

# RPKI @ cr!X

## RIPE NCC:Educa Routing Security April, 2018

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# RPKI @CRIX: Our organization



NIC Costa Rica

Not for profit organization

Registry for .cr TLD since 1990

Administrator of CRIX, the National  
Neutral Internet Exchange Point of  
Costa Rica

[www.nic.cr](http://www.nic.cr)



# RPKI @CRIX: Our organization



4 years of operation

27 members

4 CDNs

Located in San José, CR

Members of LAC-IX and EURO-IX

[www.crix.cr](http://www.crix.cr)




# RPKI @CRIX: Agenda



- Implementation process
- Current status
- Operational challenges
- Future plans



# RPKI @CRIX: Splitting the process

An aerial photograph of a river flowing through a forested area. A bridge structure is visible in the center, spanning the river. The river is surrounded by dense evergreen trees and rocky banks. The water appears slightly turbid. The image is split vertically by a thin metal railing.

**1. Informational-only  
System**

**2. Route Origin  
Validation**



# RPKI @CRIX: Implementing since the beginning



CRIX start date:  
July, 2014

Implementation based on IETF  
draft-fmejia-opsec-origin-a-  
country-02

RPKI Informational-only system +  
BGP communities with validity  
status

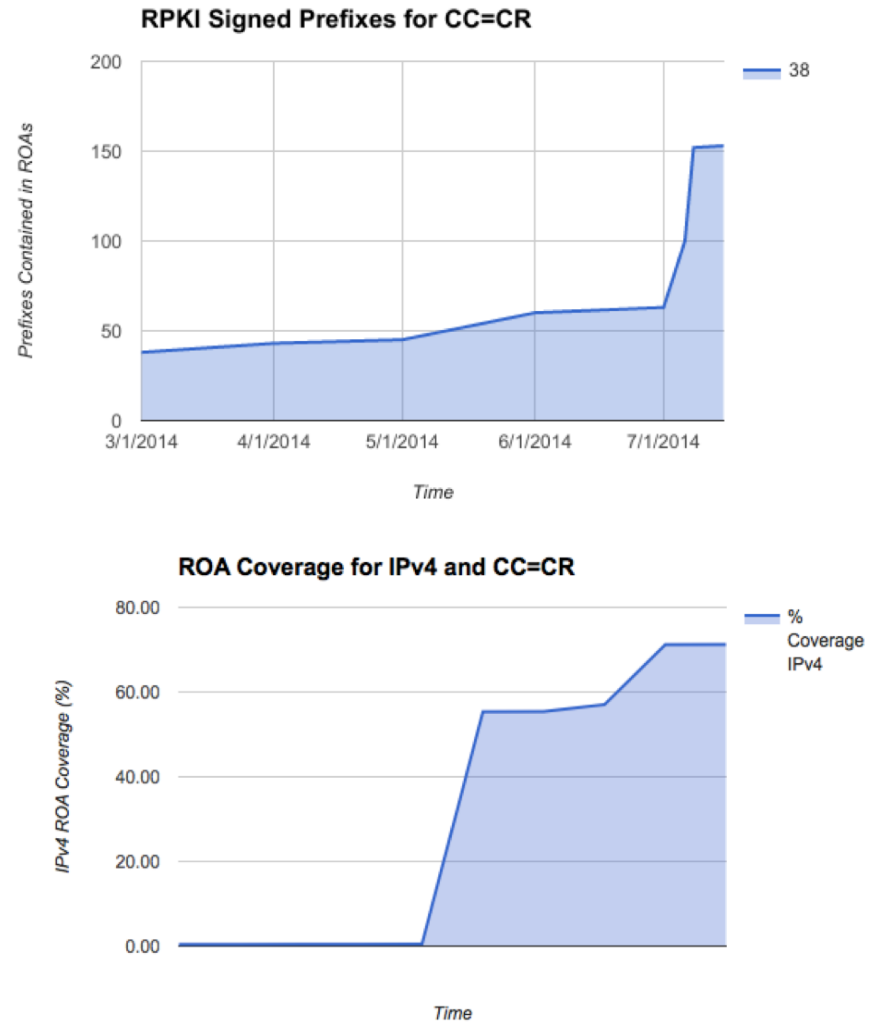
Monitoring of IX members  
announcement status

RPKI training for IX members with  
LACNIC and ISOC collaboration

# RPKI @CRIX: Implementing since the beginning



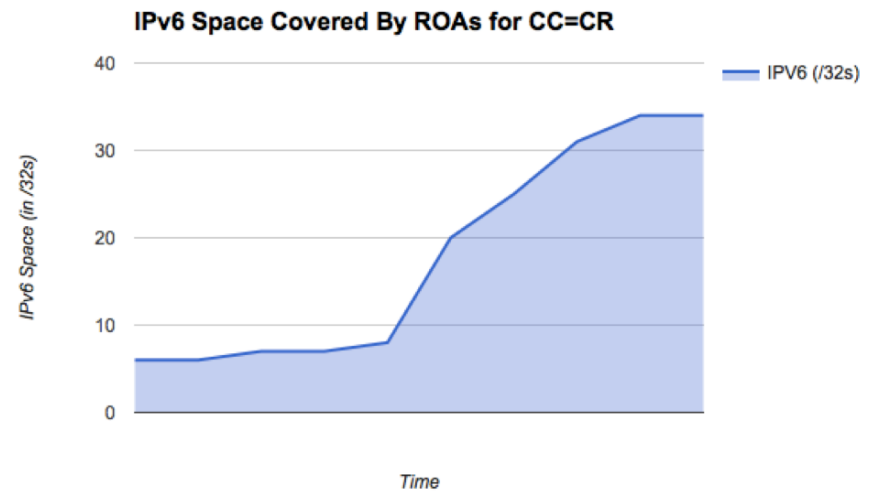
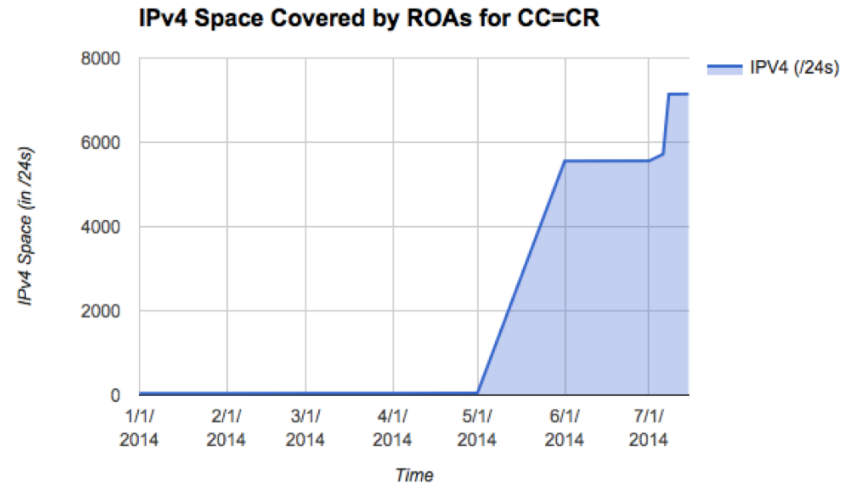
CRIX start date:  
July, 2014



# RPKI @CRIX: Implementing since the beginning



CRIX start date:  
July, 2014



**RPKI @CRIX:** Time to move forward...



**Why not?**

# RPKI @CRIX: Creating an island of trust



ROV start date:  
May, 2015

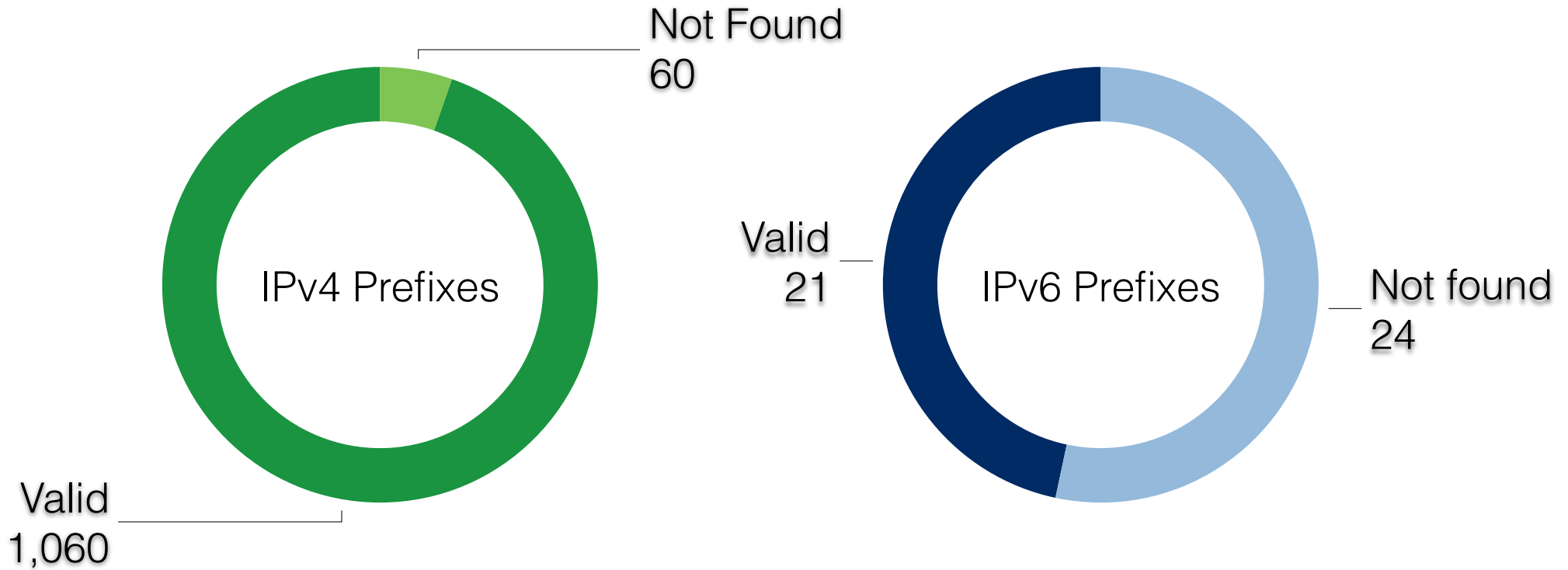
RPKI transition from informational-only system to ROV

Invalid announcements are discarded at the RS

Transition coordinated with IX members to minimize impact

ROA creation and validation included in the setup of new members

# RPKI @CRIX: Current prefixes status



- \* Not founds: primarily DNS/CDN operators and end customers
- \* No invalid announcements



# RPKI @CRIX: Operational challenges



Benefits are not widely known

Non-Technical RIR contacts

Regional IT Departments

New for most members

ISP techs rotation

Knowledge





# RPKI @CRIX: Continuous improvement



## Future plans

Automation of invalid route detection and notification

Implementation of Bird RS for platform diversity

Collaborate with CR non-IX ASNs to deploy RPKI

Development of local workshop for periodic knowledge updates

# RPKI @CRIX: Wishlist



RIRs and ISPs

Provide testing beds for ROA and certificate creation

Include the ROA generation and/or instructions as part of the initial resource assignment

Use RPKI as an alternative for LOAs

Keep doing this kind of webinars

# RPKI @CRIX: Road to implementation



- Choose a RS with RPKI support
- For IXPs, get members involved since the beginning
- Split the process into phases
- Keep training your local community







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