IPv6 Business Conference

Organized by SWISS IPv6 COUNCIL

2014 June, 17

Living with an IPv6-only Smartphone – Live Demo

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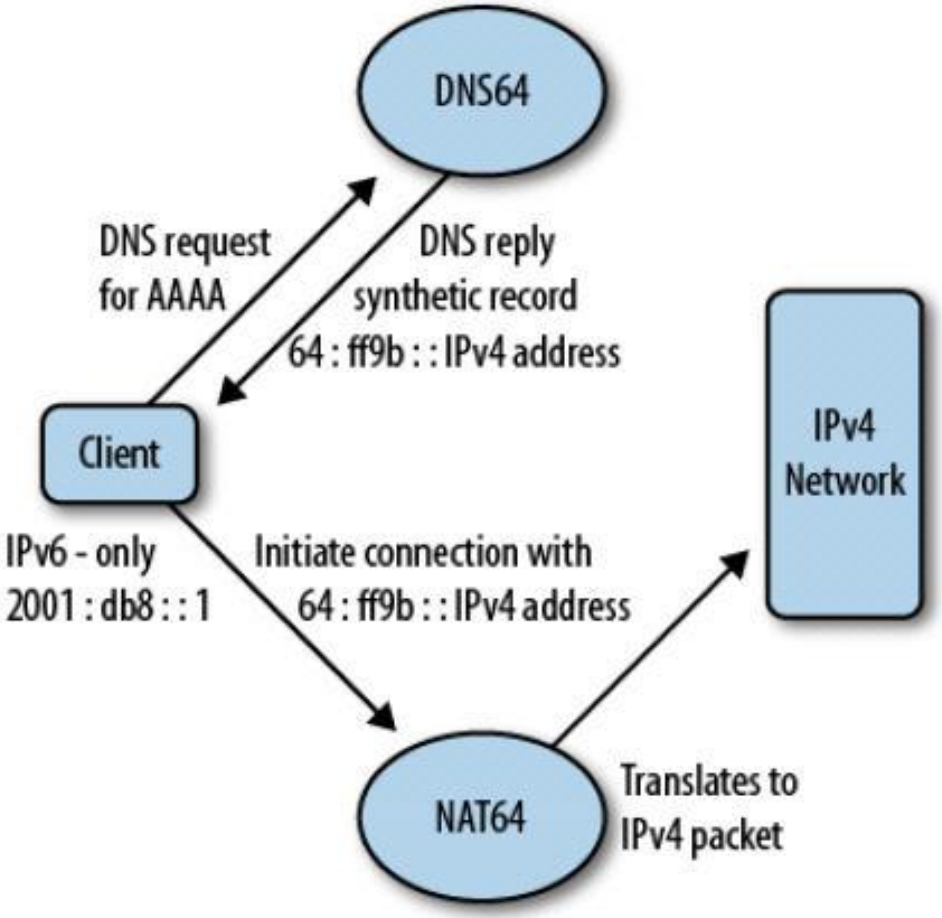
Background

- IPv6-only device does not make customers happy these days, there are not enough websites being dual-stack or IPv6.
- You cannot have NO IPv4

- NAT64 translates to IPv4
- Some apps need IPv4 address at handset/on client (such as skype) and don't work across NAT64

NAT64/DNS64



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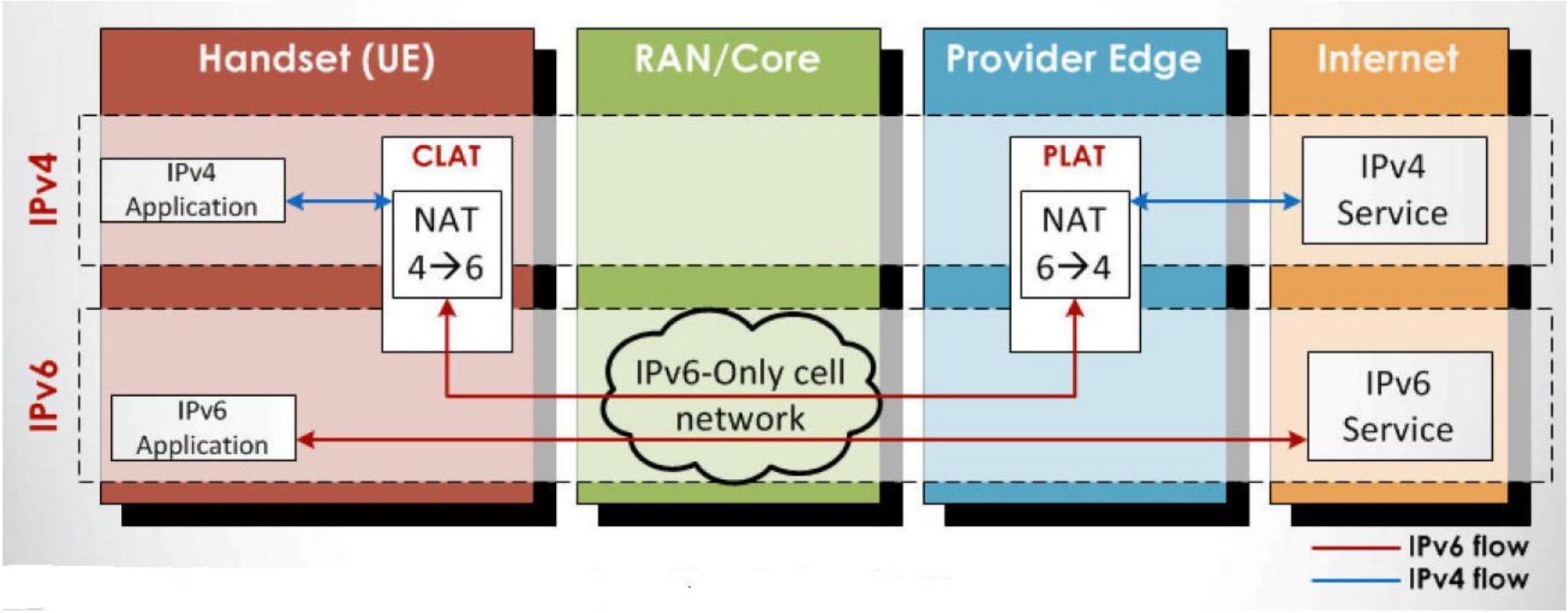
464XLAT

- Defined in RFC 6877
- Makes IPv4-only applications work on an IPv6-only device and over an IPv6 only network (Skype on Smart Phone)
- With the CLAT it supports applications that use literals and IPv4 addresses in the payload
- Combines stateless and stateful NAT64/NAT46
- Does the NAT64 prefix discovery with querying for "ipv4only.arpa"
- Used by Mobile Providers (such as Verizon Wireless and T-Mobile USA among others)
- Tested on Android 4.3
  Implemented on Android 4.4

464XLAT Architecture



- CLAT is the customer side translator (XLAT). It complies with RFC 6145 on IP/ICMP Translation Algorithms. It translates 1:1 private IPv4 addresses to global IPv6 addresses and vice versa.
- PLAT is a provider side translator (XLAT) that complies with RFC 6164 on Stateful NAT64. It translates N:1 global IPv6 addresses to global IPv4 addresses and vice versa.

Demo of 464XLAT

- Thnx to Simobil (Slovenian mobile operator) for sponsoring the roaming data for this live demo

- My device (Nexus7) is connected over LTE/3G to Swisscom mobile network, roaming to Slovenia with PDPv6 context
- In Simobil network there is NAT64 that translates the packets
- On my phone there is CLAT built in that provides the virtual IPv4 address to legacy applications
- Packets flying all over the world between my and Silvia‘s device
- Let‘s see if that works… (live demo is usually risky) ☺

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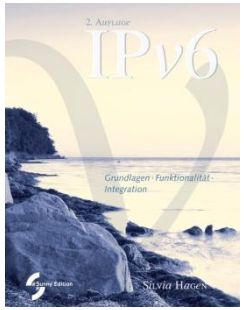
And it worked

Thank You For Your Attention!

IPv6 Grundlagen, Funktionalität, Integration

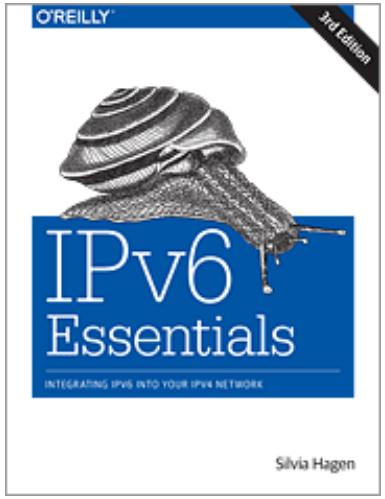
von Silvia Hagen, Deutsch
2. Auflage, Sunny Edition, 2009
ISBN 978-3-9522942-2-2



IPv6 Essentials

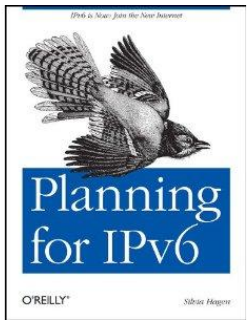
by Silvia Hagen, English
3rd Edition, O'Reilly, June 2014
ISBN 978-1-4493-1921-2

NEW



Planning for IPv6

by Silvia Hagen, English
O'Reilly, July 2011
ISBN 978-1-4493-0539-0
eBook 978-1-4493-0538-3



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