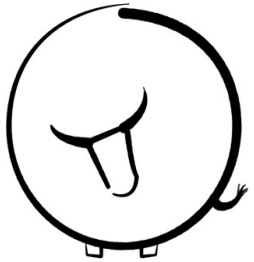
Unwanted Traffic Removal Service

https://www.team-cymru.org/UTRS/



UTRS

Unwanted Traffic Removal Service

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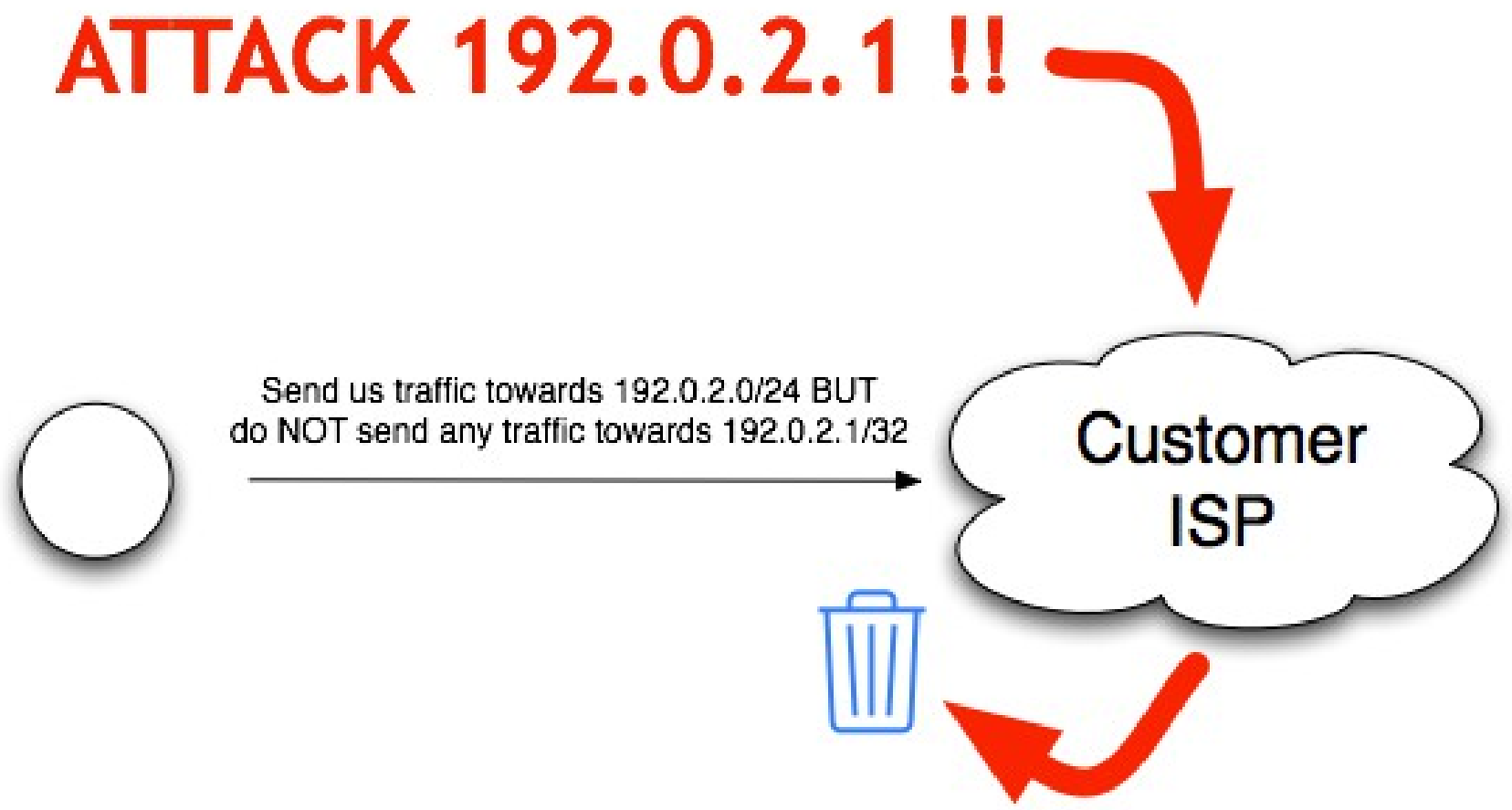
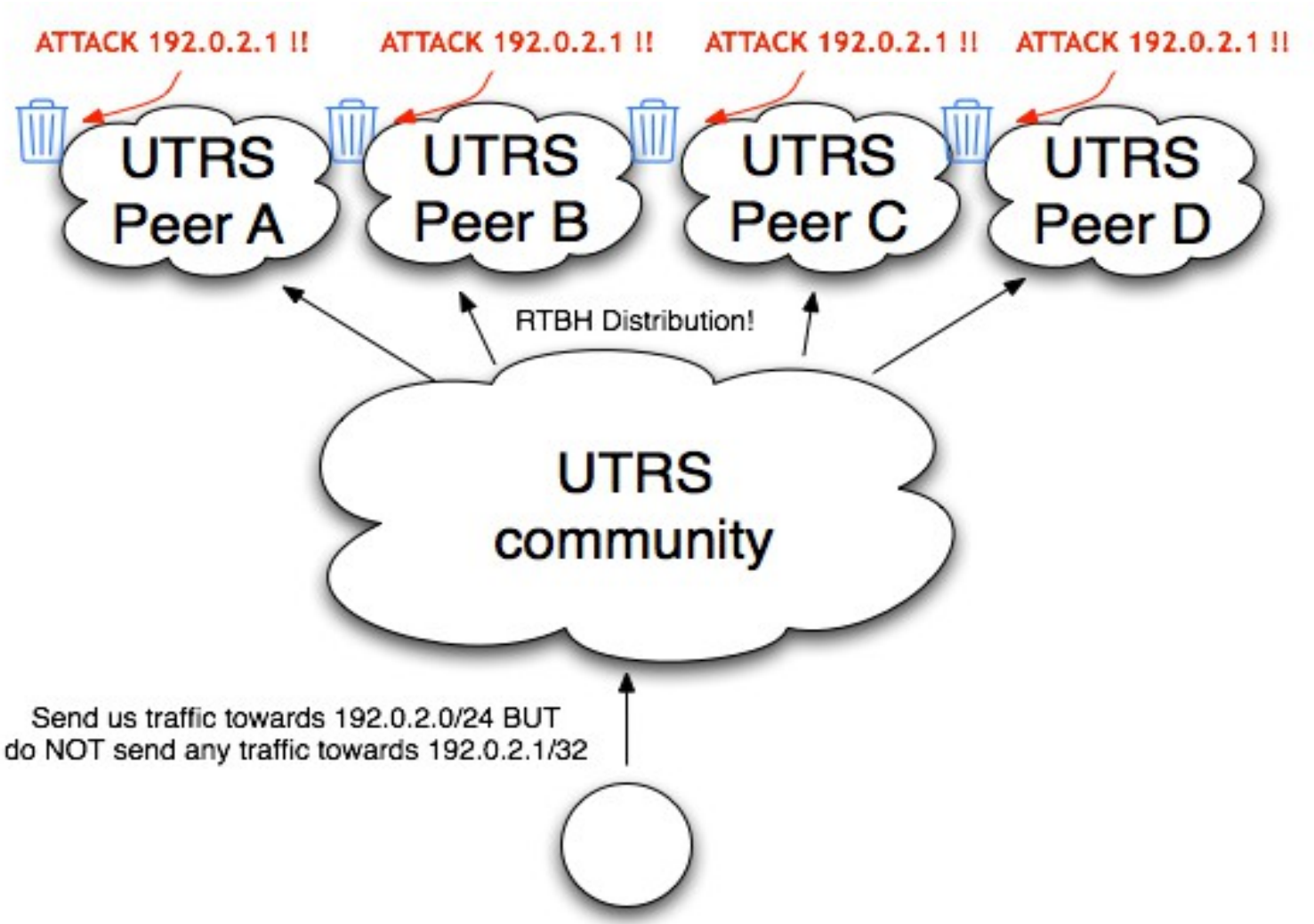
RTBH Illustrated



DDoS. What is Missing?

A coordinated, automated, rapid community response.

UTRS Illustrated



UTRS

- Nothing more than a community run multi hop RTBH
- Purpose: severe infrastructure attack mitigation project
- Victims inject /32's (IPv4)
- We validate and pass on to participant peers
- Next-hop is an address that points to null interface
- Flow-specification capable
- Authoritative announcement and verification very critical

UTRS Configuration Example

```
neighbor 198.51.100.2 {
      description "gw.example.net";
      router-id 198.51.100.1;
      local-address 198.51.100.1;
      local-as 64496;
      peer-as 64497;
      hold-time 180;
      md5 abcdef0123456789;

      # normally no announcements, no attacks
      static {
      }
}
```

UTRS Peering Properties

- Local ASN: 64496 (private by default, can customize)
- Local IPaddr: 154.35.32.141 (what we have to work with)
  - This is really the only thing we can't customize
- TCP MD5 password is required
  - Arguably important for this multi-hop critical peering
- Static routes are the list of black holes, usually empty
- Each separate peer configuration built from an m4 template

What is announced and by who?

- Prefixes limited to IPv4 /32's
  - IPv4 prefixes could be larger given community input
  - We will IPv6 if demand warrants it
- Prefix admin or origin AS initiates the announcement
  - i.e. if you are under attack, submit a prefix to UTRS
- Manual process today, to be controlled by BGP soon
  - i.e. if you “own” the prefix, you can announce for it and we will pass it along after best effort verification

How will prefixes be validated?

- We will evaluate BGP origination history
- Anomalies and emergencies can be sent to the NOC
- New announcements are shared with community
  - Out of band updates (e.g. mailing list)
  - Community should provide oversight

Won't UTRS “Finish” an Attack

- An address in UTRS is sacrificed for the greater good
- This will not work in certain cases
- This will work where RTBH works
- Note: we can support flow-spec (IETF RFC 5575)
  - but it remains to be seen if many peers will too

Who can use it, who is using it?

- Internet BGP routing speakers can use it
- Various networks are currently peered or in the process
  - Participants not publicly disclosed, talk to me offline
- Long term prospects... still open. Discuss.
- NOTE: if we do not attract sufficient interest and use, we may terminate this project

Todo

- Automated validation (ExaBGP customization required)
- Web portal
  - Web form to start the setup process
  - Security contacts can enable/disable on our end
- Consolidate BGP feeds into a single feed
  - e.g. bogons, IXP
- RTSH (Sink Hole)?
- Take the keys away from jtk, and let the NOC run it