



draft-dessez-homenet- googleplus-interconnect

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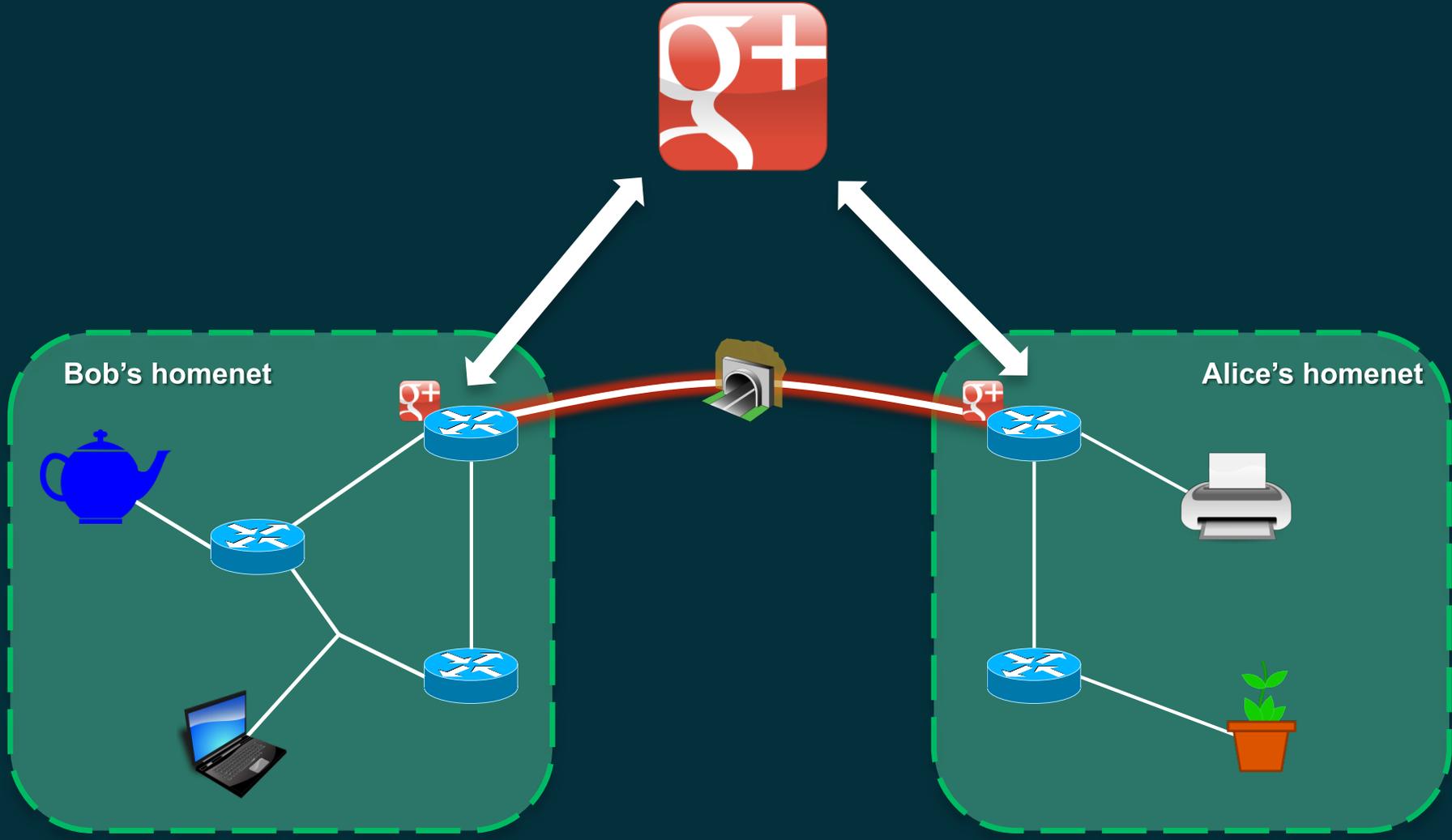
Problem space

Interconnecting home networks
in order to:

- Expand the boundaries of a single homenet to include other homenets
- Enable Service Discovery on these connected homenets
- And do it in a user-friendly and relatively secure manner

Goals

- Creating a mesh of homenets connected by encrypted tunnels
- Enabling automatic DNS-SD browsing over multiple homes
- Making those connections derive from the relations among homenets in a social network



Summary, from a user's perspective

- Plug a “Gplus-enabled” router in your homenet
- Create a Page on Google Plus for your home
- Delegate the management of the Page to the router
- Configure on your router's UI what services you want to share with what circle of connected homes

- Manage the relationships of your home with other homes directly in the social network



Bob's home Shared privately - 10:23 PM #IPv6
This post contains network settings for other homenets
===== Network Settings =====
Global IPv6 = 2000:c0ca:c01a:24:6092:96ff:febb:885f,
Global IPv4 =
ULA prefix = fda0:d1b:62f8::/48
ULA IP address =
fda0:d1b:62f8:d43b:6092:96ff:febb:885f
Local domain name = bobs-homenet-a00d1b62f8.test

In your circles Posts 3 people
Have you in circles

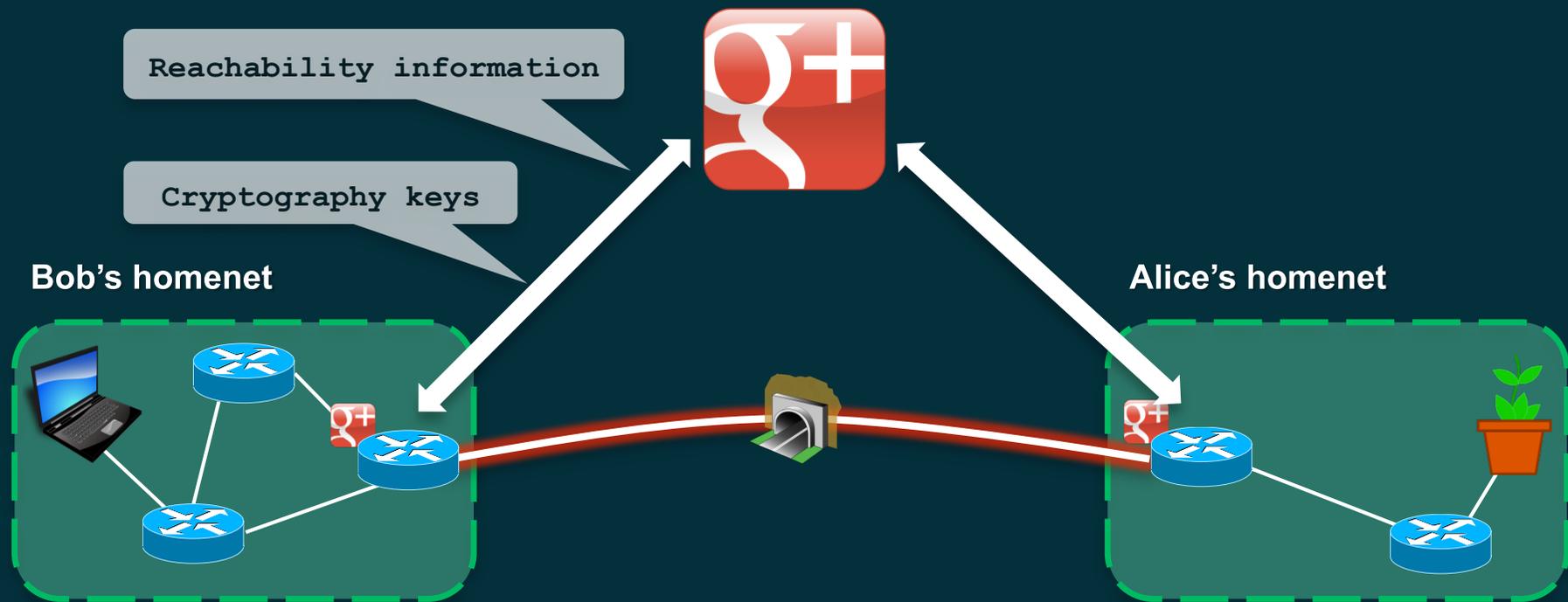
Google+ Page
Bob's home Shared privately - 10:23 PM
This post contains network settings for c
===== Network Settings =====
Global IPv6 = 2000:c0ca:c01a:24:6092:9
Global IPv4 =
ULA prefix = fda0:d1b:62f8::/48
ULA IP address
fda0:d1b:62f8:d43b:6092:96ff:febb:885f
Local domain name = bobs-homenet-a00

Home Find people Have you in circles Your circles
Relevance Actions
Cédric's home Cédric Dessez Alice's homen... Maico's house
Drag people to your circles to follow and share

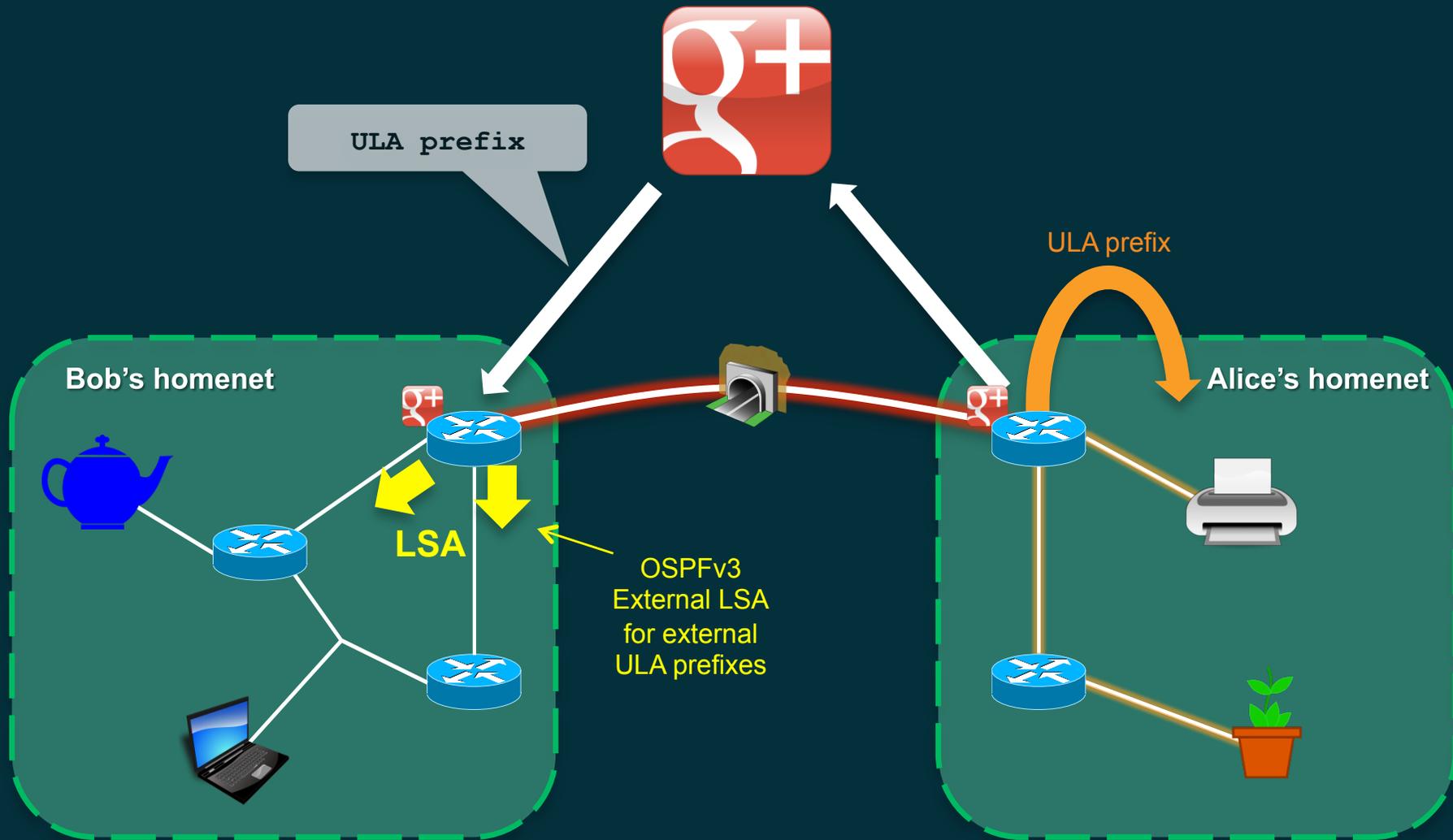
Circles
Family 3 people in this circle

Managing the tunnels

- Need to exchange configuration information to bootstrap the tunnels

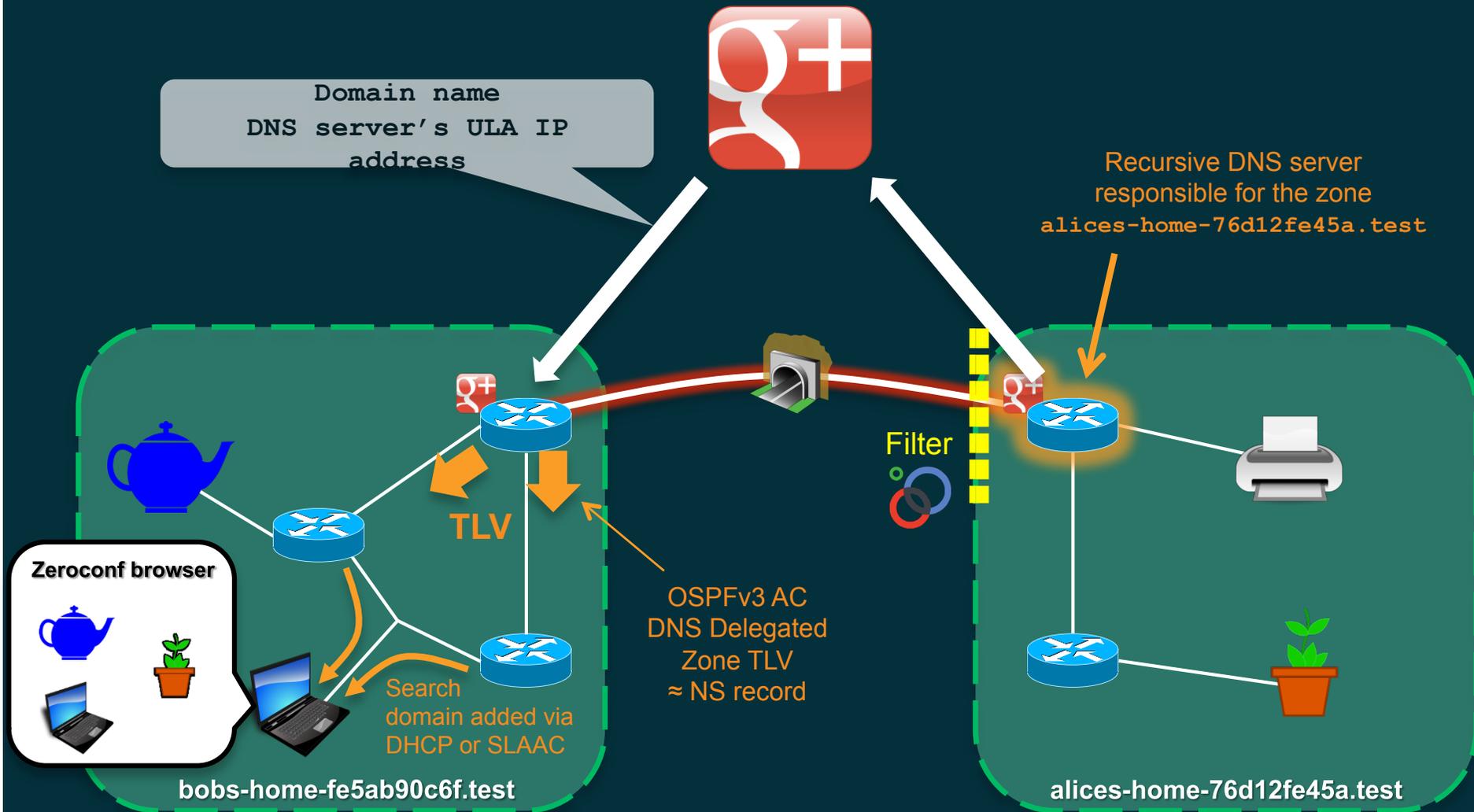


Adding routes to the other homenets



Enabling service discovery (DNS-SD)

All homenet routers implement the Hybrid u/m DNS-SD proxy



Proof of Concept

- OpenWRT
Hnet environment (github.com/fingon/hnet)
- OpenVPN
- Python and Lua
- Google APIs

Come to see the prototype at
Bits-N-Bites on Thursday evening

Questions?

Assumed environment

- OSPFv3 Auto-Configuration
- IPv6 prefix(es) delegated and assigned as described in `draft-arkko-homenet-prefix-assignment`
- Hybrid m/u DNS-SD Proxy as described in `draft-cheshire-mdnsext-hybrid` and `draft-stenberg-homenet-dnssdext-hybrid-proxy-ospf`

Overall functional architecture

