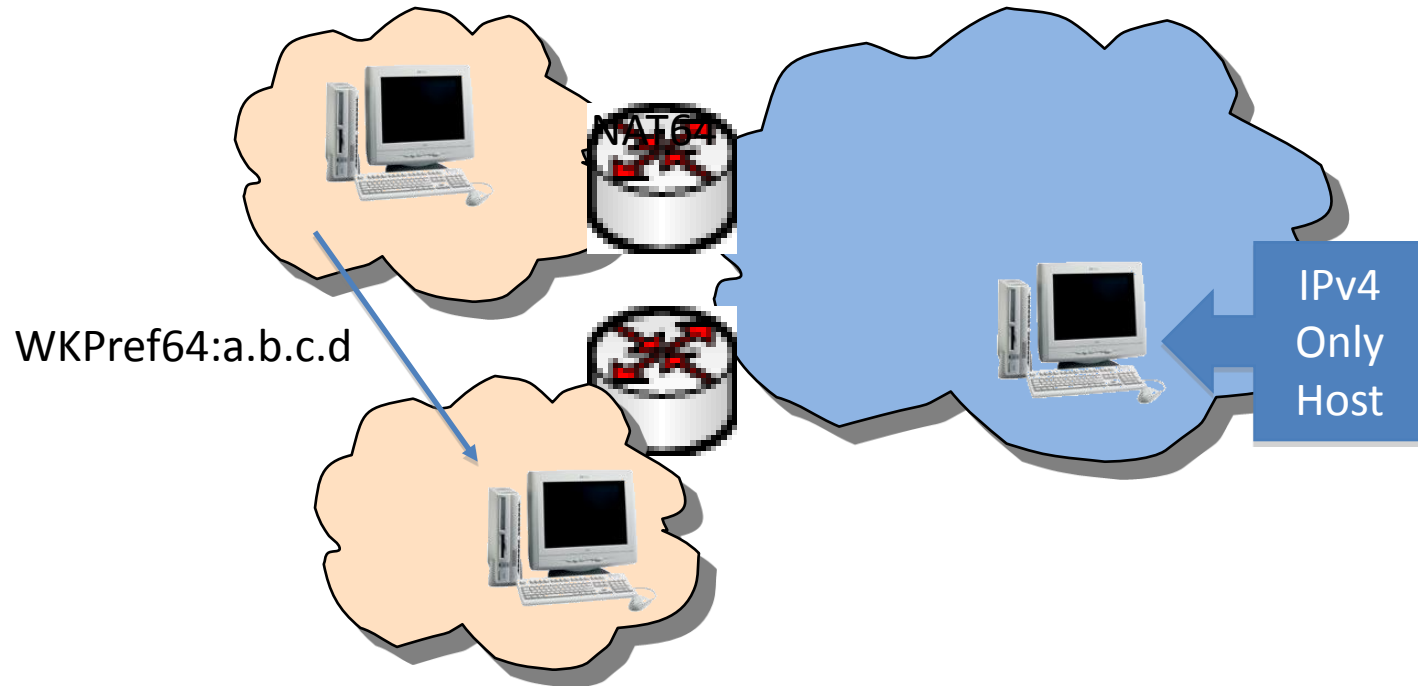
- Prefix64 needs to be configured
 - In the DNS64 function (consider the case host based mode i.e. In the hosts)
 - In RFC3484 policy table if this approach is used to prefer native connectivity over translated one
 - In apps that want to pass addresses
- The WK prefix can be hardcoded and there is no need for additional mechanisms for prefix64 discovery

Support for multiple translators



- In case the both NAT64 are announcing the WK prefix, a change in the intra site routing may imply using a different NAT64 box, so the communication would fail
- Solution: To add some bits between the WK prefix and the IPv4 address and announce more specific routes.

Context change



Conclusion

- Strong conclusion: WK is not suitable for the IPv6 internet to the IPv4 network case
- Weak conclusion: WK prefix has some advantages in the IPv6 network to the IPv4 internet case