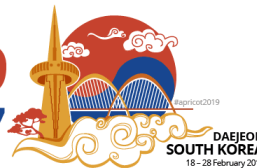




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ILIA

Invalid Length Invalid AS

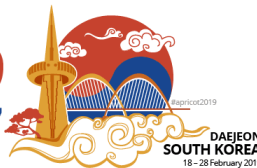
By **WUKYNs**





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WUKYNS



Warrick
Network Architect



Ulsbold
Network Engineer



Kimsoo
Master's Student



Yohani
Lecturer



Nyamaa
Network teacher



INVALID



Our Motivation

We are curious to know what defines

INVALID ROAs

- Incorrect Prefix / Max Prefix Length
- Origin ASN entries

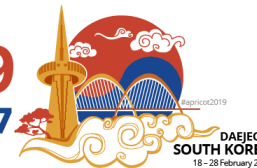
Are these caused by typo's? or are they deliberate?





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Goals for Hack



Identify Invalid Routes.



Find type of invalidity and categorize.



What We Did

- We developed a tool to process the global routing entries and check with the APNIC validity checker to identify Invalid Routes
- Categorize by type of invalidity (AS, Length).
- 1% has been processed out of full routing table

85800

1155

296 ORIGIN-AS
859 Prefix
Length

Source Code for our Tool + User Guide



<https://github.com/wyvernflyin/ilia>



We Learnt, by doing

- 5 Different Programming Languages → 1 Common Language
- Design the solution in a way everyone could contribute.
- Ended up with a code that needs 30 hours to give a result. Test for a small Data Set 1st
- Testing on valid data and waiting hours until the program gives you “You found a Invalid”.
- So many different views to one conclusion.
- Different cultures and so many friends at the end. Programming is important, building human network is more important.



Conclusion

- Invalid Routes
 - Invalid AS – 296 (So far)
 - Invalid Length – 859 (So far)
- Invalid routes from specific AS where ROA's exist for those routes
 - 506 (So far) Invalid routes based on length from AS12552
 - It appears people are not filtering their more specific routes to RIPE's bgp collection tool.
 - Further work is needed to see if these routes exist in the global routing table in general
 - Next highest ASN is 14080 with 87 invalid routes

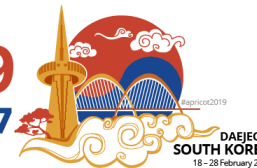
Future Vision

- Refactor Code !!!
- Run for the full dataset to compare our output with rpki-monitor.antd.nist.gov data
(Global validation snapshot)
- Analyze data to find more interesting results.
- Connect with IP Address holders to get them to correct ROA entries to match the global routing table correctly.



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“Many of life's failures are people who did not realize how close they were to success when they gave up.”

Thomas E. Edison



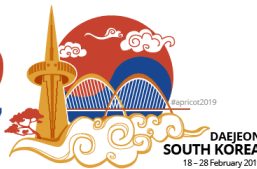
Never Give Up





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THANK You !!!



INVALID