

RPKI,

Easy as cake.

Agenda

- Presenter Bio
- What is RPKI
- Deploy
- Enjoy
- Lessons learned
- Questions

Presenter Bio

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- Running AS2613, having fun with routers at AS6893, Ripe Connect-WG co-chair, Ripe Atlas Ambassador, MANRS advocate, Dj, Writer [...]
- will at
 - nimag.net
 - as2613.net
 - romandix.ch



Two questions for you.

- How many of you have heard or know about RPKI ?
- How many of you reject invalids ?

Assumption

If you know about RPKI and run a network, you created your ROAs :

<https://my.ripe.net/#/rpki> (or via the LIR portal)

The screenshot displays the RIPE NCC website interface. The main header shows the RIPE NCC logo and navigation tabs: 'Manage IPs and ASNs', 'Analyse', and 'Participate'. The 'Analyse' tab is active, showing a breadcrumb trail: 'Home > ... > 62.220.128.0/19'. The main content area displays the prefix '62.220.128.0/19' and a 'Prefix Overview (62.220.128.0/19)' section. This section includes a 'Routing information (RIS)' box with two green checkmarks indicating that the prefix is visible as an exact match and that 1 more/less specific prefixes are visible. Below this, it states 'This prefix is announced by:' and lists 'AS6893 - RPKI Status: 😊' and '"SAITIS-NETWORK - Saltis Network, N.Deslr"'. On the left side, there is a sidebar with a 'BGP Announcements' section and a list of AS numbers, including AS29222 and multiple instances of AS6893. The bottom of the sidebar shows 'Show 25 of 11'.

What is RPKI (in 20 sec) and why should I care (in 10 sec)

RPKI can be used as validation mechanisms for the route paths seen in the DFZ.

It helps you to:

- Sign your routes either yourself or using a trustworthy 3 party like RIRs. (Hint : ROAs, see previous slide)
- Identify valids, invalids and unknown prefixes and do fun stuff (tag/reject/...) with them. (ROV ftw).

Suggested read :

RPKI for Managers by Niels Raijer : https://nlno.net/static/nlnogday2018/7_RPKI_NLNOG_2018_Niels_Raijer.pdf

RPKI – Developpement in Routing Security :

https://www.swinog.ch/wp-content/uploads/2019/05/RIPE_RPKI_-_Massimiliano_Stucchi.pdf

But why should I care ?

- fat fingers

- malicious hijacks :

<https://www.ripe.net/publications/news/industry-developments/youtube-hijacking-a-ripe-ncc-ris-case-study>

- route optimiser :

<https://blog.cloudflare.com/how-verizon-and-a-bgp-optimizer-knocked-large-parts-of-the-internet-offline-today/>

It's hard and complex to deploy.

- NOPE.

But ...

- ... shhh . I tried, it works.

1) create a VM (5 minutes) (I used Debian 9)

2) Install a validator (5 minutes) (I used Routinator)

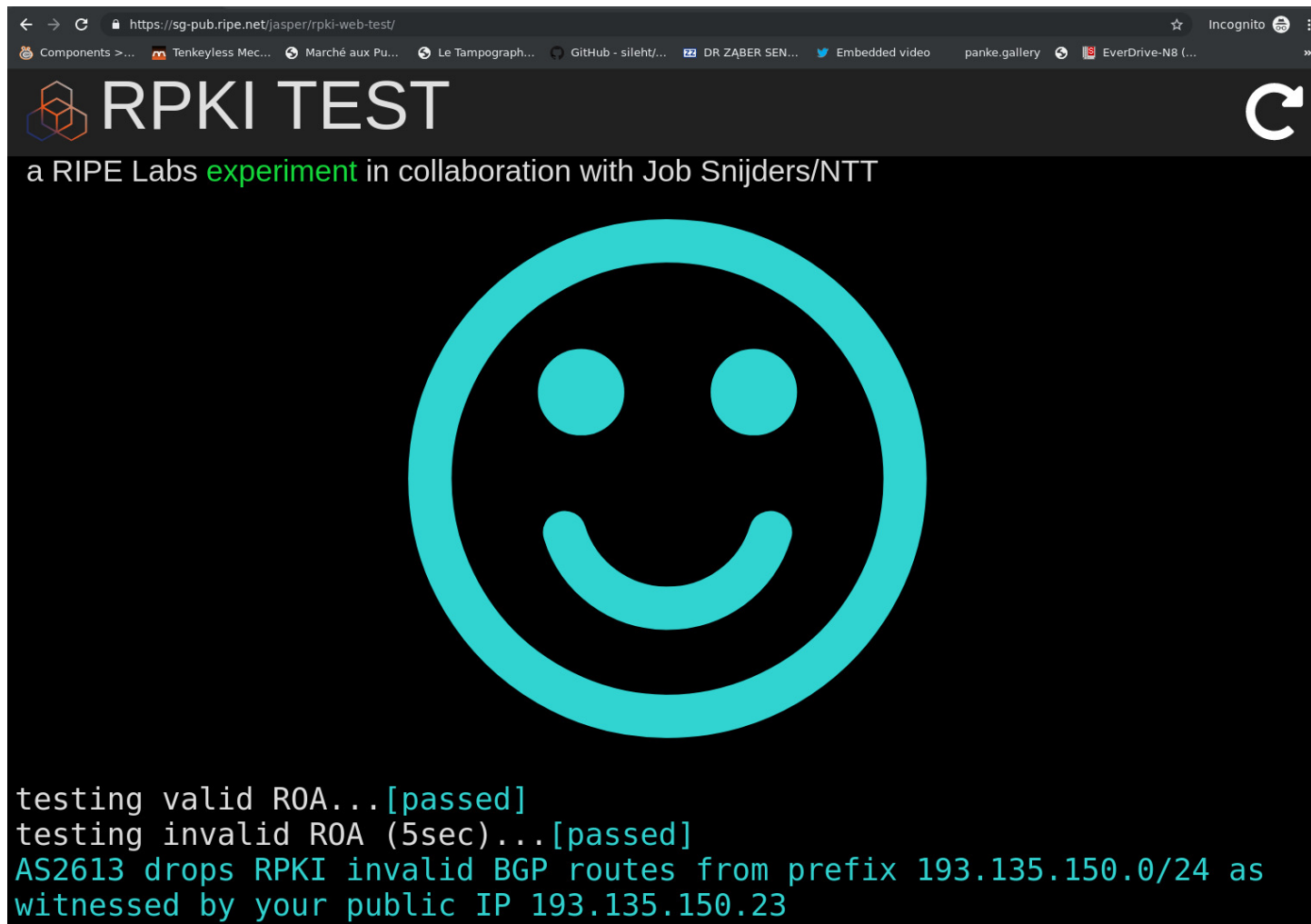
- <https://nlnetlabs.nl/projects/rpki/routinator/>

2) create filter for your local IGP routes (you know those with private ASNs from your network that your at not leaking to your peers because you filter :wink: :wink:)

3) add this line in the BGP section of your Cisco IOS router :

```
br02#sh run | sec router bgp 2613
router bgp 2613
# [...]
bgp rpki server tcp 193.135.150.X port X refresh 3600
```

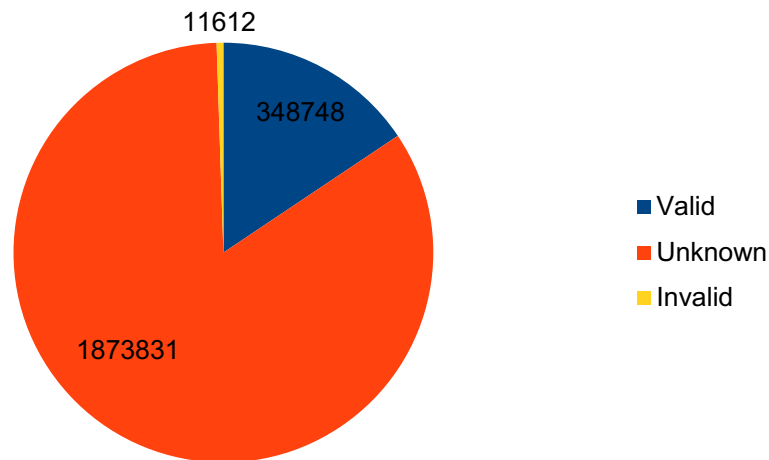

4)



Be proud at the next Swinog and keep your hand up if anyone ask if you reject invalid.

But I will drop too much stuff ?!

Only Invalids are rejected.
Big players are already doing it. (AT&T, Telia, AMS-IX (if selected),
DE-CIX, many others)



Number of path seen
by one of my routers

Lessons learned

- It's simple.
- Create your ROAs (slide 5)
- Double check your IGP filters
 - Spread the word
 - Reject Invalids !
- <https://rpki.readthedocs.io/en/latest/>
- Next Step for me
- Saitis's Network deployment (AS6893)
 - RomandIX (AS41882)

Conclusion :



- RPKI, a piece of pie !

- Questions ?

Thanks to Max (2010, the year we make contact, MGM, 1985)