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# How community management is like network management

Valerie Aurora  
(she/her/hers)

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# Networks and communities need management

When networks are small,  
managing routes is easy

When communities are  
small, managing people's  
behavior is also easy



# Networks and communities need management

When networks are big,  
we need BGP plus  
monitoring, blocklists,  
filtering, RPKI, etc.

When communities are  
big, we need codes of  
conduct

*Image CC BY [Dave Stokes](#), edited by FSC*



# Outline

What codes of conduct are for

How they work

How they are enforced

How to prevent abuse

Q&A

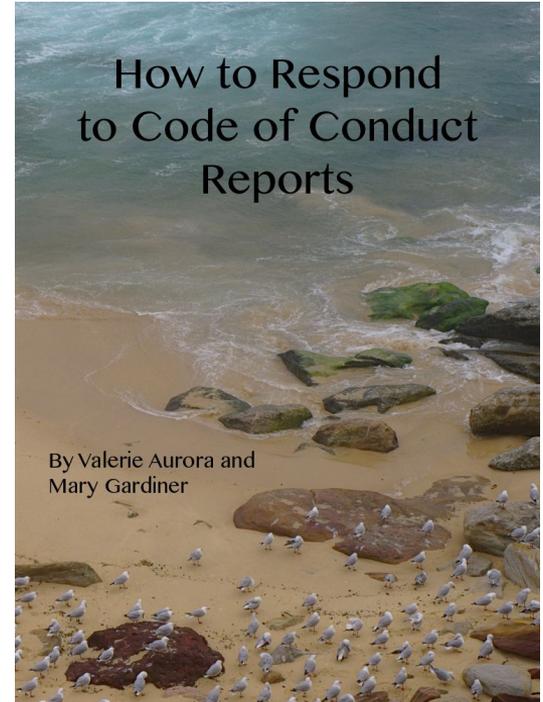


# About Valerie Aurora

Co-wrote ebook "How to Respond to Code of Conduct Reports"

Lead author of code of conduct in use by 1000s of groups

10+ years code of conduct work, ally skills, executive DEI coaching, etc.



# Also 10+ years as operating systems programmer

First Linux kernel patch in 2001 to fix TCP proxy bug

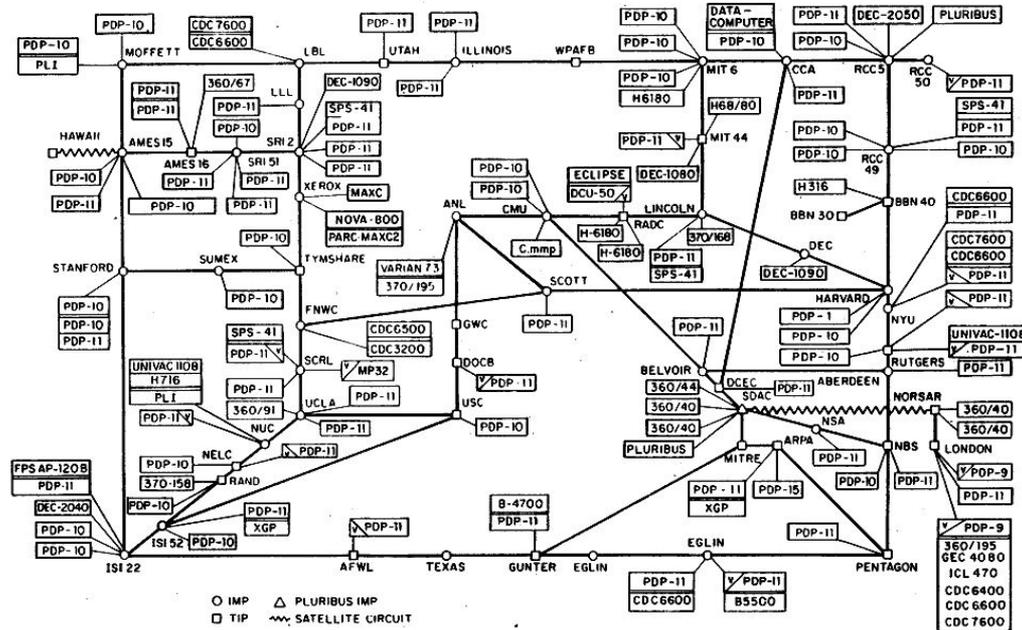
Fixed Ethernet drivers, built Internet appliances, wrote file systems

Collected questions for TCP/IP Drinking Game



# Small networks are simple to manage

ARPANET LOGICAL MAP, MARCH 1977



(PLEASE NOTE THAT WHILE THIS MAP SHOWS THE MOST POPULATION OF THE NETWORK ACCORDING TO THE BEST INFORMATION OBTAINABLE, NO CLAIM CAN BE MADE FOR ITS ACCURACY.)

NAMES SHOWN ARE IMP NAMES, NOT (NECESSARILY) HOST NAMES

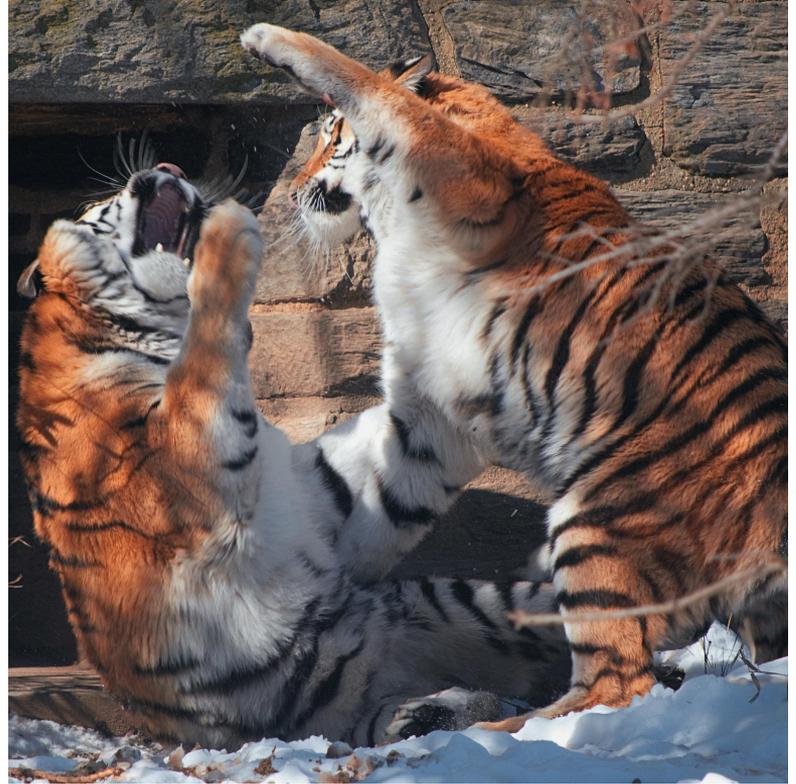
# Small communities are too

Have a party with 10 people at your house and someone is being a jerk?

Someone in authority tells them to leave

Don't invite them back

Image CC [fPat Murray](#), edited by FSC



# What happens when networks get big?



Source: MANRS Observatory, September 2022 world-wide incidents

# Same thing for communities

DEF CON is a hacker convention in Las Vegas, Nevada, US

~30000 people attended in 2019

~About 30 reported incidents

~3 people were banned (~1 in 10000 chance per person)



# What's the solution?

"It is only through **collective action and a shared sense of responsibility** that we can address problems like BGP leaks, hijacks, DDoS attacks, and IP address spoofing that have real-world consequences for millions of people."

—*MANRS post*

# What are codes of conduct for?

Routing improvements  
**prevent accidental or  
intentional advertisement  
of bad routes**

Codes of conduct **prevent  
harm to less powerful  
community members**



# Who does a code of conduct protect?

Who is more likely to be sexually or racially harassed?

1. Male middle-aged executive who is part of the dominant racial/ethnic group
2. Young woman student who is part of a marginalized racial/ethnic group

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# BGP changes to defend less powerful: RPKI

Trust Anchors issue certificates to network operators saying which IPs they own

TAs keep repositories of routing information and network operators use them to filter routes



# Communities protecting less powerful

CEO of large technical conference says, "We don't need a code of conduct. That doesn't happen here!"

After a call with someone who had been sexually harassed at several of their recent conferences, the CEO adopted a code of conduct



# "That doesn't happen here"

"That doesn't happen **TO ME** here"

More than 100 people? It's almost certain that that is happening to **someone**

Also certain that someone isn't aware this is happening



# How do codes of conduct work?

MANRS: "**Mutually Agreed Norms** for Routing Security"

Codes of conduct also establish **mutually agreed norms**

Your "obvious" norm is someone else's surprise



# How are codes of conduct enforced?

RPKI: AS sends ROA to TA signed with key issued by TA, network operators ask for ROA from TA, **network operator verifies and decides what to do**

Code of conduct: People do stuff, others file reports, committee investigates and recommends action, **community reviews & decides what to do**

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# What recommended actions are common?

Most common: "Please don't do that" "Okay!"

Sometimes: Nothing (accident, false report, already fixed)

Occasionally: Edit your slides or video or don't post them

Rare: Leave the space until you agree to stop or certain time has expired, then allowed back with monitoring

Extremely rare: Leave the space and don't come back

# How to prevent abuse of codes of conduct?

Network operators trust the Trust Anchors run by Regional Internet Registries

Community trusts code of conduct committee, also run by a trusted organization



# Community is the ultimate root of trust

Code of conduct committee does not have power to enforce its decisions

People who control mailing lists, meetings, working groups, membership, etc. must agree

Community governs the committee through existing feedback system

*Image CC BY [Stephen Bowler](#), edited by FSC*



# Examples of governance by community

- RIPE Chair selected through extensive community input process
- RIPE NCC members vote on Board and many other things
- WGs select WG Chairs/Co-Chairs
- Community chooses Program Committee, PC chooses meeting content



# Due process

Governments: powerful, monopoly on violence, employs police, can compel you physically, financially, etc.

RIPE NCC and/or RIPE community: controls regional Internet registry, RIPE NCC membership, WG chairs, mailing lists, etc.

The process must be in **proportion to the power and resources of the organization**

# False code of conduct reports are extremely rare

The cost of reporting can be very high even for true reports

False reports are punished!

Code of conduct just makes it slightly less costly to report someone's bad behavior

*Image CC BY-SA [gaelx](#), edited by FSC*



# Real world false reports I have seen are:

1. Filed **by** powerful people who oppose codes of conduct with a record of bad behavior
2. Filed **against** marginalized people who support codes of conduct
3. Quickly discarded or punished by the code of conduct committee



# Real world code of conduct problems

- Anti-code of conduct people file false reports against pro-code of conduct people
- Committee quits because it's super unpleasant
- Committee under-enforces because they are afraid
- Committee does nothing because they can't figure out what happened

No one is using code of conduct reports to win arguments

# How to prevent abuse summarized:

1. Committee chosen by trusted authority
2. Don't choose mean power-hungry jerks!
3. Members MUST recuse themselves for conflicts of interest
4. Recommendations are implemented only if others agree
5. Committee publishes regular transparency reports
6. Community uses existing governance structure to hold trusted authority accountable

# Selected tech communities with codes of conduct

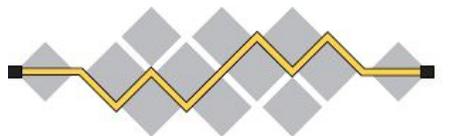
IETF

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# What's the alternative?

Network operators trust other operators by default, use ad hoc methods to screen out bad routes or bad actors, but **can't prevent BGP hijacks/leaks**

Every person is forced to trust every other person by default, may build their own list of harmful people using ad hoc methods and gossip, but **can't protect themselves from harm unless they are very powerful**

## We can do this:

"It is only through **collective action and a shared sense of responsibility** that we can address problems like BGP leaks, hijacks, DDoS attacks, and IP address spoofing that have real-world consequences for millions of people."

—*MANRS post*

# Conclusion

RPKI isn't perfect and neither are codes of conduct, but they are better than the status quo and improving daily

Many tech communities have successfully implemented and prevented abuse of codes of conduct

Support your code of conduct committee, expect the best of them, and participate in the RIPE NCC General Meeting!

**Q&A: ~10 minutes now  
30 minutes at 3:30pm/15:30  
in Tesla C**

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# 40000 words about codes of conduct

Free ebook

There's a good table of contents :)

Search for "**frame shift code of conduct**"

<https://frameshiftconsulting.com/resources/code-of-conduct-book/>

