

CMR-RIPE | <https://cynthia.re> | me@cynthia.re

We know delegated RPKI is cool, but
what is delegated RPKI?

Hosted RPKI

- Just a few clicks away (at least for RIPE NCC)
- No infrastructure to manage
- Secure
- Separate interfaces for each RIR
- Some API features may not be available









Delegated RPKI

- More flexibility
- Can use the same interface and API for multiple RIRs
- Might be very useful for huge orgs with multiple regions
- You have to manage all the infrastructure yourself
- Not that difficult to setup but way more so than hosted
- You have to make sure it is secure

I wanted to learn more about this in
practice.....

Activity and Correspondence Log

 Expand All  Collapse All

Date	By	Request Type and Status
02-04-2020 19:37:06	 ARIN Web	Status: Closed (Processed)
▼ 02-04-2020 19:37:06	 ARIN Web	UpDown Identity Exchange Successful 
<p>Message: The UpDown parent response for organization QUL-4 is attached.</p> <p>Some of your resources are drawn from legacy space that is managed by another RIR.</p> <p>Attachments: ARIN.QUL-4_parent-response.xml</p>		
02-04-2020 19:37:03	 ARIN Web	Status: Approved
▼ 02-04-2020 19:37:03	 Misuk Kwon	UpDown Identity Exchange - APPROVED
<p>Message: Hello,</p> <p>The status of ticket 20200204-X565304 is Approved. Your certificate will be created shortly.</p> <p>Our goal is to provide you with the best possible customer service experience. If we can be of any further assistance, please contact us directly at 703.227.0660; Monday through Friday, 7:00 AM to 7:00 PM Eastern time.</p> <p>Regards,</p> <p>Misuk Kwon Registration Services Department American Registry for Internet Numbers</p>		
02-04-2020 18:25:34	 ARIN Web	Status: Assigned
▶ 02-04-2020 17:58:05	 Cynthia Revstrom	User Reply
02-04-2020 17:49:22	 ARIN Web	Status: Pending Review

There we go, delegated RPKI in ARIN!



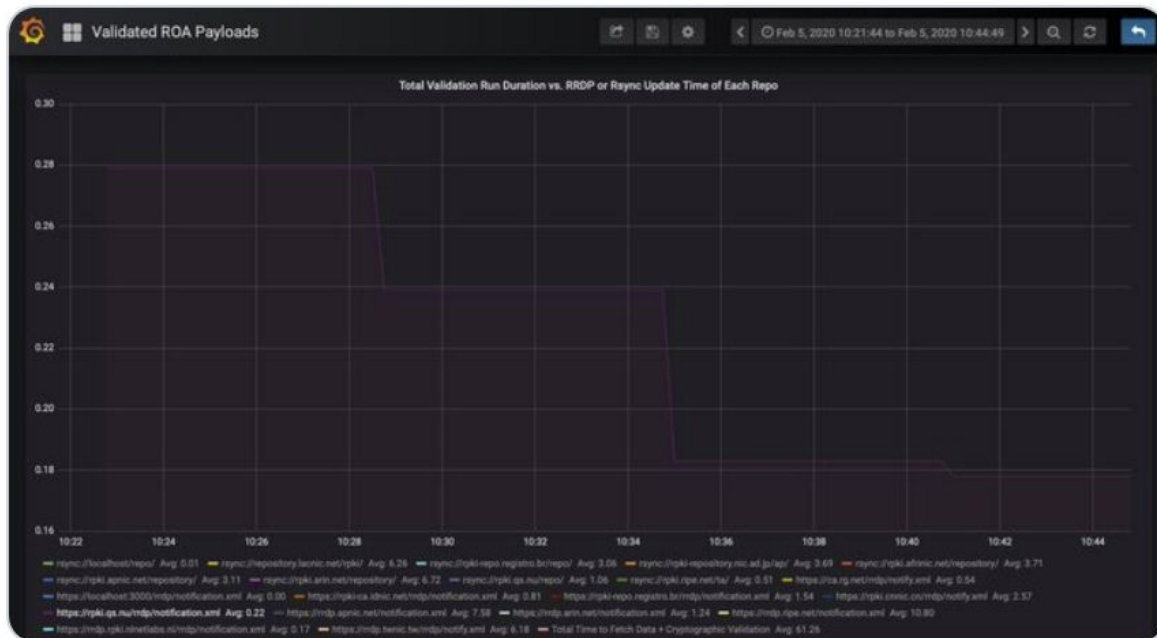
Routinator 3000

@routinator3000



Replying to @bitcynth and @krillrpk

I'm reading you loud and clear! Congrats on being the first Delegated #RPKI user under @TeamARIN.



However, it wasn't quite that smooth...

ARIN is old-school

```
<child_request
```

```
xmlns="http://www.hactrn.net/uris/rpk
```

```
i/rpki-setup/" version="1"
```

```
child_handle="QUL-4">
```

```
<child_bpki_ta>MIID...</child_bpki_ta
```

```
>
```

```
</child_request>
```

```
<identity
```

```
xmlns="http://www.hactrn.net/uris/rpk
```

```
i/myrpki/" version="2"
```

```
handle="QUL-4">
```

```
<bpki_ta>MIID...</bpki_ta>
```

```
</identity>
```


And once again...

```
<parent
xmlns="http://www.hactrn.net/uris/rpki
/myrpki/"
  version="2"
  valid_until="2120-02-05T09:01:23Z"

service_uri="http://updown.arin.net/AR
IN/QUL-4"
  parent_handle="ARIN"
  child_handle="QUL-4">
  <bpmi_resource_ta>
  ...
  </bpmi_resource_ta>
  <bpmi_child_ta>
  ...
  </bpmi_child_ta>
  <repository type="none"/>
</parent>
```

```
<parent_response
xmlns="http://www.hactrn.net/uris/rpki
/rpki-setup/"
  version="1"
  valid_until="2120-02-05T09:01:23Z"

service_uri="http://updown.arin.net/AR
IN/QUL-4"
  parent_handle="ARIN"
  child_handle="QUL-4">
  <parent_bpmi_ta>
  ...
  </parent_bpmi_ta>
</parent_response>
```

What were my conclusions?

Should you implement delegated RPKI?

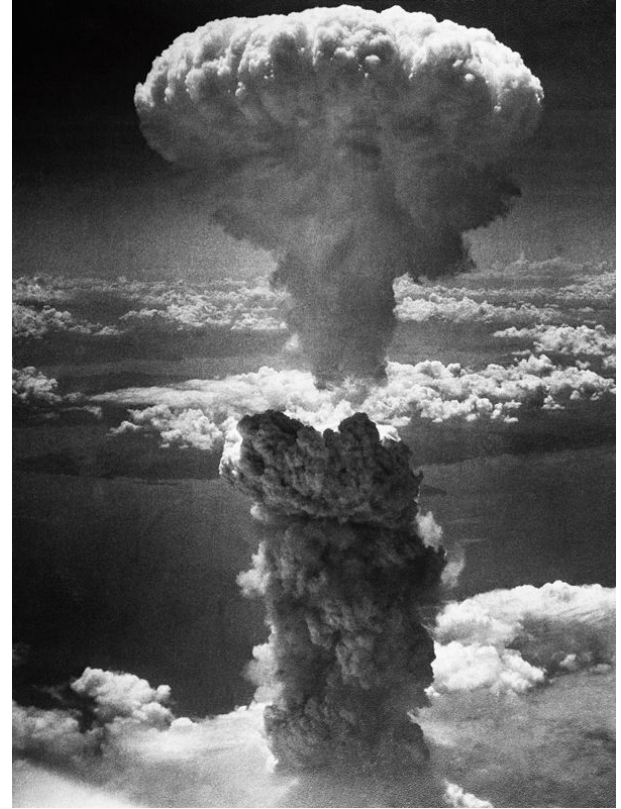
- Are you a large multi-RIR organization?
- Do you plan on automating RPKI?
- Can you afford the resources to make sure it is stable and secure?

But should you implement RPKI at all?

YES!!!

Scalability

Every validator needs to fetch all the ROAs and related information from every repository.



MAGIC!



Krill 0.5

Krill 0.5 added a feature to the UI to help with the weird format that ARIN used.

Some changes

- ARIN uses the proper format now 🎉
- Krill 0.5 added the ARIN format, then removed it in Krill 0.6
- Krill now has a web UI
- There has been a number of new delegated RPKI CAs

Thanks! ✨

Special thanks to:

- Alex Band @ NLNetLabs for helping with lots of stuff in relation to this.
- Job Snijders for helping with the talk.
- Zac @ Packet for providing credits for servers to help with this project.

Feel free to talk to me on Twitter @bitcynth or IRC (Cynthia @ Freenode).

And if you want more, check out Ben Cartwright-Cox's update on RPKI on Thursday.