RIPE NCC::Educa
Routing Security
Overview

- RIPEstat
- RIS: Routing Information System
- Routing Insights Via RIPEstat
- Examples
RIPEstat

- What is RIPEstat?
  - “RIPEstat is a large-scale information service and the Open Data platform of the RIPE NCC.”
  - One-stop-shop to 20+ backends

Follow examples on https://stat.ripe.net
Routing Information System (RIS)

- The RIPE NCC has been collecting BGP data since 1999
- 19 collectors and growing
- 160+ full-feed peers
- http://ris.ripe.net
Routing Insights Via RIPEstat

- Routing data on RIPEstat
Routing Insights Via RIPEstat

- 20+ widgets related to routing data
  - Announced Prefixes
  - Prefix Size Distribution
  - AS Path Length
  - Routing History
  - BGPlay
  - Routing Status
  - BGP Update Activity
  - Routing Visibility
  - Country Routing Statistics
  - etc.
  - Related Prefixes
  - Looking Glass
Routing Insights Via RIPEstat

- 20+ widgets related to routing data

Announced Prefixes
AS Path Length
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Related Prefixes

Prefix Size Distribution
Routing History
Routing Status
Routing Visibility
etc.
Routing Insights Via RIPEstat

- **Looking Glass**
  - Based on view from RIS peers
  - Announcing AS
  - AS paths to peers
  - Close to real-time

- **Example:**
  - [https://stat.ripe.net/widget/looking-glass#w.resource=193.0.20.0%2F23](https://stat.ripe.net/widget/looking-glass#w.resource=193.0.20.0%2F23)
Routing Insights Via RIPEstat

• Looking Glass

- RRC11 in New York City, New York, US sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC03 in Amsterdam, Netherlands sees 1 ASN originating 193.0.20.0/23. (AS3333)
- AS3333 is seen as the origin by 10 peers.
- 80.249.208.34 is announcing route AS1103 AS3333.

Origin: IGP
Next Hop: 80.249.208.68
Peer: 80.249.208.34
Community: 1103:101
AS Path: 1103 3333
Last Updated: 2018-04-03T05:30:18

- RRC10 in Milan, Italy sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC23 in Singapore, Singapore sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC20 in Zurich, Switzerland sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC12 in Frankfurt, Germany sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC21 in Paris, France sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC15 in Sao Paulo, Brazil sees 1 ASN originating 193.0.20.0/23. (AS3333)
- RRC14 in Palo Alto, California, US sees 1 ASN originating 193.0.20.0/23. (AS3333)

Showing results for 193.0.20.0/23 as of 2018-04-09 05:14:00 UTC
Routing Insights Via RIPEstat

• Routing History
  - Announced prefix by AS
  - Visibility = number of peers seeing prefix/AS combination
  - Historical information

• Example:
  - https://stat.ripe.net/widget/routing-history#w.resource=AS3333
Routing Insights Via RIPEstat

- Routing History
Routing Insights Via RIPEstat

• BGPlay
  - Visual representation of routing status
  - Snapshot view of one point in time
  - Move back and forth in time

• Example
  - https://stat.ripe.net/widget/bgplay#w.resource=193.0.20.0%2F23
Routing Insights Via RIPEstat

• BGPlay
Examples in RIPEstat

- Youtube Hijack in February 2008

Go to example on RIPEstat
Example in RIPEstat

• Internet Outage 2012 in Egypt

Go to example on RIPEstat
RIPEstat - Three Interfaces

• APIs:
  - RIPEstat webpage
  - RIPEstat widget API
  - RIPEstat data API

• https://stat.ripe.net
RIPEstat - Three Interfaces

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RIPEstat

- https://stat.ripe.net/index/about-ripestat
- https://stat.ripe.net/docs/data_api
- https://stat.ripe.net/docs/widget_api
- For updates on RIPEstat follow @NCC_RIPEstat
Questions

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