

# **RPKI/ROV data analysis with detailed characterization of Invalid routes**

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**IETF SIDROPS Meeting**

**IETF 104**

**Prague, Czech Republic**

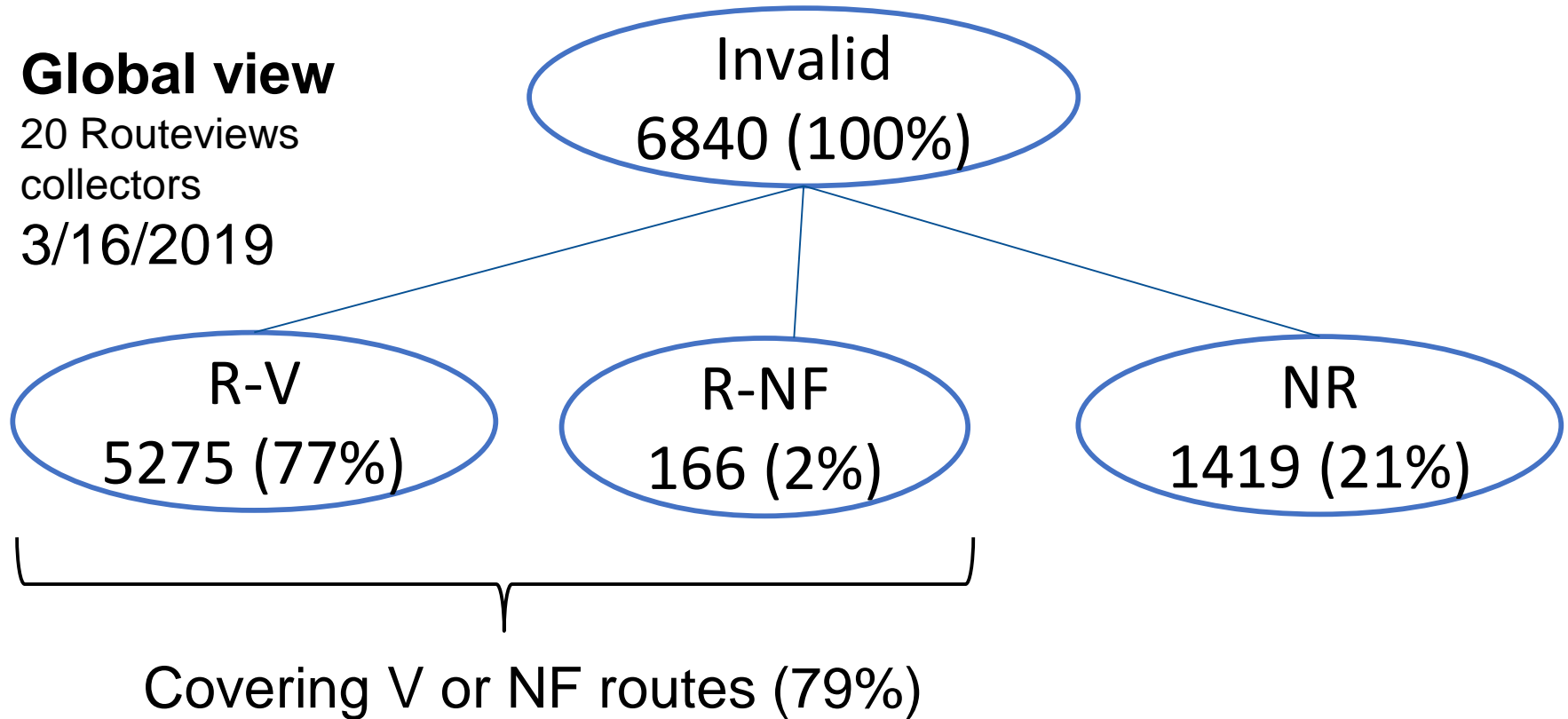
**March 2019**

# Invalid routes – if dropped, is traffic still routable to covering Valid or NotFound?

## Global view

20 Routeviews  
collectors

3/16/2019



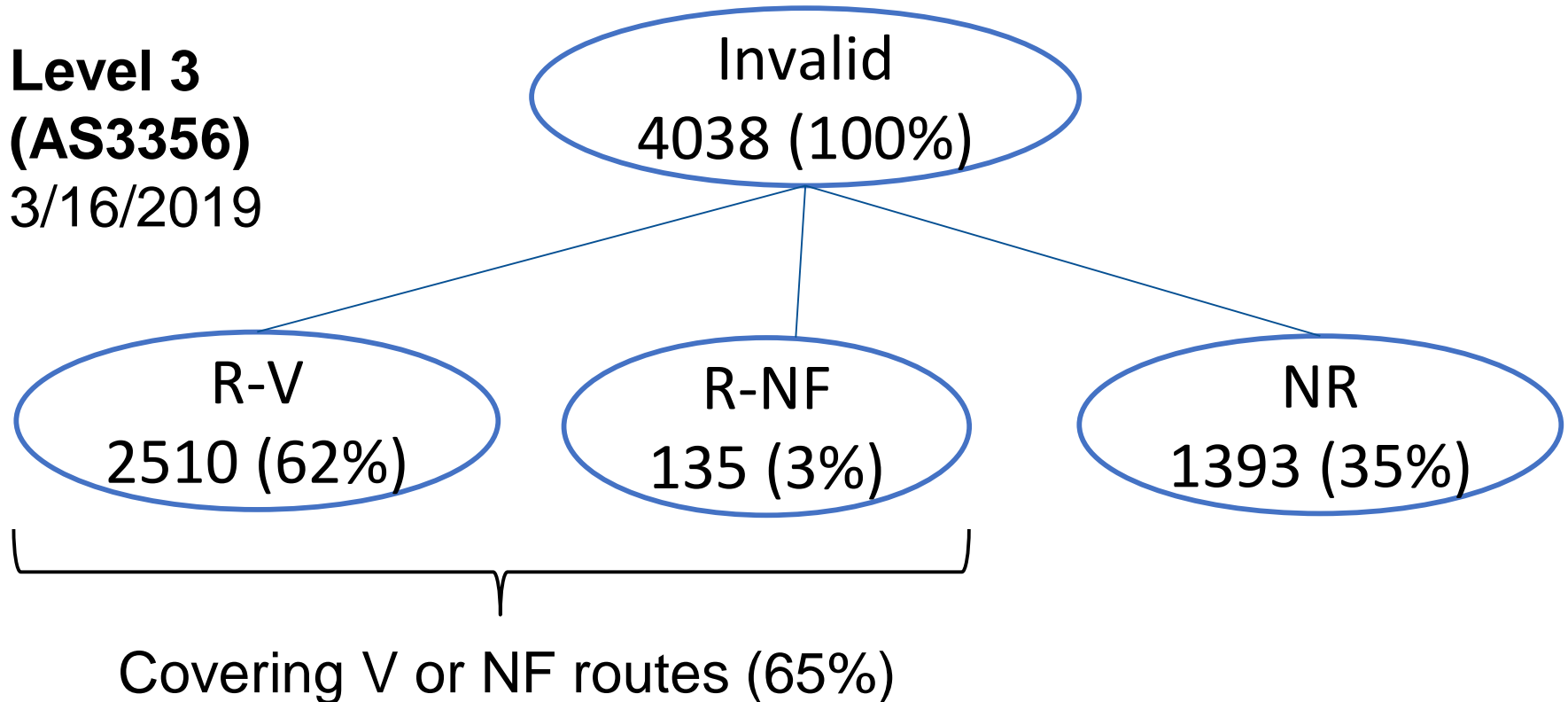
R-V: Routable to Covering Valid

R-NF: Routable to Covering NF

NR: Not Routable to Covering V or NF

# Invalid routes – if dropped, is traffic still routable to covering Valid or NotFound?

**Level 3**  
**(AS3356)**  
3/16/2019



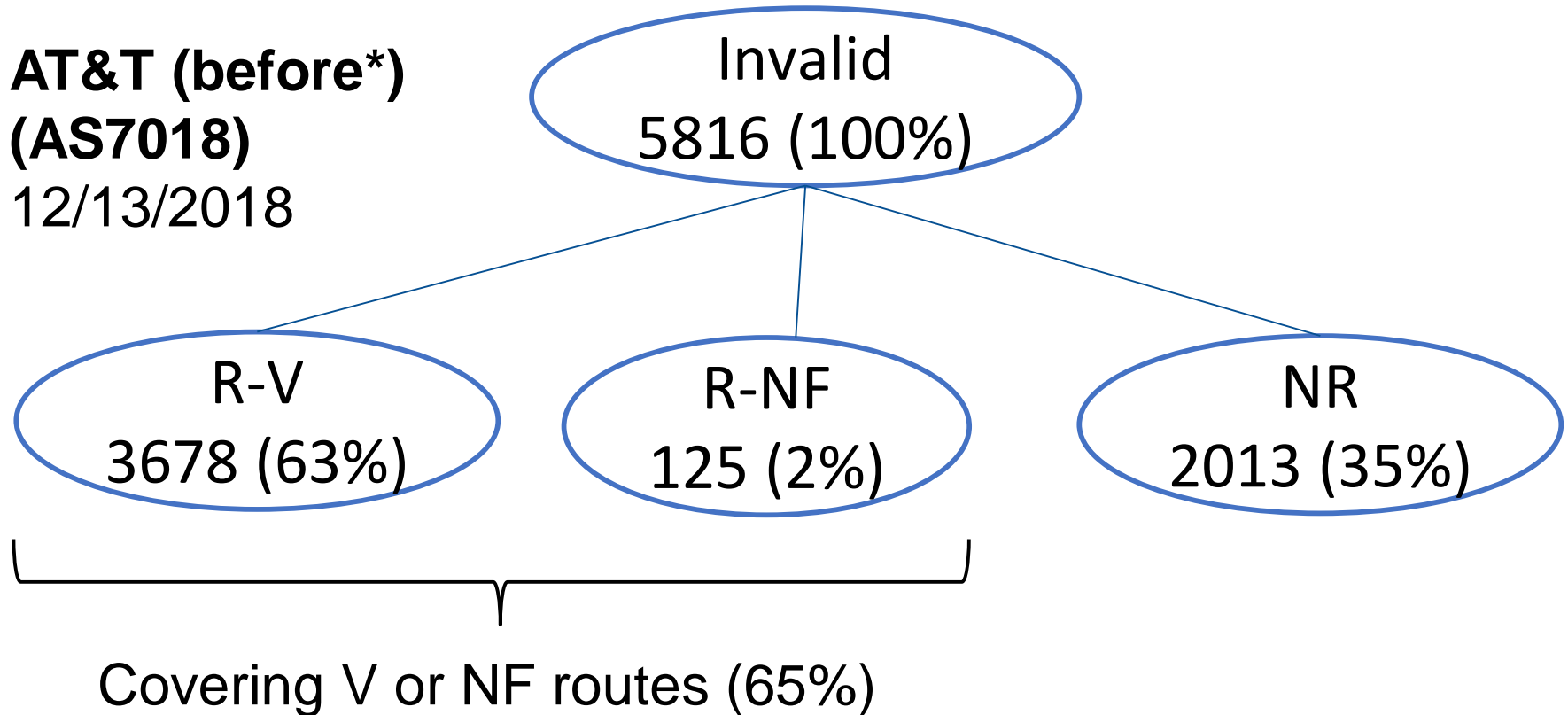
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# Invalid routes – if dropped, is traffic still routable to covering Valid or NotFound?

**AT&T (before\*)**  
**(AS7018)**  
12/13/2018



\* Before/After relative to AT&T dropping Invalid routes from peers starting in February 2019

# Invalid routes – if dropped, is traffic still routable to covering Valid or NotFound?

**AT&T (after\*)**  
**(AS7018)**  
3/16/2019

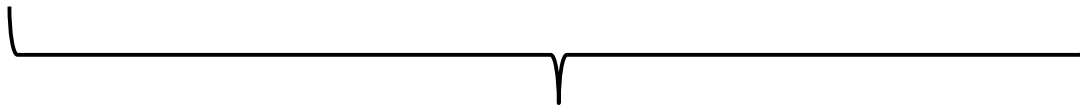
Invalid  
192 (100%)

AT&T is not dropping  
Invalid routes from  
customers.

R-V  
171 (89%)

R-NF  
4 (2%)

NR  
17 (9%)



Covering V or NF routes (91%)

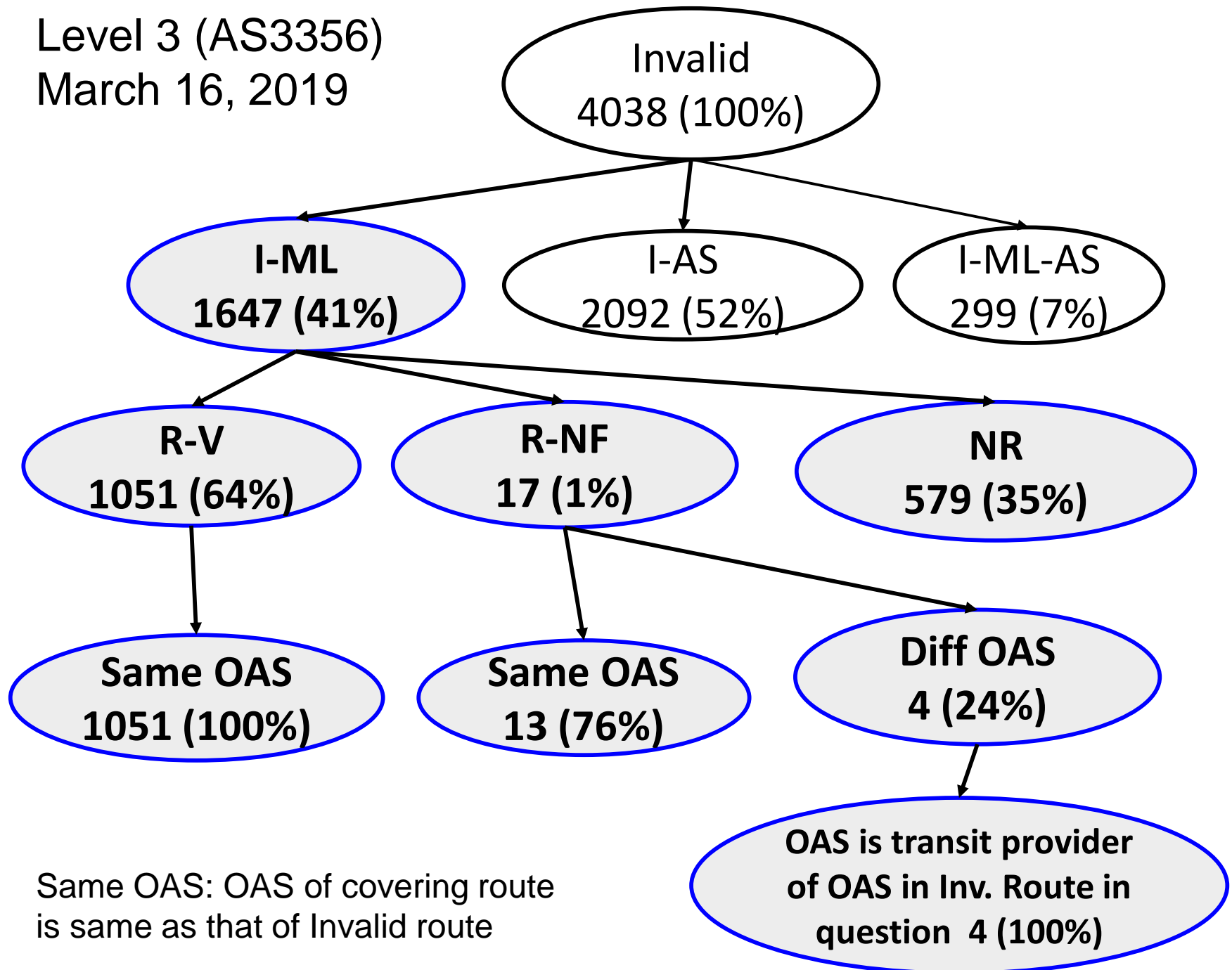
\* Before/After relative to AT&T dropping Invalid routes  
from peers starting in February 2019

# Detailed Analysis of Invalid Routes

More Definitions:

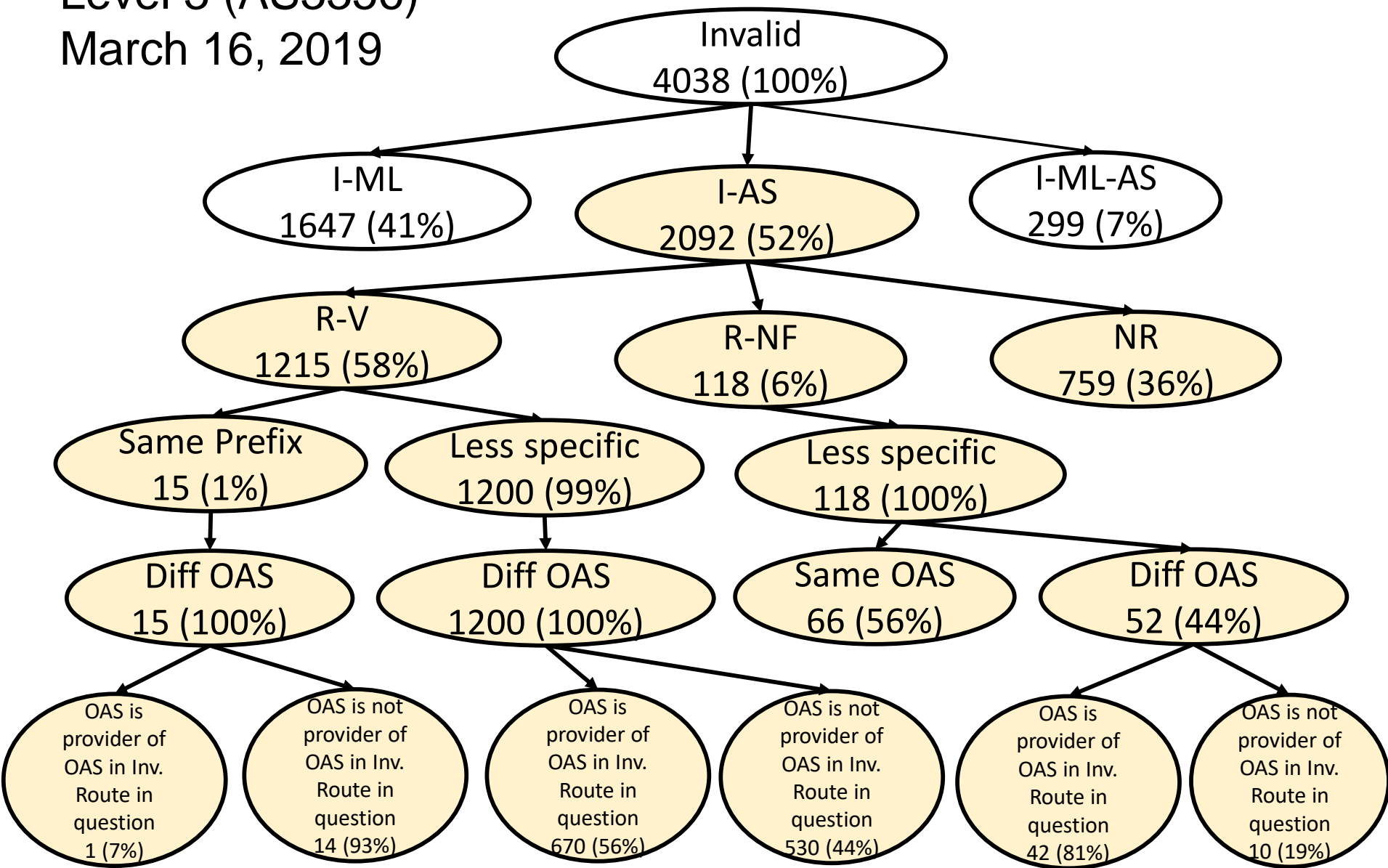
- I-ML: Route is Invalid only due to prefix length > maxlength
- I-AS: Route is Invalid only due to AS mismatch
- I-AS-ML: Route is Invalid due to both reasons
- Same OAS: OAS of the covering route is the same as that of the Invalid route
- Diff OAS: OAS of the covering route is different from that of the Invalid route
  - ❖ If Diff OAS, is the Diff OAS the transit provider of the OAS in the Invalid route?

Level 3 (AS3356)  
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# Level 3 (AS3356)

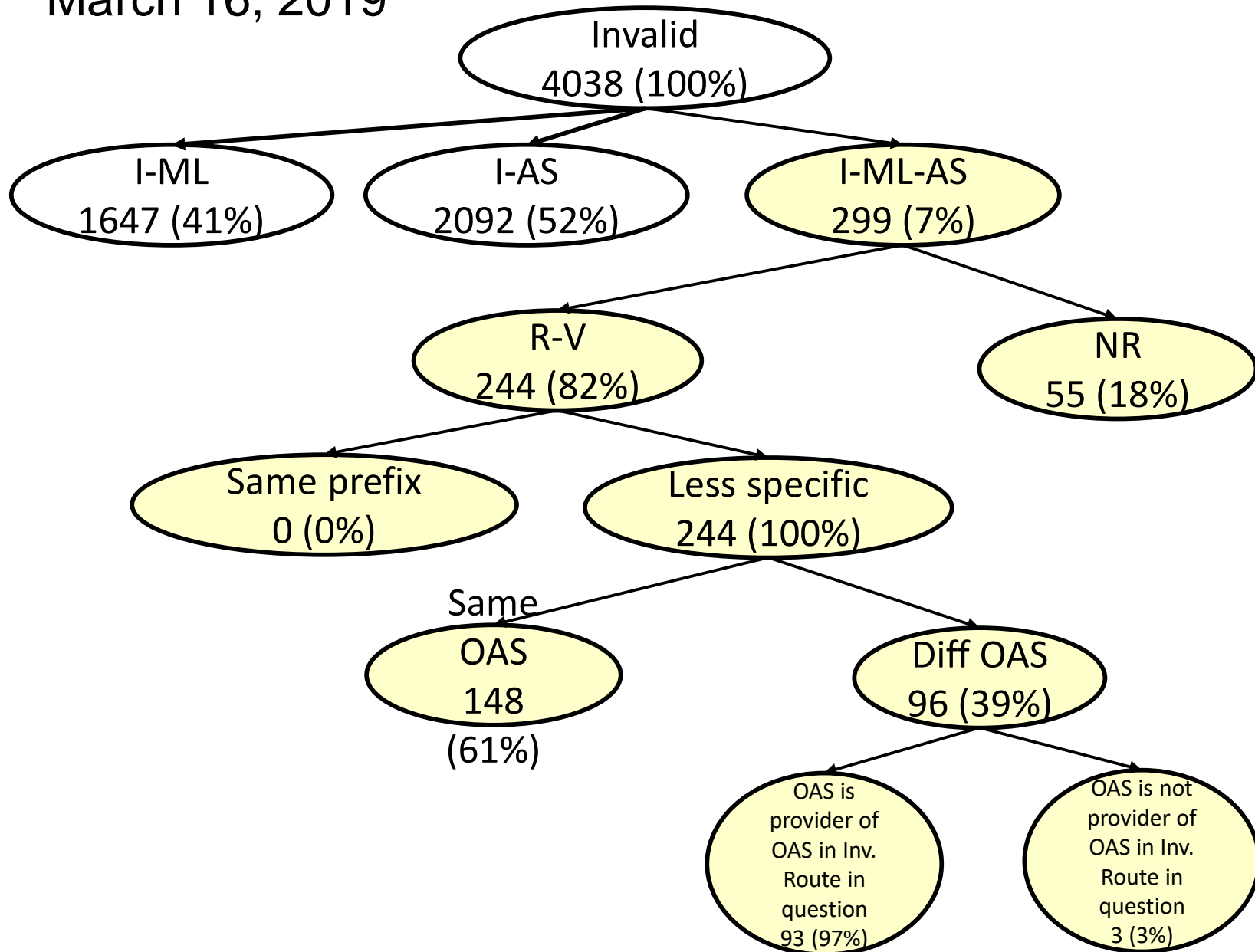
March 16, 2019





# Level 3 (AS3356)

March 16, 2019

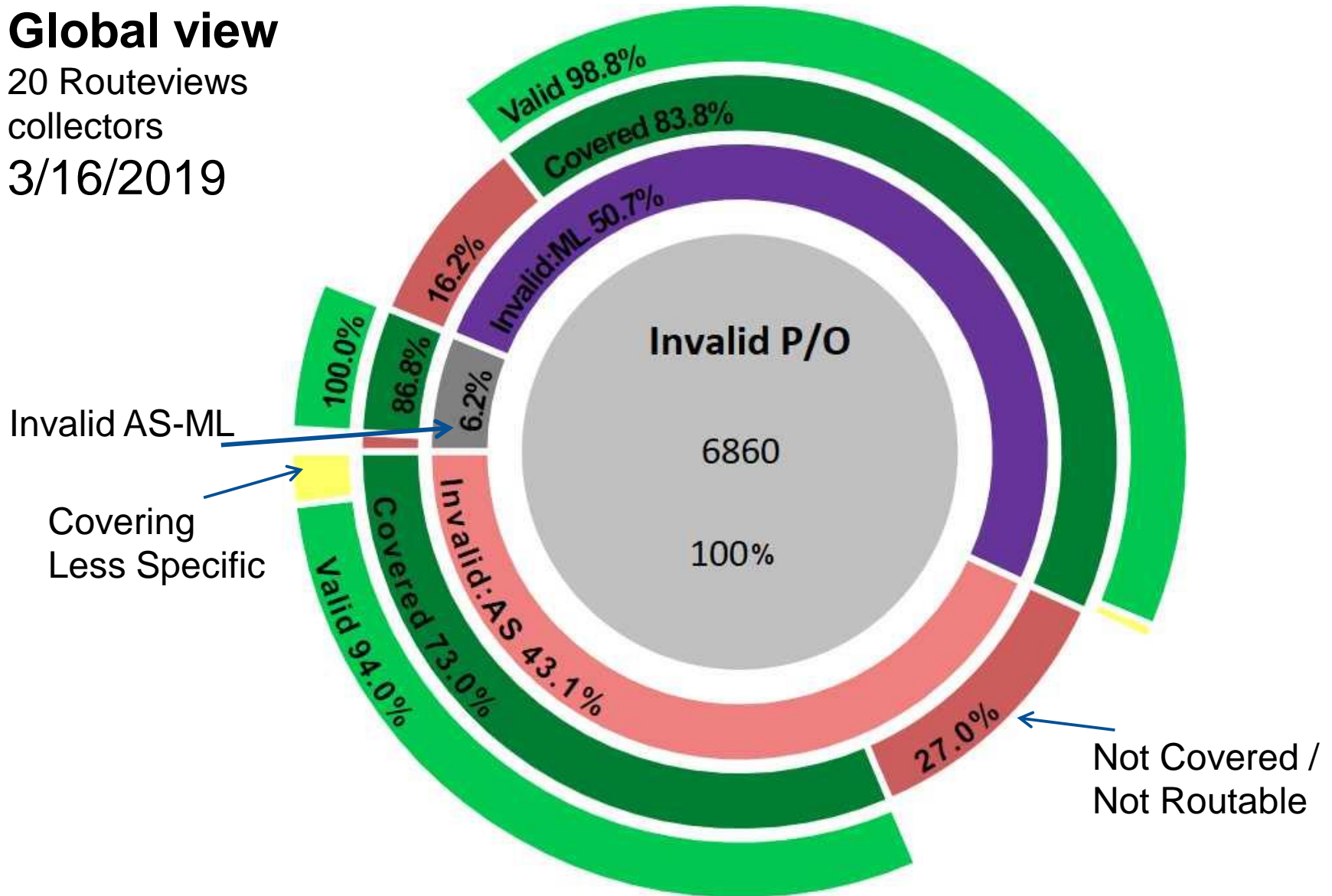


# Preview of NIST RPKI Monitor 2.0

## Global view

20 Routeviews  
collectors

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