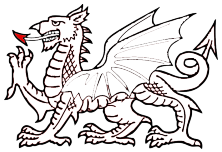
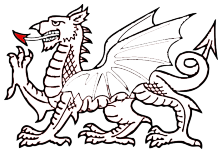
Community Flow-spec Project

John Kristoff jtk@cymru.com



What is Flow-spec?

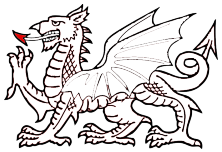
- IETF RFC 5575
  - Dissemination of Flow Specification Rules
- Think of filters (ACLs) distributed via BGP
- Keyword = flow
  - multiple daddr/saddr prefixes per rule prohibited
- Actions include:
  - accept, discard, rate-limit, sample, redirect
- IMHO, BGP is the wrong mechanism for this, but...



Inter-AS Flow-spec

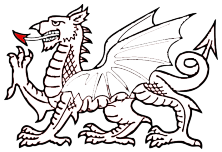
- Filter state instantiated by other BGP speakers?
  - Import policy or die
- Multi-hop RTBH on steroids
  - saddr/daddr prefix, IP protocol, ICMP type/code, TCP/UDP port, fragment, TCP flag, DSCP
- Complete bogon filtering w/o uRPF
- Real-time black lists
- Abuse Handler + Peering Coordinator

  = Abeering Coordinator?



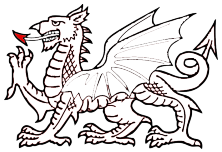
Community Flow-spec Routes

- Traditional bogon feed as source prefix flow routes
- A la carte feeds, e.g.
  - troublesome IP multicast groups
  - community vetted contributions
  - other “bad juju”
- AS path prepend ++
- Feed-specific community + no-export



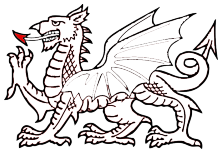
Example: Bogon Flowspec

```
flow {
    route bogon_s0.0.0.0/8 {
        match source 0.0.0.0/8;
        then {
            discard;
        }
    }
    route bogon_s5.0.0.0/8 {
        match source 5.0.0.0/8;
        then {
            discard;
        }
    }
    route bogon_s10.0.0.0/8 {
```



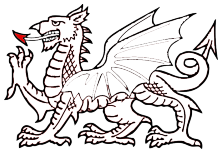
Example: Flow-spec Receiver

```
protocols {
    bgp {
        group flowspec {
            family inet {
                flow {
                        prefix-limit {
                            maximum 200;
                            teardown ...
                        }
                    no-validate flowspec;
                    }
                }
                neighbor 192.0.2.1 {
```



Community Contributed Real-time Flow-spec Routes

- Maybe a nice idea for victim networks
- Not convinced community will trust/want these
- But it might look something like this:
  - Submission via authenticated web form
  - Filters published to f-s community for review
  - Must have originated prefix for 30+ days
  - Must match a source or destination prefix



Want to give it a try?

- You probably want to have JunOS
- This is a research prototype service
  - Could become a production service if warranted
- Test with sampled/accept source bogons feed?

Setup, questions, comments, enhancements to

jtk@cymru.com

http://www.cymru.com/jtk/