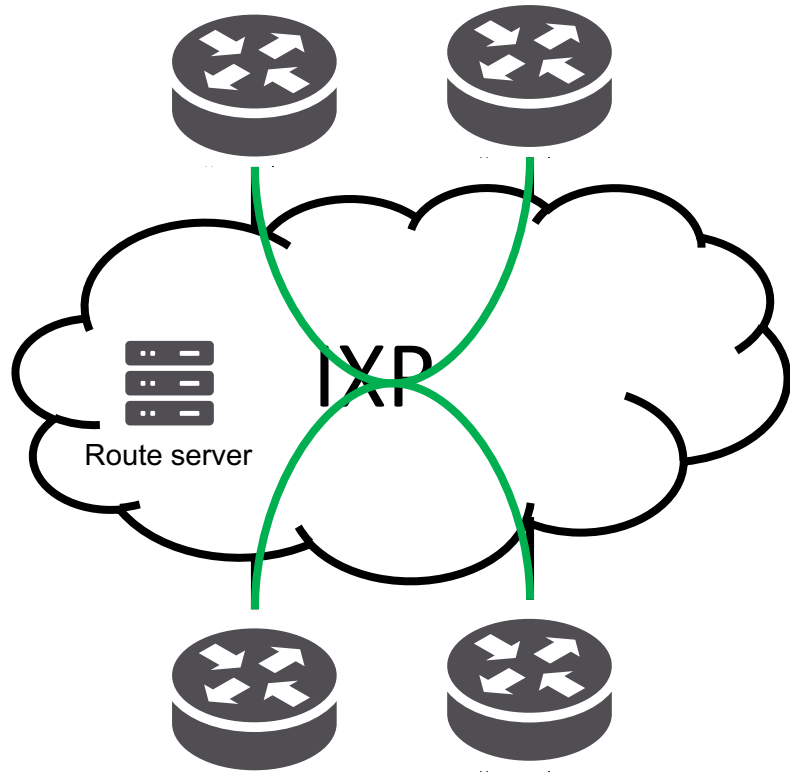


We Care About Data Quality at IXPs

Dr. Thomas King, Chief Innovation Officer, DE-CIX



Customer View: Purpose of an IXP



Connect many ASNs

Solicit settlement free peering

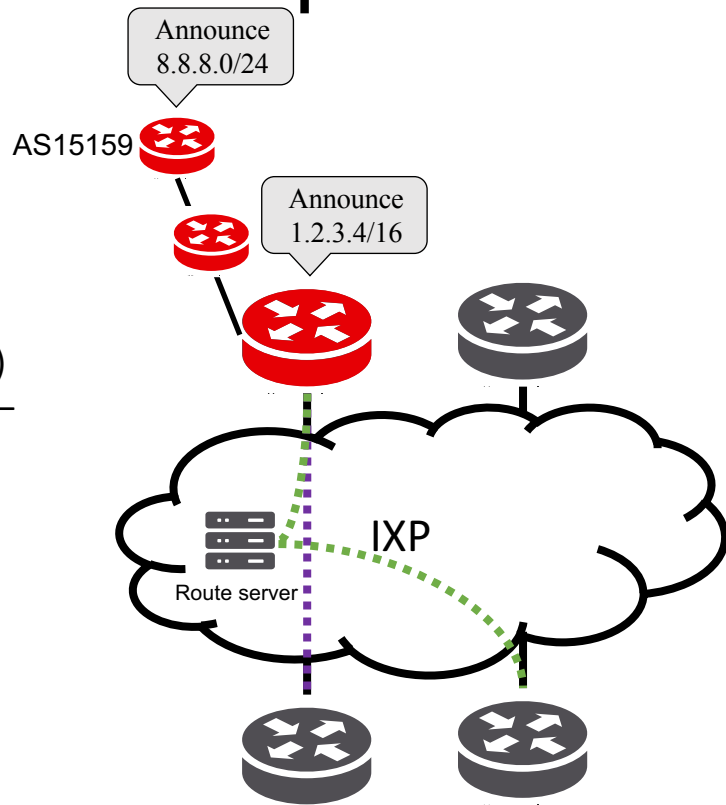
→ **Traffic exchange made easy**

IXPs are a Perfect Place for Spammers

Often not well filtered BGP sessions (**bilateral** + **route server**)

It is easy to do nasty BGP tricks

- IP hijacks (e.g. not announced IP space)
- Combined ASN + IP hijacks (e.g. not operated ASNs)
- Hide hijacked resources behind upstream network – pretend that the spammer is just a clueless / bad customer of a customer

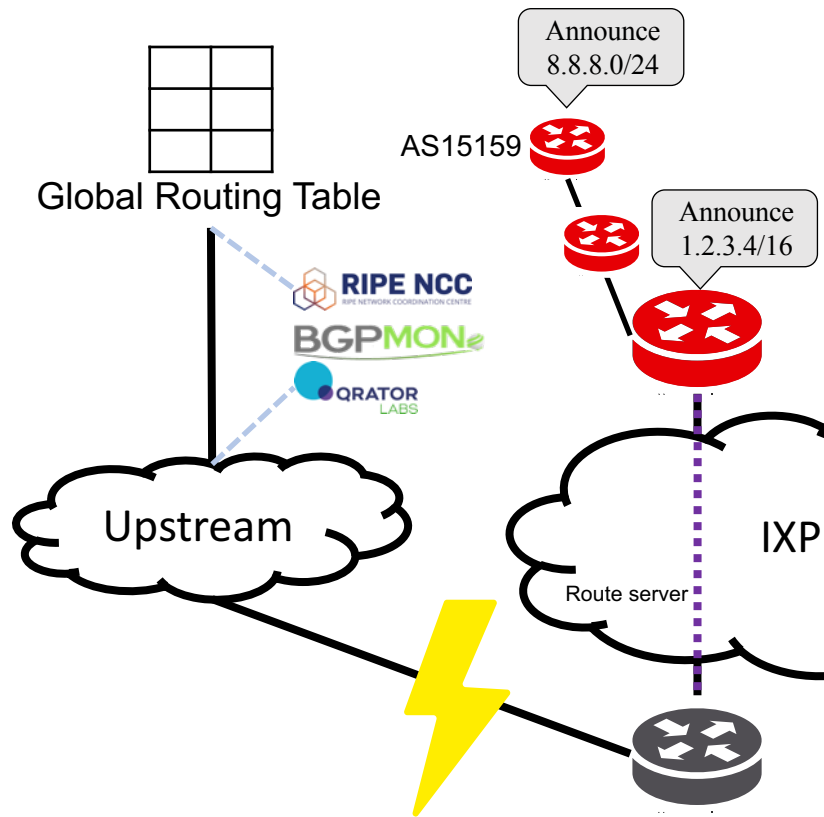


Spammer's Activities Are Hard to Detect

Peering means learned routes *are not propagated* to upstream provider.

Spammer announcements *do not* show up in Global Routing Table.

For detection tools (e.g. RIPE RIS, BGPmon and Qrator) *it is hard (to impossible)* to detect ASN + IP Hijacks



Traffic at IXPs is for Free

It's free!

DF-IX offers free 1Gb ports at Colocenter and free 1/10Gb ports at Data Facilities data centers. DF-IX will be free of charge until January 2018

Growing the German regional exchanges: Ports for free for new customers

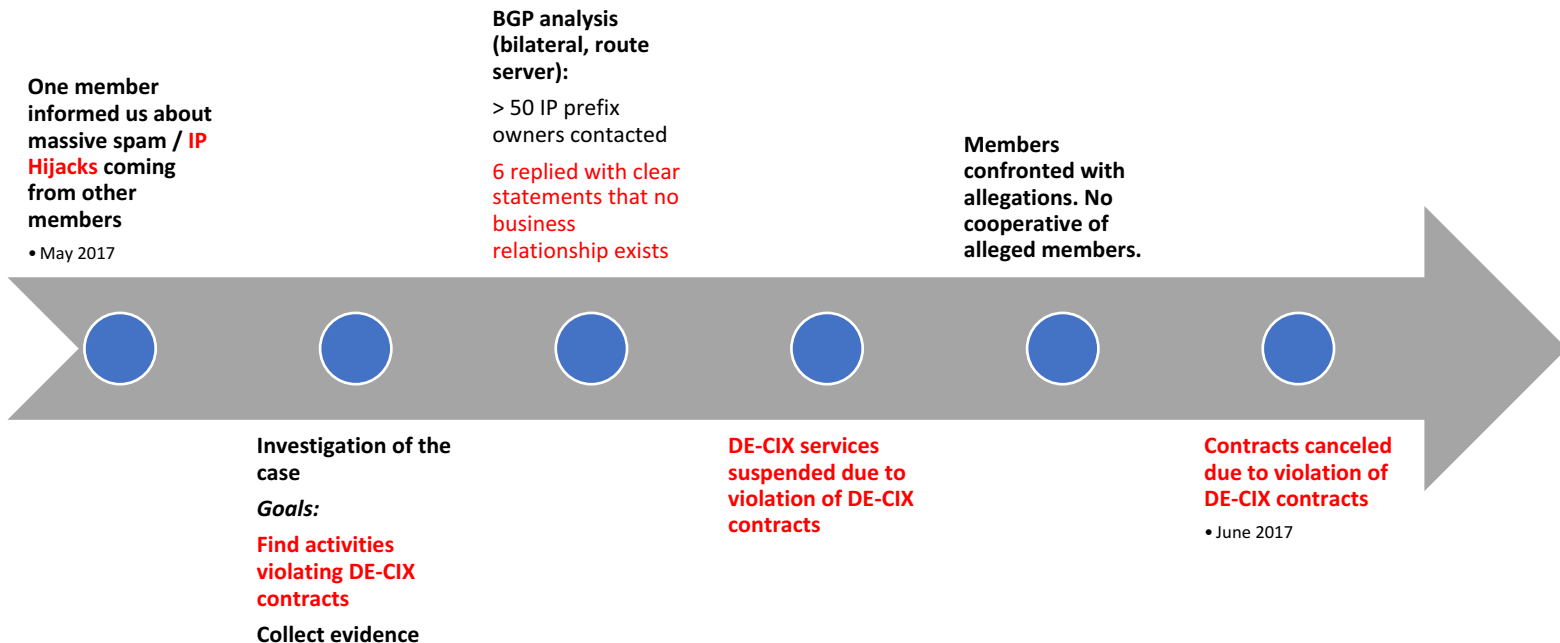


One of DE-CIX's focus areas this year lies on strengthening our regional exchanges in Hamburg, Munich and Dusseldorf. To grow the peering community at these exchanges, **DE-CIX is offering new customers the 1GE port for free for three years.**

In addition, we are offering new customers at DE-CIX Dusseldorf the 10 GE port for free for one year.

With these special offers, DE-CIX will attract additional customers, and increase the value of the exchanges for all peers already connected. The special offers can be combined with DE-CIX's [GlobePEER Remote](#) service, which enables networks in Hamburg, Munich, and Dusseldorf to peer with the connected networks in Frankfurt.

We Learned This the Hard Way



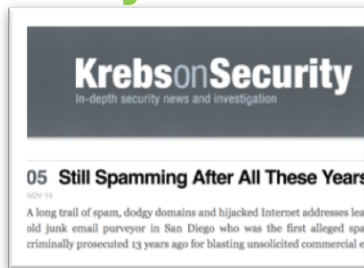
We could have Known Better



We could have Known Better

We have a community that works with blame and shame

Websites / Blogs:

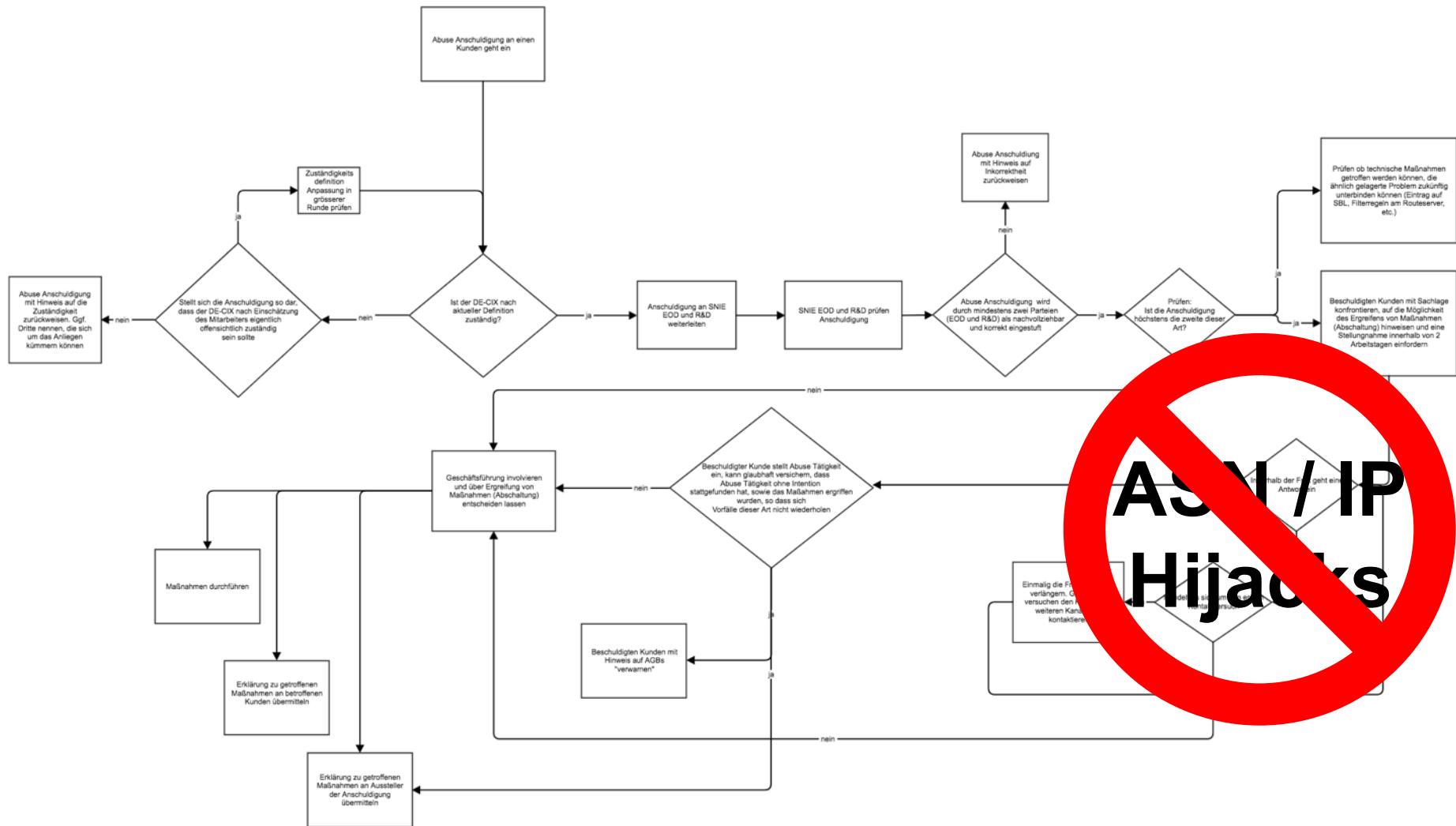


Mailing lists: *nog

<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Ronald .. Troy, Johann (6)	Inbox	AS29073, 196.16.0.0/14, Level3: Why does anyone peer with these schmucks? - of The Internet Poli	Aug 28
<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Ronald .. Yang, Jima (7)	Inbox	Multicom Hijacks: Do you peer with these turkeys (AS35916)? - the entire Internet from descending ir	Aug 3
<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Ronald, Ken .. Selphie (29)	Inbox	Another day, another illicit SQUAT - WebNX (AS18450) 103.11.67.0/24 - the > Internet Police, an	10/29/16
<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Ronald .. Stephen .. (100)	Inbox	Death of the Internet, Film at 11 - like "Internet police". But, we persist. Some people > > change t	10/24/16
<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Hugo .. Tom, Bryant (70)	Inbox	"Defensive" BGP hijacking? - RIRs the internet police? > > Thank you Scott for posing that question..	9/12/16
<input type="checkbox"/>	<input type="star"/>	<input type="star"/>	Gabriel .. charles (22)	Inbox	Dealing with abuse complaints to non-existent contacts - not the internet police they do owe it to the :	8/11/14

→ Names of companies change, however, ASNs stick

→ Lots of information available, our responsibility to use it



We Care about Data Quality at IXPs

- We are an IXP operator with clear rules in our contracts:
 - Layer 2
 - Layer 3 (mainly BGP)
- Violations of these rules might be prosecuted – we care about (BGP) data quality
- We want to make sure IXPs are a stable and reliable place for exchanging traffic

Questions for You

- Did you encounter such cases as well?
 - If yes, how did you react?
- What is your abuse policy?
- Do you forward information about illegal activities to your IXPs/ISPs or the police?