Meet the Falcons

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What are the Falcons?

- A new pair of route servers
- Based on BIRD (Cisco does not scale easily nor support all features)
- Available only in Amsterdam (for now)

Why go to the trouble?

- Prefix hijack (or misconfiguration) mitigation

  “no mechanism has been specified within BGP to validate the authority of an AS to announce NLRI information (prefixes)” (RFC4272 3.2)

How do we do it?

- RPKI validation (RFC6480)
- BGP community tagging based on RPKI status (*valid, invalid, unknown*)
- IRRdb object filtering or tagging

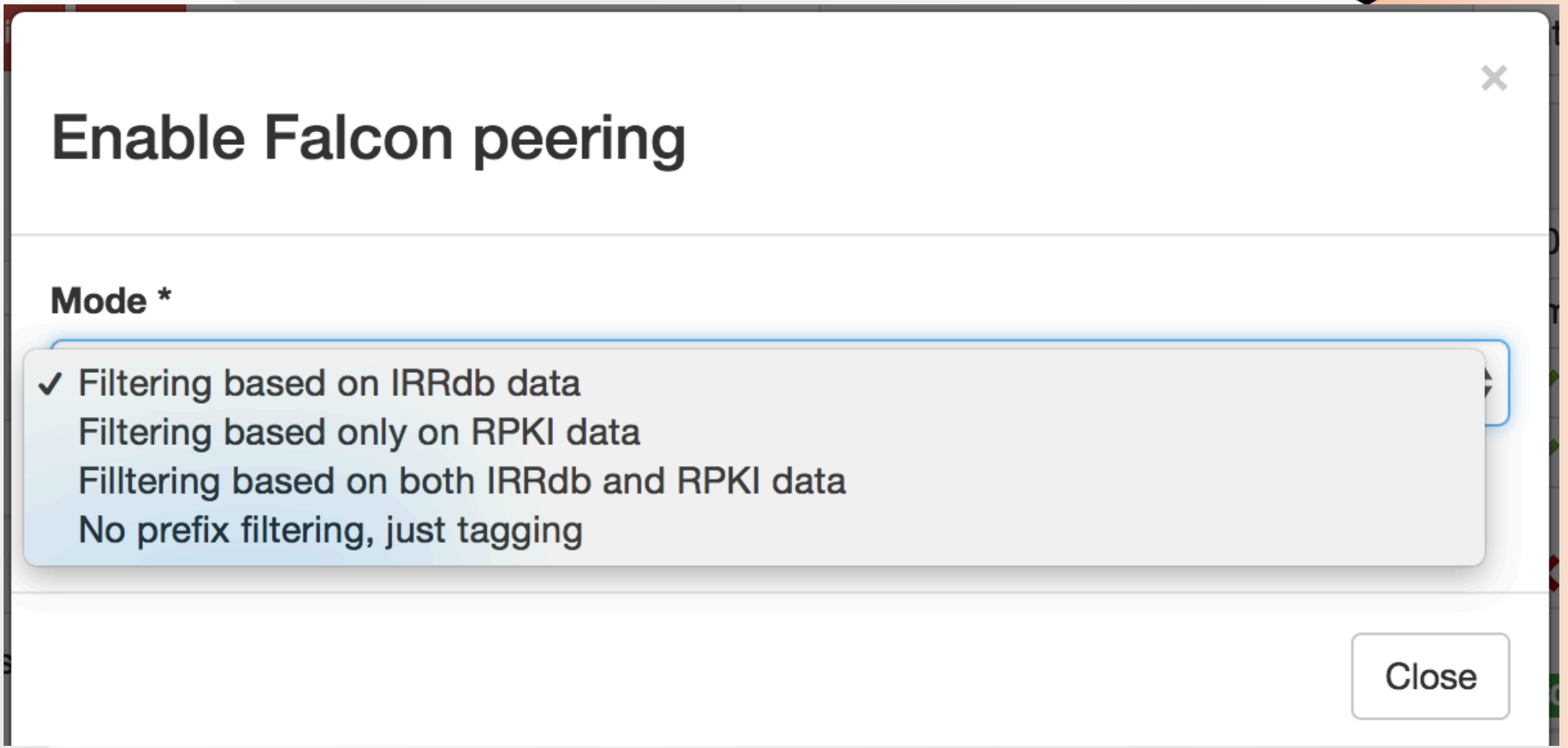
What's new to the Falcons?

Feature	Legacy	Falcon
BGP community based routing policies	✗	☑
IRRdb based routing policies	☑	✗
Inbound Routing Policies	☑	✗
RPKI prefix validation and filtering	✗	☑
IRRdb prefix validation and filtering	✗	☑
AS Path prepending	✗	☑

Is it difficult to configure?

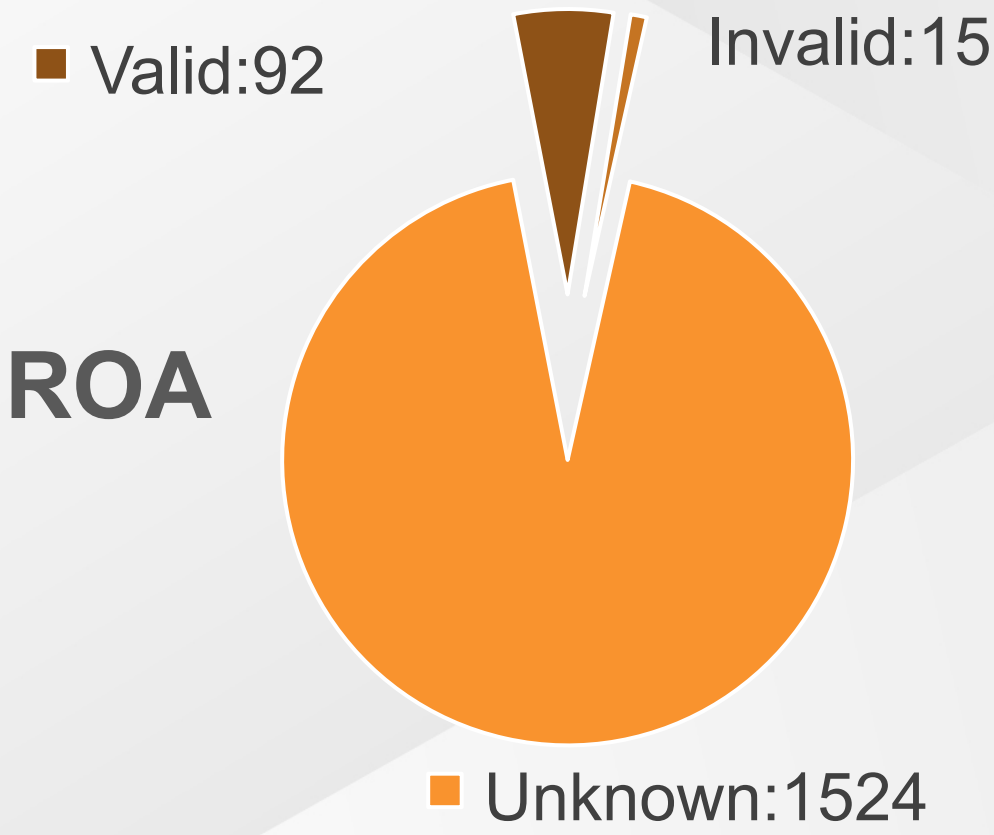
Peering with AMS-IX	✓ Disable AMS-IX peering
Peering with Legacy route-servers	✓ Disable Legacy peering
Peering with Falcon route-servers	✗ Enable Falcon peering

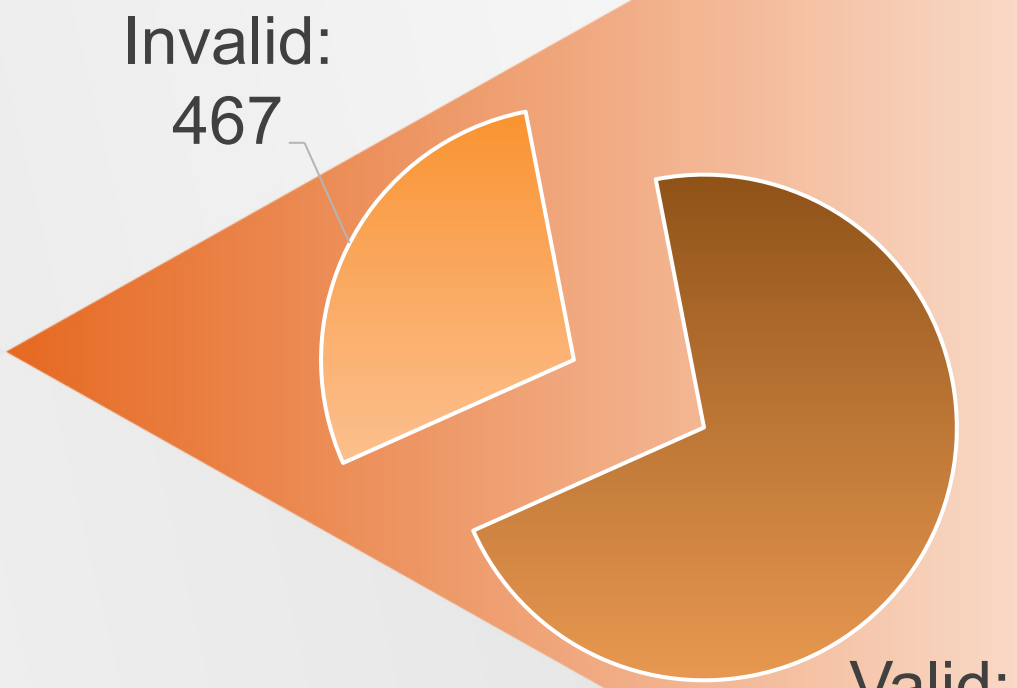
One more click…



The stats

Active peers: 35





Key take aways?

- **Lower the barrier for customers needing more tools to make security focused decisions**
- The routing policy is still controlled by the customer
- The Falcons are running in production in parallel with existing ones

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Will there be anything else, sir?

- Highly flexible, per peer BGP attribute manipulation using communities:
  - set MED
  - set ORIGIN
  - set prepend AS
- BGP ADD-PATH
- More configuration options: (IRRDB or Web portal)+ communities
- DDoS attack mitigation – L2 filtering

Any questions?

This is still WiP, any feedback is welcome!

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