# GLOBAL LOOKING GLASS OR BGP GRAPH FOR HUMANS

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# Problem setting

**Problem**: how BGP announces of your AS are distributed across the Internet?

How can we answer this question?

1. Use looking glasses
2. Use BGP visualization tools

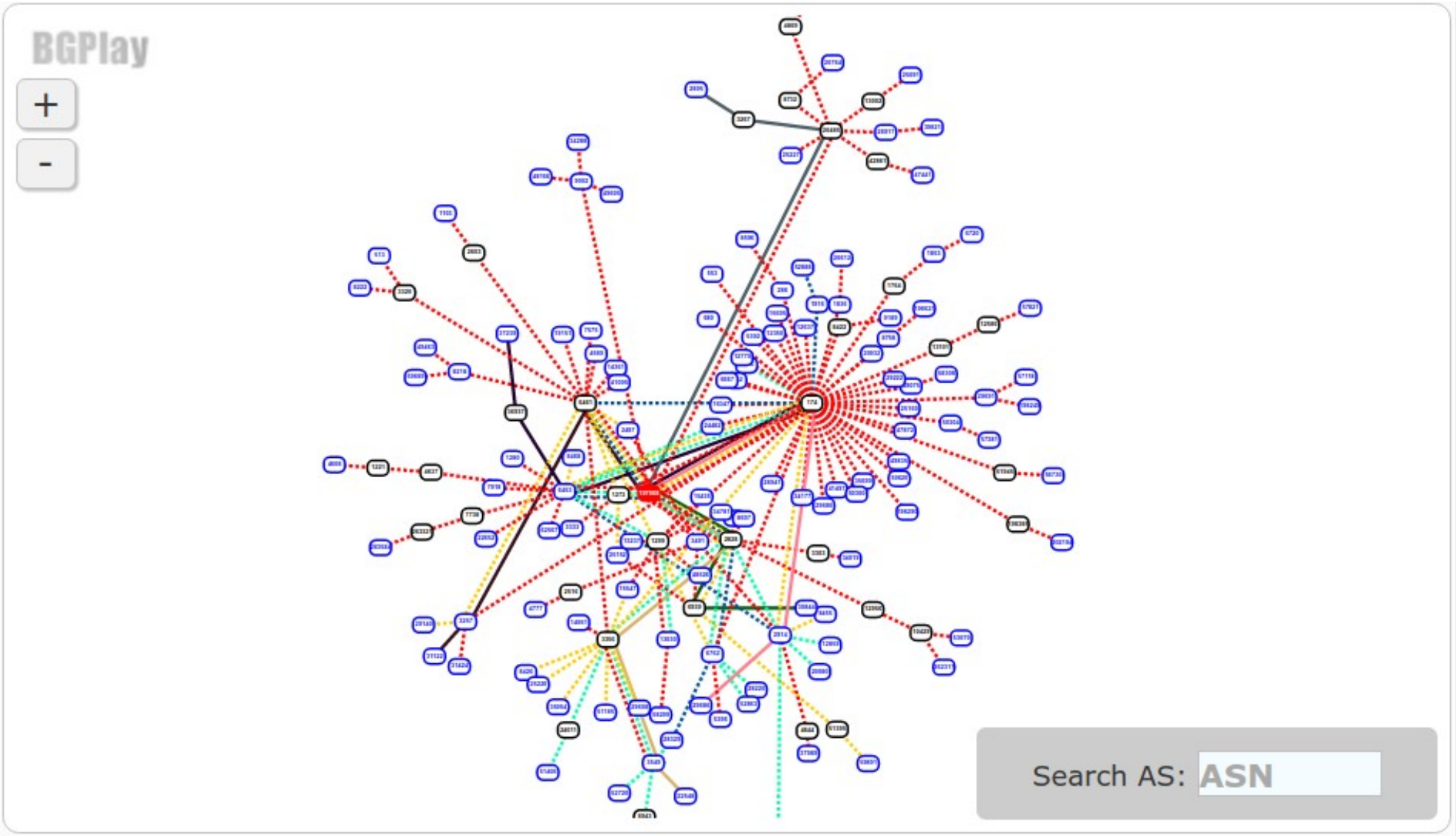
# Looking glasses

Problems with looking glasses:

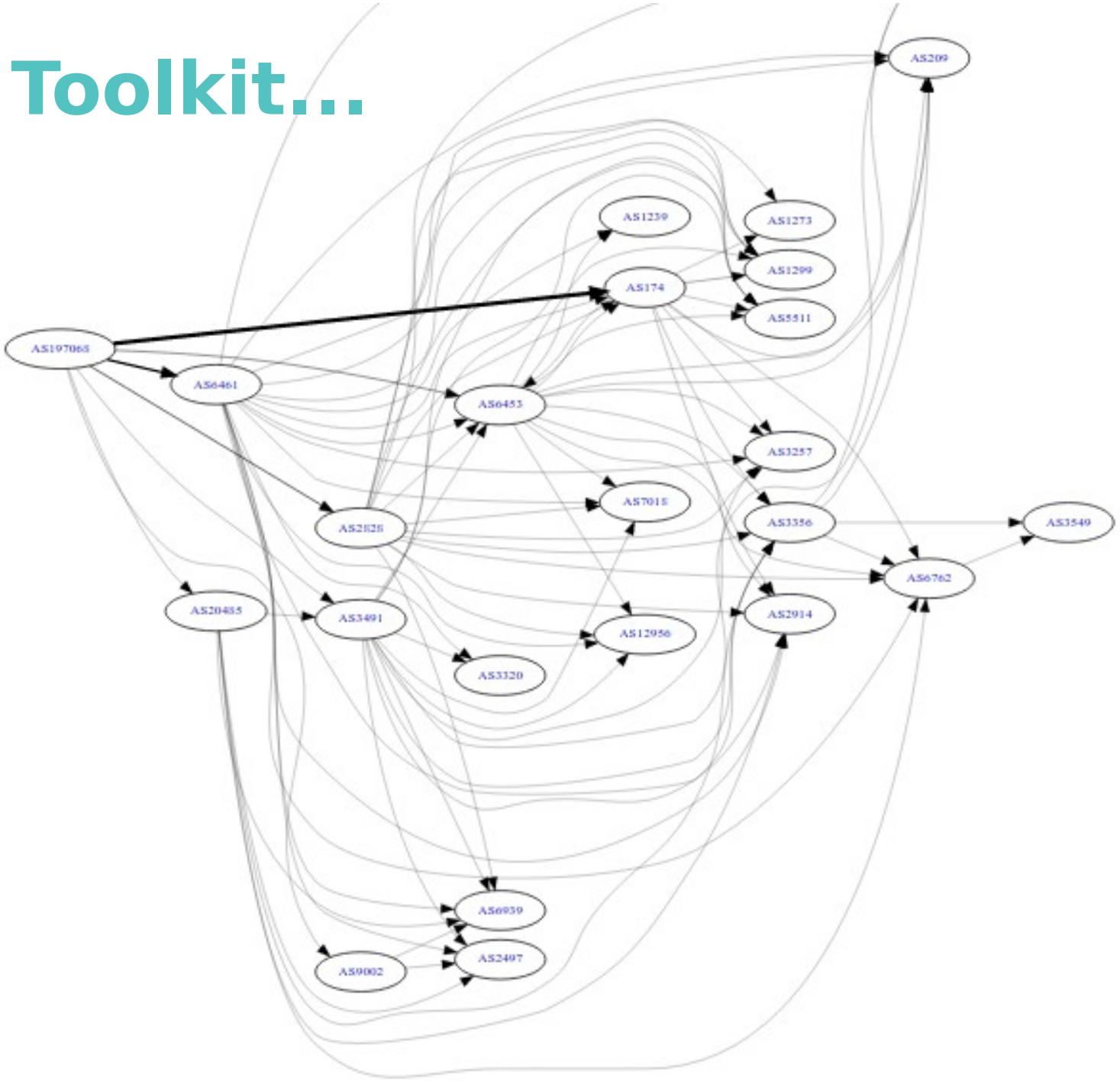
- LGs are available for a limited number of ASes
- LG shows BGP paths seen by one particular router
- It takes some time to analyze the outputs if we want to know how our prefix is seen in multiple ASes

OK, let's try some common BGP visualization tools

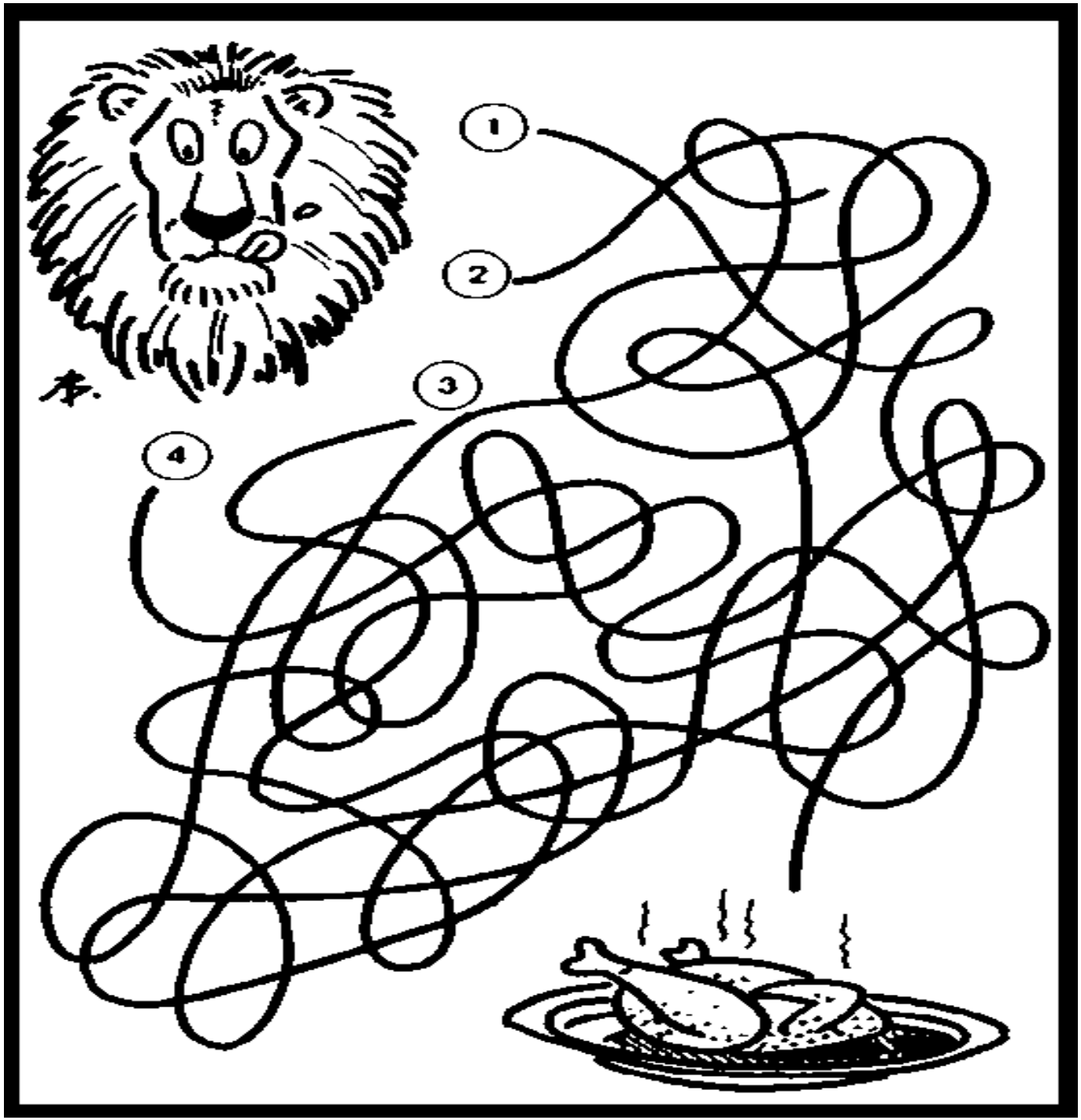
# Let's play BGPlay...



# or HE BGP Toolkit...



# Looks like…



# Existing visualization tools

Problems with existing tools:

1. They are not updated in real time
2. They produce very complicated output graphs which are difficult to interpret
3. They do not allow to quickly find paths to a set of targets

# Our approach

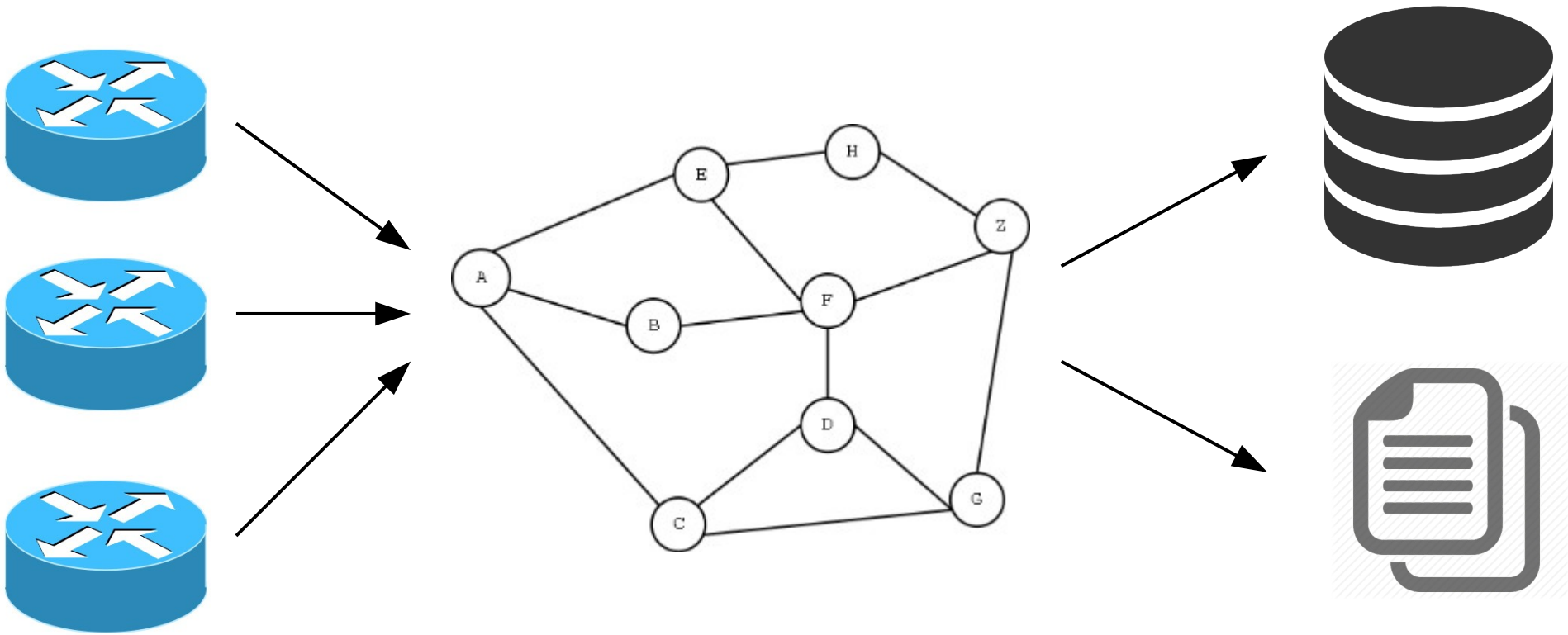
Each AS path can be written as a sequence of (ASN, path length) pairs:

2914 2828 197068 197068 i  (197068, 0), (2828, 2), (2914, 3)

How to show multiple paths on a graph:

1. Use a separate line for each AS
2. Put ASes to columns corresponding to the current AS path length
3. Show only those paths that are interesting for the user

# Real-time architecture

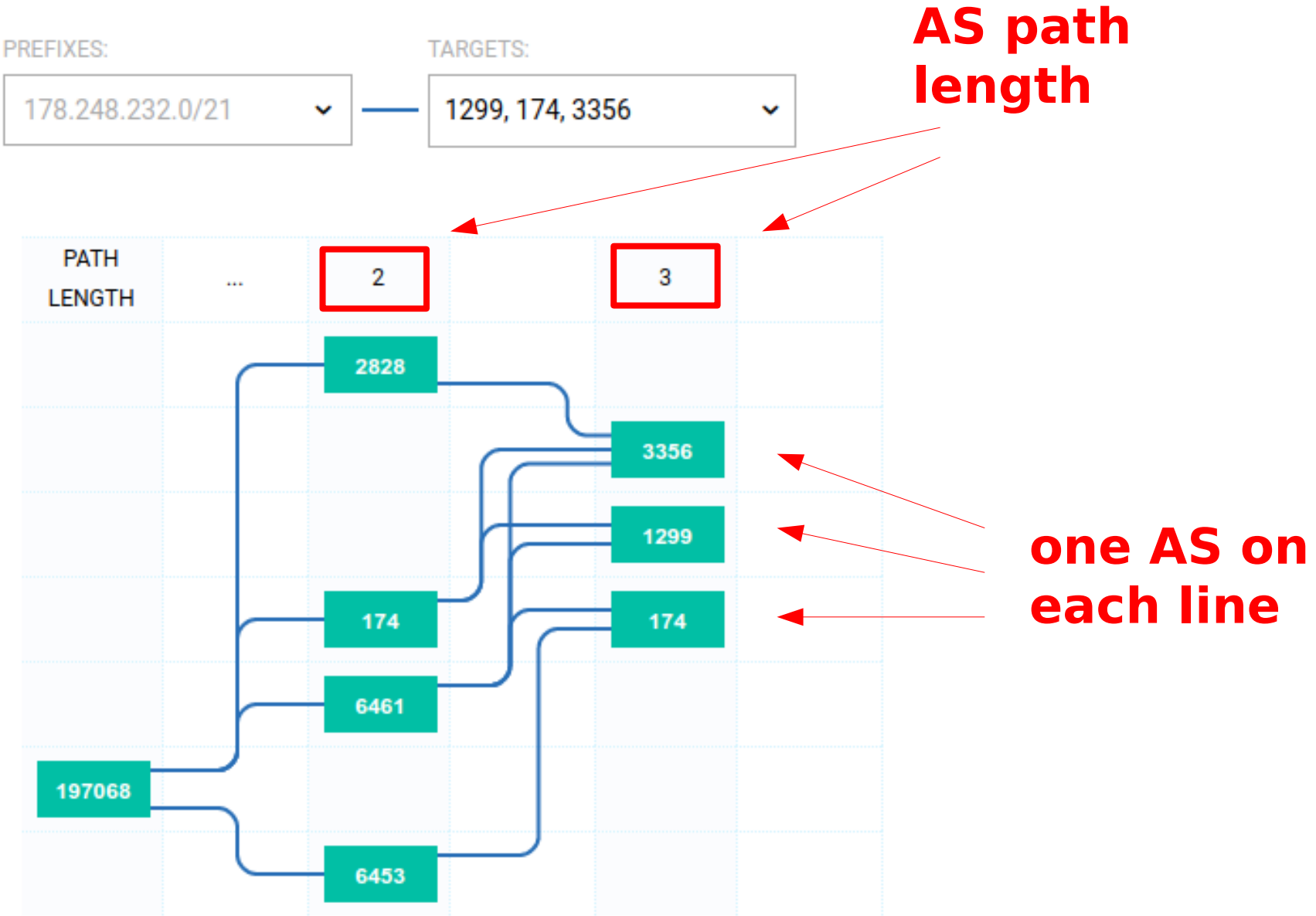



BGP sessions

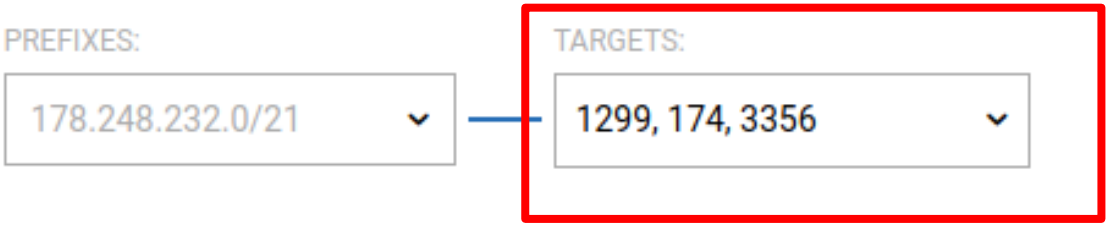
Model representation

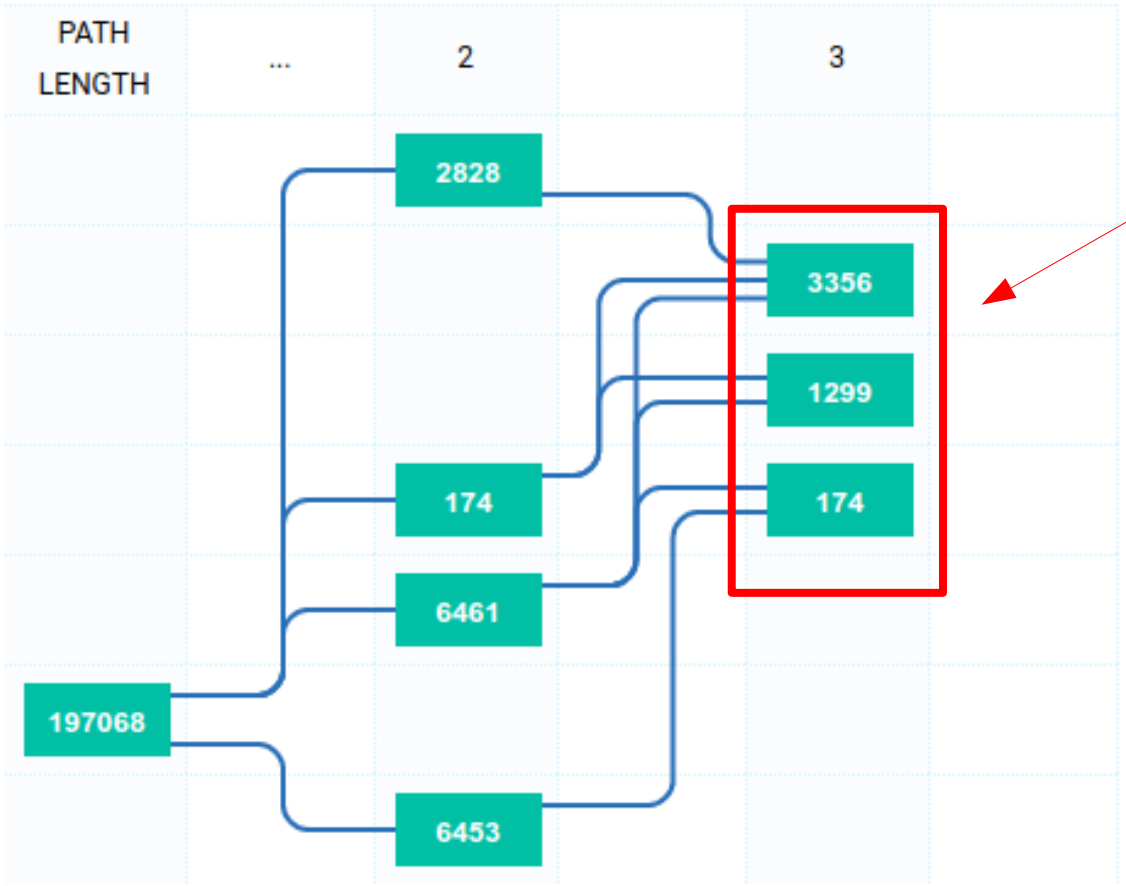
Path snapshots
and diffs

# Appearance


PREFIXES:
178.248.232.0/21
TARGETS:
1299, 174, 3356
AS path length
PATH LENGTH
...
2
3
2828
3356
1299
174
174
6461
197068
6453
one AS on each line

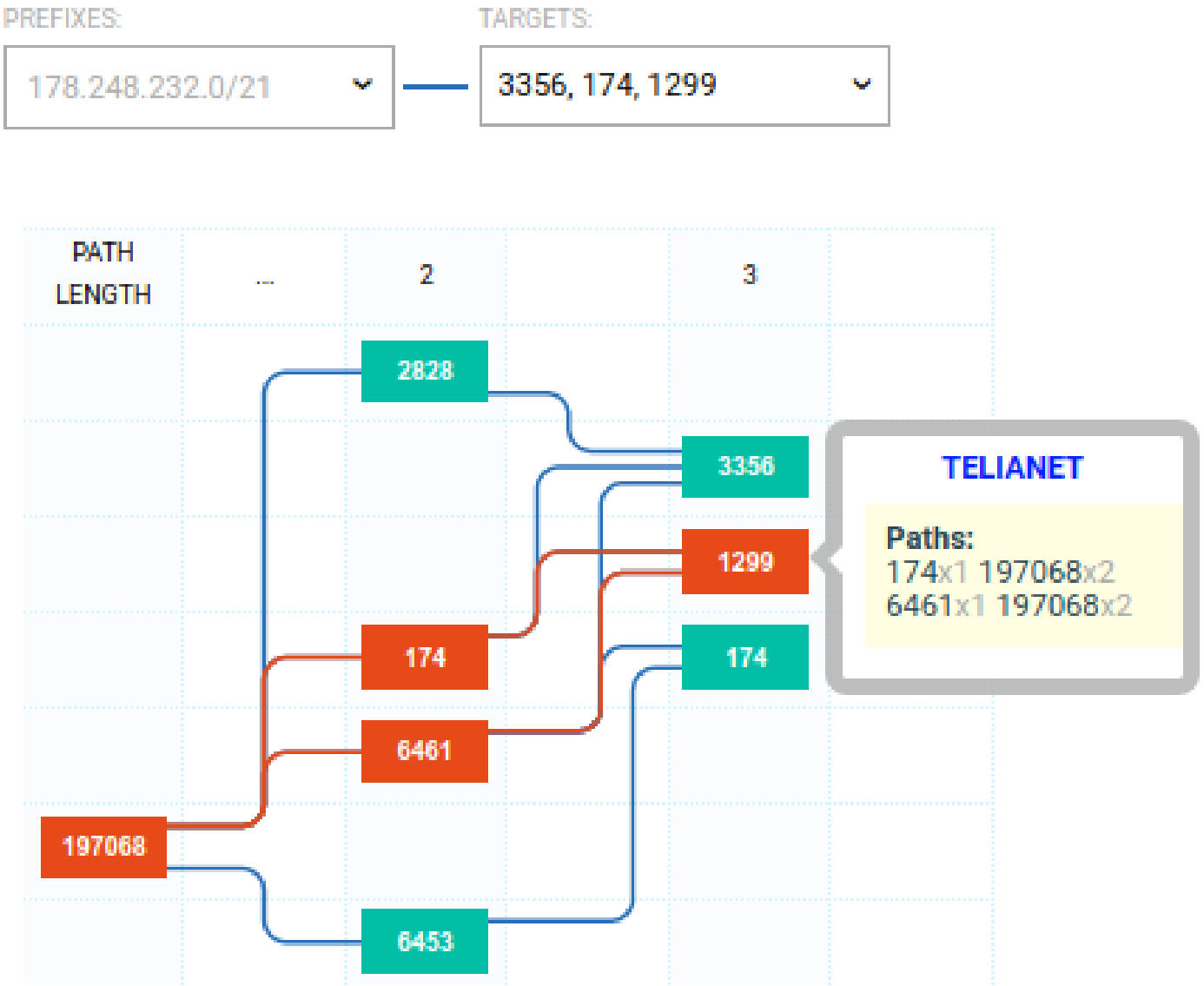
# Choosing targets




**targets**

# Path visualization



# Features

The tool can be used as a looking glass:

- All changes are updated in real time
- User can specify the set of target ASes

An attempt to improve readability:

- arrangement of nodes according to ASN and AS path length
- path visualization

# Conclusion

The tool is available at https://radar.qrator.net

Please contibute your feedback

(https://radar.qrator.net, Contact Us)

If you want to improve the quality of the data, please establish a BGP session with us