RPKI Origin Validation in real life

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• Conventional network, mostly wireless. 450-500 attendees
  – A crowd as picky and whiny about the network as the IETFers
Motivation

- In short: “eat our own dog food”
- Try the technology in the field
  - Are there unknown ‘surprises’ to be found?
  - What about the practicalities?
    - Obtaining router software
    - Running the validators
- A followup to our LACNOG 2011 demo of origin validation on routers
- Known limitations:
  - No full IPv4 table available in the routers
The RPKI Origin Validation Setup

• Routing:
  – 2 Cisco 7201 routers.
  – IOS was downloaded as any other image, no special code, no special version

• Validating cache:
  – 2 instances of RIPE NCC validator
  – TA from 5 RIRs repositories
  – ~20k IPv4 routes, ~11k routes IPv6 (full table)

• Dropping invalids after day 2
Routers CPU utilization

![CPU Usage Graph](image)

- Current: 1
- Average: 2
- Maximum: 8

RPKI in Real Life @ietf85
Validation IPv4
Validation IPv4
Validation IPv6
Validation IPv6
Our Experience

• Noticeable improvements compared to LACNOG 2011 demo
  – No RTR drops between validator and router
  – No router crashes (3 or 4 during the week in 2011)

• Repo validation performed well
  – Despite known issues
  – No ‘mass extinction’ events to be seen on graphs

• Dropping invalids cleaned up a lot of more specifics
THANK YOU !