# Product Update

**Mike Hellers**
Product Development Manager

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LINX122

# DDoS Mitigation

RTBH (Remotely Triggered Black Hole)

# RTBH at IXPs

- How does it work?
  - The victim network announced targeted IP Prefix with a well-known BGP community to the Route Servers
  - The Route Servers change the next-hop for that Prefix to a black hole destination and announce the prefix to other Route Server users
  - Traffic entering the Peering LAN with that next-hop will be dropped at the edge of the Peering LAN

# Limits of RTBH

- RTBH “completes” the attack by taking the target host offline
- RTBH requires your peers or upstreams to accept more specifics
- RTBH was not designed with Prefix validation and RPKI in mind
- But: Especially for very large attacks, it can still be a valid tool to protect the rest of your network, even with these limitations

# Current implementation of RTBH at LINX

- Available at LON1 and LON2, all other Exchanges will follow shortly
- Prefix Validation is unchanged, even for Black Hole prefixes at this stage
- Traffic tagged with the RTBH next-hop will get dropped at the incoming edge router

- Blackhole BGP Community (65535:666)

| Peering LAN | RTBH next-hop IPv4 | RTBH next-hop IPv6 |
|---|---|---|
| LON1 | 195.66.231.232 | 2001:7f8:4::220a:666 |
| LON2 | 195.66.238.232 | 2001:7f8:4:1::220a:666 |

# RTBH at IXPs – Questions and Answers

- Do I need to use the Route Servers to use the Blackhole next-hop
  - No, but it will of course only work if your peer does not implement strict next-hop IP address checks

- Can I limit to which peers my Blackhole prefixes get announced through the Route Servers?
  - Yes, you can combine the Blackhole BGP community with the other existing BGP Communities to influence the propagation

- Do I need to tag my blackhole prefixes with NO-EXPORT?
  - No, please do not. Doing this will stop the Route servers from announcing the prefixes to any other peer. The Route Servers will add NO-EXPORT to the announcements

# RTBH at LINX – Future Plans

- We are continuing to evaluate this service and welcome any feedback

- We are investigating any improvements that could improve the service. This includes but is not limited to:
  - Evaluating loose RPKI checks for blackhole prefixes
  - Use of advanced filtering capabilities on the different hardware platforms
  - Statistics on dropped traffic

# DDoS Mitigation

## Scrubbing based Mitigation

# Advanced DDoS mitigation using Nokia Deepfield

- We are currently working with Nokia to bring a scrubbing-based DDoS mitigation service to the Peering LANs.
- The solution will allow members to redirect their received traffic during a DDoS attack on a per-prefix basis through a a LINX hosted and owned Deepfield platform, connected directly to the Peering LAN
- It removes the limitations of the RTBH-based solution
- This will be a paid service

# Advanced DDoS timeline

- Proof of Concept testing is expected to be completed during this quarter
- Roll-out to LON1 and possibly LON2 during the second half of 2024
- Based on demand, roll-out will be planned for other Peering LANs
- Come and talk to us if you are interested in trialing the platform ahead of the full launch

# LINX Nairobi

Private VLAN, CUG and MAPS

# Private VLAN and Closed User Groups

- Currently Private VLAN, and CUGs are available on LON1, LON2, Manchester and NoVA
- Private VLANs allow you to establish a direct Layer2 point-to-point link to any other member on the same Peering LAN, or to another your own ports on the same Peering LAN
- Closed User Groups provide you with you own Layer2 instance on our fabric, sperate from the Peering LAN. You have full control who can connect to it, you assign the IP addresses etc.
- Later this quarter, both services will also become available for our members connected to LINX Nairobi

# Microsoft Azure Peering Service

- The Microsoft Azure Peering Service (MAPS) provides you with a simple method to get direct peering with AS8075
- No peering policy restrictions, available from 50Mbps up to 10Gbps
- It is implemented using a LINX-managed Closed User Group, with dedicated Route Servers announcing your prefixes to Microsoft AS8075 across direct, local interconnects with Microsoft
- MAPS is currently available in London, Manchester and Northern Virginia
- MAPS will be available in Nairobi later this quarter

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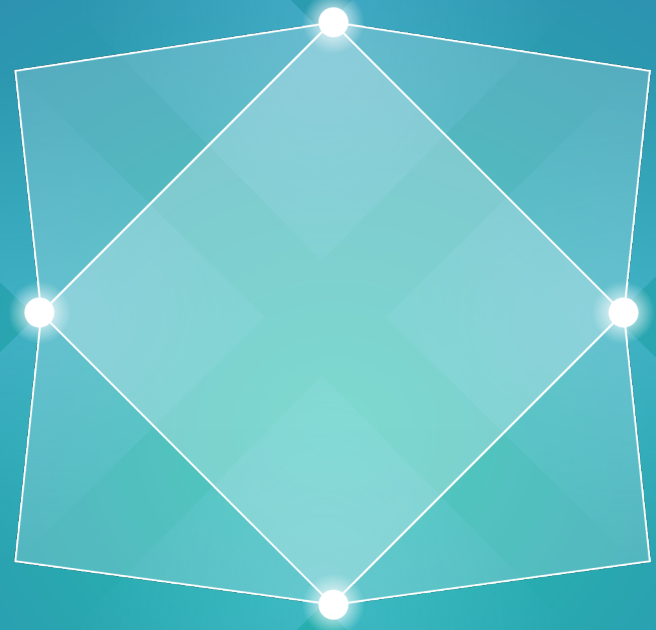
# Questions?




mikeh@linx.net

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