

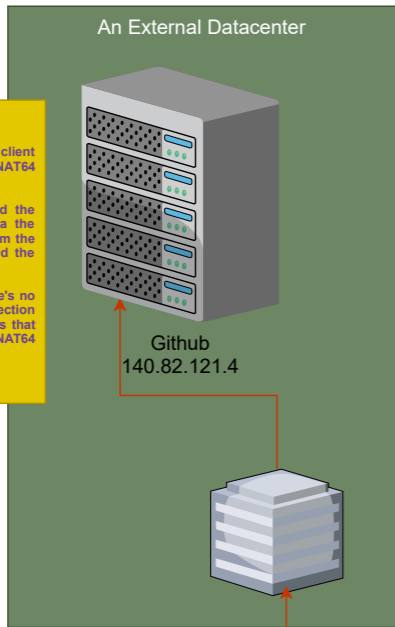
How IPv6 NAT64 and DNS64 work

A diagram made by Privex

As far as Github's server(s) are aware - there's an IPv4 client connecting to them (the incoming IPv4 address for them, is our NAT64 server), so NAT64 is effectively invisible to IPv4 servers.

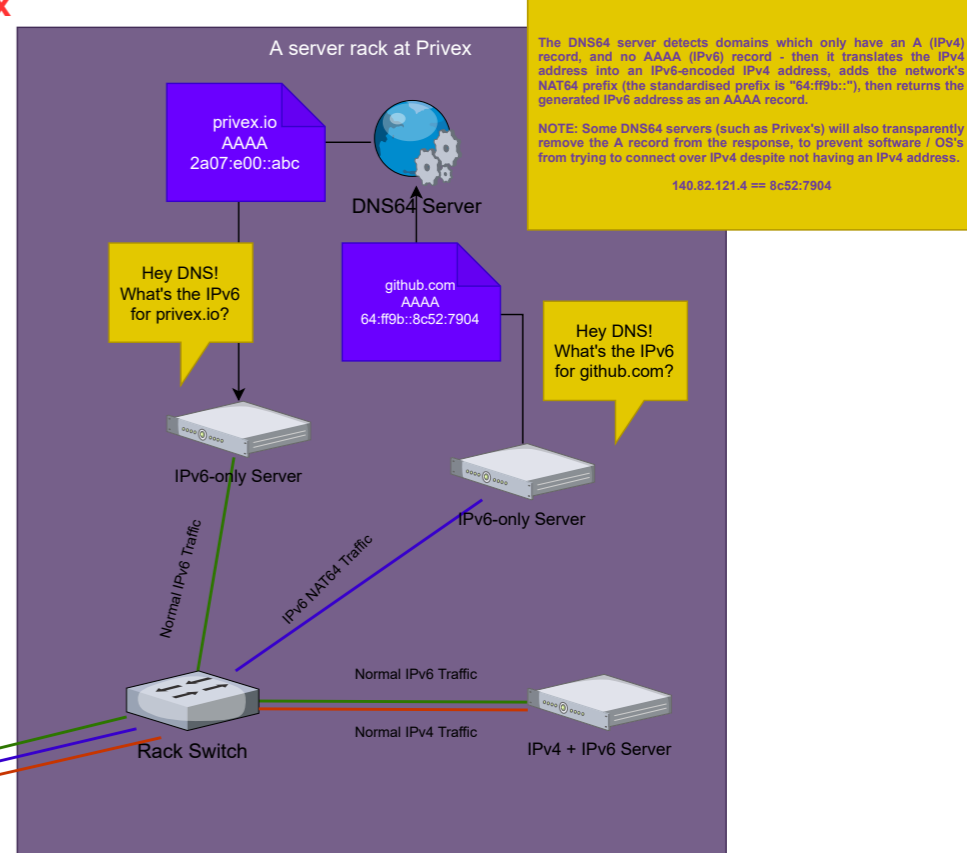
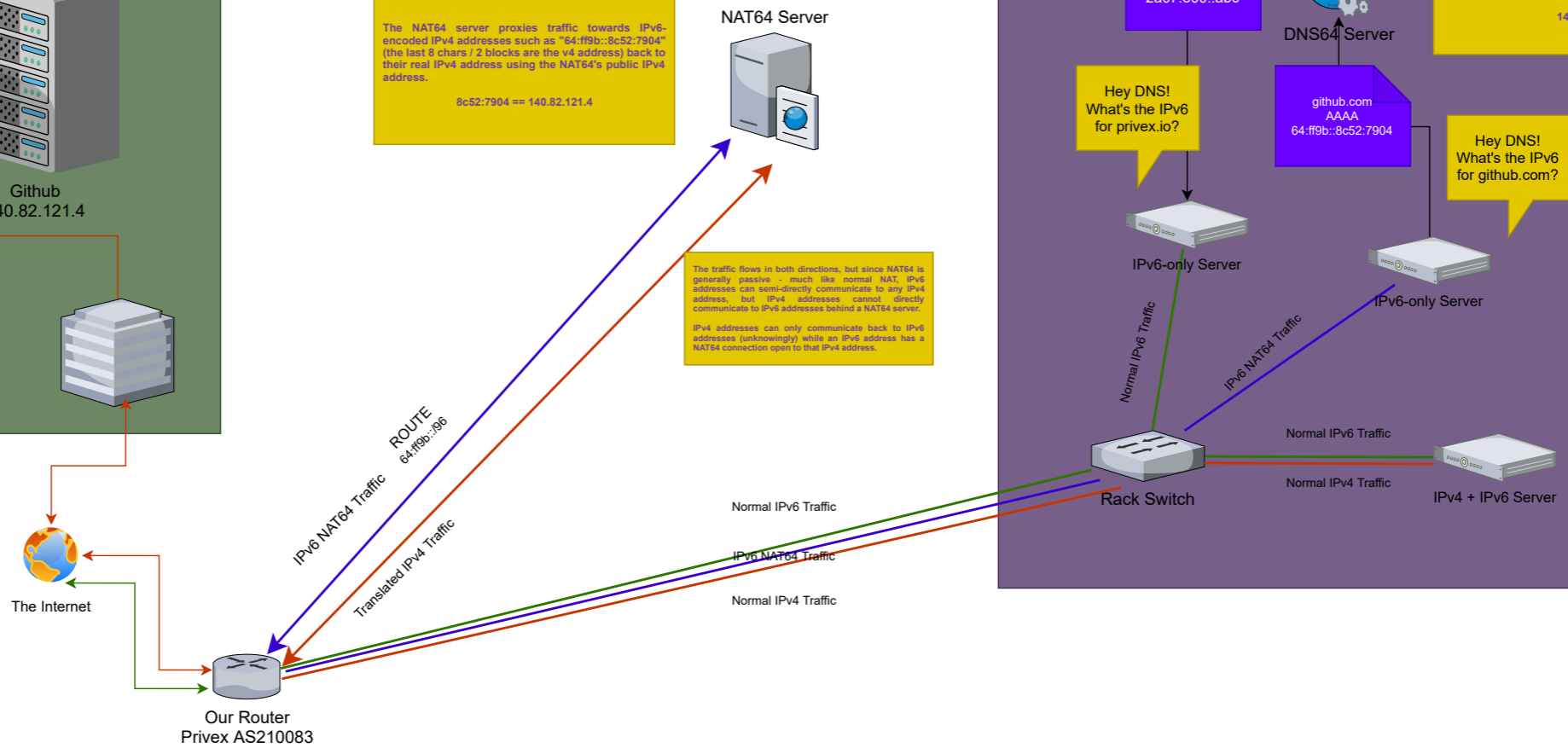
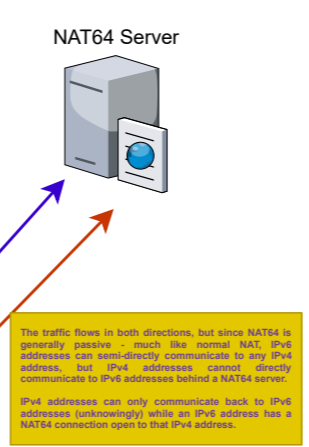
While the connection is open, the NAT64 server will forward the packets sent from the IPv6 address to the IPv4 address via the NAT64's public IPv4 address, as well as forwarding packets from the external IPv4 address back to the IPv6 address which opened the connection.

Of course, this unfortunately means in the event of abuse, there's no easy way to trace which IPv6 address made / is making a connection to a given IPv4 server, and the passive nature of NAT64 means that NAT64 connections don't even show up in netstat on the NAT64 server.



The NAT64 server proxies traffic towards IPv6-encoded IPv4 addresses such as "64:ff9b::8c52:7904" (the last 8 chars / 2 blocks are the v4 address) back to their real IPv4 address using the NAT64's public IPv4 address.

8c52:7904 == 140.82.121.4



Legend

- Blue square: IPv6 traffic to/from the NAT64 server
- Orange square: Normal IPv4 Traffic
- Green square: Normal IPv6 Traffic
- Yellow speech bubble: Network request/query
- Purple speech bubble: Network response to a request/query

This diagram was created by



<https://www.privex.io/>

