

Proposal 2018-06 update “Use RPKI to clean IRR”

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Using RPKI to clean up the IRR



Applying Origin Validation to the IRR

- RPKI ROAs can be used for *BGP Origin Validation*
- But, what about applying the RFC 6811 “Origin Validation Procedure” to IRR data?
- Perhaps, we should consider unvalidated IRR data objects as if they are BGP announcements!

An example

```
route:          129.250.15.0/24
origin:         AS60068
descr:          AS60068 route object
descr:          this is a test of hijack possibilities
                with current state of RIPE/RADB security
                setup - this records covers IP address used for
                rr.ntt.net service
descr:          please note this is just a demonstrative object,
                with no real harmful intention
mnt-by:         DATACAMP-MNT
created:        2018-02-10T16:57:07Z
last-modified: 2018-09-04T19:07:32Z
source:        RIPE-NONAUTH
```

The previous slide is in conflict with this ROA!

```
$ whois -h whois.bgpmon.net 129.250.15.0/24
% This is the BGPmon.net whois Service
% You can use this whois gateway to retrieve information
% about an IP address or prefix
% We support both IPv4 and IPv6 address.
%
% For more information visit:
% https://portal.bgpmon.net/bgpmonapi.php
Prefix:                129.250.0.0/16
Prefix description:      NTT Communications backbone
Country code:           US
Origin AS:            2914
Origin AS Name:         NTT-COMMUNICATIONS-2914 - NTT America, Inc., US
RPKI status:         ROA validation successful
First seen:             2019-02-23
Last seen:              2019-05-22
Seen by #peers:         71
```

RIPE-NONAUTH IRR cleanup

Formal proposal: Apply the *Origin Validation* procedure to IRR objects in the RIPE-NONAUTH IRR database. The PDP applies here.

This proposal remove wrong LACNIC, APNIC, ARIN, AFRINIC route registrations from RIPE-NONAUTH – If and only if there are RPKI ROAs covering the space

Implications:

- proposal does not apply to RIPE-managed space
- proposal does not affect Legacy space managed by RIPE NCC
- There is no effect if you cannot (or will not) create RPKI ROAs for your space

RIPE-NONAUTH IRR cleanup

Changes between version 1.0 and 2.0:

- Introduced a 7 day hold period
- Notifications should be send to the IRR route object holder (if we can).

<https://www.ripe.net/participate/policies/proposals/2018-06>

Test tool: <https://github.com/job/ripe-proposal-2018-06>

Analyser tool example for AS 7018

```
$ ripe-proposal-2018-06 -a 7018
```

```
Downloading https://rpki.gin.ntt.net/api/export.json
```

```
Downloading https://ftp.ripe.net/ripe/dbase/split/ripe-nonauth.db.route.gz
```

```
INVALID! The 99.122.224.0/21AS1273 RIPE-NONAUTH route object has conflicts:
```

```
route:          99.122.224.0/21
descr:          route for customer Akamai International
origin:         AS1273
created:        2008-09-08T14:40:49Z
last-modified: 2018-09-04T15:54:45Z
source:         RIPE-NONAUTH
mnt-by:         CW-EUROPE-GSOC
```

```
Above non-authoritative IRR object is in conflict with this ROA:
```

```
ROA: 99.112.0.0/12, MaxLength: 12, Origin AS7018 (ARIN)
```


AFRAID OF
CHANGE?
LEAVE IT
HERE!

R PIZZA?
GET TO SHARE ON
ADVISOR!



Question everything!

Feel free to ask questions, ask for clarifications

If you don't want to use the microphone, please email me

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(I am happy to help competitors too)

Network Engineers Without Borders!